Block-chain, DAO's, and the Futarchy Paradigm Shift

By Josh Schultz

The block-chain and Decentralized Autonomous Organizations (DAO's) are incredibly powerful ideas. If implemented correctly, they will have the power to make central banks and governments obsolete. The fundamental nature of corporations will change as well. With the block-chain we no longer need trusted intermediaries, i.e., middlemen. However, it is easy to romanticize this technology before it has even been developed and adopted; real challenges to implementation and expertise need to be addressed in order for the technology to succeed and satisfy real-world use cases.

In order to create real equity, and generational justice, we have to first get the world's poorest into an alternate banking system. We cannot kick the can down the road and saddle them with trillions in toxic derivatives and debt. The problem right now, however, is that the cost to service these users exceeds the existing financial system's profit targets.

By bringing these billions of people into an offline hardware insured, ATM exit point, and satellite/mesh network supported block-chain system the existing financial order will be forced to acknowledge their existence as real stakeholders; the legacy financial system will have to evolve, because the opportunity cost will be too great at that point for banks to do nothing. Once you get enough adoption on a financial level then you will start to see real changes in our governance models. This is the vision of Charles Hoskinson, the founder of Cardano.

In the future, administrators, boards of directors, and bylaws, will be replaced with smart contracts that ensure the needs of the community through delegated voting rights.
It doesn't mean the functions of the aforementioned actors are unnecessary; we will just have the technology to replace them in a fully democratized and trustless way. A single bad actor will no longer be able to railroad, or destroy, an entire university, corporation, or project; furthermore, they will no longer be able to pretend that their customers, students, and employees are not stakeholders. They will be held accountable to their promises, goals, and actions.

I believe that in the future, using a distributed block-chain based governance model, that domain experts will become our voting representatives. Right now, from a pure voting perspective, there is essentially no incentive for anyone to become a domain expert, aside from lobbyists.

In other words, someone with 50 years of incredible domain expertise, whether it is in health care, technology, or any other field, has a vote that counts exactly the same as a teenager who has zero knowledge in that field. The roles of people who have domain expertise will significantly change in the next 25 years. If you really trust your landlord, or neighbor down the street, because they are health care gurus then you will be able to delegate your voting rights, or a specific percentage of your voting rights, to them, and their consortium, about health-care related legislation in the future; you could still retain your voting rights for other domains, and withdraw consent at your leisure.

The way we experience representative democracy will change as block-chain becomes fully adopted in a frictionless fashion with regard to transactions per second, usability, functionality, and education. There are so many different possibilities that it is exciting to consider them. But until our financial systems and governance models change, it will prove difficult to change the major systemic issues which face us today. Furthermore, change will have to be implemented in such a way as to incentivize participation and avoid another tragedy of the commons.

Take institutionalized racism for example. We could take very simple concrete steps to help end it. Eliminate modern debtor prisons, eliminate mandatory minimum sentencing laws, eliminate civil forfeiture laws, change the relationship between police funding and citations/tickets, and lastly: require IQ tests for new police officers. Those would be some good first steps.

The problem is that there is no financial or political incentive for the people who benefit from the existing system to do any of those things because there is more short term value for existing actors to perpetuate some forms of discrimination for the political payoffs, profits, and catalyzing forces they present than to actually address the root causes of those issues. The school-to-prison supply chain is very real and discrimination is still a powerful political tool. The block-chain will help to end predatory lending for disadvantaged groups and individuals and that will help everyone transition into a new economic system.

So with new governance models we can incentivize and monetize new behaviors. But this has to be thought out very carefully in terms of a transition into a new phase of consciousness.

When people cannot have information, diversity of narratives becomes strangely dichotomous as it is both irrelevant to the masses, as any outliers can never be heard above the noise and lowest common denominator of consciousness, yet those narratives are imperative for the species' survival. We need stories, models, systems, *and perceptions*, which are out-of-the-box and truly different.

Our educational system is so outdated it has become obsolete; novel educational advancements still only exist as outliers to most of the education system. Educational institutions resisted and discounted Wikipedia as an authoritative source from its inception; ironically, Wikipedia has become a totalitarian knowledge-police space, obsessed with status quos, making a mockery of true academic authorship where scientists themselves have no authority to make changes to their

own pages without "two references" to "outside sources." Yet, for all its shortcomings, it has become a tremendous database of shared, distributed contributor based, knowledge. Khan Academy is a great example of a successful model that aggregates information from millions of students and is able to refine their coursework to accommodate outlying difficulties. Both of these systems are centralized. Interestingly, education does not seem like a space that is on the map, metaphorically speaking, for the block-chain development community as of yet. I believe it presents a unique opportunity, however. Educator John Taylor Gatto argues that the current Prussian based factory model has actually been designed to de-program higher creativity, inner vision, and intuitive insight because students were originally seen as factory-like products and education was to be imprinted upon them.

