



JIPEL

NYU Journal of Intellectual Property
& Entertainment Law

ARTICLES

Patents as Property for the Takings
Robin Feldman

Rethinking the 2006 Agreement on Wine Trade: Protection of Producers and
Consumers Through Greater Recognition of Geographical Indications in the
U.S.
Alexandre Arnaud

Non-Fungible Tokens and Failed Promises of Simple Virtual Ownership
Anastasiia Chuvaieva

Preventing Preemption: Promise of the Nonobviousness Requirement
Ananya Pillutla

NEW YORK UNIVERSITY
JOURNAL OF INTELLECTUAL PROPERTY
& ENTERTAINMENT LAW

VOLUME 12

NUMBER 2

CONTENTS

Preface..... v

ARTICLES

Patents as Property for the Takings 198

Robin Feldman

Rethinking the 2006 Agreement on Wine Trade: Protection of Producers and
Consumers Through Greater Recognition of Geographical Indications in the U.S. 273

Alexandre Arnaud

Non-Fungible Tokens and Failed Promises of Simple Virtual Ownership 304

Anastasiia Chuvaieva

Preventing Preemption: Promise of the Nonobviousness Requirement 353

Ananya Pillutla



Statement of Purpose

Consistent with its unique development, the New York University Journal of Intellectual Property & Entertainment Law (JIPEL) is a nonpartisan periodical specializing in the analysis of timely and cutting-edge topics in the world of intellectual property and entertainment law. As NYU's first online-only journal, JIPEL also provides an opportunity for discourse through comments from all of its readers. There are no subscriptions or subscription fees; in keeping with the open-access and free discourse goals of the students responsible for JIPEL's existence, the content is available for free to anyone interested in intellectual property and entertainment law.

The *New York University Journal of Intellectual Property & Entertainment Law* is published up to three times per year at the New York University School of Law, 139 MacDougal Street, New York, New York, 10012. In keeping with the Journal's open access and free discourse goals, subscriptions are free of charge and can be accessed via www.jipel.law.nyu.edu. Inquiries may be made via telephone (212-998-6101) or electronic mail (law.jipel@gmail.com).

The Journal invites authors to submit pieces for publication consideration. Footnotes and citations should follow the rules set forth in the latest edition of *The Bluebook: A Uniform System of Citation*. All pieces submitted become the property of the Journal. We review submissions through Scholastica (scholasticahq.com) and through electronic mail (submissions.jipel@gmail.com).

All works copyright © 2023 by the author, except when otherwise expressly indicated. For permission to reprint a piece or any portion thereof, please contact the Journal in writing. Except as otherwise provided, the author of each work in this issue has granted permission for copies of that article to be made for classroom use, provided that (1) copies are distributed to students free of cost, (2) the author and the Journal are identified on each copy, and (3) proper notice of copyright is affixed to each copy.

A nonpartisan periodical, the Journal is committed to presenting diverse views on intellectual property and entertainment law. Accordingly, the opinions and affiliations of the authors presented herein do not necessarily reflect those of the Journal members.

The Journal is also available on WESTLAW, LEXIS-NEXIS and HeinOnline.

NEW YORK UNIVERSITY
JOURNAL OF INTELLECTUAL PROPERTY
& ENTERTAINMENT LAW

VOL. 12 BOARD OF EDITORS – ACADEMIC YEAR 2022-2023

Editor-In-Chief

JACOB GOLAN

Senior Articles Editors

TESS COBRINIK
MOLLY COLLETT

Managing Editors

AMY MARCUS
EJ BENJAMIN

Diversity & Inclusion Editor

CHENG-HAU KEE

Senior Web Editor

COURTNEY WAX

Executive Editor

GRANT ROSEN

Senior Blog Editor

PETER FAY

Senior Editors

HANNA BALCHA
YUJIN KIM
DEANIE CHEN
MONICA RODRIGUES
JACOB KIRCHENBAUM
ADRIAN CHOCHOREK

Senior Notes Editor

ANANYA PILLUTLA

MATT AU
MEG AVERY
JACK BAUM
ALEXIS BIEGEN
JORDAN BOGGAN
ZACH BRUSEWITZ
JESSICA CHENG
TANNER CO
MARIEME DIALLO
AMELIA DIAZ
TANISHA FRANCIS
ZACHARY GOODWIN
RYAN GRAW

Staff Editors
JACK GROVES
REIZL HALIKMAN
RYAN HUCK
COLE KAUFFMAN
BATYA KEMPER
KARENA KONG
ANNABEL KWEK
LEILA ALEXANDRA
LUKASZEWICZ
SPENCER LUNDY
PAROMA MALLICK
CLAY MURPHY
ELLI PARK
KATIE PERCZ
JACK QUAGLINO

NINA REGAN
INDIRA SAHRAWAT
JOE SALMAGGI
LEAH SMART
KELLY STERMAN
JACOB TELLI
CANDACE THOMAS
ERIC THOMPSON
LUCAS UHM
CHANIQUE VASSELL
DAVID VIDAL KAUFMAN
JIHANG WANG
JAMES WHITTY
TONI XU

Faculty Advisors

AMY ADLER
BARTON BEEBE

PREFACE

Our Spring 2023 Issue—Volume 12, Issue 2—focuses on novel landscapes in intellectual property law.

First, Professor Robin Feldman challenges the limits of the Fifth Amendment’s Compensation Clause in the context of patents. Specifically, Feldman asks whether patents should be considered “private property” for the purposes of the Compensation Clause. After offering the first comprehensive analysis of decades’ worth of scholarship and judicial interpretations, Feldman concludes that patents do not fall within the Compensation Clause.

Second, Alexandre Arnaud offers a new perspective on the Geographic Indications (GIs) debate. Focusing on the longstanding disparity between US and EU implementation and enforcement of GIs, Arnaud proposes a practical solution to the impasse facing signatories of the 2006 Wine and Trade Agreement. Arnaud suggests a revised bilateral agreement between the US and the EU that would convince the US of the benefits of a stronger GI system in the US, outlining routes for the EU to pursue towards this goal.

Third, Stacey Chuvaieva analyzes the scope of rights conferred by NFTs and how the new arena of digital property is revolutionizing conceptions of intellectual property. Chuvaieva offers two case studies of NFTs in the gaming and art industries, demonstrating two contrasting views of NFTs’ reception and utility. The author analyzes this disparity not in terms of ownership *per se*, but rather as a matter of transferability. By emphasizing transferability of NFTs, Chuvaieva argues that, despite differences in industry contexts, forms of digital ownership can confer similar rights analogous to their tangible counterparts. The article concludes with a series of proposed reforms to bring NFT rights in line with levels of protection associated with traditional forms of property.

Finally, Ananya Pillutla offers a note arguing that courts’ concern over patent preemption should be refocused. Rather than addressing the issue of preemption across several statutory provisions, courts should analyze preemption from the perspective of the nonobviousness requirement. To justify this approach, Pillutla notes that it has always been possible for courts to address preemption under the nonobviousness requirement because laws of nature, natural phenomena, and abstract ideas can fall into the prior art of a patent. As a result of recent case law on the subject, the nonobviousness requirement is a more effective approach to addressing preemption.

Sincerely,

Jacob Golan, Ph.D.

Editor-in-Chief

NYU Journal of Intellectual Property & Entertainment Law

NEW YORK UNIVERSITY
JOURNAL OF INTELLECTUAL PROPERTY
AND ENTERTAINMENT LAW

VOLUME 12

SPRING 2023

NUMBER 2

PATENTS AS PROPERTY FOR THE TAKINGS

ROBIN FELDMAN*

The Fifth Amendment's Compensation Clause contains only a few simple words: "nor shall private property be taken for public use without just compensation." Yet these simple words have confounded legal minds for over 200 years, and as Congress has contemplated various patent law reforms in recent decades, the specter of the Fifth Amendment looms on the horizon. Conventionally, commentators and judges break down the clause into a few different components, each of which has generated a voluminous body of caselaw and corresponding scholarly inquiry. First, there is the question of takings: How does one know if something has been "taken" to begin with? Second is the "public use" requirement, which is often treated as an outright prohibition against takings for "private use." Finally, when the other conditions are met, what constitutes "just compensation"? But the scholarship has largely neglected, by comparison, the clause's crucial, first component. Namely, what does the clause mean by "private property"?

This article seeks to bridge the gap in the literature by addressing this question of increasing practical importance. Namely, does the Compensation Clause apply to patents for inventions? The question, put slightly differently, is whether patents should be considered "private property" within the meaning of the term as used by the Compensation Clause. Several recent scholars have argued that it does. In contrast, this article offers the first, comprehensive analysis—considering theory, history, constitutional textual and structural dissection, judicial interpretations, and the nature of patents—concluding that from all of these perspectives, patents do not fall within the Fifth Amendment's Compensation Clause.

* Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson '54 Distinguished Professor of Law Chair, and Director of the Center for Innovation (C4i), UC Law. I would like to thank Dave Owen and Zachary Price for their valuable comments, and I am tremendously grateful to Gideon Schor, Todd Warshawsky, and Zak Rosen for their research and deep insights.

INTRODUCTION	199
I. FOUNDING FOOTSTEPS.....	208
A. <i>Patents & Private Property: Origins Through the Early Republic</i>	208
1. <i>Private Property as a “Core” Private Right</i>	208
2. <i>Patents as a Quintessential Public Franchise</i>	213
B. <i>Original Meaning of the Compensation Clause</i>	223
II. THE LANGUAGE ITSELF: TEXTUAL & STRUCTURAL ANALYSIS	226
A. <i>Constitutional Text—The Patent Clause</i>	227
B. <i>Constitutional Structure</i>	232
1. <i>The Lesser Power</i>	232
2. <i>Surrendering Control</i>	234
3. <i>Enumeration in Art. I, §8</i>	236
C. <i>§261: What it Does Not Mean</i>	239
III. JUDICIAL INTERPRETATIONS.....	244
A. <i>Takings Claims for Other Public Rights</i>	245
B. <i>19th Century Caselaw</i>	251
C. <i>§1498 and its Interpretation</i>	256
D. <i>Modern Caselaw</i>	259
IV. THE NATURE OF THE BEAST	267
CONCLUSION	271

INTRODUCTION

The Fifth Amendment’s Compensation Clause contains only a few simple words: “nor shall private property be taken for public use without just compensation.”¹ Yet these simple words have confounded legal minds for over 200 years. In fact, the only consensus that academics and judges consistently reach is that there is no consensus.²

¹ U.S. CONST. amend. V.

² See, e.g., William K. Jones, *Confiscation: A Rationale of the Law of Takings*, 24 HOFSTRA L. REV. 1, 3 (1995) (observing that the Supreme Court’s “characterization [of the clause] is more a question than an answer”); Eduardo Moisés Peñalver, *Regulatory Taxings*, 104 COLUM. L. REV. 2182, 2186 n.18 (2004) and sources cited therein (compiling various lamentations over the confused state of just compensation law); Carol M. Rose, *Mahon Reconstructed: Why the Takings Issue Is Still a Muddle*, 57 S. CAL. L. REV. 561, 561-62 (1984) (referring to the takings issue as “[b]y far the most intractable constitutional property issue”).

As a historical matter, few academics dare attempt to explain just how the clause ended up in the Federal Constitution.³ More troubling still is the continual difficulty that judges seem to have in formulating consistent principles for applying it.⁴ The text of the Amendment itself only adds to the mystery by raising the question of why a substantive protection of property rights is grouped together with a string of criminal procedure rules. The remainder of the Constitution's text seems to offer little clarification, for the document as a whole appears to be hardly concerned at all with property, the term on which the clause hangs its hat.⁵

None of this would be of interest beyond arcane academic inquiry, if the issue were not arising in a critical modern context. As Congress has contemplated various patent law reforms in recent decades,⁶ the specter of the Fifth Amendment

³ See, e.g., BRUCE A. ACKERMAN, *PRIVATE PROPERTY AND THE CONSTITUTION* 7 (1977) (“[T]he fact of the matter is that the legislative history of the compensation clause is quite unilluminating, with hardly a recorded word bespeaking sustained reflection.”); Yxta Maya Murray, *The Takings Clause of Boyle Heights*, 43 N.Y.U. REV. L. & SOC. CHANGE 109, 127 (2019) (“[T]he original purpose of the Takings Clause remains mysterious”); William Baude, *Rethinking the Federal Eminent Domain Power*, 122 YALE L.J. 1738, 1793 (2013) (“There is scant specific evidence about the purpose of the Takings Clause”); Janet Thompson Jackson, *What Is Property? Property Is Theft: The Lack of Social Justice in U.S. Eminent Domain Law*, 84 ST. JOHN’S L. REV. 63, 97 (2010) (“To add to the mystery, the Takings Clause distinguishes itself as the singular Amendment in the Bill of Rights that no state requested.”). The most complete historical account is that offered by Professor Treanor. See *infra* Section I.B.

⁴ See, e.g., Peñalver, *supra* note 2, at 2186 (“Takings Clause jurisprudence is characterized by nothing if not the confusion and intense disagreement it generates.”); Holly Doremus, *Takings and Transitions*, 19 FLA. ST. U. J. LAND USE & ENV’T L. 1, 1-2 (2003) (referring to regulatory takings law as “famously incoherent”); ACKERMAN, *supra* note 3, at 8 (describing takings doctrine as “a chaos of confused argument”); Jed Rubenfeld, *Usings*, 102 YALE L.J. 1077, 1078 n.2 (1993) (compiling additional descriptions from the literature, including “crazy-quilt pattern,” “liberally salted with paradox,” and “a welter of confusing and apparently incompatible results”) (citations omitted).

⁵ Some scholars argue that the Constitution implicitly served property interests at the founding through its debt, contract, and currency provisions. See, e.g., MICHAEL J. KLARMAN, *THE FRAMERS’ COUP: THE MAKING OF THE UNITED STATES CONSTITUTION* (2016). Others stress, to the contrary, that the Constitution hardly mentions property and argue that the document is remarkably egalitarian. They point out, for example, that at a time when property qualifications to vote or hold office were common, the Constitution was bold to require not even minimal property qualifications. See, e.g., AKHIL REED AMAR, *AMERICA’S CONSTITUTION: A BIOGRAPHY* 66-71 (2005). But see KLARMAN, *supra*, at 123-24.

⁶ See, e.g., Innovation Act, H.R. 9, 114th Cong. (2015) (seeking to suppress the business model of “patent trolls” through, among other things, heightened pleading standards, requiring unsuccessful plaintiffs to pay winners’ costs and fees in infringement suits, and transparency requirements); Preserve Access to Affordable Generics and Biosimilars Act, S. 1428, 117th Cong. (2021) (seeking to shift the burden of proof to settling parties to show that certain drug patent infringement settlements are not anticompetitive).

looms on the horizon.⁷ What regulatory power does Congress have with regard to patented inventions, and is that power hampered by the Fifth Amendment's requirement to provide just compensation? Most important, the Supreme Court has quietly flagged the question of whether patents constitute private property for the purposes of the Fifth Amendment's "Takings Clause," suggesting that the Court may turn to the issue in the near future.⁸

Conventionally, commentators and judges break down the clause into a few different components,⁹ each of which has generated a voluminous body of caselaw and corresponding scholarly inquiry. First, there is the question of takings: How does one know if something has been "taken" to begin with?¹⁰ Second is the "public use" requirement, which is often treated as an outright prohibition against

⁷ A number of plaintiffs and a small group of academics have recently advanced the claim that the Compensation Clause protects patent owners whenever their patents are "taken for public use," in whatever sense the clause uses the phrase. For academics advancing this view, see sources cited *infra*, notes 20-24. For lawsuits claiming Fifth Amendment takings, see discussion *infra* Sections III.B., III.D. If the judiciary were to adopt that position, it would significantly restrict the government's ability to enact legislative and regulatory changes.

⁸ See *Oil States Energy Servs., LLC v. Greene's Energy Grp., LLC*, 138 S. Ct. 1365, 1379 (2018) (in the context of upholding the constitutionality of *inter partes* review at the U.S. Patent and Trademark Office, the Court noted: "We emphasize the narrowness of our holding. . . . [O]ur decision should not be misconstrued as suggesting that patents are not property for purposes of the Due Process Clause or the Takings Clause.").

⁹ See JAMES L. HUFFMAN, *PRIVATE PROPERTY AND THE CONSTITUTION: STATE POWERS, PUBLIC RIGHTS, AND ECONOMIC LIBERTIES* 114-15 (2013).

¹⁰ For a taste of the literature on the "Takings Clause," see generally Frank Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of "Just Compensation" Law*, 80 HARV. L. REV. 1165 (1967); Jones, *supra* note 2; Andrea L. Peterson, *The Takings Clause: In Search of Underlying Principles Part I*, 77 CAL L. REV. 1299, 1303-04 (1989); Douglas Kmiec, *The Original Understanding of the Taking Clause is Neither Weak Nor Obtuse*, 88 COLUM. L. REV. 1630 (1988); Andrew S. Gold, *Regulatory Takings and Original Intent: The Direct, Physical Takings Thesis "Goes Too Far"*, 49 AM. U. L. REV. 181 (1999). In the Supreme Court, the compartmentalized clause has been further subdivided, the most notorious branch being the so-called "regulatory takings." Despite the Court's attempts at a neat classification scheme, Takings law continues to produce such controversial decisions as *Cedar Point Nursery v. Hassid*, 141 S. Ct. 2063 (2021); *Lucas v. S.C. Coastal Council*, 505 U.S. 1003 (1992); *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104 (1978); and *Pa. Coal Co. v. Mahon*, 260 U.S. 393 (1922).

takings for “private use.”¹¹ Finally, when the other conditions are met, what constitutes “just compensation”?¹²

Attempting to sort through the morass, numerous authors together have produced a tremendous amount of literature on each of these components, but the scholarship has largely neglected, by comparison, the clause’s crucial, first component. Namely, what does the clause mean by “private property”?¹³ Certain authors have proposed theories that seek to make sense of the clause holistically, reading its takings, public use, and just compensation components in concert with one another.¹⁴ Others look to the legal or ethical foundations of property to inform their takings analysis, but their examples typically involve land ownership so as to avoid having to ask whether private property exists in the first place.¹⁵ As beneficial as these approaches might be in harmonizing takings doctrine, they address only half of the issue: While they may provide a consistent meaning to the clause’s predicate (“shall . . . [not] be taken for public use without just compensation”), the literature leaves largely untouched the clause’s subject (“private property”).¹⁶

¹¹ See, e.g., Lynn E. Blais, *The Public Use Clause and Heightened Rational Basis Review*, 48 CONN. L. REV. 1497 (2016). By far the most divisive of the “Public Use” cases is *Kelo v. City of New London*, Conn., 545 U.S. 469 (2005), which Justice Antonin Scalia went so far as to liken to *Dred Scott*. Justice Antonin Scalia, Keynote Address at the Illinois Institute of Technology Chicago-Kent College of Law (Oct. 18, 2011).

¹² See, e.g., Christopher Serkin, *The Meaning of Value: Assessing Just Compensation for Regulatory Takings*, 99 NW. U. L. REV. 677 (2005); Glynn S. Lunney, Jr., *Compensation for Takings: How Much Is Just?*, 42 CATH. U. L. REV. 721, 769 (1993); RICHARD EPSTEIN, TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN 182-86 (1985); Kevin J. Lynch, *A Fracking Mess: Just Compensation for Regulatory Takings of Oil and Gas Property Rights*, 43 COLUM. J. ENV’T. L. 335 (2018).

¹³ For one admirable attempt to analyze the Supreme Court’s infrequent and inconsistent attempts to define “constitutional property,” for both the Compensation and Due Process Clauses, see Thomas Merrill, *The Landscape of Constitutional Property*, 86 VA. L. REV. 885 (2000).

¹⁴ See, e.g., Rubinfeld, *supra* note 4, at 1080 (suggesting that clause’s applicability turns not on whether the property was “taken,” depriving the owner of value, but instead on whether it was “conscripted” and made to serve a “public use”); Joseph L. Sax, *Takings, Private Property and Public Rights*, 81 YALE L.J. 149, 150-51 (1971) (positing that takings doctrine should ask whether the government, in taking private property, is merely competing for control of a scarce resource and not pursuing a public right or exercising the police power in settling disputes or pursuing a public right); John A. Humbach, *A Unifying Theory for the Just Compensation Cases*, 34 RUTGERS L. REV. 243 (1982).

¹⁵ See, e.g., Richard Epstein, *Takings: Descent and Resurrection*, 1987 SUP. CT. REV. 1.

¹⁶ Amidst the avalanche of literature on the Fifth Amendment’s Compensation Clause, a handful of modern works advance the view, from various perspectives, that the Clause should cover patents. See sources cited, *infra* notes 20-24.

That is not to say that insufficient thought has been given to the concept of private property. There are, of course, many important works dedicated to the history, theory, and substance of property rights in the American legal tradition.¹⁷ Nevertheless, the Fifth Amendment's Compensation Clause continues to develop with a remarkable lack of dialogue with property law. Like a rowboat passing a ship in the night, compensation law acknowledges property theory, taking the grand ship's existence and course for granted. Yet Compensation law has, thus far, failed to consider that among the waves it strains to navigate is the unsettled wake churned up by property theory. In their perpetual struggle to define the protection that the Compensation Clause affords to property owners, judges and scholars alike have largely neglected the underlying question of which rights it is meant to protect in the first place.

The Constitution's own text treats the question in the same manner. The term "property" makes only three other appearances in the Constitution, and each is in a procedural context.¹⁸ The Constitution presupposes the existence of "private property" as a legal category with independent meaning. Put differently, the term "private property" referenced in the Compensation Clause does not emanate from constitutional authority; rather, the Constitution assumes its existence and protects it.

¹⁷ Surveys of the landscape of property law include ROBERT ELLICKSON, CAROL ROSE & BRUCE ACKERMAN, *PERSPECTIVES ON PROPERTY LAW* (2d ed. 1995); and STUART BANNER, *AMERICAN PROPERTY: A HISTORY OF HOW, WHY, AND WHAT WE OWN* (2011). Further complicating the matter is the fact that a right might be "property" for certain constitutional purposes and not others. See Jonathan S. Masur, *Institutional Design and the Nature of Patents*, 104 IOWA L. REV. 2535, 2541 (2019) ("To be sure, a baseline view that a patent is property (or not) is not determinative with respect to all of these questions. A patent could be property for purposes of the Due Process Clause without being property for purposes of the Takings Clause. A patent could be property but nonetheless constitute a public right for Article III purposes. The constitutional questions are not answered purely by typology.").

¹⁸ For present purposes, procedural rules may be thought of as specifying *how* government may do certain things, whereas substantive rules may be thought of as specifying *what* government may do. The only other instances in which property is mentioned in the Constitution are, U.S. CONST. art. IV, §3 (placing in Congress the power to "dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States"); *id.* amend. V (barring Congress from "depriv[ing] ["any person"] of life, liberty, or property, without due process of law"); *id.* amend. XIV, §1 (barring states from "depriv[ing] any person of life, liberty, or property, without due process of law").

This article seeks to bridge the gap in the literature by addressing this question of increasing practical importance.¹⁹ Namely, does the Compensation Clause apply to patents for inventions? The question, put slightly differently, is whether patents should be considered “private property” within the meaning of the term as used by the Compensation Clause. Several recent scholars have argued that it does. The most extensive piece was written by scholar Adam Mossoff, who argues according to a historical interpretation that patents are protected under the Fifth Amendment’s Compensation Clause.²⁰ Several others have argued that certain types of government action related to patents would constitute takings under that Clause, such as the post-grant review processes instituted in the 2011 America

¹⁹ To his credit, Professor Humbach acknowledges the importance of defining private property to making sense of the Compensation Clause. Pessimistically, he writes: “Although the meaning accorded to the word property is critically related to the scope and import of the just-compensation clause, no definitive conception of the property idea seems possible. The boundaries of the concept in ordinary usage are too vague and unspecifiable to be analytically useful in fixing the limits of the just-compensation requirement. Precise conceptual boundaries can be defined, but they would be inherently artificial, often unconvincing, and infected by any weaknesses in the philosophico moral axioms on which they are based.” Humbach, *supra* note 14, at 245. While this article does not claim to provide a perfect definition, it does reflect optimism that the conversation may be advanced, particularly by considering its application to a discrete example.

²⁰ See Adam Mossoff, *Patents as Constitutional Private Property: The Historical Protection of Patents Under the Takings Clause*, 87 B.U. L. REV. 689 (2007) [hereinafter Mossoff, *Patents*]; see also Thomas F. Cotter, *Do Federal Uses of Intellectual Property Implicate the Fifth Amendment?*, 50 FLA. L. REV. 529, 529, 532-33 (1998) (describing the law related to Fifth Amendment Compensation Clause and intellectual property as a “muddle” and concluding that “most federal uses of patents and copyrights probably do implicate the Takings Clause, but . . . noninfringing uses of trademarks and some other forms of unfair competition probably do not.”); cf. Christopher S. Storm, *Federal Patent Takings*, 2 J. BUS. ENTREPRENEURSHIP & L. 1 (2008) (temporarily assuming that patents are private property within the Fifth Amendment’s Compensation Clause to examine how 250 years of Fifth Amendment decisions would apply to federal takings of patent rights); Shubha Ghosh, *Toward a Theory of Regulatory Takings for Intellectual Property: The Path Left Open After College Savings v. Florida Prepaid*, 37 SAN DIEGO L. REV. 637, 667 (2000) (arguing that although the Fifth Amendment’s Compensation Clause would apply to intellectual property only through analogy, that is because modern thinking went astray when legal realists rejected natural rights theories of property). *But cf.* Jonathan S. Masur & Adam K. Mortara, *Patents, Property, and Prospectivity*, 71 STAN. L. REV. 963, 991-93 (2019) (discussing the Fifth Amendment’s Compensation Clause in the context of the argument that, because judges know their decisions can do violence to reliance interests, they should be allowed to make patent rulings purely prospective); Mark A. Lemley, *Why Do Juries Decide If Patents Are Valid?*, 99 VA. L. REV. 1673, 1680-91 (2013) [hereinafter Lemley, *Juries Decide*] (discussing the history of patent practice in England in the context of an article about the role of juries in U.S. patent law); Caleb Nelson, *Adjudication in the Political Branches*, 107 COLUM. L. REV. 559 (2007) (discussing patents as public franchises in the context of an article on the separation of powers and a discussion of constitutional conceptualizations of the public/private distinction).

Invents Act,²¹ Federal Circuit rulings that result in a dramatic change departing from precedent,²² state (as opposed to federal) infringement of intellectual property rights,²³ and application of a federal statute related to sovereign immunity.²⁴ In contrast, this article offers the first, comprehensive analysis—considering theory, history, constitutional textual and structural dissection, judicial interpretations, and the nature of patents—concluding that from all of these perspectives, patents do not fall within the Fifth Amendment’s Compensation Clause.²⁵

At this point, it is worth pausing to briefly draw attention to the fact that, unlike its other three appearances in the Constitution,²⁶ the use of the word property in the Compensation Clause is modified. Specifically, the Compensation Clause is concerned not just with “property,”²⁷ but rather with “*private* property.” With this distinction, the clause cabins the bounds of the broader notion of “property” with the limiting modifier of “private.” Thus, any inquiry into the meaning of the clause must, of necessity, center on the term “private property.”

Returning to the question at hand, this article analyzes the evidence that may be relevant to determining whether courts should begin applying the Compensation Clause’s protection of private property to patents. Considering historical, textual, structural, and precedential indicators, this article demonstrates that patents should not be held to constitute private property for purposes of the Compensation

²¹ See Gregory Dolin & Irina D. Manta, *Taking Patents*, 73 WASH. & LEE L. REV. 719 (2016).

²² See J. Nicholas Bunch, Note, *Takings, Judicial Takings, and Patent Law*, 83 TEX. L. REV. 1747 (2005).

²³ See Ghosh, *supra* note 20, at 641.

²⁴ See Joshua I. Miller, Note, *28 U.S.C. § 1498(a) and the Unconstitutional Taking of Patents*, 13 YALE J. L. & TECH. 1 (2010).

²⁵ Despite the evidence presented herein, there remains a strong intuition that certain government actions that might be described as “patent takings” seem wrong. The Constitution’s Due Process principles, for example, may restrict such patent takings if they are arbitrary or lack necessary procedural elements. Beyond the Compensation Clause, this paper makes no claim as to the viability of other constitutional protections as applied to patents.

²⁶ For the relevant constitutional provisions, see *supra* note 18.

²⁷ The word property comes to English through old French, from a Latin root meaning “special character,” a noun representing the quality of being “one’s own” or “special.” See *Etymology of “Property”*, ONLINE ETYMOLOGY DICTIONARY, <http://etymonline.com/word/property>. The current French cognate, “propre,” referring to one’s “own” or “self” (as in, to do something “on one’s own” or “by one’s self”), hews closer to the Latin root. Though English speakers frequently use “property” as a synonym for “quality,” “aspect,” or “characteristic,” this other definition is now uncommon in legal contexts.

Clause.²⁸ Readers attuned to interpretive theory will likely differ on which sources of evidence matter most in constitutional argumentation²⁹—this paper is agnostic as to which the reader affords the most weight—but on each account, the inevitable conclusion is that patents are not and should not be classified as private property for purposes of the Compensation Clause.

Part I offers evidence from constitutional history. It begins by situating the concepts of private property and patents within the Anglo-American legal tradition. Distinguishing between the “core” private rights of the Common Law and the “public rights” that historically originated in discretionary grants from policy makers, this Part places private property squarely in the former and patents squarely in the latter. In making this determination, Part I also explains the way in which differences between the British and American constitutional systems, as well as the evolution of these concepts over time, do and do not influence the import of the historical evidence it offers. Part I concludes by focusing on the Compensation Clause’s constitutional origin. Limited as it is, what evidence exists suggests that the Clause was originally intended and understood narrowly, covering direct physical deprivations or occupations of land and chattels.

Reinforcing these findings, Part II proceeds by evaluating the objectives of patent law and takings law in light of constitutional and statutory text, history, and structure. First, it analyzes Article I, Section 8’s Patent and Copyright Clause, from which Congress’s power to issue patents originates. Specifically, it establishes the clause’s presumption that knowledge is public domain and its utilitarian nature. Part II continues, on a more holistic level, by observing the grounds related to the Constitution’s structure for maintaining the distinction between patents and private property.³⁰ Chief among them is the fact that the Constitution’s grant of a power to issue patents logically includes the lesser power to issue patents subject to modifications and conditions that do not prejudice constitutional rights. In addition, it calls attention to the fact that treating patents as private property

²⁸ PHILIP BOBBITT, *CONSTITUTIONAL INTERPRETATION* 12-13 (1991) (identifying 6 “modalities” of constitutional argumentation: historical, textual, structural, doctrinal, ethical, and prudential).

²⁹ For articulation of a few different interpretive theories, see, *e.g.*, ANTONIN SCALIA, *A MATTER OF INTERPRETATION* (1997); JACK M. BALKIN, *LIVING ORIGINALISM* (2011); DAVID A. STRAUSS, *THE LIVING CONSTITUTION* (2010).

³⁰ BOBBITT, *supra* note 28 (defining structural arguments as “inferring rules from the relationships that the Constitution mandates among the structures it sets up”).

would entail that Congress surrender a significant amount of authority over patent law to states and courts. Finally, assuming, *arguendo*, that Congress even has the power to deem public benefits to be private property endowed with Compensation Clause protection, the article finds no evidence that Congress intended to do so with patents.

In Part III, the article turns to the interpretive history surrounding this question. Notwithstanding efforts by some actors to “propertize” patents around the turn of the 19th century, the limited interpretive precedent that exists has compelled contemporary courts to reject Compensation Clause claims for patent takings. In this context, Part III analyzes dicta and legislative history from the late 19th through late 20th century; despite indications that contrary opinions might have existed, this Part finds neither any authoritative precedent nor any binding legal rule having held that the Compensation Clause applies to patents. This analysis includes a group of cases from the latter part of the 19th century concerning claims of patent infringement by the government as well as passage of a 1910 law, later recodified as 28 U.S.C. §1498, establishing a statutory cause of action against the government for patent infringement. Part III also examines more recent caselaw, explaining that the themes and strands that emerge weigh heavily against the patents-as-property theory.

Before concluding, this article considers, in Part IV, what the patents-as-property theory puts at stake. Reinforcing the evidence offered in Parts I-III, Part IV offers a pragmatic gloss on the question, demonstrating that aspects such as the regulatory structure and lack of certainty with patents would mix with the Compensation Clause’s theory and doctrine like oil and water.

Despite this article’s focus on property, the analysis throughout will, at times, refer to the Compensation Clause’s takings, public use, and just compensation aspects—at least to the extent that these concepts carry implications for the question of whether the entire clause applies to patents. Nonetheless, given that the article examines the question of whether the Compensation Clause applies to patents, the article’s analysis largely avoids taking positions on a number of issues that continue to frustrate other aspects of the jurisprudence.

In short, whether one observes from the historical and theoretical perspectives embedded in our Nation’s founding footsteps, from a textual and structural analysis

of the constitutional language, or from the logic of judicial analyses, the conclusion is the same. Patents do not constitute private property for purposes of the Fifth Amendment's Compensation Clause.

I

FOUNDING FOOTSTEPS

A historical analysis of early private property and patent law demonstrates that there is no historical basis for including invention patents in the category of constitutionally protected private property. Section A introduces the distinction between public rights, which owe their existence and are subordinate to the state, and the "core" private rights of life, liberty, and private property, which the state exists to protect, according to 18th century conceptions of natural law. Section A examines the concepts of private property and patents as their English law antecedents had been understood at the nation's founding, finding that the rights encompassed by private property rights were limited to those tied to land and chattels, whereas patents were consistently viewed as public rights, which the government established at its discretion for policy reasons. Section B turns to the Compensation Clause itself, concluding that it was most likely intended and understood to cover direct, physical takings or occupations of land and chattels, excluding public rights like patents.

A. Patents & Private Property: Origins Through the Early Republic

1. Private Property as a "Core" Private Right

The 18th century property theory in existence at the time of the Nation's founding embraced a decidedly particularized definition of property. Property attached to things in the physical realm, either land—something one could touch but not pick up and move—or chattel—physical items that were moveable, such as goods and paper money. One can see these conceptualizations at work in the writings of influential thinkers such as Blackstone and Locke, who attributed rights over property to a theory of natural law in which people gained dominion over items in the physical world by mixing their labor with those items.³¹

³¹ II WILLIAM BLACKSTONE, COMMENTARIES 2-15; JOHN LOCKE, SECOND TREATISE OF GOVERNMENT §27.

In typically soaring language, Blackstone, for example, defined property as “that sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe”³² and then identifies the objects of that dominion as separated into two categories: “[t]hings real . . . which cannot be carried out of their place; as lands and tenements . . .” and “all other movables; which may attend the owner’s person wherever he thinks proper to go.”³³ Locke, similarly, conceived of property in a manner contingent on a metaphysical relationship between an individual and a piece of the physical work, with the individual gaining property rights through the act of mixing labor with a physical item otherwise given to humanity in common.³⁴

During the 20th century, new ways of thinking about the law saw many aspects of Blackstonian property theory dismantled, from its metaphysical origin to its absolutist implementation.³⁵ From the ruins emerged the “bundle of sticks” theory of property, which conceives of property as a socially constructed bundle of limited rights, generally including those of use, exclusion, and disposal.³⁶ Nevertheless, to answer the question of what the Framers thought about “property” when penning the Constitution in the late 18th century, it was all about control over the physical.

Perhaps of greater importance than the focus on the physical was the long-standing distinction between private and public rights. Private rights were thought of as those that existed prior to the state. These stood in contrast to rights that the Commonwealth, or the Crown, brought into existence by the action of law. In this context, private rights were life, liberty, and property—again, with property being tied to tangible items.

³² II BLACKSTONE, *supra* note 31, at 2.

³³ *Id.* at 16-17. (“The objects of dominion or property are *things*, as contradistinguished from *persons*: and things are by the law of England distributed into two kinds, things *real* and things *personal*. Things *real* are such as are permanent, fixed, and immovable, which cannot be carried out of their place; as lands and tenements: things *personal* are goods, money, and all other movables; which may attend the owner’s person wherever he thinks proper to go.”).

³⁴ LOCKE, *supra* note 31, at §27.

³⁵ See Felix Cohen, *Dialogue on Private Property*, 9 RUTGERS L. REV. 359, 373 (1954), for an example of the methodology brought by 20th century legal realists to property rights. See also Kirk A. Kennedy, *Reaffirming the Natural Law Jurisprudence of Justice Clarence Thomas*, 9 REGENT U. L. REV. 33 (1997), for an exploration of modern jurisprudence that hews more closely to natural law conceptualizations and places Thomas’s jurisprudence, including his opinions on property, in the natural law tradition.

³⁶ Denise R. Johnson, *Reflections on the Bundle of Rights*, 32 VT. L. REV. 247, 247, 253 (2007).

Property, being what Professor Nelson calls a “core” private right, is fundamentally different from socially constructed rights.³⁷ Property, along with life (sometimes denoted “personal security”) and liberty, transcend the formation of governments, according to the Locke-inspired 18th century theorists.³⁸ Although the distinction has been obscured in the ensuing centuries, 18th century readers of Locke and Blackstone would have understood a clear distinction between those rights which government exists to protect, and “public rights,” “franchises,” and “privileges,” which, to use Blackstone’s words, “result from, and are posterior to, the formation of states and societies.”³⁹ According to Nelson, the dichotomy is substantive in origin but carries structural implications: It is in the protection of these core private rights that the judiciary finds its purpose.⁴⁰ Although he does not dwell on it, the apparent synergy between the procedural safeguards of the judiciary and life, liberty, and property in the language of the Fifth, Thirteenth, and Fourteenth Amendments⁴¹ is consistent with the relationship that Nelson describes between core natural rights and government’s role as their guardian.

A useful litmus test for whether a right is public or private is whether it originated in the political branches or was found at common law. Generally speaking, those rights which the common law courts “discovered” are likely to be

³⁷ See generally Nelson, *supra* note 20, at 559. See I BLACKSTONE, *supra* note 31, at 141 (“the three great and primary rights, of personal security, personal liberty, and private property”).

³⁸ I BLACKSTONE, *supra* note 31, at 123 (“By the absolute *rights* of individuals, we mean those which are so in their primary and strictest sense; such as would belong to their persons merely in a state of nature, and which every man is entitled to enjoy, whether out of society or in it.”); Nelson, *supra* note 20, at 622 (“The Lockean view [is] that the individual is anterior to political society[] and that the fundamental object of government is to render more secure the core private rights that have analogs in the individualistic state of nature . . .”).

³⁹ Nelson, *supra* note 20, at 561-62, 567-68 (“Historically, Americans have concluded that the protection of individual rights to person and property—core ‘private rights’ of the sort that (on John Locke’s influential account) government was instituted to safeguard—triggers different political calculations, and therefore requires different institutional arrangements, than the protection of ‘public rights’ belonging to the body politic.”); see I BLACKSTONE, *supra* note 31, at 124. Indeed, much of what Reich called “The New Property” is of this latter type, owing its existence to the state. See generally Charles A. Reich, *The New Property*, 73 YALE L.J. 733 (1964).

⁴⁰ Nelson, *supra* note 20, at 562.

⁴¹ U.S. CONST. amend. V (“[N]or be deprived of life, liberty, or property, *without due process of law* . . .”) (emphasis added); *id.* amend. XIII (“Neither slavery nor involuntary servitude, except as a punishment for a crime *whereof the party shall have been duly convicted* . . .”) (emphasis added); *id.* amend. XIV (“[N]or shall any State deprive any person of life, liberty, or property, *without due process of law* . . .”) (emphasis added).

private rights, whereas those “established” by the legislature are likely to be public rights or privileges.⁴² Some rights have mixed statutory and common law origins⁴³ blurring the distinction between common law and statutory rights, so a right’s origin in the courts or Congress is not necessarily determinative. Still, the fact, as discussed below, that patents have no such mixed origin and so clearly fall on the government-originating-side-of-the-line weighs heavily against classification as property.⁴⁴

⁴² Although the original significance of the term is now largely lost, the term “privilege” stood in opposition to “rights” in that politically conferred benefits were described as the former and not the latter. Because this article has no ambition of reviving the terminological distinction, it contents itself to use the modifiers “public” and “private” to differentiate between the two types of rights. Laura Ferguson, *Revisiting the Public Rights Doctrine: Justice Thomas’s Application of Originalism to Administrative Law*, 84 GEO. WASH. L. REV. 1315, 1330 (2016) (“Private rights, on the other hand, refer to individual rights to life, liberty, and property that every citizen possesses independent of the state . . . Privileges developed as a separate way to distinguish rights that public authorities created purely for reasons of public policy. The goal of privileges was to create entitlements that would operate like private rights—for example, forming the basis for private claims against other individuals—but would actually enable private citizens to use civil power for the public benefit, in effect allowing private citizens to carry out public ends.”) (footnotes omitted).

⁴³ To offer just one example, consider recording a phone call in California without the consent of both parties. The action implicates the right to privacy and corresponding torts, which are largely rooted in common law. *See, e.g.,* Samuel D. Warren & Louis D. Brandeis, *The Right to Privacy*, 4 HARV. L. REV. 193 (1890). Yet, nearly every aspect of a civil suit seeking damages for such a recording would be controlled by statutes. These statutes not only control procedural aspects like statutes of limitations, but they codify, expand, and restrict the tort’s scope. *See, e.g.,* Flanagan v. Flanagan, 41 P.3d 575 (Cal. 2002). Accordingly, Mossoff points out that property rights in land, often thought of as “common law rights,” are rooted in acts of parliament. Adam Mossoff, *Statutes, Common Law Rights, and the Mistaken Classification of Patents as Public Rights*, 104 IOWA L. REV. 2591, 2602-04 (2019) [hereinafter Mossoff, *Mistaken Patent Classification*]. Perhaps the most relevant contrast for patents is copyrights, whose common law origin can be traced back to Roman Law but which have been primarily creatures of statute since the early 18th century. *See infra* text accompanying note 131 (contrasting copyright statutes, which stipulate that rights arise automatically upon the creation of a creative work, and patent statutes, which require application and granting).

⁴⁴ *See* discussion *infra* Section I.A.2; *see also, e.g.,* *Intellectual Property, the Right to Health, and Human Rights*, 2006 U. ILL. J.L. TECH. & POL’Y 63, 94-95 (“Courts and commentators agree in characterizing copyrights and patents not as natural property rights, but rather as statutory creations designed to maximize public welfare.” (quoting Tom W. Bell, Professor of Law at Chapman Univ. L. Sch., Federalist Society’s “Life, Liberty, and Intellectual Property” Panel Discussion (Oct. 12, 2005))); Robin Feldman, *Federalism, First Amendment & Patents: The Fraud Fallacy*, 17 COLUM. SCI. & TECH. L. REV. 30, 71 (2015) [hereinafter Feldman, *Federalism*] (asserting that the Patent and Copyright Clause represents a “creation of a narrow public franchise for limited policy reasons [that] stands in sharp contrast to the Framers’ conception of core private property rights, and the way in which those rights are treated in the Constitution”); Chidi Oguamanam, *Beyond Theories: Intellectual Property Dynamics in the Global Knowledge Economy*, 9 WAKE FOREST INTELL. PROP. L.J. 104, 110 (2009) (“[I]ntellectual property rights, for the most part, are statutorily created rights rather than inherent and inalienable natural rights.”); J.H. Reichman & Jonathan A. Franklin, *Privately Legislated Intellectual Property Rights: Reconciling Freedom of Contract with Public Good*

Diligence requires noting, however briefly, that in American legal tradition, the word “property” is sometimes used far more expansively than jurists like Blackstone can account for. For example, consistent with the distinction between core private rights and public rights, some 18th century thinkers speak in more expansive terms in which property becomes a single term incorporating the other two core private rights—life and liberty. The Compensation Clause’s own author, James Madison,⁴⁵ expounded on the dual meaning of property, writing:

This term in its particular application means “that dominion which one man claims and exercises over the external things of the world, in exclusion of every other individual.”

In its larger and juster meaning, it embraces every thing to which a man may attach a value and have a right; and which leaves to every one else the like advantage.

In the former sense, a man’s land, or merchandize, or money is called his property.

In the latter sense, a man has a property in his opinions and the free communication of them.

He has a property of peculiar value in his religious opinions . . .

In a word, as a man is said to have a right to his property, he may be equally said to have a property in his rights . . .

Government is instituted to protect property of every sort; as well that which lies in the various rights of individuals, as that which the term particularly expresses.⁴⁶

Uses of Information, 147 U. PA. L. REV. 875, 922 (1999) (“[S]tatutory intellectual property rights confer legal monopolies on qualified creators and inventors . . .”); cf. Shyamkrishna Balganesh, *The Pragmatic Incrementalism of Common Law Intellectual Property*, 63 VAND. L. REV. 1543, 1544 (2010) (“Intellectual property is today thought to be principally of statutory origin.”).

⁴⁵ See generally AKHIL REED AMAR, *THE BILL OF RIGHTS: CREATION AND RECONSTRUCTION* 77-80 (1998).

⁴⁶ James Madison, *Property*, THE NAT’L GAZETTE (Mar. 29, 1792), reprinted in RICHARD A. EPSTEIN, *CLASSICAL FOUNDATIONS OF LIBERTY AND PROPERTY: LIBERTY, PROPERTY, AND THE LAW* 185-87 (2000)).

Thus, in addition to the Blackstonian framing of property as dominion over part of the physical world with which one has mixed their labor, Madison also uses property as a stand in for the set of naturally occurring rights the protection of which is the object of government, according to his early liberal framework.⁴⁷

Good reason exists for understanding that Madison followed the narrower definition in constructing the Compensation Clause. First, applying Madison's second definition of property to the Compensation Clause would lead to the untenable conclusion that compensation was required each time the government violated privacy, imposed on religious liberty, or restricted speech. If the Compensation Clause is extended to provide just compensation in this broad manner, then the Supreme Court could have awarded monetary compensation when, for example, it found that New York's COVID-19 restrictions violated worshipers religious freedoms.⁴⁸ Simply put, the broad reading needed to protect patents with the Compensation Clause by way of an expansive definition of property would leave the Clause with no limiting principle as to the substantive rights that it covers.

Moreover, in understanding the narrow scope of the Compensation Clause as drafted, the modifier "private" is especially important.⁴⁹ It is the word "private" that signals the limitation of the Compensation Clause to the narrow subset of private rights—"that which the term particularly expresses," to use Madison's language⁵⁰—rather than ones granted by government.

2. *Patents as a Quintessential Public Franchise*

As noted above, the conceptualization of rights at the time of the Constitution can be understood as falling into two categories: core, private rights that exist without the action of government (generally listed as life, liberty, and property)

⁴⁷ For a discussion of early American liberal philosophy and its role in Madison's thought, *see infra* notes 102-105 and accompanying text.

⁴⁸ *See* Roman Cath. Diocese of Brooklyn v. Cuomo, 141 S. Ct. 63 (2020).

⁴⁹ While it may be accurate in some sense to state that patents are not property at all, the frequent casual use of the term "property" renders it prudent to limit the present inquiry to the narrower sub-category of *private* property. *See, e.g.*, Walter T. Champion, Jr., *The Baseball Antitrust Exemption Revisited: 21 Years After Flood v. Kuhn*, 19 T. MARSHALL L. REV. 573, 575 (1994) ("Under the reserve system, a ballplayer was the property of his team for life").

⁵⁰ Madison, *supra* note 46.

and public rights that arise from an action of government. In contrast to property in land and chattels, patents bear none of the key features historically associated with “core” private property rights but rather, embody rights arising from an action of government.⁵¹ In particular, patents do not attach to anything corporeal, they have little basis in natural rights theory, and they are primarily political in origin.⁵²

Despite the clarity of that point, it is prudent to detour briefly into the history of the terms “patent” and “letters patent,” to avoid any possibility of confusion. None of the narrative, however, alters the theoretical perspectives at the time of the Constitution in which core, private rights such as life, liberty, and property are separated from those things government-granted. Moreover, none of the history of the term “patent” can be read to suggest that the term, in the American constitutional context, embodied substantive rights resembling core, private rights.

As the following discussion will demonstrate, historically, the term “patent” merely indicated that something was accomplished in a public manner by a letter from the king. The things accomplished ranged from conferring knighthood,⁵³ to appointing a sheriff,⁵⁴ assenting to a bill of parliament,⁵⁵ and delegating the erection of light-houses⁵⁶ —a far cry from what we think of today with the term “patent.” One can think of the older meaning of the term as perhaps more linguistically related to the modern use of the term “patently” (as in, “patently obvious”), meaning “clearly.” Even today, we use vestiges of the term to apply to certain things delivered by the government, but without necessarily a reflection on the content of what is being delivered.

By way of introduction, the term “patent” has its origin in the centuries-old practice of issuing “*literae patentes*” or “letters patent,” meaning open letters. Letters patent were one of the three commonly used forms by which the King conducted royal business. As one scholar summarizes:

⁵¹ See *infra* text accompanying notes 79-80, 83-84, 94, and 98.

⁵² *Id.*

⁵³ I BLACKSTONE, *supra* note 31, at 272.

⁵⁴ *Id.* at 340.

⁵⁵ *Id.* at 185.

⁵⁶ *Id.* at 264-65.

The kings of England did much of their state business by means of charters, letters patent, and letters close. At least initially, charters were used for their more solemn acts. Letters patent were used to set forth their public directives, of whatever sort, whereas letters close were used to provide private instructions to individuals. Royal charters and letters patent often were similar in content and differed only in their form.⁵⁷

The term letters patent signifies the royal action's form more than its content. Put differently, letters patent were simply a way of doing business. They indicate a "how" but not a "what."⁵⁸ Blackstone's *Commentaries* succinctly describe their use:

[The King's] grants, whether of lands, honors, liberties, franchises, or aught besides, are contained in charters, or letters patent, that is, open letters, literae patentes: so called, because they are not sealed up, but exposed to open view, with the great seal pendant at the bottom; and are usually directed or addressed by the king to all his subjects at large.⁵⁹

These sentences, one should note, touch on only some of letters patent's many uses. In this context, Blackstone points out that letters patent were used when the King conferred or granted something, but letters patent were also used to become an English subject,⁶⁰ nominate a bishop,⁶¹ create a court⁶² or judgeship,⁶³ annex foreign territory,⁶⁴ and establish a corporation⁶⁵ or political office⁶⁶.

It can be safely said, therefore, that the use of the term "patent" in any context said very little about the nature of its content beyond the fact that it is intended to

⁵⁷ Edward C. Walterscheid, *The Early Evolution of the United States Patent Law: Antecedents (Part 1)*, 76 J. PAT. & TRADEMARK OFF. SOC'Y 697, 700 (1994) [hereinafter Walterscheid, *Part 1*].

⁵⁸ *Id.* at 700-01.

⁵⁹ II BLACKSTONE, *supra* note 31, at 346. Note that in 1515, the formal distinction between charters and letters patent was eliminated, and all subsequent royal grants were recorded in the Patent Rolls. Walterscheid, *Part 1*, *supra* note 57, at 700-01.

⁶⁰ I BLACKSTONE, *supra* note 31, at 374-75.

⁶¹ *Id.* at 380.

⁶² III BLACKSTONE, *supra* note 31, at 76.

⁶³ *Id.* at 40.

⁶⁴ I BLACKSTONE, *supra* note 31, at 100.

⁶⁵ *Id.* at 473.

⁶⁶ *Id.* at 272.

be made public. If the letters patent granted a right or privilege, the form of the patent had no bearing on the right's content. The use of the term "patent" adds no weight in favor of a patent-holder's claim to specific rights, their strength, or their conditions, and applied to what we now call "intellectual property," it weighs, if anything, against their "property-ness."

One commentator has noted how letters patent, as described by Blackstone, became used as tools for economic development, writing, "The crown's prerogative to issue letters patent was a central tool in bestowing privileges upon individuals in the furtherance of royal policies. When the crown thus wished to buttress the realm's lagging industrial development at the end of the Middle Ages, the issuance of letters patent was central to enticing tradesmen and industrialists to come to England. This policy is the progenitor of the doctrine of patents for inventions."⁶⁷ The earliest examples date from the reign of Edward III.⁶⁸ The letters patent offered in the 14th and 15th Centuries created protections for skilled foreigners willing to come to England and share their skills.⁶⁹ Unlike U.S. patent law's modern notion of introducing an invention that is "new and useful," this royal prerogative simply enticed those who were able to ply an existing trade to bring those talents to England.⁷⁰

In the mid-16th century, English monarchs began issuing monopoly patents in manufacturing. Queen Elizabeth's use of monopoly patents did not consistently share all the features we now associate with patents. Many went to foreigners as

⁶⁷ Adam Mossoff, *Rethinking the Development of Patents: An Intellectual History, 1550-1800*, 52 HASTINGS L.J. 1255, 1259 (2001) (footnote omitted) [hereinafter Mossoff, *Rethinking*].

⁶⁸ *Id.*

⁶⁹ Ramon A. Klitzke, *Historical Background of the English Patent Law*, 41 J. PAT. OFF. SOC'Y 615, 624 (1959) (describing these early letters patent as like "passports").

⁷⁰ The concept of a legally enforceable exclusionary right to a novel device dates roughly to the 15th century, with many recognizable elements of modern patent law evident in this early Venetian law. Walterschild, *Part 1, supra* note 58, at 706. The 1474 Venetian patent law provides:

WE HAVE among us men of great genius, apt to invent and discover ingenious devices; and in view of the grandeur and virtue of our city, more such men come to us every day from divers parts. Now, if provision were made for the works and devices discovered by such persons, so that others who may see them could not build them and take the inventor's honor away, more men would then apply their genius, would discover, and would build devices of great utility and benefit to our commonwealth. Therefore:

inducements to travel to England.⁷¹ Some required that the patentee manufacture or else lose his monopoly right.⁷² Others included a condition that the patentee train others in the craft. Most notably, the monopoly patents granted by Elizabeth did not necessarily go to the inventor of a new device or technique but were granted for many types of products. For example, by the end of the 16th century, the Queen bestowed monopoly patents for things as common as drinking glasses and playing cards out of pure political patronage or as a way of avoiding ever-unpopular taxes by charging patentees for a monopoly.

As a result of the Crown's abuse of the royal prerogative, the crown's ability to issue monopoly patents was curtailed, first by the Courts and subsequently by Parliament. In *Darcy v. Allen (The Case of Monopolies)* (1602) and *The Clothworkers of Ipswich Case* (1615), the Court of King's Bench found Common Law limitations on the royal prerogative of monopoly patents.⁷³ Reports of both cases, especially Sir Edward Coke's, are hostile to monopoly patents in general and especially where the patentee does not create or import something new.⁷⁴

The turning point in English Patent Law was the 1624 Statute of Monopolies.⁷⁵ Significant as the law is, it may be summarized simply. It begins

BE IT ENACTED that, by the authority of this Council, every person who shall build any new and ingenious device in this City, not previously made in our Commonwealth, shall give notice of it to the office of our General Welfare Board when it has been reduced to perfection so that it can be used and operated. It being forbidden to every other person in any of our territories and towns to make any further device conforming with and similar to said one, without the consent and license of the author, for the term of ten years. And if anybody builds it in violation hereof, the aforesaid author and inventor shall be entitled to have him summoned before any magistrate the said infringer shall be constrained to pay him [one] hundred ducats; and the device shall be destroyed at once. It being, however, within the power and discretion of the Government, in its activities, to take and use any such device and instrument, with this condition however that no one but the author shall operate it.

Id. at 708-09. During the 15th century, knowledge and use of the "Venetian patent custom" spread throughout central Europe and to England. *See Id.* at 710.

⁷¹ E. Wyndham Hulme, *The History of the Patent System under the Prerogative and at Common Law: A Sequel*, 16 L.Q.R. 44, 52 (1900); Mossoff, *Rethinking*, *supra* note 67, at 1259-62.

