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INTRODUCTION

A standard contract, though often complex in practice, is theoretically simple. At least two parties agree to an exchange, and they memorialize that agreement through a spoken or written promise.[1] The parties make commitments with the background knowledge that courts—or another third party empowered to make binding decisions—stand ready to interpret and enforce these commitments in the event of a dispute. This has been the paradigmatic functioning of contracts for centuries and, until recently, its basic premises were unavoidable. Rational actors have *always* had reasons to fear that the other parties to an agreement might not live up to their promises.[2] This demands an enforcement mechanism that goes beyond a mere trusting relationship; without it, actors are far less likely to put their faith in contracts.[3] However, the advent of high-tech computer processing now provides the tools to challenge the underlying assumptions of contract formation and execution. Digital code offers an alternative to the spoken or written word. And, in place of a third-party enforcer, blockchain technology

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1 *See* RESTATEMENT (SECOND) OF CONTS. § 71 (AM. L. INST. 1981) (establishing that, at its core, contract law revolves around a bargained-for "performance or a return promise").

2 *See* Max Raskin, *The Law and Legality of Smart Contracts*, 1 GEO. L. TECH. REV. 305, 306 (2017) (describing how a contract involving "human discretion" cannot be thought of as automated).

3 *See id.* at 310 (highlighting the importance of third-party enforcement and identifying traditional means of enforcement as "institutions like arbitration or courts of law").

stands ready to hold actors accountable.[4] Touted as the first trustworthy system for electronic contract enforcement, blockchain technology has the potential to transform the shape and function of covenants.[5] But the law in the United States is still built around longstanding limitations on enforcing contracts. One, especially limiting, is bankruptcy law.

A key goal of the Bankruptcy Code is to give the debtor a chance to breathe and take stock of its situation, free of creditors' collection activity.[6] The automatic stay advances that goal by preventing creditors from making a "run" on the debtor's estate and rapidly depleting it to the detriment of the debtor and other creditors.[7] If a debtor is going to be successfully rehabilitated, it must have the opportunity to construct a plan of reorganization in an environment of relative peace. However, the structure of the automatic stay relies on certain basic assumptions about the business and legal environment. Primarily, the automatic stay rules appear to be based upon an assumption that a human actor—such as a judge or a creditor—is required to enforce contested contracts, legal judgments, and the like. The need for human enforcement allows the Bankruptcy Code, through the automatic stay, to block such efforts and pause them until the resolution of the bankruptcy. But recent changes in technology now allow for contracts that execute automatically, permanently, and without the aid of enforcement efforts of a court or creditor. These so-called "smart contracts" therefore evade the basic assumptions around which the automatic stay is built. Yet, despite their novelty, smart contracts still have the potential to willfully violate the automatic stay.

This Note begins by briefly examining the nature and function of smart contracts, including how they have changed over time.

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4 *See id.* (arguing that smart contracts, which "do[] not rely on the state for enforcement," are still able to ensure performance).

5 *See What Are Smart Contracts on Blockchain?*, IBM, https://www.ibm.com/topics/smart-contracts [https://perma.cc/F9VC-K24C] (identifying the potential benefits of blockchain-based contracts, including additional reliability, increased security, and decreased transaction costs).

6 *See* City of Chicago v. Fulton, 141 S. Ct. 585, 589 (2021) ("The automatic stay serves the debtor's interests by protecting the estate from dismemberment, and it also benefits creditors as a group by preventing individual creditors from pursuing their own interests to the detriment of the others.").

7 *See In re* Aleris Int'l, Inc., 456 B.R. 35, 46 (Bankr. D. Del. 2011) ("The automatic stay is intended 'to prevent certain creditors from gaining a preference for their claims against the debtor; to forestall the depletion of the debtor's assets due to legal costs in defending proceedings against it; and, in general, to avoid interference with the orderly liquidation or rehabilitation of the debtor.'" (quoting Borman v. Raymark Indus., Inc., 946 F.2d 1031, 1036 (3d Cir. 1991))).

Next, it evaluates the relevant language of Code provisions dealing with the automatic stay and discusses decisions treating the interaction of early generation smart contracts with the automatic stay. It concludes with a discussion of how the Supreme Court's recent decision in *City of Chicago v. Fulton*[8] has significantly changed the legal landscape for smart contracts and how the automatic stay will likely interact with smart contracts in the near future.

I. UNDERSTANDING SMART CONTRACTS

A. Early Generation Smart Contracts

Smart contracts, at least in their most primitive form, are ubiquitous. Everyday soda or snack dispensing machines technically involve smart contracts.[9] In those basic transactions, the consumer deposits money into the machine, the machine validates information about the payment and, if certain security criteria are satisfied, it automatically dispenses a product.[10] No third-party human actor is required to consummate these basic purchases, and the transaction can be final and automatic. Therefore, at their core, smart contracts involve "'a set of promises, specified in digital form, including protocols within which the parties perform on these promises.' Smart contracts self-execute upon the triggering of pre-determined conditions."[11] As the soda dispensing machine example demonstrates, smart contracts need not be excessively complicated. And, for much of the last twenty years, they were not. Some of the most common "first-generation" smart contracts include companies automatically locking a consumer's phone or vehicle in the event of bill nonpayment.[12] For years, shoppers have also benefitted from e-Bay's "bid-up" program, which is a tool programmed to "auto-bid on an item, up to a certain price, with certain parameters involving

8 141 S. Ct. 585.

9 Raskin, *supra* note 2, at 306 (identifying a soda dispensing machine as a means of engaging with primitive smart contracts).

10 Danielle D'Onfro, *Smart Contracts and the Illusion of Automated Enforcement*, 61 WASH. U. J.L. & POL'Y 173, 174 (2020).

11 Morgan N. Temte, Comment, *Blockchain Challenges Traditional Contract Law: Just How Smart Are Smart Contracts?*, 19 WYO. L. REV. 87, 94 (2019) (footnote omitted) (quoting Kevin Werbach & Nicolas Cornell, *Contracts* Ex Machina, 67 DUKE L.J 313, 319 (2017)).

12 *See id.* at 95. The automatic nature of the lockup is what distinguishes a smart contract execution from ordinary self-help. *See* George Lawton, *Definition: Smart Contract*, TECHTARGET, https://searchcompliance.techtarget.com/definition/smart-contract [https://perma.cc/3HB4-NWVB] (June 2021) ("Smart contracts are performed automatically by the network and reduce the need for a third party to manage transactions between businesses.").

speed of bid and time interval between bids."[13] Once the consumer sets his or her preferences, the code has authority to enter into legally binding purchase agreements without further review.[14] Accordingly, smart contracts are relatively commonplace.

