

**BONE CRUSHER 2.0:
THE FOURTH ANNUAL GREG LASTOWKA MEMORIAL
LECTURE**

*James Grimmelmann**

Colleagues, family, and friends of Greg, thank you for braving the weather. His memory means so much to all of us. I want to talk a bit about some of the things that Greg might have said about the Internet today, and to help keep alive the spirit of serious play that animated his work.

Greg's most famous article is *The Laws of the Virtual Worlds*, which he wrote with Dan Hunter in 2003.¹ It has more than ten thousand downloads from SSRN. That's a stunning number. It is roughly the 350th most downloaded article of all time on the site. It has thirty-seven citations just on SSRN,² which is about the same the total number of citations I have for all of my papers there. It is a tremendous article: it saw the future.

Greg and Dan wrote about multiplayer games, like Ultima Online and Everquest, but with a very serious eye. They argued that these aren't just games: what happens in them matters to real people who live in the real world. Already in 2003, people were going online to other spaces; Greg and Dan saw that these other spaces were going to generate disputes raising serious legal questions. People were going to have free-speech arguments over what they would be allowed to say. They were going to have property disputes over virtual items. They would have all kinds of legal disputes. To quote from the article itself: "When virtual-world lawsuits arise, as they inevitably will, it will not be a sufficient answer to say, 'It's just a game.' Nor can the wizards who create and maintain the worlds simply assert that they can do as they

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1. F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CALIF. L. REV. 1 (2004) [hereinafter *Laws of the Virtual Worlds*], https://papers.ssrn.com/sol3/papers.cfm?abstract_id=402860.

2. *Id.*

wish.”³ “Wizards” here is a metaphor for the people and companies who run these virtual worlds. They’re responsible for the code; they decide when to ban a user or close an account. Greg and Dan believed that these aren’t just games, so that it shouldn’t just be that the person with their finger on the power button gets to say what happens. Real people have real interests in these spaces.

Greg expanded on virtual worlds in his book, *Virtual Justice*.⁴ It remains the definitive work on virtual world law. For people like me who write in the field, *Virtual Justice* remains the summation of what the issues were and what matters in legal thinking about them. It holds up remarkably well, as I discovered when I had the pleasure of rereading substantial chunks of it to prepare this lecture. It is still just a wonderful book, delightfully clear on issues from copyright to hacking. One passage I particularly like gives a perfect response to the, “oh, it’s just a game; we shouldn’t care,” objection.

Not everyone will want to own a virtual castle in the future, just as not everyone today wants to visit Disney World, attend a NASCAR race, collect baseball cards, ride horses, or purchase a luxury handbag. But even if we think that owners of horses and handbags are spending money on things we would not purchase, we do not think of them as people without legal rights. Is there any reason we should think differently about the rights of those who invest time, money, and creative energy in virtual worlds?⁵

Again, we see the same continuity between what people do in offline spaces and what they do in online spaces. They are different in lots of ways, but in the ways that really matter, they are very closely connected.

A third piece of Greg’s that I personally like is not the most famous or well-known. It’s the piece that he and Dan wrote for the first State of Play conference (at which Greg and Dan were quite rightly regarded somewhere between royalty and rockstars), called *Virtual Crimes*.⁶ It is a beautifully succinct paper about what should be considered a crime in a virtual space. Here the game metaphor is important. There are in-game swords in worlds like Ultima Online. If our characters wind up fighting each other, and I bop you over the head with a sword and

3. *Id.* at 72.

4. GREG LASTOWKA, *VIRTUAL JUSTICE: THE NEW LAWS OF ONLINE WORLDS* (2010) [hereinafter *VIRTUAL JUSTICE*].

5. *Id.* at 27.