⁷² Edward C. Walterscheid, *The Early Evolution of the United States Patent Law: Antecedents (Part 2)*, 76 J. PAT. & TRADEMARK OFF. SOC'Y 849, 857 (1994) [hereinafter Walterscheid, *Part 2*].

⁷³ *See* 11 Co. Rep. 84, 77 Eng. Rep. 1260 (K.B. 1602); 78 Eng. Rep. 147 (K.B. 1615).

⁷⁴ *Id.*

⁷⁵ Statute of Monopolies 1623, 21 Jac. 1 c. 3 (Eng.).

with a general ban on and annulment of any monopolies, past, present, and future, and then exempts letters patent and grants of privilege to the “true and first inventor and inventors.”⁷⁶ Even after the Statute of Monopolies went into force, Parliament struggled, at first, to rein in continued abuses by the crown,⁷⁷ but eventually, the patent practices of the 16th century were corralled.

Few dispute that patent grants (in general and for monopolies) were originally discretionary policy measures, but one commentator alleges, leaning on the enlightenment-era proclivity for John Locke, that by the late 18th century, inventors’ exclusionary rights had been reformed with the theory of natural rights.⁷⁸ Certainly, greater oversight by Parliament and the courts moved patents partially into the domain of common law.⁷⁹ Nevertheless, patent rights still came in the form of letters patent issued at the discretion of the monarch. Unlike with private property rights, the king, through the Privy Council, retained the power (though it was seldom exercised) to revoke patents.⁸⁰ Furthermore, neither

⁷⁶ *Id.* at §6 (specifying that, “shall not extend to any letters patents and grants of privilege for the term of fourteen years or under, hereafter to be made, of the sole working or making of any manner of new manufactures within this realm to the true and first inventor and inventors of such manufactures, which others at the time of making such letters patents and grants shall not use so as also they be not contrary to the law nor mischievous to the state by raising prices of commodities at home, or hurt of trade, or generally inconvenient: the same fourteen years to be accounted from the date of the first letters patents or grant of such privilege hereafter to be made, but that the same shall be of such force as they should be if this act had never been made, and of none other”).

⁷⁷ Lemley, *Juries Decide*, *supra* note 20, at 1681 (“Consistent with the idea that patents were royal grants of privilege, only the King had the power to revoke a patent during this period. Neither Parliament nor the courts could do so. That remained true even after the enactment of the Statute of Monopolies.”) (footnote omitted) (citing W.M. HINDMARCH, A TREATISE ON THE LAW RELATIVE TO PATENT PRIVILEGES FOR THE SOLE USE OF INVENTIONS: AND THE PRACTICE OF OBTAINING LETTERS PATENT FOR INVENTIONS 3 (Harrisburg, Pa., I.G. M’Kinley & J.M.G. Lescure 1847) (“[I]nventors are never *entitled as of right* to letters patent . . . but they must obtain them from the Crown by petition, and *as a matter of grace and favour* . . .”).

⁷⁸ See generally Mossoff, *Rethinking*, *supra* note 67.

⁷⁹ Though patent-related jurisprudence built up over time, the decision to give a patent was still an exercise of royal prerogative. A slightly stronger argument could be made for the common law-ness of copyrights.

⁸⁰ See Gómez-Arostegui & Bottomley, *Privy Council and Scire Facias 1700–1883: An Addendum to the Brief for H. Tomás Gómez-Arostegui and Sean Bottomley As Amici Curiae in Support of Neither Party* 14–22 (Nov. 6, 2017) (<http://ssrn.com/abstract=3054989>) (describing, among other cases, Board of Ordnance v. Wilkinson, PC2/123 (1779) (revoking a patent after patentee refused to litigate in a law court) and Board of Ordnance v. Parr, PC1/3919 (1810) (in which the attorney general conceded that proceeding in a law court was the “usual manner” and directed the petitioner to the courts, though he suggested that recourse in the Privy Council might be available if there is a “very pressing and imminent” public danger)); *cf.* *Oil States Energy Servs.*, 138 S. Ct. at 1383 (Gorsuch, J., dissenting) (“In the end, these cases do very little to support the Court’s holding. At most, they suggest that the Privy Council might have possessed some residual power

courts nor parliament asserted that a general right exists to exclusivity in one's invention. To the contrary, they claimed that there exists a baseline freedom for all to manufacture, and they simply limited the reasons for which the crown could curtail that freedom.

The closest that Blackstone came to including so-called intellectual property in his property framework occurs in his discussion of the various ways by which individuals can acquire legal title. He discusses, for example, the right of the king's grantees to hunt game as falling in the category of "prerogative property."⁸¹ Likewise, Blackstone writes that an heir has a property "by custom" to his ancestor's "monument or tombstone in a church."⁸² As if searching for a place to discuss the practice, Blackstone ambivalently discusses copyrights and patents in the chapter on "Title by Occupancy," writing:

There is still another species of property, which, (if it subsists by the common law,) being grounded on labour and invention, is more properly reducible to the head of occupancy than any other . . . And this is the right which an author may be supposed to have in his own original literary composition . . . [Here, Blackstone summarizes the history and content of copyrights.] But whatever inherent copyright might have been supposed to subsist by the common law, the statute 8 Anne, c. 19 . . . hath now declared that the author and his assigns shall have the sole liberty of printing and reprinting his works for the term of fourteen years, *and no longer* . . . and a similar privilege is extended to the inventors of prints and engravings, for the term of eight-and-twenty years, by the statutes [. . .] All which parliamentary protections appear to have been suggested by the exception in the statute of monopolies, 21 Jac. I. c. 3, which allows a royal *patent* of privilege to be granted for fourteen years to any inventor of a new manufacture, for the sole working or making of

to revoke patents to address wartime necessities. Equally, they might serve only as more unfortunate evidence of the maxim that in time of war, the laws fall silent. But whatever they do, these cases do not come close to proving that patent disputes were routinely permitted to proceed outside a court of law.") (citation omitted).

⁸¹ II BLACKSTONE, *supra* note 31, at 410.

⁸² *Id.* at 428-29.

the same; by virtue whereof it is held that a temporary property therein becomes vested in the king's patentee.⁸³

To borrow the analysis of another commentator, "Blackstone's use of the words 'privilege' and 'allows' further indicates that the Crown issued patents as privileges at its own discretion, rather than under obligation of Natural Law."⁸⁴ All told, Blackstone's entire characterization of what is now called intellectual property differs considerably from the natural right of property that he earlier described as one of the three core private rights.

Of particular importance, one must also note the mechanical difficulty, so to speak, of mapping the English law concept of letters patent onto America's constitutional framework. As described, under the English system, letters patent were a method by which a specific actor (the King or Queen) exercised a wide range of powers. It should not shock anyone that locating the power to issue letters patent in the American system is a fraught, if not non-sensical task. First of all, the office of the monarch does not neatly correspond to a particular office or department in the

⁸³ *Id.* at 405-07 (citations omitted). The case Blackstone cites for this last proposition actually involved what would now be called a trade secret claim and mentions patents only as a contrast in a brief dictum. *Jenks v. Holford* (1682) 28 Eng. Rep. 311, 1 Vern. 62. Later commentaries on Blackstone continued to debate the status of copyrights and patents. Christian's edition from the 1790s added:

Whether the productions of the mind could communicate a right of property or of exclusive enjoyment in reason and nature, and, if such a moral right existed, whether it was recognised and supported by the common law of England, and whether the common law was intended to be restrained by the statute of queen Anne, are questions upon which the learning and talents of the highest legal characters in this kingdom have been powerfully and zealously exerted.

These questions were finally so determined that an author has no right at present beyond the limits fixed by the statute; but, as that determination was contrary to the opinion of lord Mansfield, the learned commentator, and several other judges, every person may still be permitted to indulge his own opinion upon the propriety of it without incurring the imputation of arrogance.

II BLACKSTONE, *supra* note 32, at 407 n.13.

Regarding Patents, Chitty's edition from the 1820s added, "When the crown, on behalf of the public, grants letters-patent, the grantee thereby enters into a contract with the crown, in the benefit of which contract the public are participators. Under certain restrictions, affording a reasonable recompense [in the form of a limited exclusivity period] to the grantee, the use of his invention, improvement, and employment of capital is communicated to the public . . ." *Id.* at n.15.

⁸⁴ Justin Burnam, *Patents in the Political Branches*, 16 GEO. J.L. & PUB. POL'Y 559, 578 (2018).

American system. The division of governmental power into legislative, executive, and judicial branches never truly existed in England, and the division of power between governments of differing levels of locality did not exist in England, either, where federalism remains informal, at best.

Consequently, some of the powers historically exercised by way of letters patent now lie, in America, with the President (appointing judges)⁸⁵ while others lay with Congress (establishing political offices).⁸⁶ Others still, are exercised at the state level (creating municipal boundaries and cities) or are forbidden entirely (granting titles of nobility).⁸⁷ All this is to say, the original significance of letters patent—a means by which the king conducted royal business—is largely lost in the United States’ constitutional system. Therefore, although the words patent and letters patent are still used in American law for certain public documents, such as invention patents and so-called “land patents,” the use of those terms is essentially vestigial and the result of historic association with specific functions.

Outside of inventions, the most common usage of patents in modern American law is in reference to “patented” land. Letters patent for land are documents that attest to the original and permanent conveyance of public land, in fee simple title, to a private party.⁸⁸ Patented land comes with the sovereign’s guarantee of the title, ownership, and interest, for in issuing the patent, the sovereign does not merely assign title and interest but also attests to the title’s validity.⁸⁹ Thus, it is simply the vehicle for transfer of public land and comes with the government’s added assurance that it is valid.⁹⁰ Notably, land patentees do not have any more or fewer property rights than do owners who acquired fee simple title to their lands from a

⁸⁵ U.S. CONST. art. II, §2.

⁸⁶ *Id.*

⁸⁷ *Id.* art. I, §§9 and 10.

⁸⁸ 52A Cal. Jur. 3d Publicly Owned Lands § 61 (2023) (citing *Murphy v. Burch*, 205 P.3d 289 (Cal. 2009)); *see also* *Gardner v. County of Sonoma*, 62 P.3d 103 (2003).

⁸⁹ *United States v. Shumway*, 199 F.3d 1093, 1096 (9th Cir. 1999) (“A ‘patent’ ‘is the conveyance by which the [federal government] passes its title to portions of the public domain.’ A patent does not merely pass title, like a deed, but operates as an official declaration of title which is, with limited exceptions, unassailable and not rebuttable.”) (footnote omitted) (citing *Smelting Co. v. Kemp*, 104 U.S. 636, 640-641 (1881)).

⁹⁰ *See id.*; *see also* Paul L. Wright and Thomas E. Muth, *Land Patents: Are They an Escape from Foreclosure*, 36 DRAKE L. REV. 561, 562 (1986) (“A land patent is simply a document of title proving that a parcel of land is no longer publicly owned, but is now privately owned.”).

private party.⁹¹ Congress has, for example, issued land patents with easements⁹² and reservations for minerals.⁹³

What does the existence of land patents mean for invention patents? Probably not a whole lot. One might try to argue that the fact land patents convey fee simple title in real property indicates that invention patents convey similarly strong property rights. But there is a fundamental difference between the two. An invention patent has the effect of creating a right that did not exist by establishing a right in a new invention. In contrast, the right to the piece of land was already in existence but merely held by the sovereign. Thus, a land patent is merely the conveyance of a right that already existed,⁹⁴ in contrast to the creation of an entirely new right. The term “patent” is used in both contexts because the functions were historically carried out by the king by means of so-called letters patent.⁹⁵ In neither case, however, is the use of the term “patent” determinative of the scope or nature of the included rights.⁹⁶

Recognizing this longstanding distinction between patents for land and inventions, Justice Thomas recently cautioned his colleagues in a dissent in the *Teva* case to “not blithely extend the rules governing the construction of deeds to their even more distant cousins, invention patents.”⁹⁷ Borrowing Holdsworth’s terminology, he continued in a footnote, “Notwithstanding a movement to recognize a ‘core’ property right in inventions, the English common law placed

⁹¹ See, e.g., *Marvin M. Brandt Revocable Tr. v. United States*, 572 U.S. 93, 99 (2014) (“The patent conveyed to the Brandts fee simple title to the land ‘with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto said claimants, their successors and assigns, forever.’”).

⁹² *Id.* at 104-06 (“When the United States patented the Fox Park parcel to Brandt’s parents in 1976, it conveyed fee simple title to that land, ‘subject to those rights for railroad purposes’ that had been granted to the LHP & P [Railway Company]. The United States did not reserve to itself any interest in the right of way in that patent. Under [Supreme Court precedent], the railroad thus had an easement in its right of way over land owned by the Brandts When the [railroad’s successor company] abandoned the right of way in 2004, the easement referred to in the Brandt [land] patent terminated.”).

⁹³ Stock Raising Homestead Act of 1916, Pub. L. No. 64-290, ch. 9, 39 Stat. 862, 862-63 (codified as amended at 43 U.S.C. §§291-302); Jean Feriancek, *Mineral Reservations in Federal Patents*, 19 NAT. RES. & ENV’T 58 (2005).

⁹⁴ *Id.*

⁹⁵ See *supra* text accompanying notes 59-69.

⁹⁶ *Id.*

⁹⁷ *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 344 (2015) (Thomas, J., dissenting).

patents squarely in the [...] category [of] franchises that ‘depend upon express legislation,’ and ‘hath [their] essence by positive municipal law.’”⁹⁸ The *Teva* case involved the question of whether the Federal Circuit should be allowed to review a trial court’s patent claim construction determination using a *de novo* standard or only for clear error.⁹⁹ In clipping the Federal Circuit’s wings, the majority’s decision reflected a deep and abiding mistrust of the Federal Circuit evidenced across a wide swath of recent Supreme Court decisions.¹⁰⁰ The dissent may have been less inclined to strike down the Federal Circuit. Regardless, the dissent’s foray into the history of invention patents and their distinction from land patents is a reminder that invention patents are something other than core, private rights as understood at the Nation’s founding.

B. *Original Meaning of the Compensation Clause*

Reinforcing the dissimilarity between patents and private property is the fact that the Compensation Clause likely was originally understood extremely narrowly. As noted, congressional debates and state ratifying conventions seem almost to ignore the clause.¹⁰¹ Nonetheless, even if its ratifiers were silent as to its content, accounts of its author’s ideological agenda do, if nothing else, account for the clause’s spirit. The historical narrative advanced by Professor Treanor and later by Professor Amar emphasizes Madison’s efforts to push a transition from republican ideology to liberalism.¹⁰² In broad strokes, republicanism viewed society as an organic whole, trusted legislatures to pursue the collective good, and prioritized the cultivation of virtue even at the expense of individuals’ free pursuit of self-interest.¹⁰³ Liberalism, by contrast, saw society as atomistic and emphasized the need for safeguards to protect individual rights (including property) from

⁹⁸ *Id.* at n.2 (citing 7 W. Holdsworth, A HISTORY OF ENGLISH LAW 479, n.7, 480, & n.4, 497 (1926)).

⁹⁹ *See id.* at 322.

¹⁰⁰ *See generally* Robin Feldman, *Coming of Age for the Federal Circuit*, 18 GREEN BAG 2D 27 (2014).

¹⁰¹ *See supra* note 3; *infra* text accompanying note 102.

¹⁰² Amar, THE BILL OF RIGHTS, *supra* note 45, at 77-80; William Michael Treanor, Note, *The Origins and Original Significance of the Just Compensation Clause of the Fifth Amendment*, 94 YALE L.J. 694, 708-12 (1985).

¹⁰³ GORDON WOOD, THE CREATION OF THE AMERICAN REPUBLIC, 1776-1787 46-90 (2d. ed. 1998). For a discussion of the views on property of each ideology’s leading thinker (Thomas Jefferson and James Madison), *see* Stanley Katz, *Thomas Jefferson and the Right to Property in Revolutionary America*, 19 J.L. & ECON. 467 (1976), especially at 481-84.

a tyrannical majority.¹⁰⁴ Madison, a liberal, likely appended the Compensation Clause to a series of provisions proposed by many of the states, as a way of sneaking in what he saw as a safeguard against populist abuse.¹⁰⁵

At this point, it is once again prudent to distinguish between the clause's operation and reach. One may be tempted to say, "Aha, so the Compensation Clause is a counter-majoritarian check designed to protect individuals from the popular will. The Compensation Clause, thus, protects patent holders." This argument, appealing as it may be, is obviously flawed in so far as it fails to address the clause's scope. The Compensation Clause does protect individuals from the government, but surely not everything is included in the group of things that trigger just compensation when taken by the government to satisfy the common good. By that reasoning, taxpayers would be entitled to compensation in the exact amount that they pay the government.¹⁰⁶ Their property, after all, has been taken to serve the common good. Without a sense of scope, the Compensation Clause loses its meaning. More important, the many limitations in the clause's language—the property referenced is "private property," the type of use that is problematic is "public use," the compensation owed is "just compensation"—eliminate the possibility of such a facile analysis.

Historical context offers some clues as to the possible scope of the Compensation Clause, revealing that the founding generation likely had a relatively narrow conception of the compensation requirement. Prior to the Revolution, no colonial charter required just compensation when private property was taken for public use.¹⁰⁷ Though it was never required, legislatures confiscating developed land at times compensated the landowners or allowed a jury to award compensation, and only Massachusetts' legislature awarded compensation for the taking of

¹⁰⁴ Joyce Appleby, *Liberalism and the American Revolution* 49 *NEW ENG. QUARTERLY* 3 (1976).

¹⁰⁵ Amar, *THE BILL OF RIGHTS*, *supra* note 45, at 78 ("Far more dramatic support for the clever-bundling hypothesis comes from the fact that unlike every other clause in the First Congress's proposed Bill, the just-compensation restriction was not put forth in any form by any of the state ratifying conventions.").

¹⁰⁶ *See generally* Peñalver, *supra* note 2 (arguing that the minority view that the Compensation Clause imposes substantial limits on taxation "flew in the face of settled constitutional orthodoxy, which since the founding era has understood the state's power to tax as being virtually plenary").

¹⁰⁷ William Michael Treanor, *The Original Understanding of the Takings Clause*, Environmental Policy Project, Georgetown Law Center (2010).

unimproved land.¹⁰⁸ Critically, compensation in these early instances was awarded at the legislature's discretion.¹⁰⁹

Some individual state constitutions provided compensation for government takings in the early decades after the nation's founding, without any language indicating the intended scope of the provisions.¹¹⁰ Implementation of these provisions never extended beyond the physical occupation or confiscation of real and personal property.¹¹¹ These circumstances have led scholars to believe that the Compensation Clause was originally intended and understood as extremely narrow with respect to which rights it protected as well as what constituted a taking.¹¹² St. George Tucker's early commentary posits that it was specifically intended to address the impressment of supplies for the army. It was not until 1828 that anyone even raised the notion that the compensation principle applied

¹⁰⁸ Treanor, *supra* note 102, at 695; *but see* James W. Ely, Jr., "That Due Satisfaction May Be Made:" *The Fifth Amendment and the Origins of the Compensation Principle*, 36 AM. J. LEGAL HIST. 1, 3-17 (disputing Treanor's analysis).

¹⁰⁹ Ely, *supra* note 108, at 4-17 (providing examples of colonial and early American practice of eminent domain and compensation).

¹¹⁰ Vermont was the first state to constitutionalize a just compensation requirement. *See* Treanor, *supra* note 102, at 702-03 (explaining that Vermont's early political tendencies and its Constitution of 1777 were heavily influenced by New York's frequent attempts to expropriate from landowners lands granted by New Hampshire and that Vermont's conflicts with New York made it one of the most liberal states in terms of protecting individual rights against the legislatures, and even it paid compensation only for land seizures). Massachusetts, bitterly divided on the questions of debt collection and loyalist property, included a just compensation clause in its 1780 Constitution, and the 1787 Northwest Ordinance, motivated by a fear that future legislatures would revoke prior land grants, included one as well. *Id.* at 706-07 (citing Mass. Const. of 1780, part I, art. X and Northwest Ordinance of 1787, art. 2).

¹¹¹ *Gedney v. Tewksbury*, 3 Mass. 307 (1807) (taking of privately owned land for public road); *Perry v. Wilson*, 7 Mass. 393 (1811) (taking of lumber for a canal project).

¹¹² Treanor, *supra* note 102, at 710-11, observes:

[T]he clause would explicitly bar the uncompensated taking by the national government of chattel and real property; this bar was the same one that had earlier been imposed in Vermont, Massachusetts, and the Northwest Territories. Although a broader reading would not do violence to the text, the reading suggested here is fairly narrow in terms of legal consequences. Madison seems to have taken a rather limited view of what legal rights such a clause created: He intended the clause to apply only to direct, physical taking of property by the federal government. Contemporaneous observers also viewed the Fifth Amendment in this way: It applied only to the federal government, it concerned direct takings of property, and did not for example, bar the federal government from interfering in contracts.

to incorporeal rights.¹¹³ In short, what evidence exists as to the original intention and understanding of the Takings Clause indicates that it should be read not as a broad rights protection but, to the contrary, as a narrow protection against the confiscation of land and chattels, certainly exclusive of intangible rights such as patents.¹¹⁴ This understanding is consistent with the broader theoretical constructs of the time. The conceptualization of rights when the Compensation Clause was drafted in the late 18th century divided rights into core, private rights—consisting of tangible items such as land and chattel—and public rights arising from an action of the government. The “private property” referenced in the Compensation Clause falls squarely within the first category, and in no way would have been understood as encompassing something as intangible as a patent.

II

THE LANGUAGE ITSELF: TEXTUAL & STRUCTURAL ANALYSIS

Beyond the dusty writings of centuries-old jurists and politicians, the Constitution, itself, is no less clear in its exclusion of patents from the category of private property. Thus, this Part addresses the written Constitution’s text and structure in order to establish the status of invention patents according to the document. This Part begins by parsing the language of Article I’s Patent and Copyright Clause. Reading its text alone and in context, it highlights the Constitution’s presumption that knowledge is freely useable by all, and it documents the utilitarian objective for patent law.

¹¹³ *Id.* at 711 n.98; *Enfield Toll Bridge Co. v. Connecticut River Co.*, 7 Conn. 28, 52 (Conn. 1828) (Dagget, J., concurring). See discussion *infra* Section III.A, concerning compensation claims for incorporeal rights.

¹¹⁴ John F. Hart, *Colonial Land Use Law and its Significance for Modern Takings Doctrine*, 109 HARV. L. REV. 1252, 1253-57 (1996) (using colonial land use regulation to argue against regulatory takings doctrine); Bernard Schwartz, *Takings Clause—“Poor Relation” No More?*, 47 OKLA. L. REV. 417, 418-19 (1994) (presenting an originalist argument that the Takings Clause was meant to cover only direct, physical takings); William Michael Treanor, *The Original Understanding of the Takings Clause and The Political Process*, 95 COLUM. L. REV. 782, 783 (1998) (“While the evidence of original intent is limited, it clearly indicates that the Takings Clause was intended to apply only to physical takings.”). *But see* Gold, *supra* note 10, at 182 (arguing that a theory limiting the Compensation Clause to direct, physical takings is not supported by historical evidence from the ratification period). Because it argues that patents are not the “kind of thing” that the Compensation Clause contemplates, this article need not take a position as to whether regulatory takings claims are entirely unfounded or whether the diminution of value theory, now enshrined in caselaw, has any historical basis. For present purposes, the question of “what is a taking” matters only to the extent that informs the question of “what cannot be taken without compensation.”

Section B considers the Constitution’s organization and allocation of power. It discredits the possibility of patents being private property by showing that the theory generates the untenable implications of restricting Congress’s discretionary powers. Section B then explains how the Patent and Copyright Clause’s enumeration in Article I, Section 8 is evidence that patents are not private property in the constitutional sense. Finally, this Part addresses the text and legislative history of 35 U.S.C. §261, a provision of the 1952 Patent Act, in order to dismiss the possibility that Congress sought to “propertize” patents to the point of extending Compensation Clause protection to them.

A. Constitutional Text—The Patent Clause

Article I, Section 8 empowers Congress 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[.]”¹¹⁵ As a shorthand, this Section will refer to that clause of Article I, Section 8 as the Patent Clause, rather than the Patent and Copyright Clause. Moreover, one should note that in historic context, “Science and useful Arts” did not have the meaning one might expect in a modern context. Science actually referred to copyrights and useful arts referred to patents.¹¹⁶

On its face, the Patent Clause loudly conveys its premise and its purpose. First and foremost, in giving Congress the power to hand out patents only for limited times and limited purposes, the Constitution’s text strongly suggests that knowledge is presumptively in the public domain. The underlying assumption is that, in the absence of a government grant of exclusivity, existing knowledge is freely useable by all.¹¹⁷

The dichotomy between rights in an invention, granted by Congress, and private property rights is bolstered by the fact that the clause, itself, restricts the nature of the right that Congress may hand out as secured for “limited Times.” As a starting point, rights in land and chattel are not so naturally limited, but usually

¹¹⁵ U.S. CONST. ART. I, §8.

¹¹⁶ See L. Ray Patterson, *Understanding the Copyright Clause*, 47 J. COPYRIGHT SOC’Y U.S.A. 365, 367 & n.6 (2000).

¹¹⁷ See *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 9 (1966) (“The grant of an exclusive right to an invention was the creation of society—at odds with the inherent free nature of disclosed ideas . . .”).

exist in permanence. The contrast with core property rights such as land is further evidenced by the limiting rationale in the Constitution's language. The Constitution empowers Congress to grant patents for a specific purpose, that is, "to promote the Progress of . . . useful Arts." Although other countries' intellectual property laws are less consistently utilitarian,¹¹⁸ from the Founding to the present, the "incentive rationale" for patents has been, with some equivocation in the late 19th and early 20th century,¹¹⁹ a position of consensus in the Anglo-American tradition.¹²⁰

In contrast, one scholar who advocates for the patents-as-property theory, focuses on the Patent Clause's use of the term "securing." Referencing dicta from the 1878 Court of Claims case of *McKeever v. U.S.*,¹²¹ Mossoff points to the securing language as evidence that the drafters viewed patents and copyrights as

¹¹⁸ Douglas G. Baird, *Common Law Intellectual Property and the Legacy of International News Service v. Associated Press*, 50 CHI. L. REV. 411, 415-16 & n.18 (1983) (contrasting the Anglo-American reliance on the "incentive rationale" with "continental systems," which prioritize creators' rights, at least in the case of copyrights, "out of respect for the labors of the individual artist.").

¹¹⁹ See discussion *infra* Sections III.B., III.C. (evaluating the emergence of the patents-as-property theory in the late 19th and early 20th centuries).

¹²⁰ See, e.g., Letter from Thomas Jefferson to Isaac McPherson (Aug. 13, 1813), in 13 THE WRITINGS OF THOMAS JEFFERSON 326, 334-35 (Albert Ellery Bergh ed., 1905) (declaring that the "embarrassment of an exclusive patent" is justified only because these "monopolies of invention" serve the "benefit of society"); I WILLIAM C. ROBINSON, THE LAW OF PATENTS FOR USEFUL INVENTIONS §38 (1890) (seminal patent treatise of the late 1800s explaining that, "[t]he duty which the state owes to the people to obtain for them, at the earliest moment, the practical use of every valuable invention in the industrial arts is . . . a higher and more imperative duty than which it owes to the inventor"); *Woodbridge v. United States*, 263 U.S. 50, 55 (1923) ("The purpose of the clause of the Constitution concerning patents is in terms to promote the progress of science and the useful arts and the plan adopted by Congress in exercise of the power has been to give one who makes a useful discovery or invention a monopoly in the making, use and vending of it for a limited number of years . . . Congress relies for the public benefit to be derived from the invention during the monopoly on the natural motive for gain in the patentee to exploit his invention and to make, use, and vend it or its product or to permit others to do so, for profit."); *Mazer v. Stein*, 347 U.S. 201, 219 (1954) ("The economic philosophy behind the [patent and copyright] clause . . . is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors in 'Science and useful Arts.'"); Baird, *supra* note 118, at 415 ("Individuals are given a limited property right, not so much because they are morally deserving, but because providing them with such a right is thought necessary to induce them to produce the work in the first instance.").

¹²¹ *McKeever v. U.S.*, 14 Ct. Cl. 396 (1878). See *infra* Section III.B. As explained below, both property takings and patent infringement are claims "sounding in tort." Because the Court of Claims' jurisdiction did not extend to tort cases against the government until the 20th century, *McKeever's* strict legal holding was necessarily limited to its finding of an implied contract violation.

“core” private rights and not discretionary grants conferred for policy reasons.¹²² Put differently, he suggests that the drafters intended for Congress’s role to be that of protecting a pre-existing, fundamental right.

That argument requires reading what is undeniably a grant of legislative power as a restriction on it. To justify such an interpretation, one would have to read Section 8 not as giving Congress power to grant a benefit, but rather as directing Congress to protect an existing right and limiting Congress’ ability to encroach on that pre-existing right. In other words, it does not merely claim a limitation to the extent of the enumeration; it entails that the Clause is prohibitory like those found in Article I, Section 9.¹²³ It requires quite a stretching exercise to read such an interpretation into the constitutional language that begins with “Congress shall have Power . . . to promote the Progress of Science and useful Arts.”

Looking at the Clause’s origin in the Constitutional Convention, little can be concluded from the choice of the term, “secure.” The Patent and Copyright Clause appears to have been conceived on August 18th, 1787, towards the end of the Philadelphia Convention, flowing from proposals from both James Madison and Charles Pinckney.¹²⁴ On that day, James Madison offered several proposals to be added to the powers of the “General Legislature,” including: “To secure to literary authors their copyrights for a limited time” and “To encourage by premiums & provisions, the advancement of useful knowledge and discoveries.”¹²⁵ On the same day, Charles Pinckney advanced proposals of his own, including:

“To establish seminaries for the promotion of literature and the arts & sciences”

¹²² Mossoff, *Mistaken Patent Classification*, *supra* note 43, at 2599; *McKeever*, 14 Ct. Cl. at 420-21 (“The language of the Constitution, on the contrary, confers upon Congress the power of ‘securing’ ‘to inventors the exclusive right to their’ ‘discoveries.’ Congress are not empowered to grant to inventors a favor, but to secure to them a right. And the term ‘to secure a right’ by no possible implication carries with it the opposite power of destroying the right in whole or in part by appropriating it to the purposes of government without complying with that other condition of the Constitution, the making of ‘just compensation.’”) (emphasis omitted).

¹²³ U.S. CONST., art. I, §8.

¹²⁴ Karl Fenning, *The Origin of the Patent and Copyright Clause of the Constitution*, 11 J. PAT. OFF. SOC’Y 438, 441 (1929).

¹²⁵ II THE RECORDS OF THE FEDERAL CONVENTION OF 1787, 324-25 (Max Farrand ed., 1911) [hereinafter 1787 FEDERAL CONVENTION RECORDS].

“To grant charters of incorporation”
“To grant patents for useful inventions”
“To secure to Authors exclusive rights for a certain time”
“To secure the payment of the public debt”
“To secure all creditors under the New Constitution from a violation of the public faith when pledged by the authority of the Legislature” [and]
“To grant letters of mark and reprisal”¹²⁶

Neither Madison’s nor Pinckney’s proposals, as recorded, suggest either that the word “secure” indicated a fundamental right, pre-existing government or that patents were so conceived. Pinckney’s proposals used the word “secure” to refer to payments of the public debt, as well as to paying creditors. Neither would have been conceived as pre-existing, fundamental rights.¹²⁷ Moreover, neither one of their proposals used the term “secure” in relation to patents; Pinckney’s used “grant” for patents, also using “grant” in referencing charters of incorporation, and Madison simply wrote “to encourage by premiums and provisions.” None of that language suggests a natural or pre-existing right of inventors to patents. Only with copyrights did both Madison and Pinckney use the term “secure,” and both proposals referred to a limited time, with Madison saying, “a limited time” and Pinckney saying, “a certain time.” As described above,¹²⁸ a time-limited right is inconsistent with the notion of pre-existing or natural rights. There is simply no evidence that the drafters associated the word “secure” with fundamental rights, and the fact that one of the Patent Clause’s architects introduced the proposal along with one to “secure the payment of the public debt” indicates just the opposite.

The convention adopted in substance both Pinckney’s and Madison’s proposals.¹²⁹ On September 5th, the “Committee on Postponed Parts,” also known as the “Brearley Committee”—which was tasked with formulating language for the outstanding provisions that the Convention had assented to, but had yet to finalize—reported to the Convention several draft clauses, including the language

¹²⁶ *Id.* at 325-26. According to Farrand, the latter two were likely among a group of proposals suggested by Elbridge Gerry, John Rutledge, and George Mason. *Id.* at n.4.

¹²⁷ See *supra* text accompanying notes 37-41.

¹²⁸ See *supra* text accompanying notes 117-120.

¹²⁹ II 1787 FEDERAL CONVENTION RECORDS, *supra* note 125, at 324-25.

of what is now the Patent and Copyright Clause.¹³⁰ That language merged the patent and copyright language of Pinckney’s and Madison’s approved provisions, as well as their utilitarian ambition of promoting artistic and scientific progress, resulting in the familiar Article I language, “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.” Despite the melding of the patent and copyright language and the use of “secure” for both, neither Pinckney nor Madison discussed or objected to the language, although they had much to say on other portions of the Brearley Committee’s drafting.

The reason why “secure” was used in connection with copyrights and “grant” with patents is probably reduceable to the difference between the operation of copyright and patent statutes. Since Parliament passed the first copyright law, the Statute of Anne, in 1710, copyright laws to this day have made copyrights generate automatically upon the creation of a creative work.¹³¹ Patent laws, by contrast, have always required some kind of grant before a legally enforceable right exists. Both forms of protection are based in statutes, and the two statutes simply operate differently. The delegates at Philadelphia would have had these differing approaches in mind and may have (correctly) anticipated that American laws would not depart from this model.

One could speculate—as the patents-as-property argument would require—that the Brearley Committee somehow were persuaded that patents and copyright both were pre-existing fundamental rights, that the Committee used the term “secure” to indicate that conclusion (despite also making those rights time-limited), and that Madison and Pinckney were convinced of the truth of this position, thereby choosing not to object. Or ... one could speculate that Madison and Pinckney attached little significance to the words “secure” and “grant,” and,

¹³⁰ *Id.* at 505; David S. Schwartz, *Recovering the Lost General Welfare Clause*, 63 WM. & MARY L. REV. 857, 912 (2021). On the Brearley Committee’s role in the convention, *see id.*; CALVIN C. JILLSON, CONSTITUTION MAKING: CONFLICT AND CONSENSUS IN THE FEDERAL CONVENTION OF 1787 169-70 (1988), ProQuest (ebook).

¹³¹ An Act for the Encouragement of Learning, by Vesting the Copies of Printed Books in the Authors or Purchasers of such Copies, during the Times therein mentioned, 8 Ann. c. 21 (1710) (commonly known as the Statute of Anne); Copyright Act of 1790, Pub. L. 1-15 (1790) (modeled closely after the Statute of Anne); Copyright Act of 1976, Pub. L. 94-553 (1976).

therefore, saw nothing to comment on when the Brearley Committee delivered their draft of that section. Either, of course, would be speculation, but one would think that if the Committee's decision to use "secure" with patents instead of Pinckney's "grant" represented a meaningful shift, there would have been at least some discussion. Unlike the Committee's other draft clauses, many of which were debated and amended, the Patent and Copyright Clause was approved apparently without a word of debate or second thought.¹³² Thus, the clearer and simpler approach is to maintain focus on the actual text and context of the Patent Clause, itself, which demonstrate that patents and copyrights are limited-time franchises, for a limited purpose, related to the public good.

B. Constitutional Structure

1. The Lesser Power

Attempting to classify patents as Fifth Amendment-protected private property would raise even more obvious constitutional flags. The first is the notion of the greater power including the lesser power. Putting aside the Compensation Clause's words or their meaning, it would make no sense for those words to apply to patents given that the nature of the power is such that Congress could decide not to create patent rights in the first place.

Specifically, Article I, Section 8 of the Constitution begins with the language, "Congress shall have Power" and then goes on to list many things Congress is given the power to do, including "To lay and collect Taxes, Duties, Imposts and Excises . . . To borrow Money on the credit of the United States . . . [and] 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."¹³³ The language does not direct that Congress *must* do any of the things listed in Article I, Section 8.¹³⁴ For example, the Constitution cannot mean that Congress

¹³² II 1787 FEDERAL CONVENTION RECORDS, *supra* note 125, at 505, 509 (recording the Convention's assent to the Committee's Patent and Copyright Clause in both the Convention Journal and Madison's notes).

¹³³ U.S. CONST., art I, §8.

¹³⁴ One should note that the Constitution used directive language when it intended to tie Congress' hands in a particular manner. *Compare id.* art. I, §4 ("The Congress *shall assemble* at least once in every Year . . ."); *id.* art. I, §5 ("Each House *shall be the Judge* of the Elections, Returns and Qualifications of its own Members . . ."); *id.* art. I, §6 ("The Senators and Representatives *shall receive* a Compensation for their Services, to be ascertained by Law. . ."); and *id.* art. IV, §4 ("The United States *shall guarantee* to every State

is required to borrow money or required to collect taxes and excises. Surely if Congress wanted to operate without borrowing money or to have no duties on imported goods, Congress could so choose, just as it could have chosen not to create a patent system.

The greater right to do something or not to do something contains within it the lesser right to do so in a limited manner. These cannot simply be light switch powers, that Congress can exercise only by choosing to turn them on or off. In other words, it would make no sense to conclude that Congress, with all of its power over patent law, cannot paint with a finer brush. Of course, Congress cannot violate other constitutional provisions, such as the Equal Footing doctrine, Due Process Clause, or Equal Protection Clause, in the exercise of this power. And the doctrine of Unconstitutional Conditions would remain.¹³⁵ But where the condition does not prejudice a different constitutional right or principle and, instead, merely circumscribes a privilege that Congress does not have to grant in the first place, logic compels against forcing Congress to choose between granting a broader privilege than it wishes to or none at all.¹³⁶

For example, Congress could choose to declare a tax holiday during a pandemic. The very fact that an inventor needs to apply for a patent before acquiring any legal rights is a condition in the same way. The Fifth Amendment's Compensation Clause could not logically apply automatically to a type of right that is discretionary in the first place.

in this Union a Republican Form of Government, and *shall protect* each of them against invasion . . ."); *with id.* art. I, §8 ("The Congress *shall have Power To* . . ."). In other words, the Framers knew how to be directive when they wished, a pathway not chosen for Article I, Section 8.

¹³⁵ For an overview of the doctrine, see, e.g., *Unconstitutional Conditions*, 73 HARV. L. REV. 1595 (1960). A general formulation of the unconstitutional conditions doctrine is as follows: "When a government entity conditions the receipt of a benefit on a person's agreement to give up a constitutional right, it violates the Constitution in the same way as if it had denied the right in the first instance." Christopher M. Kieser, *What We Have Here Is A Failure to Compensate: The Case for A Federal Damages Remedy in Koontz*, "Failed Exactions," 40 WM. & MARY ENV'T. L. & POL'Y REV. 163, 165 (2015).

¹³⁶ Because an unconstitutional conditions counterargument is tempting wherever conditions exist, it is worth pausing, here, to clarify which conditions are and are not constitutional. Under the strongest formulation of the unconstitutional conditions argument, a condition is unconstitutional, *per se*, whenever the terms of the condition would be unconstitutional standing alone (i.e., not attached to a benefit). Brooks R. Fudenberg, *Unconstitutional Conditions and Greater Powers: A Separability Approach*, 43 UCLA L. REV. 371, 390 (1995) (defining the *per se* rule as, "Any restriction that would be unconstitutional, if it were not attached to a benefit, remains unconstitutional when it is attached to a benefit."). Despite this being obviously

2. *Surrendering Control*

If patents are private property for purposes of the Compensation Clause, it would also follow, to the argument's detriment, that patents are private property for other purposes. It almost goes without saying that the argument that patents are private property under the Compensation Clause is predicated on patents' actually being private property. Yet, treating them as such in other respects reveals just how misguided this position would be.

Treating patents as private property would suggest that the states could tax patents just as they tax real estate—not just taxing licensing income on the patents or the sale of the patents, but taxing the patent asset itself. In theory, there would be no limit to states' ability to tax patents—at a different rate from all other forms of property, if they please. To be sure, the Constitution almost certainly prohibits these kinds of state assaults on federal initiatives. At the surface level, the Dormant Commerce Clause and federal preemption would likely render unenforceable any state's attempt to tinker with the patent system as they tinker with property. But state regulation of patents is not merely restricted by federalism principles more than regulations of other rights are. Whereas federal courts generally defer to states'

fatally overbroad—it would, as Fudenberg points out, prohibit the government from requiring mailmen, as a condition of employment, to sacrifice some political speech in order to focus on their work—conditions that allegedly “take” patent rights are still in the clear. Conditions that patentees, for example, not sue certain infringers or seek certain remedies could not be unconstitutional in the first place, for the right at stake is born of and baked into the statutes that create them. It would be a different story if patentees were required to take a religious test or testify against themselves in criminal cases. But since there is no stand-alone constitutional right to a patent (or to its value or associated privileges), it is perfectly acceptable for Congress to attach strings that narrow the rights it affirmatively confers. Consider the difference between conditioning medical license renewal on the candidate's not donating to political campaigns and conditioning renewal on the candidate's submitting an application on time and paying a fee. Though the government is free to deny the benefit in its entirety, the former action may be unconstitutional. However, one cannot, without assuming the conclusion, argue that the latter is not acceptable. This is so because, as with the narrowing of patent rights, there is no base-line entitlement to that which the government asks the beneficiary (or would-be beneficiary) to give up.

definitions of property,¹³⁷ states are entirely left out of the process of defining, burdening, expanding, or contracting patent rights.¹³⁸

Similarly, accepting the patents-as-property theory would require Congress to surrender control over patent law to the courts in addition to the states. Rules about private property (doctrines like adverse possession, laches, and equitable tolling) are typically made by judges in a common law fashion.¹³⁹ For the reasons discussed above, courts and scholars have rightly affirmed that establishing unique systems for enforcing and adjudicating patent rights is within Congress's purview.¹⁴⁰ Indeed, the judges and scholars behind those decisions explicitly point to the structural and historical differences between patents and property.¹⁴¹ To group them together, now, would either pull the rug out from much of America's patent regime or else require adopting the doubtful position that patents are private

¹³⁷ See, e.g., *Aquilino v. United States*, 363 U.S. 509, 512-13 (1960) (“The threshold question in this case, as in all cases where the Federal Government asserts its tax lien, is whether and to what extent the taxpayer had ‘property’ or ‘rights to property’ to which the tax lien could attach. In answering that question, both federal and state courts must look to state law, for it has long been the rule that ‘in the application of a federal revenue act, state law controls in determining the nature of the legal interest which the taxpayer had in the property sought to be reached by the statute.’”); *id.* at 513 n.3 (“It is suggested that the definition of the taxpayer’s property interests should be governed by federal law, although supplying the content of this nebulous body of federal law would apparently be left for future decisions. We think that this approach is unsound because it ignores the long-established role that the States have played in creating property interests and places upon the courts the task of attempting to ascertain a taxpayer’s property rights under an undefined rule of federal law. It would indeed be anomalous to say that the taxpayer’s ‘property and rights to property’ included property in which, under the relevant state law, he had no property interest at all.”).

¹³⁸ See Feldman, *Federalism*, *supra* note 44, at 32 (“[T]he role of the states [in patent law] has been relegated to little more than the curtailment of active fraud . . . resulting in a positive chokehold on any state activity.”).

¹³⁹ Mossoff, *Mistaken Patent Classification*, *supra* note 43, at 2597 (“entails rights and duties defined, secured, and adjudicated by courts in classic common law doctrines like contract, tort, and property.”).

¹⁴⁰ See Nelson, *supra* note 20, at 594 (“The disposition of public rights still does not trigger the same need for judicial involvement as the disposition of private rights that have vested in individuals, and Congress can authorize nonjudicial adjudication of the statutory privileges that it itself creates to a far greater extent than it can authorize nonjudicial adjudication of traditional rights. . . .”); *Oil States Energy Servs.*, 138 S. Ct. at 1374 (“[G]ranting patents is one of ‘the constitutional functions’ that can be carried out by ‘the executive or legislative departments’ without ‘judicial determination.’” (citing *Crowell v. Benson*, 285 U.S. 22, 50-51 (1932))).

¹⁴¹ See, e.g., Nelson, *supra* note 20, at 594-95 (“[I]t had been common for Congress to give the President or other executive officials broad authority to make certain kinds of decision [including over. . .] patents [. . . but] these delegations did not intersect much with core private rights”); *Oil States Energy Servs.*, 138 S. Ct. at 1373 (“This Court has recognized, and the parties do not dispute, that the decision to grant a patent is a matter involving public rights—specifically, the grant of a public franchise.”).

property *only* for purposes of the Compensation Clause. On the one hand, the origin of patents indicates that they are not private property. And on the same hand, the dubious implications of treating them as such counsel against doing so. The very nature of patents as creatures of federal statutory law reveals unavoidable categorical differences between patents and private property.

3. *Enumeration in Art. I, §8*

Underscoring each of the above observations concerning the text of the Patent Clause is the very fact that the clause exists. That is, the enumeration of a power to issue patents indicates an assumption on the part of the clause's authors that there was no natural right to property in one's invention. The Constitution never says, Congress shall grant (or even secure, for that matter) life, liberty, or property. Those were assumed to be rights that exist prior to, and independent of, the government. If patents were grouped as part of life, liberty, or property, why would the Framers have felt the need to write that the government had the power to grant patents and leave the other ones out? From another perspective, even if one is the first inventor, one does not have any rights at all without obtaining a patent through the prescribed process from the government. The federal government being one of limited and enumerated powers, it follows that listed powers would not exist in the absence of being listed.

In general, it falls on the states to safeguard life, liberty, and property.¹⁴² The Constitution does list many of Article I's powers specifically to shift powers from the state governments to the federal government, such as coining money and setting up post offices. One might, as a stretch, argue that the Constitution was intended to shift patents from the state to the federal government, even though it was part of life, liberty, and property. If that were true, however, it would require concluding that the Framers somehow chose to treat patents as different from every other recognized private right, and that somehow, patents were either more important or more vulnerable than life, liberty, land, or chattel.

¹⁴² This is so because the state governments, as the 10th Amendment reminds, retain the general powers of government not delegated exclusively to the federal government. *See* U.S. CONST., amend. X. They, unlike the federal government, bear the primary responsibility for safeguarding the core private rights of life, liberty, and property. The ratification of the 14th Amendment did effect important changes in the Constitution's federalism structures, especially in the way of protecting and enforcing individual rights. However, for this to affect the status of patents as non-private rights under the Constitution, it would need to be independently true that patents were (or were thought of) as private rights.

Moreover, when the Constitution wants to protect life, liberty, and property from states that have conflicting laws, it does so in another place, Article IV, specifically Sections 1 and 2. These clauses are, to use later-Chief Justice Chase's wording, "Clauses of Compact."¹⁴³ Those sections of Article IV secure citizens of the several states in their life, liberty, and property by anticipating and settling differential treatment by state laws. Article IV shows that the Framers had a mechanism—and a location in the Constitution—for defining rules by which interstate conflicts could be overcome and interstate justice could be applied, particularly in regards to life, liberty, and property.¹⁴⁴ Article IV, Sections 1 and 2 functioned more as a "treaty"¹⁴⁵ to harmonize both public and private rights across the several states. If the Framers intended for the Patent Clause to fulfill that goal, it would have been included in Article IV, as with every other kind of property. One would not have needed to call Patents out, and especially not in Article I, of all places.

Turning this constitutional feature on its head, one commentator, relying heavily on the *McKeever* court's analysis, has argued that the Patent Clause's location is evidence of a unique status that patents hold in American Law.¹⁴⁶ The theory is based on the fact that patent rights were traditionally conferred by the executive (if the monarch can be pigeon-holed into that category), whereas in America, the power lies with the legislature. In the former, the Crown issued patents by way of Royal Prerogative, whereas in the United States, the executive has almost no say in patent law.¹⁴⁷ The shift from the executive to the legislature, so the theory

¹⁴³ Salmon P. Chase, Speech of Salmon P. Chase in the Case of the Colored Woman, Matilda, Who was Brought Before the Court of Common Pleas of Hamilton County, Ohio, by Writ of Habeas Corpus, 19 (Mar. 11, 1837).

¹⁴⁴ *Id.* at 22 ("Aware of this, the framers of the constitution annexed to this first clause, a second, specially providing that congress might 'prescribe, by general laws, the manner in which such acts, records, and proceedings [of other states] shall be proved, and the effect thereof.'"); see also Randy E. Barnett, *From Antislavery Lawyer to Chief Justice: The Remarkable but Forgotten Career of Salmon P. Chase*, 63 CASE W. RES. L. REV. 653, 659-61 (2013).

¹⁴⁵ See Chase, *supra* note 143, at 19 ("[One] object [of the constitution] was to adjust and settle certain matters of right and duty, between the states and between the citizens of different states, by permanent stipulations having the force and effect of a treaty.").

¹⁴⁶ Mossoff, *Patents*, *supra* note 20, at 706 (summarizing *McKeever*, 14 Ct. Cl. at 420).

¹⁴⁷ *Id.* (arguing that the shift from Crown to Congress "suggested [the Framers] viewed patents as important property rights secured by the people's representatives, not as a special grant issued by the prerogative of the Executive.").

goes, is an indication that the Framers recognized that their conception of patent rights as natural, non-discretionary rights differed from English law.¹⁴⁸

Although the decision to place control over patents in Congress instead of the President (if that were the Constitution's motive at all) would certainly be noteworthy, it would by no means justify the natural rights conclusion. The Constitution confers many powers in Congress that the Crown exercised in England, but this says nothing about the nature of the powers. In England, coining money,¹⁴⁹ taxing,¹⁵⁰ establishing courts,¹⁵¹ and declaring war were all within the King's power.¹⁵² All of these powers were given to Congress in Article I, but that doesn't mean things like coining money and establishing courts were somehow natural rights or core, property rights.¹⁵³ In other words, one cannot make the leap to core private rights solely from a formerly monarchical power's being given to Congress. Article I and the powers therein are simply the

¹⁴⁸ *Id.* (citing *McKeever*, 14 Ct. Cl. at 420 (“[The Framers] had a clear apprehension of the English law, on the one hand, and a just conception, on the other, of what one of the commentators on the Constitution has termed ‘a natural right to the fruits of mental labor.’ Instead of placing our patent system upon the English foundation of executive favor and conferring that prerogative of the Crown upon the President, they transferred all authority to the legislative department of the government (the department which regulates rights), by placing it among the specially enumerated powers of Congress.”)).

¹⁴⁹ Phyllis Lachs, *Advise and Consent: Parliament and Foreign Policy Under the Later Stuarts*, 7 ALBION 41, 52 (1975).

¹⁵⁰ Edward Ames & Richard Rapp, *The Birth and Death of Taxes: A Hypothesis*, 37 J. ECON. HIST. 161, 163-64 (1977).

¹⁵¹ III BLACKSTONE, *supra* note 31, at 76.

¹⁵² Nicholas Quinn Rosenkranz, *The Objects of the Constitution*, 63 STAN. L. REV. 1005, 1032 n.166 (2011).

¹⁵³ Referring to the Patent and Copyright Clause Madison wrote:

The utility of this power will scarcely be questioned. The copyright of authors has been solemnly adjudged, in Great Britain, to be a right of common law. The right to useful inventions seems with equal reason to belong to the inventors. The public good fully coincides in both cases with the claims of individuals. The States cannot separately make effectual provisions for either of the cases, and most of them have anticipated the decision of this point, by laws passed at the instance of Congress.

THE FEDERALIST NO. 43 (James Madison). The most natural reading of Madison's exposition is that the reason for including patents in Article I was to shift the power from the states to the federal government. Madison, himself, seems to assume at once patents' utility and naturality, for in his mind, they coincided. Whether or not he overstated the common law-ization of copyrights or improperly extended the assumption to patents, it is clear that patent-power resides in Congress for purposes of coordination. Any uncertainty on Madison's part regarding the nature of copyrights and patents may very well be a reflection of the uncertainty expressed by Blackstone (whom Madison likely read). See *supra* text accompanying notes 81-83.

product of republicanism—the desire to place lawmaking power in a legislature accountable to the People—and federalism—the desire to place powers in the national government while leaving others to the states.

The erroneous Crown-to-Congress theory reflects a profound misunderstanding of the Constitution’s implementation of federalism and separation of powers. Neither concept even existed in the English government. In this case, to equate the King (who exercised significant legislative and judicial authority) to the Executive is to project the outline of uniquely American principles onto institutions to which they cannot apply. The inference misses the fact that Article I, and really the entire Constitution, should not be read merely as horizontally reallocating the various powers of the English government; it must be read as responding to shortcomings of both the English monarchy and the Articles of Confederation. Quite simply, the “Crown-to-Congress” theory requires taking the Constitution out of its historic context.

C. §261: *What it Does Not Mean*

Part I of this article—which discussed the difference between private property rights and public ones, including patents—leaves open the question of Congress’s ability to create a property right and, specifically, to make it private or “core.” Even if the Constitution did not treat patents as core, private rights, could a later Congress change that viewpoint, transforming the nature of patents from a public—that is, government created—right to a core, private right within the constitutional framework? Again, the federal government creates all manner of property-like rights, from welfare benefits to radio broadcast licenses, resource extraction rights in federal land leases to hunting rights in Indian treaties. The strength of these rights, so to speak, the conditions and recourses associated with them are, by virtue of their origin in the political process, baked into whatever source of law gives them legal force, be it a treaty, statute, or contract. Thus, for the bearer of any congressionally created right who claims Compensation Clause protection for that right, the threshold question is whether the right Congress created is private.

Whether and to what extent Congress may even create a private right is a deceptively difficult question. On the one hand, there are obviously instances in which Congress *hands out* private property rights. Any time the federal government issues fee simple title to land to a private person, Congress grants private property

rights. And when the land is in a federal territory, there must be a federal statute at the source of whatever property laws and courts give it force. On the other hand, one could argue that any relevant statutes do not *create* the property rights but merely take a right, which arises naturally or in common law, and transfer it. Moreover, if Congress can create private property rights in, say, an exclusive broadcast license, the license's issuance might, by way of the compensation requirement, run into limits on Congress's ability to bind future Congresses.

Again, the mixed statutory and common law nature of most rights presents a problem for allowing the origin test to be entirely dispositive of a right's status as public or private. But given that, in the case of patents, constitutional origin weighs so decisively against recognition as a private right, a claim to the contrary should bear the burden of proving that Congress, in creating or amending the Patent Act, transformed their nature in a manner intended to carry the stronger protections of private property rights. And, because there is a constitutional right to compensation, to privatize the right would entail not just a waiver of sovereign immunity but an irrevocable one—a one-way ratchet, so to speak. So, even if one were to concede that a discretionary federal benefit could be constitutional private property if Congress desires, Congress's intention to "privatize" a right should not be lightly inferred.

Supposing, *arguendo*, that Congress can create private property rights, attaching to them the protections of the Compensation Clause, evidence that Congress sought to do so with patents at any point is underwhelming. Aside from the odd congressional report in which an author may speak of patents as if the Constitution offers them as much protection as it does land,¹⁵⁴ the only text codified in law that vaguely supports the proposition that Congress created a private

¹⁵⁴ The only one which has direct implications for present purposes is H. Rep. No. 61-1288 (1910), discussed *infra* Section III.C. The report summarizes amendments to the Tucker Act that establish a statutory cause of action for patent holders when the government infringes on a patent (now codified as 28 U.S.C. §1498). It is difficult to avoid the conclusion that the report's author believed that the Compensation Clause protected patents. Importantly, however, the legislation he discussed concerned a waiver of sovereign immunity rather than the nature and pedigree of the patent rights allegedly infringed by the government. See H.R. 24649, 61st Cong. (1910) (bill discussed in H. Rep. No. 61-1288 (1910) related to patent holders' rights against the government). See David R. Lipson, *We're Not Under Title 35 Anymore: Patent Litigation Against the United States Under 28 USC § 1498 (a)*, 33(1) PUBLIC CONTRACT L.J. 243, 244-46 (2003) (explaining the difference between patent holders' rights against the government versus against private parties).

property right in patents is in 35 U.S.C. §261, which became law with the Patent Act of 1952.