Still, two interrelated issues have historically hampered the range of uses for first-generation smart contracts. First, sophisticated users were—justifiably—concerned that the contract drafter could not be entirely trusted. In the world of traditional contracts, attorneys are trained to identify risks and pitfalls in how a contract is worded.[15] Understanding the terms of a contract becomes much more difficult when they are translated into code, especially when all parties involved might not completely understand the technology. In part because of this uncertainty, first-generation smart contracts did not have a strong presence in high-value commerce.[16] Second, first-generation smart contracts suffered from difficulties with verification of real-world events.[17] To be entirely self-executing, a smart contract's code must identify when a triggering condition has occurred. This is easy to program when a machine only needs to identify how much money a customer deposited before dispensing a bag of chips. But any complexity beyond a basic transfer requires a complicated system of input processing. For example, how can a program reliably determine that a condition subsequent has been met for a property reversion? Such programming requires sophisticated computing of the type that has only recently come into existence. The invention of blockchain technology has largely put both of these concerns to rest.

B. Blockchain-Based Smart Contracts

"Second-generation" smart contracts differ from the first generation because they leverage blockchain technology. The central contributions of blockchain technology are its accuracy and trustworthiness.[18] Blockchain "is a type of distributed ledger that

13 Joshua Fairfield, *Smart Contracts, Bitcoin Bots, and Consumer Protection*, 71 WASH. & LEE L. REV. ONLINE 35, 45 (2014) (discussing eBay as one of the first proponents of consumer-friendly automated contracting tools).

14 *See id.*

15 *See* Alan Rosenberg, *Automatic Contracts and the Automatic Stay: A Primer on "Smart Contracts" in Bankruptcy*, AM. BANKR. INST. J., July 2019, at 18, 18 (discussing the importance of skilled professionals in the context of contract formation).

16 *Id.*

17 *Id.*

18 *Id.* (highlighting how blockchain is "effectively tamper-proof" and protects users from the possibility of unilateral change (quoting Scott A. McKinney, Rachel Landy &

records transactions."[19] There is no master copy of the ledger, as "any participant may maintain a copy of the ledger and yet all participants have confidence that their[] [ledger] matches all other copies."[20] At a high level, all blockchain technology contains four components: "(i) a ledger, (ii) a network, and (iii) consensus, that is (iv) *unalterable by feasible means.*"[21] Apart from a general understanding of its functioning, the details behind blockchain networks are not strictly relevant for this discussion. Instead, the consequences of blockchain technology on contract execution are what matter most.

When paired with much stronger modern computers, blockchain allows for highly reliable, highly complex, automatic, self-executing contracts.[22] Blockchain technology is revolutionary because it is the first innovation that allows for trustworthy contract enforcement without traditional third-party recourse.[23] Unlike a first-generation smart contract, an initiated blockchain-based smart contract *cannot be altered or disabled.*[24] So, the parties can program the contract at the outset to have no safety hatch; this endows both parties with the rigid certainty in execution that they seek.[25] The parties to the agreement can have complete confidence that the contract will execute exactly as planned once the triggering conditions are met.[26] And yet, blockchain contracts cannot simply divorce themselves from the operation of generally applicable law. This intersection, where the automatic and unalterable function of smart contracts runs into the demands of law, has the most potential for issues. One of the most glaring points of contention is bankruptcy law's automatic stay.

Fully autonomous second-generation smart contracts put the contracting parties at risk of willfully violating the automatic stay.

Rachel Wilka, *Smart Contracts, Blockchain, and the Next Frontier of Transactional Law*, 13 WASH. J.L. TECH. & ARTS 313, 317 (2018))).

19 Heather Hughes, *Blockchain and the Future of Secured Transactions Law*, 3 STAN. J. BLOCKCHAIN L. & POL'Y 21, 28–29 (2020).

20 *Id.* at 29.

21 *Id.* at 31 (emphasis added).

22 *See* Raskin, *supra* note 2, at 308 (arguing that blockchain allows for the first secure contract enforcement that need not make use of the state's authority).

23 *Id.*

24 Hughes, *supra* note 19, at 31 ("No one can alter a transaction once it is approved, because the blocks are linked in a sequence that cannot be feasibly altered.").

25 *Id.* at 35 ("[E]nforcement [of a blockchain smart contract] is *unavoidable* and happens without reference to a court or external authority." (emphasis added)).

26 As is discussed later in the Note, the nature of the triggering conditions depends on how the contract is drafted and how the smart contract is coded. It is therefore possible that a highly sophisticated smart contract could build in conditions that are sensitive to bankruptcy events.

This is because the second-generation smart contract's greatest feature—its tamper-proof execution—pairs poorly with the automatic stay. For example, consider a second-generation smart contract involving a lease agreement for an expensive and critical piece of machinery.[27] The lessee corporation happens upon hard times and defaults on its payments to the lessor. Instantly, the smart contract would gather the necessary data to "understand" that the lessee has not met its side of the agreement. The smart contract's interface would connect to both of the parties' banking information and identify the lessee default. Under the present model, this could *unavoidably* trigger a set of consequences, including disabling the machine and immediately transferring legal ownership back to the lessor.

Of course, the contract's original programming *could* require human intervention before execution.[28] And a human intervention requirement *would* help avoid issues with the automatic stay. However, such a change would fundamentally undermine vital features of second-generation smart contracts—their uncompromising objectivity, certainty, and predictability in enforcement. Therefore, even if the hypothetical lessee had filed for bankruptcy prior to the default and notified the lessor, the parties might have no way to stop the impending equipment shut down. In the context of a fully empowered second-generation smart contract "[t]here is no longer the intervention point at which a bankruptcy trustee can assess whether the equipment is property of the lessor or is property of the debtor subject to a lien."[29] This type of hypothetical scenario indicates the threat of smart contracts to the automatic stay.

The Supreme Court's recent interpretation of the automatic stay in *City of Chicago v. Fulton*[30] indicates that the permissibility of second-generation smart contract execution probably depends on context. Where a second-generation contract executes pre-petition, a violation of the automatic stay is highly unlikely. However, a second-generation contract executing on a post-petition debtor will probably violate the automatic stay.

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27 *See* Hughes, *supra* note 19, at 24 (providing the core facts of the machinery hypothetical discussed in the text).

28 *See* Rosenberg, *supra* note 15, at 19 (indicating that a blockchain contract could have certain safety valves where a human user must enter a permission key before contract execution). Note, however, that such safety valves largely deprive the second-generation smart contract of its key feature: perfectly reliable execution.

29 Hughes, *supra* note 19, at 24.

30 City of Chicago v. Fulton, 141 S. Ct. 585, 589–91 (2021).

II. THE PROTECTIONS OF THE AUTOMATIC STAY

Before analyzing the interaction between smart contracts and the automatic stay, it is useful to examine the relevant Code provisions. Functioning as a cornerstone of the Bankruptcy Code, 11 U.S.C. § 362(a) defines the automatic stay. Specifically, § 362(a)(3) provides that the mere filing of a bankruptcy petition prohibits "any act to *obtain possession* of *property* of the estate or of *property* from the estate or to *exercise control* over *property* of the estate."[31] The policy of the automatic stay is to be expansive in its coverage,[32] and the wording of § 362(a) supplies exactly that type of reach. Any creditor action to obtain possession or exercise control over the debtor's property potentially violates the automatic stay. Section 362(k)(1) additionally provides a strong punishment for any creditor who willfully disobeys the demands of the automatic stay: "[A]n individual injured by any willful violation of a stay provided by this section shall recover actual damages, including costs and attorneys' fees, and, in appropriate circumstances, may recover punitive damages."[33] Though courts differ slightly, there is general consensus around what a debtor must show to recover under Section 362(k):

> [T]o recover for a willful violation of stay, debtors must prove the following: (1) that a bankruptcy petition was filed, (2) that the debtors are "individuals" under the automatic stay provisions, (3) that creditors received notice of the petition, (4) that the creditors' actions were in willful violation of the stay, and (5) that the debtor suffered damages.[34]

For the willfulness prong, bankruptcy courts generally agree that a violation is willful when the defendant "(1) knew the automatic stay was invoked and (2) intended the actions which violated the stay."[35] Therefore, a violator need not specifically intend to violate the

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31 11 U.S.C. § 362(a)(3) (2018) (emphasis added).

