FUNCTIONAL POSSESSION OF DIGITAL ASSETS—CUSTODY, DOMINION, OR CONTROL: A TRIBUTE TO JULIET MORINGIELLO

by

Edward J. Janger*

Juliet Moringiello had a gift for making abstract concepts concrete. I, by contrast, take concrete questions and render them abstract, or even worse, overcomplicate them. Nonetheless, Juliet and I led somewhat parallel lives. We graduated from law school the same year, started teaching at the same time, and, most importantly, fell in love with commercial law and bankruptcy. When we overlapped in Central Pennsylvania, Juliet and my wife were both members of the Junior League of Harrisburg. We even lived in the same building in Brooklyn for a semester. Whenever our paths crossed, I learned from her. I can't believe she is gone, and I will miss her.

My hope is that I can honor her by trying to complete our last conversation; we started it but didn't finish. We shared a disquiet regarding two words: "possession" and "control." I was teaching Secured Credit for my first time since the promulgation of the 2022 Amendments, regarding digital assets.[1] I was complaining, as one does, that the Amendments used "control" as the label for the steps required to perfect a security interest in decentralized financial assets.[2] I thought it was inapposite. She agreed (I think). As she put it in the conversation, "I tried . . . ."

But that's as far as the conversation went. I am sad that it did not continue, because, while troubled, I did not have a particularly clear sense of why my disquiet mattered. Since the conversation moved on to other things, I never found out what Juliet thought. My disquiet was vague and abstract. I know that Juliet would have made sense of it and turned it into something useful.

By way of background, "control" is the metaphoric concept used in the 2000 and 2022 Amendments to Article 9, new Article 12, and several other articles of the Uniform Commercial Code as a substitute for

*David M. Barse Professor, Brooklyn Law School. The author would like to thank Melissa Jacoby and Hon. Chris Bradley for thoughtful comments on an earlier draft.

[1] *2022 Amendments to the Uniform Commercial Code* [hereinafter 2022 Amendments], https://www.uniformlaws.org/committees/communityhome?CommunityKey=1457c422-ddb7-40b0-8c76-39a1991651ac.

[2] 2022 Amendments §§ 7-106 (electronic chattel paper); 8-106 (investment securities); 9-105A (electronic money); 9-107A (controllable electronic record, controllable account, controllable payment intangible); 12-105 (control of controllable electronic record).

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"possession" where intangible (and now digital) assets are involved.[3] It acts as a means for perfecting a security interest that either supplements or substitutes for filing a UCC-1 Financing Statement. The statutory concept was introduced in Article 9 in the 2000 amendments as a way of perfecting a security interest in intangible assets held by an intermediary. It was borrowed from the earlier amendments to Article 8 that used it to deal with interests in both certificated and uncertificated securities.[4] When dealing with intermediated securities it built on an earlier concept of possession through an agent and focused on the relation with the agent.[5]

My concern arose because the digital assets covered by the 2022 Amendments fall into two distinct categories—intermediated and disintermediated ("DeFi"). For disintermediated tokenized assets, "control" seemed like the wrong metaphor, or at least a different metaphor from the one that drove the 2000 amendments.[6] Where tokenized assets are involved, I thought it might make sense to use a different word or to speak directly in terms of "possession." But, beyond the metaphoric disquiet, and thoughts on terminology, I had not yet unpacked why it might make a difference.

Juliet was a participant in the drafting process that led to the 2022 Amendments. Her "take" was backed by meaningful reflection and participation in the discussion. So, this tribute is an exercise in forensic reconstruction. What did Juliet mean by, "I tried"?

In 2007, Juliet wrote a brilliant article, *False Categories in Commercial Law: The (Ir)Relevance Of (In)Tangibility*.[7] The article post-dates the 2000 revisions to Article 9 that used "control" as an alternate means of perfection for intangible assets, and it coincides with the decline in

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[3] As noted below, Article 8 uses the concept of "control" with regard to securities, as does Article 7 with regard to electronic bills of lading.

[4] U.C.C. § 8-106.

[5] *See id.* § 9-313(c) (perfection of security interest in property held by a bailee); *id.* § 9-104 (control of deposit accounts). Where property is held by a bailee, the bailee must acknowledge that it holds the property subject to the security interest. Control of a deposit account can be established in one of three ways, all of which focus on the relationship between the bailee and the secured party: (1) being the secured party; (2) entering into a control agreement with the secured party; or (3) having the secured party named as a party to the deposit account.

