

SEEING THE INTANGIBLE: JULIET MORINGIELLO’S ENDURING LEGACY IN PROPERTY LAW

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Abstract

Professor Juliet Moringiello was a pioneering voice in reimagining property law for the digital age, advocating for a functional approach that transcended traditional requirements related to tangibility long before such thinking became mainstream in legal scholarship. Her groundbreaking 2007 article *The (Ir)relevance of (In)tangibility* presciently argued that the legal system’s fixation on physical versus intangible distinctions created “false categories unrelated to significant legal distinctions” that hindered commercial law’s ability to accommodate electronic assets like domain names and, eventually, digital assets. This essay examines how Professor Moringiello’s early insights laid the intellectual foundation for the revolutionary 2022 Amendments to the Uniform Commercial Code that established controllable electronic records as a new category of personal property. Her pragmatic, policy-oriented methodology not only anticipated the legal challenges posed by Bitcoin, NFTs, and other digital assets but also provided the theoretical framework that enabled American commercial law to evolve functionally rather than be constrained by historical formalism. As such, her work was instrumental in bridging the gap between centuries-old property concepts and twenty-first-century technologies.

Table of Contents

INTRODUCTION.....	2
I. THE ISSUE WITH POSSESSION OF INTANGIBLES.....	5
<i>A. Overview of False Categories</i>	5
<i>B. Two Key Takeaways That Shaped Our Thinking</i>	9
1. How Courts Mishandle Novel Intangibles	9
2. Functional Attributes Over Physical Form.....	11
II. POINTS OF DEPARTURE AND ENDURING INFLUENCE	13

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<i>A. Her Position: Expanding Possession to Accommodate Intangibles</i>	14
<i>B. Our Position: Control as a Distinct Category</i>	16
<i>C. Convergence and Her Later Work</i>	19
CONCLUSION	23

INTRODUCTION

It is with great sadness and deep gratitude that we join our colleagues in this special issue of the American Bankruptcy Law Journal to mark the passing of Professor Juliet M. Moringiello, a brilliant scholar whose contributions to commercial and property law have shaped how we understand the intersection of technology and the commercial law. For those of us privileged to work alongside her in law reform and scholarly endeavors, who studied her research, and who witnessed her intellectual generosity, the loss is felt not merely as the absence of a colleague but as the dimming of a guiding light in our field.

Juliet’s influence on our work and our thinking has been profound and multifaceted. Through years of collaboration, mentorship, and scholarly dialogue, she taught us not only about the intricacies of commercial law but also about the importance of principled flexibility in legal reasoning. Her approach to complex problems (always rigorous yet pragmatic, always historically grounded yet forward-looking) was a model for scholarship. We continue to aspire to emulate it. She understood that commercial law must serve real-world needs while maintaining conceptual coherence, and she dedicated her career to achieving both of these goals.

In reflecting on Juliet’s scholarly legacy, we are struck by how often she saw waves coming that others missed entirely. In many respects, she was a visionary, identifying problems and proposing solutions years before they reached the mainstream of legal discourse. While her contemporaries focused their attention elsewhere, Juliet perceived technological currents that would fundamentally reshape property and commercial law. Her 2007 article, *False Categories in Commercial Law: The (Ir)relevance of (In)tangibility*, stands as perhaps the most powerful exemplar of this prescience and the one that we will focus on in this essay.¹

When Juliet published *False Categories* in the FLORIDA STATE UNIVERSITY LAW REVIEW, the digital asset ecosystem that dominates so much of contemporary legal discussions simply did not exist. Bitcoin would not appear for another two years. The concept of non-fungible tokens (NFTs) lay more than a decade in the future. The market for digital assets that would eventually reach nearly four trillion dollars in valuation was unimaginable to most legal

¹ Juliet M. Moringiello, *False Categories in Commercial Law: The (Ir)relevance of (In)tangibility*, 35 FLA. ST. U. L. REV. 119 (2007).

scholars in 2007.² Yet Juliet saw the fundamental challenge these technologies would pose to commercial law, even if she could not have predicted their precise form. She recognized that the legal system’s reflexive reliance on tangibility (which is to say, its instinctive categorization of rights based on physical manifestation) would prove inadequate for the emerging digital economy.

The problems Juliet identified in *False Categories* were not front-page at the time. Domain names had been around for over a decade, but most commercial law scholars treated them as curiosities rather than harbingers of deeper structural challenges. Electronic commerce was expanding rapidly, but few questioned whether the existing framework of the Uniform Commercial Code could accommodate purely digital assets.³ The conventional wisdom suggested that electronic assets could be shoehorned into existing categories with minimal disruption.⁴ Courts would adapt. Common law flexibility would suffice.

Juliet disagreed. With characteristic clarity and rigor, she demonstrated that commercial law’s “adherence to the notion of tangibility” created “false categories unrelated to significant legal distinctions” that would “hinder the ability of commercial law to expand to adequately accommodate electronic assets.”⁵ She showed how UCC Article 9’s remedies provisions (which, she argued, were designed with manual possession in mind) left creditors with security interests in general intangibles without clear enforcement mechanisms.⁶ She revealed how courts, when confronted with novel electronic assets, became “confounded by intangibility” and made decisions that threatened to fragment commercial law across state boundaries.⁷ She in particular exposed the flawed and superficial analogy between intangible assets and intellectual property,

² See also Andrea Tosato & Christopher K. Odinet, *Digital Assets and the Property Question*, 78 FLA. L. REV. (forthcoming 2026), available at <https://ssrn.com/abstract=5151907>.

³ At that time, scholarly, judicial and legislative attention concentrated overwhelmingly on electronic contracting, including shrink-wrap and clickwrap agreements, the failed UCITA project, and the enactment of the Uniform Electronic Transactions Act and E-SIGN. See, e.g., *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996); *Hill v. Gateway 2000, Inc.*, 105 F.3d 1147 (7th Cir. 1997); Amelia H. Boss, *Taking UCITA on the Road: What Lessons Have We Learned?*, 7 ROGER WILLIAMS L. REV. 167 (2001); Maureen A. O’Rourke, *An Essay on the Challenges of Drafting a Uniform Law of Software Contracting*, 10 LEWIS & CLARK L. REV. 925 (2006). No comparable theoretical or statutory framework addressed the treatment of digital assets in property and commercial law. See Moringiello, *supra* note 1, at 121–22 (drawing this contrast).

⁴ The “general intangibles” sub-category, added to Article 9 during its 1957 revision as a residual class for personal property not fitting the statute’s enumerated collateral types, had long served as the absorptive mechanism for novel intangible assets. See Homer Kripke, *Suggestions for Clarifying Article 9: Intangibles, Proceeds, and Priorities*, 41 N.Y.U. L. REV. 687, 691 (1966) (describing the genesis of the category); see also Grant Gilmore, *Security Interests in Personal Property* 292 (1965) (describing the original 1952 classification, which lacked a general intangibles category as “simple-minded”).

⁵ Moringiello, *supra* note 1, at 122.

⁶ *Id.* at 125–31.

⁷ *Id.* at 137–41.

which was a mere reflexive categorization that rested on little more than the shared absence of physical form.⁸

But perhaps most importantly, Juliet offered a path forward. Drawing on centuries of property law jurisprudence, she demonstrated that courts had always adapted concepts of possession and control when manual possession proved impossible or impractical.⁹ From wild animals to livestock to instruments reified in paper, the law had repeatedly shown its capacity to evolve. The challenge, she argued, was not the intangibility of electronic assets per se, but rather the legal system’s failure to recognize that “tangibility as tangibility has no relevance to property law.”¹⁰ What mattered was not whether an asset could be physically grasped but whether dominion, excludability, and transferability could be established and maintained.