6. F. Gregory Lastowka & Dan Hunter, *Virtual Crimes*, 49 N.Y. L. SCH. L. REV. 293 (2004) [hereinafter *Virtual Crimes*].

your character in the game falls over, should we regard it as real-life murder and send you—not your character, but you, the real-life flesh-and-blood person—to prison? Greg and Dan persuasively argued no, because “the representations of villainy that occur in interactive games are generally understood as speech and nothing more.”⁷

In *Virtual Crimes*, Greg and Dan also posed a trickier problem inspired by the journalist Julian Dibbell. He spent a year trying to support himself playing Ultima Online. He played a character who tried to accumulate virtual items, like axes and maces, which he would then sell to other players for real money.⁸ Dan and Greg picked up on a charming anecdote in Dibbell’s story, an incident in which another character asked him if he wanted to buy a rare and extremely valuable in-game weapon called a Bone Crusher mace.⁹ While checking the price, Dibbell realized that the Bone Crusher was almost certainly stolen. The seller had tricked another player who had one into unlocking his front door, and had then taken the mace before the startled victim could react.¹⁰

Greg and Dan playfully asked whether this should be considered receipt of stolen property—a real theft with real-world consequences.¹¹ They drew a smart and surprising analogy to other kinds of virtual property, such as domain names like UltimaOnline.com or Google.com, which now are commonly recognized as property.¹² They observed that treating a domain name as:

[A] property interest may seem like a social fiction. But, if a domain name can . . . be “stolen,” . . . it follows logically that a Bone Crusher . . . —a similar artifact at the intersection of software, databases, and networks—should be equally capable of being “stolen.”¹³

The Bone Crusher is just as real as a domain name is. It may even be more real because you can actually see what a Bone Crusher looks like.

7. *Id.* at 297.

8. *Id.* at 299–300.

9. *Id.* at 301–02. For the short version of the story, see Julian Dibbell, *Den of Thieves!*, PLAY MONEY (Aug. 6, 2003, 12:56 PM), http://www.juliandibbell.com/playmoney/2003_08_01_playmoney_archive.html#106019981622479993, and for the long version, see JULIAN DIBBELL, PLAY MONEY: OR, HOW I QUIT MY DAY JOB AND MADE MILLIONS TRADING VIRTUAL LOOT 167–70 (2006).

10. DIBBELL, *supra* note 9, at 168–69.

11. *Virtual Crimes*, *supra* note 6, at 301.

12. See *Kremen v. Cohen*, 337 F.3d 1024, 1030 (9th Cir. 2003).

13. *Virtual Crimes*, *supra* note 6, at 304.

Then, in a wonderful twist, Greg and Dan turned around and wrote: “But we are skeptical that Julian Dibbell could be prosecuted for fencing stolen property. . . . Ultima Online is styled as a game where Bone Crusher maces are designed to be stolen.”¹⁴ The rules of Ultima Online allow you to take other characters’ virtual items in certain circumstances.¹⁵ If you’re playing football and you pick up the ball on a fumble, you don’t have a legal obligation to return it to the other team. That’s not how the game works. Theft laws don’t apply in the same way on the football field, just like they don’t apply in Ultima Online the same way they apply here.¹⁶

I want to pause here to pull out three big ideas from Greg’s virtual-world work. (And that’s just a small part of what he worked on. Greg also wrote wonderful pieces on attribution and on search.)¹⁷ **First**, virtual worlds are real places. They may not exist in our physical world, but they are real communities. Real people spend real time together in them. That is the lesson from *The Laws of the Virtual Worlds*.¹⁸ **Second**, as Greg observed in *Virtual Justice*, communities need laws. These spaces aren’t entirely hands-off free-for-alls. There are rules. People can do harmful things to each other, and we need some rules of conduct to guide them.¹⁹ **Third**, as Greg and Dan pointed out in *Virtual Crimes*, those laws cannot be the same as the ones we use for offline conduct. Laws must reflect reality, which in this case means virtual reality.²⁰

Now jump ahead fifteen years to some of today’s strangest and weirdest forms of online property. I would like to ask what Greg might say about these updated Bone Crushers. I will start with a story about something called “The DAO,” which is short for “decentralized autonomous organization”: a network of people who pool some resources for a common purpose and then act together, a bit like a corporation or another association.²¹ The difference is that a DAO is not a legal

14. *Id.*

15. *Laws of the Virtual Words*, *supra* note 1, at 32–33.