32 S. REP. NO. 95-989, at 54–55 (1978), *reprinted in* 1978 U.S.C.C.A.N. 5787, 5840–41, 1978 WL 8531 ("The automatic stay is one of the fundamental debtor protections provided by the bankruptcy laws. It gives the debtor a breathing spell from his creditors."); *see also In re* Shickles, 612 B.R. 444, 449 (Bankr. N.D. Ala. 2019) ("[T]he automatic stay 'is designed to give the debtor "a breathing spell from his creditors. It stops all collection efforts, all harassment, and all foreclosure actions."'" (quoting Ellison v. Nw. Eng'g Co., 707 F.2d 1310, 1311 (11th Cir. 1983))).

33 11 U.S.C. § 362(k)(1).

34 Grisard-Van Roey v. Auto Credit Ctr., Inc. (*In re* Grisard-Van Roey), 373 B.R. 441, 444 (Bankr. D.S.C. 2007) (citing *In re* Sammon, 253 B.R. 672, 680 (Bankr. D.S.C. 2000)).

35 Gordon v. Ocwen Loan Servicing, LLC (*In re* Wilson), 454 B.R. 546, 551 (Bankr. N.D. Ga. 2011) (quoting Jove Eng'g, Inc. v. IRS (*In re* Jove Eng'g, Inc.), 92 F.3d 1539, 1555 (11th Cir. 1996)).

automatic stay.[36] The violator need only intend the *actions* which ultimately violate the automatic stay.[37] Considering the underlying Bankruptcy Code, the automatic stay provides widespread and robust protection. Still, two additional components of § 362 broaden the stay's reach.

First, the Code references the debtor's "property," which is specifically defined later in the Code. Section 541(a)(1) states that property includes "all legal or equitable interests of the debtor in property as of the commencement of the case."[38] This broad definition has the potential to cover a wide variety of smart contract transactions; any smart contract that implicates the debtor's legal or equitable interests could potentially fall within the purview of the automatic stay.

Second, the Code establishes that the automatic stay protects the debtor from an actor *obtaining possession or exercising control* over that property. Bankruptcy courts generally define the obtaining possession element using its plain meaning. For instance, post-petition "repossession of a debtor's automobile is an obvious violation of § 362(a)(3)."[39] Other bankruptcy courts have compared "obtaining possession" to "an act designed to change control of property."[40] Accordingly, both the Code and many bankruptcy courts set a low bar for what constitutes "obtaining possession" of a debtor's estate post-petition; any act to transfer ownership of estate property likely qualifies. Therefore, this first prong sets the stage for a possible collision with a smart contract's key feature—automatic and computerized enforcement.

Court interpretation of the "exercising control" prong requires more detailed analysis. Bankruptcy, district, and circuit courts generally split their interpretation of exercising control into two contexts. The first context deals with exercises of control that occur *post-petition*. In that situation, courts typically interpret the "exercising control" text as simply bolstering the "obtaining possession" protections.[41] This broad definition thus provides a wide

36 *Id.*

37 *Id.*

38 11 U.S.C. § 541(a)(1) (2018).

39 Allentown Ambassadors, Inc. v. Ne. Am. Baseball, LLC (*In re* Allentown Ambassadors, Inc.), 361 B.R. 422, 437 (Bankr. E.D. Pa. 2007).

40 *In re* Hall, 502 B.R. 650, 665 (Bankr. D.D.C. 2014) (quoting Beker Indus. Corp. v. Fla. Land and Water Adjudicatory Comm'n (*In re* Beker Indus. Corp.), 57 B.R. 611, 626 (Bankr. S.D.N.Y. 1986)). As is mentioned in Part IV, this definition would appear to include disabling the operation of a debtor's property.

41 *Id.* (finding that "exercising control" simply allows for post-petition protection of intangible estate rights that would be inconducive to "real possession" (quoting 1 DAVID G. EPSTEIN, STEVE H. NICKLES & JAMES J WHITE, BANKRUPTCY § 3-14, at 163 (1992))). If

range of debtor protection post-petition, and it functions in tandem with the obtaining possession language.[42] Therefore, in the post-petition context, the Code text tightly restricts creditor action against the debtor. One bankruptcy court went as far as stating that the automatic stay prevents "'virtually all formal and informal [post-petition] actions' against estate property."[43]

The question of exercising control was previously more uncertain within the second context: pre-petition action. Before the Court's *Fulton* opinion,[44] the circuits disagreed on whether the protection against "exercising control" required an affirmative *relinquishment* of property obtained pre-petition.[45] That question fell in the gap between obtaining possession and exercising control. A creditor who took control of defaulted debtor property pre-petition did not "obtain[] possession" of that property during the bankruptcy.[46] Yet, at least some circuits previously recognized such conduct as impermissibly "exercising control" over debtor property.[47] The simplest example of this disparity involves a vehicle repossession. If the creditor repossessed the vehicle post-petition, then the creditor certainly exercised control as well as obtained possession of property that belongs to the debtor's estate. But if the repossession occurred pre-petition, the courts disagreed on whether the creditor needed to affirmatively return the vehicle to the debtor in order to avoid "exercising control."[48]

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the "obtaining possession" language does not cover disabling property in the debtor's possession, then the "exercising control" would cover such conduct. This statutory coverage is relevant for issues analyzed in Part IV.

42 *Id.* (asserting that the exercising control language merely tightened the protections of Section 362).

43 Lowe v. Ransier (*In re* Nicole Gas Prod., Ltd.), 581 B.R. 843, 853 (B.A.P. 6th Cir. 2018) (quoting Smith v. First Am. Bank, N.A. (*In re* Smith), 876 F.2d 524, 525–26 (6th Cir. 1989)), *aff'd* 916 F.3d 566 (6th Cir. 2019).

44 City of Chicago v. Fulton, 141 S. Ct. 585 (2021).

45 Circuit cases holding that retention of debtor property violates § 362(a)(3): *Thompson v. General Motors Acceptance Corp.*, 566 F.3d 699 (7th Cir. 2009); *Weber v. SEFCU (In re Weber)*, 719 F.3d 72 (2d Cir. 2013); *Motors Acceptance Corp. v. Rozier (In re Rozier)*, 376 F.3d 1323 (11th Cir. 2004); *California Employment Development Department v. Taxel (In re Del Mission Ltd.)*, 98 F.3d 1147 (9th Cir. 1996); and *Knaus v. Concordia Lumber Co. (In re Knaus)*, 889 F.2d 773 (8th Cir. 1989). Circuit cases holding that retention of debtor property does not violate § 362(a)(3): *In re Denby-Peterson*, 941 F.3d 115 (3d Cir. 2019); and *WD Equipment, LLC v. Cowen (In re Cowen)*, 849 F.3d 943 (10th Cir. 2017).

