

Bone Crusher 2.0

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Fourth Annual Greg Lastowka Memorial Lecture

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Bone Crusher 1.0

The Laws of the Virtual Worlds

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Abstract

What if you could check out of your world, and enter a place where the social environment was different, where real world laws didn't apply, and where the political system could be anything you wanted it to be? What if you could socialize there with family and friends, build your own palace, go skiing, and even hold down a job there? And what if there wasn't one alternate world, there were hundreds, and what if millions of people checked out of Earth and went there every day?

Virtual worlds - online worlds where millions of people come to interact, play, and socialize - are a new type of social order. In this Article, we examine the implications of virtual worlds for our understanding of law, and demonstrate how law affects the interests of those within the world. After providing an extensive primer on virtual worlds, including their history and function, we examine two fundamental issues in detail.

First, we focus on property, and ask whether it is possible to say that virtual world users have real world property interests in virtual objects. Adopting economic accounts that demonstrate the real world value of these objects and the exchange mechanisms for trading these objects, we show that, descriptively, these types of objects are indistinguishable from real world property interests. Further, the normative justifications for property interests in the real world apply - sometimes more strongly - in the virtual worlds.

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“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 wish.”

"A wonderful, . . . thought-provoking, insightful,
and often humorous book,"—*Jurimetrics*

GREG LASTOWKA

VIRTUAL JUSTICE

The New Laws
of Online Worlds



“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?”

VIRTUAL CRIMES

F. GREGORY LASTOWKA* AND DAN HUNTER†

Ever since creation's peaceful dawn was startled by the death cry of the murdered Abel and Jehovah placed his mark upon Cain and set him forth a 'fugitive and a vagabond,' cursed from the earth that had opened its mouth to receive his brother's blood from his hand, there has been a never-ending conflict between those who make the laws and those who break them.¹

In a recent article, we explored the emerging social phenomenon of virtual worlds and the legal issues raised by these environments.² We focused upon two primary questions. First, we asked

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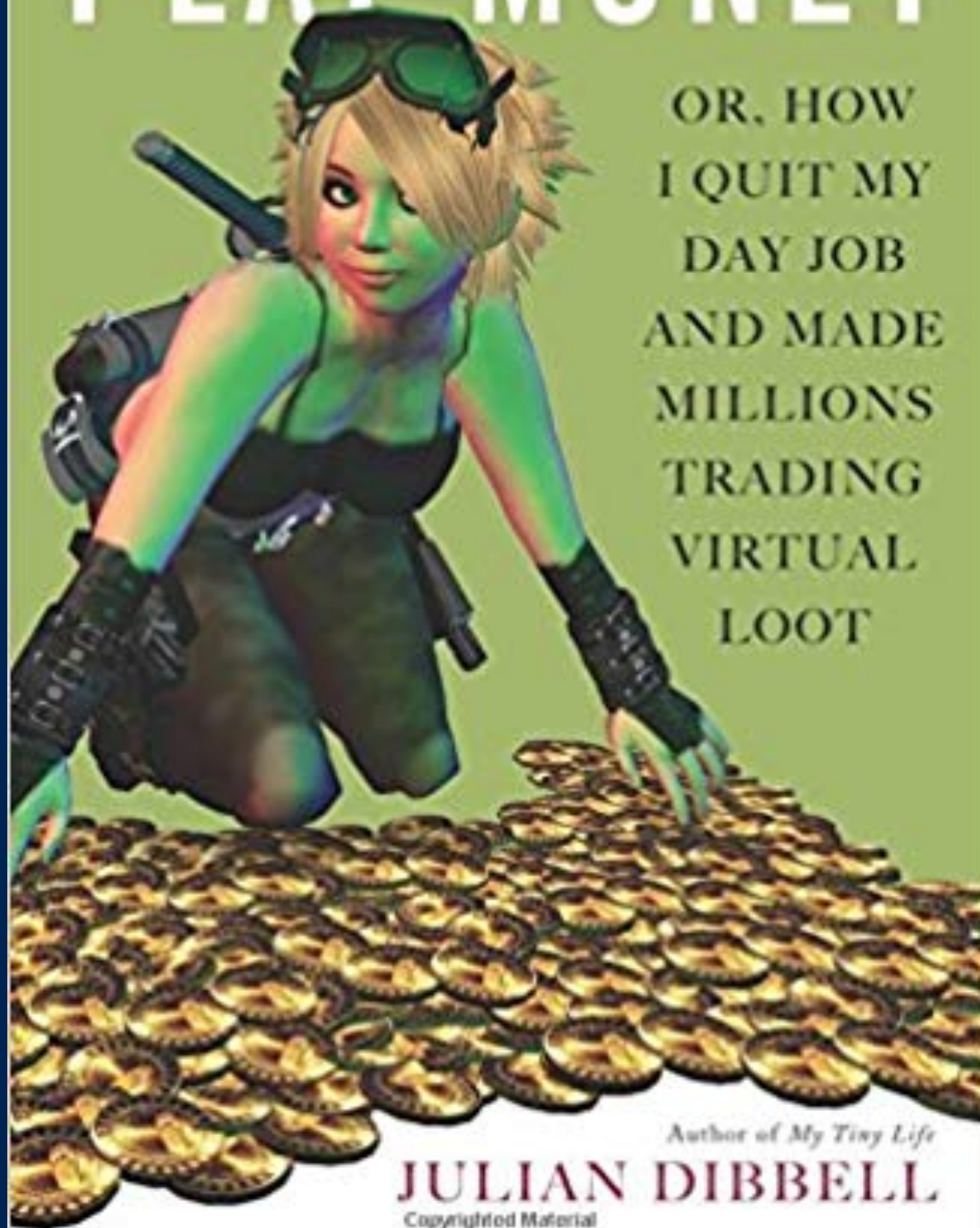
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Both authors contributed equally to this article and order of attribution was randomly determined. The authors wish to thank Richard Bartle, Ted Gastrower, Julian