The first sentence of 35 U.S.C. §261 reads, “Subject to the provisions of this title, patents shall have the attributes of personal property.” Presumably, personal property is used here, in the same way it is ordinarily used in law, as synonymous with chattel.¹⁵⁵ One should note at the outset that the statute uses the term “personal property,” rather than the Compensation Clause’s term, “private property.” Nevertheless, the fact that private property often encompasses some forms of personal property¹⁵⁶ might lead one to think (with the help of much interpretive leg-work) that Congress, by transitivity, affixed the protections of the Compensation Clause to patents because the protections of private property are among the “attributes” of personal property. Mechanically, the argument seems to hold water, but it requires disconnecting its key premise, the first sentence of §261, from the rest of patent law and from reality.

One could engage in many forms of speculation about the import of those words. Perhaps the sentence supports the notion that Congress neither thought of nor intended patents to actually be personal property. After all, why would Congress give them merely *the attributes* of personal property if Congress intended to transform them fully into personal property or to declare their existence as such. It is as if by saying that they are *like* personal property, Congress differentiated them from things that *are* personal property. On the other hand, if one of the *attributes* of personal property is Compensation Clause protection, then it should not matter whether patents are or are not personal property; they would have that attribute. And, of course, the latter view glosses over the difference between §261’s words, “personal property,” and the Compensation Clause’s words, “private property.”

Making sense of “shall have the attributes of personal property” is actually quite easy. All one needs to do is view the sentence in light of the rest of §261. The section, enacted with the title, “Ownership and Assignment,” deals with ownership

¹⁵⁵ Personal property/chattel are typically defined in the negative as property rights not attached to real estate. *Personal Property*, BLACK’S LAW DICTIONARY (8th ed. 2004) (“Any movable or intangible thing that is subject to ownership and not classified as real property.”).

¹⁵⁶ *Horne v. Department of Agriculture*, 576 U.S. 350, 358 (2015) (“[The Fifth Amendment] protects ‘private property’ without any distinction between [real and personal property].”).

and assignment. The first sentence may, therefore, be given a reasonable meaning in light of the remainder of the section within which it resides. And it makes perfect sense to treat it as specifying that, *for purposes of ownership and assignment*, patents behave like personal property. The statute indicates, for example, that patents may be inherited in a will, form the res of a trust, and be bought and sold as other assets.¹⁵⁷ Further, it may entail that other state and federal law governing ownership and transfer of assets (say, federal tax law or states' contract law) would operate on patents as if they were automobiles. Earlier versions of the text that was eventually enacted corroborate this reading further. Simply put, §261 makes the most sense when read not as adding to or strengthening the rights conferred by a patent but simply as commodifying them so that the process of owning and transferring them can be accomplished through modern legal mechanisms. And, of course, the fact that Congress felt the need to insert that language in the first place suggests patents are not private property, or they would already enjoy all of those attributes.

The scant pre-enactment history of §261, if it reveals anything, only reinforces this conclusion. What is now 35 U.S.C. §261 first appeared in the law with the passage of the 1952 Patent Act, a major overhaul of patent law. Two prior drafts of the law contained similar but not identical provisions. The first bill, introduced in 1950, read, "Subject to the provisions of this title, patents shall be protected as and have the applicable rights of other property, and the rules of law applicable to the ownership and devolution of personal property generally shall apply to patents as they apply to other intangible property."¹⁵⁸ The following year, a revised bill was introduced, stating, "Subject to the provisions of this title, patents shall have the applicable rights of personal property."¹⁵⁹ Both of these bills died in the House, but the House judiciary committee did hold a hearing on the 1951 bill in which the personal property language was discussed.

¹⁵⁷ Cf. *Minerva Surgical, Inc. v. Hologic, Inc.*, 141 S. Ct. 2298, 2308-09 (2021) (in deciding whether to apply the equitable doctrine of assignor estoppel, the majority discusses how patents may be bought and sold).

¹⁵⁸ H.R. 9133, 81st Cong. § 211 (1950).

¹⁵⁹ *Patent Law Codification and Revision: Hearings before Subcomm. No. 3 of the Comm. on the Judiciary, First Session on H.R. 3760*, 82nd Cong. 13 (1951).

The hearing featured calls by witnesses to strengthen and weaken the language. Arguing against patents “hav[ing] the applicable rights of personal property,” a representative for the Department of Defense said,

Although patents have always been recognized as property, they have not been recognized as personal property but as having the attributes of several kinds of property. The opinion in *Solomons v. United States* (21 Ct. Clms. 479), points out wherein patents are a novelty in the law, certain respects wherein they differ from personal property, and certain similarities thereof to real property. It is not considered desirable to discard over a century of law relating to patent property and replace it with the rules of personal property.¹⁶⁰

On the other side, the patent lawyers testifying before the committee mostly urged for a stronger proprietary right. One testimony reads:

The first sentence seems to imply that in some degree, patents are not personal property. This is certainly contrary to the general conception and to the holdings of the courts up to this point.

Of course, if they are not to be considered property, that fact should be clearly stated as it would furnish a basis for the refusal to return them on personal property tax returns. On the other hand, if we follow the presently accepted theory, this sentence should be revised so as not to cast any doubt upon the fact that they are property.¹⁶¹

Another testimony seems to think that patents are property but that the law does not sufficiently recognize them in that manner:

I believe that it should be put into the statute appropriately the thought that a valid patent is property and not a monopoly. A valid patent must have as a basis creation of something new which did not exist before. Analogous to the building up of valuable property by hydraulic dredging, for example, to fill in swampland along a river, lake, bay, or the like, such

¹⁶⁰ *Id.* at 79.

¹⁶¹ *Id.* at 212.

property when created should belong to the creator. There is no question ever raised as to monopoly when real estate is created. But somehow through false propaganda it is the belief of many - and in the many are several of the judges who pass upon patents - that an owner of a patent is to be treated as any other monopolist.¹⁶²

As explained above, patent law really changed only in relation to ownership and interest, including taxation. For example, when the IRS places a lien on a taxpayer's property interests, §261 allows the lien to attach to patents, because for tax purposes, the patent is essentially just a valuable asset. One might speculate that the law's author had one of several possible motives, the most likely of which was probably to simply avoid contentious wording, but any conclusion drawn from this legislative history is almost certain to be highly tenuous. To that end, extra inferences as to §261's import are dubious. As proof that Congress meant to make patents subject to the Compensation Clause, §261's text and history fall far short of any reasonable standard of evidence of congressional intent.

III

JUDICIAL INTERPRETATIONS

The history of relevant judicial interpretations with respect to patents breaks down into four parts. Section A of this Part establishes the landscape by discussing similarly pled compensation claims for public rights other than patents. Although courts typically take the meaning and existence of "private property" for granted, in the few cases that directly present the question, courts have consistently affirmed that the rights protected by the Compensation Clause are those "inhering in the citizen's relation[ship] to the *physical thing*["¹⁶³

Turning then to the earliest patent-specific compensation cases, Section B analyzes a cluster of late-19th century cases in which patent holders sued the government for patent infringement in the then-newly established Court of Claims. Section B concludes that none of these cases, though they sometimes allude to the question, offers authoritative holdings on the question of whether the Compensation Clause protects patents. Section C discusses the history and

¹⁶² *Id.* at 189.

¹⁶³ *United States v. General Motors*, 323 U.S. 373, 378 (1945) (emphasis added).

consequences of a 1910 law that provided a statutory cause of action for government infringement and thereby obviated the constitutional question of whether the government might be liable for patent infringement for nearly a century. These sections demonstrate that no authoritative holding controlled the question until far more recently. Accordingly, Section D evaluates the most recent and applicable cases that have, once more, broached the idea of patents as private property. To their credit, they weigh decisively against extending Compensation Clause protection to patents.

At the outset, one should note that the non-rivalrous nature of patents frustrates the comparison of patents to physical property in the Compensation Clause context. To illustrate the point, if I “take” your land or your cow, you do not have them and cannot use them. In contrast, if I infringe your patent by making, using, or selling your invention, you can still use your invention, and your ability to exclude others is unchanged. It is for this reason that the majority of cases dealt with in this Part do not, strictly speaking, involve the taking of a patent but the use thereof. In cases of government infringement, the patent holder retains her legal interest as to the rest of the world. It is as if the infringing government actor, by “taking a license,” is taking the equivalent of an easement without condemning the property. It is only in the current century that patent holders raised Compensation Clause claims related to “full-stop” takings of patents. In these cases, patent holders who unsuccessfully objected to patent law’s *inter partes* review (IPR) process did lose their entire “title,” and there is a clear difference between the government’s taking or transferring title to property and destroying the title altogether. The revocation of a patent is more like declaring the invention’s status to be as it was before the errant patent was granted than it is to a “taking for public use.” The government’s taking ownership of a patent would really be more like a law requiring all members of the public to obtain a government-issued license to manufacture the invention, but such a requirement, when enforced by the government, hardly feels like a patent. The result of this disjunction is that in many of the claims for patent takings, it is not clear that a taking actually occurred.

A. *Takings Claims for Other Public Rights*

The backdrop against which these cases contemplate patent takings is, although minimal, clear and important. As the introduction mentioned, courts typically take “private property” for granted when evaluating takings claims but

are periodically faced with a Compensation Clause claim over an “unusual” type of property right. In such cases, courts are usually quick to remind plaintiffs that the Fifth Amendment is concerned with rights attaching to physical things. Accordingly, this Section identifies cases in which compensation is sought for intangible, “property-like” rights. It finds no doctrinal basis that can be naturally extended to justify requiring compensation for patents.

The earliest cases that have potential relevance are a group of decisions concerning states’ ability to undo exclusive franchises. Most involve a state’s granting of an exclusive franchise to one corporation and the state’s subsequent grant of a franchise to another, thereby cutting into the revenue expected by the first. These cases, one should keep in mind, directly involve neither patents nor the federal Constitution’s Compensation Clause,¹⁶⁴ but they are an important source in terms of relevant constitutional principles. The most famous of these is *Proprietors of the Charles River Bridge v. Proprietors of the Warren Bridge*.¹⁶⁵ Notwithstanding Justice Story’s powerful dissent focused on the impairment of contracts, the Court firmly declared:

[T]he object and end of all government is to promote the happiness and prosperity of the community by which it is established; and it can never be assumed, that the government intended to diminish its power of accomplishing the end for which it was created. And in a country like ours, free, active and enterprising, continually advancing in numbers and wealth, new channels of communication are daily found necessary, both for travel and trade, and are essential to the comfort, convenience and prosperity of the people. A state ought never to be presumed to surrender this power, because, like the taxing power, the whole community have an interest in preserving it undiminished. And when a corporation alleges, that a state has surrendered, for seventy years, its power of improvement and public accommodation, in a great and important line of travel, along

¹⁶⁴ See Michael W. McConnell, *Contract Rights and Property Rights: A Case Study in the Relationship Between Individual Liberties and Constitutional Structure*, 76 CAL. L. REV. 267, 268 & n.4 (1988) (noting that, prior to the Fourteenth Amendment’s incorporation of the Fifth Amendment, the Fifth Amendment’s protections applied only to the federal government (*Barron v. Baltimore*) and that takings claims against states, therefore, had to rest on other provisions of law, such as the Contract Clause of Article I, Section 10).

¹⁶⁵ See generally *Proprietors of the Charles River Bridge v. Proprietors of the Warren Bridge*, 36 U.S. (11 Pet.) 420 (1837).

which a vast number of its citizens must daily pass, the community have a right to insist, in the language of this court, above quoted, ‘that its abandonment ought not to be presumed, in a case, in which the deliberate purpose of the state to abandon it does not appear.’¹⁶⁶

In a few cases, state judges found that revocation of franchises constitutes a taking under state law, as opposed to federal law, sometimes referring to the franchise as intangible property and requiring compensation.¹⁶⁷ Even in the early 19th century, notable dissenters fought the dominant view that there could be “no taking without a touching.”¹⁶⁸ Because the Compensation Clause did not operate against states, takings claims for intangible property rarely arose in federal court. And critically, when they did, they were of an altogether different posture. In *West River Bridge Company v. Dix*, for example, the Supreme Court allowed the state to take a bridge by eminent domain and specifically left it to the state to determine what compensation was required under state law.¹⁶⁹ One might read *West River Bridge* as evidence of the proprietary nature of franchises within eminent domain law (assuming also that all franchises are the same for eminent domain purposes), but that conclusion misses the point. The federal constitutional question in *West River Bridge* was whether the state could seize a franchise for the public good without running afoul of the Contract Clause. Centering the case around that question, the unequivocal takeaway is that public benefits awarded by the state are presumably subordinate to subsequent actions taken in the name of the public good. Later, where a bridge franchisee claimed that the Secretary of War’s subsequent order to alter the bridge’s clearance level revoked the franchise, the Supreme Court rejected the franchisee’s claim to Fifth Amendment compensation.¹⁷⁰

Other cases involving intangibles are even clearer. The Supreme Court, for example, has held that the value of grazing permits does not constitute a

¹⁶⁶ *Id.* at 547-48 (quoting *Providence Bank v. Billings*, 29 U.S. (4 Pet.) 514 (1830) (allowing the state to tax a bank that it earlier chartered)).

¹⁶⁷ See, e.g., *Enfield Toll Bridge*, 17 Conn. at 59-61; *Proprietors of Piscataqua Bridge v. New-Hampshire Bridge*, 7 N.H. 35, 66-67 (1834).

¹⁶⁸ William B. Stoebuck, *A General Theory of Eminent Domain*, 47 WASH. L. REV. 553, 601-02 (1972).

¹⁶⁹ *West River Bridge Co. v. Dix*, 47 U.S. 507, 546-49 (1848) (“Nor [is the taking of the bridge franchise] void because the compensation was too small to the corporation,—as it was assessed in conformity to law . . .”).

¹⁷⁰ *Louisville Bridge Co. v. United States*, 242 U.S. 409, 421 (1917).

property interests for which the Fifth Amendment requires compensation.¹⁷¹ The Federal Circuit has reached similar holdings with respect to fishing licenses.¹⁷² In determining that a fishing license is not property, the Federal Circuit, in dicta, observed an “absence of crucial indicia of a property right,”¹⁷³ including exclusive use, irrevocability, and transferability. The same features describe patents: They can be revoked after issuance, and they do not guarantee a right to use.¹⁷⁴ Section 261 blesses the transfer of patents, but none dispute that Congress can make patents non-transferable. Compensation Clause cases for intangible rights are difficult to find—this fact is, itself, quite telling—and comparisons to things like telephone numbers¹⁷⁵ and broadcast licenses¹⁷⁶ reveal a clear difference between physical property and intangibles. The Supreme Court has recognized that even benefits that receive Due Process Clause protection may be excluded from Compensation Clause protection.¹⁷⁷ Hard questions exist where the asserted right is tied to land,¹⁷⁸ but a common strand running through the caselaw is that the Compensation Clause does not require compensation for “sovereign created value.”¹⁷⁹

At one point, the Supreme Court attempted to simplify the property aspect of compensation law. In the 1984 case of *Ruckelshaus v. Monsanto*, the Supreme

¹⁷¹ *United States v. Fuller*, 409 U.S. 488, 493 (1973) (“We hold that the Fifth Amendment does not require the Government to pay for that element of value based on the use of respondents’ fee lands in combination with the Government’s permit lands.”).

¹⁷² *Am. Pelagic Fishing Co. v. United States*, 379 F.3d 1363, 1374 (Fed. Cir. 2004) (“We conclude that American Pelagic did not and could not possess a property interest in its fishery permits and authorization letter.”); *Conti v. United States*, 291 F.3d 1334, 1342 (Fed. Cir. 2002) (“[T]he permit bestowed a revocable license, instead of a property right.”).

¹⁷³ *Conti*, 291 F.3d at 1342.

¹⁷⁴ ROBIN FELDMAN, *RETHINKING PATENT LAW* 49, 65 (Harvard Univ. Press 2012).

¹⁷⁵ See generally Susan Eisenberg, Note, *Intangible Takings*, 60 *VAND. L. REV.* 667, 670 (2007) (discussing the Red Cross’s attempt to take a telephone number from another company in the aftermath of Hurricane Katrina).

¹⁷⁶ 47 U.S.C. § 312 (empowering the FCC to revoke broadcast licenses for a range of reasons, including “conditions coming to the attention of the Commission which would warrant it in refusing to grant a license or permit on an original application”).

¹⁷⁷ *Bowen v. Gilliard*, 483 U.S. 587, 603-06 (1987).

¹⁷⁸ See, e.g., *Bldg. Owners & Managers Ass’n Int’l v. F.C.C.*, 254 F.3d 89, 99 (D.C. Cir. 2001) (ruling that the FCC’s prohibition of restrictions on direct-to-home broadcasts for leased property did not constitute a *per se* taking); Dave Owen, *Taking Groundwater*, 91 *Wash. U.L. Rev.* 253, 281 (2013) (“Nevertheless, the American groundwater/takings cases provide little support for arguments against treating water rights as constitutional property. Many cases clearly state that groundwater use rights qualify as constitutional property and are protected by the takings doctrine.”).

¹⁷⁹ JACQUES B. GELIN & DAVID W. MILLER, *THE FEDERAL LAW OF EMINENT DOMAIN* 49-55 (1982).

Court held that trade secrets are protected by the Compensation Clause because, in the Court's view, Missouri's state law recognized trade secrets as private property.¹⁸⁰ At that time, trade secrets were entirely a matter of state law; the federal Defend Trade Secrets Act would not materialize for another 32 years. Reiterating a sentence that originally appeared in a Due Process case, the court wrote, "[W]e are mindful of the basic axiom that "[p]roperty interests ... are not created by the Constitution. Rather, they are created and their dimensions are defined by existing rules or understandings that stem from an independent source such as state law.""¹⁸¹

Monsanto has been subject to considerable criticism.¹⁸² In particular, the Court's attempt to avoid defining private property by tying it to existing legal categories creates thorny practical and theoretical problems. Can states impede congressional will just by declaring something private property? Can states avoid the Compensation Clause by declaring something not private property? Can the federal government so avoid by crossing a border and violating a trade secret in a jurisdiction that does not recognize it as private property? The underlying assumption that independent sources of law can define constitutional property is fatally flawed, even when applied to the sort of procedural due process cases in which it originated.¹⁸³

Even if one assumes that *Monsanto* is correct, differences between trade secrets and patents counsels heavily against extending *Monsanto*'s tenuous holding to patents. As a preliminary matter, the public nature of patents makes for an especially awkward comparison to trade secrets in the context of *Monsanto*'s facts. The decision involved a regulation requiring pesticide makers to disclose their ingredients and safety information. Patents are necessarily public, so *Monsanto*'s requirement that the government compensate when it forces trade

¹⁸⁰ Ruckelshaus v. Monsanto Co., 467 U.S. 986, 1003-04 (1984).

¹⁸¹ *Id.* at 1001 (citing *Webb's Fabulous Pharmacies, Inc. v. Beckwith*, 449 U.S. 155, 161 (1980) (quoting *Bd. of Regents of State Colleges v. Roth*, 408 U.S. 564, 577 (1972))).

¹⁸² *See, e.g., Merrill, supra* note 13, at 939-42.

¹⁸³ *Id.* at 922-26 (explaining how reliance on independent sources of law leads to a "positivist trap" and what other scholars have dubbed "procedural nihilism"). Simple reliance on state law definitions of property has caused similar complications in other areas of law, such as taxation. *See, e.g., United States v. Craft*, 535 U.S. 274 (2002) (holding that, despite the general practice of looking to state law to define a delinquent taxpayer's property, the state law fiction of property ownership by an entirety cannot prevent a tax lien from attaching to an entireties property).

secret information to be made public requires significant twisting to apply to patents.

More fundamentally, no “independent source” “creates” or “defines” patents as private property as state law supposedly did with trade secrets. As Section II.C. demonstrated, federal statutory law gives patents certain property-like qualities for the limited purpose of establishing ownership and transfer rules, but the kind of “existing rules or understandings” that *Monsanto* searches for do not treat patents as private property. In short, little doctrinal basis exists outside the realm of patents for extending to them Compensation Clause protection.

In its search for a private property right, *Monsanto* also factors in a problematic litmus test frequently employed in Compensation Clause debates: whether the government interferes with “investment-backed expectations.”¹⁸⁴ The irrelevance of investment-backed expectations is particularly prominent in the case of regulatory rights. A company can invest a fortune in plans to market a drug or build a dam, expecting to clear the regulatory hurdles, but if it does not garner approval, perhaps because regulations changed, the company is out of luck. Conversely, if the government condemns land inherited from a long lost relative, the absence of investment-backed expectations does not weaken the heir’s claim.

Consider the 2013 *Myriad* case which held that naturally occurring DNA segments do not constitute patentable subject matter. In response to arguments that overturning the patent in the case would “disturb the reliance interests of patent holders,” the Justices noted that “reliance interests arising from PTO determinations, insofar as they are relevant, are better directed to Congress.”¹⁸⁵ This point is critical for understanding the hornets’ nest that the government would

¹⁸⁴ *Monsanto*, 467 U.S. at 1005 (“Among those factors [determining whether a government action effects a taking] are: ‘the character of the governmental action, its economic impact, and its interference with reasonable investment-backed expectations.’”) (quoting *PruneYard Shopping Center v. Robins*, 447 U.S. 74, 83 (1980)).

¹⁸⁵ See *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 594 n.7 (2013) (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 92 (2012) (“We need not determine here whether, from a policy perspective, increased protection . . . is desirable.”)); see also *Mayo*, 566 U.S. at 92 (again referencing the role of Congress and explaining that, “we must hesitate before departing from established general legal rules lest a new protective rule that seems to suit the needs of one field produce unforeseen results in another. And we must recognize the role of Congress in crafting more finely tailored rules where necessary.”).

be stuck in if patents constituted private property subject to the Compensation Clause, particularly with a concept such as “investment-backed expectations.” Changes in regulations, interpretations of those regulations, and even changes to the Patent Act itself would be met with an avalanche of patent holders claiming their Fifth Amendment right to just compensation for having violated their investment-backed expectations in property.

B. 19th Century Caselaw

In the late 19th century, courts considered several cases involving alleged patent infringement by the government. These cases contain a fair bit of language discussing patents as equivalent to property rights and, in one instance, allude to the Fifth Amendment’s Compensation Clause. These cases do not apply the Fifth Amendment’s Compensation Clause; therefore, the vague references to that clause or use of the term private property cannot serve as precedent for the meaning of “private property” for the purposes of the Compensation Clause. In other words, using those cases as precedent would improperly rely on dicta. Nevertheless, the broad language is worth noting, if nothing less than as indication of the thinking of some jurists a century after ratification of the Compensation Clause.

The context of these 19th century cases is complicated by the convoluted history of sovereign immunity. Until the 20th century, Congress had not waived the United States’ sovereign immunity from infringement suits.¹⁸⁶ Rather, throughout the 19th century, Congress permitted individuals to bring certain types of suits, most notably contract claims, against the government, and vested adjudicatory power in those cases in the Court of Claims. Tort claims were excluded from the Court of Claims’ jurisdiction, and the 1887 Tucker Act, which expanded and clarified the court’s jurisdiction, reaffirmed that the United States maintained its immunity to tort suits.¹⁸⁷ Further, at this time, the Supreme Court had not yet held that the Compensation Clause is self-executing. That is, it was believed at the time that takings claims required independent waivers of sovereign immunity on top

¹⁸⁶ See Christopher J. Morten & Charles Duan, *Who’s Afraid of Section 1498? A Case for Government Patent Use in Pandemics and Other National Crises*, 23 *YALE J.L. & TECH.* 1, 13 (2020) (“[T]he baseline situation [prior to legislation enacted in 1910] was that no remedy was available at all in view of sovereign immunity, and § 1498’s predecessor [i.e., the 1910 enactment] expanded patent protection by offering a new, albeit partial, remedy for government use.”).

¹⁸⁷ Tucker Act, ch. 359, Stat. 505 (1887) (codified at 28 U.S.C. § 1491).

of the Compensation Clause.¹⁸⁸ In other words, the government would have to waive sovereign immunity for a claim that its infringement of a particular patent constituted a taking. And even if it did, the issue of which courts would have jurisdiction to hear the case would depend on the terms of the waiver statute or, alternatively, on whether the claim alleged breach of a government contract and thus could be heard in the Court of Claims. The result is that decisions rendered by the Court of Claims necessarily could not speak to Fifth Amendment Takings, and the Supreme Court's opinions were limited to considering the Court of Claims' jurisdiction.

The first such case, decided in 1870, was *United States v. Burns*.¹⁸⁹ Upholding the damages awarded by the newly constituted Court of Claims, the Supreme Court wrote, “[T]he government cannot, after the patent is issued, make use of the improvement any more than a private individual, without license of the inventor or making compensation to him.”¹⁹⁰ Proponents of the patents-as-property theory unsurprisingly point to this case as evidence of a compensation requirement, but tying it to the Fifth Amendment overlooks what the case is really about. The award given to Burns arises, as a matter of law, from the violation of a contract with the United States. Although the contract was “nothing more . . . than a license from [patentee] to the government to manufacture [the invention],” the Court is clear that the Burns' claim arises not from infringement (let alone “taking”) but from a breach of contract.¹⁹¹

¹⁸⁸ The Clause was not completely toothless until then. Injunctive relief was available, and it was generally accepted that, despite the absence of a judicial remedy, the clause required legislatures to provide compensation when it took private property. See Joshua D. Hawley, *The Beginning of the End? Horne v. Department of Agriculture and the Future of Williamson County*, 2012 CATO SUP. CT. REV. 245, 256-57. Additionally, cases could sometimes be brought against individual officers for improper takings. See, e.g., *Mitchell v. Harmony*, 54 U.S. (13 How.) 115 (1851). Only in the mid-20th century did the Supreme Court change course and begin interpreting the Compensation Clause as self-executing. See *Jacobs v. United States*, 290 U.S. 13 (1933) (holding that no implied contract was necessary and that a takings claim rested upon the Constitution, not the Tucker Act). Now, it is believed that the Constitution provides the cause of action and the Tucker Act's role in takings claims is merely to declare which court has jurisdiction.

¹⁸⁹ *United States v. Burns*, 79 U.S. (12 Wall.) 246 (1870).

¹⁹⁰ *Id.* at 252.

¹⁹¹ *Id.* at 252-53.

The next case in this group is *Cammeyer v. Newton*, decided in 1876 as a claim of infringement against government engineers.¹⁹² Later courts might have recognized a sovereign or qualified immunity defense, but the Court determined that Newton was as any other infringer.¹⁹³ In dicta, the *Cammeyer* Court both used the term “private property”¹⁹⁴ and tipped its hat to the Fifth Amendment’s Compensation Clause:

Public employment is no defence to the employé for having converted the private property of another to the public use without his consent and without just compensation. Private property, the Constitution provides, shall not be taken for public use without just compensation[.]¹⁹⁵

Critically, this language appears in the context of evaluating an individual’s claim to immunity. Despite the Court’s linguistic forays, the case presented a pure infringement claim. The government was not a party to the case, and the public treasury was never in jeopardy. As such, the language is dicta expressed in a context that did not implicate the question and cannot be read as precedent for interpreting the Compensation Clause’s “private property” language. Further undermining the usefulness of the case, the *Cammeyer* Court ultimately found that the government did not violate the patent and that no infringement occurred.

The third case is *McKeever v. U.S.*, handed down in 1878.¹⁹⁶ The case involved the government’s use of a patented improvement and was decided in the Court of Claims. Cases of this vintage provide a variety of additional information in the material before the court’s official opinion. One should note at the outset that the claimant’s own attorney explained that this is not a Fifth Amendment takings

¹⁹² *Cammeyer v. Newton*, 94 U.S. 225 (1876).

¹⁹³ *Cammeyer*, 94 U.S. at 234 (citing *Mitchell*, 54 U.S. at 126).

¹⁹⁴ *Cammeyer*, 94 U.S. at 234-35 (noting that, “Agents of the public have no more right to take such private property than other individuals under that provision, as it contains no exception warranting any such invasion of the private rights of individuals. Conclusive support to that proposition is found in a recent decision of this court, in which it is held that the government cannot, after the patent is issued, make use of the improvement any more than a private individual, without license of the inventor or making him compensation.”).

¹⁹⁵ *Id.* at 234.

¹⁹⁶ *McKeever*, 14 Ct. Cl. at 396.

case, but a contract case.¹⁹⁷ The attorney was, indeed, correct and sets the stage for understanding that the court wandered off into a fair amount of dicta in the case. The *McKeever* court outlined in a fair bit of detail the history of patent law. Its account of patents' origins in England is largely consistent with the current academic consensus. Namely, it finds that patents do not originate in common law and historically did not represent property rights.¹⁹⁸ Contrary to the evidence given above, however, the *McKeever* opinion goes on to claim that patents took on a different form in the United States. Patents, the Court of Claims posits, are indeed property in spite of the English history being to the contrary.¹⁹⁹

For the reasons articulated above, the discussion contradicts the historical and structural evidence against patents' being property for purposes of the Compensation Clause. Most important, the discussion was pure dicta. One must recall that if *McKeever* had raised a takings claim, the Court of Claims would have found that it had no jurisdiction, and Mr. McKeever would have gone home empty handed. Both property takings and patent infringement were claims "sounding in tort," for which the Government had not waived its immunity.

Without a waiver of sovereign immunity, McKeever was forced to argue in a tortuous manner that the government used his invention with his *implied* consent and that this was simply a contract case.²⁰⁰ And of course, if the government used the invention with McKeever's consent, there could be no "taking" involved under any framing of the case. Thus, when the court ultimately found that an implied contract existed and awarded McKeever royalties, it necessarily held that no Fifth Amendment Taking occurred. This is confirmed by the fact that the Court's damages calculation is not based on "just compensation" but instead on "the fair and reasonable value of a license." Stretching this ruling to support the patents-as-

¹⁹⁷ See *id.* at 416 (attorney for the claimant section prior to start of opinion noting that, "[e]ven if this were merely a case of the taking of private property for public use, and not, as it in fact is, a case of implied contract resting on the use of private property, with the authority of the owner, the action would be sustained").

¹⁹⁸ *Id.* at 417-18 ("But the common law, which dealt with things tangible and material, did not recognize property in the mind-work of the inventor, and no English statute attached the legal quality of a right to an invention or created a remedy for the protection of the inventor.").

¹⁹⁹ See *supra* Sections II.A., II.B.3. (discussing and rejecting the arguments put forth by *McKeever*).

²⁰⁰ See *McKeever*, 14 Ct. Cl. at 416 (arguing that his "invention was not used without his consent. It was used with his consent. There is no tort in the case. It is not a case of a waiver of tort and implied contract, but it is, from first to last, an implied contract, and nothing else.").

property theory is awkward at the very least and, in all likelihood, twists its dicta in a way that contradicts its very holding.

The issue arose once more in *James v. Campbell*, reaching the Supreme Court in 1881.²⁰¹ Once again in dicta, Justice Bradley contrasted the American and British patent systems on the matter of the government's reserved right to use a patent. Reiterating the rights language that was associated with patents in the late 19th century, he wrote that the government had no more right to violate a validly issued patent than did anyone else.²⁰² The opinion goes on to speculate, contra *McKeever*, that the United States never authorized a suit against it for the infringement of patents.²⁰³ In the end, though, the *James* Court avoided the jurisdictional question and rejected the plaintiff's claims on the narrower grounds that no valid patent claim was actually used.²⁰⁴

²⁰¹ *James v. Campbell*, 104 U.S. 356 (1881).

²⁰² *Id.* at 358 (“The United States has no such prerogative as that which is claimed by the sovereigns of England, by which it can reserve to itself, either expressly or by implication, a superior dominion and use in that which it grants by letters-patent to those who entitle themselves to such grants. The government of the United States, as well as the citizen, is subject to the Constitution; and when it grants a patent the grantee is entitled to it as a matter of right, and does not receive it, as was originally supposed to be the case in England, as a matter of grace and favor.”).

²⁰³ *Id.* at 358-59:

But the mode of obtaining compensation from the United States for the use of an invention, where such use has not been by the consent of the patentee, has never been specifically provided for by any statute. The most proper forum for such a claim is the Court of Claims, if that court has the requisite jurisdiction. As its jurisdiction does not extend to torts, there might be some difficulty, as the law now stands, in prosecuting in that court a claim for the unauthorized use of a patented invention; although where the tort is waived, and the claim is placed upon the footing of an implied contract, we understand that the court has in several recent instances entertained the jurisdiction. It is true, it overruled such a claim on the original patent in this case, presented in 1867; but, according to more recent holdings, it would properly now take cognizance of the case. The question of its jurisdiction has never been presented for the consideration of this court, and it would be premature for us to determine it now. If the jurisdiction of the Court of Claims should not be finally sustained, the only remedy against the United States, until Congress enlarges the jurisdiction of that court, would be to apply to Congress itself. The course adopted in the present case, of instituting an action against a public officer, who acts only for and in behalf of the government, is open to serious objections. We doubt very much whether such an action can be sustained. It is substantially a suit against the United States itself, which cannot be maintained under the guise of a suit against its officers and agents except in the manner provided by law.

²⁰⁴ *Id.* at 383.

In short, none of the four cases during this era can serve as precedent for the question of whether patents constitute property for the purposes of the Fifth Amendment's Compensation Clause. The various expressions of dicta do show, however, that the issue was on the minds of some jurists during this period, although it remained unaddressed.

After the 1887 Tucker Act²⁰⁵ clarified the extent of Congress's waiver of sovereign immunity and the Court of Claims' jurisdiction, the issue of unlicensed government use re-emerged. Following the Act's passage, two claims for payment for government use of patented inventions led to two different conclusions, one sustained and one denied.²⁰⁶ Once again, without a waiver of sovereign immunity, the cases turned on whether the government had entered into a contract and whether that contract had been breached. Thus, one cannot use these cases either for the proposition that patents were treated as property under the Compensation Clause or that they were not. These analyses asked solely whether Congress provided a cause of action for ordinary infringement claims in which the defendant happened to be the government.

C. §1498 and its Interpretation

Congress largely silenced the debate in 1910 when it amended the Tucker Act to provide patent holders with a statutory cause of action for unlicensed government use of patents. That section was re-codified in 1948 as 28 U.S.C. §1498 and is often referred to by the section number. The new provision stated that whenever a patented invention shall "be used by the United States without license of the owner thereof or lawful right to use the same, such owner may recover reasonable compensation for such use by suit in the court of claims."²⁰⁷

²⁰⁵ Tucker Act, *supra* note 187.

²⁰⁶ Compare *Schillinger v. United States* 155 U.S. 163, 170 (1894) (jurisdiction denied for lack of consent to be sued), with *United States v. Palmer*, 128 U.S. 262, 269 (1888) (claim sustained under contract theory).

²⁰⁷ Pub. L. No. 61-305, ch. 423, 36 Stat. 851 (1910) (later codified as amended at 28 U.S.C. §1498). As amended, §1498(a) begins, "Whenever an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner thereof or lawful right to use or manufacture the same, the owner's remedy shall be by action against the United States in the United States Court of Federal Claims for the recovery of his reasonable and entire compensation for such use and manufacture."

The impact of the amendment is still disputed, and a few aspects of the debate are worth addressing here. Proponents of the patents-as-property theory interpret the 1910 Amendment as follows:²⁰⁸ Since the takings clause was believed to be non-self-executing in 1910, a waiver of sovereign immunity was necessary for patent owners to collect their constitutionally promised just compensation. Providing that remedy for an existing injury is the purpose of the amendment, they argue, not creating a new right. In support of this view, they point to the report for the House Committee on Patents,²⁰⁹ which explicitly claims that the amendment provides a remedy for Fifth Amendment Takings Claims as well as to statements by members of Congress²¹⁰ arguing that the amendment created no new claims but merely provided recourse for existing legal interests.

There are differences of opinion concerning the extent to which legislative history is relevant in interpreting legislation.²¹¹ However, the language of §1498 itself undermines any interpretation flowing from the piece of legislative history. The section treats patents as *unlike* private property under the Compensation Clause in that while the Compensation Clause provides just compensation, §1498 provides a different term “reasonable and entire compensation for the use.” In addition, §1498 applies to the “use of property,” rather than to a taking of the entire invention. This is understood as akin to the taking of a license, rather than

²⁰⁸ Mossoff, *Patents*, *supra* note 20, at 711-14 (citing H.R. REP. NO. 61-1288 (1910) and statements by members of Congress in arguing that the 1910 Amendment was meant to remedy the existing harm of patent takings, which, like other property takings, had previously been addressable only by claiming governmental breach of an “implied contract”); Justin Torres, *The Government Giveth, and the Government Taketh Away: Patents, Takings, and 28 USC Sec. 1498*, 63 NYU ANN. SURV. AM. L. 315, 328-29 (2007) (citing H.R. REP. NO. 61-1288 and the statements of multiple members of Congress in arguing that the 1910 Amendment was an attempt by Congress to consent to suit by patent owners for Fifth Amendment takings); Bradley M. Taub, Note, *Why Bother Calling Patents Property? The Government’s Path to License Any Patent and Maybe Pay for It*, 6 J. MARSHALL REV. INTELL. PROP. L. 151, 158-59 (2006) (“Not until the Act of 1910 did patent owners gain practical protection from government takings, allowing them to abandon the tenuous and largely unsuccessful implied contract argument.”).

²⁰⁹ See Torres, *supra* note 208, at 328 n.59, 330 n.68 (citing H.R. Rep. No. 61-1288 (1910)); Mossoff, *Patents*, *supra* note 20, at 712 n.124, 713 n.130 (citing H.R. Rep. No. 61-1288 (1910)).

²¹⁰ See Torres, *supra* note 208, at 329 n.61, 330 n.67 (citing statements by members of Congress); Mossoff, *Patents*, *supra* note 20, at 714 nn.133, 134 (citing statements by members of Congress).

²¹¹ See generally SCALIA, *supra* note 29, at 29-37; Adrian Vermeule, *Legislative History and the Limits of Judicial Competence: The Untold Story of Holy Trinity Church*, 50 STAN. L. REV. 1833, 1834 (1998) (“Legislative intent is a meaningless concept, because intentions cannot coherently be attributed to collective bodies.”); cf. Lawrence M. Solan, *Private Language, Public Laws: The Central Role of Legislative Intent in Statutory Interpretation*, 93 GEO. L.J. 427 (2004).

the entire property. One can see all of these contrasts at play in judicial decisions applying §1498. Courts applying §1498 have awarded compensation such as a 10%²¹² royalty or a 7.5%²¹³ royalty, amounts that are a far cry from the “just compensation” one would receive for land taken by the government to build a federal highway or provisions taken by the army.

The legislative history does indicate that some at the time believed that the Compensation Clause protected patents. Nonetheless, when Congress recodified Chapter 28 of the U.S. Code in 1948—after the Supreme Court had determined that the Compensation Clause is self-executing²¹⁴—it placed the cause of action for takings claims in the Court of Claims a mere stone’s throw away from §1498 in §1491. Since §1491 establishes an all-encompassing cause of action for uncompensated takings, §1498 would be superfluous as a provision to enable the Compensation Clause. Operating under the assumption that Congress knows what it is doing and would not enact superfluous legislation, the simultaneous codification of §§1491 and 1498 in 1948 precludes the possibility that §1498 is a mere vestige of a time when remedies for uncompensated takings required waivers of sovereign immunity. A Compensation-Clause-reading of §1498 makes patents *unlike* traditional forms of property, all of which are covered by §1491’s catch-all cause of action for claims “founded . . . upon the Constitution.”

Thus, a more natural reading of §1498 is that it closes the awkward gap left by *Schillinger* and *Palmer* by which the requirement of an implied contract allows patent holders to recover damages against the government only if they can prove that they allowed the government to use their inventions. As the Supreme Court explained, shortly after the 1910 Amendment was enacted, “[The Law] intended alone to provide for the discrepancy resulting from the divergence between the right in one case to sue on an implied contract and the non-existence of a right to sue in another.”²¹⁵ It offered similar reasoning in *Crozier v. Fried. Krupp Aktiengesellschaft*, writing, “[The statute] adds to the right to sue the United States

²¹² *Tektronix, Inc. v. United States*, 552 F.2d 343 (Ct. Cl. 1977), *opinion modified on denial of reh’g*, 557 F.2d 265 (Ct. Cl. 1977).

²¹³ *Decca Ltd. v. United States*, 640 F.2d 1156 (Ct. Cl. 1980).

²¹⁴ *See Jacobs*, 290 U.S. at 16.

²¹⁵ *William Cramp & Sons Ship & Engine Bldg. Co. v. Int’l Curtis Marine Turbine Co.*, 246 U.S. 28, 41 (1918).

in the court of claims already conferred when contract relations exist, the right to sue even although no element of contract is present.”²¹⁶

The best conclusion that can be drawn from the various strands of dicta and the isolated committee language is that the issue of providing Compensation Clause coverage for patent holders was on the minds of some jurists and legislators in the late 19th and early 20th century. Those yearnings were never consummated. Moreover, their impetus may simply have been an attempt to find a compensation pathway for wronged patent holders in the morass created by the treatment of sovereign immunity at the time. With a statutory cause of action that allowed patent owners to recover when the government infringed on their patents, the constitutional question of whether the Fifth Amendment required compensation in those cases was largely avoided, and the scattered discussion faded away for some time.²¹⁷

D. Modern Caselaw

In spite of §1498, the question once again found its way into the courtroom, this time more directly. A small number of recent cases have forced the question back to the surface, and notwithstanding the musings of the late 19th century, judges in the Court of Federal Claims, the Federal Circuit, and the Supreme Court all have either held that patents are *not* private property for purposes of the Fifth Amendment’s Compensation Clause or have sidestepped the question.

The issue first reemerged in *Zoltek Corp. v. U.S.* (III), which brought the question to the Federal Circuit in 2006.²¹⁸ Patentholder Zoltek brought a claim

²¹⁶ *Crozier v. Fried. Krupp Aktiengesellschaft*, 224 U.S. 290, 304 (1912).

²¹⁷ A full telling of the story requires mention of one voice who, in the mid-20th century, appeared to cling to the patents-as-property theory. Judge Nichols of the Court of Claims and later the Federal Circuit authored a concurrence in *Carter-Wallace, Inc. v. U.S.*, 449 F.2d 1374 (Ct. Cl. 1971), a majority opinion in *Leesona Corp. v. United States*, 599 F.2d 958, 964 (Ct. Cl. 1979), and likely the per curiam opinion in *Decca Ltd. v. United States*, 544 F.2d 1070, 1082 (Ct. Cl. 1976), in which he expresses the view that §1498 is grounded in the Fifth Amendment. Because of the statutory cause of action, none of those cases reached holdings on the constitutional question. A strange footnote to this history is that Judge Nichols’ replacement on the Federal Circuit, Judge Newman, authored an opinion that appeared to apply *Penn Central*’s regulatory takings framework to a Due Process claim involving a patent. *Patlex Corp. v. Mossinghoff*, 758 F.2d 594 (Fed. Cir. 1985), *aff’d in part, rev’d on other grounds*, 771 F.2d 480 (Fed. Cir. 1985). Judge Newman also dissented from the Federal Circuit’s denial of rehearing *en banc* in *Zoltek*, discussed in the following paragraphs.

²¹⁸ *Zoltek Corp. v. United States*, 442 F.3d 1345 (Fed. Cir. 2006).

against the U.S. government regarding patented methods of manufacture used in making some components of America's F-22 fighter jets. These components were partially assembled in Japan, and subsection (c) of §1498 precludes claims that "arise in a foreign country." Thus, the Federal Circuit, affirming the lower court's decision, tossed out *Zoltek's* §1498 claims against the government. In the absence of a statutory cause of action, the Federal Circuit was forced to confront *Zoltek's* amended claims that the government's infringement was a taking under the Fifth Amendment.²¹⁹

Overturing the trial court's decision, the Federal Circuit held that government infringement was not a taking of private property. As a guiding light on the topic, however, the *Zoltek* opinion falls short, and even those who reject the patents-as-property theory acknowledge that the *Zoltek* Court's reasoning is somewhat lacking.²²⁰ *Zoltek's* gravest flaw is that it seems to hang its hat on *Schillinger*. It writes, for example, "In *Schillinger v. United States*, the Supreme Court rejected an argument that a patentee could sue the government for patent infringement as a Fifth Amendment taking under the Tucker Act. *Schillinger* remains the law."²²¹ As the dissent correctly points out, however, *Schillinger's* holding was about the Court of Claims' jurisdiction at the time.²²² Only later did the Supreme Court decide that the Court of Claims could hear constitutional claims at all.

Additionally, *Zoltek* relies too heavily on the argument that if patents are private property under the Compensation Clause, then §1498 would be superfluous. The opinion rightly points to the language in *Crozier* and *William Cramp*, which

²¹⁹ *Id.* at 1349 ("The government moved for partial summary judgment that *Zoltek's* § 1498(a) claims were barred by § 1498(c) because they arose in Japan. The trial court denied the motion. Although it agreed that § 1498(c) barred *Zoltek's* claims under § 1498(a), the trial court directed *Zoltek* to amend its complaint to allege a taking under the Fifth Amendment The trial court concluded that *Zoltek* could assert the infringement claims under 28 U.S.C. § 1491(a)(1) as a taking in violation of the Fifth Amendment The trial court certified its § 1498 analysis and its holding that *Zoltek's* patent infringement claims sounded in the Fifth Amendment, under § 1292(d)(2). Both parties timely sought permission to appeal. This court accepted the interlocutory appeals and has jurisdiction under 28 U.S.C. §§ 1292(c)(1) and 1295(a)(3).").

²²⁰ Davida Isaacs, *Not All Property Is Created Equal: Why Modern Courts Resist Applying the Takings Clause to Patents, and Why They Are Right to Do So*, 15 GEO. MASON L. REV. 1, 9-12 (2007) (outlining the flaws with *Zoltek* and summarizing its poor reception).

²²¹ *Zoltek*, 442 F.3d at 1350 (citations omitted).

²²² *Id.* at 1375.

interpret the 1910 Amendments as simply providing a remedy for infringement so that plaintiffs would not be excluded for lack of an implied contract. But to both points, it fails to mention that when the 1910 Amendment was enacted, the Compensation Clause was not believed to be self-executing, so under the Compensation Clause theory, it would not have been superfluous when first enacted.²²³ It is no surprise, then, that *Zoltek*'s logic comes under fire in the dissent, and many believed that Judge Newman's dissent from rehearing *en banc* would tee up the issue for the Supreme Court.²²⁴ Thus, while *Zoltek* achieved the correct result, it is possible that the Supreme Court could revisit its finding that government infringement does not give rise to a takings claim.

For its part, the Supreme Court has been mostly silent for several decades at this point. When given the opportunity in the 1990 case of *Eli Lilly and Co. v. Medtronic, Inc.* to speculate on the takings questions, the Supreme Court, per Justice Scalia, casually rejected a patent holder's argument. The patent holder had argued that the Court should find infringement in the use of patented devices for the purpose of developing and submitting data when seeking FDA approval for drugs "because of the 'serious constitutional question under the takings clause of the Fifth Amendment ... [that would arise] if the statute is interpreted to authorize the infringing use of medical devices.'"²²⁵ Noting that the petitioner had not challenged the statute at issue on constitutional grounds, Justice Scalia referenced the argument in a footnote, but opined that, "we do not see how this consideration makes any difference" because the "serious constitutional question' (if it is that) is not avoided by petitioner's construction either."²²⁶

Subsequently, two relatively recent, high-profile rulings indicate that the Supreme Court is extremely wary of approaching the topic of applying the Compensation Clause to patents, or of allowing Congress or the lower courts to do so. The first is the 1999 case, *Florida Prepaid Postsecondary Education*

²²³ For an academic criticism of *Zoltek*, see Miller, *supra* note 24, at 20-21.

²²⁴ *Zoltek Patent Takings Rehearing Denied: No Fifth Amendment Protection*, PATENTLY JOBS (Mar. 27, 2023), https://patentlyo.com/jobs/2006/09/zoltek_patent_t.html; see also Alex Kozinski & James Burnham, *I Say Dissental, You Say Concurral*, 121 YALE L.J. ONLINE 601 (2012), <http://yalelawjournal.org/forum/i-say-dissental-you-say-concurral> (attributing the rise of dissents and their increasing importance at the Supreme Court to the growth of Circuit Courts and, hence, the increasing prevalence of outlier panels).

²²⁵ *Eli Lilly & Co. v. Medtronic, Inc.*, 496 U.S. 661, 678 n.7 (1990).

²²⁶ *Id.*

Expense Board v. College Savings Bank.²²⁷ That case involved a challenge to the Patent and Plant Variety Protection Remedy Clarification Act (Remedy Act), which sought to allow patent holders to sue state governments and instrumentalities for infringement.²²⁸

Prior to passage of the Remedy Act, the Federal Circuit held that patent holders could not sue states for patent infringement on the grounds that the patent laws contain no statement expressing Congress' intent to abrogate state sovereign immunity for these purposes.²²⁹ In response, Congress passed the Remedy Act to add the requisite language to the patent laws. In justifying Congress' power to enact the provision, the Senate Report noted that courts have continually recognized patents as property for the purposes of the Fourteenth Amendment's due process of law.²³⁰

The Report also brushed against the idea of patents as property for the Compensation Clause, noting cryptically that "the right to compensation exists" for patent infringement and citing to district court sovereign immunity cases discussing patents as property that cannot be taken without *just* compensation.²³¹ Following passage of the Remedy Act, a Florida state agency accused of patent infringement challenged the Act as unconstitutionally abrogating the state's

²²⁷ Fla. Prepaid Postsecondary Educ. Expense Bd. V. Coll. Sav. Bank, 527 U.S. 627 (1999).

²²⁸ Patent and Plant Variety Protection Remedy Clarification Act, §2(a)(1), Pub. L. No. 102-560 (1992) ("Section 271 of title 35, United States Code, is amended by adding at the end the following: '(h) As used in this section, the term "whoever" includes any State, any instrumentality of a State, and any officer or employee of a State or instrumentality of a State acting in his official capacity. Any State, and any such instrumentality, officer, or employee, shall be subject to the provisions of this title in the same manner and to the same extent as any nongovernmental entity)'). The modified part of the law defines patent infringement thus: "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent." 35 U.S.C. §271(a).

²²⁹ See *Fla. Prepaid*, 527 U.S. at 631-632 (discussing the Remedy Act and citing *Chew v. California*, 893 F.2d. 331 (1990)). One should note that although Congress may have provided statutory provisions for patent holders to sue the federal government for patent infringement, those provisions do not apply to the states.

²³⁰ See *id.* at 637 (citing page 8 of the Senate Report, with footnotes omitted, as explaining that "[T]he bill is justified as an acceptable method of enforcing the provisions of the [F]ourteenth [A]mendment. The Court in *Lemelson v. Ampex Corp.* [, 372 F.Supp. 708 (N.D. Ill. 1974),] recognized that a patent is a form of property, holding that a right to compensation exists for patent infringement. Additionally, because courts have continually recognized patent rights as property, the [F]ourteenth [A]mendment prohibits a State from depriving a person of property without due process of law").

²³¹ See *id.*

Eleventh Amendment immunity. The Supreme Court agreed and found the Remedy Act unconstitutional.

Although substantial controversy exists regarding the Supreme Court's recent Eleventh Amendment cases,²³² which gave states significant immunity for violations of federal and constitutional law, the *Florida Prepaid* case reveals a few important things, even to skeptics of its outcome. First, the Justices went to great lengths to avoid the question of whether patents constitute property for the Compensation Clause. The opinion pointed out that although the United States intervened to support the Remedy Act's constitutionality on due process terms, the government declined to defend the Act under the Compensation Clause.²³³ Moreover, the Justices explained that consideration of the Compensation Clause as a basis for the Remedy Act was precluded, given that neither the language of the Remedy Act nor the reports of the bill contained any suggestion that the "Congress had in mind the Just Compensation Clause of the Fifth Amendment."²³⁴

One could argue that language brushing against the Compensation Clause might have provided an indication of such an intent, albeit vaguely and indirectly worded.²³⁵ After citing that language, however, the Justices directed the discussion

²³² John C. Jeffries, Jr., *In Praise of the Eleventh Amendment and Section 1983*, 84 VA. L. REV. 47, 48 (1998) ("The dominant academic position asserts that the Eleventh Amendment limits only diversity jurisdiction, that it has no application in federal question cases, and that in constitutionalizing some form of state sovereign immunity, the Supreme Court has been on the wrong track these past 100 years." (citing Akhil Reed Amar, *Of Sovereignty and Federalism*, 96 YALE L.J. 1425, 1473-84 (1987); Martha A. Field, *The Eleventh Amendment and Other Sovereign Immunity Doctrines (pt. 1)*, 126 U. PA. L. REV. 515, 538-40 & 540 n.88 (1978); William A. Fletcher, *The Diversity Explanation of the Eleventh Amendment: A Reply to Critics*, 56 U. CHI. L. REV. 1261, 1271-75 (1989); William A. Fletcher, *A Historical Interpretation of the Eleventh Amendment: A Narrow Construction of an Affirmative Grant of Jurisdiction Rather than a Prohibition Against Jurisdiction*, 35 STAN. L. REV. 1033, 1060-63 (1983); and Vicki C. Jackson, *The Supreme Court, the Eleventh Amendment, and State Sovereign Immunity*, 98 YALE L.J. 1, 39-51 (1988)). For academic appraisals of *Florida Prepaid*, see generally John E. Nowak, *The Gang of Five and the Second Coming of an Anti-Reconstruction Supreme Court*, 75 NOTRE DAME L. REV. 1091 (2000); David L. Shapiro, *The 1999 Trilogy: What is Good Federalism?*, 31 RUTGERS L.J. 753 (2000); Daan Braveman, *Enforcement of Federal Rights Against States: Alden and Federalism Non-Sense*, 49 AM. U. L. REV. 611 (2000).

²³³ See *Fla. Prepaid*, 527 U.S. at 642 ("The United States declines to defend the Act as based on the Just Compensation Clause").

²³⁴ See *Fla. Prepaid*, 527 U.S. at 642, n.7.

²³⁵ See *supra* text accompanying notes 230-231.

to the Due Process Clause, as if to gently remind both Congress and the lower courts that the Court's own opinions thus far relate only to due process.²³⁶

Stepping back from the opinion in the case, if the Constitution requires compensation for government infringement, patent holders should be able to sue states with or without the Remedy Act. The Fourteenth Amendment effectively overrode the Eleventh Amendment regarding takings by incorporating both the Fifth Amendment's prohibition as well as its waiver of immunity. The Supreme Court has held that state entities may be required to pay compensation for land takings (*Lucas v. S.C. Coastal Council*,²³⁷ for example), noting that the Fifth Amendment is "applicable to the States through the Fourteenth Amendment."²³⁸ Despite recent push-back from several Circuit Courts, the Supreme Court has explicitly rejected states' claims for Eleventh Amendment immunity to takings claims.²³⁹ If patents are private property for the purposes of the Compensation Clause, therefore, Congress would never have needed additional sovereign immunity abrogation language at all. Plaintiffs like College Savings could have gone forward with a Compensation Clause claim.

In addition to *Florida Prepaid*, a 2015 ruling in *Horne v. Department of Agriculture* concerned the constitutionality of a Department of Agriculture mandate for a raisin grower reserve.²⁴⁰ The case casually cited dicta from the 1881 *James v. Campbell* case to support the comment that "Nothing in the text or history of the Takings Clause, or our precedents, suggests that the rule is any different when it comes to appropriation of personal property."²⁴¹ As described above, the *James v. Campbell* Court avoided the jurisdictional question and rejected the plaintiff's claims on the narrower grounds that the government did not make use of any valid

²³⁶ See *Fla. Prepaid*, 527 U.S. at 637.