Why don't we see plants as our teachers? It is because our conscious awareness has been so relegated to an analytical space that most people no longer have the inner permission to live that experience. And when they do have entheogenic experiences, they no longer have the words to describe them because they do not understand what is happening to their inner space.

Our entire centralized framework, and the underlying consciousness that is its substrate, is unduly obsessed with entirely ineffective systems of punishment. Addiction, for example, is not a morality issue, but rather a mental health and medical issue.

We are transitioning from a tribal consciousness to a global consciousness. But I would argue that the developers and creatives who are most ahead of the curve are thinking beyond that, to a galactic, universal, and quantum consciousness; furthermore, they are actually implementing their information, observations, and experiences in real and practical ways.

Our centralized power structures and financial systems mandate that consciousness expanding, and heart expanding, experiences remain unequivocally off-the-table, because those systems depend upon a collective psychic myopia of social separation, pain, greed, unconsciousness, and emotional reactivity. We have externalized our consciousness and awareness to the point where technological changes like block-chain will force us to change whether we want to or not. That is simply because we have given up seniority over our choices, behaviors, actions, and perceptions, to technology. The revolution of change spurred by the invention of the Internet *will seem insignificant* compared to the promises that block-chain will deliver.

The aforementioned point does seem like quite a wild tangent, but is inherently integral to what the block-chain technology is attempting to replace. One of the first things that Bitcoin was used for was a marketplace for illegal substances. I think that this is less a statement about drugs and more a statement about actual free markets; the block-chain enables true freedom of choice and that means people will be forced into a higher level of personal responsibility, both to their success and detriment.

One could easily argue that we have not seen any real free markets in a very long time. When parasitic brokers and over-leveraged institutions can print the tape with naked shorts at their

whimsy and suppress prices over multi-decade timespans, (e.g., the COMEX) and the Federal Reserve can manipulate interest rates and endlessly print dollars to buy equities (i.e., quantitative easing), then you know that free markets died a long time ago.

So much of our current economic models, educational philosophies, and government policies pay lip service to the concept of equity, because the consciousness paradigm that almost all legacy institutions rely on *is a centralized power structure*, which encourages widespread disempowerment, discrimination, oppression, war, and lies in order to proliferate and profit. The beauty of prediction markets is that they *reveal truths*; however, this may be very embarrassing to traditional models of business operations. They can provide real information, and feedback, about deadlines, product developments, customers, funding, and more – feedback that does not exist in our current systems or that is relegated to pillow talk, water cooler conversations, and office gossip. Currently, management, CEO's, and board members are actually insulated from their own poor perceptions, billion dollar decisions, and mass effect assumptions. Prediction markets will help to eliminate this kind of structural inefficiency. But there is a social cost. We will have to let go of our obsessions with appearances and start valuing truth.

We have to start valuing truth more than we do lies if we want to create real equity for everyone. People have been complaining about this for a very long time. You can look back throughout history, pick any educated writer and see that they understood the political power games that were going on in their time. Only now, the systems thinkers have finally started to figure a way out of that paradigm.

That is why block-chain, smart contracts, prediction markets, and distributed autonomous organizations are going to be so transformative; they represent a greater change in the very paradigm of our consciousness and awareness. The promise is for a much better world for almost everyone.

The issue of corporate malfeasance encompasses everything from stock dilution to environmental egregiousness to outright discrimination, lies, and more. We currently have a corporate model where shareholders are considered last, if at all, and they are effectively bag holders from the start. Oil spills, nuclear disasters, and toxic products are now our shared reality. Almost no one ever mentions the concept of revoking a corporate charter anymore. The power-structures we have unconsciously internalized severely limit our perceptions and are intended to do so. I believe that by using block-chain technologies that corporations will be held accountable for their actions in the future through a variety of voting systems and rule based smart contracts.

If a CEO doesn't deliver on his/her promises then shareholders can agree to automatically pull and re-distribute additional funding through a smart contract, have the CEO replaced, and the project's terms re-negotiated. Compare that to now where a CEO can fail miserably, issue new shares, or do a reverse split, and give themselves a bonus to top it off. In the current system,

institutionalized lying, and cheating, is standard practice. It doesn't mean that cheating won't happen in a block-chain world, but the scale will be lessened.