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"Brilliant and beautifully written, this book makes understandable and compelling a
bizarre world that is increasingly real." —Lawrence Lessig, author of *Free Culture* and *Code*

PLAY MONEY

OR, HOW
I QUIT MY
DAY JOB
AND MADE
MILLIONS
TRADING
VIRTUAL
LOOT



Author of *My Tiny Life*

JULIAN DIBBELL

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Bone Crusher

Cursed

Weight: 17 Stones

Artifact Rarity 11

Hit Lower Defense 50%

Strength Bonus 10

“The idea that a domain name is a property interest may seem like a social fiction. But, if a domain name can indeed be ‘stolen,’ then perhaps it follows logically that a Bone Crusher mace — a similar artifact at the intersection of software, databases, and networks — should be equally capable of being ‘stolen.’ ... 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.”

Three big ideas

- (1) Virtual worlds are real communities.
- (2) Communities need laws.
- (3) Laws must reflect (virtual) reality.

Bone Crusher 2.0



THE DAO IS CODE. |

The DAO

- April 2016: The DAO begins crowdfunding for a democratic online venture capital fund
- May 2016: 11,000+ investors put \$150M+ of assets into The DAO
- June 2016: An anonymous hacker drains \$50M of the assets into their own account
- Open-and-shut theft? Or are The DAO assets “designed to be stolen” like the Bone Crusher?

The DAO's legal code

“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.”

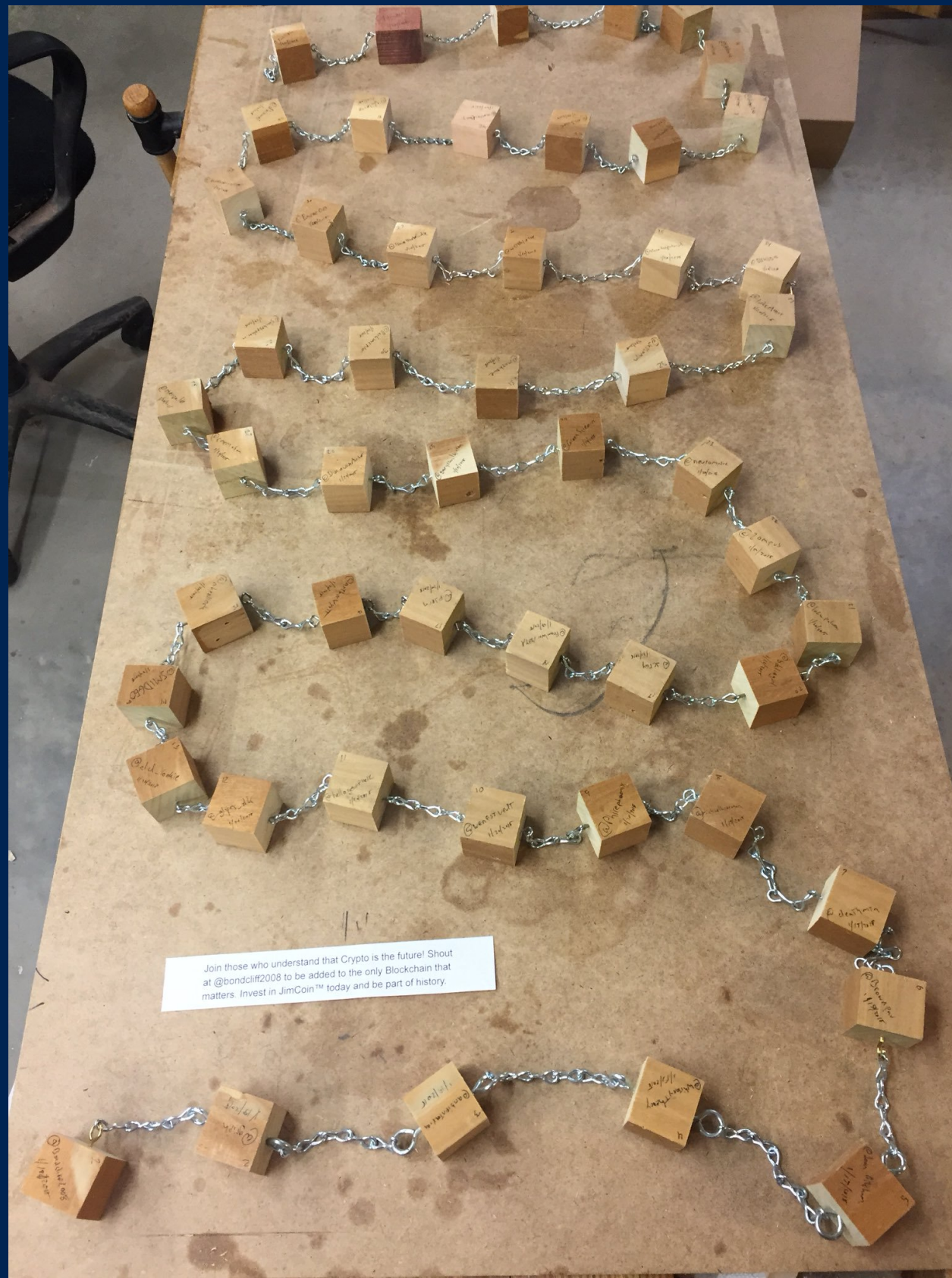
The DAO's computer code

```
246 // The DAO contract itself
247 contract DAO is DAOInterface{
248
249     // Modifier that allows only shareholders to vote and create new proposals
250     modifier onlyTokenholders {
251         if (token.balanceOf(msg.sender) == 0) throw;
252         _;
253     }
254
255     function DAO(
256         address _curator,
257         uint _proposalDeposit,
258         Token _token
259     ) {
260         token = _token;
261         curator = _curator;
262         proposalDeposit = _proposalDeposit;
263         lastTimeMinQuorumMet = now;
264         minQuorumDivisor = 7; // sets the minimal quorum to 14.3%
265         proposals.length = 1; // avoids a proposal with ID 0 because it is used
266
267         allowedRecipients[address(this)] = true;
268         allowedRecipients[curator] = true;
```