46 *Thompson*, 566 F.3d at 702.

47 *See id.*; *In re Weber*, 719 F.3d at 79; *In re Rozier*, 376 F.3d at 1324; *In re Del Mission Ltd.*, 98 F.3d at 1152; *In re Knaus*, 889 F.2d at 775.

48 Circuit cases holding that the creditor needed to affirmatively return the vehicle to avoid violating § 362(a)(3): *Thompson*, 566 F.3d at 708; *In re Weber*, 719 F.3d at 81; *In re Rozier*, 376 F.3d at 1324; *In re Del Mission*, 98 F.3d at 1151; *In re Knaus*, 889 F.2d at 775. Circuit cases holding that the creditor has no duty to affirmatively return pre-petition

This factual situation came before the Supreme Court in *Fulton*.[49] As is discussed in detail in Part IV, the Court determined that a creditor who took custody of debtor property pre-petition, (e.g., by towing and impounding the debtor's vehicle), may continue to passively hold it without violating § 362(a)(3). In so holding, the Court likely cleared the way for second-generation smart contracts to affect debtor property in the pre-petition environment without violating the automatic stay protections. However, the Court's language from the same opinion indicates that second-generation contracts are possibly on a collision course with the automatic stay when they execute post-petition.

III. SMART CONTRACTS AND VIOLATIONS OF THE AUTOMATIC STAY

The purpose of this Part is to evaluate how second-generation smart contracts will likely engage with the automatic stay provisions. Though *Fulton* provides a new wave of guidance on this topic,[50] second-generation contracts have never been directly evaluated by any court. Indeed, one of the most difficult aspects of second-generation smart contracts is their novelty; blockchain technology has made major strides in the last five years, but it is still quite new.[51] Bankruptcy courts have not yet addressed whether the unfettered operation of blockchain smart contracts may give rise to violations of the automatic stay, and the *Fulton* decision is recent as well.[52] This lack of litigation means that caselaw directly on point is nonexistent. Still, two areas of the law provide some insight to the question of smart contracts. First, bankruptcy courts have previously adjudicated automatic stay violations arising from first-generation smart contracts. Such agreements do not have the same level of blockchain sophistication, but they do have one key aspect in common—they can, and do, enforce automatically, even after the debtor has filed a bankruptcy petition. How bankruptcy courts have approached first-

property to the debtor: *In re Denby-Peterson*, 941 F.3d at 125–26; *In re Cowen*, 849 F.3d at 950.

49 *Fulton*, 141 S. Ct. at 589–90.

50 *Id.* at 589–92.

51 *See* Bernard Marr, *A Very Brief History of Blockchain Technology Everyone Should Read*, FORBES, (Feb. 16, 2018), https://www.forbes.com/sites/bernardmarr/2018/02/16/a-very-brief-history-of-blockchain-technology-everyone-should-read/?sh=ac8ae987bc47 [https://perma.cc/U8H9-BM6C] (establishing 2008 as the date of invention for bitcoin but predicting that "it will be intriguing to see where the next decade takes us" in terms of blockchain technology).

52 *See* Rosenberg, *supra* note 15, at 19 (explaining that the topic of blockchain smart contracts is currently "[w]ithout case law to guide [] analysis"). The *Fulton* decision came down on January 14, 2021. *Fulton*, 141 S. Ct. 585.

generation smart contracts may provide guidance regarding potential second-generation adjudication, which will undoubtedly arise in the future. However, all such cases arose prior to *Fulton*. Accordingly, the opinion in *Fulton* is the second area of helpful law, as it directly interprets key language in the automatic stay provisions. To the extent that older cases interpreting first-generation smart contracts conflict with *Fulton*, *Fulton* controls.

One of the most illustrative cases in recent bankruptcy law arose in the Eastern District of Arkansas. As with most smart contract cases that have made it into bankruptcy court, this litigation involved an automated vehicle payment device.[53] Called PayTeck, this device utilized a code system to ensure the debtor's compliance with car payments. Each month, if the debtor made the proper car payments, she was given a new code.[54] The code needed to be entered into the PayTeck device to stop it from disabling the vehicle's ignition.[55] Importantly, if the debtor failed to acquire and add the code on time, the device *automatically* disabled the car.[56] Thus, the default coding was that the device would auto-execute a disabling command unless the debtor affirmatively added a code on time.

It may be important to distinguish this type of first-generation smart contract from second-generation blockchain smart contracts. Here, human activity was still required to some extent. The creditor needed to personally confirm that a payment had been made and then communicate a code to the debtor each month. In return, the debtor needed to enter the code manually. In a blockchain contract, those types of communications would occur automatically and independently of human discretion. Still, the PayTeck device at issue had the power—through its coding—to disable the debtor's vehicle without requiring an explicit command from the creditor. That point is what gives this case—and similar cases—useful comparative value.

In this case, *In re Hampton*, after the debtor filed for bankruptcy and the automatic stay went into effect, the debtor's counsel timely notified the car dealership.[57] Over the ensuing weeks, a PayTeck device routinely disabled the vehicle, leaving the debtor without transportation.[58] The court found that the car shutoffs were the result of both the creditor providing incorrect codes from time to

53 Hampton v. Yam's Choice Plus Autos, Inc. (*In re* Hampton), 319 B.R. 163, 165–66 (Bankr. E.D. Ark. 2005).

54 *Id.*

55 *Id.* at 165.

56 *Id.*

57 *Id.* at 168.

58 *Id.* at 168–70.

time and glitches with the PayTeck device.[59] In finding that the creditor's PayTeck device willfully violated the automatic stay, the court took a hardline approach to creditor conduct. The court held that when a creditor sets "in place a mechanism for exercising control over Debtor's property"[60] it is the creditor's responsibility to ensure that the property is not controlled or impeded post-petition; here, the creditor placed the burden of avoiding a shutdown on the debtor "rather than taking action itself,"[61] and thus willfully violated the automatic stay. Critically, the court found that *even if* the creditor had always provided the proper codes and always avoided glitches with the PayTeck system, it would *still* potentially have violated the automatic stay.[62] Perhaps there would have been no actual damages, but the mere ability for control via the PayTeck device would have still been problematic. This type of reasoning suggests an incompatibility between the automatic stay and disabling devices, such as the PayTeck. The creditor in *Hampton* never physically repossessed the debtor's vehicle, and the interruptions in use were somewhat minor. Even still, the court took issue with the creditor's ability to interfere with the debtor's property.