In the future, DAO's (distributed autonomous organizations) will replace many corporations. Every centralized industry is set to be transformed and disrupted. Charities will no longer be able to operate as per usual. There will be a decentralized philanthropy market with reputational systems and complete currency/donation tracking on the user end and total bookkeeping transparency on the charity end. This will significantly limit the costs associated with raising donations and funding operations. Everyone will win.

DAOstack is currently making an evolutionary technological transition to a modularized governance system for distributed autonomous organizations. It is basically a "build your own governance system" with lego-like, plug and play, parts.

Institutions often see creative energy as a disruptive and, at worst, destructive, force. The primary institutional concern always comes down to survival at some point; this is especially true when the mandate of an organization is struggling to be fulfilled. On an institutional level, creativity is generally only allowed up to a certain point; this prevents organizations from evolving. Block-chain is already effectively cutting costs to the point where global oil producers are getting on board. I would argue that block-chain's transformative promises are so great that anyone who does not heed the coming wave of change will find themselves underneath it when it hits the shore.

The downside to the block-chain technology is that it is being developed by people who have very little domain expertise when it comes to governance or markets; they are still understanding and figuring out basic problems; many of them do not have institutional traders, policy makers, or governance experts on their teams. This is alarming to say the least; I am not talking about token advisorship, which wastes money, but, rather, real expertise.

Gnosis, a prediction market platform, is using batch order fulfillment, meaning that traditional order flow (time and sales) information will no longer be as relevant. Furthermore, the batch system makes it impossible to develop derivative markets on predictions, because there is no real-time price discovery mechanism for external sources to track in the way that they currently do for continuous trading markets; accurate settlement of prices will not be possible at the level of granularity required for institutional participation. In traditional markets batch orders are known as MOO (market on open) orders. The reason that batch orders are limited to the open is simply because price fluctuation is too great to allow them beyond that.

Furthermore, it remains to be seen whether the "price smoothing mechanism" they have developed, used to "limit manipulation" of price and liquidity pools, will also prevent large institutional players from participating. Their core developer, Alan Lu, says that, "the [kernel] smoother simply moves the price to the new value over the course of a day." I will readily admit that I am not a calculus expert, but I do know that when liquidity dries up in a traditional market

that prices can move significantly as a result; this is considered normal; options become more expensive and the opportunity to sell premium when volatility crashes is a great way to make money. My understanding is that markets are merely price matching, and order fulfillment, systems; managing liquidity itself is not in their purview. So it appears that in the case of Gnosis, a platform that looks like a prediction market, on the outside, is being developed, while under the hood something very different is happening to accommodate (i.e., protect) automated market making bots.

These concerns may seem entirely immaterial, or even juvenile detractions, until one realizes that in this future block-chain eco-system, reputation systems will be integrated and determine significant portions of our lives. How you vote in a prediction market on your company's issues will be recorded forever; lie to a lover and it may affect your reputation scores across a variety of disparate domains. How will projects like DAOstack evolve past a simple reputation system? How do we judge participants and stakeholders in different contexts? A certain reputational weighting may be relevant in one context and irrelevant, or significantly changed, in another.

The concept of heuristally instantiating artificially intelligent judgments around *values* may provide useful in determining qualitative reputation attributes and metrics. How we judge a person's actions, behaviors, or thoughts, on the merits of value of male enthusiasm is significantly different from how those same elements are judged based on female practicality, risk management, or social appropriateness; in a sense, we are only limited by our imaginations in this brave new world of technological possibilities. Reputation models will replace, or significantly augment, credit scores in the future and models that can foresee beyond trust, into psychological development models, will out win simple expectation systems.

For qualitative data management driven organizations, sometimes a person may be an organizational risk in the moment, but be a significant asset in the future. Other, long standing, members may suddenly have a "risk profile" that spikes highly for a week or two, taking them to the trust status of new (or even un-vetted) members, after which it may return to their original standings. Reputation management is a very tricky concept. People make mistakes, people change, and people grow, and publicly rating some social information can create significant conflict where none need exist. One issue is that on the block-chain nothing ever gets deleted. Furthermore, in order for DAO's to be successful they have to appeal to people other than micro-mangers, bureaucrats, and people obsessed with proposals and policies.

Economist Robin Hanson has laid the ground-work, in his "Futarchy" essay, *Shall We Vote on Values, But Bet on Beliefs?*, for a new governance model which is entirely untested and unproven; in this model, our representatives define certain metrics and prediction markets are used to determine which policies will have the most positive effects. Ethereum, DAOstack, and other projects have adopted his philosophies de-facto and are developing on them. In his world-view, domain experts cannot be trusted and prediction markets must "estimate" policy outcomes based on moving averages instead of binary options. His work is interesting and he has

developed a significant body of knowledge, which he is sharing with the world. But I also wonder: how much trading has he actually done himself in the real world? I would take his suggestions and ideas with a certain cautious ponderousness.