16. *See Virtual Crimes*, *supra* note 6, at 305.

17. *See, e.g.*, Greg Lastowka, *Digital Attribution: Copyright and the Right to Credit*, 87 B.U. L. REV. 41, 44 (2007); Greg Lastowka, *Google’s Law*, 73 BROOK. L. REV. 1327, 1327–29 (2008); Greg Lastowka, *The Trademark Function of Authorship*, 85 B.U. L. REV. 1171, 1175 (2005).

18. *Laws of the Virtual Worlds*, *supra* note 1, at 7.

19. *VIRTUAL JUSTICE*, *supra* note 4, at 84, 90, 96–97.

20. *Virtual Crimes*, *supra* note 6, at 297, 309.

21. *See* Matthew Leising, *The Ether Thief*, BLOOMBERG (June 13, 2017), <https://www.bloomberg.com/features/2017-the-ether-thief/>; Dino Mark et al., *A Call for a Temporary Moratorium on the DAO*, HACKING, DISTRIBUTED (May 27, 2016, 1:35 PM), <http://hackingdistributed.com/2016/05/27/dao-call-for-moratorium/>.

entity—it doesn't have a board that meets in person to make important decisions and is held accountable by corporate law. Instead, the collective commitments of a DAO's members are enforced automatically by software running on computers (more on how this works in a moment).²²

That's what *a* DAO is. *The* DAO is a specific example of one: indeed, it was the first and most famous, and perhaps the only true example of a DAO so far.²³ With the confidence of true pioneers, its creators decided to take the name for themselves. In April 2016, they announced that were going to implement it on the Ethereum blockchain (again, more on what this is in a moment).²⁴ It was a kind of online venture capital fund. Everyone who put in money would have the right to vote on what projects it would fund, to withdraw their money if they didn't agree with the funding decisions, and to share in the profits if those investments returned money.²⁵

The pitch worked. Over eleven thousand people invested virtual property into The DAO, and if you take the valuation at face value, it added up to \$150 million.²⁶ That's a huge investment. Most startup founders' jaws would have dropped if you told them they could get that kind of money. But then in June 2016, before The DAO had funded a single project, an anonymous trickster found a bug in the software they were using and drained over \$50 million worth of the assets.²⁷

If this were a company's bank account and someone took \$50 million from it, that would be an open-and-shut violation of the Computer Fraud and Abuse Act, to say nothing of theft under state law. But there is also an argument that these assets were "designed to be stolen" in the same way that the Bone Crusher was. It sounds silly at first because the Bone Crusher was in a "game," whereas The DAO was presented as a serious investment proposal. However, if you look at the legal terms that The DAO's creators said governed it, it seems like they take exactly this position:

22. See generally U.S. SEC. & EXCH. COMM'N, RELEASE NO. 81207, REPORT OF INVESTIGATION PURSUANT TO SECTION 21(A) OF THE SECURITIES EXCHANGE ACT OF 1934: THE DAO 3 (2017).

23. See *id.* at 4 (describing The DAO).

24. *Id.*

25. See Mark et al., *supra* note 21.

26. Joon Ian Wong & Ian Kar, *Everything You Need to Know About the Ethereum "Hard Fork,"* Quartz (July 18, 2016), <https://qz.com/730004/everything-you-need-to-know-about-the-ethereum-hard-fork/>.

27. See Leising, *supra* note 21; see also Matt Levine, *Blockchain Company's Smart Contracts Were Dumb*, BLOOMBERG OPINION (June 17, 2016, 5:46 PM), <https://www.bloomberg.com/opinion/articles/2016-06-17/blockchain-company-s-smart-contracts-were-dumb>.