[6] As I will discuss later, a bit of digging showed me that my metaphoric disquiet was a bit late to the party. Article 8 already used the concept of control for both certificated (paper) securities as well as uncertificated or electronic securities. Indeed, the concern I will raise is implicated there as well.

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

importance of physical "paper" in regard to financial instruments. However, it predates blockchain, digital tokens, and the ability to transfer digital assets from person to person without a financial intermediary. So, it would have informed her views on the 2022 amendments, but it doesn't state them. In 2022, Juliet and Chris Odinet wrote *The Property Law of Tokens*.[8] There she (and Chris) considered the use of NFTs as a way of transferring and registering title to works of art and other property in the real world. In that article, she considered tokenization, and its relationship to general property principles. Neither addressed the exact question that Juliet and I were discussing—the proper substitute metaphor for possession in connection with perfection of an Article 9 security interest. But engaging with them has informed my views of the 2022 Amendments. The amendments are a tremendous achievement. But reading Juliet's work has convinced me the drafters could have done better.

The point made by Juliet in both articles is that treatment of digital assets should be driven by functional property principles, not by the fact of their intangibility or "digital" nature. The genius of the Uniform Commercial Code, and Article 9, in particular, was that, even before the 2000 Amendments, and well before the advent of digital assets, Article 9 gave nuanced treatment to the various types of tangible assets, both with regard to the manner of perfection (notice) and remedy (priority of rights and means of value realization). For example, until 2000, security interests in most tangible assets could be perfected by giving notice in the filing system or by taking possession. However, where negotiability—transfer of ownership through physical possession, or possession and indorsement—was important, as with money or negotiable instruments, they could only be perfected by possession.[9] The different treatment was "functional" rather than formal. It focused on the way in which the particular property was used in commerce, rather than its formal attributes. The 2000 Amendments continued the "functional" approach, by working separately with the concept of notice (through filing or possession), and remedy (by giving higher priority to perfection by control for certain assets).[10]

In both articles, Juliet explores the modern replacement of various types of formerly tangible assets with intangible assets in Article 9. However, in *False Categories*, she considers the problem of remedy, and in *Law of*

[8] Juliet M. Moringiello & Christopher K. Odinet, *The Property Law of Tokens*, 74 FLA. L. REV. 607 (2022).

[9] U.C.C. § 9-304(1) (1978), *superseded by* U.C.C. § 9-312(a) (2000).

[10] *See, e.g.*, U.C.C. § 9-330.

Tokens, she focuses on the use of NFTs as a way of transferring property in the real world. Our conversation, by contrast, was about perfection and the problem of notice, so I was left with gaps to fill.

This essay will proceed in three steps. First, it will explore Juliet's views of the functional implications of the "possession" metaphor where intangible assets and tokens are involved. Second, it will identify the informational function served by possession that is imperfectly translated into the UCC's concept of "control." Third, it will assess the approach to information taken by the Uniform Commercial Code, first in 2000 and then in 2022. In the second and third parts, the views are mine alone but illuminated by Juliet's work.

Here, I need to offer a disclaimer and caveat. Juliet was an advocate for the adoption of the 2022 Amendments. So, whatever her quibbles might have been, she concluded that, on balance, the benefits of the 2022 Amendments outweighed her concerns about terminology. I should add that some participants in the process may know what Juliet actually thought and said, so I do not want to put words in her mouth. Instead, this is a reconstruction of a conversation between the two of us that never happened, based on her written work. It reflects my takeaway, not her views.

I. Juliet on Tangibility and Possession

The first step in my inquiry regarding the 2022 Amendments was to find a way to listen to Juliet. Her ambitious article *False Categories in Commercial Law: The (Ir)Relevance Of (In)Tangibility* is the first text that informs my inquiry. In that article, Juliet writes on a broad canvas, looking at the role of tangibility in property law generally, and then zeroing in on the remedial aspects of possession as it applies to the law of secured credit. She does not consider the notice function served by possession. That is the gap that I will try to fill in.[11]

The immovable/tangible/intangible distinction runs like a fault line through property law. Historically, there are three broad categories of property: land (immovable or real property); tangible (movable or personal property); and intangible (property with no physical manifestation or location). The categories reflect the physical (or lack of physical) attributes

[11] In her view the role of possession in Article 9 (including its notice function) was already well understood. Moringiello, *False Categories*, *supra* note 7, at 120. She points, for example, to Douglas G. Baird & Thomas H. Jackson, *Possession and Ownership: An Examination of the Scope of Article 9*, 35 STAN. L. REV. 175, 180 (1983), who discuss the role of possession in giving notice of ownership.