²³⁷ See, e.g., *Lucas*, 505 U.S. at 1030 ("When, however, a [state] regulation that declares 'off-limits' all economically productive or beneficial uses of land goes beyond what the relevant background principles would dictate, compensation must be paid to sustain it."); *Palazzolo v. Rhode Island*, 533 U.S. 606, 627 (2001) ("The Takings Clause, however, in certain circumstances allows a landowner to assert that a particular exercise of the State's regulatory power is so unreasonable or onerous as to compel compensation.").

²³⁸ *Palazzolo*, 533 U.S. at 617.

²³⁹ *First Eng. Evangelical Lutheran Church of Glendale v. Los Angeles Cnty., Cal.*, 482 U.S. 304, 314-16 & n.9 (1987); Eric Berger, *The Collision of the Takings and State Sovereign Immunity Doctrines*, 63 WASH. & LEE L. REV. 493, 494-95 (2006).

²⁴⁰ *Horne v. Department of Agriculture*, 576 U.S. 350 (2015).

²⁴¹ *Horne*, 576 U.S. at 358.

patent claim.²⁴² A few commentators speculated that *Horne* included patents as “personal property.”²⁴³ But as Masur and Mortara point out, “[T]he quotation in *Horne* looks a lot like the past descriptions of §1498 articulated by the Federal Circuit and Court of Claims: Patent infringement is described in terms of eminent domain or takings when that characterization is irrelevant to the resolution of the case at hand.”²⁴⁴ Indeed, when *Oil States Energy Services v. Greene’s Energy Group* brought the claim up in a patent context, the Supreme Court took a markedly different stance.

Oil States involved a number of constitutional challenges to patent law’s *inter partes* review process.²⁴⁵ A patent holder filed the case when the PTO invalidated its patent, after initially granting the patent. *Oil States*’ claims were based on Article III, the Seventh Amendment, and the Fifth Amendment’s Due Process and Compensation Clauses. Justice Thomas’s majority opinion emphasized that the court’s holding does not reach either of the Fifth Amendment claims.²⁴⁶ However, in evaluating the Article III challenge, the *Oil States* Court drew a clear line between land and chattels on the one hand and public rights such as patents on the other. Relying on the distinction between “public rights” and “private rights,” the opinion first reiterates that “Congress cannot ‘confer the Government’s ‘judicial Power’ on entities outside Article III,’” but that it has “significant latitude to assign adjudication of public rights to entities other than Article III courts.”²⁴⁷ Placing patents squarely in the latter category of *public rights*, Justice Thomas expounds on the notion that “the grant of a patent is a ‘matte[r] involving public rights’”:

Ab initio, the grant of a patent involves a matter “arising between the government and others.” As this Court has long recognized, the grant of a patent is a matter between “ ‘the public, who are the grantors, and ... the patentee.’ ” By “issuing patents,” the PTO “take[s] from the

²⁴² See *supra* text accompanying notes 201-204.

²⁴³ See, e.g., Dolin & Manta, *supra* note 21, at 775.

²⁴⁴ Masur & Mortara, *supra* note 20, at 991-92.

²⁴⁵ *Oil States Energy Servs.*, 138 S. Ct. at 1370.

²⁴⁶ After explaining that, “[w]e emphasize the narrowness of our holding,” the Court went on to write a long paragraph listing a number of issues not addressed and ending with, “our decision should not be misconstrued as suggesting that patents are not property for purposes of the Due Process Clause or the Takings Clause.” See *id.* at 1379.

²⁴⁷ *Oil States Energy Servs.*, 138 S. Ct. at 1372-73.

public rights of immense value, and bestow[s] them upon the patentee.” Specifically, patents are “public franchises” that the Government grants “to the inventors of new and useful improvements.” The franchise gives the patent owner “the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States.” That right “did not exist at common law.” Rather, it is a “creature of statute law.”²⁴⁸

Thus, the Court made absolutely clear its view that there is a strict, categorical difference between land/chattels as “core” private property rights and patents as public rights.²⁴⁹

In the brief time since the Supreme Court handed down its *Oil States* opinion, lower courts have already started to rightly apply its principles to Compensation Clause claims. Faced with essentially the same claim that the *Oil States* Court declined to address, the Court of Federal Claims held that invalidation during *inter partes* review did not constitute a Fifth Amendment taking in *Christy, Inc. v. United States*.²⁵⁰ Relying heavily on *Oil States*, the *Christy* court wrote, “In short, patents are public franchises, not private property. Because ‘[a] taking compensable under the Fifth Amendment inherently requires the existence of “private property,”’ patent rights are not cognizable property interests for Takings Clause purposes.”²⁵¹ The Federal Circuit supported this view in *Celgene Corp. v. Peter*²⁵² and *Golden v.*

²⁴⁸ *Id.* at 1373-74 (citations omitted).

²⁴⁹ Justice Gorsuch’s dissent, joined by Chief Justice Roberts, focuses on the extent of Article III’s judicial power. Rejecting Justice Thomas’s and Professor Nelson’s strict reliance on the public-private distinction for adjudication, Gorsuch claims that the Judicial Power cannot be shrunk from what courts decided at the founding. Dismissing the instances in which the Privy Council decided patent validity even after the founding, Gorsuch finds it sufficient that patent cases were primarily litigated in law courts to place patent validity in the ‘judicial power’ by the late 18th century. Thus, although Justice Gorsuch cites Mossoff extensively, a careful reading of Gorsuch’s opinion suggests that he dissents not because he necessarily believes patents are private property but because of how he defines and applies the judicial power. Indeed, to the extent Justice Gorsuch relies on practice at the time of the Founding, he might also object to the patents-as-property theory, because compensating for patent-takings was unheard of to the Framers.

²⁵⁰ *Christy, Inc. v. United States*, 141 Fed. Cl. 641 (2019).

²⁵¹ *Id.* at 660 (citations omitted).

²⁵² *Celgene Corp. v. Peter*, 931 F.3d 1342, 1358 (Fed. Cir. 2019). The parties in *Celgene* did not dispute whether patents are private property in general. In that case, the PTO defended the uncompensated invalidation of a patent through the IPR process on the narrower grounds that no property right ever exists in invalid patents and that patents have often been subject to some form of review. Therefore, its holding,

United States.²⁵³ *Celgene*'s conclusion is all the more important given that it acted retroactively on patents issued before the Congress set up the *inter partes* review process. Of course, these decisions may not put an end to the debate altogether, but they are certainly a sign that the federal courts are moving in that direction as the issue continues to bubble up in different contexts.

IV

THE NATURE OF THE BEAST

As described above, the history and theory of patents conceptualizes the patent system in purely utilitarian terms. We grant patents in this country for the benefit of the public, in the hopes that by taking what would ordinarily be free to all and dedicating it for a limited time to a few, science will progress, and this will redound to the benefit of society as a whole.²⁵⁴ That conceptualization stands in contrast to the core, private property rights embodied in the Fifth Amendment's Compensation Clause.

In thinking about patents, however, one must also consider the nature of the beast. Patents necessarily lack the certainty that we associate with private property such as land.²⁵⁵ Although the law may periodically argue over the emergence and boundaries of new forms of rights related to land—air rights, rights to light, etc.—society shares a basic conception of what a piece of land is. Patents, however, are entirely different. By definition, patents are granted only on those inventions that are new. For something that is new, society naturally lacks a shared understanding of it, something that will develop across time.

Not only do we lack a shared understanding at the time of the patent, the linguistic formulations that develop around those shared understandings have yet to emerge. Anyone who has ever tried to interpret a contract knows that language is subject to uncertainty. The uncertainties of language are exacerbated in the patent

strictly speaking, is limited to the proposition that no property interest exists in patents *that should not have been issued in the first place*.

²⁵³ *Golden v. United States*, 955 F.3d 981, 988-89 (Fed. Cir.), *cert. denied*, 141 S. Ct. 908 (2020), *reh'g denied*, 141 S. Ct. 2558 (2021) (following a similar reasoning to that in *Celgene Corp.*, 931 F.3d at 1358, described *supra* in note 247).

²⁵⁴ See Robin Feldman, *Intellectual Property Wrongs*, 18 STAN. J.L. BUS. & FIN. 250, 318 (2013).

²⁵⁵ The author has more fully explored the notions of the uncertainties of language and the lack of shared conception that bedevil patents. See FELDMAN, *RETHINKING PATENT LAW*, *supra* note 174, at 13-23.

context, however, where one is trying to describe something that, by definition, has not existed before. We use language, that was developed in relation to things that already exist, in a vain attempt to capture something that, by definition, has never existed. Moreover, across the 20 years of the patent term, entirely new inventions will arise. To determine whether the *new* invention can receive its own patent or whether use of the new invention would violate the existing patent, courts and the patent office will have to compare the linguistic formulation in the patent to the new invention, even though the new invention did not exist when the linguistic formulation was drafted.²⁵⁶ It is no surprise that patent litigation can turn on the meaning of the word “a.”²⁵⁷ Trying to subject patents—with all of the necessary uncertainties surrounding the boundaries and definition of each—to a Fifth Amendment compensation system that was born of the notion of government physically taking things that are tangible and specific, would create a muddy mess.

Patents, both in the 18th century and even more so today, are quintessential creatures of regulation. As the dean of antitrust law, Herbert Hovenkamp has noted, “Anyone who does not believe that the IP laws are a form of regulation has not read the [statutes] and the maze of technical rules promulgated under them.”²⁵⁸ Putting

²⁵⁶ In a fascinating exchange between majority and dissenting Justices in the 1966 case of *Brenner v. Manson*, both sides implicitly acknowledged the uncertainties inherent in the language of a patent. Arguing for the importance of a the utility doctrine, the majority explained that:

Until the process claim has been reduced to production of a product shown to be useful, the metes and bounds of that monopoly are not capable of precise delineation. It may engross a vast, unknown, and perhaps unknowable area. Such a patent may confer power to block off whole areas of scientific development, without compensating benefit to the public.

Brenner v. Manson, 383 U.S. 519, 534 (1966) (footnote omitted). In response, the dissent argued:

I fail to see the relevance of these assertions . . . nor, in any event, does advance knowledge of a specific product use provide much safeguard on this score or fix ‘metes and bounds’ precisely since a hundred more uses may be found after a patent is granted . . .

Id. at 537 (Harlan, J., dissenting); see also Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 840-41 (1990) (explaining that patent law interpretation principles and objective evidence leave considerable room for patent judges and patent office examiners to exercise discretion).

²⁵⁷ See *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1357 (Fed. Cir. 2000) (determining as a matter of claim construction that the word “a” could be interpreted as plural because it carried the meaning of “one or more”).

²⁵⁸ Herbert Hovenkamp, *Antitrust and the Regulatory Enterprise*, 2004 COLUM. BUS. L. REV. 335, 336 (2004).

aside the notion that regulatory systems deal in public rights, rather than private ones, nothing in this type of system sits comfortably with the notion of the private property rights in the Fifth Amendment.²⁵⁹

The implications of requiring just compensation for “patent takings” cannot be understated. When properly constructed, intellectual property rights have the potential to boost innovation and economic development, especially in high-income countries.²⁶⁰ But maximizing the benefits of the patent system requires careful balancing, accounting for such factors as the rate of information flow, the movement of technology to and from other countries, and, of course, the economic and political conditions that affect inventors’ return on R&D investment.²⁶¹ Increasingly, however, intellectual property regimes are becoming frustrated with abuse and exploitation, requiring regulators to modify the law in order to keep investment flowing to genuine innovation. Even benign or positive developments, such as the restructuring of the court system or the discovery of a new technology at the fringes of what is patentable (constructing RNA sequences, for example) compel continual updating in patent law.²⁶²

If, however, Courts began to apply the Compensation Clause to patents, many potentially valuable policy measures would be stymied, depriving the public of access to innovations. The chilling of adjustments to patent law would harm most

²⁵⁹ For additional discussions of the nature of patents as political constructs, see Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031, 1072 (2005) (comparing patents to public welfare benefits). See also Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575 (2003).

²⁶⁰ See, e.g., Rod Falvey, Neil Foster & David Greenaway, *Intellectual Property Rights and Economic Growth*, 10 REV. DEV. ECON. 700 (2006); D.M. Gould & W.C. Gruben, *The Role of Intellectual Property Rights in Economic Growth*, 48 J. DEV. ECON. 323 (1996); Mark A. Thompson & Francis W. Rushing, *An Empirical Analysis of the Impact of Patent Protection on Economic Growth*, 21(2) J. ECON. DEV. 61, 61 (1996).

²⁶¹ Falvey, Foster & Greenway, *supra* note 260, at 700-02. For high-income countries, where most innovation occurs, IPRs are necessary to promote RD investment, but if they are too strong, IPRs may slow the spread of new information, causing society to miss out on potential further innovation that the new knowledge would have generated if more widely available. The correlation has been harder to establish for middle-income countries, which rely heavily on imitation, but in low-income countries that have not yet reached a threshold level of development, IPRs can have a positive impact on growth because they generate positive technology flows from developed countries.

²⁶² See also Burk & Lemley, *supra* note 259 (evaluating the impetus for industry-specific patent law revision).

patent holders, too. As the Justices noted in *Mayo*, “[p]atent protection is, after all, a two-edged sword. . . . [T]hat very exclusivity can impede the flow of information that might permit, indeed spur, invention [A] new protective rule that seems to suit the needs of one field produce unforeseen results in another.”²⁶³

Congress and the PTO may be less inclined to award patent rights and remedies if they fear that they could not rein them in should future patent holders abuse them.²⁶⁴ Furthermore, in addition to having a reliance interest in the exclusivity they acquire for their invention, most patent holders have reliance interests in certain components or processes being *non-patent* protected. This feature of patent law generates an asymmetry between compensation law, which provides remedies only for existing property, and the patent system, in which actors often rely on the non-existence of a patent.²⁶⁵

From a purely practical point of view, the Compensation Clause represents a serious burden to judges in cases involving patents. The Supreme Court’s takings doctrine is universally recognized as problematic.²⁶⁶ The Court has failed for a century to agree on a consistent principle, even under the most straightforward facts, that would indicate when a government action is a taking that requires compensation.²⁶⁷ And so, the greatest concern, doctrinally speaking, lies in

²⁶³ *Mayo*, 566 U.S. at 92.

²⁶⁴ See, e.g., Isaacs, *supra* note 220, at 3 (“Congress is considering changes to patent protection to remedy several perceived problems, including patent monopoly prices of many pharmaceuticals. If regulatory takings claims could arise from those changes, the government might hesitate to make socially valuable reforms, thus injuring the public. The injury is not limited to the public, however; such claims might also be detrimental to the preponderance of patentholders, because if Congress did not feel free to cancel an expansion of patent rights that had unintended consequences, it would be less likely to initially adopt such changes.”) (footnote omitted).

²⁶⁵ Masur & Mortara, *supra* note 20, at 987-88.

²⁶⁶ See, e.g., Peterson, *supra* note 10, at 1304 (“[I]t is difficult to imagine a body of case law in greater doctrinal and conceptual disarray [than the Court’s takings doctrine.]”); Eric R. Claeys, *Takings, Regulations, and Natural Property Rights*, 88 CORNELL L. REV. 1549, 1552 (2003) (citing *Penn Cent. Transp. Co. v. City of New York*, 438 U.S. 104, 123 (1978) (“[Takings law] has proved to be a problem of considerable difficulty.”)); James E. Krier, *The Takings-Puzzle Puzzle*, 38 WM. & MARY L. REV. 1143, 1143 (1997) (“[T]he law in [the regulatory takings] area is a bewildering mess.”).

²⁶⁷ See sources cited *supra* note 266; see also Danaya C. Wright, *Eminent Domain, Exactions, and Railbanking: Can Recreational Trails Survive the Court’s Fifth Amendment Takings Jurisprudence*, 26 COLUM. J. ENVTL. L. 399, 414 (2001) (discussing how Supreme Court jurisprudence related to when government regulations constitute takings started to become less clear following the 1922 decision in *Pennsylvania Coal v. Mahon*).

entangling patent law in the morass of takings law. If patents were private property under the Compensation Clause, then all of takings doctrine, with its convoluted, often contradictory tests, prongs, and factors, would apply to patents. This would include the doctrine of regulatory takings, in which regulatory actions that have the effect of depriving a property owner of all value in its property constitute takings under the Fifth Amendment for which the government must provide just compensation. Foisting the Fifth Amendment onto the patent system would create an endless nightmare for the government and the courts.

CONCLUSION

Regardless of the angle from which one views the question of whether patents constitute private property for the purposes of the Fifth Amendment's Compensation Clause, the answer remains a simple, no. Examining the history and theory of patents from the Nation's founding reveals that the conceptualization of rights at the time of the Constitution fell into the two categories of core, private rights that exist without the action of government (conceived narrowly as land and chattel or broadly as also including life and liberty) and public rights that arise from an action of government. In contrast to property in land and chattels, patents bear none of the key features historically associated with "core" private property rights but rather, embody rights arising from an action of government. Moreover, the patent system was designed in a utilitarian fashion, with limited rights, for limited times, and for the purpose of advancing the interests of society in the progress of science, not the interests of the individual inventor.

The historic and theoretic perspectives are strengthened by a textual and structural analysis of the language of the Patent Clause within the Constitution. These perspectives are echoed by modern caselaw, in which courts evaluating Compensation Clause claims for other public rights are quick to remind plaintiffs that the Fifth Amendment is concerned with rights attaching to physical things. Despite some scattered dicta in the context of the Nation's twisted sovereign immunity history in the late 19th and early 20th century, no direct precedent exists for considering patents as private property for the Fifth Amendment. Most important, the nature of patents as regulatory creatures imbued with imprecision and uncertainty—given the lack of shared understanding of something new and the limitations of language in describing that newness—suggests that grafting the Fifth Amendment onto the patent system would prove an endless nightmare for the

government and the courts. In short, patents have always existed outside the realm of the Fifth Amendment's Compensation Clause, and they should remain so.

NEW YORK UNIVERSITY
JOURNAL OF INTELLECTUAL PROPERTY
AND ENTERTAINMENT LAW

VOLUME 12

SPRING 2023

NUMBER 2

RETHINKING THE 2006 AGREEMENT ON WINE TRADE:
PROTECTION OF PRODUCERS AND CONSUMERS
THROUGH GREATER RECOGNITION OF GEOGRAPHICAL
INDICATIONS IN THE U.S.

ALEXANDRE ARNAUD*

The wine industry is at the heart of the European agricultural sector and finds its main commercial outlet in the American market. Unfortunately, the two markets differ in one important matter, the protection and recognition of wine Geographical Indications (GI). The clash between the trademark oriented U.S. and the GI enthusiast E.U. has made the WTO a battle ground instead of a forum for bargains, concessions, and mutual understanding. Despite a bilateral Wine Trade Agreement signed in 2006, the European Union struggles to protect its wine GIs in the U.S. market. In this article, the author offers practical solutions to the current blockage in a revised bilateral agreement on wine trade. The necessity to convince the U.S. of the benefits of a solid GI system is the sine qua non condition to its development of a stronger GI system. The article outlines a strategy that the E.U. could pursue to get the U.S. moving towards a real protection of wine GIs.

INTRODUCTION	275
I. THE NEED FOR A NEW BILATERAL AGREEMENT BETWEEN THE E.U. AND THE U.S. ON WINE GEOGRAPHICAL INDICATIONS	277
A. <i>The International Recognition of Geographical Indication Under the TRIPS</i>	278

* Legal advisor for one of the main wine PDOs in France, Europe, specialized in the protection of the IP rights attached to PDOs. The author holds a master's degree in Rural Business Law and Wine Law from the Law School at Aix-Marseille University in France as well as a LL.M. in International Intellectual Property from Chicago-Kent College of Law.

1. <i>The TRIPS' Provisions on Geographical Indications</i>	278
2. <i>The Harmful Lack of Constraints</i>	279
B. <i>The U.S. and the E.U.: Two Clashing Conceptions of Geographical Indications</i>	281
1. <i>The E.U.'s Strong Protection of Geographical Indications</i>	281
i. <i>Protected Designation of Origin and Protected Geographic Indications</i>	281
ii. <i>A Strong Protection</i>	282
2. <i>The Maze of the American Wine GI Protection</i>	283
i. <i>The Lanham Act and the Regulations on Generic Names</i>	283
ii. <i>The American Viticultural Areas, a Scent of Europe</i>	284
C. <i>The 2006 Agreement on Wine Trade and Protection Between the United States and the European Union</i>	285
1. <i>The Agreement's Provisions</i>	285
i. <i>The Semi-generics</i>	285
ii. <i>The Mutual Recognition of Two Different Labeling Systems</i> ..	286
2. <i>An Unbalanced Agreement Failing to Implement a Shared System of Protection and Recognition</i>	287
i. <i>An Agreement Largely in Favour of the American Producers</i> .	287
ii. <i>The Need for a Bilateral Register</i>	288
II. <i>REDRAFTING THE 2006 BILATERAL AGREEMENT ON WINE TRADE AND GIS PROTECTION IN THE SEARCH FOR COMPROMISES</i>	289
A. <i>The Proposed New Articles Modifying the 2006 Bilateral Agreement on Wine Trade and GI Protection</i>	289
B. <i>Explanations of the Provisions</i>	291
1. <i>The European Compromises</i>	291
i. <i>The Recognition of AVAs as Protected Geographical Indications, Generalizing the Napa Valley Example</i>	291
ii. <i>Sacrificing Protected Geographical Information</i>	293
2. <i>The American Compromises</i>	294
i. <i>The Exhaustion of the Grandfather Clause for the 16 E.U. Wines Recognized as Semi-Generics</i>	294
ii. <i>Taking Part in the Creation of a Bilateral Register for Wine GIs</i>	296
C. <i>Reasons to Adopt the Provisions</i>	297
1. <i>A Common Register Synonym for Transparency</i>	297
2. <i>A Common Logo System for Consumer Protection</i>	298
3. <i>Opportunity for American Viticultural Areas to Further Penetrate the European Market</i>	298

III. POTENTIAL CRITICISM OF THE PROPOSED REDRAFTED BILATERAL AGREEMENT	299
A. <i>The Most Favored Nation Principle: A Sword of Damocles Hanging Over the Agreement</i>	299
1. <i>The Clash Between the Most Favored Nation and IP Bilateral Agreements</i>	299
2. <i>The Reassurance Offered by the Long and Serein Life of the 2006 Bilateral Agreement</i>	300
B. <i>The Absence of an International Definition for Wine</i>	301
CONCLUSION	302

INTRODUCTION

If one product can be considered as the barometer of the diplomatic and commercial relations between the European Union and the United States, it would have to be wine. With over USD 3 billion worth of European wine exported to the United States in 2017, the beverage is often held hostage and used as a political pawn between the two Western powers.¹ In 2019, European wine was the collateral damage in the Boeing Airbus war²; the Trump administration inflicting a 25% tariff rate on imported European wines with an alcoholic percentage below 14%.³ When Joe Biden was elected as President of the United States in June 2021, this tariff barrier was removed.⁴ Nonetheless, European wines' lives on the American market remain troubled. As the question of tariff rates comes and goes with the fluctuation of international relations, one structural issue persists and centers on diverging understandings of Geographical Indications (GI) and their legal recognition.

¹ *Wine production and trade in the EU*, EUROSTAT (Nov. 12, 2018), <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/edn-20181112-1>.

² Since 2004, the U.S. and the E.U. have successively accused each other before the WTO of supporting their regional plane constructors (Airbus for the E.U. and Boeing for the U.S.) with unfair subsidies. The dispute has seen both parties inflict severe retaliatory tariffs on each other. During 2019, Washington imposed tariffs of over USD 7.5 billion on European goods and services. Amongst these goods, E.U. wine was taxed by up to 25%. Richard Werly, *Airbus-Boeing: Joe Biden signe l'armistice*, LE TEMPS (June 15, 2021, 6:44 PM) <https://www.letemps.ch/economie/taxer-vins-francais-nouvelle-arme-trump>.

³ Richard Werly, *Taxer les vins français, la nouvelle arme de Trump*, LE TEMPS, (June 11, 2019, 7:40 PM), <https://www.letemps.ch/economie/taxer-vins-francais-nouvelle-arme-trump>.

⁴ *Suspension des taxes Trump sur le vin français: une excellente nouvelle pour la profession*, LE FIGARO (June 3, 2021, 1:48 PM), <https://www.lefigaro.fr/flash-eco/suspension-des-taxes-trump-sur-le-vin-francais-une-excellente-nouvelle-pour-la-profession-20210306>.

The concept of GIs is at the heart of the European wine market, but E.U. producers face a completely different environment when exporting their products to the U.S. Geographical Indications play a major role in the European agricultural and food sectors.⁵ A GI is a product whose qualities and characteristics are linked to a specific geographic origin.⁶ Once registered, the GI offers protection to producers against “misuse or imitation”.⁷ Furthermore, it is a strong guarantee of traceability and quality for the consumer.

This European view of GIs finds only a muffled echo in the United States. The U.S. implement GI protections through its preexisting trademark regulations.⁸ Before 2006, friction between the two systems lay in the absence of protection for the GIs “when embodied by a term or sign which was legally considered to be generic.”⁹ However, the E.U. and U.S. addressed the issue with a bilateral agreement with the Agreement on Trade-Related Aspects of Intellectual Property Rights’ (TRIPS), designed to address previous persistent failures in providing a strong, harmonized International GI system.¹⁰ The 2006 Agreement on Wine Trade signed by the U.S. and the E.U. is the fruit of 20 years of negotiations.¹¹ This long and hard-fought battle resulted in a crippling and unbalanced agreement that heavily favored the U.S. as the dominant economic power.¹² Nonetheless, the 2006 Agreement does not provide common recognition and protection for GIs, leaving E.U. GIs protected under complex U.S. trademark regulations rather than being recognized and protected as forthright GIs. Unable to find a balanced middle ground, the E.U. and the U.S. have deprived both the producers and the consumers of the protection they deserve.

⁵ Matilde Bellinazzi, *Toward a Better Understanding of U.S. and European Perspectives on Geographical Indications: The Case of Prosecco*, 57 WASHBURN L. J. 315 (2018).

⁶ *Geographical indications and quality schemes explained*, EUR. COMM’N, https://agriculture.ec.europa.eu/farming/geographical-indications-and-quality-schemes/geographical-indications-and-quality-schemes-explained_en#gi.

⁷ *Id.*

⁸ Bellinazzi, *supra* note 5, at 320

⁹ *Id.*

¹⁰ See Amy P. Cotton, *123 Years at the Negotiating Table and Still no Dessert? The Case in Support of Trips Geographical Indication Protections*, 82 CHICAGO-KENT L. REV. 1295 (2007).

¹¹ M. Philippe-Armand Martin, *Rapport d’Information Déposé par la Délégation de l’Assemblée Nationale pour l’Union Européenne, Sur la Proposition de Décision du Conseil Relative à la Conclusion de l’Accord entre la Communauté Européenne et les Etats-Unis sur le Commerce du Vin*, ASSEMBLEE NATIONALE.

¹² *Id.*

Hereafter, this article proposes to strengthen the protection of wine consumers and producers by reinforcing the level of protection the U.S. offers to GIs. The creation of a bilateral register, the suppression of the grandfather clause for semi generics, and a clearer labeling system are at the center of the solution, which could be implemented of a bilateral agreement.

Part I of this article highlights the need for a revised agreement on wine GIs between the E.U. and the U.S. by examining the weaknesses of current legal tools. Part II proposes three articles to be added in a new bilateral agreement on wine trade. These articles will address the issues arising from the absence of consensus on the protection of wine GIs. They will create a bilateral register, suppress the current grandfather clause, and recognize American Viticultural Areas (AVAs) as GIs protectable under the standards of E.U. law. Part III sets out the potential limits and frailties of this proposal.

I

THE NEED FOR A NEW BILATERAL AGREEMENT BETWEEN THE E.U. AND THE U.S. ON WINE GEOGRAPHICAL INDICATIONS

Since the signing of the TRIPS agreement three decades ago, the question of GI protection has been discussed continuously with little progress.¹³ Two strong visions oppose each other, and only unsatisfactory compromises seem to be in sight.¹⁴ The struggle to find a global and international way out of the current blockage incites to reconsider the scale of the negotiations. Consequently, Part I describes the quagmire of GI negotiations at the WTO, before questioning the 2006 bilateral agreement itself between the E.U. and the U.S. The 2006 agreement embodies an unsatisfactory compromise resulting in a blurry registration and labeling system that has resulted in insufficient protection for European GIs.¹⁵

¹³ Christophe Charlier, *La protection européenne des indications géographiques face au principe du traitement national de l'OMC, économie rurale*, 33 (2007).

¹⁴ Monique Bagal, *La Protection des Indications Géographiques dans un Contexte Global: Essai sur un Droit Fondamental*, ECOLE DOCTORALE DE DROIT (LYON) AVEC UNIVERSITE JEAN MOULIN (2016).

¹⁵ Lucas S. Michels, *A Blueprint for International TRIPS Plus Geographical Indication Protections? An Analysis of Geographical Indication Protection Proposals in the European Union - India Bilateral Trade and Investment Agreement*, GONZ. J. INT'L L. 2 (2012).

A. *The International Recognition of Geographical Indication Under the TRIPS*

GIs do not benefit from a unique and internationally shared conceptual understanding; all TRIPS members have their own perspective on the matter.¹⁶ By trying to appease all TRIPS members, TRIPS has been forced to limit the potential influence of the agreement.¹⁷

1. *The TRIPS' Provisions on Geographical Indications*

The TRIPS agreement tackles the question of Geographical Indications in its third section. Article 22 offers a definition of GIs¹⁸ and describes the necessary tools that member states should implement in their protection of GIs. Article 23, in turn, grants stronger protection to wine and spirits, adapted to their specificities.

Article 22 of the TRIPS agreement defines Geographical Indications as the “indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.”¹⁹ Thus, a GI is the combination of a product and its origin.²⁰ This definition, inspired by French law, captures the spirit of the concept.²¹ It explains how GIs are different from trademarks. The geographic environment (through its soil, climate, fauna, and flora) must have an impact on the product.²² French courts have always denied protection to appellation such as Camembert and Dijon Mustard, as their qualities have no link with their terroir of origin.²³ Wine, more than any other product, is

¹⁶ Kal Raustiala, Stephen R. Munzer, *The Global Struggle over Geographic Indications*, THE EUROPEAN JOURNAL OF INTERNATIONAL LAW, 339 (2007).

¹⁷ Jacques Audier, *Accord ADPIC Indications Géographiques*, Office des Publications Officielles des Communautés Européennes, 46 (2000).

¹⁸ “Geographical indications are, for the purposes of this Agreement, indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.”

¹⁹ The Agreement on Trade-Related Aspects of Intellectual Property Rights, 1869 U.N.T.S. 299, 315 (hereinafter TRIPS Agreement).

²⁰ Jacques Audier, *supra* note 17, at 7.

²¹ *Id.*

²² Albrecht Conrad, *The Protection of Geographical Indications in the TRIPS Agreement*, 86 TRADEMARK REP. 11, 32-33 (1996).

²³ *Id.*

the fruit of the environment in which it is produced. Indeed, by nature, the vine's roots dig deep in a soil which passes on all its specificities.²⁴

Article 23 of the TRIPS Agreement implements a stronger standard for the protection of wine and spirit GIs, the only two goods to benefit from this special provision.²⁵ Article 23 further prevents the use of GIs' names to identify wines not originating from the place indicated, even when the true origin of the good is stated on the label.²⁶ The provision also forbids the registration of trademarks for wines that use the name of recognized GIs.²⁷ Article 23 grants protection even in the absence of a risk of the public being misled. Herein lies the strength of this provision.²⁸ Article 23 is filled with good intentions and shows a true aim towards stronger protection. Nonetheless, it is plagued by the weaknesses inherent to the compromising nature of the agreement.

2. *The Harmful Lack of Constraints*

The genericness of GIs reveals the first weakness of the special provision for wine. To better understand this issue, Article 23 has to be read in combination with Article 24(6).²⁹ Indeed, the latter states that “[n]othing (...) shall require a Member to apply its provisions in respect of a geographical indication of any other Member with respect to goods or services for which the relevant indication is identical with the term customary in common language as the common name for such goods (...) in the territory of that Member.”³⁰ As a result, any GI that in some countries no longer relates to a geographical origin but to the product itself, may be deprived of protection. This exception leads to questionable situations such as the production of “champagne” by Argentinian and Californian vintners.³¹

²⁴ Clémence Georgelin, *Fonction Identitaire et Protection Juridique du Terroir: Etude des Rapports Entre les Sciences du Vin et le Droit Vitivinicole*, UNIVERSITE DE REIMS CHAMPAGNE ARDENNES, (2017).

²⁵ Conrad, *supra* note 22, at 31.

²⁶ TRIPS Agreement, *supra* note 15, at 309.

²⁷ *Id.*

²⁸ Stacy D. Goldberg, *Who Will Raise the White Flag? The Battle Between the United States and the European Union over the Protection of Geographical Indications*, 22 U. PA. J. INT'L ECON. L. 107, 120 (2001).

²⁹ *Id.* at 122.

³⁰ TRIPS Agreement, *supra* note 15, at 310.

³¹ Ana B. Ramos, *Argentinian Champagne: Emerging Bubbles*, AZUREAZURE (May 15, 2013), <https://www.azureazure.com/gastronomy/food-drink/argentinian-champagne-emerging-bubbles-972/>.

Further, a grandfather clause limits the effects of Article 23. Article 24(5) states that “where a trademark has been (...) acquired (...) before the date of application of these provisions (...) measures adopted to implement this Section shall not prejudice eligibility for or the validity of the registration of a trademark, or the right to use a trademark, on the basis that such a trademark is identical with, or similar to, a geographical indication.”³² This grandfather clause is necessary in the context of an international agreement. It helps to reach a middle ground and prevent already existing economic actors from being dispossessed of their trademarks. Nonetheless, this significantly reduces the impact of Article 23’s provisions.

The issues raised above could have led to the start of a solution: the creation of an international register for Geographical Indications. Yet again, this idea is subject to intense debate and no corresponding register has been created so far.³³ The partisans of free trade, led by the United States, would only agree to a notification register.³⁴ Such a register would have no effect on the level of protection. The countries using this register would only consult it before qualifying a new GI under the terms of their own national law.³⁵ The European Union, however, is pressing for multilateral registers that would offer absolute international protection to registered GIs.³⁶ Thus, the U.S./E.U. divide on GIs completely hinders any form of improvement. The absence of a register, whether for notification or registration, embodies the inability of the TRIPS agreement to provide a functional GI protection system.

As the provisions of TRIPS relating to GIs are peeled away, it appears that little international systematization can be implemented. Rather, every country is implementing its own national law, leaving the different users of GIs under considerable uncertainty when operating on the global market.³⁷ The friction between the United States and the European Union demonstrates the inability to

³² TRIPS Agreement, *supra* note 15, at 310.

³³ See Mai-Anh Ngo, *La protection des indications géographiques: les enjeux du mandat de Doha*, 294-95 *ECONOMIE RURALE* 117 (2006). Signatories are bound to negotiate over the establishment of a multilateral system of notification and registration of geographical indications for wines eligible for protection. TRIPS Agreement, *supra* note 15, at 329.

³⁴ Kevin M. Murphy, *Conflict, Confusion, and Bias under TRIPS Articles 22-24*, 19 *AM. U. L. REV.*, 1181, 1226 (2003).

³⁵ *Id.*

³⁶ Ngo, *supra* note 33.

³⁷ *Id.* at 6.

find mutual understanding. The two powers, each standing their ground, are battling for two fundamentally different visions of GIs.

B. The U.S. and the E.U.: Two Clashing Conceptions of Geographical Indications

The United States and the European Union exemplify two different conceptions of GI protection. The first is reluctant to regulate the market and its actors. In contrast thereto stands the latter, believing in the necessity of protecting its high-quality food and agricultural products, whose general small scale of production renders them ill-equipped to battle against international competitors.³⁸

1. The E.U.'s Strong Protection of Geographical Indications

The control and management of GIs in the European Union comes down to several actors. At the top of the pyramid stands the European Parliament. Through its regulation, it sets the quality thresholds for both registration and protection of Geographical Indications. The European Commission also plays an important role by reviewing registration requests.³⁹ E.U. regulations are observed by member states themselves.

i. Protected Designation of Origin and Protected Geographic Indications

The European Union recognizes different types of GIs. Regarding the protection of wine GIs, two stand out specifically: the Protected Designations of Origin (PDOs) and the Protected Geographical Indications (PGIs).⁴⁰ PDOs are products justifying a very strong link with their terroir of production.⁴¹ The concept of terroir corresponds to the link between a specified geographical area and the quality of the products produced in these area.⁴² The PDO regulation strongly emphasizes the interaction between a physical and biological environment, and human factors such as skills and traditions.⁴³ PDOs testify to very specific characteristics of production and are a strong guarantee of quality. Thus, the

³⁸ Bagal, *supra* note 14.

³⁹ EUR. COMM'N, *supra* note 6.

⁴⁰ *Id.*

⁴¹ Institut National de l'Origine et de la Qualité, *Les Signes de Qualité*, <https://www.inao.gouv.fr/institut-national-de-l-origine-et-de-la-qualite> (last visited Oct. 28, 2022).

⁴² *Id.*

⁴³ *Id.*

mandatory requirements associated with their use are strict and constraining. On the contrary, PGIs identify products whose quality and reputation are linked to a geographic origin. The concept of terroir does not apply in the context of PGIs. Their only requirement is that from the harvest of the grape to the making of the wine, all operations must have taken place in the same geographic area.⁴⁴ As the concept of terroir does not apply to PGIs, the production specifications are not as stringent as those for PDOs. Still, matter from a legal standpoint, these two different GIs share the same protection.

ii. A Strong Protection

Public law offers wide protection to GIs, which are “protected against imitations and misuses” in the E.U.⁴⁵ If the registrant is European, the protection itself will be delivered by the member states through national institutions. The member states have the right to “prevent and stop the unlawful production or marketing of products using such a name.”⁴⁶ According to E.U. regulations, “a GI must comply with a series of technical specifications in order to benefit from protection.”⁴⁷ Technical specifications will guarantee the product’s high level of quality and are further accompanied by a control structure to ensure their implementation.⁴⁸ This high-quality threshold and requirements are the main rationales for the very strong protection from which E.U. GIs benefit.

Thus, the scope of protection is very wide. E.U. GI names are not only protected against “unauthorized uses in the same category of products but also against any commercial use likely to divert or weaken the renown” of the GI.⁴⁹ In compliance with this strong protection, the name, e.g., *Champagne* (a PDO), cannot be used as the name of, e.g., a perfume, as held by the Paris Appellate Court.⁵⁰ It is also important to note that once a GI is indexed in the European Union’s register, it acquires protection in every member state of the European Union.

⁴⁴ *Id.*

⁴⁵ EUR. COMM’N, *supra* note 6.

⁴⁶ *Id.*

⁴⁷ Christophe Charlier, *supra* note 13.

⁴⁸ *Id.*

⁴⁹ Justin Hughes, *Champagne, Feta, and Bourbon: The Spirited Debate about Geographical Indications*, 58 HASTINGS L. J. 299, 308 (2006).

⁵⁰ *Id.* at 347-48.

2. *The Maze of the American Wine GI Protection*

The American GI protection system is highly trademark oriented; the United States Patent and Trademark Office (USPTO) states as a reminder that TRIPS does not require member states to implement an independent GI protection system.⁵¹ This freedom allows the United States to develop their protection of Geographical Indications through the preexisting scope of their trademark scheme. Nonetheless, GIs remain a specific category of trademark and are subject to diverse adaptations, especially in the case of wine.

i. The Lanham Act and the Regulations on Generic Names

The American GI system is part of the U.S. trademark system, standardized by the Lanham Act under the institutional authority of the USPTO.⁵² GIs are often registered under a specific category deriving from trademarks, namely, certification marks.⁵³ These marks bear two special characteristics. First and foremost, they obey the “anti-use-by owner” rule, which means that they must be used and managed by one institution, often state governed.⁵⁴ The certifying entity will set the standards attached to the use of the certification mark. Certification marks are then used by others, mainly economic operators. In the case of wine production, these could be vintners and distributors.⁵⁵ Mark registration can also be recognized through common law, as it was held in *INAO v. Forman Corp.*⁵⁶ Additionally, protection for GIs can also be granted through collective marks, defined in section 45 of the Lanham Act to be used by the members of a cooperative or other collective group.⁵⁷ The collective must show “bona fide” intention to use the mark in commerce and apply to register on the Principal Register established by the

⁵¹ *Geographical Indications*, USPTO, <https://www.uspto.gov/ip-policy/trademark-policy/geographical-indications> (last visited Dec. 17, 2022).

⁵² Andrew M. Reeves, *Protecting Our Barefoots: Policy Problems in the International Wine Market*, 27 ARIZ. J. INT'L & COMP. L. 835, 837 (2010).

⁵³ *Id.*

⁵⁴ D. Peter Harvey, *Geographical Indications: The United States' Perspective*, THE TRADEMARK REP. 960, 967 (2017).

⁵⁵ *Id.* at 846.

⁵⁶ Hughes, *supra* note 49, at 310.

⁵⁷ Harvey, *supra* note 54, at 974.

Lanham Act, including marks indicating membership in a union, an association, or other organization.⁵⁸ These certifications are subject to very few constraints.⁵⁹

Wine GIs are also classified by the Bureau of Alcohol, Tobacco, Firearms and Explosives (BATF) according to four categories, the most important being the semi-generics and non-generics.⁶⁰ Semi-generics have crystallized all tensions between the E.U. and the United States, e.g., American vintners are allowed to label their productions if it “appears in direct conjunction therewith an appropriate appellation of origin disclosing the true place of origin of the wine, and if the wine so designated conforms to the standard of identity.”⁶¹ Although the 2006 Agreement put an end to the issuance of new labels using semi-generic names, owners of these labels from before 2006 are still allowed to use them in commerce.

ii. The American Viticultural Areas, a Scent of Europe

AVAs are specific GIs offered to wines in the U.S. The Alcohol and Tobacco Tax and Trade Bureau (TTB) defines the AVA as “a delimited grape-growing region having distinguishing features as described in and a name and a delineated boundary.”⁶² For a wine to be granted a label with a viticultural area appellation, the latter must positively answer several formalities. The most important requirement is that “no less than 85 percent of the wine is derived from grapes grown within the boundaries of the viticultural area”⁶³ and that “it has been fully finished within the State, or one of the States, within which the labeled viticultural area is located.”⁶⁴ AVAs are indexed in a federal register.⁶⁵

⁵⁸ *Id.*

⁵⁹ State and county GIs only require that not less than 75 percent of the wine must be derived from fruit or agricultural products (as applicable) grown in the named county or state.

⁶⁰ Reeves, *supra* note 52, at 842-43.

⁶¹ *Id.* at 843.

⁶² Appellations of Origin, 27 C.F.R. § 4.25(e)(1)(i) (2023), <https://www.ecfr.gov/current/title-27/chapter-I/subchapter-A/part-4/subpart-C/>.

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ TTB, TTBGov - Established AVAs, <https://www.ttb.gov/wine/established-avas> (last visited Mar. 10, 2023)

C. *The 2006 Agreement on Wine Trade and Protection Between the United States and the European Union*

The United States and the European Union have very different conceptions of GI protection. Their diverging views have not yet found conciliation in the TRIPS agreement. Nonetheless, outside the scope of the WTO, a bilateral agreement was signed in 2006 between the two rivals, known as the “Agreement between the United States of America and the European Community on Trade in Wine.”⁶⁶ The agreement comes as an attempt to find a middle ground, but it has multiple weaknesses and limitations. The first of these limitations is the grandfather clause, leaving 16 so-called “semi-generics” subject to misuse. The other issue lies in the lack of clarity offered by the concomitance of two labeling systems as well as the absence of a common registration system.

1. *The Agreement’s Provisions*

i. The Semi-generics

Semi-generics are at the heart of the clash between the U.S. and the E.U. Before 2006, E.U. GIs listed as generic in the United States were deprived of any protection when entering the U.S. market. To find a remedy to this issue, the U.S. agreed to change the status of 16 so-called generics into “semi-generics.”⁶⁷ Article 6 of Title III of the Agreement requires “the United States . . . [to] change the legal status of the terms in Annex II [semi-generics] to restrict the use of the terms on wine labels solely to wine originating in the Community.”⁶⁸ Wines not conforming to this requirement would thus be blocked from the market. Yet although this provision reflects an intention to protect European GIs, it is strongly limited by the existence of a grandfather clause.⁶⁹ As already seen in TRIPS Article 24, the Agreement also notes that the reclassification of the 16 discussed names would have no effect “where such use has occurred in the United States before December 13, 2005, or the date of signature of this Agreement, whichever is later.”⁷⁰

⁶⁶ Brian Rose, *No More Whining About Geographical Indications: Assessing the 2005 Agreement Between the United States and the European Community on the Trade in Wine*, 29:3 HOUS. INT’L L. 731, 759 (2007).

⁶⁷ *Id.* at 760.

⁶⁸ Agreement Between the United States of America and the European Community on Trade in Wine, tit. III (hereinafter U.S.-E.U. Wine Agreement), art. 6(1), Mar. 10, 2006, T.I.A.S. No. 06-310.1.

⁶⁹ *Id.*

⁷⁰ *Id.* at art. 6(2).

The question of how to protect the E.U. GIs' names, despite the U.S.' generics rule, finds another solution in Article 7 of the Agreement. The Article provides that "certain names may be used as names of origin for wine only to designate wines of the origin indicated by such a name, and shall include (...) those listed in Annex IV, Part A, names of quality wines produced in specified regions and names of table wines with geographic indications, and (...) names of Member States."⁷¹ The names included in this section are not inherently distinctive according to BATF regulation. Nonetheless, such names are granted protection and are prevented from becoming generic.⁷² Thus, the Agreement shields additional GIs from becoming generics. This section is mainly directed towards PGIs, which are classified according to areas of production and do not involve the concept of terroir as applied to PDOs. Some of these PGIs enjoy names with debatable distinctiveness, like the striking examples of the French PGIs "Méditerranée"⁷³ and "Atlantique."⁷⁴

Both of these concessions from the U.S. come with E.U. counterweights. Specifically, the E.U. has offered an equivalent treatment for AVAs. By limiting the scope of protection for each other's GIs and by listing them, both parties walk away from creating a systemic protection scheme.

ii. The Mutual Recognition of Two Different Labeling Systems

The question of labeling regulations is addressed in Article 8 of the Agreement.⁷⁵ The first paragraph is only a restatement of the TRIPS requirement that requires labels to "not contain false or misleading information in particular as to character, composition or origin."⁷⁶ The article recognizes the labeling system of each party as sufficient in the other market. The agreement also offers "a list of approved vine variety names that may appear on a wine label, which enables the listing of a single variety so long as 75% of the wine is produced from grapes of that variety."⁷⁷ Finally, the agreement prevents both parties from requiring "processes,

⁷¹ *Id.* at art. 7(1).

⁷² Rose, *supra* note 66, at 761 (2007).

⁷³ VIN DE L'ATLANTIQUE, <https://www.vinsigpatlantique.fr> (last visited Nov. 14, 2022).

⁷⁴ INTER-MED FEDERATION, <https://www.igpmed.fr/> (last visited Nov. 14, 2022).

⁷⁵ US-EU Wine Agreement, *supra* note 63, at art. 8.

⁷⁶ *Id.*

⁷⁷ Rose, *supra* note 66, at 762.

treatments or techniques used in winemaking [to] be identified on the label.”⁷⁸ This final provision clearly favors producers applying the lower quality standards of production, i.e., American wine producers. The real and hidden victim of these labeling provisions is the average consumer who will be misled by the partial overlap between the parallel labeling systems.

2. *An Unbalanced Agreement Failing to Implement a Shared System of Protection and Recognition*

i. *An Agreement Largely in Favour of the American Producers*

Looking at the limited progress the European Union has made towards the protection of its wine GIs on U.S. territory, the concessions it has made cause the 2006 Agreement to largely favor the U.S. The most significant concession made by the E.U. is the final acceptance of U.S. oenological practices. Indeed, the thresholds and requirements in wine making are very different in the U.S. and the E.U. Practices such as the addition of sugar or water are strictly forbidden in Europe while they are widespread in the U.S.⁷⁹ By acknowledging the U.S.’ practices, the E.U. in return gains the status modification of the 16 semi-generics.⁸⁰

Furthermore, the change in the status of the 16 European semi-generic GI names has multiple limitations. As previously shown, the grandfather clause in Article 6 § 2 allows preexisting trademarks using a semi-generic term to keep their right despite the new agreement. In this regard, the agreement does not differ from the TRIPS provision and the exceptions granted by article 24.⁸¹ The protection of the “names of origin” (which correspond to the PGI) provided by Article 7 is also heavily flawed. Certainly, it is not granted through intellectual property rights but through labeling regulation.⁸² The level of protection is inferior to the prescriptions of TRIPS Article 22 which “recognize the PGIs as an autonomous IP right, to be protected as such”.⁸³ Nevertheless, the American position is far from unreasonable

⁷⁸ U.S.-E.U. Wine Agreement, *supra* note 62, at art. 8(3).

⁷⁹ Catherine Bioteau, *Aux Etats-Unis L’Art de Changer l’Eau en Vin*, REUSSIRVIGNE (Dec. 9, 2005), <https://www.reussir.fr/vigne/lart-de-changer-leau-en-vin>.

⁸⁰ M. Philippe-Armand Martin, *supra* note 11.

⁸¹ *Id.*

⁸² *Id.* at 14.

⁸³ *Id.*

regarding its own economic position as recognizing and protecting European GIs in their entirety would jeopardize the interests of U.S. trademark owners.

ii. The Need for a Bilateral Register

After studying the 2006 Agreement and highlighting its limits, the dominating sentiment is that it is not sufficiently comprehensive. As the above analysis has shown, it remains a delusion to believe that both parties could agree on abandoning their vision regarding the protection of wine GIs. Nonetheless, one can advocate for a solution offering protection to GIs under the scope of a common scheme ruling over the two different systems. This shared foundation could take place in the form of a bilateral register. The registered GIs would benefit from a presumption of protection in both systems.⁸⁴ There would no longer be a question over which GIs are protected and which GIs, according to the specificities of each parties' production, are exempted from this presumption. The register should come with an opposition procedure, allowing economic actors and name users to assert the generic character of certain denominations.⁸⁵ This opposition procedure could be the counterweight required to obtain the U.S.' cooperation.

The first benefit of the register would concern the names of origin not stated by the 2006 Agreement. While most of the E.U. and U.S. names of origins are already enumerated under the 2006 Agreement, the names of origins not considered by the 2006 provisions would, upon registration, benefit from a presumption of eligibility for GI protection. Thus, in the case of litigation, the burden of proof would lie with the challenger of a given trademark. The second benefit of the register would affect all names of origin: the register would "offer timely information" allowing public administrations "not to grant registration to trademarks misusing a GI."⁸⁶ The logical result of this source of information for trademark offices would be the diminishment of litigations.⁸⁷

⁸⁴ Ngo, *supra* note 33, at 119.

⁸⁵ *Id.* at 120.

⁸⁶ Daniel C.K Chow & Edward Lee, *INTERNATIONAL INTELLECTUAL PROPERTY: PROBLEMS, CASES AND MATERIALS*, at 809 (4th ed. 2021).

⁸⁷ *Id.*

II

**REDRAFTING THE 2006 BILATERAL AGREEMENT ON WINE TRADE AND GIS
PROTECTION IN THE SEARCH FOR COMPROMISES**

As developed in Part I, GIs regulated by the European Union benefit from a low level of protection in the U.S. market. The 2006 Agreement attempts to find elements that could convince the U.S. to engage further in GI protection. The E.U.'s key focus follows the previously identified failures of the 2006 Agreement: its priority should be the suppression of the grandfather clause for the 16 semi-generics and the creation of a bilateral register recognizing the GIs under the provision of TRIPS. Only by loosening its very strong views and prioritizing its most valuable GIs can the E.U. succeed in this negotiation process. The United States cannot realistically be asked by the E.U. to overturn its entire system, as the result for the U.S. would be to endanger the rights of trademark owners with few benefits offered by the E.U. in return.

A. The Proposed New Articles Modifying the 2006 Bilateral Agreement on Wine Trade and GI Protection

The following three articles are developed to recognize the AVAs as PGIs under E.U. law as well as to create a new bilateral register held by the two powers. Finally, a solution to the semi-generics issue is found.

Article 1

Under this agreement, all American Viticultural Areas (AVAs) are recognized as equivalent to E.U. Protected Geographic Indications.

As such AVAs can use the PGI's logo on both E.U. and U.S. markets.

As such AVAs benefit from the same level of protection on the E.U. market as the one offered to E.U. PGIs.

Article 2

The modification of Certificates of Label Approval (COLAs) containing mention of one of the 16 semi-generics: Angelica, Burgundy, Claret, Chablis, Champagne, Chianti, Malaga, Marsala, Madeira, Moselle,

Port, Rhine, Sauternes, Haut-Sauternes, Sherry, and Toka shall be stopped.

All applications for the modification of COLAs issued before this agreement enters into force shall be declined by the TTB. Application for additions and removals of any mentions on the label, and any other modifications of previously authorized labels shall be turned down.

Article 3

This agreement engages both parties in the creation of a bilateral register for Geographical Indications, indexing both the AVAs and the E.U. PGIs and PDOs.

PGIs and AVAs will acquire the status of Geographical Indications under the definition of TRIPS Article 22 and benefit from no level of protection inferior to the one prescribed by said article.

PDOs and any American GIs justifying of an extreme level of quality control shall be protected as wine GIs under the definition of TRIPS Article 23 and benefit from the level of protection prescribed by said article.

The protection of the registered GIs is subject to the exceptions of TRIPS Article 24.

Both parties to this register benefit from veto power and can contest registrations on the three following grounds: absence of protection in the country of origin, genericness, or misleading nature of a GI.

Each party shall contribute to the register's expenses proportionally to the number of GIs they own.

B. *Explanations of the Provisions*

As the 2006 Agreement on Wine Trade proves, the protection of European wine GIs can only come through a long process of concessions and bargaining.⁸⁸ The three newly drafted Articles shall be added in a redraft of the bilateral agreement on wine trade between the E.U. and the U.S. They pair elements from the two systems that would promote new efforts from the U.S. to protect E.U. wine GIs, such as in the case of semi-generics and the creation of a bilateral register. While in 2006 the E.U. bargained the protection of the generic wines in exchange for the acknowledgement of the U.S.' viticultural practices, it is now the marriage between AVAs and PGIs that is being used as a bait.

1. *The European Compromises*

The compromises of the E.U. consist of offering the PGI status to the AVAs as well as agreeing on a limited level of protection for E.U. PGIs in the U.S.

i. The Recognition of AVAs as Protected Geographical Indications, Generalizing the Napa Valley Example

The AVA resembles the E.U. PGI. The former is described by the TTB as a “delimited grape growing region with specific geographic or climatic features that distinguish the wine from others,” and therefore could easily fit into the European GI system.⁸⁹ The main limit of AVAs lies in the absence of a statutory quality threshold on the wine making process itself.⁹⁰ If the areas of production are precisely defined, no common wine making practices are attached to their use. On the one hand, the AVA is, at first glance, closer to a strict geographic classification tool than a guarantee of quality. On the other hand, the PGI is subject to common regulations on winemaking.⁹¹

Success and freshly acquired renown have driven AVAs producers towards better winemaking processes. In doing so, they are slowly closing the gap between

⁸⁸ IGP MEDITERRANEE, 10 ANS DE RECONNAISSANCE DE NOS VINS EN IGP (2019) http://www.igpmed.fr/sites/igpmed/files/upload/bilan_10ans_igp_vdef.pdf.