The *Hampton* court is not the only bankruptcy court to take issue with a post-petition property control scheme. In a similar case arising out of the Northern District of Ohio, the debtor also owned a vehicle equipped with a payment protection system.[63] Like the PayTeck device at issue in *Hampton*, the debtor's vehicle in *In re Dawson* required periodic code inputs to avoid a shutoff. When the debtor filed for bankruptcy, her attorney timely notified the creditor of the case number and the legal force of the automatic stay.[64] Initially, the creditor was hostile to the debtor and indicated that the dealership would not provide any new codes unless payments were made—regardless of the ongoing bankruptcy.[65] The creditor ultimately backed off, but it only made half-hearted attempts to get the car

59 *Id.*

60 *Id.* at 172.

61 *Id.*

62 *Id.* (finding that "had the system worked as it should, and had Debtor called in every month on the payment due date and obtained a valid code . . . and if Debtor had in fact been able to use her car with no interruption . . . the Defendant may have violated the automatic stay").

63 Dawson v. J & B Detail, L.L.C. (*In re* Dawson), No. 05-22369, 2006 WL 2372821 (Bankr. N.D. Ohio Aug. 15, 2006).

64 *Id.* at *3.

65 *Id.* at *2 (establishing that the creditor pressured the debtor to "talk to her attorney about taking the car 'off the bankruptcy'").

running again.[66] For instance, the creditor removed the payment device but failed to reconnect the ignition system properly.[67] When the creditor finally resolved all the outstanding issues, the debtor's car had been disabled for around two months.[68] It is worth noting that the creditor's interference in *Dawson* was not limited to an effort to "exercise control" over the property under § 362(a)(3).[69] That creditor's vindictive behavior also amounted to an act to collect a claim against the debtor in violation of § 362(a)(6).[70] This additional legal complication may lessen somewhat *Dawson*'s predictive power for smart contracts.

Still, for the bankruptcy court, the months-long interference was sufficient to constitute a violation of the automatic stay.[71] And, as with *Hampton*, the court's reasoning in *Dawson* has some implications for second-generation smart contracts. The *Dawson* court concluded that creditors have an affirmative responsibility to ensure that any smart devices "would not disable" the debtor's property "after they had received notice of the bankruptcy filing."[72] While the court did not demand perfect or immediate compliance with the automatic stay, it "[did] expect those acts which violate the automatic stay to be stopped and/or corrected within a reasonable time."[73] Thus, the creditor's failure to take speedy, affirmative steps to avoid additional violation of the automatic stay was willful, and the court ordered the creditor to pay compensatory damages.[74] Accordingly, the caselaw that has percolated through the bankruptcy system suggests a tension between the automatic stay and mechanisms that allow creditors to control debtor property post-petition. As the noted cases show, some bankruptcy court decisions place the burden on the creditor to *ensure* that any existing execution technology on estate property is disabled, removed, or mitigated. When creditors fail to address such concerns, they run the risk of willfully violating the automatic stay.

Still, it is worth noting that the mere potential for a smart contract device to impact the debtor's property is exceedingly unlikely to be seen as a per se violation of the automatic stay. In *In re Grisard-Van Roey*, the bankruptcy court determined that a monthly payment monitoring device did not inherently violate the automatic

66 *See id.* at *3 (outlining how the creditor was slow to respond with a tow truck and then tried to pressure debtor into paying a fee to get the car running).

67 *Id.* at *4, *11.

68 *Id.* at *3–4.

69 *Id.* at *7.

70 *Id.*

71 *Id.* at *8.

72 *Id.*

73 *Id.*

74 *Id.* at *9–10.

stay.[75] While the court observed that "[the creditor] was *obligated* under § 362(a)(3) to avoid exercising control over the vehicle,"[76] it had met its obligations. The device remained installed on the debtor's vehicle for the duration of the bankruptcy. It functioned identically to the devices involved in *In re Hampton* and *In re Dawson*; however, the creditor took the necessary steps to avoid contempt. Rather than allowing the device to execute and disable the vehicle, the creditor in *In re Grisard-Van Roey* made sure to send proper codes on a consistent basis.[77] Furthermore, the creditor provided the debtor with an emergency code to allow the car to start and run for twenty-four hours in case any technical difficulties occurred.[78] Though the car did encounter some periods of being disabled, the periods of disablement were exclusively the debtor's fault for failing to punch in the code on time.[79] Thus, while the court in *In re Grisard-Van Roey* ultimately determined that the creditor did not violate the automatic stay, it still strongly stated the creditor's duty to avoid exercising control or obtaining possession of debtor property post-petition. The creditor involved only avoided liability through strict diligence.

Finally, it is worth emphasizing that higher courts can always alter bankruptcy court decisions on appeal. Because the relationship between smart contracts and the Bankruptcy Code is so novel and untested, there has yet to be a higher court decision directly on point.[80] Therefore, while the available caselaw evinces tension between first-generation smart contracts and the automatic stay, much remains undecided.

IV. ANALYSIS OF BLOCKCHAIN-BASED SMART CONTRACTS

The caselaw involving first-generation smart contracts is instructive to some extent, but it is also limited. Considering that all available caselaw predates *City of Chicago v. Fulton*, it is unclear how persuasive those cases remain. Additionally, second-generation blockchain smart contracts are untested in court. Therefore, the most helpful place to look for guidance on second-generation smart contracts and the automatic stay is the recent *City of Chicago v. Fulton*

75 *See* Grisard-Van Roey v. Auto Credit Ctr., Inc. (*In re* Grisard-Van Roey), 373 B.R. 441, 444 (Bankr. D.S.C. 2007).

76 *Id.* (emphasis added).

77 *Id.* at 444–45.

78 *Id.* at 445.

79 *Id.* ("Debtor failed to timely or properly enter the code.").

80 *See* Rosenberg, *supra* note 15, at 19 (observing that there is no case law perfectly on point for second-generation smart contracts).

decision itself.[81] Though that case did not deal directly with blockchain contracts, it provides critical interpretive rules for the automatic stay provisions. After *Fulton*, it is extremely unlikely that second-generation smart contracts will violate the automatic stay when they execute pre-petition. However, creditors who allow second-generation contracts to execute post-petition do so at far greater risk.

It is most useful to consider the likely judicial attitude toward second-generation smart contracts in two parts. First, this Part examines the potential for blockchain smart contracts to "exercise control" or "obtain possession" of debtor property in both the pre-petition and the post-petition contexts. Next, it analyzes whether such actions—when wholly automated and computerized—can be characterized as "willful." Both inquiries converge on a single conclusion: second-generation smart contracts that automatically execute remedies pre-petition do not run afoul of § 362, but those which initiate execution of remedies post-petition likely do.

A. Exercising Control or Obtaining Possession of Debtor Estate Property

1. Execution of Remedies by Second-Generation Contracts Pre-Petition

First, as to second-generation smart contracts that go into effect and automatically execute remedies with respect to the debtor's property all before any bankruptcy petition is filed, bankruptcy courts post-*Fulton* will almost certainly not find an automatic stay violation. Bankruptcy courts are highly protective of the debtor's estate, but the Court's construction of § 362 in *Fulton* creates space for second-generation contracts to operate. Before proceeding, it is necessary to examine the *Fulton* case in detail.