The terms of The DAO Creation are set forth in the smart contract code existing on the Ethereum blockchain at 0xbb9bc244d798123fde783fcc1c72d3bb8c189413. Nothing in this explanation of terms or in any other document or communication may modify or add any additional obligations or guarantees beyond those set forth in The DAO's code.²⁸

In other words, whatever The DAO's code says you can do, you can do. The terms make zero promises otherwise. The software is online and open source: anyone can read it. If you put your money in, it will be governed by whatever the software does. If the software has a feature that lets someone drain off all the assets, so be it—if that's not what you wanted or expected, you should have read the code more carefully. You put yourself at risk when you signed up to use buggy code.²⁹

I should at this point explain a bit more about how this smart-contract code actually governed people's rights and responsibilities. The usual metaphor is a vending machine with some software inside it.³⁰ When you put in some coins, it will say, "Make selection." Then, when you punch some numbers on the keypad, it will either say, "Insufficient credit," or dispense you a bag of Doritos.

The vending machine and its software are carrying a contract for the sale of goods. Think of a store with a clerk behind the counter. If you give him \$1.50, he gives you your chips. That is also a sales contract: you are the buyer of a bag of Doritos. The vending machine automates that contract: there is no other person involved. It just uses software which responds to events. If six quarters have been inserted and the user has punched in C8, it will dispense one bag of Doritos from C8. You don't need lawyers or judges. The vending machine takes a legal exchange and automates it.

The DAO's smart contract is just a much more complicated version of the vending machine. It's a piece of software that is capable of receiving input and acting accordingly. An input might say, in effect, "I am a participant, here is my proof of the shares I hold, and I want to

28. The original is no longer online, but it is archived by the Wayback Machine. *Terms, Explanation of Terms and Disclaimer*, WAYBACK MACHINE (May 1, 2016), <https://web.archive.org/web/20160501124801/https://daohub.org/explainer.html>.

29. In fact, some people in addition to the hacker did read the code closely. Computer scientists started sounding the alarm as the investments took off; their warnings were a mixture of unheeded and too late. See, e.g., Mark et al., *supra* note 21.

30. See Nick Szabo, *Smart Contracts: Building Blocks for Digital Markets* (1996), http://www.fon.hum.uva.nl/rob/Courses/InformationInSpeech/CDROM/Literature/LOTwinterschool2006/szabo.best.vwh.net/smart_contracts_2.html. See generally Kevin Werbach & Nicolas Cornell, *Contracts Ex Machina*, 67 DUKE L.J. 313, 323–24, 348–49, 362–64 (2017).

vote yes on this proposal.” If enough participants holding enough shares vote yes, The DAO contract automatically provides funding to the person whose proposal was being voted on. The DAO was basically an attempt to code up all of the voting rules and payout rules for a venture capital fund. It’s complicated, but not too complicated: it’s a vending machine that dispenses investments in projects instead of Doritos.

You might reasonably ask, “Whose computer is this running on?” This was a regular concern of Greg’s. The wizards in virtual worlds have their power because they ultimately control the servers on which the world runs.³¹ That person could just change the code or take the computer away and then the whole thing goes down. No one person controlled The DAO’s computer in that way because The DAO’s smart contract ran on a blockchain—in fact, on a particular blockchain called the Ethereum blockchain. These aren’t physical wooden blocks and metal chains. Instead, they’re systems for coordinating thousands of computers around the world.³² Everyone who takes part in the blockchain has their own copy, and they are collectively responsible for the smart contracts (like The DAO) that run on it. They each keep track of what the contract is doing. Every time someone invests or exercises a vote, that’s the equivalent of putting money into the vending machine or pushing a button. Everyone who is running the blockchain sees that update: for example, an announcement that this amount has been deposited. And they all agree that, under the contract’s code, if *X* event happens, it will dispense *Y* funds. It’s all based on consensus, and there are complicated rules (not worth getting into here) to ensure that every participant in the blockchain agrees on the contract’s output. A blockchain is a collectively agreed-upon record of transaction. In the case of a smart contract, those transactions correspond to executing parts of a program’s code; in the case of The DAO, that program takes investments, records votes, and dispenses funds.³³