⁸⁹ Azzedine Chaouch, et al., *Les Vins Californiens en Quête d'Une Image Territoriale*, GEOCONFLUENCE, (June 11, 2007).

⁹⁰ *Id.*

⁹¹ Direction Générale de la Concurrence, de la Consommation, et de la Répression des Fraudes, *Les Cahiers des Charges des Appellations d'Origines Viticoles Françaises*, <https://www.economie.gouv.fr/dgccrf/les-cahiers-des-charges-des-appellations-viticoles-francaises> (last visited Feb. 6, 2023).

U.S. and E.U. standards and this new search for quality was also triggered by the competition of the other “new world” countries.⁹² The likes of Australia, New Zealand, and Chile can market wines at prices difficult to challenge. Instead of competing with the “new world” wines on price, American vintners have tended to increase the quality of their wines to differentiate their products from competitors.⁹³ Family-sized producers, i.e., “cottage wineries,” lead the rise in organoleptic standards in the U.S.⁹⁴ This march towards quality found its turning point in the California Supreme Court decision *Bronco Wine Company v. Jolly*.⁹⁵ The court ruled in favor of Napa Valley Vintners, an association of small winemakers, in their suit against a wine conglomerate for fraudulently and deceptively using the Napa Valley name.⁹⁶ In their ruling, the judges affirmed that the appropriate use of an AVA is not only necessary for consumer protection but also to protect the label itself and the quality it stands for.⁹⁷

The will to take AVAs down a quality-oriented path finds means of expression through lobby groups such as Wine Origins Alliance.⁹⁸ The group describes itself as a unified force in the global industry working to “eliminate lack of protection for wine region names.”⁹⁹ The lobby, created in the U.S., counts in its rank the most prestigious AVAs in the country.¹⁰⁰ However, the E.U. has not been left out in the cold by this American shift in perspective. In 2007, the E.U. granted the PGI label

⁹² Chaouch et al., *supra* note 89.

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ See *Bronco Wine Co. v. Jolly*, 95 P.3d 422 (Cal. 2004).

⁹⁶ *Id.* at 448, n.58 (explaining that the industrials failed to meet the requirement that at least 85% of the wine’s grapes were grown in the claimed viticultural area).

⁹⁷ *Id.* at 457 (“California is recognized as a preeminent producer of wine, and the geographic source of its wines — reflecting the attributes of distinctive locales, particularly Napa Valley — forms a very significant basis upon which consumers worldwide evaluate expected quality when making a purchase. We do not find it surprising that Congress, in its effort to provide minimum standards for wine labels, would not foreclose a state with particular expertise and interest from providing stricter protection for consumers in order to ensure the integrity of its wine industry.”).

⁹⁸ *Wine Region Names*, WINE ORIGINS ALLIANCE, <https://www.origins.wine/wine-region-names> (last visited Feb. 6, 2023).

⁹⁹ *Wine Origins History*, WINE ORIGINS ALLIANCE, <https://www.origins.wine/history> (last visited Feb. 6, 2023).

¹⁰⁰ *Id.*

to Napa Valley, the first AVA to be granted the label and the protection that comes with it.¹⁰¹ In July 2021, the Willamette Valley in Oregon was registered as well.¹⁰²

For the purposes of harmonizing GI regulatory systems, it appears that the E.U. could generalize its registration and protection of AVAs. If AVAs and PGIs were to be merged, they could turn into a valuable tool in unifying the E.U. and U.S. systems. This would nonetheless come at a price for the E.U.: As the quality of AVAs is inconsistent, some would argue that such a marriage would damage the credibility of the E.U. PGI.¹⁰³ Finally, in favor of this provision is the fact that the E.U. has already recognized American viticultural practices and that these wines are already present on the E.U. market. Moreover, it could be argued that the freedom which U.S. producers enjoy in the winemaking process is part of a product's DNA and should not presume lower quality.

ii. Sacrificing Protected Geographical Information

In 2009, the European Commission reformed the wine sector to offer greater protection to winemakers. As part of the reform, the Commission created the wine PGI. At this time, wine PDOs were already protected under E.U. law, but a large portion of the wines put on the market were protected and managed nationally. The reform was addressed to wines whose names of origin were not protected under the European scheme.¹⁰⁴ Wine PGIs owe their creation to the need to fill the gap left by the rigid Designation of Origin system.

As previously discussed, the PGI system is subject to a lower threshold of quality and controls in comparison to those observed by PDOs.¹⁰⁵ The second-class nature of PGIs makes the justification for high standards of protection difficult. The naming of several PGIs is also questionable. The geographic areas covered by PGIs are wider than that covered by PDOs. Hence, the E.U. recognized the

¹⁰¹ *WV in the EU*, OR. WINE PRESS (Aug. 1, 2021), <https://www.oregonwinepress.com/wv-in-the-eu>. (last visited Feb. 6, 2023).

¹⁰² *Id.*

¹⁰³ RENEE JOHNSON, CONG. RSCH. SERV., R44556, GEOGRAPHICAL INDICATIONS (GIs) IN U.S. FOOD AND AGRICULTURAL TRADE 18 (2017).

¹⁰⁴ Council Regulation 510/2006, 2006 O.J. (L 93) 12, 13.

¹⁰⁵ The most striking example is the authorized Hectoliter per Hectare ratio. The PDO ratio generally averages 50 hecto/hectare, whereas for PGIs this ratio goes up to 150 hecto/hectare. The higher the ratio, the more diluted the wine; the more diluted the wine, the lower the quality.

likes of “Méditerranée”¹⁰⁶ or “Atlantique”¹⁰⁷ as valid. PGI names like these directly conflict with the American concept of fair use. Battling for higher levels of protection for PGIs seems to be a lost cause. How could the E.U. both properly and efficiently prevent American winemakers from making fair use of names as broad and common as the ones stated above? The economic performance of the PGIs also pleads for its sacrifice on the altar of consensus. For example, in France, the volume of wine exports during 2018 under PGIs was half the volume of wine exports under PDOs.¹⁰⁸

Because they bear a lower quality threshold, because some of their names are hardly protectable and because they contribute less to the total exportation value of E.U. wines, it is justified for PGIs to suffer the downshift in value resulting from their merger with AVAs. For the same reasons the minimum level of protection sought by the E.U. for its PGIs on the U.S. market would be inferior to the one of PDOs.

2. *The American Compromises*

The American compromises consist of further restrictions on the use of E.U. semi-generic GIs and on participating in a bilateral GI register.

i. The Exhaustion of the Grandfather Clause for the 16 E.U. Wines Recognized as Semi-Generics

The 2006 Agreement offered to stop the usurpation of 16 “semi-generic” GIs. While the flood of deceptive COLAs was partially stopped, the Agreement had no effect on the labels previously registered.¹⁰⁹ The grandfather clause made it impossible for the E.U. to track down labels they issued to brands before signing the Agreement. This is how, ten years after the signing of the 2006 Agreement, Donald Trump celebrated his success in the 2016 General Election with Californian

¹⁰⁶ See FEDERATION INTER-MED, *Territoire*, <https://www.igpmed.fr/territoire> (last visited Jan. 30, 2023).

¹⁰⁷ See SYNDICAT DES PRODUCTEURS DE VIN DE PAYS DE L'ATLANTIQUE, *IGP Atlantique* (accessed Jan. 30, 2023), <https://www.vinsigpatlantique.fr/>.

¹⁰⁸ FranceAgriMer, *Les chiffres de la filière viti-vinicole, données statistiques 2008/2018*, (Dec. 10, 2019).

¹⁰⁹ Labeling authorization issued in the United States by the TTB; see ALCOHOL AND TOBACCO TAX AND TRADE BUREAU, *Certification/Exemption of Label/Bottle Approval (COLA)*, TTB (May 12, 2022), <https://www.ttb.gov/alfd/certificate-of-label-approval-cola>.

Champagne.¹¹⁰ The suppression of the grandfather clause is an indispensable step for semi-generic PDOs to regain control over their name and image.¹¹¹ The reason semi-generics are so important is because of their fame, quality, and export value.¹¹² In addition, they bear symbolic importance in the global battle for recognition of the E.U. GI system.

By suppressing the grandfather clause, the redrafted agreement will put an end to the remaining use of the generic names through COLAs issued before the 2006 Agreement. As it stands, the mention of one of the 16 E.U. semi-generics is still possible if attached to a trademark where the COLA was delivered before 2006, and if the fanciful words accompanying the trademark are still attached. This means that a wine maker who continued to use the same trademark and the same fanciful words on its labels will never face any of the effects of the 2006 Agreement.^{113, 114} As it stands, only the trademark and the fanciful word modification can lead to the loss of rights when using the semi-generic. Any other modification of the label is tolerated. This agreement proposes that any modification of the wine label itself, whether it be the alcohol percentage, the variety of grape used, the vintage of the bottle, or any other specification on the label, would prevent the issuance of a new COLA using the semi-generic. This modification would slowly dry out the use of the 16 semi-generics for American-made wine labels. The solution offers the advantage of being progressive and consequently not too aggressive. The American winemaker will be able to use the already issued COLAs as long as they want. The impracticability of modifying the labels will make them obsolete and lead to their natural abandonment.

¹¹⁰ Chris Mercer, *Here's the Wines on Trump's Inauguration Lunch Menu*, DECANTER (Jan. 20, 2017), <https://www.decanter.com/wine-news/trump-inauguration-menu-wines-353341/>.

¹¹¹ Caroline Le Goffic, *Les règles Internationales de Protection des Indications Géographiques Viticoles: Perspectives Passées, Présentes et Futures*, TERRITOIRES DU VIN (Dec. 15, 2021), <http://preo.u-bourgogne.fr/territoiresduvin/index.php?id=2097>.

¹¹² In 2021, France exported wine worth EUR 15.5 billion, with the Champagne and Burgundy PDOs comprising one third of the total exports; Champagne accounted for 3.5 billion euros, and Burgundy accounted for just under EUR 1.3 billion. Alice Liang, *French wine export hit new high in 2021*, DRINKS BUSINESS (Feb. 23, 2022), <https://www.thedrinksbusiness.com/2022/02/french-wine-export-hit-new-high-in-2021/>.

¹¹³ Le Goffic, *supra* note 111.

¹¹⁴ E.g., an American winemaker who was issued a COLA for a wine labeled “Taylor Subtle Chablis” can use the semi-generic for as long as the trademark (Taylor) and the fanciful name (Subtle) are present on the label; the present redraft is designed to address this loophole. *See* Le Goffic, *supra* note 111.

ii. Taking Part in the Creation of a Bilateral Register for Wine GIs

The U.S. has always rejected the E.U.'s maximalist registration approach with a simple notification system.¹¹⁵ This article proposes a bilateral registration system for the wine GIs of both the E.U. and the U.S., with levels of protection depending on the GIs quality thresholds. AVAs and PGIs will be presumed to be Geographical Indications, as defined by the TRIPS Agreement Article 22(1).¹¹⁶ As such they should benefit from a level of protection at least as high as the one prescribed by the same article.¹¹⁷ Only the GIs registered as PDOs, and potential American names of origin subject to the same high-quality requirements, would benefit from the protection granted by TRIPS Article 23.¹¹⁸ All registered GIs would be protected under the GIs IP rights as defined by TRIPS and no longer through the scope of the labeling system.¹¹⁹ The register would be implemented in compliance with all exceptions offered by TRIPS Article 24.

The proposed register has been inspired by a proposal of the E.U. in the context of the Doha round of negotiation in June 2005.¹²⁰ In an attempt to create an international register for wine GIs, the E.U. proposed a register based on a "rebuttable presumption".¹²¹ The proposal in this article follows a similar way of thinking. If a party has good grounds to oppose a registration, the registration could be denied. The grounds to oppose registration would come in the form of the absence of protection in the country of origin, genericness, or the misleading nature of a GI.¹²² The greater protection offered to GIs by the register requires a balancing power in the form of a veto power. To operate, the register will not need to set rules for GIs' registrations. As described above, requirements differ drastically between the U.S. and the E.U. Thus, according to this agreement, both parties will recognize

¹¹⁵ Chow & Lee, *supra* note 86.

¹¹⁶ TRIPS Agreement, *supra* note 15, at 328 (defines "geographical indications" as: "Indications which identify a good as originating in the territory of a [WTO] Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.")

¹¹⁷ WORLD TRADE ORGANIZATION, *TRIPS: GEOGRAPHICAL INDICATIONS: Background* (Nov. 2008) https://www.wto.org/english/tratop_e/trips_e/gi_background_e.htm.

¹¹⁸ See TRIPS Agreement, *supra* note 15, at 329 ("Additional Protection for Geographical Indications for Wines and Spirits," stating that GIs are protected even in the absence of deception risks for the consumers).

¹¹⁹ M. Philippe-Armand Martin, *supra* note 11.

¹²⁰ WORLD TRADE ORGANIZATION, *supra* note 117.

¹²¹ *Id.*

¹²² Chow & Lee, *supra* note 86, at 805.

each other's GI issuance system. The register will not assess the registrability of the candidates but recognize the registration made through both systems.

Opponents to a multilateral register on the international scene have often argued that the administrative and logistic cost of such an enterprise would be too high and unmanageable.¹²³ The present article proposes allowing each party to contribute to a level equal to the portion of registered GIs they own. Evidently, the E.U. would at first have a higher number of registered GIs and therefore bear most of the running costs. Finally, the E.U. would make available its PGI's and PDO's logo to the registered GIs according to their level of quality.

C. Reasons to Adopt the Provisions

The reasons to even partially adopt this proposal are mainly economic in nature. The register is a source of transparency, offering stability and certainty to all the economic actors concerned. The adoption of the PGI logo by the AVAs is beneficial for both the winemakers and the consumers. Winemakers are offered the possibility to assert the quality of their products while consumers benefit from an easy way to identify quality as they seek to make informed consumption choices.

1. A Common Register Synonym for Transparency

For E.U. GIs, the common register equals certainty of protection and definite recognition. The money spent on U.S. litigation to defend GIs could be spent elsewhere in the interest of the vintners themselves. For example, every year the share of the budget allocated to the defense of the PDO Champagne by its management and defense organism reaches approximately EUR 2,000,000.¹²⁴ This is as much money as could go towards other expenses, like research in greener methods of production.

For American vintners, it is in the interest of the registrant to have a public register that clarifies the registration process. The U.S. has long viewed the E.U. GI

¹²³ Dorothée Franjus-Guigues, *Nature et Protection Juridiques des Indications Géographiques l'Avènement d'un Droit à l'Épreuve de sa Mise en Œuvre* (May 19, 2012), <https://www.theses.fr/2012AIXM1017.pdf> (Doctorat - Droit Prive, Aix-Marseille Université Faculté de Droit et de Sciences Politiques d'Aix-Marseille).

¹²⁴ Alexandre Abella, *Appellation Champagne: une défense à 2 millions d'euros pour l'interprofession*, VITISHPERE (Feb. 12, 2013), <https://www.vitisphere.com/actualite-61051-appellation-champagne-une-defense-a-2-millions-deuros-pour-linterprofession.html>

registration process as a vague institution whose bureaucratic delays are nothing but a half-concealed way to exert discrimination against foreign GIs willing to be registered in the E.U.¹²⁵ With a common register, the rules are clear: All actors in the sector know what to do to access the level of protection they seek. By making the rules clear, the register can influence U.S. vintners to continue their efforts towards better quality and greater identification of the wine within their zone of production.

2. *A Common Logo System for Consumer Protection*

In the wine market, consumers face an incredible number of variables when selecting a product. The color of the wine, the variety of the grapes, the brand, the alcohol percentage, U.S. AVAs, European PGIs and PDOs, and, of course, prices are all important considerations for the average consumer when making their purchase. All these variables complicate the decision-making process and limit the certainty over which product to purchase.

With a common logo system, the consumer is freed from one of many concerns: the wine's origin. The logo associated with the PGI or PDO offers the consumer the certainty that the name of origin labeled on the bottle is indeed the region where the wine has been produced. Additionally, the logo offers the guarantee of a certain level of quality. Overall, logos are important markers that reduce the uncertainty of the wine market.¹²⁶ According to the lobby group Wine Origins, the market is in need of such markers: "GIs respond to new trends in consumer demand, including the growth in a 'foodie' culture; a consumer-driven interest in wine education; the search for food with a story and a greater demand for regional products."¹²⁷

3. *Opportunity for American Viticultural Areas to Further Penetrate the European Market*

As the E.U. ambassador to the United States explained to the Willamette Valley Winemakers, "as a registered Protected Geographical Indication, the

¹²⁵ See JOHNSON, *supra* note 103.

¹²⁶ Roland Herrmann, *The Socio-Economics of Geographical Indications* at WIPO Worldwide Symposium on Geographical Indications (June 23-23, 2011), https://www.wipo.int/edocs/mdocs/geoind/en/wipo_geo_lim_11/wipo_geo_lim_11_8.pdf

¹²⁷ JOHNSON, *supra* note 103 (quoting N. Potenza Denis, *Industry Speaks Up as GI Talks Continue in DC*, SPECIALTY FOOD NEWS (June 5, 2014)).

Willamette Valley name is secured throughout the E.U. market of 27 countries counting 450 million consumers. Any operator seeking to sell non-originating wine using the registered Oregon name or using labeling devices to evoke ‘Willamette Valley’ in the mind of the consumer, will be stopped.”¹²⁸ PGIs not only offer the product a guarantee of security when operating on the E.U. market but they are also a well-renowned GI whose aura and distinctiveness will attract the educated European consumer and dismiss doubts over the quality of American wine.

III

POTENTIAL CRITICISM OF THE PROPOSED REDRAFTED BILATERAL AGREEMENT

Two weaknesses potentially hinder the implementation of the proposed agreement. One threatens the very existence and survival of the bilateral agreement. The other, while minor, is related to the efficiency of the created tool. First, the Most Favored Nation (MFN) rule found in TRIPS makes the survival of bilateral agreements providing for special favors between two states very precarious. The absence of a clear international definition of wine as a product and its deceptive effect on consumers raises additional uncertainty.

A. The Most Favored Nation Principle: A Sword of Damocles Hanging Over the Agreement

Although the MFN principle will raise concerns, they will be brushed away after its actual implementation has been studied.

1. The Clash Between the Most Favored Nation and IP Bilateral Agreements

The WTO defines the MFN as a tool granting equality to the WTO members on the global market.¹²⁹ Article 4 of the TRIPS agreement offers an intellectual property focused definition of the concept. The MFN provides that “any advantage, favor, privilege or immunity granted by a Member to the nationals of any other

¹²⁸ Joseph v. Micallef, *Oregon’s Willamette Valley Receives Coveted European Union PGI Designation*, FORBES (Aug. 1, 2021 9:14 AM), <https://www.forbes.com/sites/joemicallef/2021/08/01/oregons-willamette-valley-receives-coveted-european-union-pgi-designation/?sh=3cd621936e8e> (quoting E.U. Ambassador to the U.S., Stavros Lambrinidis).

¹²⁹ *Principles of the Trading System*, WORLD TRADE ORGANIZATION, https://www.wto.org/english/thewto_e/whatis_e/tif_e/fact2_e.htm?msclkid=38e6096ab44911ecbad7f2d2f4e79b73 (last visited Jan. 26, 2023).

country shall be accorded immediately and unconditionally to the nationals of all other Members.”¹³⁰ The consequences of this provision are the following: A WTO member offering advantages to another WTO member in respect of the protection of its Geographical Indications would be obliged to offer the same level of protection to all other WTO members.¹³¹ If the provision is being followed strictly, all provisions found in a bilateral agreement between two WTO members should be, under the TRIPS MFN rule, extended to each WTO member.

The General Agreement on Tariffs and Trade (GATT), the cornerstone of the WTO scheme, recognizes exceptions to the MFN, the most important of them being “the possibility of member countries of the WTO forming regional agreements for preferential access.”¹³² This general exception to the MFN provided by Article XXIV of the GATT has no equivalent in the TRIPS agreement, where only very limited exceptions provided by Article 4 can be found. Therefore, a bilateral agreement between the U.S. and the E.U. remains under the threat of the Most Favored Nation principle. The French Senate Commission who reviewed the 2006 Agreement on Wine Trade was concerned by the MFN question at the time of it becoming a signatory.¹³³

2. *The Reassurance Offered by the Long and Serein Life of the 2006 Bilateral Agreement*

Despite the threat posed by the MFN, “more than 300 bilateral and multilateral free trade and partnership agreements have been concluded”¹³⁴ since 1994. The proliferation of bilateral agreements is the materialization of the slow decay, or “erosion”, of the MFN principle.¹³⁵ When focusing on the question of international protection and recognition of GIs, the same conclusion is seen with a significant

¹³⁰ WTO Analytical Index, TRIPS Agreement – Article 4 (Jurisprudence), WORLD TRADE ORGANIZATION, https://www.wto.org/english/res_e/publications_e/ai17_e/trips_art4_jur.pdf?msclkid=ba601ad0b44e11ecaa422312d2fc2e06 (last visited Jan. 26, 2023).

¹³¹ J.A.L. STERLING, *Part II. National, International, and Regional protection, Chapter 22. TRIPS Agreement*, in WORLD COPYRIGHT LAW (4TH ED.) (Trevor Cook ed., 2015).

¹³² Prabhash Ranjan, *Bilateralism, MFN, and TRIPS: Exploring Possibilities of Alternative Interpretation*, 13 INT’L TRADE L. & REG., 74 (2010).

¹³³ M. Philippe-Armand Martin, *supra* note 11.

¹³⁴ Djeri Oktafyan Wowilling, *Most Favoured Nation Obligation, Bilateral/Multilateral Agreement or WTO agreement and its supplementary*, UNIVERSITAS GADJAH MADA (2018).

¹³⁵ *Id.*

worldwide increase of bilateral agreements.¹³⁶ In the very specific GIs case, it is easy to identify the element triggering this reliance on the bilateral tool. Indeed, the undoubtable failure of TRIPS in the creation and adoption of an internationalized GI registration and protection scheme has favored the reliance on a more malleable tool. Logically, reducing the number of parties involved to two increases the likelihood of arriving at a comprehensive and mutually beneficial agreement.

This appeal for bilateral agreements in the context of GI protection has created an international web connecting all the major GI-owning countries through multiple ad hoc arrangements. The European Union alone has concluded “agreements on wines with Australia (1994, 2008), South Africa (1999, 2002), Chile (2002), Canada (2004); the USA (2005); Mexico (1997) and Switzerland (1999).”¹³⁷ With the multiplication of these GI agreements, a great number of countries see their economic interests being bound to their continued existence and implementation. Consequently, the challenges of these agreements to the WTO on the ground of an MFN Principal violation are almost nonexistent. This widely shared interest in the survival of the bilateral agreements on the protection of Geographical Indication explains the absence of challenges against the 2006 bilateral Agreement between the U.S. and the E.U. after almost 20 years of existence.¹³⁸ It also reinforces confidence over the sustainability and viability of the proposed bilateral agreement at the center of this article.

B. The Absence of an International Definition for Wine

The International Organization of Vine and Wine (OIV)¹³⁹ defines wine as “the beverage resulting exclusively from the partial or complete alcoholic fermentation of fresh grapes, whether crushed or not, or of grape must. Its actual alcohol content shall not be less than 8.5% vol. Nevertheless, considering

¹³⁶ Delphine Marie Vivien, Estelle Bienabe & Denis Sautier, *Bilateral Agreements for Geographical Indications: The Evaluation of the Local by the Local*, CONFERENCE PAPER (July 2013).

¹³⁷ *Id.*

¹³⁸ *Overview of the EU's active dispute settlement cases: WTO cases involving the EU as a complainant or respondent, cases under bilateral agreements, and cases under the Trade Barriers Regulation*, at 28, 42, <https://circabc.europa.eu/ui/group/7fc51410-46a1-4871-8979-20cce8df0896/library/a7faf6ef-3a86-487f-8e09-cb22a24826b4/details?download=true> (last visited Apr. 2, 2023).

¹³⁹ “The OIV is an intergovernmental organization of a scientific and technical nature of recognized competence for its works concerning vines, wine, wine-based beverages, table grapes, raisins and other vine-based products.”

climate, soil, vine variety, special qualitative factors, or traditions specific to certain vineyards, the minimum total alcohol content may be able to be reduced to 7% vol. by legislation particular to the region considered.”¹⁴⁰ This definition is the only international reference to grasp the technical nature of wine. There is no need to be a technical expert in the field to fathom how broad the definition is. An international code, published by the OIV, establishes all authorized winemaking practices. These very technical requirements are nevertheless not binding. Thus, in the U.S., Canada, and Australia alone, no less than 80 authorized winemaking practices violate the standards set by the OIV.¹⁴¹ In the absence of a definition as well as internationally recognized and regulated practices in the making of the wine itself, how could the proposed agreement offer any reassurance or certainty to the consumers vis-à-vis what they buy and consume as *wine*.

Wine, as a uniform product, does not exist, and labeling completely different wines under the same GI scheme risks greater confusion for the consumer. However, this view is the reflection of the old European mindset, deeming all different winemaking practices to be bad. Conversely, the very purpose of a GI is to allow the consumer to identify products whose quality is connected to the territory of production. Each territory of production has its own wine practices, which form an essential part of each wine’s very own identity. If indeed the GIs discussed in the proposed agreement are indicators of quality, they are above all the certification of the link between a wine and its area of production.

CONCLUSION

Although a bilateral agreement is far from the global solution the WTO seeks in solving the current blockage of wine GI protection, it nonetheless grants the U.S. and E.U. the opportunity to move towards a higher level of protection. A bilateral agreement offers the necessary flexibility to satisfy both actors and strengthen the protection of wine producers and consumers. GIs, long seen by the U.S. as a protectionist and trade disturbing tool, find a renewed attraction thanks to the proposals made by this article. Instead of trying to impose the European point of view in a country that has long rejected it, it offers new economic incentives to

¹⁴⁰ INT’L ORG. OF VINE & WINE, *International Code of Oenological Practice*, 3. Wines, 3.1 Basic Definition, <https://www.oiv.int/public/medias/3921/e-code-i-31.pdf> (last visited Apr. 6, 2022).

¹⁴¹ *International oenological practices*, VITISPHERE (Apr. 7, 2022), <https://www.vitisphere.com/actualite-76142-les-pratiques-oenologiques-internationales.html#>.

the reluctant party. Thus, this article shows that only dialogue and concessions can lead to progress in the better protection of Geographical Indications on a global market. This process, which was at the heart of all great WTO victories, seems to have been neglected by the different actors in the context of GIs.

NEW YORK UNIVERSITY
JOURNAL OF INTELLECTUAL PROPERTY
AND ENTERTAINMENT LAW

VOLUME 12

SPRING 2023

NUMBER 2

NON-FUNGIBLE TOKENS AND FAILED PROMISES OF
SIMPLE VIRTUAL OWNERSHIP

ANASTASIIA CHUVAIEVA*

This paper analyzes controversies surrounding Non-Fungible Tokens (NFTs) and tries to answer the question of how NFTs can revolutionize virtual ownership. To answer this question, part I of the paper analyzes the technical and legal nature of NFTs and the ways users utilize this technology. This part also discusses the legal ambiguity surrounding NFTs and users' misconceptions about the scope of rights they get with NFTs. Part II analyzes NFTs from the perspective of two communities: gaming and art. This perspective is noteworthy because both communities had a need to simplify ownership of intangibles. Still, while artists and art collectors have welcomed the dawn of NFTs rather warmly, gamers expressed concerns about NFTs' utility. To understand the contrast this paper investigates how NFTs are used in the art world and gaming and what needs NFTs serve to satisfy in both communities. As one of the possible explanations, this paper suggests that NFTs do not make digital ownership easy but only make transfers easy. Because of this, users who looked for easier transfers got what they needed, while users who aspired to get the real-world type of digital ownership through NFTs were discontented. Part III of the paper focuses on the rights that users (namely gamers) would want to have for digital property and discusses whether NFTs (under the current legal framework) can give these extra digital rights. Part IV suggests a list of legal reforms that can bring NFTs closer to their promises. Part V concludes the analyses by discussing the role of NFTs for virtual property.

* LL.M. 2022, Harvard Law School, M.A. in international law (2015), B.A. in commercial law (2014), Yaroslav Mudryi National Law University. Associate at Mitchell Silberberg & Knupp LLP. Attorney-at-law, admitted to practice in New York.

INTRODUCTION	305
I. WHAT ARE NFTS AND WHY DO WE BUY THEM?.....	307
A. <i>Defining the Technology</i>	307
B. <i>NFT-Timeline in Four Paragraphs</i>	308
C. <i>Why Do We Buy NFTs?</i>	309
D. <i>NFT Ambiguity</i>	311
E. <i>Did Users Get it All Wrong?</i>	313
II. TWO VIEWS ON NFTS: ART AND GAMING.....	314
A. <i>NFTs in Art</i>	314
B. <i>NFTs in Video Games</i>	321
III. VIRTUAL OWNERSHIP AND SOLUTIONS OFFERED BY TOKENS	325
A. <i>What Does it Mean to Own Virtually?</i>	325
B. <i>Pain Points of Digital Ownership</i>	329
1. <i>Limited or No Rights to Resell and Control the Asset</i>	330
2. <i>Terms of Use</i>	330
3. <i>No Property Guarantees</i>	331
C. <i>Do NFTs Bridge the Gap Between Digital and Physical Ownership?</i> ..	332
1. <i>Scarcity and Tangibility</i>	332
2. <i>Easy to Transfer v. Easy to Own</i>	333
IV. LEGAL CHALLENGES.....	340
A. <i>NFTs as Personal Property</i>	340
B. <i>Consumer Protection and NFT Market</i>	343
C. <i>Digital First-Sale Doctrine and the Right to Display</i>	347
1. <i>Digital First-Sale Doctrine</i>	347
2. <i>The Right to Display</i>	348
V. WERE NFTS A FAILED ATTEMPT TO UPGRADE OWNERSHIP?	349
CONCLUSION.....	351

INTRODUCTION

In 1996, Lawrence Lessig started his article on cyberspace regulation writing “Cyberspace is a place. People live there. They experience all sorts of things that they experience in real space, there.”¹ Twenty-five years later this statement has become more real than ever before. People pay millions for the virtual “real estate”

¹ Lawrence Lessig, *The Zones of Cyberspace*, 48 STAN. L. REV. 1403, 1403 (1996), <https://doi.org/10.2307/1229391>.

in the metaverse² and buy a digital image for sixty-nine million US Dollars.³ However, cyberspace dwellers still cannot “experience all sorts of things that they experience in real space”, and they cannot fully own their digital property. To be more precise, one cannot own a digital asset the way one owns his or her property in the real world. The “curse” of cyberspace is intellectual property: whatever reaches cyberspace turns into IP *licensed* to users.

To bridge this gap between the two worlds, cyber enthusiasts and crypto natives extended the use of blockchain technology trying to make digital ownership more authentic, easier, and free from unnecessary intermediaries. Today, NFTs can represent ownership of unique items like digital collectibles, digital art, in-game items, and many more,⁴ and they are widely used by digital art collectors, gamers, and individual investors. Despite their popularity, there is no universal understanding of what changes NFTs bring to the legal landscape, where their place is in the hierarchy of ownership, and even their purpose is a highly disputable question.

Can NFTs promise dawn of new digital ownership or is it a 21st-century version of tulip mania?⁵ Users and scholars have split into two camps arguing whether NFT is a unique solution for the old digital property problems or a scam targeting vulnerable users and over-optimistic investors. For some, NFT is a “crypto phenomenon”⁶ promising to grow beyond 2021.⁷ For others, NFT is a “utopian technobabble.”⁸ This paper will try to shed light on these questions.

² See Marco Quiroz-Gutierrez, *Digital Land is Selling for Millions as People Scramble to Snatch up Virtual Real Estate in the Metaverse—And It Could be a Multitrillion-Dollar Opportunity*, FORTUNE (Dec. 3, 2021, 7:00 AM), <https://fortune.com/2021/12/03/metaverse-interest-spikes-digital-real-estate-prices/> [<https://perma.cc/V8CA-5KL5>].

³ Beeple, *Everydays: The First 5000 Days*, CHRISTIE’S, <https://onlineonly.christies.com/s/beeple-first-5000-days/beeple-b-1981-1/112924> (last visited Apr. 14, 2022).

⁴ See *generally Non-Fungible Tokens*, ETHEREUM FOUND., <https://ethereum.org/en/nft/> (last visited Apr. 14, 2022).

⁵ Clive Thompson, *The Untold Story of the NFT Boom*, N.Y. TIMES MAG. (May 12, 2021), <https://www.nytimes.com/2021/05/12/magazine/nft-art-crypto.html>.

⁶ Michael J. Casey, *NFTs Take Over NYC*, COINDESK (Nov 5, 2021, 3:15 PM), <https://www.coindesk.com/business/2021/11/05/nfts-take-over-nyc/>.

⁷ Henry Alexiades, *Where Do NFTs Actually Come From? A Short History of Non-Fungible Tokens*, ALT. PRESS (Nov. 30, 2021), <https://www.altpress.com/meta/history-of-nfts-non-funfible-tokens/>.

⁸ Ryan Cooper, *The NFT Craze Has Stopped Being Funny*, WEEK (Jan. 4, 2022), <https://theweek.com/culture/arts/1008539/the-nft-craze-has-stopped-being-funny>.

I

WHAT ARE NFTS AND WHY DO WE BUY THEM?

A. *Defining the Technology*

An NFT (a non-fungible token) is a unique digital file, or a unit of data, stored on a blockchain that serves as a certificate of authenticity for an object linked to it, and contains information about any changes in ownership verified by a worldwide network. For those who have some familiarity with crypto-currencies, NFTs can be explained as unique and distinguishable tokens. Any non-fungible token is not equal to another. While fungible tokens are widely used as a currency proxy, they are interchangeable.⁹ Non-fungibility (introduced in 2017 with the EIP-721 standard) permitted NFTs to be used for the digital property transactions because it created “verifiable digital scarcity.”¹⁰ Because tokens became unique, users gained an easy tool to combine digital assets with blockchain and create a “tokenised proof of title to a unique digital version of an underlying digital asset (such as images, videos, or other digital content) or physical asset (such as paintings, sculptures, or other tangible assets).”¹¹

As mentioned above, NFTs link a token with an asset, but they (usually) do not transfer the intellectual property rights to the underlying asset to the buyer of an NFT. Moreover, a token is publicly available, and others can access the digital asset linked to it and view it just like the owner of the NFT.¹² Professor Zittrain has provided a very catchy example of what NFTs can represent: “the value of a standard NFT is more like the value of Honus Wagner’s signature on a baseball card. Now just imagine taking away the card and leaving the signature, and you’ve got it!”¹³ But why would someone want to spend millions on a signature without

⁹ Nils Urbach, *NFTs in Practice – Non-Fungible Tokens as Core Component of a Blockchain-based Event Ticketing Application*, (Fortieth International Conference on Information Systems, Munich 2019), <https://www.fim-rc.de/Paperbibliothek/Veroeffentlicht/1045/wi-1045.pdf>.

¹⁰ See Tonya M. Evans, *Cryptokitties, Cryptography, And Copyright*, 47:2 AIPLA Q.J. 219, 220 (2019).

¹¹ See generally CLIFFORD CHANCE, *NON-FUNGIBLE TOKENS: THE GLOBAL LEGAL IMPACT* (June 2021), <https://www.cliffordchance.com/content/dam/cliffordchance/briefings/2021/06/non-fungible-tokens-the-global-legal-impact.pdf>.

¹² Ralph Lerner, *Insights into Blockchain Tokens and Crypto Art’s Effect on the Art Market*, 6 J. PLI PRESS 2, 2-3 (2022), https://marketing.withersworldwide.com/reaction/emsdocuments/PDFs/Insights_into_Blockchain_Tokens_and_Crypto_Arts_Effect_on_the_Art_Market.pdf.

¹³ Jonathan Zittrain (@zittrain), TWITTER, (Apr 7, 2021, 5:08 PM), <https://twitter.com/zittrain/status/1379903895330287619>.

a card; what is the use of an NFT? This paper will try to provide some plausible answers. Stay tuned.

B. *NFT-Timeline in Four Paragraphs*

It may sound surprising, but NFTs are out there for approximately ten years, even though, this technology has not attracted exceptional attention until 2021. The concept of a representation of real-world assets on the Bitcoin blockchain was discussed as early as in 2012.¹⁴ “Colored Coins” offered methods for representing and managing real world assets on top of the Bitcoin Blockchain.¹⁵ The first NFT was minted on May 3, 2014, by Kevin McCoy, and on November 28, 2021, the digital artist sold his NFT-artwork for over \$1.4 million in a Sotheby auction.¹⁶

NFTs’ public awareness era started in 2017 with the exceptional success of the CryptoKitties game. CryptoKitties is a blockchain-based game allowing players to adopt, breed and trade virtual cats. It was developed by a Vancouver-based company, Axiom Zen, and became hugely popular soon after its release. In CryptoKitties White Pa-purr, Axiom Zen declared its aim to promote blockchain technology and educate users about technology’s potential and long-term implications.¹⁷ And they happened to become very successful in this endeavor. The game became so popular that its transactions accounted for more than 10% of the entire Ethereum traffic in early December 2017.¹⁸ Game’s popularity did not last long, but many players made huge profits trading CryptoKitties, and complicated technology entered the masses.¹⁹

2021 became the year of an NFT boom. Art and gaming became two core industries experimenting with NFTs.²⁰ This was a breakthrough year for NFTs;

¹⁴ Alexiades, *supra* note 7.

¹⁵ *Colored Coins*, BITCOIN WIKI, https://en.bitcoin.it/wiki/Colored_Coins (last visited Apr. 14, 2022).

¹⁶ Alexiades, *supra* note 7.

¹⁷ *CryptoKitties: Collectible and Breedable Cats Empowered by Blockchain Technology*, White Pa-Purr, https://drive.google.com/file/d/1soo-eAaJHzhw_XhFGMJp3VNcQoM43byS/view (last visited Apr. 14, 2022).

¹⁸ *Cryptokitties craze slows down transactions on Ethereum*, BBC NEWS (Dec. 5, 2017), <http://www.bbc.com/news/technology-42237162>.

¹⁹ Fitz Tepper, *People have spent over \$1M buying virtual cats on the Ethereum blockchain*, TECH CRUNCH (Dec. 3, 2017, 6:48 PM), <https://techcrunch.com/2017/12/03/people-have-spent-over-1m-buying-virtual-cats-on-the-ethereum-blockchain/?guccounter=1>.

²⁰ *CryptoArt Market Data*, CRYPTOART, <https://cryptoart.io/data> (last visited Apr. 14, 2022).

artists were selling their digital works for previously unheard sums,²¹ with total sales volume hitting more than \$12 billion.²²

The next several years will be decisive for the future of NFTs. With broader expansion of NFTs, we can soon expect more regulatory frameworks forming around NFTs. While users continue to experiment with possible applications of NFTs, regulators and judiciaries worldwide will try to walk NFTs through the legal gray zone.

C. *Why Do We Buy NFTs?*

Based on NonFungible.com's 2021 NFT Yearly Report, the total number of active NFT wallets was more than 2.5 million in 2021.²³ Scrolling through this data, many of us would be haunted by the question: What motivates people to buy NFTs? A very statistically unrepresentative data of a single answer by someone called "Jared Crypto Friend" in Quora shows that an NFT buyer gets NFTs because he (i) likes art and NFTs make him laugh, (ii) likes collecting useless things, (iii) likes owning something that is in limited supply, (iv) wants to play NFT video games, and (v) wants to be a part of the NFT community.²⁴ Surprisingly, this list of reasons is very close to what is discussed by more sophisticated analytics. Last spring, Professor Zittrain welcomed the NFT boom by offering an answer to this very question: "People might buy something because they think others might want to buy it for more, later."²⁵ Some users indeed use NFTs merely as an investment tool, while others see some internal value of NFTs representing a digital version of luxury goods,²⁶ which can open the door to elite communities. Jimmy McNelis, a famous NFT collector who recently became well known for

²¹ *Id.*

²² Matthew Fox, *NFT sales hit \$293 million over the past week. These were the 5 best-selling digital art collections*, MKTS. INSIDER (Dec. 7, 2021, 1:43 PM), <https://markets.businessinsider.com/news/currencies/5-best-selling-nft-collections-sales-hit-293-million-2021-12>.

²³ *Our 2021 NFT Yearly Report is Out!*, NONFUNGIBLE (Sep. 3, 2022), <https://nonfungible.com/news/corporate/yearly-nft-market-report-2021>.

²⁴ Jared Crypto Friend, Answer to *Why do people buy NFTs?*, QUORA, <https://www.quora.com/Why-do-people-buy-NFTS-1> (last visited Apr. 14, 2022).

²⁵ Zittrain, *supra* note 13.

²⁶ U. Zurich, *NFT Explosion: Why Are People Buying Digital Art?*, FUTURITY (Dec. 15, 2021), <https://www.futurity.org/nfts-nft-art-2671602-2/>.

“packag[ing]” four of his Bored Ape NFTs into a band, Kingship,²⁷ called NFTs a “cultural phenomenon”.²⁸ By buying a Bored Ape NFT, one gets a membership card for a club.²⁹ The other function NFTs can play is as celebrity merchandise. Fans are encouraged to buy NFTs just like any celebrity merch to show loyalty.³⁰ A devoted fan can now buy not only an Eminem T-shirt, but also an NFT from the Eminem NFT collection.

Last but not least, the reason why users buy an NFT is because they want to “own” a digital piece of art or in-game item. This narrow fraction of users is the key interest of this paper. Are these people tricked into purchasing expensive tokens by misleading advertisements or do they fall prey to intellectual property misconceptions?

The unregulated and ballooning field of NFTs is full of so-called dark advertisement patterns.³¹ But, surprisingly, not that many states have acted to protect consumers against misleading promotional campaigns. The UK’s advertising regulator, Advertising Standards Authority, issued a “red alert” warning regarding NFTs advertising.³² In early April 2022, the Advertising Standards Council of India also released its Guidelines for advertising of virtual digital assets

²⁷ KC Ifeanyi, *The Bored Ape Yacht Club apes into Hollywood*, FAST COMPANY (Jan. 18, 2022), <https://www.fastcompany.com/90706534/the-bored-ape-yacht-club-apes-into-hollywood>.

²⁸ KC Ifeanyi, *The King of NFTs Explains the Future of Bored Ape Yacht Club and a Whole Lot More*, FAST COMPANY (Apr. 4, 2022), <https://www.fastcompany.com/90735768/bored-ape-yacht-club-jimmy-mcnelis-king-nft-kingship-future>.

²⁹ *Neymar Joins The Celebrity NFT Club With His Own Bored Ape*, LIFESTYLE ASIA (Jan. 26, 2022, 10:15 AM), <https://www.lifestyleasia.com/sg/gear/tech/neymar-joins-the-celebrity-nft-club-with-his-own-bored-ape/> (“In Los Angeles and Hollywood, this digital token [Bored Ape NFT] can open the doors to just about any VIP event . . .”).

³⁰ Thom Waite, *OK, Are Celebrities Getting Paid to Shill NFTs?*, DAZED (Jan. 26, 2022), <https://www.dazeddigital.com/art-photography/article/55313/1/are-celebrities-getting-paid-to-shill-nfts-paris-hilton-jimmy-fallon-post-malone>.

³¹ See generally THE EUROPEAN CONSUMER ORG., “DARK PATTERNS” AND THE EU CONSUMER LAW ACQUIS: RECOMMENDATIONS FOR BETTER ENFORCEMENT AND REFORM, https://www.beuc.eu/publications/beuc-x-2022-013_dark_patterns_paper.pdf (last visited Apr. 14, 2022).

³² DAC Beachcroft, *ASA Issues a “Red Alert” Warning Regarding NFTs and Other Crypto-Asset Advertising*, MANCHESTER DIGIT., <https://www.manchesterdigital.com/post/dac-beachcroft-llp/asa-issues-a-red-alert-warning-regarding-nfts-and-other-crypto-asset-advertising> (last visited Apr. 14, 2022).

and linked services.³³ The U.S. regulations have not yet specifically addressed consumer protection in the NFT realm. While many express concerns over legal and ethical issues surrounding advertisements and celebrities endorsing NFTs,³⁴ this has triggered neither regulation nor any chilling effect.

D. NFT Ambiguity

Very few people understand what NFTs are technologically, but probably an even smaller percent of NFT buyers have any understanding of what NFTs mean legally, and what scope of rights are conveyed with an NFT. Like any new technology or any new application of an old technology, NFTs are in a “grey zone” of legal regulation. Some find that the lack of legal definiteness might be giving more freedom to users, but legal ambiguity also triggers uncertainty and higher risks.

One of the biggest uncertainties in NFT transactions is caused by technology clashes with intellectual property. Since NFTs are creatures of contract law and intellectual property, NFT license agreements fall under the regulation of mandatory IP rules, which may conflict with agreements’ terms. The main risk is that any gap in the NFT agreement will be filled in with default IP rules which were designed for intangible digital transactions, and thus may not reflect buyers’ expectations. The other risk, or surprise, for NFT buyers can be hidden in mandatory IP rules. Parties are free in their contractual arrangements only to the extent the agreed terms do not contradict immutable rules, like statutory provisions or public policy. Considering the absence of any customary practice around NFTs, courts will play a crucial role in resolving the conflicts and filling contractual and regulatory gaps. Consequently, NFT agreements leave room for courts’ consideration in a field that has no clear regulation. For instance, how will the court apply resale royalty rights in the NFT sale agreement in the U.S., where such a right was found preempted in *Close v. Sotheby’s*?³⁵ Can an NFT

³³ See Nishad Nadkarni & Khushboo Jhunjunwala, *ASCI Releases Crypto And NFT Advertising Guidelines-Effective 1 April ‘22 Onward*, LEXOLOGY, <https://www.lexology.com/library/detail.aspx?g=0619f641-58e5-4552-8e87-a0976ffe1e93> (last visited Apr. 14, 2022).

³⁴ See Amanda Mull, *Celebrities and NFTs Are a Match Made in Hell Somehow, Star Endorsements Have Found a New Low*, ATLANTIC (Feb. 4, 2022), <https://www.theatlantic.com/technology/archive/2022/02/nft-jimmy-fallon-paris-hilton-millionaire/621486/>.

³⁵ The only state where resale right was statutorily recognized was California. See California Resale Royalties Act (CRRRA), CAL. CIV. CODE § 986(a)(3), *invalidated by Close v. Sotheby’s, Inc.*, 909 F.3d 1204

contract stipulate that resale rights should be payable even after the expiration of the copyright to the underlying artwork? In the criticized *Brulotte* case,³⁶ the court found that a private agreement extending royalty payment beyond the term of the patent is unenforceable and “unlawful *per se*,” because paying royalty after the patent’s expiration contradicts the idea to make the invention publicly available after the expiration of the monopoly rights. Therefore, extending royalty payments “beyond the life of the patent is analogous to an effort to enlarge the monopoly of the patent.”³⁷

How will courts analyze the implied rights of NFT buyers under NFT licenses? If a buyer gets the only copy of a digital art, would such a buyer have standing to sue infringers in the capacity of an exclusive licensee? Let’s imagine that I acquired my unique NFT for millions of dollars, and we agreed with an artist that only one copy will be minted as NFT. However, one day I stumble upon other NFTs just like mine but minted by some random issuer. Shall I wait for the artist to sue the infringer, or can I proceed with litigation? Can I, as an NFT owner, be considered an exclusive licensee with the same scope of rights? Since while defining an exclusive license, courts are usually guided by the scope of rights,³⁸ can we expect that the standard scope of rights under an NFT license will lead courts to conclude that an NFT owner is an exclusive licensee of an artwork? Even if an owner goes beyond the standard NFT license and stipulates in a separate agreement that his NFT is the only minted copy of the artwork, will this clause be sufficient for the court to find that this license is an exclusive one?

(9th Cir. 2018), which granted visual artists a right to receive 5% of the proceeds on any resale of their artwork under specified circumstances. But this provision granting the resale rights was found preempted by the Copyright Act in *Close v. Sotheby’s, Inc.* See *Close*, 909 F.3d.

³⁶ The economic model and the logic of the court concerning an extension of royalties after the patent expiration was criticized in *Princo Corp. v. Int’l Trade Comm’n*. See generally *Princo Corp. v. Int’l Trade Comm’n*, 616 F.3d 1318 (Fed. Cir. 2010); See also *Alvarado Orthopedic Rsch., L.P. v. Linvatec Corp.*, No. 11-CV-246-IEG RBB, 2013 WL 2351814 (S.D. Cal. May 24, 2013); See also *Astrazeneca AB v. Apotex Corp.*, 985 F. Supp. 2d 452 (S.D.N.Y. 2013), *aff’d in part, rev’d in part*, 782 F.3d 1324 (Fed. Cir. 2015).

³⁷ *Brulotte v. Thys Co.*, 379 U.S. 29, 33 (1964).

³⁸ See *Illumina Inc. v. Premaitha Health Plc* [2017] EWHC 2930 (Pat) (21 Nov. 2017). The High Court of England and Wales analyzed whether licensees have standing in an infringement case and whether they were exclusive licensees even if the same rights were granted to parties’ affiliates. See also *Oxford Nanopore Technologies Ltd. v. Pacific Biosciences of California Inc.*, [2017] EWHC 3190 (Pat) (14 Dec. 2017), where the High Court of England and Wales discussed whether the existence of an option to license the patent to the third party makes the license non-exclusive.

What can a rights holder do if his work was infringed by an NFT seller (e.g., a digital artwork was minted without a rights holder's permission)³⁹? Would a rights holder be able to prohibit further downstream sales of infringing NFTs? What remedies will be available to the artist whose work was minted in violation of his copyright - transfer of the NFT to the rights holder, deletion of the NFT from the wallet of the buyer and/or blocking further NFT transfers?

The other legal question is how NFT securities will work for shared ownership of digital art. Many platforms offer buyers the option to purchase security interest in an NFT art. Can we expect courts to recognize this security interest? Clashing with IP and security regulations, shared interest in art NFTs can be a risky venture. As Katya Fisher noted, there might be a problem recognizing an interest in a registered work of art. For instance, how the rules on the perfection of the security interest affect the transactions with works of art minted as NFTs.⁴⁰

All these questions create ambiguity around NFT transactions and leave consumers at the mercy of a complicated license-based solution in a market with no established customary practices. These problems reinforced by brief and very general terms offered by NFT marketplaces make the NFT trade a risky and sophisticated craft.

E. Did Users Get it All Wrong?

The legal uncertainty discussed above is only exacerbated by the fog of users' misunderstanding. Recently, a crypto group called Spice DAO bought a rare copy of "Dune" book hoping to produce an animated series based on the book and mint them as NFTs. Happy with their purchase, Spice DAO tweeted : "[w]e won the auction for €2.66M. Now our mission is to: 1. Make the book public (to the extent permitted by law). 2. Produce an original animated limited series inspired by the book and sell it to a streaming service. 3. Support derivative projects from the

³⁹ Infringing use can be less straightforward than just minting without a license to use the asset. Very often, the initial rights holder permits creation of a derivative work only in one defined medium. If this is the case, then the copyright owner of the derivative work cannot use the derivative work in a new medium. See M. Nimmer, NIMMER ON COPYRIGHT § 45.3.

⁴⁰ Katya Fisher, *Once upon a Time in NFT: Blockchain, Copyright, and the Right of First Sale Doctrine*, 37 CARDOZO J. ARTS & ENT. L. J. 629, 632 (2019).

community.”⁴¹ It is likely Spice DAO thought that owning a copy of the book will automatically transfer IP rights in its contents to them. This story is not specifically about NFTs, rather it shows that some crypto natives (and even crypto trailblazers) have a very vague understanding of copyright law. If Spice DAO believed that a book for two million euros should have conveyed some extra rights (probably because it was so expensive and sold by Christie’s), one can hardly imagine what their conceptions about NFT rights might be. Likewise, we can only guess how many NFT buyers hope to get something more than just a copy of the digital file when they pay an unbelievably high price for the image that is publicly available and can easily be copied by anyone.

Many users perceive NFTs as a tool to “own” a digital asset. By “own”, people usually mean to be able to sell an item freely or otherwise transfer it to other buyers. This need was especially acute for communities like that of gamers or art collectors. Gamers have never fully enjoyed ownership of their virtual assets, and historically any property transaction beyond the game world operated in a gray area. If a player’s account gets blocked or a game is taken down, then a player loses all his in-game currency and items.⁴² Art collectors were also those looking for easier ways to convey the title and expand the market for digital art. Both communities became active users of NFTs, but when the art community overall reacted very positively to NFTs, attempts to implement NFTs by major game publishers triggered ardent criticism. Did art collectors get it all wrong just like Spice DAO, or do these users simply have different needs?

II

TWO VIEWS ON NFTs: ART AND GAMING

A. *NFTs in Art*

To understand what makes art collectors happy about NFTs, one can investigate what legal tools were used by the art community before NFTs. Purchasing an oil painting, a buyer traditionally got personal property rights to the

⁴¹ Spice DAO (@TheSpiceDAO), TWITTER, (Jan. 15, 2022, 12:28 PM), <https://web.archive.org/web/20220116200947/https://twitter.com/TheSpiceDAO>.

⁴² Everest Ventures Group, *How Can we Implement True Ownership in Video Games?*, MEDIUM (Jul. 22, 2019), <https://medium.com/evg-virtual/how-can-we-implement-true-ownership-in-video-games-c6de735ea266>.

physical object, namely canvas, and only limited rights to the underlying work. The owner got the right to publicly display the painting without the artist's permission, resell it, and make copies in very rare circumstances. To make it clear, the display right was limited to the display of the original work, not its copies (with some exceptions that apply to advertising the sale of the artwork). The owner of the copy did not get the right of reproduction (i.e., making copies). Based on the first sale doctrine, codified in the Copyright Act,⁴³ the owner of a painting can “sell or otherwise dispose of the possession of that copy” and “display that copy publicly” without the authorization of the rightsholder.⁴⁴ The default rule is that copyright is retained by the artist unless there is a contract assigning intellectual property rights to the buyer.⁴⁵

This brief sketch of the legal landscape in the art world makes it easier to draw a parallel with NFTs. Art collectors have long ago embraced the concept of duality between the physical object and the copyrighted work itself and do not expect that purchasing a copy of Warhol will give them the right to reproduce this artwork. More than that, art collectors have even accepted the idea of getting nothing tangible but a diagram instructing how to draw the painting.⁴⁶ Digital artists did not expect NFTs to replace canvas because many of them have long ago given up on the idea of an art tangibility. Conceptual artists, like Bill Viola, have “minted” their own NFTs by selling plasma screens and speakers with a copy of his video artwork “The Last Angel.”⁴⁷ But, even though the conceptual artist embraced the immateriality of art, a lack of tangible form imposed a list of risks for the owners. Peter Karol has highlighted the core legal challenges of

⁴³ See Copyright Act, 17 U.S.C. § 109. “Limitations on exclusive rights: Effect of transfer of particular copy or phonorecord. (c) Notwithstanding the provisions of section 106(5), the owner of a particular copy lawfully made under this title, or any person authorized by such owner, is entitled, without the authority of the copyright owner, to display that copy publicly, either directly or by the projection of no more than one image at a time, to viewers present at the place where the copy is located.”

⁴⁴ US. COPYRIGHT OFFICE, RESALE ROYALTY RIGHT, <https://www.copyright.gov/docs/resaleroyalty/> (last visited Apr. 14, 2022).

⁴⁵ See Copyright Act, 17 U.S.C. § 201. (Copyright vests initially in the author or authors of the work, unless the work was commissioned as a work made for hire).

⁴⁶ See Peter Karol, *The Threat of J. Copyright Soc. U.S. Termination in a Dematerialized Art Market*, 64 J. COPYRIGHT SOC. U.S. 187 (17-01 Boston Legal Studies Rsch. Paper Series) (2016) (discussing the copyright risks for conceptual art via illustrative example of Sotheby's auction bid for Sol LeWitt's work Wall Drawing No. 515. The winner paid \$167,000 for a diagram describing how to paint the work and a certificate of authenticity).