The *Fulton* litigation arose out of a City of Chicago practice regarding consequences for motor vehicle owners who failed to pay fines and fees associated with their vehicle.[82] Where a vehicle owner failed to settle his or her debts with the city, the City would locate and impound the car.[83] It was furthermore the City's practice to continue holding the impounded cars in the government lot even after the vehicle owner filed for bankruptcy.[84] This policy teed up a critical automatic stay question for the Court to determine: does a creditor's refusal to return debtor property constitute an exercise of control

81 City of Chicago v. Fulton, 141 S. Ct. 585 (2021).
82 *Id.* at 589–90.
83 *Id.*
84 *Id.*

over that property? The question essentially turned on the Court's construction of § 362(a)(3)'s language and whether the City had acted "to exercise control over" the debtor's vehicles in continuing to impound them post-petition.

At oral argument, the Court considered competing approaches to the "exercise control" language.[85] The Petitioner argued that the "exercise control" language was simply meant to provide post-petition protection for the debtor's intangible property rights.[86] To clarify this point, Petitioner offered an example of a creditor canceling a debtor's lease agreement.[87] The debtor's lease rights might not be "subject to possession" in the traditional sense, and therefore might not have received automatic stay protection without the "exercise control" language.[88] Under that theory, the "exercise control" language merely plugs a gap in the automatic stay's *post-petition* coverage and was not meant to target passive creditor conduct.

In contrast, Respondents argued that the "exercise control" language functions as an enforcement mechanism for the § 542 turnover provisions, and mandates the return of certain estate property when the debtor asks for it back; once a debtor requests its property be returned, a creditor would "exercis[e] control" of estate property by merely continuing to possess it.[89] This interpretation would allow for much broader creditor liability under the automatic stay; a creditor could violate the automatic stay by failing to return debtor property.[90]

Ultimately, the Court sided with the City of Chicago for two main reasons. First, the Court analyzed the text of § 362(a)(3) and determined that "[t]aken together, the most natural reading of [§ 362(a)(3)'s terms]—'stay,' 'act,' and 'exercise control'—is that § 362(a)(3) prohibits *affirmative acts* that would disturb the status quo of estate property as of the time when the bankruptcy petition was filed."[91] Accordingly, the Court's initial impression of the statute was that "[t]he language used in § 362(a)(3) suggests that merely retaining possession of estate property does not violate the automatic stay."[92] And yet the Court recognized that the text does not explicitly

85 Transcript of Oral Argument at 14–15, 47–49, *Fulton*, 141 S. Ct. 585 (No. 19-357).

86 *Id.* at 14–15.

87 *Id.* at 15.

88 *Id.*

89 *Id.* at 48–50. "[W]hat we have argued is that [the duty of turnover] arises when the debtor requests the return of the property." *Id.* at 48.

90 *Id.* at 48.

91 City of Chicago v. Fulton, 141 S. Ct. 585, 590 (2021) (emphasis added).

92 *Id.*

rule out competing interpretations.[93] The Court admitted that one could read the statute as requiring the City of Chicago to return the impounded cars.[94] However, an additional reason sealed the case for the City.

Within the larger scheme of the Bankruptcy Code, § 542 explicitly deals with how and when a creditor must turn property back over to the debtor.[95] While § 542 contains a general turnover command that obligates creditors to return and account for estate property, it does contain specific rules and exceptions.[96] Moreover, the § 542 turnover provision allows for adversary proceedings under which the debtor can request that a creditor return estate property; if the creditor believes it has justification to continue holding the property, it can oppose the § 542 proceeding.[97] While the § 542(a) exceptions are narrow—and would not generally apply in a typical situation of valuable property held by a creditor—they are important for statutory coherency.[98] Per the Court, to hold that § 362(a)(3) requires automatic property turnover would create significant tension with § 542. Not only would it risk making § 542 superfluous, but it would also create contradictory commands to creditors. If § 362(a)(3) were read to demand affirmative creditor conduct, it would arguably require property turnover even in contexts where a § 542 exception to the turnover mandate applies. The Court refused to permit such an interpretive logjam, and instead held:

> The better account of the statutory history is that the 1984 amendment, by adding the phrase regarding the exercise of control, simply extended the stay to acts that would change the status quo with respect to intangible property and acts that would change the status quo with respect to tangible property without "obtain[ing]" such property.[99]

The Court's decision in *Fulton* and interpretation of § 362(a)(3) strongly suggests that second-generation smart contracts will not

93 *Id.* ("We do not maintain that these terms definitively rule out the alternative interpretation adopted by the court below and advocated by respondents.").

94 *Id.*

95 *See* 11 U.S.C. § 542(a) (2018) ("Except as provided . . . an entity . . . shall deliver to the trustee, and account for, such property or the value of such property, unless such property is of inconsequential value or benefit to the estate.").

96 *Id.* § 542; *see Fulton*, 141 S. Ct. at 591.

97 *See Fulton*, 141 S. Ct. at 594 (Sotomayor, J., concurring) ("The Federal Rules of Bankruptcy Procedure treat most 'proceeding[s] to recover . . . property' as 'adversary proceedings.'" (alterations in original) (quoting FED. R. BANKR. P. 7001(1))).

98 On the point of § 542(a)'s limited scope, it is worth noting that there is no exception to turnover based on a creditor's claim that collateral is not adequately protected.

99 *Fulton*, 141 S. Ct. at 592 (alteration in original).

violate the automatic stay when execution of remedies with respect to the debtor's property occurs pre-petition. Consider a situation in which a second-generation smart contract is linked to a Tesla. The contract is crafted with blockchain technology such that it has automatic access to the debtor's bank account and the vehicle's internet-connected ignition system. The debtor's account has insufficient funds at the time the bill is due, and the contract immediately locks the car's ignition. No human intervention necessary. The vehicle owner then files for bankruptcy protection. The car is therefore disabled before the filing of a bankruptcy petition.

Post-*Fulton*, a court should find that the creditor's use of a second-generation smart contract in the described fashion does not violate the automatic stay. The status quo of the vehicle at the time of the bankruptcy petition was a locked, unusable vehicle. And as the Court found in *Fulton*, the automatic stay does not mandate affirmative creditor action to turn over debtor property.[100] The debtor might have to litigate a § 542 turnover dispute to "unlock" his property, but that would be its own distinct—and potentially time-consuming—proceeding apart from the automatic stay.[101]

2. Execution of Second-Generation Contracts Post-Petition

The analysis is different and more complicated where a second-generation smart contract executes remedies post-petition. Consider the same hypothetical outlined above. However, instead of the debtor defaulting on his sedan payments *before* filing a bankruptcy petition with the immediate, automatic execution of remedies by the smart contract, he defaults and triggers execution of remedies by the smart contract *after* the automatic stay is already in effect. In that instance, there could potentially be a finding that the second-generation contract executing and locking the car's ignition constitutes an impermissible change to the status quo of tangible property. After all, the car became disabled after the debtor filed for bankruptcy protection. That post-petition execution by the smart contract will likely be found to violate the automatic stay.

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100 *Id.* at 591–92 (describing that reading § 362 to involve an "affirmative turnover obligation" would be a significant modification to the statutory language and refusing to do so).