associated with the subject of the entitlement. There are practical differences that inhere in each of these categories that affect the way they interact with legal principles. The problem is that as new types of assets proliferate, the categories break down. Accordingly, as Juliet put it:

> [T]he category of "tangible" is irrelevant in property law . . . . [C]ommercial law must discard distinctions based on the physical manifestation of assets and focus instead on the legal qualities of those assets. Such a shift in focus will allow commercial law to more readily adapt to the proliferation of emerging electronic assets that do not fit into established categories of intangible rights such as intellectual property and payment rights.[12]

To Juliet, tangibility *per se* did not matter. To the extent that incidents of tangibility had legal consequences there was always a deeper question: *What functional purpose is a particular rule regarding tangible assets serving with regard to legal rights?* Where the UCC is concerned, the rules are well established for IP and for payment rights. But what about intermediated intangible digital assets? What about tokenized intangible digital assets? What about intermediated tokenized intangible digital assets? Intangible digital assets are heterogeneous, and the rules of property law must take this heterogeneity into account.

The differences, as Juliet explained, relate to information about location, notice of ownership, and ability to transfer title. One always knows where real property is located, but proof of boundaries and nature of ownership present issues. Tangible personal property can move but has a physical location. Ownership is strongly, but not conclusively, indicated by possession. By contrast, intangible assets are impossible to see, locate, or establish possession or ownership, except by some form of registration, communication or legal convention. Tangibility (and movability) matter, but the question is how? Juliet sought to unpack the significance (or non-significance) of tangibility with regard to personal property. As Juliet saw it, tangibility itself carried no intrinsic legal significance only functional significance. It affected how legal principles operated, not the other way around.

> Courts, by focusing on the intangibility of electronic assets and not on the relationships

[12] Moringiello, *False Categories*, *supra* note 7, at 119.

> between the persons claiming rights in those assets and the assets themselves, are not adequately filling the gaps.[13]

In order to think about how property law should govern electronic assets, the point was to figure out the role that tangibility was playing in the various relevant transaction types, and to ensure that the legal principles were honored by the rules chosen.

A. Tangibility as Category and Metaphor

False Categories' focus was broader than the Uniform Commercial Code. But, even limiting focus to her discussion of the UCC, the role played by tangibility was complex. First, what is meant by "intangible?" There are two "pure" categories within the UCC. Goods are tangible personal property, while accounts and general intangibles are property with no physical manifestation whatsoever.[14] However, there is a middle (and tremendously important) category, intangible rights reduced to tangible (paper) form. The classic examples are "instruments"—principally checks and promissory notes (governed by Article 3 of the UCC), documents of title (governed by Article 7 of the UCC), and securities (governed by Article 8 of the UCC).[15] The common feature of these property types is that rights can be transferred by transferring the piece of paper "embodying" the right (sometimes along with a signature). The right or obligation may be intangible, but the right is embodied in a physical medium that can be transferred from one person to another. The intangible right is reduced to a tangible object that can be transferred and possessed.[16]

Juliet notes that these instruments arose in an era without computers or electronic communications, to allow rights to be transferred across long distances. Negotiable instruments arose as payment devices and money substitutes. But, by the 1970s and 1980s, the physical transfer of these instruments was becoming less important as payments were increasingly handled electronically, and securities were held indirectly through intermediaries.[17] By the early 2000s, some thought that negotiability—the transfer of ownership through physical transfer of possession and, if

[13] *Id.* at 122.
[14] U.C.C. § 9-102.
[15] *Id.* §§ 8-102, 9-102(30), (42), (47).
[16] Moringiello, *False Categories*, *supra* note 7, at 123.
[17] *Id.* at 124.

necessary, indorsement—had become irrelevant.[18] Relevant or not, the revisions to the UCC in the 1990s sought to accommodate the shift to electronic (paperless) transfer of these rights.[19] They did so incompletely, at least on the remedial side. It provided a mechanism for repossessing accounts and general intangibles that give rise to payment rights.[20] So far, so good. However, the UCC did not provide a mechanism for enforcing rights other than payment rights, such as IP rights, or internet domain names. Article 9 provided no means to collect, other than to rely on ordinary state law creditors' remedies.