Nearly two decades after *False Categories* first appeared, Juliet’s analysis has proven remarkably prescient. The 2022 Amendments to the Uniform Commercial Code, which established *controllable electronic records* as a new category of personal property, vindicate her core insight: commercial law must focus on functional attributes rather than physical form.¹¹ As vice chair of the drafting committee that produced these amendments and commissioner from the State of Pennsylvania, Juliet played a crucial role in translating theoretical insights into practical legal reform.¹² Her later scholarship, particularly *The Property Law of Tokens*, reflects a sophisticated engagement with how commercial law can best accommodate digital assets and related technology—an engagement informed by, yet also evolving from, her earlier work.¹³

This essay honors Juliet’s memory by examining her intellectual journey and enduring influence. We proceed in three parts. Part I offers both a descriptive account of *False Categories* and an analysis of its most enduring contributions. Part II then explores the places where our thinking diverged from Juliet’s initial proposals on how to deal with intangible property, how those disagreements were resolved through collaborative refinement, and how her later work reflected an evolved understanding of the challenges digital assets pose to commercial law. In our conclusion, we reflect on what we have lost with Juliet’s passing and what her scholarly method teaches us about the intellectual endeavor and the collaborative nature of legal reform.

⁸ *Id.* at 149.

⁹ *Id.* at 156-64.

¹⁰ *Id.* at 164.

¹¹ See Odinet & Tosato, *supra* note 2, at 43-46 (analyzing the 2022 UCC Amendments).

¹² Uniform Commercial Code Amendments (2022) *prefatory note* at vii-viii (Edwin E. Smith, Juliet M. Moringiello, Amelia H. Boss and Charles W. Mooney Jr. et al., drafters).

¹³ See Juliet M. Moringiello & Christopher K. Odinet, *The Property Law of Tokens*, 74 FLA. L. REV. 607 (2022); see also Juliet M. Moringiello & Christopher K. Odinet, *Blockchain Real Estate and NFTs*, 64 WILLIAM & MARY L. REV. 1131 (2023); Juliet M. Moringiello & Christopher K. Odinet, *Nfts, Property Rights, And Realty*, in THE CAMBRIDGE RESEARCH HANDBOOK ON LAW AND POLICY OF NFTS, Nizan Geslevich Packin ed. (Cambridge University Press 2024).

Before we begin, a personal note: Writing this essay has been both painful and necessary. Painful because every citation to and discussion of Juliet's work reminds us of conversations we will never have, insights we will never hear, and collaborations that will remain forever incomplete. Necessary because the best way to honor a scholar of Juliet's caliber is to engage seriously with her ideas, to trace their influence, and to demonstrate how they continue to shape legal thought and practice. We hope this essay achieves that goal.

I. THE ISSUE WITH POSSESSION OF INTANGIBLES

Juliet's *False Categories* appeared in 2007 at a moment when commercial law perhaps seemed settled in its treatment of intangible assets. Article 9 of the Uniform Commercial Code had been revised just a few years earlier, and the legal academy was largely satisfied that existing frameworks could handle whatever new forms of property technology might produce. Juliet thought otherwise. Her article challenged foundational assumptions about how commercial law categorizes assets and exposed deep problems that would only become more acute as digital commerce expanded.

We begin this Part I by describing her article's structure and core arguments. We then identify three contributions that remain particularly relevant today: her demonstration that possession has always been a flexible concept, her exposure of how courts mishandle novel intangibles, and her insistence that commercial law must focus on functional attributes rather than physical form. These insights laid the groundwork not only for the 2022 UCC Amendments but for an entire generation of scholarship on digital assets and property law in the technological age.

A. *Overview of False Categories*

Juliet organized *False Categories* around a central claim: the legal system's fixation on whether assets are tangible or intangible creates artificial distinctions that obscure what actually matters in commercial law. Ever characteristically, she built this argument systematically by moving from diagnosis to historical analysis to prescription.

The article opens with a hypothetical that would become familiar to anyone who studied her work and knew of her love for snow skiing (including as an instructor). eSnowshoes, Inc., a small online retailer, borrows \$100,000 from Commercial Bank and grants the bank a security interest in its inventory, accounts receivable, and general intangibles, including its domain name and virtual assets in Second Life.¹⁴ In turn, Commercial Bank perfects its interest by filing a financing statement. When eSnowshoes defaults, however, the bank knows exactly how to enforce its interest in the inventory (repossession) and the accounts receivable (collection from account debtors). But she then raises the

¹⁴ Moringiello, *supra* note 1, at 119.

question: what about the domain name and the Second Life assets? Article 9, so she argues, provides no clear answer.¹⁵

This gap in the law, Juliet explained, stems from Article 9's dichotomous treatment of tangible and intangible rights. The statute contemplates repossession for goods and collection remedies for payment rights, but it leaves creditors with security interests in what she called "true" general intangibles (such being assets that are neither goods nor payment obligations) without adequate enforcement mechanisms.¹⁶ She observed that courts cannot help much either, because garnishment statutes vary wildly across states, with some allowing seizure of any property held by third parties and others limiting garnishment to narrow categories of assets.¹⁷

Juliet then turned to case law to show how courts have struggled when intangible assets appear before them. She analyzed *Network Solutions, Inc. v. Umbro International, Inc.* and *Dorer v. Arel*, two Virginia cases involving attempts to garnish domain names.¹⁸ In both cases, courts concluded that domain names were merely "the product of a contract for services" rather than property that could be seized to satisfy debts.¹⁹ The reasoning troubled Juliet. Courts seemed to think that because domain names are intangible and require the ongoing services of a registrar to function, they surely cannot be property. But Juliet thought that this logic proves too much. Bank accounts, for example, are intangible and require the ongoing services of banks, yet no one doubts they are assets in the commercial law sense.²⁰ Indeed, they are one of the very categories that Article 9 allows as collateral in secured lending.²¹

The problem, however, extended beyond domain names. Juliet examined *Kremen v. Cohen*, where the Ninth Circuit grappled with whether converting a domain name could support a tort claim.²² The court wanted to recognize domain names as property but felt constrained by the traditional merger doctrine, which allows conversion claims only for intangible rights "merged" in tangible documents.²³ Rather than abandon this anachronistic requirement, the court performed intellectual gymnastics, declaring that domain names are "merged" in the domain name system itself in the form of an intangible, distributed database.²⁴ But indeed, Juliet found this reasoning deeply

¹⁵ *Id.* at 119-20.

¹⁶ *Id.* at 120.

¹⁷ *Id.* at 128-30.

¹⁸ *Id.* at 137-41 (discussing *Network Solutions, Inc. v. Umbro Int'l, Inc.*, 529 S.E.2d 80 (Va. 2000) and *Dorer v. Arel*, 60 F. Supp. 2d 558 (E.D. Va. 1999)).

¹⁹ *Id.* at 139.

²⁰ *Id.* at 140.

²¹ UCC § 9-102(a).

²² *Moringiello*, *supra* note 1 at 1501-54 (discussing *Kremen v. Cohen*, 337 F.3d 1024 (9th Cir. 2003)).

²³ *Id.* at 152. *See also* Grant Gilmore, *Formalism and the Law of Negotiable Instruments*, 13 CREIGHTON L. REV. 441, 446-47 (1979) (tracing the development of the merger doctrine and the reification of intangible rights in paper).