When I say that a trickster found a way to drain The DAO, what I mean is that they found a way to send a message to The DAO’s contract which resulted in funds going not to an actual investment proposal but

31. See generally James Grimmelmann, *Anarchy, Status Updates, and Utopia*, 35 PACE L. REV. 135, 138 (2014).

32. For a lucid explanation of blockchains, see generally ARVIND NARAYANAN ET AL., BITCOIN AND CRYPTOCURRENCY TECHNOLOGIES 11–12 (2016). For a detailed description of Ethereum, see ANDREAS M. ANTONOPOULOS & GAVIN WOOD, MASTERING ETHEREUM (2018).

33. U.S. SEC. & EXCH. COMM’N, RELEASE NO. 81207, REPORT OF INVESTIGATION PURSUANT TO SECTION 21(A) OF THE SECURITIES EXCHANGE ACT OF 1934: THE DAO 4–10 (2017), <https://www.sec.gov/litigation/investreport/34-81207.pdf>.

instead to a private account controlled by the anonymous trickster.³⁴ Because everyone who is running the Ethereum blockchain agrees on what happens when this program gets this message, everyone agreed that, oh yes, according to this line of code here, when this happens, these funds go to that account and they can do whatever they want with it. Indeed, The DAO was backed up by a real-world legal contract that purported to say, “this is fine.”

It is time to ask some questions about The DAO hack and to consider how Greg might have answered them. The most obvious question is whether what the trickster did really was allowed. But as soon as you start to ask that question, it becomes clear that there are two different ways to put it. You can ask whether the trickster *violated the rules of Ethereum*: did they do something that the code actually allowed, or did they in some sense hack the system? Or you can ask whether they *violated the law*: did they do something against securities law, or theft law, etc.? One of the things I take from Greg’s work is that these are not the same question. The rules of a virtual world might not be the same as the legal rules of the offline world. In fact, they’re usually not.

There is one more twist to the story. The Ethereum community of people who ran the blockchain on which The DAO contract was run collectively decided that they were going to cancel The DAO and call the whole thing off.³⁵ They all modified their Ethereum software so that it was as though The DAO contract and The DAO hack never happened. They agreed to recognize as valid any transaction by which anyone who had ever put funds into The DAO could get a full refund and get back the funds they invested. They were just going to ignore what The DAO smart contract said and let the investors get refunds.³⁶ They collectively changed their blockchain to say, in effect, “Nobody invested; no money was stolen.” We could call this *justice*: giving defrauded investors back what they invested. Or we could call this *theft*: someone who followed the rules and used the software as it was written had \$50 million worth of assets taken away in an instant. So which is it?

Let’s go back to Greg’s three big points and try to predict what he might have said about The DAO hack and the community’s response.

34. See Phil Daian, *Analysis of the DAO Exploit*, HACKING, DISTRIBUTED (June 18, 2016, 1:11 AM), <http://hackingdistributed.com/2016/06/18/analysis-of-the-dao-exploit/>.

35. I.e., not just the investors in The DAO and the trickster, but everybody who was using the Ethereum system for smart contracts of all kinds.

36. See Wong & Kar, *supra* note 26; Michael del Castillo, *Ethereum Executes Blockchain Hard Fork to Return DAO Funds*, COINDESK (July 20, 2016, 3:25 PM), <https://www.coindesk.com/ethereum-executes-blockchain-hard-fork-return-dao-investor-funds>.

Bone Crusher 2.0 has higher stakes than Bone Crusher 1.0 did, but the issues are very much the same.