Juliet did not fault the UCC drafters for this. How could they be blamed for trying to regulate forms of property that did not yet exist, or where the commercial patterns for their use are not fully developed? She accepted that this was the job of common law courts.[21] It was this gap that troubled Juliet, however, and it has only grown larger with the creation of additional types of digital assets, such as bitcoins, stable coins, and NFTs. Worse yet, she found the approach taken by courts misguided. The approach, as she saw it, was to use the following reasoning: (1) labeling—is this new electronic/intangible "thing" "property";[22] (2) analogizing—what type of intangible property is it;[23] and (3) assimilation—how do we integrate it into the metaphorically analogous regime?[24] To her, the label did not matter. What mattered was the transactional function served by the legal rule.

First, she looks to the law of garnishment and finds that some courts have determined that internet domain names are not "property" subject to garnishment.[25] Second, she considers whether "tangible" v. "intangible" is meaningful. She points to Frank Easterbrook's famous article, *Cyberspace and the Law of the Horse*,[26] where he argued that in trying to create a law of "cyberspace," the underlying principles of law might be lost. She applies this

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[18] Ronald J. Mann, *Searching for Negotiability in Payment and Credit Systems*, 44 UCLA L. REV. 951 (1997).

[19] Moringiello, *False Categories*, *supra* note 7, at 125.

[20] *Id.* at 127.

[21] *Id.* at 128–32.

[22] *Id.* at 132.

[23] *Id.* at 142–50.

[24] Moringiello, *False Categories*, *supra* note 7, at 150–56.

[25] *Id*. at 132–41; *see also* Dorer v. Arel, 60 F. Supp. 2d 558, 560–61 (E.D. Va. 1999) ("a domain name that is not a trademark arguably entails only contract, not property rights"); Network Solutions, Inc. v. Umbro Int'l, Inc., 529 S.E.2d 80, 87 (Va. 2000) (Internet domain name is the product of a contract for services).

[26] Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL F. 207.

same insight to tangibility:

> Courts, by placing paramount importance on the physical manifestation of assets, seem to forget to address other property characteristics of those assets, such as whether and how they can be transferred and whether the owner of the asset can exclude others from it.[27]

Instead of applying property principles to intangible rights and obligations, courts treat "intangible" assets as a category and then try to figure out what category of intangible property fits best. She looks at cases that seek to consider whether the tort of conversion can apply to "cyberproperty" as if that were a category that mattered. She points out that the key question for the tort of conversion is whether the property is "rivalrous" (excludable), rather than "nonrivalrous" (non-excludable). Some electronic assets fall on one side of the line, some on the other. But courts focus on tangibility itself. They focus on metaphor rather than functional incidents of the relationship between the stakeholder and the right.[28]

It is this way of thinking that generates Juliet's criticism of the concept of "control" as used in the 2000 Amendments to Article 9. She looks at the rules developed for "control" of electronic chattel paper. She is critical of the use of the "paper" metaphor as the driving force for the new rule. The traditional rule for perfection and priority of chattel paper was that a security interest could be perfected by filing or possession, but that a creditor who took possession took priority over a creditor who perfected by filing.[29] The problem was how to mimic possession, and here Juliet's criticism is harsh, because of the slavish dedication to the paperized right metaphor. The drafters used the concept of "control" as a substitute for possession. But they defined "control" differently for "electronic chattel paper" than they did for other types of collateral.[30] In Article 8, "control" meant having taken the necessary steps to be able to realize on the collateral—"have the collateral sold."[31] While she doesn't mention this, the 2000 Amendments to Article 9 took a similar approach to "deposit account," defining control by reference to the ability of the creditor to set off or have its instructions honored by the depositary institution.[32]

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[27] Moringiello, *False Categories*, *supra* note 7, at 141.
[28] *Id.* at 147.
[29] U.C.C. § 9-330.
[30] Moringiello, *False Categories*, *supra* note 7, at 155.
[31] *Id.*; U.C.C. § 8-106 cmt. 1.
[32] U.C.C. § 9-104.

By contrast, for electronic chattel paper, the standard was "control" over the "single authoritative copy" of the electronic chattel paper.[33] There was, however, a fundamental problem with this definition. Electronic chattel paper had not yet been invented, and neither had "blockchain." There was no way to create a "single authoritative record," at least not yet. Juliet found the continued attachment to the "authoritative" copy idea to be a quaint fixation on tangibility. I think that she was right, both in the moment (creating rules for something that doesn't exist seemed silly), and based on her focus on the remedial aspects of "control."