Smart contracts



Blockchains



Was the DAO hack ...

- Against the rules of Ethereum?
- Against the law?

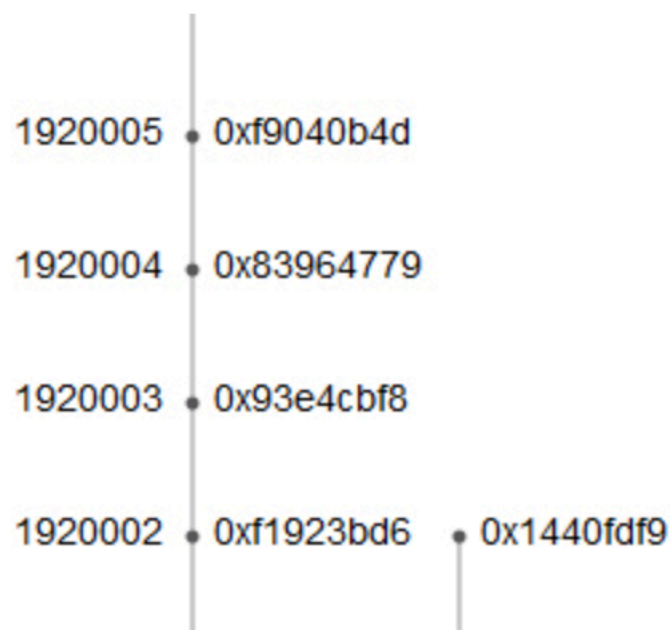
Are these even the same question?

The community response

Hard Fork Completed

Posted by Vitalik Buterin on July 20, 2016

We would like to congratulate the Ethereum community on a successfully completed hard fork. [Block 1920000](#) contained the execution of an irregular state change which transferred ~12 million ETH from the “Dark DAO” and “Whitehat DAO” contracts into the [WithdrawDAO recovery contract](#). The fork itself took place smoothly, with roughly 85% of miners mining on the fork:



Was the response ...

- ... justice?
- ... theft?

What would Greg say?

(1) Virtual worlds are real communities

- Ethereum has tens of thousands of users
- The DAO had thousands of investors
- \$150M was at stake
- Virtual controversies have real consequences

(2) Communities need laws

- The dispute is not over “rules” vs. “no rules”
- The dispute is over *which rules*?

(1) U.S. securities and computer-misuse laws?

(2) Or The DAO smart contract?

(3) Laws must reflect (virtual) reality

- Maybe ...
 - DAO tokens are property
 - But they are property governed by its code
- Where does Ethereum draw the line between playing and cheating?

Who rules the virtual world?



Terms of service

- The DAO (legal) contract purported to cut off all legal recourse for on-blockchain actions
- So do most virtual-world terms of service
- Greg: “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.”

Virtual democracy

- The hard fork to undo the DAO hack was supported by the vast majority of users
- Those who disagree have their own blockchain: Ethereum Classic
- It may not be entirely fair, but this is at least more *legitimate* than rule by game-god fiat
- And it reduces the need for the SEC to step in

Conclusion