First, Greg argued that virtual worlds are real places, filled with real people doing real things that matter. He was right, and this is exactly the case with The DAO. However you resolve it, something like The DAO is going to affect thousands of people and tens of millions of dollars. You can't just wave your hand and say, "It doesn't matter, it's just a game." People take it seriously. The legal system has to as well.

Second, Greg said that these spaces need laws. Wherever human endeavors take us, law comes along for the ride. People need rules to tell them what is permissible. This isn't a dispute over whether Ethereum is a wholly lawless space; it's not and never has been. Instead, it's about *which* rules apply. One side might say that The DAO disputes should be governed by United States law. The DAO was an unregistered securities offering: it was presented to investors with the promise of profit based on others' effort. We have investor protections: people can get their money back if they were defrauded. Or, The DAO hack was a violation of the Computer Fraud and Abuse Act.³⁷ If we can find the perpetrator, that person ought to be prosecuted and jailed.

The alternative point of view is that the only rules that matter to The DAO are the ones embodied in its smart contract. Whatever the smart-contract code does, those are the rules. People knew exactly what they were getting into. When they transferred their assets to a contract controlled by The DAO's code, they deliberately assumed the risk that there was a bug in that code. Perhaps that was a bad decision in hindsight, but if you are trying to create a world that has the clarity and predictability of computer code, people need to live with the consequences of such decisions. That world is one in which you can say, "There is no uncertainty about this contract: I know exactly what it will do." Next time, investors will be more careful: they'll read the code with a sharper eye. This is not a defense of the complete vision of a smart-contract future. It may or may not be right. I just want to say that it is a genuine alternative vision of what kinds of rules should apply to The DAO. Both of these are plausible views about what rules are appropriate for virtual communities.

As for Greg's **third** point—that laws for virtual communities must reflect their virtual realities—let's go back to the Bone Crusher. That mace really is property, but maybe what counts as "stealing" it isn't the same as what counts as stealing offline. Similarly, The DAO tokens—the shares you receive for your investment—are property. They are the

37. 18 U.S.C. § 1030 (2012).

kinds of things that could be stolen. If somebody broke into my computer and used my private key to transfer away my assets by pretending to be me, that would be computer misuse and they should be prosecuted for theft.

But maybe that's not the same kind of case as when somebody plays by the rules of Ethereum and sends messages allowed by the system in a way that makes a smart contract do the thing it was programmed to do. Just as Ultima Online draws a line between "playing" and "cheating" around the Bone Crusher, maybe Ethereum has some similar line between "contracting" and "cheating" around The DAO.

Virtual Justice opens with a wonderful metaphor about castles. Greg contrasts actual historical castles with virtual castles to make the point that this is not just a conversation about what is real, but also about who holds the power.³⁸ This is in fact one of the biggest running themes in virtual-worlds scholarship: who is in charge?³⁹

Can the person who runs the game or virtual world just make whatever rules they want? The DAO's legal contract gives one answer: it says your rights are defined by the code. You have no other rights beyond that. You cannot sue offline for what happens in the blockchain space. That sounds an awful lot like the terms of service that companies have for their online spaces, like the terms of service you have to "agree" to when you sign up for a Facebook account or a World of Warcraft account.

So let us go back to Greg's writings again. Here is another pair of quotes from *Virtual Justice*:

In essence, the contractual rules of the average virtual world are not designed as mechanisms of governance but as defensive measures to protect virtual world owners.

. . . .