B. Tokenization and Tangibility

This is where I wish I could pick up the conversation with Juliet! Because, of course, blockchain changed everything. It is now possible to have "an authoritative copy," or as the 2022 Amendments describe it, a "controllable electronic record." That was the problem I was raising when we last chatted. We agreed that "tangibility" per se does not matter, but what about tokenization? Does that change the applicable property rules? To the extent that "possession" played a functional role for the transfer of property rights, does it map differently for tokenized intangible assets? Is "control" the right functional (and metaphoric) substitute for possession, or is there more to it than that?

In *The Property Law of Tokens*, Juliet and Chris Odinet explore the role of tokenization with regard to NFTs.[34] They link the token to the quasi-tangible paperized rights discussed above. The law of negotiable instruments,[35] bills of lading,[36] and securities,[37] all embodied intangible rights in authoritative pieces of paper that could move in commerce and even serve as money substitutes. They point out that this is nothing new: "[T]okenization has been happening for many centuries. Specifically, legal concepts have developed to recognize that a single thing can be configured to actually represent [property] rights . . . in something else. . . . [E]xamples of doctrinal tokenization [include]: the law of negotiable instruments, the law of securities, the law of deeds, and the law of bills of lading."[38]

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[33] U.C.C. § 9-105.
[34] Moringiello & Odinet, *Property Law of Tokens*, *supra* note 8.
[34] U.C.C. § 9-304(1) (1978), *superseded by* U.C.C. § 9-312(a) (2000).
[35] U.C.C. §§ 3-104, 9-102(47).
[36] *Id.* §§ 1-201(16), 9-102(30).
[37] *Id.* § 8-102(15).
[38] Moringiello & Odinet, *Property Law of Tokens*, *supra* note 8, at 615.

The effect of block-chain was to do what the drafters of the 2000 version of Article 9 envisioned with electronic chattel paper—create a single authoritative record that provided exclusive control of the embodied rights. The piece of paper (or the token) could act as property. But that standing alone was not enough to have the token or instrument operate to transfer ownership to a cause of action or register ownership of a piece of intellectual property. There had to be a legal link established between the token and the asset that made the right excludable.[39] The problem is that there's no difference between and among the digital copies of the artwork. The property is not excludable, and the NFT does not make it so. They conclude that with NFTs, there is not a sufficient link to effectuate a transfer of ownership of the underlying property.

For example, NFTs can be compared to bills of lading and warehouse receipts, where the goods themselves are in the exclusive possession of the shipper or bailee,[40] and also for deeds of property, where the property is unique and the link between it and the deed is supported by a legal infrastructure. For NFTs involving intellectual property, the ability to copy renders the connection between the property and the proposed tool for owning it too tenuous. The rights reside only in the platform's terms of service (a deal between the holder of the NFT and its creator) that are not necessarily good against the world. *Property Law of Tokens* exemplifies Juliet's approach to intangible assets. She considers tokenization and how it works in the pre-electronic era, identifies the relevant property principles, and reasons from there. However, the article did not answer the question we'd discussed—how to map the functions of possession onto tokenized assets?

C. Tokenization and Possession—Notice and Remedy

But Juliet did not leave me high and dry. Returning to *False Categories,* Juliet was concerned with how intangibility related to the concept of "possession." While possession has intuitive meaning with regard to physical assets, one can't "possess" an intangible asset: tangible assets can be seen, touched and transferred; intangible assets, by definition, cannot be seen, cannot be touched, and any concept of legal transfer cannot rely on physical delivery. Her focus was broader than the UCC. Indeed, that was her point—that the relevance of tangibility in property law (including the UCC) should

[39] *Id.* at 627.

[40] *Id.* at 662 ("Another example of linked, or tokenized, collateral is when goods are in the possession of a bailee that has issued a document of title covering those goods.").

be determined by property law principles, not the other way around. This is where Juliet's article illuminates. She unpacks the multiple ways in which possession matters, identifying the information conveyed and the legal rights implied by possession, such as the power to exclude, the power to alienate, and notice of an interest. In the article, Juliet carefully dissects the legal function served by possession of tangible assets, and here she offers some clues.

As noted above, she identifies two incidents of possession: remedy and notice, or to put it differently, power and information. A person with physical control over a tangible asset has the power to exclude others from using it, and to transfer possession (if not title). But possession also provides information. Separation of the item from its owner, and thus from the power to exclude and alienate, is also visible to third parties. Where physical possession of tangible objects is involved, remedy and notice are tightly linked. Possession grants practical power, but it is also visible. Where the assets are intangible, the link disappears. Control/power, without more, is invisible. As she notes, in Article 9, the control and notice attributes of possession serve two different legal functions. Notice matters for perfection, namely rights against third parties. Control matters for remedy, namely the ability to engage in self-help and realize on the value of the asset.