²⁴ *Id.* at 152-53.

unsatisfying.²⁵ The merger requirement made sense when intangible rights were actually reified in paper certificates that changed hands, such as negotiable instruments.²⁶ Stretching it to cover purely electronic systems missed the point entirely.²⁷

Courts also reflexively categorized novel intangibles as intellectual property, Juliet observed, even when those assets lacked the characteristics that define IP rights. Domain names are rivalrous in that only one person can use a given name at a time.²⁸ Intellectual property rights, by contrast, are non-rivalrous. Many people can use a copyrighted work or patented invention simultaneously, which is why IP law grants exclusive right to incentivize creation.²⁹ To Juliet, treating domain names as IP led courts astray and obscured the real question: how should commercial law handle intangible assets that can be exclusively controlled?³⁰

Having diagnosed the problem, Juliet turned to history. Part IV of the article is a tour de force demonstration that courts have been adapting private law's possession concepts for centuries whenever manual possession proved impractical. She started with *Pierson v. Post*, the iconic case about capturing wild foxes.³¹ The New York court held that mortally wounding an animal combined with continued pursuit constitutes possession sufficient to establish property rights, even though the hunter never physically grasped the fox.³² The decision recognized that requiring manual possession of a wild animal in every single case as an absolute prerequisite no matter the circumstances would be overly rigid and could even lead to absurd consequences.³³ What mattered was depriving the animal of its natural liberty and manifesting an intention to appropriate it.³⁴

Ghen v. Rich pushed the analysis further.³⁵ There, the custom in the whaling industry at Provincetown held that whoever killed a whale owned it, even though killed whales sink to the ocean floor and resurface days later, often miles away from where they were harpooned.³⁶ The court upheld this custom, reasoning that it represented “the only act of appropriation that is possible in the nature of the case.”³⁷ Juliet drew a crucial lesson: when manual possession is

²⁵ *Id.* at 153-54.

²⁶ *Id.* at 153.

²⁷ *Id.* at 153-54.

²⁸ *Id.* at 147. See generally David Nelmark, *Virtual Property: The Challenges of Regulating Intangible, Exclusionary Property Interests Such as Domain Names*, 3 NW. J. TECH. & INTELL. PROP. 1 (2004); Joshua A.T. Fairfield, *Virtual Property*, 85 B.U. L. REV. 1047, 1049, 1053-54 (2005).

²⁹ *Id.* at 147-48.

³⁰ *Id.* at 148-50.

³¹ *Id.* at 157-59 (discussing *Pierson v. Post*, 3 Cai. 175 (N.Y. Sup. Ct. 1805)).

³² *Id.* at 159.

³³ *Id.*

³⁴ *Id.*

³⁵ *Id.* at 159-60 (discussing *Ghen v. Rich*, 8 F. 159 (D. Mass. 1881)).

³⁶ *Id.* at 160.

³⁷ *Id.*

impossible, courts look to industry practices and functional control to determine ownership.³⁸

She found the same pattern regarding delivery in gift law. Branding cattle, for example, constituted sufficient delivery for a donation even though the animals roamed on an open range beyond anyone's grasp.³⁹ Courts similarly recognized symbolic delivery or delivery through third parties when manual transfer was impractical for a gift.⁴⁰ Across these varied contexts, courts focused on control and the ability to transfer, not on whether someone had physical dominion over an asset.⁴¹

Juliet then connected these historical examples to modern commercial law.⁴² Article 8 of the UCC, governing investment securities, had already moved away from physical possession as the touchstone of property rights.⁴³ When securities trading became too voluminous for manual transfer of stock certificates, Article 8 was revised to introduce "control" as what Juliet called "an umbrella," non-unitary concept replacing but encompassing possession.⁴⁴ For certificated securities, it remains grounded in delivery and thus in possession; for uncertificated securities and securities entitlements, it is achieved through agreement rather than any state of fact.⁴⁵ Yet in both cases the concept is flexible and technology-neutral, focusing on whether a person can enjoy the benefits of an asset and transfer them to others.⁴⁶

This brought Juliet to her central prescription. Commercial law, she argued, should "discard distinctions based on the physical manifestation of assets and focus instead on the legal qualities of those assets."⁴⁷ The relevant questions are not "can I touch it?" but rather "can it be controlled?," and "can it be transferred?," and "can others be excluded from it?"⁴⁸ These functional attributes, she argued, should determine how commercial law treats an asset.⁴⁹ Courts deciding cases about electronic assets should not ask whether they fit into existing categories designed for tangible property.⁵⁰ Rather, they should ask whether the relationships among persons with respect to those assets can be defined, protected, and transferred, all of which are the core concerns of property law.⁵¹

³⁸ *Id.*

³⁹ *Id.* at 162. (discussing *Coke & Reardon v. Ikard*, 87 S.W. 869 (Tex. Civ. App. 1905)).

⁴⁰ *Id.* at 160-62.

⁴¹ *Id.* at 162.

⁴² *Id.* at 164.

⁴³ *Id.* at 162-64.

⁴⁴ *Id.* at 155.

⁴⁵ See U.C.C. § 8-106(a)–(b) (certificated securities; control through delivery); *id.* § 8-106(c)–(d) (uncertificated securities and securities entitlements; control through agreement).

⁴⁶ Moringiello, *supra* note 1, at 155.

⁴⁷ *Id.* at 120.

⁴⁸ *Id.* at 141.

⁴⁹ *Id.* at 132-34.

⁵⁰ *Id.* at 131-32.

⁵¹ *Id.* at 162-64.

Juliet concluded by returning to the hypothetical that opened the article. Commercial Bank’s inability to enforce its security interest in eSnowshoes’ domain name and virtual assets is not a failure of existing law to contemplate the specific technology.⁵² Instead, it is a failure to apply general principles that have governed property for centuries.⁵³ The bank should be able to enforce its interest by gaining control of whatever mechanism allows the debtor to enjoy and transfer the asset (which, in this case, would be registration with the domain name registrar and providing the account credentials for Second Life). The form of the asset is irrelevant. What matters are the attributes and their function.⁵⁴

B. Two Key Takeaways That Shaped Our Thinking

Among the contributions that False Categories made to commercial and property law scholarship, two stand out as particularly enduring and relevant to contemporary debates about digital assets and have influenced our own work in this space. First, Juliet exposed systematic patterns in how courts mishandle novel intangibles, which revealed cognitive traps that continue to ensnare judges today.⁵⁵ Second, she articulated a compelling case that commercial law must focus on functional attributes of assets rather than their physical form. We address each of these contributions in turn.

1. How Courts Mishandle Novel Intangibles

Juliet’s first major contribution was exposing systematic patterns in judicial reasoning that lead courts astray when they encounter unfamiliar intangible assets. She identified three recurring mistakes: conflating intangibility with non-property status, reflexively categorizing intangibles as intellectual property, and attempting to force intangibles into tangible-property frameworks through tortured analogies.

The first mistake, illustrated by the Virginia domain name cases discussed above,⁵⁶ revealed something more troubling than an error of classification. Courts did not merely fail to recognize domain names as property; they reasoned backward from intangibility to non-property status, treating the absence of physical form as dispositive.⁵⁷ This represented a fundamental confusion about what property is. For Juliet, property is not the thing itself but

⁵² *Id.* at 164-65.

⁵³ *Id.* at 165.

⁵⁴ *Id.* at 162-64.

⁵⁵ *See infra* Part II.B.

⁵⁶ *See supra* notes 18–21 and accompanying text (discussing *Network Solutions, Inc. v. Umbro Int’l, Inc.*, 529 S.E.2d 80 (Va. 2000) and *Dorer v. Arel*, 60 F. Supp. 2d 558 (E.D. Va. 1999)).