101 *Id.* at 594 (Sotomayor, J., concurring) ("Although the Court today holds that § 362(a)(3) does not require creditors to turn over impounded vehicles, bankruptcy courts are not powerless to facilitate the return of debtors' vehicles to their owners. Most obviously, the Court leaves open the possibility of relief under § 542(a).").

A court addressing this question will first have to determine whether the automatic implementation of a remedy upon default by a smart contract constitutes an "act" within the meaning of § 362. In its relevant part, § 362(a)(3) prohibits "any act . . . to exercise control over property" of the bankruptcy estate.[102] An essential component of that language is that there must be a cognizable creditor "act." The execution of a remedy by a second-generation smart contract happens immediately upon the occurrence of certain conditions and takes place irrespective of any post-petition human behavior.[103] Accordingly, a creditor can be expected to argue that the mere execution of a blockchain sequence without any action of the creditor post-petition does not satisfy the act requirement.

The creditor could also be expected to argue that available caselaw involving first-generation smart contracts are distinguishable. For instance, the cases *In re Hampton* and *In re Dawson* both featured automatic stay violations for first-generation smart contracts, and both of those cases also featured explicit creditor actions post-petition.[104] But because the ignition limiting systems in those vehicles were not fully automatic, the creditors had to continually—and manually—provide debtors with codes post-petition even though the default and initiation of control of the vehicle occurred pre-petition. In a case involving a second-generation smart contract, there would be no additional human conduct whatsoever following the filing of the bankruptcy petition. The code in the contract would function independently and autonomously, which arguably could rule out any sort of cognizable "act" within the meaning of § 362.

However, several persuasive counterpoints suggest that a stay violation is the likely outcome when a smart contract executes remedies post-petition. First, the text of *Fulton* strongly emphasizes the role that the status quo plays in § 362 violations. When a smart contract executes remedies post-petition, it almost undoubtedly changes the status quo of the debtor's estate. Second, the problem with identifying a cognizable act is not impossible to overcome. For instance, courts can look back to the initial creation of the contract to identify a cognizable act. Accordingly, the parties' original crafting of the smart contract probably constitutes an "act" within the meaning

102 11 U.S.C. § 362(a)(3) (2018).

103 *See supra* notes 22–25 and accompanying text.

104 Dawson v. J & B Detail, L.L.C. (*In re* Dawson), No. 05-22369, 2006 WL 2372821, at *1, *3 (Bankr. N.D. Ohio Aug. 15, 2006) (describing the starter device and confirming that an employee needed to identify and send proper codes); Hampton v. Yam's Choice Plus Autos, Inc. (*In re* Hampton), 319 B.R. 163, 165–66, 172 (Bankr. E.D. Ark. 2005) (indicating the same).

of § 362.[105] Moreover, a court could reasonably find that the computer is an "agent" of the creditor. Statutory law supports this interpretation and would allow the court to impute the computer's "actions" to its principals. Each point is analyzed below.

First, a second-generation smart contract executing post-petition likely impermissibly alters the status quo of the debtor estate. In the *Fulton* opinion, the Court repeatedly emphasizes the importance of the "status quo." For example, the Court states that "[t]aken together, the most natural reading of [the § 362(a)(3) language] . . . is that § 362(a)(3) prohibits affirmative acts that would disturb *the status quo* of estate property *as of the time when the bankruptcy petition was filed*."[106] This quote therefore drives at the center of the smart contract question. If a second-generation smart contract executes post-petition—for example, to lock-up a debtor's equipment or vehicle—it would likely "disturb" the post-petition status quo. Under the language of *Fulton*, this would seem to be a violation of the stay.

Next, there are a few avenues by which the "act" problem might be overcome. While no human actor would technically execute the smart contract post-petition, the parties *did* create the contract and endow it with the ability to automatically execute. A court could therefore reasonably determine that the creditor acted within the meaning of § 362(a)(3) when it set in motion a digital machine capable of executing post-petition. A smart contract's behavior is inherently foreseeable, and courts could hold creditors responsible for their role in crafting such automated digital machines. Moreover, recent additions to agency law suggest that computers can count as "agents" of their creators. The Uniform Electronic Transactions Act, which is in effect in virtually all states, contains a definition of an electronic agent: "'Electronic agent' means a computer program or an electronic or other automated means used independently to initiate an action or respond to electronic records or performances in whole or in part, without review or action by an individual."[107] The comment to that provision continues, explaining that "[a]s a general rule, the employer of a tool is responsible for the results obtained by the use of that tool . . . ."[108] Therefore, courts could look to modern

105 Courts have "looked back" to find cognizable acts in other legal contexts. For instance, a homeowner who crafted a "trap gun" was found criminally liable when the machine he built killed a burglar. *See* State v. Plumlee, 149 So. 425 (La. 1933). This colorful example indicates that legal acts can have consequences across time.

106 *Fulton*, 141 S. Ct. at 590 (emphasis added).

107 UNIF. ELEC. TRANSACTIONS ACT § 2(6) (NAT'L CONF. OF COMM'RS ON UNIF. STATE LS. 1999); *see also* Electronic Signatures in Global and National Commerce Act, 15 U.S.C. §§ 7001–7006, 7021, 7031 (2018) (establishing nationally that nearly all electronic contracts and signatures are binding and permissible).

108 UNIF. ELEC. TRANSACTIONS ACT § 2(6) cmt. to "Electronic agent."

agency rules to identify the post-petition execution of a smart contract to identify a cognizable § 362 "act." Either way, the totality of the arguments tip in favor of a stay violation.

B. The Question of Willfulness

The inquiry into automatic stay violation also requires a willfulness determination if damages are to be imposed upon a creditor violating the stay.[109] Accordingly, even if a court finds a blockchain contract to violate the stay, there could still be a basis for not finding such a violation to be willful, thus precluding the imposition of damages upon the creditor. Such a creditor would still have to remedy the § 362(a)(3) violation but would not be subject to additional monetary penalties.[110] In the context of first-generation smart contracts, courts have often occasionally found the willfulness prong to be satisfied when the creditor fails to avoid an impending violation of the automatic stay. For example, in the case of *In re Hampton*, the court held that the creditor's "failure to take the necessary action, such as removing the device or ensuring that Debtor always had a correct code" constituted willfulness.[111] Similarly, the *In re Dawson* court cited approvingly to *In re Hampton* and restated that a creditor's "failure to take the necessary affirmative steps required to avoid violating the automatic stay can only be described as 'willful.'"[112]

One additional case is also worth discussing. In *In re O'Neal*, the debtors entered into a pre-petition agreement with a creditor for automatic monthly wire transfers.[113] The transfers were automatically drafted out of debtors' depository bank and were paid directly to the creditor's account at a predetermined date each month.[114] When the debtors sought bankruptcy protection in June, they promptly notified the recipient creditor.[115] Still, the creditor failed to turn off the auto-draft feature, and its system continued to transfer money from the

109 11 U.S.C. § 362(k)(1) (2018).

110 *Id.* § 362(k)(2) (establishing that a good faith violator of the automatic stay shall be liable only for actual damages and not punitive damages).