II. Notice and Intangible Assets—The Lost Concept of "Dominion"

It is here that Juliet leaves the conversation, and I desperately want her back. *False Categories* focuses on remedy. My concern, by contrast, was notice and perfection. I now want to engage with her on the complex relationship between tangibility, "possession" of tangible objects, and notice. I have a longstanding concern about the way in which the 2000 Amendments to the UCC operationalize "control" as a substitute for possession. My problem has long been the virtually exclusive focus on "power" and disregard for the importance of "notice." Possession gives notice, but control does not. Tokenization further complicates the discussion by providing a possible way to satisfy my concerns about notice, but, in my view, the Amendments missed the opportunity to do so. Juliet's analysis helped me figure out why.

I wrote about these concerns almost thirty years ago, and they continue to trouble me.[41] I initially came at the problem from the opposite direction. Juliet's concerns arise principally from the development of classes

[41] Edward J. Janger, *Brandeis, Progressivism, and Commercial Law: Rethinking* Benedict v. Ratner, 37 BRANDEIS L.J. 63 (1998).

of assets that were once tangible or paperized, but which have become intangible in modern commercial practice. My concerns came at the question from the other direction—the desire of debtors to use valuable intangible assets as collateral without paperizing or tokenizing them.

For many businesses their most valuable asset is their accounts receivable—money owed to them by their customers. There is no promissory note, no check to physically transfer. The obligation exists only as an invoice and a notation on the books and records of the debtor. How could a creditor realize on these accounts, and how could other creditors know about the assignees' asserted interest? This was the problem faced by Justice Brandeis in the 1925 (pre-UCC) case *Benedict v. Ratner*.[42] A debtor had assigned its accounts to a creditor (his uncle) but had not given notice to other creditors or to the account debtors. There were two different problems, the trustee argued, "ostensible ownership" of the receivables by the debtor and lack of "dominion and control." The first went to deception or fraud. The second went to whether title was actually transferred. Brandeis concluded that the problem was not just lack of notice ("ostensible ownership") but the fact that without an exercise of "dominion and control," the assignee had not done enough to take title, and with it the further right to realize on the accounts. The assignment was deemed invalid because the creditor had failed to exercise "dominion and control" over the accounts. As Brandeis put it, the assignment of accounts was fraudulent, not because the debtor continued to collect the accounts and seemed to own them, but because the creditor did not restrict the debtor's use of the funds. The debtor's "reservation of dominion" was "inconsistent with the . . . creation of a lien."[43]

Paradoxically, the commercial effect of the *Benedict* decision was not to kill off accounts receivable lending. Instead, it provided a road map for professional lenders, who found ways to monitor their debtors to comply with the requirement of dominion.[44] What emerged from *Benedict* was a model for accounts receivable financing that linked notice and remedy: the account debtor had to be given notice of the assignment—hence solving both the problems of notice and dominion and control.[45] Grant Gilmore highlights *Benedict v. Ratner* in his history of secured financing before the UCC.[46] As he

[42] 268 U.S. 353 (1925).

[43] *Benedict*, 268 U.S. at 363 (stating that "[the rule] rests not upon seeming ownership because of possession retained, but upon a lack of ownership because of dominion reserved."), *overruled by* U.C.C. § 9-204.

[44] GRANT GILMORE, 1 SECURITY INTERESTS IN PERSONAL PROPERTY 260–61 (1965).

[45] *Benedict*, 268 U.S. at 363.

[46] GILMORE, *supra* note 44, at 255; *see also* Janger, *supra* note 41.

saw it the requirement that the creditor exercise both dominion *and* control had a salutary effect. It cemented a relationship between the debtor and the lender where the lender would monitor the debtor's financial situation. As Gilmore put it:

> [T]he Benedict-style assignee knew from day to day the state of his debtor's business health. He would recognize-or at all events be in a position to recognize-the symptoms of the last fatal plunge toward bankruptcy. At that point he might be expected, in his own self-interest, to intervene: if there still seemed to be hope, he might undertake a salvage operation in cooperation with other creditors; if all hope had vanished, he would call his loan, which in the usual case, would bring the debtor's operation to a halt. The assignee's self-interest in this context ran parallel with the interest of his debtor's other creditors. They benefitted from the fact that a professional with a substantial stake in the enterprise was acting as their policeman. It is reasonable to assume that in many cases shaky enterprises were preserved as a result of a timely intervention and that in many others the final disastrous ballooning of the unsecured debt just before bankruptcy was prevented by the assignee's cutting off the source of essential working capital.[47]

As Gilmore described it, the exercise of dominion served an informational function, both with regard to who asserted an interest in the accounts, but also about the state of the business's cash flow. Notwithstanding Gilmore's views, however, the UCC rejected the rule in *Benedict v. Ratner*.[48]

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[47] GILMORE, *supra* note 44, at 261.