⁵⁷ Moringiello, *supra* note 1, at 139–41.

rather the relationships among persons with respect to things or resources.⁵⁸ A domain name is intangible, but the right to use that name exclusively, to transfer it to others, and to exclude others from using it is a property right. Courts that focused solely on the intangibility of the asset itself missed the point entirely.⁵⁹

The second mistake (treating novel intangibles as intellectual property by default) also pervaded judicial reasoning. Courts seemed to think that if an asset is intangible and valuable, it must be some form of intellectual property. But as we noted above, this categorization collapsed the distinction between rivalrous and non-rivalrous assets, which is a distinction that is fundamental to understanding why intellectual property law exists and how it operates.⁶⁰

When courts misclassified domain names as intellectual property, they imported irrelevant doctrines and missed relevant ones. They worried about balancing exclusive rights against public access, when the real issue was determining who controls a unique, rivalrous resource.⁶¹ They looked to trademark law for guidance, when trademark law addresses a completely different problem: preventing consumer confusion through protection of source-identifying marks.⁶² Generic domain names like “shoes.com” have no trademark significance, yet they clearly have value and can be exclusively controlled. Calling them intellectual property obscured rather than illuminated their legal treatment.⁶³

The third mistake was attempting to preserve tangible-property frameworks by forcing intangibles to “look tangible” through strained analogies. The Ninth Circuit’s treatment in *Kremen v. Cohen*, discussed above,⁶⁴ exemplified this tendency. Rather than confronting the question of whether conversion doctrine should extend to purely electronic assets on functional grounds, the court manufactured a connection to tangibility by declaring domain names “merged” in the domain name system itself. Juliet found this reasoning almost comical.⁶⁵ The merger doctrine presupposes that an intangible right is reified in a physical document whose transfer effects transfer of the right. The domain name system performs no such function, and stretching the concept to cover an intangible, distributed database provided no useful analytical framework for future cases.⁶⁶

⁵⁸ *Id.* at 132 (citing JOSEPH WILLIAM SINGER, INTRODUCTION TO PROPERTY (2d ed. 2005)). *Cf.* Henry E. Smith, *Property as the Law of Things*, 125 HARV. L. REV. 1691 (2012) (arguing that property is organized around things, not merely interpersonal relations).

⁵⁹ *Id.* at 147.

⁶⁰ *See supra* notes 28–30 and accompanying text (discussing the rivalrous nature of domain names and the non-rivalrous nature of intellectual creations).

⁶¹ *Id.* at 148–49.

⁶² *Id.* at 149.

⁶³ *Id.* at 149–50.

⁶⁴ *See supra* notes 22–27 and accompanying text (discussing *Kremen v. Cohen*, 337 F.3d 1024 (9th Cir. 2003) and the merger doctrine).

⁶⁵ Moringiello, *supra* note 1, at 152–53.

⁶⁶ *Id.* at 153–54.

Juliet explained that what united these three mistakes was a failure to look past surface characteristics to functional realities. Courts saw that domain names are intangible and reasoned that they must be different from “normal” property. They saw value in intangible assets and assumed those assets must be intellectual property. They wanted to apply familiar doctrines and manufactured connections to tangible property that made no functional sense. Throughout, courts avoided the harder but more productive inquiry: What relationships of control, transferability, and excludability exist with respect to this asset, and how should commercial law protect those relationships?⁶⁷

2. Functional Attributes Over Physical Form

Juliet’s second major contribution in this paper was her insistence that commercial law must focus on functional attributes of assets rather than their physical form.⁶⁸ This prescription followed directly from her historical analysis and her critique of judicial reasoning, but it deserves separate attention because it charted a path forward for both courts and legislators who were at the time and would continue to grapple with technological change.⁶⁹

Her core insight was deceptively simple: tangibility as such has no relevance to property law.⁷⁰ Juliet stated this explicitly: “the idea of tangibility as tangibility has no relevance to property law.”⁷¹ What matters is not whether an asset can be physically touched but whether it has the attributes that make property rights meaningful and enforceable.⁷² Can the asset be defined with sufficient precision that parties know what rights are being claimed?⁷³ Can it be controlled such that the owner can enjoy its benefits and exclude others?⁷⁴ Can rights in it be transferred so that ownership can change hands?⁷⁵ Juliet argued that these questions apply equally to tangible goods, intangible payment rights, and purely electronic assets.⁷⁶ To her mind, as we explained above, Article 8 of the UCC had already demonstrated that this functional approach could be operationalized: the concept of “control,” flexible and technology-neutral, allowed Article 8 to govern both certificated and uncertificated securities without reference to physical form.⁷⁷

⁶⁷ *Id.* at 154-55.

⁶⁸ *Id.* at 120.

⁶⁹ *See infra* - Part II.

⁷⁰ *Id.* at 120,157.

⁷¹ *Id.* at 164.

⁷² *Id.* at 140.

⁷³ *Id.* at 134.

⁷⁴ *Id.* at 141 .

⁷⁵ *Id.* at 153.

⁷⁶ *Id.* at 162-64.

⁷⁷ *See supra* notes 42–46 and accompanying text (discussing Article 8’s introduction of “control” as an umbrella concept replacing but encompassing possession, and the distinction between certificated securities, where control remains grounded in delivery, and uncertificated securities, where control is achieved through agreement).

Juliet argued that this approach should be generalized.⁷⁸ Commercial law should ask what capabilities a person has with respect to an asset rather than what the asset is made of.⁷⁹ For creditors' rights, the crucial question is whether a secured party can gain control sufficient to transfer value to a third party.⁸⁰ If yes, then enforcement mechanisms should facilitate that transfer.⁸¹ If no, then perhaps the asset should not be permitted as collateral in the first place.⁸² But, she asserted, commercial law should never conclude that an asset cannot serve as collateral simply because it is intangible any more than it should conclude that an asset must be capable of serving as collateral simply because it is tangible.⁸³

This functional approach also had implications for how commercial law should develop rules for new assets.⁸⁴ Juliet resisted calls for bespoke legal regimes tailored to specific technologies. She invoked Judge Easterbrook's famous critique of "The Law of the Horse" (which is the idea that creating specialized fields for every new technology leads to shallow, ungeneralizable rules that miss unifying principles).⁸⁵ Domain names, virtual world assets, and future electronic assets that had not yet been invented should not each get their own body of law.⁸⁶ Rather, she noted that they should be governed by general principles of property and commercial law, applied functionally.⁸⁷

Juliet argued that the alternative (being the continued categorization of assets based on their physical manifestation) would lead to disaster.⁸⁸ Specifically, she predicted that it would fracture commercial law into an ever-expanding taxonomy of asset types each with its own rules.⁸⁹ It would further create uncertainty and litigation as courts struggled to classify hybrid or novel assets.⁹⁰ And finally, it would guarantee that commercial law would always lag behind technological innovation because each new form of asset would require legislative intervention before commercial law could handle it.⁹¹

As we see it, Juliet's prescription was simultaneously more modest and more ambitious. It was more modest because it required no wholesale revision of commercial law but rather just a shift in how courts and legislators approached categorization questions. It was however more ambitious in that it demanded intellectual discipline. Lawyers and judges trained to think in terms of tangible versus intangible and goods versus intangibles would have to retrain

⁷⁸ *Id.* at 120.

⁷⁹ *Id.* at 141.

⁸⁰ *Id.* at 157-58

⁸¹ *Id.* at 158

⁸² *Id.* at 164.

⁸³ *Id.* at 164

⁸⁴ *See infra* Part II and accompanying discussion.

⁸⁵ *Id.* at 156.

⁸⁶ *Id.* at 141-43.

⁸⁷ *Id.* at 156-64.

⁸⁸ *Id.* at 141, 147, 150, 156.

⁸⁹ *Id.* at 120.

⁹⁰ *Id.* at 165.

