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Blockchains and the Ethical Considerations of Centralization

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Blockchains and the Ethical Considerations of Centralization

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-- Blockchain technology's promise is extraordinary—a truly decentralized and immutable ledger that could impact everything from cryptocurrencies and health care to supply chain management and civic voting. But a close examination of both permissioned and permissionless blockchains reveals that blockchain technology is actually moving in the direction of centralization, with small groups of people influencing decisions that affect entire blockchains. This emerging reality has profound ethical ramifications for the governance of blockchains.

My latest article, "The Influencers: Facebook's Libra, Public Blockchains, and the Ethical Considerations of Centralization," exposes the ways in which blockchain centralization is leaving important decisions to small groups of people or corporations. These blockchain "agents of influence" have more power than many blockchain proponents acknowledge. Whenever human decision-making processes are in effect, the possibility of bias, conflicts of interest, and other ethical concerns will arise. Ironically, it is exactly this type of flawed human process that the blockchain was designed to solve.

Agents of influence can be found in both permissioned and permissionless blockchains. For example, two recent events on the Ethereum platform demonstrate the influence of the small group of Ethereum core developers. The first is the infamous hack of The DAO, in which an unknown hacker discovered a vulnerability in the DAO's smart contracts and drained a third of the DAO's funds. In response, the Ethereum core developers proposed a hard fork to effectively reverse the transaction. The majority of Ethereum's miners agreed, and ultimately adopted the new version of Ethereum.

Two years later, a developer company named Parity left a bug in its smart contracts on the Ethereum platform. The bug enabled a user to accidentally take control of hundreds of wallets containing millions of dollars' worth of Ether. When the user tried to return the money by deleting the code that had created the problem, he unintentionally "froze" $300 million worth of Ether. The owners of the frozen Ether understandably argued for a hard fork to reverse this transaction. However, the Ethereum core developers decided not to do a hard fork in this case, instead electing to leave the $300 million locked.

These are instructive examples of the power of a small group of people to influence decisions on a

blockchain platform. In the first situation, millions of dollars were returned to the proper individuals; in the other, millions of dollars are still locked away. Those critical decisions were made not by math, but by people. Do the Ethereum core developers hold any biases or conflicts of interest that may affect these decisions? Without ethical standards to guide this new industry, it is difficult to say.

Similar influential decisions are occurring in permissioned blockchains, such as Facebook's Libra. Although all consumers would be able to use the Libra currency, only members of the "Libra Association" will participate in the governance and control of the infrastructure. This raises an obvious question: how can one join the Libra Association and make decisions for the blockchain? The short answer: it is not easy. Membership in the Libra Association is reserved for corporations and nonprofits that satisfy an elite set of credentials. As Libra encountered regulatory criticism in Fall 2019, several of the Founding Members left the Libra Association. Although Facebook intends to make Libra a public blockchain within five years, there is no guarantee that will occur. In the meantime, who can say what biases or conflicts of interest the corporate members of the Libra Association will bring to their decision-making, and how can that affect the blockchain?

Ethical issues exist whenever humans are involved with decision-making. As states and regulatory agencies strive to implement regulations governing blockchain technology, it is time to start talking about the ethics issues in blockchain, particularly the issues raised by humans influencing coding decisions in blockchain platforms. As a member of California's Blockchain Working Group, I am bringing these issues to the forefront of California's regulatory discussions. In addition, my article proposes the consideration of ethical codes of conduct for the blockchain industry, while recognizing that numerous challenges exist in potentially implementing such a code. As this industry evolves, now is the time to ensure that this technology is developed in an ethical manner.

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