[48] As Gilmore notes,

> No one can doubt that [U.C.C. § 9-205] does the job. Twyne's case is finally undone. Benedict is dead and Ratner is king. "Dominion" by the debtor is no longer "inconsistent" with the nature of security. So far as "the law" is concerned, the term loan without policing may replace the well policed revolving credit. The repealer covers all types of collateral-chattels and intangibles alike. The long divorcement between financing on the security of fixed assets and financing on the security of a changing mass of inventory or receivables need no longer endure: everything, past,

Though it should be noted, that this was not the only approach that the drafters could have followed. The concept of dominion and control still has vitality in modern commercial law. In England, the comparatively recent *Spectrum* decision states that fixed charges on accounts cannot be perfected without registration or exercise of dominion and control.[49] Both Brandeis and the English courts emphasize that "dominion and control" means that the debtor, to some degree, must lose the ability to use the intangible assets in the ordinary course.[50] It is not sufficient for the creditor to have the right to realize the collateral, it must also limit the ability of the debtor to dispose of those assets. Nonetheless, and notwithstanding its apparent benefits, Article 9 of the UCC rejected the requirement of dominion for accounts in favor of a notice-based approach relying on perfection by filing.

The Uniform Commercial Code now uses the word "control," standing alone, to refer to the steps needed to perfect a security interest in intangible assets. The question is whether "control" as used in the UCC faithfully translates the functional attributes of possession; does it serve the notice function for intangible assets in the same way as either filing, or "dominion and control," and does that matter? Is this what Juliet was referring to when she said, "I tried"?

In short, Juliet explained that there are two functional concepts that need to be administered with regard to intangible assets: (1) when the rights are good against the world (perfection); and (2) how to realize on those rights (remedies). Perfection requires notice, while the ability to realize requires either possession or the ability to take possession.[51] Her framing allowed me to see why my disquiet about the 2022 Amendments arose, and also, that it runs deeper than the 2022 Amendments themselves.

III. Control and the Focus on Remedy

The discussion above demonstrates that prior to 2000, the UCC recognized two types of intangible rights, those that were paperized (money,

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present, and future, tangible and intangible, can be swept up into one big security interest under one big security agreement.

Id. at 358–59.

[49] National Westminster Bank v. Spectrum Plus Limited, [2005] UKHL 41, on appeal from [2004] EWCA Civ 670.

[50] As noted above, in *Benedict v. Ratner*, Brandeis focused on the problem of "dominion reserved." In the United Kingdom the distinction between a fixed and a floating charge lies in the power of the debtor to sell the asset in the ordinary course.

[51] *National Westminster Bank*, [2005] UKHL at 42.

instruments, chattel paper, documents, securities) and those that were not (accounts and general intangibles). Some of the paperized rights could be perfected only by possession (money, instruments, and certificated securities), while others (chattel paper and negotiable documents) could be perfected by filing or possession. The truly intangible rights (accounts and general intangibles) could be perfected only by filing. Intermediated assets—deposit accounts—were left entirely outside Article 9.[52]

A. The 2000 Amendments and the Limits of the Control Test

In 2000, the revisions sought to do two things: (1) increase the number of security interests that could be perfected by filing; and (2) to increase the scope of Article 9 (for these purposes to include deposit accounts). To accomplish these two goals the drafters had to do two things, create a hierarchy of priority that elevated possession above filing, and develop the concept of control. The UCC's wrong turn began in 2000, when they concluded that for deposit accounts and securities held in accounts, the means for perfecting would be defined as "control". The concept of control was used in two very different ways: (1) for deposit accounts; and (2) for electronic chattel paper. However, for both, while nodding toward Brandeis's formulation, rather than saying "dominion and control," they limited it to "control."

The difference is telling. For deposit accounts, the indicia of control had nothing to do with notice or monitoring. They focused only on the ability of the secured party to "repossess" and realize the assets. UCC § 9-104 gives three ways of taking control or a deposit account: (1) having setoff rights; (2) having a control agreement; and (3) being listed on the account. All three go to whether the secured party can grab the money in the account. There is nothing public or observable about these forms of control. They do not serve the notice function. All the information resides with the intermediary.