⁹¹ *Id.* at 120-21.

themselves to think in terms of control, transferability, and excludability (in other words, attributes-based thinking). Legislators would have to resist the temptation to create special rules for each new technology and instead focus on functional attributes that transcend any particular technological implementation.⁹²

This functional approach proved prescient. As we will discuss in Part II, the 2022 UCC Amendments adopted precisely this methodology in creating controllable electronic records.⁹³ CERs are defined not by what they are made of but by what can be done with them (specifically, whether they can be subjected to control as that term is functionally defined).⁹⁴ Indeed, Juliet's 2007 article was among the earliest works to lay the intellectual groundwork for this development.⁹⁵ She showed that commercial law had the tools to handle electronic assets—it just needed to use them.

II. POINTS OF DEPARTURE AND ENDURING INFLUENCE

It is important to note that Juliet's *False Categories* article not only diagnosed the problems, but it also proposed solutions. Her analysis of how courts had historically adapted possession concepts led her to a clear prescription: commercial law should expand the concept of possession to accommodate electronic assets. If possession had always been flexible enough to handle wild animals, free-roaming livestock, and intangible rights merged in paper, why not domain names and digital tokens?

As for us, we agreed with much of Juliet's analysis but departed from her proposed solution in one significant respect. While we shared her conviction that a possession-like framework could work for electronic assets, we believed commercial law needed a new category rather than an expansion of an old one. In our minds, this category (which came to be called "control") should draw on possession's core structure (attributes-based, as Juliet advocated), but also incorporate dimensions that possession did not accommodate fully, such as shared control among multiple parties. Such a concept required its own conceptual space within the UCC.

What followed in the work of the Uniform Law Commission and the American Law Institute was something Juliet excelled at: collaborative refinement of ideas through sustained engagement. As vice chair of the drafting committee that produced the 2022 UCC Amendments, she participated in discussions about how best to accommodate controllable electronic records. The framework that emerged vindicated aspects of both her original position and the alternatives proposed by others.

⁹² *Id.* at 164.

⁹³ *See infra* Part II.

⁹⁴ *See infra* Part II (discussing the 2022 UCC Amendments and Juliet's later work).

⁹⁵ *See infra* Part II.

A. Her Position: Expanding Possession to Accommodate Intangibles

Having demonstrated in *False Categories* that possession has always been a flexible concept (adapted by courts across centuries to accommodate assets that cannot be manually grasped), Juliet drew what seemed to her the logical conclusion: commercial law should expand possession to cover electronic assets as well.⁹⁶ She saw no need for new categories or novel frameworks when, to her mind, the existing concept of possession, properly understood, could do the work.⁹⁷

To be sure, her reasoning was easily understood. As the historical cases she surveyed demonstrated, courts had repeatedly adapted possession to circumstances where manual control was practically impossible.⁹⁸ If possession could adapt to these varied circumstances, each presenting practical impossibilities of manual control, then it could adapt to domain names, electronic accounts, and other digital assets.⁹⁹ Indeed, the adaptations required were no more dramatic than those courts had already made.¹⁰⁰ They simply needed to continue what was essentially a centuries-old pattern.¹⁰¹

To that end, Juliet identified what she saw as the crucial functional requirements. For possession to work with electronic assets, the law needed to focus on two elements that had always mattered more than physical grasping: the ability to *enjoy* the benefits of an asset (the positive element) and the ability to *exclude others* from those benefits (the negative element).¹⁰² A person possesses a whale when they have killed it and can claim it upon its resurfacing, even though the whale spent days at the bottom of the ocean beyond anyone's physical reach.¹⁰³ A person possesses cattle when they have branded them and can identify them as their own, even though the cattle might be grazing miles away.¹⁰⁴ Why shouldn't a person possess a domain name when they control the registration and can use, enjoy, and transfer it?¹⁰⁵

She further argued that the Article 9 framework reinforced this view.¹⁰⁶ Possession already played a central role in secured transactions.¹⁰⁷ Taking possession of collateral could substitute for a written security agreement in

⁹⁶ *Id.* at 164-165.

⁹⁷ *Id.* at 165.

⁹⁸ *Id.* at 156-164. (discussing Juliet's analysis of wild animal, whaling, and livestock cases).

⁹⁹ Moringiello, *supra* note 1, at 164-65.

¹⁰⁰ *Id.* at 165.

¹⁰¹ *Id.* at 164.

¹⁰² *See supra* Part I.B.1 (discussing the positive and negative elements of possession in Juliet's analysis).

¹⁰³ *Id.* at 159-60. (Ghen v. Rich, 8 F. 159 (D. Mass. 1881).

¹⁰⁴ *Id.* at 162 (Coke & Reardon v. Ikard, 87 S.W. 869 (Tex.Civ.App.1905)).

¹⁰⁵ *Id.* at 138-141.

¹⁰⁶ *Id.* at 125- 132.

¹⁰⁷ *Id.* at 157.

creating an enforceable security interest¹⁰⁸ and served as an alternative to filing a financing statement for purposes of perfection.¹⁰⁹ For certain asset classes, moreover, possession conferred a non-temporal priority that defeated even prior perfected interests,¹¹⁰ a rule grounded in the publicity that possession provides: unlike a filing, which must be searched, possession is visible and gives notice to the world by its very nature.¹¹¹ Juliet saw no reason this framework could not extend to electronic assets.¹¹² If a secured party could gain control over a debtor's domain name (by obtaining transfer of the registration, for example) that should constitute possession for Article 9 purposes.¹¹³ The secured party would have the same capabilities with respect to the domain name that possession of goods provides: control, excludability, and the ability to transfer value.¹¹⁴

She did acknowledge, however, that some adaptation would be required.¹¹⁵ In her eyes, physical delivery, which works for tangible goods, could not work for electronic assets.¹¹⁶ But courts had long recognized alternatives to physical delivery: symbolic delivery, constructive delivery, and delivery through agents all served the same function when manual transfer was impractical.¹¹⁷ For electronic assets, "delivery" might mean transferring account credentials, reassigning registrations, or providing access codes.¹¹⁸ The mechanism would differ, but the function would remain the same: giving another person the ability to control and enjoy the asset.¹¹⁹

Juliet was particularly insistent that commercial law should resist creating asset-specific rules,¹²⁰ invoking Judge Easterbrook's critique of "The Law of the Horse" as noted above.¹²¹ She believed that possession is and has always been a functional concept, defined by capabilities rather than physical characteristics, and capable of governing any asset where those capabilities can be established.¹²²

This position had both theoretical elegance and practical appeal. Theoretically, it preserved continuity with centuries of property law while

¹⁰⁸ See U.C.C. § 9-203(b)(3)(B) (possession as alternative to authenticated security agreement).

¹⁰⁹ See U.C.C. § 9-313; Moringiello, *supra* note 1, at 125–27.

¹¹⁰ See U.C.C. § 9-330(a)–(b) (chattel paper); *id.* § 9-331 (negotiable instruments, negotiable documents). The general priority rule under Article 9 is temporal: the first to file or perfect prevails. U.C.C. § 9-322(a)(1).

¹¹¹ *Id.* at 125-27.

¹¹² *Id.* at 164.

¹¹³ *Id.* at 149-50.

¹¹⁴ *Id.* at 164.

¹¹⁵ *Id.* at 161-63.

¹¹⁶ *Id.* at 160-61.

¹¹⁷ *Id.* at 160-62.

¹¹⁸ *Id.* at 149-50.

¹¹⁹ *Id.* at 164.

¹²⁰ *Id.* at 165.

¹²¹ *Id.* at 141.