⁴⁷ See *id.*

“non-object-based art” in works of conceptual artists: (i) conceptual art requires a copyright license to be publicly shown; (ii) intellectual property rights to the art object can be terminated under Section 203 of the US Copyright Act.⁴⁸ Even though these problems seem more acute, for digital artists, NFTs became famous for the following solutions: NFTs helped artists gain recognition, get income from the previously unexplored market, track royalties, simplify sales, avoid middleman and fight IP infringements (the last one is true only to the extent NFTs help to track the use of NFTs).⁴⁹

In the age of mechanical reproduction, the lack of uniqueness became one of the main threats imposed on art by new digital mediums. Unlike rivalrous goods, IP assets can be used multiple times by many users and do not lose their value. Thus, even high demand can be easily met, which will naturally drag the price down. To create an artificial scarcity, authors traditionally exercised their exclusive rights limiting users’ ability to copy the work and make it available to others. All copies of the work had identical value to the users unless something makes them unique, and for a long time, it was a challenge to make a unique digital copy of a work. When so-called “computer art” was at its dawn in 1991, Tad Crawford asked a question about what art collectors would get from a purchase of a “computer art” if there is no copy and they get no intellectual property rights.⁵⁰ Crawford questioned what would incentivize collectors to purchase art which can be reproduced and sold by the artist *ad infinitum*, and predicted that art collectors would want to own intellectual property rights to the digital art.⁵¹ However, expansion of conceptual art proved empirically that many collectors are fine with just a certificate of authenticity.⁵² Even for conceptual art, rarity still matters. An interesting solution for this problem was suggested then by Jonathan C. Jackson. He proposed that a contractual arrangement between the parties can

⁴⁸ See *id.* at 197.

⁴⁹ NFT or any other blockchain technology can assist with the fight against counterfeit products by providing an easy way to demonstrate and prove the existence and uniqueness of a product. It can also enable enforcement authorities easily to detect counterfeit products. See Gonenc Gurkaynak et al., *Intellectual Property Law and Practice in the Blockchain Realm*, 34:4 COMPUT. L. & SEC. REV., 847-862, 854 (August 1, 2018).

⁵⁰ See Jonathan C. Jackson, *Legal Aspects of Computer Art*, 19 RUTGERS COMPUT. & TECH. L. J. 495, 504-05 (1993) (citing Tad Crawford, *Protecting Artists: An Attorney Speaks Out on Computers, Fine Art, and the Law* 112, COMPUTER GRAPHICS WORLD (1991)).

⁵¹ See *id.* at 504.

⁵² See Karol, *supra* note 46, at 212.

potentially solve the problem of digital uniqueness. He suggested an arrangement where an artist and a buyer enter a contract under which the artist promises not to generate more than one copy of the work.⁵³ Remarkably, NFTs are not exactly tackling this problem. Nothing prevents an author from minting more and more NFTs, even though the “value” of the first copy or edition is deemed to be higher. When Amir Soleymani submitted this bid for Beeple’s NFT Abundance, he hoped to get the first edition of the work, and he was shocked to find out that other “less successful” bidders could also pay for the other editions of the work.⁵⁴

NFTs still somehow limit the number of copies by creating visible distinction between editions and creating the possibility “to separate the “owner” of a digital artwork from someone who just saved a copy to their desktop”.⁵⁵ The fact that Soleymani could differentiate between the versions enabled easier monetization of digital art through new channels.⁵⁶ To be precise, it was possible to create tangible versions even before NFT-era; in the example provided by Karol, Viola created tangibility for his video works by selling the copies with plasma screen and speakers.⁵⁷ Compared to a plasma screen, NFTs look like a more handy way to solve the problem of uniqueness.

NFTs also revived the aura of an *objet d’art*, which Walter Benjamin feared could be erased in the Age of Mechanical Reproduction.⁵⁸ Beyond rarity, NFTs gave a more profound sense of authenticity. Buyers have tools to check the publicly available record of transactions and see whether it is indeed a work minted by Beeple. The difference between NFT and an ordinary copy is very subtle, while it is a different experience looking at the original Mona Lisa and its digital copy. It is true; however, the similarity was never a concern in the art world. One can make an ideal replica of the Mona Lisa (though not as close as a completely identical copy of a digital artwork), but no one will pay the same price for the reproduction as they are

⁵³ See Jackson, *supra* note 50, at 505.

⁵⁴ See Riah Pryor, *Art collector sues NFT platform Nifty Gateway over Beeple auction*, ART NEWSPAPER (Oct. 1, 2021), <https://www.theartnewspaper.com/2021/10/01/art-collector-sues-nft-platform-over-beeple-auction>.

⁵⁵ See Steve Kaczynski & Scott Duke Kominers, *How NFTs Create Value*, HARV. BUS. REV. (Nov. 10, 2021), <https://hbr.org/2021/11/how-nfts-create-value>.

⁵⁶ See generally Clifford Chance, *supra* note 11.

⁵⁷ See Karol, *supra* note 46, at 187.

⁵⁸ See generally WALTER BENJAMIN, *THE WORK OF ART IN THE AGE OF MECHANICAL REPRODUCTION* (1935).

paying for the original. The authenticity of the work is what matters, and it matters to the extent that people are ready to buy invisible art.⁵⁹ NFTs give this sense of authenticity by keeping all transactions and the original creator information in its “NFT contract”.

Beyond opening a new market, NFTs promise recognition to previously unknown or amateur artists. Before NFTs, many digital artists were in the shade. They predominantly worked with B2B transactions either as employees of a company developing a product, e.g., a video game, or as independent entrepreneurs. In both cases, they usually signed a work for hire agreement and transferred all rights to the created art. Their works were part of a final product and rarely got any separate recognition or credit. Very few artists were able to make a name and become famous as stand-alone digital artists. Amateur content, like popular memes, also went viral without bringing recognition to its original creator. Once digital work was released online, its original creator was hard to trace back. But with NFTs, the original author can always be found and verified. As Noah Davis, head of digital sales at Christie’s, commented: NFTs opened many opportunities for young artists to create a “space that values community and the identity of the artists behind the project.”⁶⁰ Many artists, including those beyond the US, recognize this “democratizing function behind NFTs” making art more available for not just traditional collectors.⁶¹

NFTs give digital artists one more valuable tool: an ability to control the use of their work and benefit from its success. In a pre-NFT world, an artist either gave away rights to their works in B2B framework or struggled to monetize their works and benefit from their success on the art scene. NFTs, namely smart contracts and the new EIP-2981 standard, enabled embedded resale rights.⁶² The percentage of resale rights usually depends on the platform (for instance, Zora offers creators to

⁵⁹ See Taylor Dafoe, *An Italian Artist Auctioned Off an ‘Invisible Sculpture’ for \$18,300. It’s Made Literally of Nothing*, ARTNET (June 3, 2021), <https://news.artnet.com/art-world/italian-artist-auctioned-off-invisible-sculpture-18300-literally-made-nothing-1976181>.

⁶⁰ See Raisa Bruner, *Teen Artists Are Making Millions on NFTs. How Are They Doing It?*, TIME (Sept. 7, 2021), <https://time.com/6093982/nft-art-teens-money/>.

⁶¹ See The NFT Agency, *The NFT Agency Adds World-Renowned French Artist — Tom Fabia — to its All-Star List of Creators*, MEDIUM (Sept. 17, 2021), <https://thenftagency.medium.com/the-nft-agency-adds-world-renowned-french-artist-tom-fabia-to-its-all-star-list-of-creators-816181f102d3>.

⁶² See Zach Burks et al., *EIP-2981: NFT Royalty Standard*, ETHEREUM IMPROVEMENT PROPOSALS (Sept. 15, 2020), <https://eips.ethereum.org/EIPS/eip-2981>.

set a perpetual ownership stake in their work to get a share of the sale every time ownership changes hands),⁶³ but the fact that this mechanism exists makes it much easier to set up and receive resale royalties.

These core possibilities offered by NFTs explain why digital artists are welcoming NFTs. They indeed opened a new market for them and made transactions in digital art much easier.

Collector's perspective of NFTs is slightly different: for collectors the core value of an NFT is about easy transfers of the work. Easy transfer in a physical meaning rather than legal. Blockchain entrepreneur and Beeple's 69 million-dollar NFT buyer Vingaresh Sundaresan, says that NFTs are "ten times better than traditional art" because NFTs are easily transferable, they have no storage costs, and buyers can easily share ownership in the artwork.⁶⁴

Indeed, NFTs offer relatively easy transfers. Unlike physical artworks, NFTs and digital art, in general, are not subject to any territorial restrictions on art export. In many countries buyers need to get a license to export the work of art.⁶⁵ Due to these logistic difficulties and tax reasons many art collectors keep their artworks in so-called freeports, which are storage facilities not falling under the territorial jurisdiction of any country.⁶⁶ Art collections are subject to taxation only after the painting leaves the facilities of such storage.⁶⁷ To this extent, NFTs are used as an effective and easy way to invest in art, helping to save money on storage and ownership transfers.

Moreover, if the artwork is too expensive, it can be tokenized into NFT, and the buyer can only get part of the work. Consequently, every such NFT holder can

⁶³ See ZORA: *Universal Media Protocol Whitepaper*, GITBOOK, <https://ourzora.gitbook.io/zoraos/dev/smart-contracts/whitepaper> (last visited Apr. 14, 2022).

⁶⁴ See Marco Castrovilli, *NFTs 'Ten Times Better' Than Traditional Art, says Beeple's \$69m NFT Buyer*, COINTELEGRAPH (Apr. 3, 2021), <https://cointelegraph.com/news/nfts-ten-times-better-than-traditional-art-says-beeple-s-69m-nft-buyer>.

⁶⁵ See ALBERT E. ELSÉN & JOHN H. MERRYMAN, *LAW, ETHICS, AND THE VISUAL ARTS* (3d ed., 1998).

⁶⁶ See Samuel McIlhagga, *The Role of Freeports in the Global Art Market*, ARTSY (July 14, 2017) <https://www.artsy.net/article/artsy-editorial-freeports-operate-margins-global-art-market>.

⁶⁷ Talia Berniker, *Behind Closed Doors: A Look at Freeports*, CTR. ART L. (Nov. 3, 2020), <https://itsartlaw.org/2020/11/03/behind-closed-doors-a-look-at-freeports/>.

resell her part. This will “fractionalize artworks and create equity instruments.”⁶⁸ In 2018, Masterworks, an investment platform, offered fractionalized art ownership as an investment tool. Masterworks purchased Andy Warhol’s “1 Colored Marilyn” and resold the artwork as joint ownership to more than 1,300 investors.⁶⁹ This sounds like a fascinating new opportunity, but joint art ownership mechanisms existed far before NFTs appeared on the art landscape. Art Share and similar investors offered partial ownership in art by purchasing art and allowing investors to purchase their desired number of shares. After Art Share sells the work, they distribute the profits according to the shares owned by each investor.⁷⁰ From this perspective, NFTs do not create any unique mechanism for investment, but rather facilitate and simplify already existing fractionalized art ownership.

Even though NFTs generally meet collectors’ expectations, this fact alone does not safeguard the art industry from some NFT-missteps. On the one hand, NFTs opened a new market for digital artists and partially removed intermediaries, on the other hand, NFTs triggered an inflow of inexperienced investors. Meanwhile, in contrast to the traditional art, NFTs create more ambiguity. There is no standard market practice for NFTs; NFT trading platforms offer varying terms, and many buyers still do not fully understand how IP rights correlate with the copy of the work.

To some extent NFT euphoria in the collectors’ community still can be explained by the misunderstanding of the relevant IP questions. NFTs “went public” and attracted many inexperienced buyers who had no idea what rights NFT conveyed. One can expect an experienced buyer to be accustomed to getting nothing after paying \$167,000 and walking away with a diagram showing how to paint the work from scratch,⁷¹ but many new investors might have very different expectations about what they got. Yet, despite some scandalous misunderstandings, the art world

⁶⁸ Quinlyn Manfull, *Understanding Fractional Art Investing*, MASTERWORKS (August 26, 2022), <https://insights.masterworks.com/alternative-investments/art-investing/understanding-fractional-art/>.

⁶⁹ *Masterworks Launches First Blockchain Platform for Public to Invest in Iconic Works of Art*, PR NEWswire (May 10, 2018), <https://www.prnewswire.com/news-releases/masterworks-launches-first-blockchain-platform-for-public-to-invest-in-iconic-works-of-art-300646721.html>.

⁷⁰ *How It Works*, ART SHARE, <https://www.artsharesales.com/en/how-it-works/> (last visited Apr. 15, 2022).

⁷¹ See Karol, *supra* note 46, at 187.

is overall content with NFTs because it gives them what they need: easy transfers. While communities which look for ownership are not happy.

B. *NFTs in Video Games*

In the video game community, NFTs were accepted much less positively. This can be explained from two perspectives. First, gamers are not art collectors, they need ownership rather than a “warm feeling” of sponsoring a young artist.⁷² Second, video game publishing companies are not digital artists who need recognition and financing. These two core differences frame the perception of NFTs in gaming and explain why many players were expecting from NFTs more rights than they were able to convey.

Digital in-game assets are closer to physical assets than digital art. Gamers have a long history of struggles with publishing companies to get more rights to their digital content.⁷³ Gamers want to control their digital assets, freely sell them and, ideally, use them outside of the game world. Players need assets to explore and interact with virtual environments and develop their avatars. Virtual assets show social status, as well as physical goods, and exclusivity of the owned assets is valued as an indicator of skills, seniority in game or money spent. Because many social factors are not visible in games, observable in-game items play a social role.⁷⁴ But unlike members of the Bored Ape club, many gamers want not just entrée into clubs, or a social media avatar, instead, many need more than just social signals. Gamers also need a kind of possession that you may have over real-world property.

Gamers need broader ownership. They had “easy transfers” before NFTs. The only problem was that those “easy transfers” violated game license terms.

⁷² See Jonathan Zittrain & Will Marks, *What Critics Don't Understand About NFTs*, ATLANTIC (Apr. 7, 2021), <https://www.theatlantic.com/ideas/archive/2021/04/nfts-show-value-owning-unownable/618525/> (Professor Zittrain commented that NFT buyer “gets three things: the warm feeling that may accompany financing an artist; the pride that comes with claiming a relationship to a digital artifact and its creator; and perhaps most tangibly, an asset that can be traded at a later date”).

⁷³ See Christopher J. Cifrino, *Virtual Property, Virtual Rights: Why Contract Law, Not Property Law, Must be the Governing Paradigm in the Law of Virtual Worlds*, 55 B.C. L. REV. 235, 261 (2014) Users invest so much time, effort, and money into their virtual property that they expect a scope of rights and protections equal to the real-world property.

⁷⁴ See J. Cleghorn and M. Griffiths, *Why do Gamers Buy 'Virtual Assets'? An Insight Into the Psychology Behind Purchase Behaviour*, 27 DIGIT. EDUC. REV. 85, 91 (June 2015).

Traditional in-game assets management is a contract-based system where users license in-game assets. A player does not own or fully control the item. Most game licenses do not permit transfers of assets or accounts between players, and a user can be banned for the license violation and lose access to his account, as well as any owned asset. So, when users dream about the “Ready Player One” type of virtual reality, they do not see a world where they still license all their virtual possessions, and they do not own their game account to the extent that access to it can be revoked at any time. Due to these restrictions, in-game assets have no intrinsic value outside the game since players cannot trade these assets in secondary markets and get real money selling their digital assets.⁷⁵

Implementation of NFTs in gaming and so called “play to earn games” was an effort to make in-game assets transferable and externally tradable. But when NFTs “came” with licensing terms, many gamers were not accepting them as gladly as art collectors. Not surprisingly, users were outraged to see that Ubisoft Quartz’s Terms of Use for NFTs stipulated that IP rights to the underlying asset were not transferred.⁷⁶ Players own only the “Digit”, while the “Visual Representation”, which is the underlying asset, is only licensed to users for personal, non-commercial use, and as part of the game experience. Users can transfer Digits (NFTs) through Rarible or Objkt marketplaces.⁷⁷ Ubisoft was not alone in their attempt to license NFT. One of the most popular NFT games, Axie Infinity, offering trading or breeding monsters, functions very similar to Ubisoft’s model. Users get only the license to use the asset, and if Axie NFT generates more than USD 10,000 in revenue, then the NFT owner must sign an additional official license agreement.⁷⁸ Similarly, the well known CryptoKitties limited the rights of the NFT owner to sell Kitties on the platform or third-party application, which can verify each Kitty owner’s rights.⁷⁹ These terms are far from ownership rights, and it seems misleading to say that a player owns a NFT, while he is limited by the license to certain types of use and platforms. Compared to the traditional art world, it is

⁷⁵ See Vincenzo Giuffr , *How to market publishers’ rights for NFT in gaming and gambling*, GAMING TECH. L. (Dec. 24, 2021), <https://www.gamingtechlaw.com/2021/12/nft-gaming-gambling.html>.

⁷⁶ See *Ubisoft Quartz Terms of Use. Art. 5.1: You own the NFT*, UBISOFT QUARTZ, <https://legal.ubi.com/ubisoftquartzterms/en-US> (last visited Apr. 15, 2022).

⁷⁷ *Id.* at Art. 4.2: Transfer your digits.

⁷⁸ See *Terms of Use*, AXIE INFINITY, <https://axieinfinity.com/terms/> (last visited Apr. 15, 2022).

⁷⁹ See *Terms of Use*, CRYPTOKITTIES, <https://www.cryptokitties.co/terms-of-use> (last visited Apr. 15, 2022).

like imposing a limitation to display the canvas only inside one museum, or limit resales only to Christie's.

NFT licensing restrictions and the pretense of “new ownership” divided the gaming community. Some companies were eager to reshape the game economy to accommodate NFTs, while others remained skeptical. Phil Spencer, a head of gaming in Microsoft, had named active implementation of NFTs in games as “exploitive.”⁸⁰ Valve banned the use of NFTs in games and NFT-based games from Steam allegedly over concerns about fraud and volatility.⁸¹ Players are also very skeptical of new monetization mechanisms, perceiving NFTs as a part of the play-to-win and play-to-own model. Recently, Ukrainian game development studio GSC Game World, a producer of the famous Stalker franchise, renounced their plans to integrate NFTs in their new shooter.⁸² The change of production plans was triggered by the players' pushback.

But NFTs' critique in the gaming world does not translate into rejection. Some companies still see their NFT policy as a competitive advantage. Epic CEO Tim Sweeney has said “the NFT space is filled with scams,” but once Valve banned NFTs, Epic announced that they are open to blockchain games and NFTs on their platform.⁸³ Zynga, a market leader in mobile game development, has recently announced its cooperation with Forte aimed to “create more economic opportunities for players in blockchain gaming”⁸⁴ and EA calls NFTs and the blockchain “the future of our industry.”⁸⁵ Technologically, blockchain can offer

⁸⁰ Stephen Totilo, *Xbox chief wary of “exploitive” NFT gaming projects*, AXIOS (Nov. 16, 2021), <https://www.axios.com/xbox-exploitive-nft-gaming-projects-cb3d885f-694c-462d-bcb1-a24c892db32f.html>.

⁸¹ Joseph Knoop, *Steam Bans All Games with NFTs or Cryptocurrency*, PC GAMER (Oct. 15, 2021), <https://www.pcgamer.com/steam-bans-nfts-cryptocurrencies-blockchain/>.

⁸² S.T.A.L.K.E.R. OFFICIAL (@stalker.thegame), TWITTER (Dec. 16, 2021, 6:16 PM), https://twitter.com/stalker_thegame/status/1471620399997886472.

⁸³ Mitchell Clark, *Epic says it's ‘open’ to blockchain games after Steam bans them*, VERGE (Oct. 15, 2021), <https://www.theverge.com/2021/10/15/22729050/epic-game-store-open-to-blockchain-cryptocurrency-nft-games>.

⁸⁴ *Zynga and Forte Announce Strategic Partnership to Drive Rapid Development, Create More Economic Opportunities for Players in Blockchain Gaming*, ZYNGA (Dec. 21, 2021), <https://www.zynga.com/blog/zynga-and-forte-announce-strategic-partnership-to-drive-rapid-development-create-more-economic-opportunities-for-players-in-blockchain-gaming/>.

⁸⁵ See Wesley Leblanc, *EA CEO Says NFTs and Blockchain Games Are The Future Of Our Industry” And That He’s Unsure Of How That’s Going to*

unique advantages over traditional online games by safely storing gaming data⁸⁶ and creating secondary markets for asset sales. While NFTs are still far from giving “true ownership” to players, having this possibility to trade in-game assets is already a big change because very few gaming companies offered the possibility to trade in-game assets before.⁸⁷

Another problem is that NFTs are perceived by many players as a way to generate additional profits for game companies instead of a tool for giving gamers more rights. If companies wanted to give gamers true ownership, they could remove contract restrictions to sell in-game items. In-game assets sales are limited by many game EULAs imposing risks of account bans and termination of license in case users violate EULA and sell their digital assets. Despite promises, for the gaming industry, NFTs have not created a “Ready Player One” type of virtual reality. The dream of owning one’s own avatar like he or she could own a physical car has yet to come true. When Cointelegraph advertises NFTs as enabling gamers to have digital property rights, it fails to mention the scope of these “digital property rights”.⁸⁸ Players still cannot own their avatar like a tangible item and transfer it from one game to another because it is not technically possible (for now) to incorporate in-game assets from one game to another. The concept of ‘items traveling between games’ is still science fiction. Game engines do not permit importing and exporting assets from game to game. Moreover, the game-asset as seen inside the game is enabled by game-engine tools and plugins, which cannot be imported together with the game asset. To incorporate them in the game one would need to “rebuild the behaviors in equivalent modules”⁸⁹

Work, GAME INFORMER (Nov. 5, 2021), <https://www.gameinformer.com/2021/11/05/ea-ceo-says-nfts-and-blockchain-games-are-the-future-of-our-industry-and-that-hes-unsure>.

⁸⁶ Min T. et al., *Blockchain Games: A Survey*, (IEEE Conference on Games 2019), <https://ieeexplore.ieee.org/document/8848111>.

⁸⁷ Almost all video games limit transfers and sales of in-game assets and contain provisions such as “You may not transfer, sell, gift, exchange, trade, lease, sublicense, or rent Game Currency or Content except within the Software and as expressly permitted by Epic.” See *Fortnite End User License Agreement*, FORTNITE, <https://www.epicgames.com/fortnite/en-US/eula>.

⁸⁸ See Yat Siu, *NFTs make it possible for gamers to have digital property rights*, COINTELEGRAPH (July 4, 2021), <https://cointelegraph.com/news/nfts-make-it-possible-for-gamers-to-have-digital-property-rights>.

⁸⁹ See Christinna Pollock, *NFT Fantasy: Why Items-as-NFTs Does Not Enable Transfer Of Assets Between Games As usual, everything is more complicated than it looks*, SUBSTACK: LOAD-BEARING TOMATO (Dec. 23, 2021), <https://chhopsky.substack.com/p/nft-fantasy-why-items-as-nfts-does?s=r>; see also Rami Ismail (@the_rami), TWITTER (Jan. 10, 2022, 12:01 AM), https://twitter.com/tha_rami/status/1480404401688883201.

NFTs have highlighted once again that the copyright-based digital ownership model needs to be changed to trigger real evolution of digital ownership. Trying to marry IP and personal property rights in digital space will not result in a physical analogue of tangible property ownership, but more discussions about what NFTs can do for digital ownership will follow.

III

VIRTUAL OWNERSHIP AND SOLUTIONS OFFERED BY TOKENS

A. *What Does it Mean to Own Virtually?*

Twenty years ago, in the *Crypto Anarchist Manifesto*, Tim May predicted that the new era of the internet would “dismantle the barbed wire around the intellectual property”.⁹⁰ However, instead, cyberspace became governed by intellectual property. Nowadays, intellectual property law is the basis for any type of digital ownership. But even decades after Napster, users still cannot fully embrace the new power of intellectual property and refuse to accept that whatever they “own” online, starting from their music album to personalized avatar, is not actually theirs.

Not everything owned by users in digital space is intellectual property *per se*. Some assets were traditionally regulated by intellectual property rights, such as books or images, but there are assets that would have been regulated by personal property rights in a physical world, such as in-game goods, personal accounts, personal copies of books, etc. However, due to the nature of cyberspace, anything done within it constitutes copying, as nothing is embedded in a physical form to constitute a personal copy. Initially, Web 3.0. technology enabled unlimited copying and created fertile ground for copyright infringements, but in twenty years, Web 3.0. became the world of IP rightsholders. Now, almost all assets in cyberspace are intellectual property. It turned out that ease of copying made users less free instead of giving them complete freedom, and it became a blessing for copyright owners.⁹¹

⁹⁰ Timothy C. May, *The Crypto Anarchist Manifesto*, ACTIVISM (Nov. 22, 1992, 12:11 PM), <https://www.activism.net/cypherpunk/crypto-anarchy.html>.

⁹¹ See Evans, *supra* note 10, at 227; see also Mark A. Lemley & R. Anthony Reese, *Reducing Digital Copyright Infringement Without Restricting Innovation*, 56 STAN. L. REV. 1345, 1374-75 (2004).

If the digital world is a realm of intellectual property, then what is virtual property? The role of virtual property is questionable. This is an area of high uncertainty and heated legal debates. Even though intellectual property is not the best regime to fit virtual property it seems that the lack of tangibility strongly fixes virtual property in the realm of intellectual property.⁹² Today, we live in the era of IP and contract-regulated Internet. Digital assets are controlled by EULAs, and terms of use strictly limit what a user can do with his or her account or digital assets. In this reality, digital assets “are not a form of the property but rather a creature of contract” reflecting company interests.⁹³ Therefore, virtual property is not a property as such, unless it has tangibility. Yet, the requirement of tangibility is not essential to justify the existence of the virtual property, the lack of tangibility seems to be one of the main reasons why the notion of digital goods still orbits around intellectual property.

Professor Fairfield suggests that virtual property should be treated like real-world property because it shares three legally relevant characteristics with real-world property: rivalrousness, persistence, and interconnectivity.⁹⁴ Digital goods are non-rivalrous, but digital property (e.g., in-game assets, domain names) is usually rivalrous. Only one entity can register and use a domain name, even though there can be a potentially infinite number of domain names (one who faced a cyber squatter knows how much you may need that specific domain name). In-game assets are also unique in some sense. A game may allow thousands of copies of digital assets for all users, but usually game economy limits the number of rare assets, e.g., any valuable shield, and one needs to play for hours or spend money to get the one. So rivalrousness is not necessarily the same limiting factor as it is in the real world. Even though the virtual property is based on code, it incorporates the properties of the real-world property and thus should be regulated by the property law.⁹⁵ Property on the Internet is also persistent because it exists at the server and can be accessed through different devices, and this is also why the digital property is interconnected and we all perceive it identically. Whether tangibility,

⁹² Wian Erlank, *Property in Virtual Worlds*, 258-59 (Dec. 2012) (J.S.D. dissertation, Stellenbosch University), <http://dx.doi.org/10.2139/ssrn.2216481>.

⁹³ Natalie M. Banta, *Property Interests in Digital Assets: The Rise of Digital Feudalism*, 38 *CARDOZO L. REV.* 1099 (2017).

⁹⁴ See Joshua Fairfield, *Virtual Property*, 85 *B.U. L. REV.* 1047, 1053 (2005), <https://www.repository.law.indiana.edu/facpub/1787>.

⁹⁵ See *id.* at 1054.

rivalrousness, persistence, and interconnectivity, are the core characteristics that justify the classification of virtual property as the property is questionable,⁹⁶ but we can use these characteristics as a guide to understand whether the legal regime of property will fit digital property.

Discussion about the place of the digital property matters not only from the theoretical standpoint; it directly correlates with the scope of rights and protection a digital owner has. The scope of ownership rights for digital goods is usually much smaller.⁹⁷ Tangible property can be freely transferred, inherited, and its owner can enjoy a range of legal protections unavailable for digital goods (e.g., theft of digital assets inside the game world). In the real world, a buyer can get her copy of a book and resell it. In digital space, even functional copies constitute copying under the Copyright Act, and users can be shielded from the infringement only by licensing or under the fair use doctrine, with an exception to “archival” copy under section 117 of the Copyright Act.⁹⁸ In digital space, where all ownership is regulated by intellectual property and contracts, copyright holders impose all kinds of restrictions that they could not have imposed on physical copies. Once we buy a copy of a book, we can hold it forever, and rights holders cannot restrict our right to sell the used book,⁹⁹ nor can they “delete” our bookshelf with dozens of legally purchased copies just because we infringed copyright on one of the books, let’s say, by making unauthorized copies. However, in digital space, our virtual bookshelf can be easily deleted if we violate the contract terms. Some buyers got used to this reality of constant dependency on contracts and accepted that a collection of

⁹⁶ See Charles Blazer, *The Five Indicia of Virtual Property*, 5 PIERCE L. REV. 137, 142 (2006), http://scholars.unh.edu/unh_lr/vol5/iss1/8. Different authors suggest alternative or additional characteristics. Charles Blazer offers two additional characteristics: (i) availability of secondary markets; and (ii) value-added-by-users.

⁹⁷ Theoretically a broad and user-friendly EULA can grant scope of rights equivalent to those we can get owing to tangible property. But even in this case, the fact that your ownership is license-dependent already provides less certainty and fewer protections.

⁹⁸ See *Copyright and Digital Files*, COPYRIGHT.GOV, <https://www.copyright.gov/help/faq/faq-digital.html> (last visited Apr. 15, 2022).

⁹⁹ Based on the first sale doctrine, codified at 17 U.S.C. 109, a buyer who gets a copy of a copyrighted work from the copyright holder receives the right to sell, display or otherwise dispose of that copy. The first sale doctrine does not give the right to produce unauthorized copies of the work, so the buyer is not free to multiply the purchased book by millions of copies, but one can use and sell the copy that he or she has legally purchased.

Kindle books can be taken away anytime¹⁰⁰ some may not have even realized this risk of “erasal” and have not fully embraced that they do not own their e-books and have only the right to use this content.¹⁰¹

One group of users was notoriously unhappy with the IP-contract-based universe of digital ownership and longed for a “true possession.” Since the dawn of the virtual world, tangible property has been a certain standard of what we can dream to have in cyberspace. The dream was that one day you may own a digital car in GTA just like you own your real-world car. You will not be able to touch it, but you shall have the right to sell it, store it, inherit it, or get some legal recourse in case of theft.

The reality, however, was very different. Just like readers of e-books, video game players could not own their virtual property. Some video game publishing companies permit a broader scope of ownership rights, but those are a minority. The market is dominated by games, which do not allow players to freely buy, trade and sell virtual property.¹⁰² Because digital ownership and virtual property were built on top of intellectual property rights, they remain a legal fiction. Your rights to the in-game avatar exist only in the contract-based matrix where whatever you can do with your avatar is defined by EULA, and this dependency of the copyright holder creates many clashes between the desired scope of ownership rights and the licensed rights.

One may wonder whether the digital ownership problem is a problem at all. Beyond unhappy videogame players and inattentive e-book licensees, what is the risk of the status quo? Among myriad possible explanations varying from the natural right to own to the utilitarian justifications, I find Fairfield’s argument of “balancing rights” sufficiently persuasive to trigger further discussion about a solution to digital property problems. Fairfield argued that extending property law

¹⁰⁰ See *Kindle Store Terms of Use*, AMAZON, <https://www.amazon.com/gp/help/customer/display.html?nodeId=201014950> (last visited Apr. 15, 2022) (explaining that Kindle offers only “a non-exclusive right to view, use, and display such Kindle Content”).

¹⁰¹ See Aaron Perzanowski & Chris J. Hoofnagle, *What We Buy When We ‘Buy Now’*, 165 UNIV. PA. L. REV. 5 (2017), (explaining that license terms are lengthy and complicated, and many online shoppers ignore or simply cannot comprehend these terms).

¹⁰² See Sonia Elks, *Virtual goldmine: In-game goods fuel debate over digital ownership*, THOMSON REUTERS FOUND. (Nov. 26, 2019), <https://news.trust.org/item/20191126003008-18tot/>.

to Internet relations is crucial for the future development of the Internet¹⁰³ and putting this in a more modern context, property rights online are indispensable for the expansion of Meta.

Digital space is governed solely by contract law and IP; but, where traditionally the law of contract and the law of property balance each other, in digital space, contract law has no limits.¹⁰⁴ Property law is not here to carve out unreasonably burdensome contractual clauses, while intellectual property law has a very limited scope of tools capable of restricting contractual freedom. Providing examples of how property law restrains contracts, Fairfield refers to Merrill and Smith. He mentions three examples: property law eliminates unreasonable restraints on alienation, it limits the fragmentary effects of dead-hand control, and does not enforce novel contractual burdens on property.¹⁰⁵ If we leave virtual property to the mercy of contract and IP law, then the existent imbalance between rightsholders and users will most likely only grow, slowing down the development of virtual worlds.

B. *Pain Points of Digital Ownership*

Despite the obvious disproportionate tilt to creators' rights and multiple attempts by consumer protection law to correct this imbalance, American users still cannot fully own their virtual property. Users cannot resell software¹⁰⁶ or digital music,¹⁰⁷ they cannot get implied warranties otherwise available for tangible property, nor can they hope to own their digital goods in perpetuity.¹⁰⁸ The three areas outlined below indicate core pain points for virtual goods' users and are provided in this part of the paper to guide further discussion on what role NFTs play in addressing these problems.

¹⁰³ See Fairfield, *Virtual Property*, *supra* note 94, at 1051.

¹⁰⁴ See *id.*

¹⁰⁵ See Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1, 26-34, 27-29 (2000); see also Fairfield, *Virtual Property*, *supra* note 94, at 1051-52, 1052 n.18.

¹⁰⁶ See *Vernor v. Autodesk, Inc.*, 621 F.3d 1102, 1111 (9th Cir. 2010).

¹⁰⁷ See *Capitol Recs., LLC v. ReDigi Inc.*, 934 F. Supp. 2d 640 (S.D.N.Y. 2013), *aff'd*, 910 F.3d 649 (2d Cir. 2018).

¹⁰⁸ See U.C.C. § 2-314 (Am. L. Inst. & Unif. L. Comm'n 1977).

1. *Limited or No Rights to Resell and Control the Asset*

There is no digital resale right in the U.S. Thus, to transfer a legally purchased copy of the work, this copy must physically exist and have a tangible form. Any transfer of a digital copy is considered unlawful reproduction (unless it can be shielded by an affirmative defense, such as fair use).¹⁰⁹ In *Capitol Records*, the court held that “the first sale doctrine was enacted in a world where the ease and speed of data transfer could not have been imagined” and noted that “physical limitations may be desirable” to slow down the ease of copying.¹¹⁰ The U.S. Copyright Office espouses similar views: it commented that a “digital first sale doctrine” is not acceptable because “[t]he tangible nature of a copy is a defining element of the first sale doctrine”¹¹¹ and the natural degradation of works (e.g., scratches, fading, etc.) act as “a natural brake on the effect of resales on the copyright owner’s market.”¹¹² So, currently, the only solution to sell digital assets is to resell them together with their hardware to avoid copying, which sounds like a mediocre solution for the 21st century.

Moreover, owners of digital property are not free to dispose of their digital assets because they cannot transfer their assets from one platform to another.¹¹³ This is especially acute for video game users. Players spend significant time and money collecting so-called “valuables” which exist only inside the game universe.¹¹⁴

2. *Terms of Use*

Users cannot be sure that they own what they use in digital space. Meaning that after their death, they do not know whether their children will be able to inherit

¹⁰⁹ See *Disney Enters., Inc. v. Redbox Automated Retail, LLC*, 336 F. Supp. 3d 1146 (C.D. Cal. 2018).

¹¹⁰ The appellate court has not made any ruling on the resale right established by § 109(a). See *ReDigi Inc.*, 934 F. Supp. 2d at 656.

¹¹¹ U.S. Copyright Off., Executive Summary Digital Millennium Copyright Act, DMCA Section 104 Report (2001).

¹¹² *Id.*

¹¹³ Due to the compatibility issues and licensing restrictions most digital assets like in-game property or user-generated content is not transferable from one game/platform to the other.

¹¹⁴ In-game content, including any purchased or otherwise acquired in-game assets are typically not transferable or tradable outside the game (except for Play-to-Own blockchain games). See e.g., *Wargaming End User License Agreement*, WARGAMING, <https://legal.na.wargaming.net/en/end-user-licence-agreement/>. (“[W]argaming grants you a personal, non-exclusive, revocable, non-transferable, limited right to access the Content”).

any digital assets. Contracts for digital assets are usually drafted in a way that terminates user accounts at death, and they do not stipulate the option to transfer digital assets to the user's heirs.¹¹⁵

3. *No Property Guarantees*

The property right is a human right,¹¹⁶ which entails a list of broad guarantees for owners. The Fifth Amendment protects the right to private property by requiring that no person can be deprived of property without due process of law and just compensation.¹¹⁷ Virtual goods lack these property guarantees, and many players' accounts are deleted without full transparency about the reasons for termination.¹¹⁸ Many game publishing companies ban accounts for the use of "cheats" in games, and usually, they do not disclose how the company detected the use of the cheats.¹¹⁹ For continuous use of cheats, companies may delete users' accounts with all virtual goods, sometimes without any reimbursement for such deletion.¹²⁰ Moreover, licensees of virtual property get no implied warranties available for real-world property (e.g., implied warranty of merchantability available under the UCC).¹²¹ The only limitation for EULAs is consumer protection law, but intellectual property is usually beyond the scope of consumer protection regimes.¹²²

¹¹⁵ See Banta, *supra* note 93, at 1102.

¹¹⁶ Right to property as well as a prohibition of arbitrary deprivation of property without just compensation is a human right enshrined in the American Convention on Human Rights at Article 21 and Article 1 of the first Protocol to the ECHR: protection of property.

¹¹⁷ U.S. CONST. amend. V.

¹¹⁸ See e.g., *Huuuge Terms of Use*, HUUUGE, <https://huuugegames.com/terms-of-use/#:~:text=HUUUGE%20retains%20all%20right%2C%20title,objects%2C%20characters%20and%20character%20likenesses%2C>. (We reserve the right to discontinue offering the Service or any part thereof (such as any particular Game) or to suspend, remove, modify or disable access to the Service at any time in our sole discretion and without notice.)

¹¹⁹ See e.g., *supra* note 114. (We may take appropriate disciplinary measures, including account termination and deletion, for inappropriate behavior including, but not limited to: [. . .] 2.1.10 using any unauthorized third party programs, including hacks, cheats, [. . .]).

¹²⁰ Almost every video game end user license agreement contains provisions enabling a publisher to delete any use account for use of cheating software without any compensation for the purchased in-game goods or currency. See, e.g., *Fortnite End User License Agreement*, FORTNITE, <https://www.epicgames.com/fortnite/en-US/eula>. (Except to the extent required by law, all payments and fees are non-refundable under all circumstances, regardless of whether or not this Agreement has been terminated.)

¹²¹ U.C.C. § 2-314 (Am. L. Inst. & Unif. L. Comm'n 1977).

¹²² See Edina Harbinja, *Virtual Worlds Players – Consumers or Citizens?*, 3 INTERNET POL'Y REV., 1, 5 (2014).

Analyzing these three areas, can we say that users still can “own” in cyberspace if they cannot resell their assets, their family cannot inherit digital valuables, and users can be deprived of any assets?

C. Do NFTs Bridge the Gap Between Digital and Physical Ownership?

There are two main solutions offered by NFTs: (1) NFTs create scarcity for otherwise easily replicated digital assets and create demand for the previously absent market; and (2) NFTs can simplify transfers of assets. NFTs can functionally facilitate P2P asset transfers because they offer ownership tracing (serving as a certificate of authenticity) and remove the middleman. These solutions offered by NFT can potentially revolutionize the virtual assets’ market, but they are surrounded by the fog of misunderstanding and confusion. Very generally, the sources of misunderstanding emanate from, first, confusion between assets’ scarcity with tangibility, and second, confusion between easy ownership and easy transfer.

1. Scarcity and Tangibility

As discussed in the previous part, one of the core differences between digital and physical ownership is the lack of a tangible object to own. To some extent, NFTs are an attempt to create a tangible copy for the digital object and to make the object of digital ownership closer to the physical one. However, it still is a source of discussion whether linking an image with blockchain can convert a digital asset into a tangible one.

When Steve Kaczynski and Scott Duke Kominers wrote that NFTs help people sell “products that could never be sold before,” they meant that before NFTs’ boom no one was willing to purchase a copy of a digital asset that can be copied an unlimited number of times and accessed online for free. For two decades from the advent of the participative web, technology and law failed to develop an effective way to create the market for digital assets. But NFTs cured the lack of intrinsic scarcity inherent to digital goods by linking digital assets to unique tokens.¹²³ But this hardly changed the nature of the underlying asset. In fact, only the token is unique, the image, music, or any other digital asset linked to an NFT does not differ from any other copy. Many other tools could have created the same uniqueness.

¹²³ See Evans, *supra* note 10, at 226.

Thus, it seems that the uniqueness of NFT plays mainly a psychological role in giving people something they can own and probably adds more arguments in favor of changing the legal regime for NFT assets from IP to property.

Returning to the tangibility, NFTs do not convert a digital asset into a physical one. However, by linking an easily reproducible digital asset to the unique blockchain, NFTs offer a certain “tangibility substitute”. This sounds like a potentially revolutionary tool because the lack of tangibility is one of the core impediments to legally recognizing digital assets as property.¹²⁴ But, it is questionable whether this “artificially reproduce[d] creativity” will surface for legal purposes (e.g., to regulate NFT transactions under UCC Article 2).

2. *Easy to Transfer v. Easy to Own*

NFTs opened new frontiers for digital art collectors and gamers offering easy and quick transfers. Now, one can go online and buy a unique copy of a digital work almost in one click. Getting an NFT is not as easy as shopping on Amazon, but it is rather straightforward. One would need to get an Ethereum-compatible crypto wallet, go to any NFT marketplace, connect your wallet to the platform and browse to get an NFT via a “buy now” or, if your NFT is not a “fixed price”, submit your bid in an auction. Even if the NFT is free or cheap, you’ll still have to pay fees to make the transaction happen. If a platform offers NFTs on the Ethereum blockchain, then you would also need to pay a “gas” fee for transactions like NFT sales.¹²⁵ “Gas prices” depend on how busy the network is, but they are significantly lower than an art dealer or gallery fees which can range between 33 and 100 percent.¹²⁶ This seems like an easy transfer, and this is probably the only promise that NFTs actually fulfill.

Many users, however, hope to get more. They believe that NFTs can give them easy digital ownership without intermediaries. Partially NFTs make ownership easy. NFT gives more transparency. NFTs can track and display the ownership of a digital asset securely and transparently because anyone can view the NFT

¹²⁴ See Erlank, *supra* note 92, at 254.

¹²⁵ See *How Do You Buy an NFT?*, COINBASE, <https://www.coinbase.com/learn/crypto-basics/how-to-buy-nft> (last visited Apr. 15, 2022).

¹²⁶ See Alexis Flynn, *What Percentage Commission do Art Galleries Take?*, GREEDHEAD (Mar. 5, 2019), <https://greedhead.net/what-percentage-commission-do-art-galleries-take/>.

token's metadata to verify the ownership and transactional history. Each NFT-buyer can see from which address an NFT was minted, but still, this is not sufficient to remove intermediaries. Major NFT artists like Beeple sell their works on Christie's and Sotheby's. Christie's market is only growing: "[s]eventy-two percent of the NFT bidders and buyers this year are new to Christie's," says Neda Whitney, Christie's head of marketing for the Americas.¹²⁷ Non-blue-chip artists are also trading through platforms like OpenSea or SuperRare.

This dependency on platforms can be partly attributable to the need to use the benefits of a popular platform to advertise NFTs and make them available to the broader audience, but it may also be caused by the need to verify the seller. Most users may feel uncomfortable spending thousands of dollars without some intermediary shielding them from possible fraud.

Yet few NFT marketplaces are "shields" for buyers. Not many NFT marketplaces verify whether the asset is infringing any third-party rights. Even though curated and proprietary marketplaces usually approve assets to be minted,¹²⁸ they do not guarantee anything to the buyer. For instance, Super Rare sells NFTs only by whitelisted artists,¹²⁹ but the platform still takes no responsibility for the content.¹³⁰ Very similar terms are offered by other popular

¹²⁷ See Alexandra Bruell, *How Christies Is Pitching Its Expansion From Picassos to NFTs*, WALL ST. J. (Nov. 23, 2021, 3:47 PM), <https://www.wsj.com/articles/how-christies-is-pitching-its-expansion-from-picassos-to-nfts-11637700438> [https://perma.cc/AZ9K-MSJ5].

¹²⁸ See James G. Gatto, *NFT License Breakdown: Exploring Different Marketplaces and Associated License Issues*, NAT'L L. REV. (Sept. 21, 2021), <https://www.natlawreview.com/article/nft-license-breakdown-exploring-different-marketplaces-and-associated-license-issues>.

¹²⁹ See *Super Rare Terms of Service*, NOTION, <https://www.notion.so/SuperRare-Terms-of-Service-075a82773af34aab99dde323f5aa044e> (last visited Apr. 15, 2022).

¹³⁰ See *id.* ("Artists are prohibited from Minting Works consisting of unlicensed or unauthorized copyrighted content," but "SuperRare Labs makes no representations or warranties, . . . including any representations or warranties of title, non-infringement, . . . of any SuperRare Item.").

marketplaces, like Know Origin¹³¹ and Nifty Gateway.¹³² None of the platforms exercise due diligence checking regardless of whether the work minted as an NFT is clear from any third-party claims. It appears that by buying an NFT on a platform, users receive no guarantees that the NFT does not infringe third-party rights.

The other problem is that this “easy transfer” does not usually enable the transfer of IP rights to the underlying assets. Even if a platform or an NFT issuer promises to transfer IP rights, such transfer might not be legally possible. When the Bored Ape Yacht Club Terms & Conditions promise that buyers will own NFTs and get the full scope of rights to the artworks,¹³³ does it mean that IP rights will be assigned to the first buyer as well as any following buyers? Describing copyright vulnerabilities of NFTs, James Grimmelman, Yan Ji, and Tyler Kell argue that IP rights cannot be transferred solely by the sale of NFTs due to statutorily required formalities.¹³⁴ According to the U.S. Copyright Act, an instrument of the rights conveyance of the right, or a note or memorandum of the transfer, should be in writing and signed by the owner of the rights conveyed or such owner’s duly authorized agent.¹³⁵ The Terms of Service of the Bored Ape Yacht Club are not “signed” by the copyright owner, and absent such signature no IP rights can be transferred to the buyer. But even if the “signature problem” is solved for the initial transaction, this problem becomes unwieldy for any further resales because NFTs are transferred without any written agreement being executed.¹³⁶ If the problem of

¹³¹ See David Moore, *Terms of Service for KnownOrigin Labs*, MEDIUM (Apr. 23, 2021), <https://medium.com/knownorigin/terms-of-service-3efae6d0c20f> (statement from Terms of Service) (“To enjoy the full benefits of owning a Token, you must make every effort to verify the original artist of the Content. While we take all reasonable efforts to ensure that all Content created on the App is done so by the original artist, we shall not be held liable if someone, in breach of these Terms, creates Tokens [that] includes Content of which they are not the original artist.”).

¹³² See *Nifty Gateway Terms of Use*, NIFTY GATEWAY, <https://niftygateway.com/termsfuse> (last visited Apr. 15, 2022) (statement from Terms of Use) (“Content . . . [is] provided on an ‘as is’[basis] . . . [without any warranties].”).

¹³³ See *Terms & Conditions*, BORED APE YACHT CLUB, <https://boredapeyachtclub.com/#/terms> (statement from Terms & Conditions) (“You Own the NFT. Each Bored Ape is an NFT on the Ethereum blockchain. When you purchase an NFT, you own the underlying Bored Ape, the Art, completely.”).

¹³⁴ James Grimmelman, Yan Ji & Tyler Kell, *Copyright Vulnerabilities in NFTs*, MEDIUM (Mar. 21, 2022), <https://medium.com/initc3org/copyright-vulnerabilities-in-nfts-317e02d8ae26> [<https://perma.cc/Z8QP-B7QX>].

¹³⁵ See 17 U.S.C. § 204(a).

¹³⁶ See Moore, *supra* note 131.

downstream sales cannot be solved, any attempts to marry current copyright law with NFTs will not produce an “easy transfer” of IP rights.

Overall, NFTs indeed made the process of getting digital assets easier, but this simplicity has a price. First, this simple transfer may trigger further problems with the ownership title. Second, reducing transactional costs, NFTs shifted the risk of fraud to the buyer. Interestingly, NFTs have not replaced middlemen, as discussed above, and these middlemen do not serve as real shields for buyers. OpenSea, one of the largest NFT marketplaces, does not guarantee that NFTs do not infringe IP rights, nor does the company regulate the terms of sale for NFTs. Each NFT can be regulated by a separate agreement and the buyer is responsible for checking and complying with such terms.¹³⁷ Rarible, the other major platform used for NFT collectibles also offers “no guarantee or assurance of the uniqueness, originality or quality” for NFTs.¹³⁸ The platform also refers users to the express agreement with the NFT issuer.¹³⁹ SuperRare whitelists artists selling NFTs on their marketplace but makes no representations or warranties in connection with the non-infringement of NFTs. In addition, SuperRare makes users agree to and acknowledge the risk of used technologies by accepting that non-fungible tokens, cryptocurrencies, consensus algorithms, and decentralized or peer-to-peer networks and systems are “experimental, speculative, and inherently risky.”¹⁴⁰ Neither does SuperRare take any responsibility for the smart contracts functioning.¹⁴¹ KnownOring, despite the misleading name, suggests users to “make every effort to verify the original artist of the Content.”¹⁴² These terms show that the buyer bears all associated risks, and the platform only technically facilitates transactions. Even if these terms can mean easy transfer, can one say that they permit easy ownership?

In a Harvard Business Review article, Steve Kaczynski and Scott Duke Kominers explained to the stunned observers of the NFT boom how NFTs create value. They argued that NFTs give parties “something they can agree represents

¹³⁷ *Terms of Service*, OPENSEA, <https://opensea.io/tos> (last visited Apr. 15, 2022).

¹³⁸ *Terms and Conditions*, RAREABLE, <https://static.rarible.com/terms.pdf> (last visited Apr. 15, 2022).

¹³⁹ *Id.*

¹⁴⁰ *See Super Rare Terms of Service*, *supra* note 129.

¹⁴¹ *Id.*

¹⁴² *See Moore*, *supra* note 131.

ownership”, and this “simple ownership” enabled by NFTs helps people sell “products that could never be sold before.”¹⁴³

But what is ownership, and how do NFTs make it simple? Reverting to our discussion of virtual ownership, ownership in a legal sense represents a set of rights that varies depending on the object,¹⁴⁴ and the scope of these rights is defined by law. Ownership is a legal fiction which requires recognition. For instance, the UK High Court has recently recognized that NFTs were digital assets and were property “able to have access to legal protections”.¹⁴⁵ Alternatively, one can expect a legislative definition of the digital assets placing them in the realm of property. Otherwise, one cannot own an NFT digital sword as a tangible good unless a law extends legal rights of tangible property to such digital sword. Following this line of thought, NFTs are not offering a new type of ownership for digital assets; they are a new vehicle to convey approximately the same scope rights as any other traditional tool to transfer rights to digital assets. Even if NFTs imitate tangibility and scarcity, these characteristics are not enough to place a digital good in a realm of tangible property. The buyer of an NFT will not get the full scope of rights available for the owners of the physical assets only because this digital asset obtained more tangibility through blockchain. But it is not completely impossible that US courts may use this “artificial tangibility” as an argument to justify why digital goods sold as NFTs should enjoy property protections.

So, what do users get when they purchase an NFT linked to a digital asset like a photo or a video file? Technically, users pay for a unit of data stored on the Ethereum blockchain and any scope of rights to an associated digital file while the scope of rights they get depends on the smart contract they accept by purchasing NFT.¹⁴⁶ NFTs cannot make anyone own associated digital artwork automatically unless the contract stipulates full intellectual property rights transfer.

¹⁴³ See Kaczynski & Kominers, *supra* note 55.

¹⁴⁴ LAURA S. UNDERKUFFLER, *THE IDEA OF PROPERTY: ITS MEANING AND POWER* 17 (Oxford 2003), <https://oxford.universitypressscholarship.com/view/10.1093/acprof:oso/9780199254187.001.0001/acprof-9780199254187>.

¹⁴⁵ See Richa Bhagat, *UK High Court Recognizes NFTs as ‘Legal Property’*, CRYPTO TIMES (Apr. 30, 2022, updated on May 9, 2022), <https://www.cryptotimes.io/uk-high-court-recognizes-nfts-as-legal-property/> [<https://perma.cc/5ZUQ-Q3Y8>].

¹⁴⁶ NFTs can be linked to any type of asset, including real-world objects like a plot of land, a copy of the artwork, or a tungsten cube. But this paper analyzes only the role of NFTs representing digital assets.

As Professor Rebecca Tushnet commented for Harvard Law Today: “[f]rom an IP perspective, NFTs don’t change anything. If you didn’t have the rights to distribute a work before, you don’t have them now”.¹⁴⁷ Yet NFTs can convey an implied license to the linked digital asset, but the scope of such implied license would most likely be limited.

Typically, in NFT transactions, intellectual property rights are retained by the issuer, and the buyer gets the right to display the underlying asset. The buyer of an NFT doesn’t own the image or any other digital assets; instead, he owns the token itself, which is a “record of ownership of the unique digital version of the underlying work.”¹⁴⁸ However, many users hope to receive a scope of rights equivalent to the IP assignment. The most popular user misconception is that NFTs convey some standard and default scope of rights in every transaction, and they offer “ownership.” An NFT can make buyers own, but only as far as the contract with the initial rightsholder lets buyers own the copy, transfer it, or keep it forever. Despite the fact the NFTs are advertised as a path to ownership, no ownership rights are usually transferred. NFT contracts remain as license contracts, and they do not give ownership rights equal to the real-world ownership.

Reverting to the main deficiencies of digital ownership that we discussed above, can NFTs alone solve these problems? Can NFTs alone give traditional property qualities and guarantees?

- *Rights to freely resell goods.* The technology itself does not make downstream transfer legal *a priori*. The scope of rights to NFTs depends on the contract, but the right to control assets is not presumed because NFTs are still functioning in the realm of IP. This leads to user dissatisfaction in such industries as gaming, where game-NFTs can be traded only on a certain type of platform, which does not sound like a real-world ownership freedom to control and resell the asset. Part IV below analyzes this aspect in more detail.
- *Term of use.* NFT transactions do not limit the duration of use, and once an NFT is purchased, it remains on the buyer’s account in perpetuity . . . unless

¹⁴⁷ See Courtney Majocho, *Memes for Sale? Making sense of NFTs*, HARV. L. TODAY (May 19, 2021), <https://hls.harvard.edu/today/memes-for-sale-making-sense-of-nfts/> [<https://perma.cc/P4PN-P96Y>].

¹⁴⁸ See Clifford, *supra* note 11, at 6.

his account is blocked. The art collector Amir Soleymani was suing platform Nifty Gateway in the UK over the auction terms. Due to the ongoing dispute, he refused to pay for the artwork, and Nifty has frozen his account and blocked access to around 100 NFTs.¹⁴⁹ Moreover, while many platforms like KnownOrigin declare that the buyer gets ownership similar to the physical,¹⁵⁰ the same platforms insert terms permitting the platform to impede or limit users' ability to access digital assets,¹⁵¹ something that cannot happen to the owner of the physical copy of the artwork. Of course, not all platforms require a custodial wallet. Some platforms allow buyers to store NFTs in a non-custodial wallet, but this may sometimes mean a lower level of security.¹⁵²

- *No property guarantees.* NFTs do not convey any warranties or guarantees by default unless otherwise stipulated in a platform's terms of use or in a separate license agreement with a seller. Most platforms, as discussed above, provide no warranties to the buyers.