111 Hampton v. Yam's Choice Plus Autos, Inc. (*In re* Hampton), 319 B.R. 163, 171 (Bankr. E.D. Ark. 2005).

112 Dawson v. J & B Detail, L.L.C. (*In re* Dawson), No. 05-22369, 2006 WL 2372821, at *9 (Bankr. N.D. Ohio Aug. 15, 2006).

113 *See* O'Neal v. Beneficial of Tenn. Inc. (*In re* O'Neal), 165 B.R. 859, 861 (Bankr. M.D. Tenn. 1994).

114 *Id.*

115 *Id.*

debtors' account in July.[116] The debtors had insufficient funds to meet the obligation, leading to hundreds of dollars in overdraft fees and the like.[117] In ruling against the creditor, the court emphasized that a creditor willfully violates § 362(a)(3) when it receives automatic payments after filing because doing so amounts to "dispossessing the debtors of their checking account deposits."[118] The same principle has been applied in other contexts as well, including post-petition garnishment of a debtor's wages.[119] Accordingly, once creditors have notice of a petition, bankruptcy courts do sometimes expect creditors to stop any impending acts of control or repossession.[120] While much remains undecided within the applicable law, the question of willfulness thus likely rises and falls with a court's framework of analysis. Whether a court is likely to find that a monetary penalty should be imposed under § 362(k)(1) after a finding of a stay violation under § 362(a)(3) may well depend on whether the court decides to scrutinize a creditor's pre-petition action. If the court—in determining willfulness—is inclined to consider the creditor's pre-petition actions in structuring the blockchain in a way that permits automatic execution of remedies without regard to the borrower's bankruptcy filing, it will likely find the violation to be willful.

C. Foreseeable Consequences and Threats to Debtors

Considering the predictions outlined in this Note, debtors may face serious challenges in the coming years at the hands of second-generation smart contracts. As blockchain technology continues to grow in prevalence, creditors can make use of second-generation contracts to impact debtor property in ways that were previously impossible. Although much of this Note was focused on analyzing

116 *Id.* (noting that the creditor's attempt to auto-draft payment resulted in the debtor incurring $647.00 in vendor penalties).

117 *Id.*

118 *Id.* at 862 ("Consequently, the court finds that [creditor] has violated the automatic stay imposed by the debtors' Chapter 13 filing under § 362(a)(3) . . . .").

119 *Id.* at 862; *see also* Chi. Painters' and Decorators' Pension, Health and Welfare and Deferred Sav. Plan Tr. Funds v. Cunha, 121 B.R. 232, 233 (N.D. Ill. 1990); Elder v. City of Thomasville (*In re* Elder), 12 B.R. 491, 496 (Bankr. M.D. Ga. 1981).

120 *See* Hampton v. Yam's Choice Plus Autos, Inc. (*In re* Hampton), 319 B.R. 163, 172 (Bankr. E.D. Ark. 2005) ("[F]ailure to take appropriate action to avoid violating the automatic stay leads the Court to find that Defendant willfully exercised control . . . ."); *see also* Franchise Tax Bd. v. Roberts (*In re* Roberts), 175 B.R. 339, 343–44 (B.A.P. 9th Cir. 1994) (refusing to entertain a creditor's excuse that its violation of the automatic stay was inadvertent because its computer system "[was] not programmed to observe the automatic stay" and finding that "return[ing] the payments to the debtors with interest" did not foreclose other types of liability, such as fees and costs).

the likely consequences of second-generation contracts for personal vehicles, smart technology can one day apply to much larger swaths of the economy. For instance, creditors already deploy smart contracts to control factory equipment, corporate vehicles, or other critical machinery; moreover, smart contracts increasingly impact sale and purchasing agreements.[121] And, after *Fulton*, the automatic stay almost certainly will not require creditors to affirmatively reactivate property disabled pre-petition. The potential disruption to debtors—whether individuals or businesses—could be significant.

There is a remedy for debtors whose property has been disabled by smart contracts, but it is unduly cumbersome. Under § 542, the Bankruptcy Code provides an avenue through which debtors can force creditors to return or re-enable estate property. Yet this provision is extremely slow and costly in practice. Turnover to debtors in possession requires an adversary proceeding,[122] and debtors must endure time and money expenses to force a creditor to return control of property to the debtor. For example, as noted in Justice Sotomayor's *Fulton* concurrence, the turnover provision provides ineffective relief to bankrupt individuals who need their cars to get to work.[123] The same basic issue will soon present itself on a broader scale as second-generation smart contracts develop. Creditors will be able to maintain passive possession of debtor property or disable debtor property until a § 542 adversary proceeding is prosecuted to a successful completion by the debtor. In the meantime, the debtor's business or personal finances will suffer.

The best way to remedy this situation is to bypass the gridlock of Congress and focus on amending the Federal Rules of Bankruptcy Procedure. Right now, Rule 7001(1) requires that most turnover actions take place by adversary proceeding.[124] This should be modified to allow a turnover proceeding to occur via simple motion of the debtor where certain criteria are met. One option would be to allow turnover via motion where the property sought is tangible and easily obtainable. An automobile would be a perfect candidate for such a rule change. Another avenue could be to allow a debtor to file a motion for turnover where the property would be "essential" to the

121 *See* John Ream, Yang Chu & David Schatsky, *Upgrading Blockchains: Smart Contract Use Cases in Industry*, DELOITTE INSIGHTS (June 9, 2016), https://www2.deloitte.com/us/en/insights/focus/signals-for-strategists/using-blockchain-for-smart-contracts.html [https://perma.cc/E26L-2Q2U].

122 FED. R. BANKR. PROC. 7001(1).

123 City of Chicago v. Fulton, 141 S. Ct. 585, 593–94 (2021) (Sotomayor, J., concurring).

124 *See* FED. R. BANKR. PROC. 7001(1) (establishing that the recovery of money or property must take place via adversary proceeding, unless the debtor is being compelled to deliver property to the trustee).

debtor's rehabilitation efforts. Again, a wage-earner's vehicle or a factory's critical machinery would fall into such a categorical carve-out. Either modification would immediately further the policies of bankruptcy, and would save debtor estates from needless litigation costs.

CONCLUSION

At bottom, second-generation smart contracts present a new and generally untested area of law, especially with respect to bankruptcy proceedings and the automatic stay. Still, the decisions to date give rise to dual conclusions. When second-generation smart contracts execute pre-petition, the *Fulton* opinion likely sets them beyond the reach of § 362. However, blockchain contracts which execute post-petition are not likely to be so fortunate. These conclusions lead to unfortunate consequences for bankruptcy debtors, especially in the pre-petition context. As creditors gain the ability to disable debtor property using sophisticated electronic means, debtors may be forced to put their livelihoods and businesses on hold while they litigate turnover proceedings. Already a problem, such difficult circumstances will become more widespread as second-generation smart contracts gain favor with creditors. The problem demands a solution, especially with respect to creating expedited procedures for reactivating disabled property. The purpose of bankruptcy law is to ensure that individuals and businesses have an option for a fresh financial start. But that purpose is only fulfilled when the Bankruptcy Code's procedures deliver timely and effective relief to debtors. If the bankruptcy system is to continue providing successful outcomes as technology expands, prompt amendments to the Federal Rules of Bankruptcy Procedure are required.