¹²² *Id.* at 157-58, 164.

accommodating technological change. Courts would not need to learn new concepts, but rather they would simply apply familiar ones in new contexts. Practically, it avoided the complexity of creating new categories, defining their boundaries, and working out their relationship to existing law. Possession was already well understood.¹²³ Expanding it seemed simpler than starting fresh.¹²⁴

The approach also aligned with how Juliet understood the UCC's original design philosophy. Karl Llewellyn, the UCC's chief reporter, had emphasized the importance of flexibility and common law evolution.¹²⁵ He wanted courts to adapt the Code to changing commercial practices rather than treating it as a static rule book.¹²⁶ Grant Gilmore, who co-drafted Article 9, had written about the need for commercial law to evolve with technology and resist the temptation to freeze concepts at particular moments in time.¹²⁷ Expanding possession to cover electronic assets fit squarely within this tradition of adaptation through interpretation rather than constant revision.¹²⁸

Yet Juliet's proposal, elegant as we think it was, did raise questions that would become central to the debates surrounding the 2022 UCC Amendments. Could possession really stretch far enough to cover assets that exist only as data entries in distributed systems? Would calling something "possession" when it lacked any component of physical dominion create more confusion than clarity? Could the elaborate doctrinal apparatus of possession, developed over centuries for corporeal things, accommodate the forms of shared control that digital assets demand? Would exclusivity, long understood through the lens of material occupation, need to be reconceived materially to accommodate cryptographic mechanisms? And was there value in signaling (through new terminology) that electronic assets present distinct challenges even if they can be governed by possession-like principles? To be sure, these questions did not indicate flaws in Juliet's analysis. But rather, they reflected the genuine difficulty of accommodating genuinely novel phenomena within inherited legal categories.

B. Our Position: Control as a Distinct Category

As we remarked in Part I of this Essay, we found Juliet's analysis compelling in many respects. Her observation that possession has always been flexible convinced us that a functionally similar framework could govern

¹²³ See generally Unif. Fraudulent Transfer Act § 4(b), 7A U.L.A. 2 (2006); Richard A. Epstein, *Possession as the Root of Title*, 13 GA. L. REV. 1221 (1979); Carol M. Rose, *Possession as the Origin of Property*, 52 U. CHI. L. REV. 73 (1985).

¹²⁴ See Moringiello, *supra* note 1, at 164.

¹²⁵ Karl N. Llewellyn, *Why a Commerce Code?* 22 TENN. L. REV. 779,779 (1953); Karl N. Llewellyn, *Why We Need the Uniform Commercial Code*, 10 FLA. L. REV. 367, 378 (1957); see also JAMES J. WHITE & ROBERT S. SUMMERS, UNIFORM COMMERCIAL §3 (5th ed.2000)

¹²⁶ *Id.* at 124-25.

¹²⁷ See *id.* at 125; see also Grant Gilmore, *Article 9: What It Does Not Do For the Future*, 26 LA. L. REV. 300, 300 (1966).

¹²⁸ *Id.* at 165.

electronic assets. If the relationship between a person and a digital asset can replicate the state of fact to which the rules of possession have always attached legal consequences (dominion, excludability, and transferability), then a framework derived from possession makes functional sense. On this foundational point, we agreed entirely.

But we departed from Juliet’s proposed solution. Rather than expanding the concept of possession to cover electronic assets, during the time of the drafting of the 2022 UCC Amendments, we believed commercial law should create a new category. This was not a rejection of her core ideas. Rather, it reflected a different judgment about how best to translate those ideas into the architecture of the UCC.

Our reasoning started with a foundational observation about the concept of possession itself. Since Roman law, possession has been understood as requiring physical dominion over a corporeal thing.¹²⁹ In the common law tradition, from Blackstone to Pollock and Holmes, albeit with differences regarding the exact confines of possession or the nature of the requisite intent, there has been consistent agreement on the principle that possession is only possible for corporeal things.¹³⁰ The Restatement Fourth of Property continues this lineage into contemporary American law, defining possession as applying only when “a person has established effective control over a physical thing” and categorically stating that intangible property “is not subject to possession, except perhaps in a metaphorical sense.”¹³¹ Although the UCC does not define possession, the concept is throughout the Code and invoked only in relation to tangible, movable things.¹³² Extending possession to electronic assets would therefore not represent a modest adaptation of a flexible concept. It would remove a foundational element of the doctrine as understood across legal traditions for over two millennia.

¹²⁹ FRIEDRICH CARL VON SAVIGNY, TREATISE ON THE LAW OF POSSESSION; OR, THE *JUS POSSESSIONIS OF THE CIVIL LAW* 1–7 (Sir Erskine Perry trans., J.H. Budd & Co. 1848) (1803); *see also* THE INSTITUTES OF JUSTINIAN 2.1.12 (J.B. Moyle trans., 5th ed. 1913).

¹³⁰ Blackstone drew the foundational distinction between property “in possession,” where a person has the actual enjoyment of a thing, and property “in action,” where a person holds a bare right without occupation or enjoyment; his examples of things capable of possession are exclusively corporeal. 2 WILLIAM BLACKSTONE, COMMENTARIES ON THE LAWS OF ENGLAND 389 (1766). Pollock limited corporeal possession to things susceptible of “manual occupation.” FREDERICK POLLOCK & ROBERT SAMUEL WRIGHT, AN ESSAY ON POSSESSION IN THE COMMON LAW 36 (1888). Holmes agreed that possession requires physical power over the object possessed, differing only on the nature of the requisite intent. Richard A. Posner, *Savigny, Holmes, and the Law and Economics of Possession*, 86 VA. L. REV. 535, 547 (2000) (“Holmes agrees with Savigny that possession requires physical power over the object possessed . . . conjoined with a certain intent. Only, for Holmes, the requisite intent is merely the intent to exclude others.”).

¹³¹ RESTATEMENT (FOURTH) OF PROPERTY § 1.2.1.1, cmt. i (Am. L. Inst. 2020).

¹³² *See* U.C.C. § 9-313 (perfection by possession, applicable to goods, instruments, tangible chattel paper, tangible documents of title, certificated securities, and money); Douglas G. Baird & Thomas H. Jackson, *Possession and Ownership: An Examination of the Scope of Article 9*, 35 STAN. L. REV. 175 (1983); Robert A. Zadek, *The Uniform Commercial Code’s Misplaced Emphasis on Possession*, 28 LOY. L.A. L. REV. 391 (1994).

This was not a philosophical or definitional point. Possession as a legal concept has been developed over centuries with its doctrines, rules, and tests built on the premise that the object of possession is tangible. What counts as sufficient possession, how possession transfers, what duties possessors owe, how possession affects priority among competing claimants: these questions have been answered, refined, and litigated with tangible things in mind.¹³³ Extending possession to digital assets would require courts to determine which of these rules could be adapted by analogy and which could not. The likely result would be an internal splitting of possession into two subcategories: one for tangible things, retaining the traditional rules, and another for digital assets, operating under substantially different principles. Rather than achieving the elegance of a single expanded concept, the law would produce a notion of possession that would be difficult to navigate and potentially incoherent. The simplicity of extension would be purchased at the cost of complexity and legal uncertainty.

In agreement with Juliet, we believed that the new category should draw on possession's core structure. Like possession, it should be a state of fact: a determination of whether a person stands in a particular factual relationship to an asset, not a question of legal entitlement.¹³⁴ Moreover, it should incorporate the positive and negative elements that Juliet had identified as essential to possession, together with the capacity to transfer both.¹³⁵

Yet our proposed new concept would need to depart from possession in significant respects. The first departure concerned exclusivity. For possession, exclusivity is achieved through physical dominion in that others would need to physically displace the possessor to gain access.¹³⁶ Regarding digital assets, exclusivity would need to operate through different mechanisms entirely, mediated by cryptographic keys, system protocols, or registration systems. The system in which an electronic record is recorded may be programmed to cause changes, including transfers or modifications of benefits, without any physical act. A new concept would need to accommodate these realities while preserving the core idea that one identifiable person holds the relevant powers.