Consequently, even though NFTs provide certain levels of tangibility and scarcity to digital property, NFTs ultimately do not grant ownership over a digital sword the way one owns a physical weapon. Ownership is not just about matching characteristics with real-world property, but also about having the same scope of rights. Because of this, NFTs cannot emulate ownership unless supported by reforms that help digital property have the same rights and legal protections that real property does.

¹⁴⁹ See Pryor, *supra* note 54; see also John Groom, *NFTs: Contractual and Consumer Risks Come to the Fore as Art Collector Brings Legal Action Against NFT Marketplace*, BAKER MCKENZIE (Dec. 22, 2021), <https://viewpoints.bakermckenzie.com/post/102hew6/nfts-contractual-and-consumer-risks-come-to-the-fore-as-art-collector-brings-leg>.

¹⁵⁰ See Moore, *supra* note 131, at § 8 (“Ownership of the Tokens”).

¹⁵¹ See *id.* at § 11 (“Risks associated with cryptography”).

¹⁵² See generally Henrique Centieiro, *All You Need to Know: NFT Wallets — Custodial vs. Non-Custodial*, LEVEL UP CODING (Sept. 30, 2021), <https://levelup.gitconnected.com/all-you-need-to-know-nft-wallets-custodial-vs-non-custodial-e4bdb0c50889> (NFT ownership is linked to a public wallet key, so to own an NFT one must create a wallet first. Wallets differ based on the levels of security they provide, and platforms usually offer two types. The first are so-called custodial wallets, where a third-party provides security and storage services and a user has login access to their wallet. Platforms offering custodial wallets include Binance, Blockchain.com, and Coinbase. The second type are non-custodial wallets, which give users full control over the wallet, but can be more expensive. Users are responsible for security themselves, so it is more difficult to recover access to these wallets if lost.).

IV

LEGAL CHALLENGES

A. *NFTs as Personal Property*

Professor Fairfield suggested that NFTs can provide sufficient tangibility to satisfy UCC Article 2, and thus can be sold as personal property. Legal norms regulating digital property have been drafted to regulate the license-based exchanges of digital assets rather than sales of digital goods, and users thus need a new solution for digital assets management: a personal property model under the UCC.¹⁵³ Intellectual property regulations do not work for NFT-like transactions,¹⁵⁴ and the IP framework overcomplicates online transactions; sales law, on the other hand, can make online ownership simpler.¹⁵⁵ Moreover, the law should adjust to reflect the actual intentions of the stakeholders. If “buyers believe that they are buying personal property, and sellers claim they are selling it,” then the law of digital transactions should be “rebalance[d]” to meet these expectations and make digital property possible.¹⁵⁶

A possible problem with the existing license-based model is that NFT sellers exercise a level of control that is not usual for standard sale transactions like buying a car or a jug of milk. A buyer of a car does not expect the factory or seller to limit their rights of ownership, like preventing the buyer from changing the color of their car.¹⁵⁷ Moreover, an NFT buyer does not even have guarantees that their asset will remain available since an NFT link can go offline.¹⁵⁸ If NFT technology can offer

¹⁵³ See Joshua Fairfield, *Tokenized: The Law of Non-Fungible Tokens and Unique Digital Property*, 97 *IND. L. J.* 1260, 1300-1301 (2022), <https://www.repository.law.indiana.edu/ilj/vol97/iss4/4/> [hereinafter Fairfield, *Tokenized*].

¹⁵⁴ See *id.* at 1290-91.

¹⁵⁵ See *id.* at 1291-92.

¹⁵⁶ See *id.* at 1291.

¹⁵⁷ *Id.* at 1291-92 (If NFT is characterized as a property and is supposed to grant the same amount of rights as an ownership of a car, than the original author of the artwork should not be able to control any downstream uses or changes of the work).

¹⁵⁸ See Jonty Wareing (@jonty), TWITTER (Mar. 17, 2021, 8:30 AM), <https://twitter.com/jonty/status/1372163423446917122>; see also Ben Gilbert, *Here's What Happens to Digital Artwork — Like the \$69 Million Beeple Collage — if the Site it's Bought From Goes Offline*, INSIDER (Mar. 19, 2021, 8:49 AM), <https://www.businessinsider.com/what-happens-to-digital-art-nft-servers-shut-down-2021-3>. NFT art has no canvas, and there is no gallery where the 70 million dollar “Everydays: The First 5000 Days” of Beeple is stored. An NFT simply links to the digital file stored on a server, so what happens if this server goes down

equivalent freedom of ownership, and if neither the buyer nor the seller wants to be limited by the existing default licensing rules for internet content, then the law should adjust to match the way this technology is understood by users.¹⁵⁹

However, the economic reality surrounding NFT sales is not that simple. Based on current market transactions, buyers and sellers seem to have a different perception of the scope of rights transferred by NFT sales. Often, buyers want to get personal property by purchasing NFTs, while sellers support the license-based system and appreciate more control over the asset. So, should NFT regulations limit or extend the seller's control over the asset? The answer depends on the type of NFT. Even in physical space, depending on the object, the relationship between the creator's IP rights and the buyer's ownership rights can differ. When purchasing a car one does not expect to share any resale royalties, but not all NFT ownership can be compared with car ownership.

One way to satisfy buyers is to limit the application of mandatory IP rules to digital sales. Fairfield argues that changing the sales model from licensing to UCC-type sales would meet the expectations of both sides. NFTs are sold "on the premise that they may be resold and that upstream sellers cannot interfere with downstream purchasers' rights,"¹⁶⁰ so buyers get what they are promised.

However, even UCC-type sales would not give video game players what they want. If gamers got an NFT under the UCC, they would not get a full pack of "rights" because the use of their in-game assets is limited to certain platforms, and game companies cannot guarantee that an NFT will be permanently available because of the technical limitations. Guaranteeing that one's asset would be permanently available and playable within the game means running the game servers forever, and no developer would feel comfortable guaranteeing this.¹⁶¹

and an NFT links to the non-existent file? This is a question that has no simple answer so far. No one can share the blockchain recorded transaction and amend an NFT. But does the "dead link" mean that the NFT will lose value? At the end of the day, Bepple's Everydays are copied by millions of people, and its digital versions are stored in multiple places.

¹⁵⁹ See JOSHUA FAIRFIELD, *RUNAWAY TECHNOLOGY: CAN LAW KEEP UP?* 75 (Cambridge Univ. Press 2021).

¹⁶⁰ See Fairfield, *Tokenized*, *supra* note 153, at 1304-05.

¹⁶¹ One of possible solutions can be an open source game. Unlike a video game publishing company open source community can technically support servers of the game in perpetuity.

Moreover, under the current legal framework nothing prevents authors from selling their NFTs under the UCC. Sarah Howard Jenkins, in her article discussing the applicability of the UCC to digital assets, argues that tangibility of goods is not a requirement of Section 2-105 (1).¹⁶² The UCC is flexible enough to work for the transfers of digital art and other virtual assets, and applying the UCC would be beneficial for both parties leading to more reasonable, predictable, and uniform results.¹⁶³ Indeed, selling NFTs as goods would provide more guarantees for buyers. By purchasing an NFT under the UCC, a buyer receives a warranty that the goods are not infringing (i.e., warranty of title and against infringement)¹⁶⁴ unless, of course, these warranties are directly disclaimed. Currently, purchasing an NFT based on the license does not imply these warranties.¹⁶⁵ Shifting to the rules of personal property transactions can remove the barrier for NFTs to deliver on their promise to buyers.¹⁶⁶

However, even if NFTs can be sold under UCC Article 2, this alone is unlikely to help NFTs convey the scope of rights and protections equivalent to physical property. As mentioned above, nothing explicitly prevents NFTs issuers from using the UCC for current NFT transactions. But issuers have preferred using a licensing model. This can be due to different reasons: for some, selling digital assets under UCC terms is not market practice, while others may simply want to avoid additional warranties filling in contractual gaps.¹⁶⁷ Analyzing problems of digital property, Fairfield stressed that IP holders “have been systematically eliminating emerging virtual property rights by the use of contracts,” namely EULAs.¹⁶⁸ Why would these IP holders want to change their practice and start selling their NFTs under the UCC?

¹⁶² See Sarah Howard Jenkins, *Application of the U.C.C. to Nonpayment Virtual Assets or Digital Art*, 11 Duq. Bus. L.J. 245, 246 (2009).

¹⁶³ See *id.* at 253.

¹⁶⁴ U.C.C. § 2-312 (Am. L. Inst. & Unif. L. Comm’n 2002).

¹⁶⁵ Jenkins, *supra* note 162, at 262.

¹⁶⁶ See Fairfield, *Tokenized*, *supra* note 153, at 1291-92.

¹⁶⁷ See e.g., *Terms of Service, ZORA*, <https://support.zora.co/en/articles/6383293-terms-of-service> (last visited Apr. 15, 2022) (excluding the applicability of the United Nations Convention on Contracts for the International Sale of Goods and the Uniform Computer Information Transaction Act (UCITA) in its Terms of Service).

¹⁶⁸ Fairfield, *Virtual Property*, *supra* note 94, at 1050.

B. Consumer Protection and NFT Market

If sellers intentionally avoid the applicability of UCC, then there are two possible paths to protect users: (i) apply UCC Article 2 by default for NFT transactions or (ii) impose an obligation on sellers to make obligatory disclosures about the rights conveyed. The first solution will make the lives of NFT sellers more complicated, but it will protect buyers much better. Where a transaction is viewed as a sale under Article 2 of the UCC rather than a license, sellers' obligations will go beyond those listed in a license contract.¹⁶⁹

Courts would disrupt the license-based digital assets universe if they took the UCC Article 2 approach. Right now, though, courts cannot apply UCC if the parties have structured the transaction as a license.¹⁷⁰ Therefore, legislative change is necessary to implement UCC protections in the sale of digital assets. However, the strength of the business lobby in Congress makes this change unrealistic. Using consumer protection laws to protect NFT buyers is one of the best options, but it will face the same problem when confronting the freedom of contract principle. Both in Europe and in the US, the freedom of contract is strongly enforced and courts make exceptions only in very rare cases.¹⁷¹ Courts are reluctant to interfere with contractual relations and recognize their unconscionably.¹⁷² While U.S. courts

¹⁶⁹ Nancy S. Kim, *The Software Licensing Dilemma*, *BYU L. REV.* 1103, 1139 (2008).

¹⁷⁰ Cf. Kim, *supra* note 169 at 1119 (noting the debate over whether software licenses constitute goods under Article 2 of the UCC). Some have argued that it is consistent with the policies of the UCC and intellectual property law to interpret Article 2 of the UCC to include license agreements. See Maureen A. O'Rourke, *Rethinking Remedies at the Intersection of Intellectual Property and Contract: Toward a Unified Body of Law*, 82 *IOWA L. REV.* 1137, 1142 (1997). It is also possible that Article 9 of the UCC could provide protection to licensees. UCC § 9-321 (Unif. Law Comm'n 2010). Of course, Article 2 pay provide better protection for consumers or licensees. See Kim, *supra* note 169 (noting the superiority of UCC Article 2 protections).

¹⁷¹ See generally Ellen Frankel Paul, *Freedom of Contract and the "Political Economy" of Lochner v. New York*, 1 *N.Y.U. J. L. & LIBERTY* 515, 516-518 (2005). In the US the right to freely contract without state intervention is not explicitly mentioned in the US Constitution, but there was a long history of case law interpreting freedom to contract like the one resulting from the Due Process Clause of the Fourteenth Amendment. See e.g., *Lochner v. N.Y.*, 198 U.S. 45 (1905); *Allgeyer v. La.*, 165 U.S. 578 (1897). This changed after *W. Coast Hotel v. Parrish*, 300 U.S. 379 (1937).

¹⁷² See Andreas Maurer, *Consumer Protection and Social Methods of Continental and Anglo-American Contract Law and the Transnational Outlook*, 14 *IND. J. OF GLOB. LEGAL STUD.*, 353, 371 (2007). Even though there is also a strong opposition of "welfarists" scholars who argue that the freedom of contract should be balanced against or replaced with a concept of justice of contract aimed to account for the bargaining power inequalities and protect weaker parties.

may refuse to enforce the contract based on the unconscionability of the transaction, the standard is high. Courts will not enforce the unconscionability doctrine unless both procedural and substantial unconscionability is present.¹⁷³ Unconscionability is usually found only in cases when non-negotiated terms in an adhesion contract are not within reasonable expectations of non-drafting party¹⁷⁴ and when there is an overall imbalance between the parties or when one of the parties engages in unfair commercial practices.¹⁷⁵

There is a possibility that US courts will find that some NFT licenses are unconscionable or misleading, but this is only possible in cases where information on the website misled users by believing that they can own NFTs while the actual terms of use stipulated a license. That being said, NFTs would not be unique if they misled consumers. The digital domain was for a long time an area of consumer deceit. In describing misleading techniques and the “Buy Now” lie, Aaron Perzanowski and Jason Schultz analyzed loose use of terms in advertisements and on websites that did not correspond with license terms. If Amazon allows you to “buy” an e-book or you get an advertisement saying that “you can now own the digital comics you buy,” this implies that you are owning, and not being licensed, the material. You are misled by the seller or the advertiser and should find recourse under the false and deceptive advertising framework.¹⁷⁶

It is hard to predict whether courts will find that a description of the business model on the “About Us” page is misleading. For instance, one of the biggest NFT platforms OpenSea describes NFTs as “[j]ust like physical goods, you can do whatever you want with them!”¹⁷⁷ In their Terms of Service, OpenSea stipulates that “NFTs may be subject to terms directly between buyers and sellers” and such additional “Purchase Terms” govern the use of the NFT that the buyer must

¹⁷³ Both procedural and substantive unconscionability is used as a framework for analyzing contractual unconscionability. *See* *Fi-Tampa, LLC v. Kelly-Hall*, 135 So. 3d 563 (Fla. Dist. Ct. App. 2014) (requires evidence of both elements, procedural and substantive); *see also* *McCaffrey Grp., Inc. v. Superior Court*, 224 Cal. App. 4th 1330, 169 Cal. Rptr. 3d 766 (Cal. Ct. App. 2014).

¹⁷⁴ *See e.g.*, *C & J Fertilizer, Inc. v. Allied Mut. Ins. Co.*, 227 N.W.2d 169 (Iowa 1975); *see also* Restatement (Second) of Contracts § 237, cmt. f (Am. L. Inst. 1981).

¹⁷⁵ *See* *Williams v. Walker-Thomas Furniture Co.*, 350 F.2d 445, 449 (D.C. Cir. 1965) (outlining the applicability of the unconscionability doctrine).

¹⁷⁶ Perzanowski & Hoofnagle, *supra* note 101, at 84-87.

¹⁷⁷ OpenSea, *supra* note 137 (*About*).

comply with.¹⁷⁸ Also, OpenSea guarantees “that any NFTs visible on OpenSea will always remain visible and/or available to be bought, sold, or transferred.”¹⁷⁹ These terms might be seen as contradicting OpenSea’s prior statement that NFTs are “just like goods.” Will courts deem the advertisement false or misleading from the perspective of a reasonable consumer?¹⁸⁰

The other problem contributing to the uncertainty around NFTs is the unresolved legal nature of digital goods. Consumer protection law’s applicability, for example, is influenced by whether a digital asset is considered a form of intellectual property, a service, a good, or a hybrid of all of these. While it seems fair to protect consumers irrespective of the nature of the asset, very often consumer protection statutes apply only to tangible goods or services.¹⁸¹ Additionally, the uncertain legal nature of NFTs will also make it more complicated for courts to define whether to apply common law or the UCC to NFT sales. Even before NFTs had emerged as a more complicated type of digital asset, courts were not well-versed in applying the predominant purpose test to the sales of digital goods.¹⁸² This history stems from the court wrestling with how to classify software.¹⁸³ Because software did not fit ideally into Article 2 of the UCC, the American Law Institute published the Principles of the Law of Software Contracts; these principles, however, cannot apply to the digital assets like NFTs, which are closer in concept to a CD-ROM than to a software license and thus clearly fall out of the scope of Article 1.06.¹⁸⁴

¹⁷⁸ *Id.* at *Terms of Service*.

¹⁷⁹ *Id.*

¹⁸⁰ See *Lavie v. Procter & Gamble Co.*, 105 Cal. App. 4th 496, 507 (2003) (“A claim based on false or misleading advertising and unfair business practices ‘must be evaluated from the vantage of a reasonable consumer.’”).

¹⁸¹ See Stacy-Ann Elvy, *Hybrid Transactions and the INTERNET of Things: Goods, Services, Or Software?*, 74 WASH. & LEE L. REV. 77, 127 (2017) (“State unfair or deceptive practices statutes may be limited to tangible goods or services.”).

¹⁸² See Spencer Gottlieb, *Installation Failure: How the Predominant Purpose Test Has Perpetuated Software’s Uncertain Legal Status Under the Uniform Commercial Code*, 113 MICH. L. REV. 739, 743 (2015) (“Determining whether the UCC or common law applies to a software lawsuit theoretically should be simple under the binary predominant purpose test, but courts have been unable to use this test uniformly to classify software transactions as involving either goods or services”).

¹⁸³ See OpenSea, *supra* note 137.

¹⁸⁴ See Am. L. Inst., *Principles of the Law of Software Contracts* (2010), § 1.06(b)(1).

The court will face an old problem aggravated by new technology: what law should govern the NFT agreement? It is possible that linking an asset with a blockchain will make the applicability of the UCC more persuasive. Following the logic of Lorin Brennan, an intangible IP asset can become tangible by merging with the floppy disc.¹⁸⁵ However, it seems more likely that courts will be guided by the intentions of the parties, particularly the seller. If the seller frames an agreement as a license, then the court likely will not convert this agreement into a sale of the asset under the UCC. As Raymond T. Nimmer noted concerning software licenses, naming an agreement a “license” relates to the restrictions or permissions established by the seller, rather than the legal nature of the asset.¹⁸⁶ This logic is also in line with *Vernor v. Autodesk, Inc.*, where the court found that a software transaction is a license if an agreement specifies that the user is granted a license; significantly restricts the user’s ability to transfer the software; and imposes notable use restrictions.¹⁸⁷ When faced with NFT agreements, the court can be expected to follow the same path as in *Vernor* and analyze whether the restrictions imposed by the platform terms of use can be perceived as a “sale” rather than a “license”.

Finally, as an alternative to courts, professional communities can step in to reshape relations in the field of NFT sales. At least in the gaming realm, user feedback and authorities like the UK Advertising Standards Authority (ASA) can bring misleading practices surrounding NFTs to an end. Even though ASA has a very limited arsenal of penalties, it can still influence the marketing practices of major players. Recently, ASA issued a ruling banning advertisements of two mobile games developed by Playrix because the advertisements were not representative of the actual gameplay.¹⁸⁸ Even though ASA’s ruling only banned the advertisements in their initial form, many mobile game companies were alarmed by the ruling.

¹⁸⁵ See Lorin Brennan, *Why Article 2 Cannot Apply to Software Transactions*, 38 DUQ. L. REV. 459, 466 (2000) (“In other words, a computer program may start off as intangible intellectual property, but once it is copied onto a floppy disc it merges into the disc and becomes a tangible, physical ‘good.’”).

¹⁸⁶ See Raymond T. Nimmer, *An Essay on Article 2’s Irrelevance to Licensing Agreements*, 40 LOY. L. REV. 235, 249 (2006) (“The use of a “license,” however, does not depend on a property-rights base. Rather, it depends on how parties handle valuable information by contract and what restrictions or permissions are established with respect to that information.”).

¹⁸⁷ See *Vernor v. Autodesk, Inc.*, 621 F.3d 1102, 1110-11 (9th Cir. 2010).

¹⁸⁸ See *ASA Ruling on PLR Worldwide Sales Ltd t/a Playrix*, ADVERT. STANDARDS AUTH. (30 Sept. 2020), <https://www.asa.org.uk/rulings/plr-worldwide-sales-ltd-g20-1061644-plr-worldwide-sales-ltd.html>.

ASA's rulings by themselves have rather low deterring effect, but those regularly picked up by the press, and the reputational harm can be significant.¹⁸⁹

C. *Digital First-Sale Doctrine and the Right to Display*

1. *Digital First-Sale Doctrine*

Many exclusive rights retained by authors make NFT transactions subject to limitations not anticipated by the typical NFT agreement. When are these rights limited? Regarding copyrighted works under the first-sale doctrine, contracts cannot limit a buyer's right to dispose of physical assets as they see fit.¹⁹⁰ However, digital assets allow for increased control by the rights holder through contracts and licensing.¹⁹¹ There is no digital assets first-sale right in the US, which means that once digital products like ebooks are restrained by the contract terms of the licensing agreement.¹⁹²

The absence of a digital asset first-sale right is not what the parties want or imagine when they enter NFT agreements.¹⁹³ The courts have already expressed that they are not ready to extend the first sale doctrine to digital assets, and it is up to Congress to decide.¹⁹⁴ If Congress does not decide to extend the first-sale doctrine to digital assets, not only NFT sales, but the concept of easy digital asset redistribution by first buyers will not be possible in the US.

¹⁸⁹ See *Gaming the System: Advertising and Video Games*, TAYLOR WESSING (Feb. 2022), <https://www.taylorwessing.com/en/insights-and-events/insights/2022/02/dl-gaming-the-system-advertising-and-video-games>.

¹⁹⁰ COPYRIGHT ACT OF 1976, 17 U.S.C. § 109 (2012). (Once a person obtains ownership of a lawfully-made copy of a copyrighted work, the person may sell or otherwise dispose of that lawful copy without the authority of the copyright owner.) See, e.g., *Kirtsaeng v. John Wiley & Sons, Inc.*, 568 U.S. 519, 538–39 (2013).

¹⁹¹ Unlike a physical painting, video game or other digital work licensed rather than sold, licensing terms for a digital work usually restrict any further resales. See *Adobe Sys. Inc. v. One Stop Micro, Inc.*, 84 F. Supp. 2d 1086, 1091 (N.D. Cal. 2000) (“[V]irtually all end users do not buy—but rather receive a license for—software. The industry uses terms such as ‘purchase,’ ‘sell,’ ‘buy,’ ... because they are convenient and familiar, but the industry is aware that all software ... is distributed under license.”).

¹⁹² COPYRIGHT ACT OF 1976, 17 U.S.C. § 204(a) (2018). The “digital first sale” doctrine was rejected in *Capitol Records LLC v. ReDigi Inc.*, 910 F.3d 649, 657 (2d Cir. 2018)), *Redbox Automated Retail LLC v. Buena Vista Home Entertainment Inc.*, 399 F. Supp. 3d 1018, 1032–33 (C.D. Cal. 2019)).

¹⁹³ One of the main benefits of NFT are that they are resalable like a physical CD. See Jordan Parker, *New Kids On The Blockchain: How Nfts Might Bring About A Digital First Sale Doctrine*, 60 HOUS. L. REV. 467 (2022).

¹⁹⁴ See *Capitol Records*, 910 F. Supp. 3d, and *Redbox*, 399 F. Supp. 3d, *supra* note 192.

2. *The Right to Display*

When a buyer of an oil artwork acquires their painting, they presume that the purchased work can be displayed in museums and private exhibitions. This right stems from the first sale doctrine permitting “the owner of a particular copy [. . .] without the authority of the copyright owner, to display that copy publicly, either directly or by the projection of no more than one image at a time, to viewers present at the place where the copy is located.”¹⁹⁵

In the digital space, there is no possibility to publicly display an image without making a copy of it. Any use in digital space is making a copy,¹⁹⁶ and thus there is no exception to display the purchased NFT artwork without an author’s permission unless the NFT license agreement stipulates otherwise. Though under the Ninth Circuit “server test,”¹⁹⁷ displaying an embedded image or video stored on the third-party server (which is the case for NFTs) might not be an infringement.¹⁹⁸ This display of embedded content can be more questionable in other formats.

Unless the legal framework changes, NFTs can potentially convey the same rights close to the ownership of the physical object but only if the parties contractually stipulate all transferred rights and navigate through mandatory IP rules. However, platform rules are not exhaustive and not clear. Most of the collectible NFTs are purchased on platforms like Nifty Gateway, which can technically permit the display of NFTs¹⁹⁹ but do not stipulate a license to the artwork.²⁰⁰ Notably, NFT platforms never contain a license to the NFT (probably

¹⁹⁵ COPYRIGHT ACT OF 1976, 17 U.S.C. § 109.

¹⁹⁶ See Fairfield, *Tokenized*, *supra* note 153, at 1304-05.

¹⁹⁷ See *Perfect 10, Inc. v. Amazon.com, Inc.*, 487 F.3d 701 (9th Cir.), *amended by*, 508 F.3d 1146 (9th Cir. 2007) (under the Ninth Circuit’s “server test” adopted in 2007 in *Perfect 10*, the infringer of the public display right is the one who actually stores the photo on a server and physically sends ones and zeroes over the Internet to the user’s browser, and not the one who displays an embedded image).

¹⁹⁸ See *Nicklen v. Sinclair Broadcast Group, Inc.*, 551 F. Supp. 3d 188 (S.D.N.Y. 2021) No. 20-10300. (Southern District of New York ruled finding that an “embed” photo may constitute copyright infringement, namely the right to exclusive reproduction, distribution, and display rights in violation of 17 U.S.C. §§ 106(1), (3), and (5)).

¹⁹⁹ *How Can I Display my NFT’s?*, NIFTY, <https://help.niftygateway.com/hc/en-us/articles/360061942474-How-can-I-display-my-NFT-s-> (last visited Apr. 15, 2022).

²⁰⁰ See Moore, *supra* note 131.

because they advertise NFT for sale); instead, they contain Terms of Use, which do not have detailed terms regulating the use of NFTs.²⁰¹

V

WERE NFTs A FAILED ATTEMPT TO UPGRADE OWNERSHIP?

NFTs revealed that there is a market demand for a new type of digital ownership. The question is whether NFTs are a good medium to create a legislative framework around. It does not seem like the creation of NFTs arose to address solutions for digital asset ownership.²⁰² Considering a broad range of factors, from morality to ecological impact, NFTs should not serve as the model for which legislators should model digital asset ownership-based regulation around.

First, NFTs have significant technical limitations. CryptoKitties point to the reason why NFTs do not help solve digital ownership challenges. One reason is the limitation of blockchain systems. The volatile price of cryptocurrencies makes it difficult to control the cost of performing operations on a public blockchain system. In CryptoKitties, an Ethereum-based game, the cost of playing and trading kitties depended on the Ether price, which caused the game's decline when the "gas prices" increased.²⁰³ NFTs are sold on Ethereum and the value continually depends on the crypto coin used.²⁰⁴ Moreover, Blockchain technology is not as "unhackable" as many believe. Its security has recently been called into question by several successful breaches.²⁰⁵

Second, NFTs are an environmentally taxing solution for the digital property problem. Blockchain energy consumption is an increasing concern. Recently, a French artist Joanie Lemercier made news by selling NFT in 10 seconds for

²⁰¹ See e.g., *OpenSea Terms of Service*, OPENSEA, <https://opensea.io/tos>. (OpenSea Term of Service do not even refer to the possible license terms, instead they refer to the "purchase terms and " stipulate that "NFTs may be subject to terms directly between buyers and sellers with respect to the use of the NFT content and benefits associated with a given NFT").

²⁰² As discussed above, NFTs do not solve the problems inherent to digital assets ownership, despite the fact that NFTs are sometimes advertised as a revolutionary solution for digital ownership.

²⁰³ Jiang Xin-Jian & Liu Xiao Fan, *CryptoKitties Transaction Network Analysis: The Rise and Fall of the First Blockchain Game Mania*, 9 FRONTIERS PHYSICS 1, 9 (2021).

²⁰⁴ See Elena Fitzsimons, *NFT Art: What Is It, How It Works and What It Means for the Creative Industry*, 99 DESIGNS, <https://99designs.com/blog/web-digital/nft-art/> (2021).

²⁰⁵ See generally Birgit Clark, *Crypto-Pie in the Sky? How Blockchain Technology is Impacting Intellectual Property Law*, 2.2 STAN. J. BLOCKCHAIN L. & POL'Y 252, 261 (2019).

thousands of dollars. That transaction consumed the equivalent of how much energy his studio uses over a full 2-year period, which is 8.7 megawatt-hours of energy.²⁰⁶ A new architecture for blockchains, so-called “proof-of-stake,” may reduce the amount of electricity consumed,²⁰⁷ but for now many platforms continue to use Ethereum. This raises concerns about whether the NFTs are an optimal solution to resolve a problem which can be fixed through adjusting legal frameworks.

Finally, and most importantly, NFTs do not offer a revolutionary solution for digital ownership. NFTs can make digital transactions easier by recording ownership and tracking transactions, but these are all solutions offered by the blockchain²⁰⁸ and not specifically by NFTs. The other core problem is that NFTs cannot provide solutions for the virtual property unless followed by legislative reforms. These reforms could resolve many virtual ownership problems even without NFTs.

This however does not mean that virtual property cannot prosper without legal reforms. Market competition and economic pressures can ensure that videogame developers and other rights holders can grant more usage rights to the owners of virtual goods, bridging this gap between two types of ownership.²⁰⁹ As Lawrence Lessig notes, the law is only one of four forces regulating online behavior.²¹⁰ Law is not the most flexible nor the most effective and fast way to regulate online behavior. Market, crypto societal norms and system architecture can make NFT technology meet the expectations of NFT buyers.

The role of NFTs in the history of virtual property will also depend on the judiciary. Considering the novelty of the technology and the absence of

²⁰⁶ See Gregory Barber, *NFTs Are Hot. So Is Their Effect on the Earth's Climate*, WIRED, <https://www.wired.com/story/nfts-hot-effect-earth-climate/> (last updated Mar. 6, 2021, 7:00 AM).

²⁰⁷ See Daniel Saraga, *How NFTs Disrupted the Art Market in Less Than a Year*, SWISSNEX BOS. & N.Y. (Dec. 16, 2021), <https://swissnexboston.medium.com/how-nfts-disrupted-the-art-market-in-less-than-a-year-d4367791eb52>.

²⁰⁸ With regard to the possible uses of blockchain technology for IP see Gönenç Gürkaynak et al., *Intellectual Property Law and Practice in the Blockchain Realm*, 34:4 COMPUT. L. & SEC. REV. 847, 854 (August 2018), <https://www.gurkaynak.av.tr/docs/8c65a-ip-law-and-practice-in-the-blockchain-realm.pdf>.

²⁰⁹ See Cifrino, *supra* note 73, at 262.

²¹⁰ See generally LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* 86-89 (1999) (discussing forces regulating behavior).

case law testing NFT licenses, trading NFTs is a risky venture. Coupled with a myriad of misconceptions about the scope of transferred rights and complicated technology, NFTs represent an explosive mixture of legal uncertainty and user misunderstanding, potentially triggering litigation. If courts manage to get NFTs out of the gray zone, then NFTs may have a longer life as a tool to facilitate online digital transactions. Just one year after the boom, we already see litigation caused by this new technology. In a recent complaint by Miramax against Quentin Tarantino, the production company asserted that Tarantino cannot sell NFTs with “exclusive scenes” from ‘Pulp Fiction’ because he transferred all rights to Miramax.²¹¹ The other recent dispute in the NFT sphere arose from the release of the “Art Wars” NFT series minted by art curator Ben Moore. “Art Wars” was originally a collection of life-sized Stormtrooper helmets designed by famous artists. Moore worked with Anish Kapoor, Damien Hirst, David Bailey, and many others to develop the artworks for the project. Then, Moore made photos of the helmets and minted them into NFTs, after which the NFTs were offered for sale on OpenSea without Moore allegedly ever securing the IP rights to the works.²¹² These legal disputes were triggered by the legal ambiguity and uncertainty around NFTs, as well as basic misunderstanding of copyright. Unless courts, legislators, or the market corrects these problems, NFTs will most likely end up as a niche curiosity for digital art collectors

CONCLUSION

If the only role of NFTs was to offer a real-world-like type of ownership, then it failed. That said, while they have not made digital ownership easy or comprehensive, NFTs have met certain needs for facilitating transfers of digital assets.

The technology itself is not to blame for failing to deliver on its promises. The current legal framework is still hostile to the solutions trying to bridge the gap between digital and physical ownership. NFTs highlight the long existing problems of digital asset regulation and the need to create a framework suitable for digital

²¹¹ *Complaint* at 1, Miramax, LLC. v. Quentin Tarantino; Visiona Romantica, Inc., No. 2:21-cv-08979 (C.D. Cal. 2021).

²¹² See Groom, *supra* note 149; see also Eileen Kinsella, *A Curator Allegedly Minted Unauthorized NFTs of Art by Anish Kapoor and Others. Now, He May Get Slapped with Lawsuits*, ARTNET (Nov. 23, 2021), <https://news.artnet.com/art-world/art-wars-unauthorized-nft-sales-2039341>.

transactions, as any other solution that follow NFTs will face the same regulatory impediments.

The other problem that NFTs expose is the conflict between intellectual property and virtual property. One of the main reasons that NFTs have not miraculously created “new and simple ownership” is that NFTs remain strongly rooted in IP. As long as NFTs and other virtual property remains IP-controlled, then the benefits that real-world ownership grants will remain a dream. Even if the IP regime is not the best for virtual goods, it does not mean that users cannot obtain property-esque rights through licenses. The market can give users their long-awaited goal of simple virtual ownership. But for now, “preventing false promises of ownership” and not misleading users by making them believe that they own what they only have a license to use will be a partial solution in the digital property ownership problem.²¹³

Beyond the analysis of NFTs’ efficiency as a tool for revolutionizing virtual property or facilitating online transactions, this boom is clearly a sign of a change: it is a manifestation of the desire for new ownership. If NFTs do not stand up as a good solution for digital ownership, then the market will continue looking for a new solution as long as there is a demand for easier digital ownership.

²¹³ Perzanowski & Hoofnagle, *supra* note 101, at 174.

NEW YORK UNIVERSITY
JOURNAL OF INTELLECTUAL PROPERTY
AND ENTERTAINMENT LAW

VOLUME 12

SPRING 2023

NUMBER 2

PREVENTING PREEMPTION: PROMISE OF THE
NONOBVIOUSNESS REQUIREMENT

ANANYA PILLUTLA*

Preemption is a foundational concern of the patent system. Preemption occurs when a patent improperly claims a fundamental scientific or technological concept, often called a law of nature, natural phenomenon, or abstract idea. In doing so, the patent preempts future innovation because the law, phenomenon, or idea is removed from the public domain. As a result, the public – including competitors and future innovators – no longer can use the claimed fundamental law, phenomenon, or idea. Courts’ concerns about preemption persist today. To this end, both the Supreme Court and the Federal Circuit cite preemption when issuing decisions invalidating certain patent claims or, in some instances, invalidating a patent entirely. Courts, including the Supreme Court and the Federal Circuit, commonly turn to the patentable subject matter requirement, the written description requirement, and, recently, the enablement requirement to address concerns of preemption. As a result of their reliance on these three requirements, the courts have expanded the requirements and strained the underlying doctrines. Rather than continue to rely on the currently unstable patentable subject matter doctrine, written description doctrine, and enablement doctrine, courts should turn to the nonobviousness requirement to address concerns of preemption. It has always been possible for courts to address preemption under the nonobviousness requirement because laws of nature, natural phenomena, and abstract ideas can fall into the prior art to a patent. After the Supreme Court’s decisions in John Deere and KSR, the nonobviousness requirement is an even more effective approach to addressing preemption. In John Deere and KSR, the Supreme Court expanded the scope of the prior art to a patent which in turn increased the amount of laws, phenomena, and ideas

* J.D. Candidate, 2023, New York University School of Law; B.A. in Physics, 2017, University of Chicago. The author would like to thank Professor Rochelle Dreyfuss, Professor Katherine J. Strandburg, and the Editorial Board of the New York University *Journal of Intellectual Property and Entertainment Law*.

which fall into the prior art. Additionally, the Supreme Court created added flexibility and stability in the nonobviousness doctrine which allows courts to address preemption under the patentable subject matter requirement without straining the doctrine.

INTRODUCTION	354
I. PREEMPTION UNDERMINES THE PATENT SYSTEM.....	356
A. <i>Properly Tailored Patent Breadth Optimally Incentivizes Innovation...</i>	357
B. <i>Overly Broad Patents Can Preempt Future Innovation</i>	360
II. WEAKNESSES OF CURRENT APPROACHES TO ADDRESSING PREEMPTION	361
A. <i>The Patentable Subject Matter Requirement</i>	361
B. <i>The Written Description Requirement</i>	365
C. <i>The Enablement Requirement</i>	371
III. WEAKNESSES OF POSSIBLE FUTURE APPROACHES TO ADDRESSING PREEMPTION	374
A. <i>The Novelty Requirement</i>	374
B. <i>Claim Construction Analysis</i>	375
C. <i>The Reverse Doctrine of Equivalents</i>	378
IV. PROMISE OF THE NONOBVIOUSNESS REQUIREMENT TO ADDRESS PREEMPTION.....	379
A. <i>Overview of the Nonobviousness Requirement</i>	380
B. <i>Implications of the Nonobviousness Doctrine</i>	381
C. <i>An Example of the Nonobviousness Requirement in Use</i>	383
V. DOCTRINAL AND PRACTICAL ADVANTAGES OF THE NONOBVIOUSNESS REQUIREMENT.....	385
A. <i>Doctrinal Advantages Over the Written Description Requirement and Enablement Requirement</i>	386
B. <i>Doctrinal Advantages Over the Patentable Subject Matter Requirement</i>	386
C. <i>Practical Advantage of Ease of Application</i>	388
D. <i>Practical Advantage of Consideration at the U.S. Patent and Trademark Office</i>	388
CONCLUSION	389

INTRODUCTION

The health of the patent system relies on the proper regulation of patent scope. This is because innovation is best incentivized when patent scope is correctly tailored to the invention protected by the patent. One way in which overly broad patents may harm innovation is through preemption. Preemption is the “[inhibition

of] future discovery by improperly tying up the use of laws of nature and the like.”¹ Courts, including the Supreme Court and the Federal Circuit, are concerned that patent law does not preempt future innovation. Both the Supreme Court and the Federal Circuit have cited preemption as a convincing reason to narrow patent scope.² There are multiple provisions of patent law that courts can use to narrow overly broad patent scope.

This note argues that courts should address preemption by invalidating patent claims under the nonobviousness requirement. Section II explains the importance of properly tailored patent scope and describes how overly broad patents can preempt innovation. Section III provides an overview of how courts have addressed preemption under each of the patentable subject matter requirement, the written description requirement, and the enablement requirement and explains the shortcomings of each approach. Section IV provides a brief overview of how courts could address preemption under each of the novelty requirement, claim construction analysis, and the reverse doctrine of equivalents and again explains the shortcomings of each approach. Section V argues that courts should address preemption under the nonobviousness requirement and Section VI explains the doctrinal and practical benefits of doing so.

¹ *Mayo Collaborative Servs. v. Prometheus Lab’ys, Inc.*, 566 U.S. 66, 86 (2012).

² *See e.g.*, *Diamond v. Diehr*, 450 U.S. 175, 187 (1981) (“Their process admittedly employs a well-known mathematical equation, but they do not seek to pre-empt the use of that equation. Rather, they seek only to foreclose from others the use of that equation in conjunction with all of the other steps in their claimed process.”); *Bilski v. Kappos*, 561 U.S. 593, 611–12 (2010) (“The concept of hedging. . . is an unpatentable abstract idea, just like the algorithms at issue in *Benson* and *Flook*. Allowing petitioners to patent risk hedging would preempt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea.”); *Mayo*, 566 U.S. at 72 (“Our conclusion rests upon an examination of the particular claims before us in light of the Court’s precedents. They warn us against upholding patents that claim processes that too broadly pre-empt the use of a natural law.”); *Alice Corp. Pty. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014) (“We have described the concern that drives this exclusionary principle as one of pre-emption.”); *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1052 (Fed. Cir. 2016) (“[W]hile pre-emption is not the test for determining patent-eligibility [citation omitted] it is certainly the concern that undergirds §101 jurisprudence) (quotation omitted); *Athena Diagnostics, Inc. v. Mayo Collaborative Servs., LLC*, 915 F.3d 743, 752 (Fed. Cir. 2019) (“Preemption is sufficient to render a claim ineligible under §101, but it is not necessary.”).

I

PREEMPTION UNDERMINES THE PATENT SYSTEM

The efficacy of the patent system depends on patent scope being correctly tailored to the protected invention. This is because properly tailored patent scope optimally incentivizes innovation.³ Patent scope can be modulated by changing the length or the breadth of a patent.⁴ Patent length is determined by patent term which defines the period of time over which inventors can enjoy patent rights. Patent breadth defines the subject matter over which inventors enjoy patent rights.

It is unlikely that the statutorily defined term for patents will change from its present length of twenty years from filing because patent term is set by statute.⁵ However, economists dispute the optimal length of the patent term.⁶ Some economists argue that the present patent term of twenty years from filing is too long because there is little effect on welfare from extending patent terms beyond ten years.⁷ Others argue that the current patent term is inadequate to incentivize innovation of products that take longer to develop, such as certain pharmaceuticals.⁸ Still other economists argue the current regime of a uniform

³ See *infra* Part II, Sections A and B.

⁴ Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 868 (1990) (“The analysis has concentrated on how changing patent coverage affects the balance between incentives to the inventor and underuse of the invention due to patent monopolies. Thus, Nordhaus’s analysis of optimum patent life is concerned with the tradeoff between increased inventive effort resulting from longer anticipated patent life and greater deadweight costs associated with longer monopoly. Kaplow uses these two variables to analyze the effects of allowing the patent holder greater freedom regarding licensing agreements. Gilbert and Shapiro’s recent work on optimal patent length and breadth builds on the tradeoff model, as does Klemperer’s.”).

⁵ 35 U.S.C. §154 (2006) (“Subject to the payment of fees under this title, such grant shall be for a term beginning on the date on which the patent issues and ending 20 years from the date on which the application for the patent was filed in the United States or, if the application contains a specific reference to an earlier filed application or applications under section 120, 121, 365(c), or 386(c), from the date on which the earliest such application was filed.”).

⁶ Neel U. Sukhatme & Judd Cramer, *Who Cares about Patents: Cross-Industry Differences in the Marginal Value of Patent Term*, 21 AM. L. & ECON. REV. 1, 1 (2019).

⁷ William D. Nordhaus, *The Optimum Life of a Patent: Reply*, 62 AM. ECON. REV. 428, 428 (1972).

⁸ See Benjamin N. Roin, *The Case for Tailoring Patent Awards Based on Time-to-Market*, 61 UCLA L. REV. 672 (2014).

patent term across industries should be replaced by a flexible, industry-specific patent term system.⁹

Patent breadth, however, is an important and more readily manipulable lever for optimizing patent protection. Patent breadth or patent scope is constrained by the scope of the valid claims of the patent.¹⁰ Patent claims are set forth at the end of a patent specification and define the metes and bounds of the patented invention. In other words, the patent claims define the patented invention and provide notice to others of what the patent covers.¹¹ Properly tailoring patent scope is important for promoting innovation and one way in which overly broad patent claims can harm innovation is by preempting future invention.

A. *Properly Tailored Patent Breadth Optimally Incentivizes Innovation*

Determining the scope of each patent is an important judicial function. This determination is not only important to resolving cases but also allows courts to individually tailor patent scope on a patent-by-patent basis and to make decisions that help ensure that innovation is optimally incentivized across the patent system.

There is widespread agreement among scholars and judges that the rationale for the patent system is a utilitarian one.¹² The language of the constitution

⁹ Eric B. Budish, Benjamin N. Roin & Heidi Williams, *Do Fixed Patent Terms Distort Innovation? Evidence from Cancer Clinical Trials* (THE UNIV. OF CHI. BOOTH SCH. OF BUS., WORKING PAPER No. 097, 2013).

¹⁰ 35 U.S.C. §100 (2015) (“The term ‘claimed invention’ means the subject matter defined by a claim in a patent or an application for a patent.”); *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004) (“It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.”); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) (“First, we look to the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention.”).

¹¹ 35 U.S.C. §112 (2012) (“The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.”).

¹² William D. Nordhaus, *An Economic Theory of Technological Change*, 59 AM. ECON. REV. 18, 19 (1969) (“Any invention is potentially a public good in the sense that it is indivisible, or that it can in theory be used universally at zero marginal cost . . . In the model we assume that the inventor has exclusive rights to use and/or license the invention for T years, after which the invention enters the public domain as public knowledge. T can be interpreted as the life of a patent, the average lead-time, or the length for which secrets can be held The most important point is that from an economic point of view the inventor has a monopoly over the invention for T years . . . It should be stressed that the monopoly over information is essential for a sensible treatment of invention when invention is a public good.”); Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J. OF L. & ECON. 265, 266 (1977) (“The patent is a reward that enables

supports patents' utilitarian underpinnings, and the Supreme Court reinforces this utilitarian rationale.¹³ Under the utilitarian view, the patent system remedies market breakdown due to failures of appropriability. Under this argument, absent a patent system, inventors cannot appropriate for themselves the value they create by their innovations. This is because, after an invention becomes public, competitors can copy the invention without incurring the research and development costs incurred by the original inventor. As a result, competitors can produce and offer for sale the invention at lower prices. If the inventor wishes to remain competitive in the market, the inventor must match the lower prices offered by competitors. Thus, the original inventor is potentially unable to recoup the costs of invention, or, at the very least suffers reduced profits. As a result, inventors are not sufficiently incentivized to invent.¹⁴ At a market level, this breakdown results in suboptimal levels of invention.¹⁵ The patent system remedies the failure of appropriability

the inventor to capture the returns from his investment in the invention, returns that would otherwise (absent secrecy) be subject to appropriation by others. The existence of the reward tends to make the amount of private investment in invention closer to the value of its social product.”).

¹³ 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.”); *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974) (quoting *Universal Oil Co. v. Globe Co.*, 322 U.S. 471, 484 (1944)) (“The patent laws promote this progress by offering a right of exclusion for a limited period as an incentive to inventors to risk the often enormous costs in terms of time, research, and development. The productive effort thereby fostered will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens. In return for the right of exclusion—this ‘reward for inventions[.]’”); *Scott Paper Co. v. Marcalus Mfg. Co.*, 326 U.S. 249, 255 (1945) (“By the patent laws Congress has given to the inventor opportunity to secure the material rewards for his invention for a limited time, on condition that he make full disclosure for the benefit of the public of the manner of making and using the invention, and that upon the expiration of the patent the public be left free to use the invention. As has been many times pointed out, the means adopted by Congress of promoting the progress of science and the arts is the limited grant of the patent monopoly in return for the full disclosure of the patented invention and its dedication to the public on the expiration of the patent.”).

¹⁴ Kenneth W. Dam, *The Economic Underpinnings of Patent Law*, 23 J. LEGAL STUD. 247, 247 (1994) (“The patent law achieves this laudable end by creating property rights in inventions.”).

¹⁵ Yafit Lev-Aretz & Katherine J. Strandburg, *Regulation and Innovation: Approaching Market Failure from Both Sides*, 38 YALE J. ON REGUL. BULL. 1, 3 (2020) (“Markets sometimes fail to supply products and services at competitive prices - or to undertake innovative activities - even when suppliers can perfectly perceive consumer demand for them. These failures, which we term ‘failures of appropriability,’ are due to either free-rider problems or barriers to entry, which have been the focus of innovation policy and intellectual property doctrine.”); Dam, *supra* note 14, at 247–48 (“To start with, it is important to recognize the primary problem that the patent system solves. This problem - often called the ‘appropriability problem’ - is that, if a firm could not recover the costs of invention because the resulting information were available to all, then we could expect a much lower and indeed suboptimal level of innovation. In short, the patent system prevents

by enabling inventors to appropriate the value of their innovation. Patents provide inventors the exclusive right to make, use, offer for sale, and sell their inventions for a limited period of time.¹⁶ During that time, inventors can exclude competitors from the market for their invention and charge monopoly prices. This allows inventors to recoup the costs of invention and profit from their innovation.¹⁷ As a result, inventors are sufficiently incentivized to invent.

The patent system also creates societal costs. When patent scope is overly broad, inventors are overcompensated for their inventions, and consumers and competitors are unnecessarily disincentivized from innovating. Precisely because patentees can exclude competitors from the markets for their inventions and charge monopoly prices, consumers pay higher prices and suffer the risk of suppressed competition and long-term invention. This is because patents disincentivize future inventors from creating useful innovations for fear of infringing the patents. In other words, future inventors suffer increased risks and costs of innovation under the patent system.¹⁸ At a market level, the unnecessary disincentivizing of competitors and future innovators results in suboptimal levels of innovation.

others from reaping where they have not sown and thereby promotes research and development (R & D) investment in innovation.”).

¹⁶ 35 U.S.C. §271 (2010) (“Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.”).

¹⁷ Lev-Aretz & Strandburg, *supra* note 15, at 12–13 (“Intellectual property law responds to the free-rider problem by awarding exclusive rights to innovators, allowing them to charge supra-competitive prices during the term of intellectual property protection. By charging supra-competitive prices, innovators can recoup their upfront investments. Moreover, since they can expect intellectual property protection, they will no longer be deterred from innovation that responds to consumer demand. If all goes well, intellectual property protection will level out the appropriability landscape.”).

¹⁸ Merges & Nelson, *supra* note 4, at 868 (“In most analyses of the different aspects of the patent system, concern has centered on a simple tradeoff. The analysis has concentrated on how changing patent coverage affects the balance between incentives to the inventor and underuse of the invention due to patent monopolies.”); Lev-Aretz & Strandburg *supra* note 15, at 13 (“However, intellectual property exclusivity can create two sorts of social costs. First, it can overcompensate (or undercompensate) innovators if the length and breadth of the exclusive rights are not tailored to the innovator’s upfront investment. Second, exclusivity is a socially costly way to ‘reimburse’ innovators, because it restricts the innovative activities of follow-on innovators in a way that a simple repayment would not.”).

B. Overly Broad Patents Can Preempt Future Innovation

One way in which overly broad patents can harm the patent system is by preempting future innovation. A patent preempts future innovation when it inhibits future discovery by “improperly tying up the use of [laws of nature, natural phenomena, and abstract ideas].”¹⁹ In other words, a patent may preempt innovation by granting an exclusive right to use these laws, phenomena, or ideas. As a result, other inventors cannot use those laws, phenomena, or ideas, and this lack of access stifles innovation.

The Supreme Court most famously expressed concerns about preemption in *O’Reilly v. Morse*.²⁰ The patent in *O’Reilly* was for a telegraph machine but claimed the exclusive right to every invention in which the motive power is electric or galvanic current and the result is the marking or printing of intelligible characters, signs, or letters at any distance. The claims were not confined to the machinery or parts of machinery specified in the patent application. Instead, the patent claimed the use of electric current, however developed, “for making or printing intelligible characters, signs or letters at any distances.” The Court found that the patent “shut[] the door against inventions [by others]” and allowed the patentee to exclusively “avail himself of new discoveries in the properties and powers of [electromagnetism]” not yet discovered. The Court decided that the patent claim was “too broad, and not warranted by law.”²¹

The policy concerns expressed by the Supreme Court in *O’Reilly* remain today as courts continue to worry about preemption. Both the Supreme Court and the Federal Circuit have issued decisions discussing the problem of preemption and invalidating patent claims to narrow patent breadth and prevent preemption.²²

¹⁹ *Mayo*, 566 U.S. at 85.

²⁰ *O’Reilly v. Morse*, 56 U.S. 62, 113 (1853) (“If this claim can be maintained, it matters not by what process or machinery the result is accomplished. For aught that we now know some future inventor, in the onward march of science, may discover a mode of writing or printing at a distance by means of the electric or galvanic current, without using any part of the process or combination set forth in the plaintiff’s specification. His invention may be less complicated—less liable to get out of order—less expensive in construction, and in its operation. But yet if it is covered by this patent the inventor could not use it, nor the public have the benefit of it without the permission of this patentee.”).

²¹ *Id.* at 112-13.

²² See cases cited, *supra* note 2.

II

WEAKNESSES OF CURRENT APPROACHES TO ADDRESSING PREEMPTION

Courts most often address preemption by invalidating overly broad patent claims under (1) the patentable subject matter requirement, (2) the written description requirement, and (3) the enablement requirement. The Supreme Court tends to address preemption by invalidating claims under the patentable subject matter requirement, whereas the Federal Circuit addresses preemption by invalidating patent claims under all three requirements. Following Supreme Court and Federal Circuit precedent, district courts also address concerns of preemption by invalidating patent claims under the patentable subject matter requirement, the written description requirement, and the enablement requirement. However, each of these approaches raises significant concerns that prevent the requirements from being effective methods of addressing preemption.

A. *The Patentable Subject Matter Requirement*

The patentable subject matter requirement²³ is a useful tool for courts to address preemption by invalidating overly broad patent claims that claim laws of nature, natural phenomena, or abstract ideas. Courts have historically, and generally continue to, address preemption under the patentable subject matter requirement. However, the patentable subject matter doctrine has been expanded too broadly, and this expansion creates multiple problems when the patentable subject matter requirement is used to address preemption.

Under the patentable subject matter requirement, “[p]henomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.”²⁴ An explicit rationale for the patentable subject matter requirement is to address preemption.²⁵ Courts recognize that patenting such inventions would create a

²³ 35 U.S.C. §101 (1952) (“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”).

²⁴ *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) (“Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.”).

²⁵ *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1353 (Fed. Cir. 2010) (“That research hypotheses do not qualify for patent protection possibly results in some loss of incentive, although Ariad

preemption problem wherein monopolization of those tools through the grant of a patent would “tend to impede innovation more than it would tend to promote it.”²⁶

However, the Supreme Court has also recognized that “too broad an interpretation of this exclusionary principle [preemption] could eviscerate patent law [because] all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.”²⁷ To this end, in *Diamond v. Diehr*, the Supreme Court pointed out that an invention is “not unpatentable simply because it contains a law of nature or a mathematical algorithm,” and “an application of a law of nature or mathematical formula to a known structure or process may [] be deserving of patent protection.”²⁸ Still, the Supreme Court made clear that “to transform an unpatentable law of nature into a patent-eligible application of such a law, a patent must do more than simply state the law of nature while adding the words ‘apply it.’”²⁹ In *Alice v. CLS Bank*, the Supreme Court set forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from patents that claim patent-eligible applications of those concepts. This framework has come to be called the *Alice/Mayo* two-step test. At step one of the test, the court determines whether the claims at issue are directed to patent-ineligible concepts. Then, at step two of the test, each element of each claim is considered both individually and as an ordered combination to determine whether the additional elements transform the nature of the claim into a patent-eligible application. Step two of this analysis has also been described as a search for an “inventive concept,” or an 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.”³⁰

presents no evidence of any discernible impact on the pace of innovation or the number of patents obtained by universities. But claims to research plans also impose costs on downstream research, discouraging later invention. The goal is to get the right balance, and the written description doctrine does so by giving the incentive to actual invention and not ‘attempt[s] to preempt the future before it has arrived.’”)

²⁶ *Mayo*, 566 U.S. at 71 (“Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work. [citation omitted]. . . And monopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it.”) (quotation omitted).

²⁷ *Mayo*, 566 U.S. at 71.

²⁸ *Diehr*, 450 U.S. at 187.

²⁹ *Mayo*, 566 U.S. at 71–72.

³⁰ *Alice*, 573 U.S. at 217–18.