. . . [I]t seems desirable to place limits on the contract's ability to set governance rules, at least given the current shape of these agreements.⁴⁰

The terms of service aren't like a constitution that says, "You can do this, you can't do that, and here's the assembly where all the users get to decide what the laws will be." Instead, they say, "You cannot sue us

38. VIRTUAL JUSTICE, *supra* note 4, at 1–8.

39. See, e.g., Joshua A.T. Fairfield, *The God Paradox*, 89 B.U. L. REV. 1017, 1019 (2009).

40. VIRTUAL JUSTICE, *supra* note 4, at 94, 96.

for anything ever under any circumstances no matter what. You can never claim damages no matter what we do to you. We can cancel your account at any time we want or take away all your assets for any reason or no reason. Do not bother us in court. Also, if you sue us, we'll arbitrate."⁴¹ Greg's response is that exculpating the company from all responsibilities is not actually a healthy way to figure out what the rules are in a virtual space or to create a functioning governance system.⁴²

So think again about the "fork" by which the Ethereum community decided it was going to take back The DAO funds from the trickster and give them back to investors. Not everyone agreed. About 90% of the Ethereum voting population decided to undo The DAO, but the other 10% said, in effect, "Rules are rules, and it's unfair to change them now. We need to have stability and clarity so everybody knows what the rules are and can rely on them." This split is why it is called a fork. There are now two Ethereum blockchains. One of them, which goes by the name Ethereum, is the regular Ethereum 90% of users agree with, in which the The DAO never happened. The other version, called Ethereum Classic, is a version in which The DAO did happen and the trickster kept the funds.⁴³

You can pick which community you want to participate in. If "rules are rules" is important to you, you can go with Ethereum Classic. This is not a complete answer to your concerns because Ethereum is worth a lot more than Ethereum Classic.⁴⁴ More people are using the Ethereum blockchain than the Ethereum Classic blockchain, which makes assets in Ethereum worth more. So if you want to use the Ethereum Classic rules and let the trickster keep the funds, you are stuck with the blockchain that is just you and a few others. It is like you are still living in Ultima Online when one hundred times as many people have gone to World of Warcraft. But you are still taking part in a virtual world with the same rules you signed up for.

This gives a new perspective on whether it was fair for Ethereum to undo The DAO. If you think that the rules of The DAO were whatever

41. See *Terms*, supra note 28.

42. VIRTUAL JUSTICE, supra note 4, at 96. For more, see Nicolas Suzor, *The Role of the Rule of Law in Virtual Communities*, 25 BERKELEY TECH. L.J. 1818, 1863–65 (2010).

43. See Wong & Kar, supra note 26; Aaron van Wirdum, *Rejecting Today's Hard Fork, the Ethereum Classic Project Continues on the Original Chain: Here's Why*, BITCOIN MAG. (July 20, 2016, 2:20 PM), <https://bitcoinmagazine.com/articles/rejecting-today-s-hard-fork-the-ethereum-classic-project-continues-on-the-original-chain-here-s-why-1469038808/>.

44. Ethereum (ETH), COINGECKO, <https://www.coingecko.com/en/coins/ethereum/> (last visited Apr. 12, 2019); Ethereum Classic (ETC), COINGECKO, <https://www.coingecko.com/en/coins/ethereum-classic> (last visited Apr. 12, 2019).

its contract allowed, then yes, it was unfair for Ethereum to change those rules and confiscate the funds the trickster drained. But if you have to ask me whether it is better for 90% of the Ethereum community to make this decision or for one virtual-world wizard to make this decision unilaterally, then I have to go with the Ethereum community. The confiscation seems more legitimate in a world where so much of the community united behind the decision. I don't know if that definitely makes it the right answer, but I should hope that makes it more palatable to the disappointed minority who disagree.

Also, if the Ethereum community itself is capable of doing this, it takes some of the pressure off the Securities and Exchange Commission and other real-world enforcers. The community can sort some things out internally and keep well-meaning participants from being too badly burned. If you look at The DAO hack from this perspective, it might even seem like a step *forward* in governance for virtual spaces—a real step towards a community of users making rules for itself. That could be an improvement over one game-development company, or one social network, unilaterally setting rules for everyone.

We are finding ways of building new and interesting participatory communities in online spaces—even if they have come in some surprising forms. I think that is something Greg would have been excited about.

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