The second departure concerned shared control. Possession in common is recognized at law, but the corporeal nature of possessed things has always limited its practical significance.¹³⁷ Digital assets enable configurations of shared authority (multi-signature arrangements, digital escrows, smart-contract-

¹³³ See D.R. Harris, *The Concept of Possession in English Law*, in OXFORD ESSAYS IN JURISPRUDENCE 69 (A.G. Guest ed., 1961); Douglas G. Baird & Thomas H. Jackson, *Possession and Ownership: An Examination of the Scope of Article 9*, 35 STAN. L. REV. 175 (1983)

¹³⁴ POLLOCK & WRIGHT, *supra* note 130, at 13 (“Occupation or control is a matter of fact, and cannot of itself be dependent on matter of law.”).

¹³⁵ See Moringiello, *supra* note 1, at 143–46.

¹³⁶ RESTATEMENT (FOURTH) OF PROPERTY § 1.2.1.1 (2025).

¹³⁷ See POLLOCK & WRIGHT, *supra* note 130, at 11 (noting possession in common as a recognized but peripheral category).

mediated governance) that the law of possession was never designed to accommodate. A new concept would need to distinguish carefully between symmetric arrangements, where multiple parties share authority on equal terms, and asymmetric ones, where one party retains a blocking or overriding power. These distinctions, which are essential for the commercial circulation of digital assets, find no precedent in the law of possession.

Juliet’s foundational insight, that commercial law must embrace a functional approach, would thus be preserved within a concept that could also accommodate the distinctive features of cryptographic exclusivity and shared control. Control would be defined functionally, without reference to physical characteristics, making it explicitly technology-neutral. How control is achieved (through private keys, account credentials, registration systems, or technologies not yet invented) would be irrelevant to the legal analysis.

This approach also addressed Juliet’s concern about asset-specific rules.¹³⁸ Control would not be defined differently for domain names, cryptocurrency, or NFTs. It would be a single, unified concept applicable to any electronic asset capable of being controlled. Courts would ask the same questions regardless of what type of electronic asset appeared before them: Can this person avail themselves of the benefits? Can they exclude others? Can they transfer these capabilities? The answers might differ based on the specific technology, but the analytical framework would remain constant.

To be sure, our disagreement with Juliet was not foundational. Both approaches aimed at the same goal of ensuring that commercial law could accommodate electronic assets through functional analysis. Both rejected the idea that tangibility matters as such. Both insisted on focusing on dominion, excludability, and transferability. On these core commitments we were fully aligned. But we believed that a new concept, rather than an expansion of an old one, would better serve these shared goals, not least because it would afford the flexibility to address features of digital assets (cryptographic exclusivity, shared control, protocol-mediated governance) that the law of possession, built for corporeal things, was never designed to accommodate.

As we will discuss in the next section, the 2022 UCC Amendments adopted the control framework, and Juliet played a central role in shaping it.

C. Convergence and Her Later Work

The 2022 Amendments to the Uniform Commercial Code represent one of the most significant developments in commercial law in decades.¹³⁹ At their heart lies a new Article 12, which establishes “controllable electronic records”

¹³⁸ See Moringiello, *supra* note 1, at 156 (citing Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL F. 207).

¹³⁹ See Odinet & Tosato, *supra* note 2.

as a distinct category of personal property and makes “control” the organizing principle for their commercial circulation.¹⁴⁰ Juliet served as a commissioner from Pennsylvania and vice chair of the drafting committee that produced these amendments. Far from serving a ceremonial role, she participated actively in the intensive, multi-year process of drafting, debating, revising, and refining the provisions that would become Article 12.¹⁴¹ The framework that emerged reflects a convergence of the positions we have outlined: it embodies Juliet’s conviction that commercial law must focus on functional attributes, while implementing it through an autonomous concept rather than an expansion of possession.

The very definition of a controllable electronic record is built around the concept of control. A CER is “a record stored in an electronic medium that can be subjected to control.”¹⁴² An electronic record that cannot be subjected to control falls outside Article 12 entirely. Control is thus the gateway to the framework’s application.¹⁴³

Control, in turn, is defined functionally through three specific powers. A person has control of a CER when they have the power: (1) to avail themselves of substantially all the benefit from the electronic record; (2) to prevent others from availing themselves of substantially all the benefit from the electronic record; and (3) to transfer control to another person, along with the ability for that person to transfer control to yet another person.¹⁴⁴ These three powers map directly onto the positive and negative elements that Juliet identified in *False Categories* as essential to possession,¹⁴⁵ with the addition of a third power that ensures the asset can circulate in commerce in the same way that possession enables the transfer of tangible goods.

Article 12 also implements the reconceived exclusivity that we believed was necessary for this concept to function effectively. Under Section 12-105(b)(1), a person’s power remains exclusive even if the electronic record, an associated record, or the system’s protocol is programmed to cause changes, including transfers, loss of control, or modification of benefits afforded by the record.¹⁴⁶ This accommodates the reality that digital assets exist within programmable systems whose protocols may impose conditions on use. Section 12-105(d) provides that if a person has the relevant powers, those powers are presumed to be exclusive, shifting the evidentiary burden away from the person

¹⁴⁰ U.C.C. § 12-102(a)(1) (Am. L. Inst. & Unif. L. Comm’n 2022); *see also* Odinet & Tosato, *supra* note 2.

¹⁴¹ Uniform Commercial Code Amendments (2022) *prefatory note* at vii–viii (Edwin E. Smith, Juliet M. Moringiello, Amelia H. Boss & Charles W. Mooney Jr. et al., drafters).

¹⁴² U.C.C. § 12-102(a)(1) (Am. L. Inst. & Unif. L. Comm’n 2022).

¹⁴³ *See* Tosato & Odinet, *supra* note 2 (discussing control as the organizing principle of Article 12 and the definition of CERs as built around the concept of control).

¹⁴⁴ U.C.C. § 12-105(a) (Am. L. Inst. & Unif. L. Comm’n 2022).

¹⁴⁵ *See supra* Part I.B.1 (discussing the positive and negative elements of possession in Juliet’s analysis).

¹⁴⁶ U.C.C. § 12-105(b)(1) (Am. L. Inst. & Unif. L. Comm’n 2022).

claiming control.¹⁴⁷ And Section 12-105(e) enables control through another person who acknowledges holding control on one’s behalf, thus facilitating digital custodianship arrangements that have no precise analogue in the law of possession.¹⁴⁸

The treatment of shared control is equally innovative. Under Section 12-105(b)(2), a power remains exclusive even if shared with another person, enabling multi-signature arrangements in which, for example, four parties share control and exercise of powers requires action by three of the four.¹⁴⁹ Section 12-105(c) then carefully delineates when sharing does not preserve exclusivity: a person whose exercise of power depends on the cooperation of another who can act unilaterally, or who is the transferor of the interest, does not satisfy the exclusivity requirement.¹⁵⁰ This architecture for distinguishing symmetric from asymmetric arrangements of shared control has no analogue in the law of possession. It reflects the reality that digital assets routinely exist within multi-signature wallets, digital escrows, and smart-contract-mediated governance structures where control is distributed by design.

Control also serves as the gateway to qualifying-purchaser status under Article 12. A qualifying purchaser of a CER takes free of claims of a property interest in the record, receiving protection analogous to that afforded a holder in due course of a negotiable instrument under Article 3.¹⁵¹ Only a person who obtains control of the CER is eligible for this protected status, reinforcing the centrality of control to the entire framework.¹⁵²

The amendments further addressed the secured-transactions problems that Juliet had identified in 2007. She had shown how creditors with security interests in general intangibles lacked clear enforcement mechanisms because Article 9 contemplated repossession for goods and collection for payment rights but provided no parallel remedy for other intangibles.¹⁵³ Article 12 and the accompanying revisions to Article 9 resolve this comprehensively. Control of a CER may substitute for a signed security agreement in creating an enforceable

¹⁴⁷ *Id.* § 12-105(d); *see also id.* § 12-105 cmt. 5 (discussing the presumption of exclusivity and its relationship to Section 1-206).