The patentable subject matter requirement is an effective tool for addressing preemption. The Supreme Court has addressed preemption by invalidating patent claims under the patentable subject matter requirement in a few notable decisions. In *Bilski v. Kappos*, the Supreme Court invalidated patent claims, finding that the concept of hedging was an unpatentable abstract idea. The Court also found that “[a]llowing [the patentee] to patent risk hedging would [preempt] use of this approach in all fields, and would effectively grant a monopoly over an abstract idea.”³¹ Following the same line of logic, in *Alice v. CLS Bank*, the Supreme Court made clear that the principle of preemption is the basis for the judicial exceptions to patentability.³² However, in *Diamond v. Diehr*, the Supreme Court found that the patent at issue did not claim patentable subject matter because the patentees did not seek to patent a mathematical formula.³³ Instead, they sought patent protection for a process of curing synthetic rubber. The court found that the patented process “admittedly employ[ed] a well-known mathematical equation, but [the patentees did] not seek to pre-empt the use of that equation.” “Rather, [the patent only] foreclose[d] from others the use of that equation in conjunction with all of the other steps in [the] claimed process.”³⁴

In *Ariosa v. Sequenom*, the Federal Circuit followed the Supreme Court’s precedent and found that questions of preemption are inherent in, and resolved by, patentable subject matter analysis.³⁵ The court also found that a concern of the patentable subject matter requirement is that patent law “not inhibit further discovery by improperly tying up the future use of these building blocks of human ingenuity.”³⁶ In other words, patents “should not prevent the use of the basic building blocks of technology—abstract ideas, naturally occurring phenomena, and natural laws.”³⁷

Despite the focus of the patentable subject matter doctrine on addressing preemption, addressing preemption by invalidating patents under the patentable

³¹ *Bilski*, 561 U.S. at 611–12 (2010).

³² *Alice Corp.*, 573 U.S. at 216 (“We have described the concern that drives this exclusionary principle as one of pre-emption.”).

³³ *Diehr*, 450 U.S. at 187.

³⁴ *Id.*

³⁵ See *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371 (Fed. Cir. 2015).

³⁶ *Id.* at 1379 (quoting *Alice*, 134 S. Ct at 2354).

³⁷ *Id.* at 1379.

subject matter requirement poses some problems. First, invalidating patent claims under the patentable subject matter requirement tends to disrupt whole areas of innovation rather than address patent validity on a claim-by-claim or a patent-by-patent basis. For example, courts have frequently relied on the patentable subject matter requirement to address issues of preemption in the diagnostics space and cases including *Mayo v. Prometheus Labs*, *Ariosa v. Sequenom*, and *Athena v. Mayo*, make it difficult to imagine how a court or the U.S. Patent and Trademark Office could now find any diagnostic patentable, without straining the doctrine.³⁸

Second, the patentable subject matter requirement has been confusingly applied to invalidate patent claims to physical objects, despite the doctrine's stated focus on laws of nature, natural phenomena, or abstract ideas. In *In re TLI Communications*, the Federal Circuit found "not every claim that recites concrete, tangible components escapes the reach of the abstract-idea inquiry."³⁹ This reading strains the doctrine because courts invalidate, under the patentable subject matter requirement, claims directed to physical objects as not transforming laws of nature, natural phenomena, or abstract ideas into something more, despite the physical structure described by the claim. For example, in *American Axle*, the Federal Circuit invalidated, under the patentable subject matter requirement, a claim which included a physical structure. The claim at issue was directed to "a method of manufacturing a driveline propshaft containing a liner designed such that its frequencies attenuate two modes of vibration simultaneously."⁴⁰ Additionally, the claim described multiple physical components, including a first driveline component, a second driveline component, a hollow shaft member, and

³⁸ *Mayo*, 566 U.S. at 74-75 (invalidating patent claims to a method of optimizing therapeutic efficacy for treatment of an immune-mediated gastrointestinal disorder including administering the drug and determining the level of 6-thioguanine in the subject wherein the level of 6-thioguanine indicates whether the drug should be increased or decreased); *Sequenom*, 788 F.3d at 1373-74 (invalidating patent claims to a method for detecting a paternally inherited nucleic acid of fetal origin performed on a maternal serum or plasma sample from a pregnant female including amplifying a paternally inherited nucleic acid from the serum or plasma sample and detecting the presence of a paternally inherited nucleic acid of fetal origin in the sample); *Athena*, 915 F.3d at 747 (invalidating patent claims directed to a method for diagnosing neurotransmission or developmental disorders related to muscle-specific tyrosine kinase in a mammal comprising the step of detecting in a bodily fluid of said mammal autoantibodies to an epitope of muscle-specific tyrosine kinase).

³⁹ *In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016).

⁴⁰ *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 967 F.3d 1285, 1293 (Fed. Cir. 2020), *cert. denied*, 142 S. Ct. 2902 (2022).

a liner which is a tuned resistive absorber and a tuned reactive absorber.⁴¹ Yet, the Federal Circuit found that the claim was directed to a patent-ineligible law of nature because the claimed method was an application of Hooke’s law, and the patent did not provide any physical structure or steps for achieving the claimed result.⁴² Thus, the court found no “inventive concept” in the claim to transform it into patent eligible subject matter.⁴³ However, the claim at issue contained a specific, concrete solution of inserting a liner inside a propshaft to address a particular problem of vibrations in propshafts. Additionally, the claim did not recite any particular natural law but did recite specific physical limitations. Because every mechanical invention “must apply the laws of physics[,]” the Federal Circuit’s expanded application of the patentable subject matter requirement threatens to overrun *Diehr* and find ineligibility of patent claims simply because they inherently contain a law of nature or a mathematical algorithm.⁴⁴ Thus, the Court’s decision in *American Axle* creates confusion and expands the patentable subject matter doctrine profoundly because even a patent claim which recites a physical structure may be unpatentable as a law of nature, natural phenomenon, or abstract idea.⁴⁵

Third, perhaps because of the tension in the doctrine created by the first two issues, the patentable subject matter doctrine continues to change, and the doctrine is likely to undergo congressional reform.⁴⁶ This change and looming reform makes the doctrine less stable and therefore makes the patentable subject matter requirement a less effective long-term approach to addressing issues of preemption.

B. *The Written Description Requirement*

Courts also continue to address preemption under the written description requirement,⁴⁷ as they historically have, by invalidating patent claims which are

⁴¹ *Id.* at 1290.

⁴² *Id.* at 1285.

⁴³ *Id.* at 1299.

⁴⁴ *Id.* at 1319 (Fed. Cir. 2020) (Moore, J., dissenting).

⁴⁵ *Id.* at 1305 (Fed. Cir. 2020) (Moore, J., dissenting).

⁴⁶ Thom Tillis, *Sens. Tillis and Coons and Reps. Collins, Johnson, and Stivers Release Draft Bill Text to Reform Section 101 of the Patent Act* (May 22, 2019), <https://www.tillis.senate.gov/2019/5/sens-tillis-and-coons-and-reps-collins-johnson-and-stivers-release-draft-bill-text-to-reform-section-101-of-the-patent-act>.

⁴⁷ 35 U.S.C. §112 (2012) (“The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any

overly broad and not adequately described by the patent specification. However, addressing preemption by invalidating claims under the written description requirement also poses problems.

Under the written description requirement, a patent specification must clearly allow a person of ordinary skill in the art to recognize that the inventor has actually invented what is claimed. “An [inventor] complies with the written description requirement by describing the invention, with all its claimed limitations.”⁴⁸ In other words, under the written description requirement, the scope of the right to exclude is limited by the disclosure of the patent.

Courts frequently use the written description requirement to address concerns of preemption. In *Fiers v. Revel*, the Federal Circuit found that “[c]laiming all DNA’s that achieve a result without defining what means will do so is not in compliance with the description requirement; it is an attempt to preempt the future before it has arrived.”⁴⁹ The Federal Circuit reinforced this view, using much the same language in *Billups-Rothenberg v. Associated Regional and University Pathologists*, finding that the written description requirement “exists to ensure that inventors do not ‘attempt to preempt the future before it has arrived.’”⁵⁰ The Federal Circuit again restated this view and provided additional context in *Ariad v. Eli Lilly*. In *Ariad*, the Court found that “research hypotheses do not qualify for patent protection[,]” and while this exclusion “possibly results in some loss of

person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.”).

⁴⁸ *Gentry Gallery, Inc. v. Berklene Corp.*, 134 F.3d 1473, 1479 (Fed. Cir. 1998) (“To fulfill the written description requirement, the patent specification must clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed An applicant complies with the written description requirement by describing *the invention*, with all its claimed limitations It is a truism that a claim need not be limited to a preferred embodiment. However, in a given case, the scope of the right to exclude may be limited by a narrow disclosure.”); *Univ. Of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 922–23 (Fed. Cir. 2004) (“While it is true that this court and its predecessor have repeatedly held that claimed subject matter need not be described in haec verba in the specification to satisfy the written description requirement . . . it is also true that the requirement must still be met in some way so as to describe the claimed invention so that one skilled in the art can recognize what is claimed.”).

⁴⁹ *Fiers v. Revel*, 984 F.2d 1164, 1171 (Fed. Cir. 1993) (Finding the patentee’s priority application failed to provide an adequate written description because the enabling disclosure of the specification was not commensurate in scope with the claim under consideration).

⁵⁰ *Billups-Rothenberg, Inc. v. Associated Reg’l & Univ. Pathologists, Inc.*, 642 F.3d 1031, 1036 (Fed. Cir. 2011).

incentive[.]” “[c]laims to research plans also impose costs on downstream research, discouraging later invention.”⁵¹ The Court stated, more broadly, that the written description doctrine achieves the right balance by incentivizing “actual invention and not ‘attempt[s] to preempt the future before it has arrived.’” Further, the Court explained that “the purpose of the written description requirement is to ‘ensure that the scope of the right to exclude, as set forth in the claims, does not overreach the scope of the inventor’s contribution to the field of art as described in the patent specification.’”⁵² The Court stated that the written description requirement “is part of the *quid pro quo* of the patent grant and ensures that the public receives a meaningful disclosure in exchange for being excluded from practicing an invention for a period of time.”⁵³

Multiple issues arise when courts use the written description requirement to address concerns of preemption, because the purpose of the written description requirement is not to address preemption, but rather to provide protection for the *quid pro quo* of the patent system. To this end, a patent confers on the inventor “the exclusive right to use the means [the inventor] specifies to produce the result or effect [the inventor] describes, and nothing more.”⁵⁴ While protecting the *quid pro quo* of the patent system is not necessarily in conflict with preventing preemption, the two goals are nevertheless not always aligned. This misalignment of purpose and current function has resulted in changing, expanding, and confusing doctrine. For example, the Federal Circuit appears to stretch coverage of the written description requirement in both *Gentry Gallery* and *Eli Lilly* to position the doctrine as an alternate approach to the patentable subject matter requirement for addressing preemption.

In *Gentry Gallery*, the Federal Circuit began to expand the written description requirement.⁵⁵ The court found that the description of the recliner patent did not support the claims at issue in which the location of the recliner controls was “other than on the console[.]” because the original disclosure clearly identified the console as the “only possible location for the controls.”⁵⁶ The court found that the patent

⁵¹ *Ariad Pharms.*, 598 F.3d at 1353.

⁵² *Id.*

⁵³ *Id.* at 1353-54.

⁵⁴ *O’Reilly*, 56 U.S. at 119.

⁵⁵ See *Gentry Gallery*, 134 F.3d.

⁵⁶ *Id.*

description provided for “only the most minor variation in the location of the controls,” and the court noted that the controls “may be mounted on top or side surfaces of the console rather than on the front wall . . . without departing from this invention.”⁵⁷ The decision in *Gentry Gallery* was a turn away from prior written description requirement decisions because the court allowed much less freedom to the patentee to claim embodiments not specifically disclosed by the specification.⁵⁸

The Federal Circuit went a step further in heightening the written description requirement in *Regents of the University of California v. Eli Lilly*. In *Eli Lilly*, the court found that regardless of whether the patent provided an enabling disclosure, it did not provide an adequate written description for the subject matter of the claim at issue.⁵⁹ The claim at issue was directed to a recombinant microorganism that included human insulin-encoding cDNA.⁶⁰ The patent described “a method of obtaining this cDNA by means of a constructive example.” However, the court found that the example provided only a “general method for obtaining the human cDNA. . . along with the amino acid sequences of human insulin A and B chains.”⁶¹ Further, the court found that “[d]escribing a method of preparing a cDNA or even describing the protein that the cDNA encodes, as the example does, does not necessarily describe the cDNA itself.”⁶² As a result, the court found that the specification did not provide an adequate written description of the invention.⁶³ In *Eli Lilly*, the court turned further away from pre-*Gentry Gallery* written description doctrine by finding that a constructive example, which both described and offered a method of preparing a necessary component of an invention, did not adequately describe that invention, despite enabling it.

⁵⁷ *Gentry Gallery*, 134 F.3d at 1479.

⁵⁸ *Cf. In re Vickers*, 141 F.2d 522, 525 (C.C.P.A. 1944) (“As a general rule an applicant in a mechanical case seldom shows more than one embodiment. He is generally allowed claims, when the art permits, which cover more than the specific embodiment shown. That practice is so general that it occurs in almost every case.”); *In re Rasmussen*, 650 F.2d 1212, 1214 (C.C.P.A. 1981) (“Broadening a claim does not add new matter to the disclosure. Disclosure is that which is taught, not that which is claimed. An applicant is entitled to claims as broad as the prior art and his disclosure will allow.”).

⁵⁹ *See Eli Lilly*, 119 F.3d. at 1567.

⁶⁰ *Id.* at 1562-63.

⁶¹ *Id.* at 1567.

⁶² *Id.*

⁶³ *Id.*

The first problem created by the recent expansion of the written description doctrine is that its new breadth puts the written description requirement at odds with the policy of the doctrine of equivalents. The doctrine of equivalents promotes the policy that the scope of a patented invention should not be limited to its literal terms but should instead embrace all equivalents to the invention.⁶⁴ This is because “[t]he language in the patent claims may not capture every nuance of the invention or describe with complete precision the range of its novelty.”⁶⁵ The Supreme Court’s decision in *Festo Corp.* supports the proposition that claim scope should not be limited to the language of the claims themselves. In *Festo Corp.*, the Supreme Court overruled the Federal Circuit’s decision to apply “a complete bar to the application of the doctrine of equivalents when an amendment has narrowed the scope of a claim for a reason related to patentability.”⁶⁶ The Federal Circuit found that the strict bar was necessary, otherwise the doctrine of equivalents would create excessive uncertainty and burden legitimate innovation.⁶⁷ However, the Supreme Court maintained the application of the doctrine of equivalents under a flexible approach. The Supreme Court further found that, though prosecution history estoppel can bar a patentee from challenging “a wide range of alleged equivalents” made or distributed by competitors, that bar’s reach requires “an examination of the subject matter surrendered by the narrowing amendment” and “[t]he complete bar avoids this inquiry by establishing a *per se* rule.”⁶⁸ By amending the application,

⁶⁴ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731-32 (2002) (“The language in the patent claims may not capture every nuance of the invention or describe with complete precision the range of its novelty. If patents were always interpreted by their literal terms, their value would be greatly diminished. Unimportant and insubstantial substitutes for certain elements could defeat the patent, and its value to inventors could be destroyed by simple acts of copying. For this reason, the clearest rule of patent interpretation, literalism, may conserve judicial resources but is not necessarily the most efficient rule. The scope of a patent is not limited to its literal terms but instead embraces all equivalents to the claims described.”).

⁶⁵ *Id.*

⁶⁶ *Id.* at 724-25; *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558, 574-75 (Fed. Cir. 2000), *vacated*, 535 U.S. 722. (“Today, we revisit the question we first addressed in *Hughes I* and come to a different conclusion as to the proper scope of equivalents that is available when prosecution history estoppel applies than we did in that case. We hold that prosecution history estoppel acts as a complete bar to the application of the doctrine of equivalents when an amendment has narrowed the scope of a claim for a reason related to patentability. Our decision to reject the flexible bar approach adopted in *Hughes I* comes after nearly twenty years of experience in performing our role as the sole court of appeals for patent matters.”).

⁶⁷ *Festo Corp.*, 234 F.3d at 575.

⁶⁸ *Festo Corp.*, 535 U.S. at 737-38.

the Supreme Court explained, the inventor is deemed to concede only that “the patent does not extend as far as the original claim.” Therefore, the Supreme Court found, it does not follow that the amended claim “becomes so perfect in its description that no one could devise an equivalent.”⁶⁹ The Supreme Court does leave open how equivalents should be identified.⁷⁰ However, the Supreme Court recognizes that the doctrine of equivalents should be applied narrowly.⁷¹ The doctrine of equivalents still supports the policy that “If patents were always interpreted by their literal terms, their value would be greatly diminished.”⁷² “Insubstantial substitutes for certain elements could defeat the patent, and its value to inventors could be destroyed by simple acts of copying.”⁷³ Thus, the policy of the doctrine of equivalents is in conflict with the expanded written description requirement because the written description doctrine is trending towards limiting patent claims to the embodiments specifically described in the patent. The dueling conceptions of patent claim breadth embodied by the doctrine of equivalents and the written description requirement create instability in the patent doctrine.

Next, and more practically, the expansion of the written description doctrine leaves the patentee with too little. After *Gentry Gallery* and *Eli Lilly*, the written description requirement all but requires that each claimed embodiment be described in the specification. Along the same lines, after *Eli Lilly* and *Ariad v. Eli*

⁶⁹ *Id.* at 738.

⁷⁰ *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 40 (1997) (“In our view, the particular linguistic framework used is less important than whether the test is probative of the essential inquiry: Does the accused product or process contain elements identical or equivalent to each claimed element of the patented invention? Different linguistic frameworks may be more suitable to different cases, depending on their particular facts.”).

⁷¹ *Id.* at 28–29 (“We do, however, share the concern of the dissenters below that the doctrine of equivalents, as it has come to be applied since *Graver Tank*, has taken on a life of its own, unbounded by the patent claims. There can be no denying that the doctrine of equivalents, when applied broadly, conflicts with the definitional and public-notice functions of the statutory claiming requirement.”); *Id.* at 29–30 (“We concur with this apt reconciliation of our two lines of precedent. Each element contained in a patent claim is deemed material to defining the scope of the patented invention, and thus the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole. It is important to ensure that the application of the doctrine, even as to an individual element, is not allowed such broad play as to effectively eliminate that element in its entirety. So long as the doctrine of equivalents does not encroach beyond the limits just described, or beyond related limits. . . we are confident that the doctrine will not vitiate the central functions of the patent claims themselves.”).

⁷² *Festo Corp.*, 535 U.S. at 723.

⁷³ *Id.*

Lilly,⁷⁴ it is difficult to see how a patentee could claim a genus even after reciting a “representative” number of species. Thus, the now heightened written description requirement pushes patents downstream and severely limits patenting in emerging technologies.

Finally, and likely as a consequence of the issues considered above, the written description requirement is unlikely to function as a long-term solution and there is much pushback against the written description requirement.⁷⁵

C. *The Enablement Requirement*

Courts have more recently begun to address preemption under the enablement requirement⁷⁶ by invalidating patent claims which are overly broad and do not

⁷⁴ *Ariad Pharms.*, 598 F.3d at 1336 (invalidating patent claims to a method comprising reducing Nuclear Factor Kappa B (NF-kB) activity in eukaryotic cells because the disclosure failed to provide adequate written description of the claims despite hypothesizing three classes of molecules potentially capable of reducing NF-kB activity).

⁷⁵ *Sequenom, Inc.*, 788 F.3d at 1381 (“But for the sweeping language in the Supreme Court’s *Mayo* opinion, I see no reason, in policy or statute, why this breakthrough invention should be deemed patent ineligible.”); *Ariad Pharms.*, 598 F.3d at 1362 (“The separate written description requirement that the court petrifies today has no statutory support The written descriptions of the invention and of the manner and process of making and using the invention are both judged by whether they are in such full, clear, concise, and exact terms as to enable a person skilled in the art to make and use the invention. The reason for a description doctrine is clear: to ensure that the inventor fully discloses the invention in exchange for an exclusive right. The test for the adequacy of the specification that describes the invention is also clear: Is the description sufficient to enable a person of ordinary skill in the art to make and use the claimed invention? Nowhere does the paragraph require that the inventor satisfy some quixotic possession requirement.”); Michael A. Leonard II, *The Death of the Written Description Requirement? Analysis and Potential Outcomes of the Ariad Case*, 158 INTEL. PROP. COUNSELOR ART. II (2010) (“While it is difficult to predict how a court will decide a case with respect to the written description requirement, there is a helpful history from CAFC judges that may tip their hand. From the unequivocal language of past opinions, it is clear that three of the judges believe there is no separate written description requirement. On the other side, Judge Lourie has unequivocally expressed his belief that a separate written description requirement does indeed exist. The judges that authored the opinion in *Ariad* are also likely to be against removing the written description requirement since they disagreed with Judge Linn’s suggestion to do so. Judge Newman has indicated it would be a public disservice to eliminate the written description requirement entirely, but she may be amenable to changing the requirement and favors the en banc rehearing. Judge Dyk favors articulating clear standards for the written description requirement that can be applied to all technologies. It is not clearly inferable from the known opinions of the judges that the written description requirement will be removed. Rather, it appears more likely that the opinion will be modified.”).

⁷⁶ 35 U.S.C. §112(a) (2012) (“The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use

enable a person of ordinary skill in the art to make or use the claimed invention. However, addressing preemption under the enablement requirement suffers from many of the same issues as addressing preemption under the written description requirement.

“The term ‘undue experimentation’ does not appear in the statute, but it is well established that enablement requires that the specification teach those in the art to make and use the invention without undue experimentation. Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations.”⁷⁷ The factors to be considered in “determining whether a disclosure would require undue experimentation” include “the quantity of experimentation necessary, . . . the amount of direction or guidance presented, . . . the presence or absence of working examples, . . . the nature of the invention, . . . the state of the prior art, . . . the relative skill of those in the art, . . . the predictability or unpredictability of the art, and, . . . the breadth of the claims.”⁷⁸ For example, as in *In re Wands*, if there was a “high level of skill in the art at the time when the application was filed, and all of the methods needed to practice the invention were well known[,]” then experimentation required to practice the invention may not be undue.⁷⁹ In other words, that some experimentation is necessary does not preclude enablement.⁸⁰ Additionally, as in *Atlas Powder*, “[e]ven if some of the [embodiments disclosed by a patent are] inoperative, the claims are not necessarily invalid.” Rather, a claim may be invalid “if the number of inoperative [embodiments] becomes significant, and in effect forces one of ordinary skill in the art to experiment unduly in order to practice the claimed invention.”⁸¹

Like the written description requirement, the purpose of the enablement requirement is to preserve the *quid pro quo* of the patent system. Thus, the courts’ reinterpretation of the enablement requirement as a means to address preemption strains the enablement doctrine and creates many of the same issues as it does

the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.”).

⁷⁷ *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988).

⁷⁸ *Id.*

⁷⁹ *Id.* at 740.

⁸⁰ *Atlas Powder Co. v. E.I. du Pont De Nemours & Co.*, 750 F.2d 1569, 1576 (Fed. Cir. 1984).

⁸¹ *Id.* at 1576-77.

for the written description requirement. This can be seen in the Federal Circuit's recent decision in *Amgen v. Sanofi*, in which the Federal Circuit appeared to stretch the enablement requirement to address preemption in the context of natural phenomena, here, of antibodies that can bind.⁸² In *Amgen*, the court found that the patent claims at issue were adequately described under the written description requirement but not properly enabled under the enablement requirement. The court explained that the “enablement inquiry for claims that include functional requirements can be particularly focused on the breadth of those requirements, especially where predictability and guidance fall short.”⁸³ In particular, the court said it “is important to consider the quantity of experimentation that would be required to make and use, not only the limited number of embodiments that the patent discloses, but also the full scope of the claim.”⁸⁴ The court maintained, however, that the effort required by a person of ordinary skill in the art to exhaust a genus is not dispositive.⁸⁵ Still, the court said it was appropriate “to look at the amount of effort needed to obtain embodiments outside the scope of the disclosed examples and guidance.” Further, the court found that the “functional limitations [at issue in *Amgen* were] broad, the disclosed examples and guidance [were] narrow, and no reasonable jury could [have] concluded under [the] facts that anything but ‘substantial time and effort’ would [have] be[en] required to reach the full scope of [the] claimed embodiments.”⁸⁶

Amgen represents a recent turn in the enablement doctrine. After *Amgen*, it becomes more likely that any experimentation, not just undue experimentation, could invalidate a patent claim. Again, like the written description requirement, the turn to the enablement requirement to address concerns of preemption puts the enablement doctrine at odds with the doctrine of equivalents, potentially leaves the patentee with too little patent protection and is likely to result in pushback against an unstable enablement doctrine.

⁸² *Amgen Inc. v. Sanofi, Aventisub LLC*, 987 F.3d 1080, 1082-83 (Fed. Cir. 2021), *cert. granted in part sub nom. Amgen Inc. v. Sanofi*, 143 S.Ct. 399 (2022).

⁸³ *Id.* at 1086.

⁸⁴ *Id.*

⁸⁵ *Id.* at 1088.

⁸⁶ *Id.* at 1088.

III

WEAKNESSES OF POSSIBLE FUTURE APPROACHES TO ADDRESSING PREEMPTION

Currently, courts do not look to the novelty requirement, claim construction analysis, or the reverse doctrine of equivalents to address concerns of preemption. While it is possible that courts could do so, it is unlikely because none of these approaches provides an effective method of addressing preemption concerns.

A. *The Novelty Requirement*

Courts could attempt to address preemption by invalidating patent claims under the novelty requirement. However, the novelty requirement is not an effective tool to address concerns of preemption and is a less effective tool than the nonobviousness requirement as discussed in Section V below.

“Anticipation. . .requires that ‘each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.’”⁸⁷ “If [a] prior art reference does not expressly set forth a particular element of [a] claim, that reference still may anticipate if that element is ‘inherent’ in its disclosure [of the prior art reference].”⁸⁸ An element is inherent when extrinsic evidence makes clear that the element is necessarily present in the reference, and it would be so recognized by a person of ordinary skill in the art.⁸⁹ Inherency, however, “‘may not be established by probabilities or possibilities’” and “[t]he mere fact that a certain thing may result from a given set of circumstances is not sufficient.”⁹⁰ Like the nonobviousness requirement, the novelty requirement focuses on what is known to a person of ordinary skill in the art. It is true that a court could address preemption by invalidating overly broad patent claims in view of a single reference which discloses each and every element of the claim, including the preempting law of nature, natural phenomenon, or abstract idea. However, the novelty requirement is not an effective means of addressing preemption because it is unlikely that a prior art reference would disclose each and every element of a claim. Additionally, as discussed below, the nonobviousness requirement is a more effective means of

⁸⁷ *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999).

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ *Id.*

addressing preemption than the novelty requirement because the nonobviousness requirement considers the same prior art references together and in combination with the skill, common sense, and creativity of a person of ordinary skill in the art to determine whether the preempting law of nature, natural phenomenon, or abstract idea was previously known.

B. *Claim Construction Analysis*

Claim construction analysis is a strong mechanism by which courts can narrow patents' scope. Under claim construction analysis, courts can and do interpret patent claims narrowly.⁹¹ Additionally, claim construction policy supports interpreting claims narrowly.⁹² However, claim construction analysis is not an effective approach to address concerns of preemption specifically because the doctrine deemphasizes external constraints.

Claim construction analysis is driven both by the language of a patent and by the background scientific and technological understanding.⁹³ “[T]he words of a claim ‘are generally given their ordinary and customary meaning’” *i.e.*, “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.”⁹⁴ The ordinary and customary meaning of the claim term as determined by a person of ordinary skill in the art governs because of the “well-settled understanding that inventors are typically persons skilled in the field of the invention and that patents are addressed to and intended to be read by others of skill in the pertinent art.”⁹⁵ “In some cases, the ordinary meaning of

⁹¹ See *e.g.*, *Nystrom v. TREX Co.*, 424 F.3d 1136 (Fed. Cir. 2005).

⁹² See *infra* pp. 26-28.

⁹³ *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 33 (1966) (“It is, of course, well settled that an invention is construed not only in the light of the claims, but also with reference to the file wrapper or prosecution history in the Patent Office. . . Claims as allowed must be read and interpreted with reference to rejected ones and to the state of the prior art; and claims that have been narrowed in order to obtain the issuance of a patent by distinguishing the prior art cannot be sustained to cover that which was previously by limitation eliminated from the patent.”).

⁹⁴ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (“We have frequently stated that the words of a claim ‘are generally given their ordinary and customary meaning.’ . . . We have made clear, moreover, that the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application.”).

⁹⁵ *Id.* at 1313 (“The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation. [citation omitted]. . . That starting point is

claim language as understood by a person of skill in the art may be readily apparent [to the court], and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.”⁹⁶ However, more often, the meaning of a claim term as understood by persons of skill in the art is not immediately apparent. In these cases, courts must look beyond the words of the claims themselves to the specification and the prosecution history of the patent.⁹⁷ Secondly, courts may also look to extrinsic evidence concerning “‘relevant scientific principles, the meaning of technical terms, and the state of the art’” to determine the meaning of the claim terms.⁹⁸ However, the Federal Circuit cautions against undue reliance on extrinsic evidence because such reliance “poses the risk that [the extrinsic evidence] will be used to change the meaning of claims in derogation of the ‘indisputable public records consisting of the claims, the specification and the prosecution history,’ thereby undermining the public notice function of patents.”⁹⁹

The Supreme Court’s decision in *Nautilus v. Biosig* supports using claim construction analysis to construe claims narrowly. In *Nautilus*, the Supreme Court overruled the Federal Circuit’s test for claim definiteness for being too permissive. Under the Federal Circuit test, a patent claim was sufficiently definite so long as the claim was “‘amenable to construction,’ and the claim, as construed, [was] not ‘insolubly ambiguous.’” The Supreme Court replaced the Federal Circuit’s insolubly ambiguous test and held that “a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.”¹⁰⁰ The Supreme Court did leave

based on the well-settled understanding that inventors are typically persons skilled in the field of the invention and that patents are addressed to and intended to be read by others of skill in the pertinent art.”)

⁹⁶ *Id.* at 1314.

⁹⁷ *Id.* at 1313.

⁹⁸ *Id.* at 1314.

⁹⁹ *Nystrom*, at 1143 (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1319).

¹⁰⁰ *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014) (“According to the Federal Circuit, a patent claim passes the §112, ¶ 2 threshold so long as the claim is ‘amenable to construction,’ and the claim, as construed, is not ‘insolubly ambiguous.’ [citation omitted]. . . In place of the ‘insolubly ambiguous’ standard, we hold that a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention. Expressing no opinion on the validity of the patent-in-suit, we remand, instructing the Federal Circuit to decide the case employing the standard we have prescribed.”).

some room for interpretation within the definiteness standard, explaining that the definiteness requirement “mandates clarity, while recognizing that absolute precision is unattainable[,]” and the standards adopted by the courts allow that the “the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject-matter.”¹⁰¹ However, *Nautilus* still pushed for a narrower interpretation of claims. While *Nautilus* is a claim validity decision made under the claim definiteness requirement,¹⁰² the policy of the decision carries over to claim construction decisions. Both claim construction analysis and claim validity analysis require evaluating claim meaning from the perspective of a person of ordinary skill in the art and reading claims, at least in part, based on a patent’s specification and prosecution history.¹⁰³ As a result, the Supreme Court’s reasoning in *Nautilus* can provide guidance to courts during claim construction.

It is true that courts can narrowly interpret claims under the claim construction doctrine by limiting the scope of a claim term to only a subset of possible interpretations of that term. For example, in *Nystrom v. TREX*, the Federal Circuit found that an examination of the term “board” “in the context of the written description and prosecution history of the [] patent” at issue led to the conclusion that the term “board” “must be limited to wood cut from a log.”¹⁰⁴ The Court explained that despite broader dictionary definitions of the term “board,” the patentee was “not entitled to a claim construction divorced from the context of the written description and prosecution history” which consistently used the

¹⁰¹ *Id.* at 910 (“To determine the proper office of the definiteness command, therefore, we must reconcile concerns that tug in opposite directions. Cognizant of the competing concerns, we read §112, ¶ 2 to require that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty. The definiteness requirement, so understood, mandates clarity, while recognizing that absolute precision is unattainable. The standard we adopt accords with opinions of this Court stating that the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject-matter.”).

¹⁰² 35 U.S.C. §112(b) (2012) (“The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.”).

¹⁰³ *Nautilus*, 572 U.S. at 908 (“Although the parties here disagree on the dispositive question—does the ’753 patent withstand definiteness scrutiny—they are in accord on several aspects of the §112, ¶ 2 inquiry. First, definiteness is to be evaluated from the perspective of someone skilled in the relevant art. [citation omitted] . . . Second, in assessing definiteness, claims are to be read in light of the patent’s specification and prosecution history. [citations omitted] Third, definiteness is measured from the viewpoint of a person skilled in the art at the time the patent was filed.”).

¹⁰⁴ *Nystrom*, 424 F.3d at 1143.

term “board” to refer to wood decking materials cut from a log.¹⁰⁵ This general claim narrowing may have some overlap with limiting preemption. Still, claim construction is not an optimal mechanism by which courts can address concerns of preemption. Claim construction doctrine consistently deemphasizes extrinsic evidence.¹⁰⁶ Thus, while claim construction analysis can effectively narrow patent claims based on the patentee’s own characterization of the invention, the doctrine is neither designed to nor actually address concerns of preemption.

C. *The Reverse Doctrine of Equivalents*

Courts could address preemption under the reverse doctrine of equivalents.¹⁰⁷ However, the reverse doctrine of equivalents is unlikely to be an effective method of addressing preemption because it does not operate prospectively. In other words, the reverse doctrine of equivalents is not a method of invalidating overly broad patent claims that may preempt future innovation, but, rather, provides a defense to infringement in certain cases.¹⁰⁸

Like the doctrine of equivalents, the reverse doctrine of equivalents is premised on the inherent limits of language. Because of the inescapable imprecision of language, the literal terms of a claim may cover a product that is so far removed from the patentee’s actual invention that it should not be covered by the patent. Thus, despite the product satisfying each and every limitation of a patent claim, it does not conflict with the spirit and intent of the patent.¹⁰⁹

¹⁰⁵ *Id.* at 1144-45.

¹⁰⁶ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1320 (Fed. Cir. 2005) (“Although the concern expressed by the court in *Texas Digital* was valid, the methodology it adopted placed too much reliance on extrinsic sources such as dictionaries, treatises, and encyclopedias and too little on intrinsic sources, in particular the specification and prosecution history.”).

¹⁰⁷ *See Boyden Power-Brake Co. v. Westinghouse*, 170 U.S. 537 (1898).

¹⁰⁸ *See infra* pp. 28-29.

¹⁰⁹ *Westinghouse*, 170 U.S. at 568 (“We have repeatedly held that a charge of infringement is sometimes made out, though the letter of the claims be avoided. [citations omitted] The converse is equally true. The patentee may bring the defendant within the letter of his claims, but if the latter has so far changed the principle of the device that the claims of the patent, literally construed, have ceased to represent his actual invention, he is as little subject to be adjudged an infringer as one who has violated the letter of a statute has to be convicted, when he has done nothing in conflict with its spirit and intent.”); *Scripps Clinic & Rsch. Found. v. Genentech, Inc.*, 927 F.2d 1565, 1581 (Fed. Cir. 1991) (“The so-called ‘reverse doctrine of equivalents’ is an equitable doctrine invoked in applying properly construed claims to an accused device. Just as the purpose of the ‘doctrine of equivalents’ is to prevent ‘pirating’ of the patentee’s invention [citations omitted]. . .so the

While the reverse doctrine of equivalents is not often cited by courts, the doctrine could provide an effective method by which courts can avoid finding patent infringement where the asserted patent includes broad claims which preempt the use of a law of nature, natural phenomenon, or abstract idea. In such instances, a product could apply a law of nature which has been claimed and potentially preempted by a previous patent because, despite the product likely falling into the literal language of the patent, it does not conflict with the spirit and intent of the patent and therefore does not infringe. Despite its utility as a backstop against infringement of preemptive patent claims, the reverse doctrine of equivalents is not itself a tool to prevent preemption.

IV

PROMISE OF THE NONOBVIOUSNESS REQUIREMENT TO ADDRESS PREEMPTION

Courts should address preemption by invalidating patent claims under the nonobviousness requirement.¹¹⁰ In *Graham v. John Deere* and *KSR v. Teleflex*, the Supreme Court held that nonobviousness should be analyzed under a fact-driven, totality of the circumstances approach.¹¹¹ Additionally, the Court emphasized that nonobviousness determinations should be based not only on individual prior art references to the patented invention but also the skill, common sense, and creativity possessed by a person of ordinary skill in the art.¹¹² Following this reasoning, courts can address preemption under the nonobviousness requirement by expanding the scope of the prior art to a patent under the teachings of *John Deere* and *KSR*.

purpose of the ‘reverse’ doctrine is to prevent unwarranted extension of the claims beyond a fair scope of the patentee’s invention.”).

¹¹⁰ 35 U.S.C. §103 (2013) (“A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.”).

¹¹¹ See *Graham v. John Deere* 383 U.S. 1; *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 390 (2007).

¹¹² *Id.*

A. *Overview of the Nonobviousness Requirement*

The Supreme Court's decisions in *Graham* and *KSR* established a flexible and fact-based approach to patent claim validity under the nonobviousness requirement and laid the groundwork for courts to effectively address preemption by invalidating patent claims under the nonobviousness requirement.

The Supreme Court considered the nonobviousness requirement in *Graham v. John Deere* in 1966.¹¹³ In *Graham*, the Supreme Court found that nonobviousness analysis relies on three basic factual inquiries – “the scope and content of the prior art. . . differences between the prior art and the claims at issue. . . and the level of ordinary skill in the pertinent art.”¹¹⁴ The Supreme Court additionally found that secondary considerations including “commercial success, long felt but unsolved needs, [and] failure of others. . . might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” “As indicia of obviousness or nonobviousness, these inquiries may have relevancy.”¹¹⁵

After *Graham*, the Federal Circuit adopted the teaching, suggestion, or motivation (“TSM”) test. Under the TSM test, “a patent claim [was] only proved obvious if the prior art, the problem’s nature, or the knowledge of a person having ordinary skill in the art reveals some motivation or suggestion to combine the prior art teachings.”¹¹⁶ In other words, under the TSM test, “unless the prior art references addressed the precise problem that the patentee was trying to solve, the problem would not motivate an inventor to look at those references.”¹¹⁷

Then, in 2007, the Supreme Court decided *KSR v. Teleflex*. In *KSR*, The Supreme Court did away with the Federal Circuit’s TSM test as too rigid and formulaic.¹¹⁸ In place of the TSM test, the Court maintained the fact-based

¹¹³ *See id.*

¹¹⁴ *Id.* at 17.

¹¹⁵ *Id.* at 17-18.

¹¹⁶ *KSR*, 550 U.S. at 398.

¹¹⁷ *Id.* at 400.

¹¹⁸ *Id.* at 419 (“Helpful insights, however, need not become rigid and mandatory formulas; and when it is so applied, the TSM test is incompatible with our precedents. The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way.”).

approach developed in *Graham* but rejected the bright line rule proposed by the Federal Circuit.¹¹⁹ The Supreme Court found that “[i]n determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls.” “What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under [the nonobviousness requirement].”¹²⁰ Further, the Supreme Court found that “[t]he question [courts must consider] is not whether the combination was obvious to the patentee but whether the combination [would have been] obvious to a person [of] ordinary skill in the art.” “Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.”¹²¹ To this end, the Supreme Court found that the combination of “familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”¹²²

In *KSR*, the Supreme Court also clarified the characteristics of a person of ordinary skill in the art. This person is not only a person of ordinary skill but “is also a person of ordinary creativity, not an automaton.”¹²³ Additionally, “a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.” “If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense” which the person has. Additionally, common sense teaches that “familiar items may have obvious uses beyond their primary purposes, and a person of ordinary skill often will be able to fit the teachings of multiple patents together like pieces of a puzzle.”¹²⁴

B. Implications of the Nonobviousness Doctrine

The Supreme Court’s decisions in *Graham* and *KSR* allow courts to comprehensively address preemption under the nonobviousness requirement because the decisions expand the scope of prior art to a patent and establish a flexible yet stable nonobviousness doctrine.

¹¹⁹ *Id.* at 426.

¹²⁰ *Id.* at 419.

¹²¹ *Id.* at 420.

¹²² *Id.* at 416.

¹²³ *Id.* at 421.

¹²⁴ *Id.* at 420.

It has always been possible for courts to address preemption under the nonobviousness requirement. Any patent claim to an obvious law of nature, natural phenomenon, or abstract idea is necessarily invalid under the nonobviousness requirement. In other words, if a law of nature, natural phenomenon, or abstract idea falls within the scope of the prior art, then a patent cannot claim and therefore cannot preempt future use of that law, phenomenon, or idea. Thus, a court could always address preemption by invalidating patent claims to obvious laws of nature, natural phenomena, and abstract ideas.

Courts can address preemption more effectively under the Supreme Court's refined nonobviousness doctrine. The Supreme Court's doctrine broadens the scope of the prior art to a patent and therefore allows courts to invalidate a greater number of obvious claims directed to laws of nature, natural phenomena, and abstract ideas under the nonobviousness requirement. The scope of the prior art to a patent can be manipulated in two ways. The first is to vary the number of individual references which fall into the prior art. The second is to regulate how broadly each individual reference is read. Thus, varying the scope of the prior art to a patent does not require changing the test for prior art. Rather, courts can increase the scope of the prior art as a whole by considering more inferences from and combinations of individual prior art references.

After overruling the Federal Circuit's TSM test, the Supreme Court adopted an approach to resolving the scope of the prior art to a patent, guided not only by individual prior art references themselves but also by more general factors such as the skill, common sense, and creativity of a person of ordinary skill in the art. Additionally, the Supreme Court, in *KSR*, emphasized that the skill, common sense, and creativity of a person of ordinary skill in the art is high.¹²⁵ Thus, the scope of the prior art is expanded under the Supreme Court's nonobviousness doctrine because the prior art includes not only individual prior art references but also inferences from the prior art references that could be made by a person of ordinary skill, common sense, and creativity in the art. When the skill, common sense, and creativity of a person of ordinary skill in the art is properly considered

¹²⁵ *Id.* at 422 (“A person having ordinary skill in the art could have combined Asano with a pedal position sensor in a fashion encompassed by claim 4, and would have seen the benefits of doing so.”); *Id.* at 425 (“The prior art discussed above leads us to the conclusion that attaching the sensor where both *KSR* and *Engelgau* put it would have been obvious to a person of ordinary skill.”).

alongside individual prior art references, the scope of the prior art grows because inferences from and combinations of the individual prior art references become obvious. When the scope of the prior art to a patent is broadened, more laws of nature, natural phenomena, and abstract ideas fall into the prior art and are therefore made obvious by the prior art. Thus, courts can invalidate, under the nonobviousness requirement, more claims which preempt obvious laws of nature, natural phenomena, and abstract ideas.

The Supreme Court's expansion of the nonobviousness requirement creates stability and flexibility in the nonobviousness doctrine that allows courts to actively address preemption under the nonobviousness requirement without creating tension within the nonobviousness doctrine or within patent law doctrine more broadly. To address preemption by invalidating claims under the nonobviousness requirement, courts need not go beyond the Supreme Court's approach to nonobviousness as it stands after *KSR* and *Graham*. Courts need only apply the test as set forth by the Supreme Court. *KSR* and *Graham* are both liberal decisions which grant courts leeway to resolve the scope of the prior art of a patent including the laws of nature obvious to a person of ordinary skill in the art under a fact driven and totality of the circumstances approach. To this end, neither case offers a bright line rule, and in fact, the Supreme Court in *KSR* overruled the Federal Circuit's bright-line TSM test. However, at present, courts do not use *KSR* to its full potential because courts do not adequately consider the skill, common sense, and creativity of persons of ordinary skill in the art. Courts should read prior art broadly in view of *KSR* and *Graham* not only because this approach will help courts protect against preemption but also because the Supreme Court's decisions in those cases better reflect how inventors and persons of ordinary skill in the art would actually approach inventions.

C. *An Example of the Nonobviousness Requirement in Use*

In 2021, the Federal Circuit decided *Yu v. Apple*. Yu alleged that defendants Apple and Samsung infringed claims 1, 2, and 4 of U.S. Patent No. 6,611,289.¹²⁶ Claim 1, which was treated as representative for the purposes of eligibility recited:

An improved digital camera comprising:

¹²⁶ *Yu v. Apple Inc.*, 1 F.4th 1040 (Fed. Cir. 2021), *cert. denied*, 142 S. Ct. 1113 (2022).

a first and a second image sensor closely positioned with respect to a common plane, said second image sensor sensitive to a full region of visible color spectrum;

two lenses, each being mounted in front of one of said two image sensors;

said first image sensor producing a first image and said second image sensor producing a second image;

an analog-to-digital converting circuitry coupled to said first and said second image sensor and digitizing said first and said second intensity images to produce correspondingly a first digital image and a second digital image;

an image memory, coupled to said analog-to-digital converting circuitry, for storing said first digital image and said second digital image; and

a digital image processor, coupled to said image memory and receiving said first digital image and said second digital image, producing a resultant digital image from said first digital image enhanced with said second digital image.¹²⁷

The district court and the Federal Circuit decided the case under the patentable subject matter requirement. The district court found that the claims “were directed to ‘the abstract idea of taking two pictures and using those pictures to enhance each other in some way[,]’” and that “‘photographers ha[ve] been using multiple pictures to enhance each other for over a century.’”¹²⁸ The court therefore concluded that “the asserted claims lack[ed] an inventive concept, noting ‘the complete absence of any facts showing that the[] [claimed] elements were not well-known, routine, and conventional.’”¹²⁹ The Federal Circuit affirmed.

¹²⁷ *Id.* at 1042.

¹²⁸ *Id.* (quoting *Yu v. Apple Inc.*, Nos. 18-cv-6181, 18-cv-6339, 2020 WL 1429773, at *3 (N.D. Cal. Mar. 24, 2020)).

¹²⁹ *Id.* (quoting *Yu*, 2020 WL 1429773, at *6).

However, the case could have been decided under the nonobviousness requirement. The Federal Circuit found, and Yu did not dispute, that “the idea and practice of using multiple pictures to enhance each other has been known by photographers for over a century.”¹³⁰ Additionally, the claim at issue recited only conventional camera components “to effectuate the resulting ‘enhanced’ image—two image sensors, two lenses, an analog-to-digital converting circuitry, an image memory, and a digital image processor[.]” and, “as claimed, these conventional components perform only their basic functions.”¹³¹ Both the abstract idea of using multiple pictures to enhance each other and the execution via the components of the Yu camera were obvious in light of the prior art. As the court finds, the Yu camera only combined already known techniques in the art. Thus, the claim to the camera at issue would be invalid under the nonobviousness requirement and as a result the patentee would not be able to preempt the abstract idea of using multiple pictures to enhance each other.

V

DOCTRINAL AND PRACTICAL ADVANTAGES OF THE NONOBVIOUSNESS REQUIREMENT

The nonobviousness requirement has numerous doctrinal advantages over the written description requirement, enablement requirement, and patentable subject matter requirement. The nonobviousness doctrine is better suited to address concerns of preemption than the written description requirement and the enablement requirement and should replace both as a tool for addressing preemption. Also, the nonobviousness requirement can be more straightforwardly applied to address preemption than the patentable subject matter requirement and should be a preferred method of addressing preemption over the patentable subject matter requirement. Finally, the nonobviousness requirement provides practical advantages over other methods of addressing preemption because it is easy for courts, the U.S. Patent and Trademark Office, and the patent bar to apply and because the Patent Office can narrow patent claims initially during prosecution of the patent.

¹³⁰ *Id.* at 1043.

¹³¹ *Id.*

A. *Doctrinal Advantages Over the Written Description Requirement and Enablement Requirement*

Courts should address preemption by invalidating claims under the nonobviousness requirement instead of invalidating claims under the written description requirement or the enablement requirement. Addressing preemption under the nonobviousness requirement rather than the written description requirement or enablement requirement has numerous benefits. First, the nonobviousness doctrine, as it stands today, is not at odds, in terms of doctrine or policy, with any other patent law doctrine. As a result, the nonobviousness requirement is a more reliable and long-term solution. Next, the nonobviousness requirement does not leave the patentee with too little. So long as patentees achieve enough of an inventive step beyond the prior art, their innovations are patentable. Finally, courts' use of the written description requirement and the enablement requirements as a means to address preemption has destabilized both doctrines. In contrast, the nonobviousness requirement is well-suited to address preemption. As a result, courts using the nonobviousness requirement to address concerns of preemption do not destabilize the doctrine but rather utilize it for its very purpose.

B. *Doctrinal Advantages Over the Patentable Subject Matter Requirement*

While the patentable subject matter requirement is an effective tool for addressing preemption, the nonobviousness requirement is a superior tool because the nonobviousness requirement can be more easily utilized to address preemption.

First, invalidating patent claims under the nonobviousness requirement does not tend to disrupt whole areas of innovation because what is nonobvious in view of the prior art is necessarily tailored to each individual invention and its specific claimed limitations.¹³² Courts can address preemption in claims including

¹³² See e.g., *Eisai Co. v. Dr. Reddy's Lab's, Ltd.*, 533 F.3d 1353, 1356 (Fed. Cir. 2008) ("Obviousness under 35 U.S.C. §103(a) is ultimately a legal question, based on underlying factual determinations. [Citation omitted]. . . The factual determinations underpinning the legal conclusion of obviousness include 1) the scope and content of the prior art, 2) the level of ordinary skill in the art, 3) the differences between the claimed invention and the prior art, and 4) evidence of secondary factors, also known as objective indicia of non-obviousness."); *Leapfrog Enterprises, Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007) ("An obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of a case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not.").

physical structure using the nonobviousness requirement without creating strain in the nonobviousness doctrine. This is because the nonobviousness requirement applies with equal force to laws of nature, natural phenomena, and abstract ideas as well as to specific structures and processes implementing those laws, phenomena, and ideas. The flexibility of the nonobviousness doctrine is advantageous because after *American Axle*, courts continue to disagree about the applicability of the patentable subject matter requirement to claims directed to physical structures. For example, in *Apple v. Yu*, the claim at issue was to a physical camera. The court in *Yu* found that the camera was directed to an unpatentable law of nature, natural phenomenon, or abstract idea and the camera did not include an “inventive concept sufficient to transform the claimed abstract idea into a patent-eligible invention.”¹³³ The court argued that “whether a device is ‘a tangible system...’ is not dispositive.”¹³⁴ However, the dissent in *Yu* pushed back, arguing that the claim was to a “digital camera having two lenses mounted in front of separate image sensors, with analog to digital conversion circuitry, a memory that stores the images, and a digital processor that enhances the images.” Therefore, said the dissent, the claimed camera was “a mechanical and electronic device of defined structure and mechanism... not an ‘abstract idea.’”¹³⁵ Finally, the nonobviousness requirement is superior to the patentable subject matter requirement because nonobviousness doctrine is stable.

It is true that not all instances of preemption can be addressed under the nonobviousness requirement. For example, in some cases, a patentee may claim a law of nature, natural phenomenon, or abstract idea that would not have been obvious to a person of ordinary skill in the art, even under the high threshold for nonobviousness set by *Graham* and *KSR*. In such situations, the invention would not be obvious to a person of ordinary skill in the art because the law of nature, natural phenomenon, or abstract idea is nonobvious. Thus, the nonobviousness requirement would not address the potentially preemptive patent. In these residual cases, courts can turn to the patentable subject matter requirement to invalidate the claim as directed to a law of nature, natural phenomena, or abstract idea.

¹³³ *Yu*, 1 F.4th at 1045.

¹³⁴ *Id.* at 1113.

¹³⁵ *Id.* at 1046.

C. Practical Advantage of Ease of Application

Unlike the patentable subject matter requirement, the written description requirement, and the enablement requirement, the nonobviousness requirement is easy for courts, the U.S. Patent and Trademark Office, and the patent bar to apply. First, the case law surrounding the nonobviousness requirement is relatively static. After the Supreme Court decided *KSR* in 2007, neither the Supreme Court nor the Federal Circuit have significantly changed or modified the nonobviousness doctrine. However, both the Supreme Court and the Federal Circuit continue to decide patentable subject matter requirement, written description requirement, and enablement requirement cases which result in shifting doctrine. This makes the law much more difficult to apply. Additionally, the nonobviousness requirement analysis is focused on the knowledge possessed by a person of ordinary skill in the art. Courts, the Patent Office, and the bar can develop an idea of the knowledge possessed by a person of ordinary skill in the art. Members of the bar often discuss patent applications with the inventors of the patented invention. The inventors work in the art and therefore understand and can explain what a person of ordinary skill in the art would know. Members of the bar as well as patent examiners and administrative patent judges at the Patent Office may themselves work in the art and be familiar with what a person of ordinary skill in the art would know. Additionally, courts and administrative patent judges at the Patent Office can look to experts, who also work in the art, to explain what a person of ordinary skill in the art would know.

D. Practical Advantage of Consideration at the U.S. Patent and Trademark Office

Because the nonobviousness requirement is a patentability requirement, the nonobviousness requirement not only can be used by courts to invalidate claims during adversarial proceedings but also can be used by the U.S. Patent and Trademark Office to narrow claims and address preemption during prosecution of a patent. In fact, it must be remembered that the primary responsibility for sifting out unpatentable material lies in the Patent Office. To await litigation is, for all practical purposes, to debilitate the patent system. Additionally, there is no change in the general strictness with which the overall test for nonobviousness is to be applied between the courts and the Patent Office.¹³⁶ Thus, if courts adopted

¹³⁶ *Graham*, 383 U.S. at 19.

a heightened standard for nonobviousness, the Patent Office would also adopt the same heightened standard.

Narrowing patent scope and addressing preemption at the Patent Office by invalidating claims under the nonobviousness requirement is useful because it prevents overly broad patents, which would preempt future innovation from issuing in the first place. As a result, competitors are not potentially disincentivized from inventing by seeing overly broad patents in the market. Additionally, patent owners are less likely to bring ultimately losing lawsuits because the narrower scope of the issued patent precludes other inventions from infringing the patent in the first place. Additionally, patent examiners at the Patent Office invalidating patents under a strict application of the nonobviousness requirement would also help narrow patent scope under claim construction analysis, application of the doctrine of equivalents, and claim invalidation under the patentable subject matter requirement because each of these analyses considers prior art as understood by a person of ordinary skill in the art.

While claims should be invalidated under the nonobviousness requirement at the Patent Office, the Patent Office cannot replace courts and become the only forum in which the nonobviousness requirement is strictly applied. First, the Patent Office is under-resourced.¹³⁷ Therefore, patent examiners at the Patent Office may not be able to conduct a strict application of the nonobviousness analysis under the case-by-case approach to the same degree that a court would be able to. On the other hand, under the adversarial system of the court, both parties have the resources to pursue a nuanced and case-by-case analysis of obviousness in view of metrics difficult to ascertain, like general knowledge and common sense. Additionally, resolving these issues in court may be a better use of resources because resources to conduct such thorough analyses would not be expended on patents that are never referenced by competitors and never litigated.

CONCLUSION

Courts should address preemption by invalidating overly broad patent claims under the nonobviousness requirement. Overly broad patent claims harm the patent

¹³⁷ *Id.* at 18 (“In this connection we note that the Patent Office is confronted with a most difficult task. Almost 100,000 applications for patents are filed each year. Of these, about 50,000 are granted and the backlog now runs well over 200,000.”).

system by disincentivizing future innovation. In particular, overly broad patent claims can preempt future innovation by tying up fundamental scientific and technological concepts. The nonobviousness requirement is the best approach for addressing preemption because it is effective, avoids the problems associated with current approaches to addressing preemption, including the patentable subject matter requirement, the written description requirement, and the enablement requirement, and promises to be a better option than alternative future approaches to addressing preemption, such as the novelty requirement, claim construction analysis, and the reverse doctrine of equivalents.