Early adoption of these technologies will prove to be ineffective in establishing equity for many and a number old scams that existed in the early 20th century will arise again through initial coin offerings (ICO's), modern day bucket shops, lending/interest rate scams, and poorly designed systems. In fact, many of these scams have already come to fruition. Bitconnect, Falconcoin, and 45 other "lending coins" have arisen and have stolen millions of dollars from users.

So, adoption will be limited, forked, and significant experimentation will have to occur before winning models arise. Many projects have questionable use cases and even more questionable assumptions; you have to crawl before you walk, and many of these projects are trying to run before they have even gathered enough data and research to say, "we can crawl." There is so little emphasis on education and teaching that many of these technologies are still widely unknown and in order to interact with many of them you have to be a developer or researcher. Successful projects will need to enable outreach, education, and understanding beyond their enthusiast, early adopter, userbases.

People will, and are already, trying to game decentralized systems for maximum personal profit. This includes not only participants, but founders as well. Steem, the basis for upcoming de-centralized social media platform Steemit, was founded upon fraudulent mining activity. Cryptokitties is the most successful Ethereum project to date; it is a virtual card trading platform where you buy and sell (and "breed") icons/avatars of quirky cat images. Unlike the dollar bill, there is no real "face" of Ethereum, and one can postulate that its popularity is due to the fact that it gives an identity, or image, to one's cryptocurrency.

However, the system has a clause in its smart contract system that allows the founder to shut down the project, meaning that the purchasers of the underlying digital assets (the Cryptokitties) are not actually the owners on a technical level. So we are seeing a level of faux participation in decentralization as founders are signaling their desire to maintain centralized control over their creations.

Projects like Lunyr and Steem are already being gamed and, from afar, they do not look like particularly inspiring spaces. It may not be appropriate to monetize certain activities. Monetize Wikipedia and what do you get? Incredibly spam-like, superficial, low quality articles that take us back to the days of About.com.

No one sane wants to go back to that, because it erodes quality, yet this is exactly what Lunyr is creating. They have a market cap of close to $50 million as of February, 2018. The academic journal system is in desperate need of an overhaul and there are real-world problems to address, so that all kinds of writers might be paid for their toil, yet it seems significantly easier to raise money for projects that only attempt to address issues in a superficial fashion.

Many existing developers are trying to create new spaces without addressing, communicating with, or even acknowledging, existing stakeholders in archaic, but functional, centralized systems. They then expect those stakeholders to transition to their new, unproven, untested, systems without question. This level of naiveté is quite astounding, and even, dare I say, rude, and ignorant.

For the average investor this can sometimes be a difficult space to navigate, because attempting to ascertain stated goals as real or spurious is necessary while one simultaneously understands that network effects may outweigh stated goals on such a scale that short-term profitability is guaranteed.

Furthermore, in a world of DAO's, governance models will have to be carefully designed so as not to legalize, or legitimize, conspiracies. In other words, there will have to be disincentives to game reputational systems or property ownership ledgers so that communities do not create conspiracies against individuals they would like to discriminate against or steal from. The fact that data is stored on the block-chain permanently also presents certain challenges from a programming, implementation, and social perspective.

So many people have been disenfranchised for generation after generation that it has deeply influenced humanity on a sub-conscious level. Centralized power systems are all around us; yet they have not worked. All we have to do is look at the last few thousand years to conclude that we are not spiritually, emotionally, or mentally mature enough to handle that power in such a way where everyone has equity and is honored as a stakeholder. But now we are on the cusp of a collection of incredible decentralized systems that promise to change our educational models, health care system, governance models, and financial systems for the better. It is an exciting time to be alive and participate in this change.

Most of the developers of these block-chain driven systems are hard-core atheists; very few of them have had heart expanding experiences where they come to realize themselves as totally whole and connected with the universe. Their core blind spot is actively creating a system in which people with the most predictive and intuitive power will be the most profitable. Business insiders, professional psychics with proven data driven models (currently limited to private ARV communities), and smart traders will succeed. The transition to a global consciousness will be interesting to say the least.

Thinking out of the box means seeing the world, and ourselves, in a completely different way; it means taking the risks to do that in an open and honest fashion. It means understanding the economic and social incentives behind our behaviors, actions, and perceptions. It means seeing past the systems you build into how people will actually use them, being willing to admit when you are wrong, and being willing to experiment. And it also means understanding that at any level of awareness there is always a higher level of wisdom and intuitive insight. And lastly, it means taking practical action to see your desired changes propagate in the real world.