¹⁴⁸ *Id.* § 12-105(e); *see also id.* § 12-105 cmt. 8 (discussing control through another person and its relationship to agency principles and Section 9-313(c)).

¹⁴⁹ *Id.* § 12-105(b)(2); *see also id.* § 12-105 cmt. 5 (Example 2, illustrating a four-party multi-sig arrangement in which exercise of powers requires action by three of the four participants).

¹⁵⁰ *Id.* § 12-105(c); *see also id.* § 12-105 cmt. 5 (Examples 3–7, illustrating when shared power does and does not preserve exclusivity); *id.* § 12-105 cmt. 9 (explaining the rationale for disqualifying transferees from the benefit of shared power when the transferor retains a blocking power).

¹⁵¹ U.C.C. § 12-104(e) (Am. L. Inst. & Unif. L. Comm’n 2022).

¹⁵² *See id.* § 12-105 cmt. 1 (“only a person having control of a controllable electronic record is eligible to become a qualifying purchaser”); *see also id.* § 12-104(g) (the “no-action” rule protecting qualifying purchasers).

¹⁵³ Moringiello, *supra* note 1, at 125–31.

security interest.¹⁵⁴ A secured party may perfect its interest by obtaining control.¹⁵⁵ And critically, a security interest perfected by control enjoys a non-temporal priority over conflicting security interests perfected by other methods: the secured party with control prevails regardless of whether another secured party filed or perfected first.¹⁵⁶

Enforcement, in turn, follows from control. A secured party with control of a CER can transfer it to satisfy the debt, just as a secured party in possession of goods can sell them. The functional parallel to possessory enforcement is complete, but the mechanism is designed for assets where physical seizure is conceptually impossible.

The concept of control that Article 12 adopted was thus not the expansion of possession that Juliet had originally proposed in *False Categories*. Yet her later scholarship confirms that she came to embrace this choice. In *The Property Law of Tokens*, published in the FLORIDA LAW REVIEW in 2022 with one of us, she worked squarely within the framework that emerged from the collaborative drafting process, analyzing how the law should treat digital assets built on blockchain technology.¹⁵⁷ The article traced the history of legal tokenization from negotiable instruments through securities to NFTs, showing that NFTs fail to perform the tethering function that characterizes every historically recognized form of legal token.¹⁵⁸ It also identified the secured transactions problems that arise when NFTs are classified as general intangibles under the pre-amendment UCC, citing *False Categories* for the proposition that Article 9 lacks adequate remedies for non-payment intangibles.¹⁵⁹ Nowhere in those pages did she argue that the amendments should have expanded possession instead of creating control.

This evolution in Juliet’s work exemplifies something crucial about her as a scholar. She held strong positions based on careful analysis, but she remained open to engagement with alternative views and willing to refine her

¹⁵⁴ U.C.C. § 9-203(b)(3)(D) (Am. L. Inst. & Unif. L. Comm’n 2022). See also Odinet & Tosato, *supra* note 2, at 43–49 (analyzing the secured transactions framework for controllable electronic records); see also Christopher K. Odinet & Andrea Tosato, *Floating Liens Over Crypto-in-Commerce*, 99 IND. L.J. 367, 386-87 (2023) [hereinafter Odinet & Tosato, *Floating Lien*]; Christopher K. Odinet & Andrea Tosato, *The Intersection of NFTs and Structured Finance*, 103 B.U. L. REV. 1005, 1019 (2023) [hereinafter Odinet & Tosato, *Structured Finance*].

¹⁵⁵ *Id.* §§ 9-107A, 9-314. See also Odinet & Tosato, *supra* note 2, at 43–49 (analyzing the secured transactions framework for controllable electronic records); see also Odinet & Tosato, *Floating Lien*, *supra* note 154, at 386-87; Odinet & Tosato, *Structured Finance*, *supra* note 154, at 1019.

¹⁵⁶ U.C.C. § 9-326A (Am. L. Inst. & Unif. L. Comm’n 2022). For the policy rationale underlying this non-temporal priority rule, see UNIDROIT, Principles on Digital Assets and Private Law, Principle 16 & cmt. 2 (2023) (identifying four justifications: the controlling secured party’s greater reliance on the encumbered asset; the impracticality of registry searches for digital assets where the transferor may be unidentifiable; alignment with margin lending practice; and the controlling secured party’s superior enforcement position).

¹⁵⁷ Moringiello & Odinet, *supra* note 1, at 615–25.

¹⁵⁸ *Id.* at 621.

¹⁵⁹ *Id.* at 661.

thinking when new arguments or new circumstances warranted. The Juliet who wrote *False Categories* in 2007 proposed expanding possession because that seemed the most elegant solution to the problems she had identified at that point in time, several years before the advent of Bitcoin. The Juliet who helped draft the 2022 UCC Amendments and wrote *The Property Law of Tokens* embraced control as a distinct category because the collaborative process of law reform and the evolution of distributed ledger technologies convinced her that this approach could achieve the same functional goals while avoiding the complications that expanding possession might create.

This intellectual journey from initial position through collaborative refinement to evolved understanding is precisely what makes Juliet's legacy so important. She did not simply advocate for her views and then move on. She engaged deeply with law reform, participated in the difficult process of translating theory into statute, and continued to write scholarship that reflected what she learned from that process. The result is a body of work that spans from identifying problems to proposing solutions to implementing those solutions to analyzing how they work in practice.

We lost Juliet before we could fully explore with her the implications of the framework she helped create. Difficult questions remain, not least the challenges posed by tokenization. Tokenization of tangible assets raises novel questions about how a CER representing rights in a physical thing interacts with the UCC categories governing that thing. Tokenization of intangible assets, securities above all, raises still harder questions about the relationship between Article 12 and the existing regimes governing the assets that CERs purport to represent.¹⁶⁰ How courts should apply Article 12's principles to assets that push the boundaries of what "control" means is an open and pressing question. We would have valued Juliet's insights. But her work, from *False Categories* through her later scholarship and her service with the Uniform Law Commission, provides the intellectual foundation for addressing them. That foundation will surely endure.

CONCLUSION

In Juliet's passing, we lost a scholar whose vision extended beyond the horizon that others could see, who identified fundamental problems before they became crises, and who offered solutions grounded in careful historical analysis and deep theoretical insight. We also lost a collaborator who brought intellectual rigor and genuine openness to the difficult work of translating theory into statutory language, who listened as carefully as she argued, and who refined her positions through sustained engagement rather than rigid adherence to initial proposals. We lost a mentor who invested countless hours in the development of others and who celebrated their successes as her own. She understood that

¹⁶⁰ See Tosato & Odinet, *supra* note 2 (discussing the challenges of tokenization within the framework of the 2022 UCC Amendments).

scholarship advances through the generous sharing of ideas. But most of all, we have lost a friend whose warmth, humor, and humanity made the sometimes-isolating work of legal scholarship feel like a collective endeavor.

Juliet's work endures in the 2022 UCC Amendments, in the scholarship of those she influenced, and in the example she set for what it means to be both rigorous and generous, both principled and flexible, both historically grounded and forward-looking. The conversations we will never have with her represent an irreplaceable loss. But, at the same time, the foundation she built (in law, in scholarship, and in the large community of people whose lives she touched) will continue to shape commercial law for many generations to come.