Similarly, where electronic chattel paper was involved, control retained the focus on power rather than notice. UCC § 9-105 defined control as follows:

> (a) [General rule: control of electronic chattel paper.] A secured party has control of electronic chattel paper if a system employed for evidencing the transfer of interests in the chattel paper reliably establishes the secured party as

[52] U.C.C. § 9-304(1) (1978).

> the person to which the chattel paper was assigned.
> (b) [Specific facts giving control.] A system satisfies subsection (a) if the record or records comprising the chattel paper are created, stored, and assigned in such a manner that:
> (1) a single authoritative copy of the record or records exists which is unique, identifiable and, except as otherwise provided in paragraphs (4), (5), and (6), unalterable;
> (2) the authoritative copy identifies the secured party as the assignee of the record or records;
> (3) the authoritative copy is communicated to and maintained by the secured party or its designated custodian;
> (4) copies or amendments that add or change an identified assignee of the authoritative copy can be made only with the consent of the secured party;
> (5) each copy of the authoritative copy and any copy of a copy is readily identifiable as a copy that is not the authoritative copy; and
> (6) any amendment of the authoritative copy is readily identifiable as authorized or unauthorized.

Again, the elements of control focus on the power of the secured party to engage in self-help. Nothing about these attributes of control would serve to put other creditors of the debtor on notice that the chattel paper was encumbered.

B. The 2022 Amendments and the Triumph of Power over Notice

This is what bothered me about the 2022 Amendments, and what I wanted to talk to Juliet about. Even in 2000, Article 9 used the term control to describe control over two distinct types of assets—intermediated and disintermediated assets. Deposit accounts and securities accounts are intermediated, and the concept of control focuses on the agent, and whether they will honor the secured party's instructions. But for electronic chattel paper, and now for assets on the block-chain, there is a possibility of maintaining direct control or controlling through an agent. Instead, the 2022 Amendments retained the focus on power over notice.

Much to my chagrin, the definition of control contained in the 2022 Amendments moves yet further away from the "dominion *and* control" approach. The 2022 Amendments take their definition of "control" for "controllable electronic records" from the "deposit account" playbook, rather than the paperized rights playbook. While perfection is possible by filing, a creditor who takes control has priority. Control is defined by reference to the creditors' power to realize, not on the aspects of possession or dominion that would give notice to other creditors. Even a secured creditor who filed would have no way of knowing if another creditor had taken control. Worse yet, UCC § 12-105 allows for *shared* control. So long as the creditor has the power to realize on the asset, the debtor's powers to use the assets are not constrained. In the absence of filing, nothing about the arrangement puts other creditors on notice.

So, where does that leave me? What would I have done differently if I had been in the 2022 Amendments drafters' shoes? I would have carried my disquiet about the invisibility of control forward. Control of an intermediated digital asset is not visible to third parties. Perfection by control takes priority of perfection by filing alone. There is, therefore, no way for a creditor who perfects by filing to discover whether a later creditor will take priority. The lien created by control is both higher priority and secret. There is a relatively simple way to solve this problem—condition priority on *both* filing and control. Therefore, a filer only faces the risk of being primed by somebody who both files and has control.

A second concern regards shared control. Shared control does give the power to grab assets, but it certainly does not give dominion—the right to exclude. So, this is not just secret, it isn't really control at all. That said, the comments to Article 12 make clear that where "control" is shared, you have to look to other rules (in particular the first to file rule) to determine priority. While this does create an incentive to file and take control, which is good, it only affects priority as against other secured creditors. The true lien creditor—such as a judgment creditor levying on assets, or a bankruptcy trustee representing the estate—loses to both secret liens. Again, I would only give effect to liens on digital assets that are perfected by both filing and control.

Conclusion

In her writings, Juliet advocated a focus on function rather than metaphorical categories. I now realize that my disquiet was based on a concern that the UCC drafters had chosen the wrong metaphor for

dealing with tokenized assets. I have learned from Juliet that it wasn't the metaphor that mattered at all, but the functions served by the legal concepts like possession. The remedial function of possession focused on power, but the perfection function of possession focused on notice. The 2022 Amendments to the UCC mapped those functions onto digital assets imperfectly, and thanks to the clarity of Juliet's thoughts, I now see why. For that, I thank her, and I feel her loss more deeply.

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