Constitutionalizing Global Governance:
Exploring the Practicality of Territorially Unbounded Democratic Consensus Mechanisms in the Digital Age

Kashif Azam | ka1568@nyu.edu

B.A. Global Liberal Studies & History, 2019 | New York University, New York

M.A. International Relations, 2020 | New York University, New York

International Economics and History Intern, David Rockefeller Studies Program | Council on Foreign Relations

Abstract

There is a distinct lack of democratic governance in our contemporary era. In this paper I develop a mechanism to overcome this democratic deficit. 'The Cryptostate' is an amalgamation of primordial democratic theory and recent technological advancements. By combining democratic principles with distributed ledger technology, we can create a decentralized, transparent, governance framework in which various groups—societies, ethnicities, or nations—can communicate, coordinate, and enfranchise all affected members. Never before in human history has it been technologically feasible to create such an entity. In this article, I demonstrate that not only can such a state exist, but that in the face of our ongoing technological and global upheaval, it must.

Keywords

Cryptostate; Blockchain Technology; Direct Democracy; Decentralized Institutions; Nation States; Global Governance; Universal Enfranchisement; Accountability

The rapid spread of the internet has facilitated unprecedented levels of interconnectivity between states in the global economy, while advances in machine learning and robotics are on the precipice of making human labor—both physical and intellectual—obsolete. New technologies have created incredible opportunities for progress, but if not managed properly, these innovations could instead cause great harm. The institution responsible for regulating the massive transformations of our age—the nation-state—has mismanaged, failed, or otherwise been unacceptably slow to respond to the needs of its populace.[1]

Chief among these shortcomings is an increasing global democratic deficit. As things stand, a nation-state is only responsible for maintaining the well-being of a limited demographic (its citizenry), often at the expense of the voices and needs of the rest of humanity. At the same time, the ideologies and structures that govern the international realm are apathetic toward the will of the people. The tension between these planes has caused many to feel powerless against the forces of globalization—fostering resentment all over the world. Whether due to rising domestic unemployment or the enabling of exploitative practices by foreign corporations, critiques of contemporary governance structures have been growing steadily.

The most straightforward solution to a democratic deficit would be to introduce more democratic institutions, or increase the depth of existing institutions; however, critics of such solutions are quick to cite the enormous difficulties—both technical and theoretical—in reforming governance structures. In this article, I propose a framework of governance, based on direct democratic participation, that can overcome the many barriers of traditional reform. 'The

---

[1] Calls to modernize the technological and socio-economic aspects of governance frameworks have become more prevalent in recent years. Furthermore, reactionary populism, aimed at undermining increasing global integration, has gripped nations irrespective of cultural or economic distinctions. These demonstrations have been labeled anti-globalist by some, but a closer analysis reveals that the protests are not directed at globalization per se. Rather, these protests are targeting the political and economic disenfranchisement caused by a specific brand of globalization: neoliberalism. There is a vast wealth of literature on the impact of neoliberal globalization. For a general introduction see Verity Burgmann, *Globalization and Labour in the Twenty-First Century* (London: Routledge, 2016).

Cryptostate' is a governance structure that addresses these fundamental limitations. It is an amalgamation of primordial democratic theory and recent technological advancements. By combining democratic principles with distributed ledger technology, we can create a decentralized, transparent governance framework in which various groups—societies, ethnicities, or nations— can communicate, coordinate, and enfranchise all affected members. Never before in human history has it been technologically feasible to create such an entity. In this article, I demonstrate that not only can such a state exist, but that in the face of our ongoing technological and global upheaval, it must.

This article provides an overview of the various political apparatuses required to maintain the day-to-day functioning of the Cryptostate. While blockchain technology plays an essential role in implementing these institutions and mechanisms, we avoid discussing it in detail for the sake of clarity and brevity.[2] Mechanisms and institutions form the backbone of government, but before creating any such institutions, we need to define precisely what we need our institutions to do.

The Cryptostate relies heavily on direct democracy, so the first order of business is to design a democratic decision-making mechanism, preferably multiple mechanisms for different kinds of decisions (e.g., economic, social, political). Next, we need institutions to ensure that these decisions are faithfully executed. It is one thing for a government to make a decision, but another to implement it successfully. It is also imperative we ensure that too much power cannot be consolidated in any single institution, and for this purpose, we need an institution dedicated solely to assessing and securing the integrity of other institutions. Today, most nation-states attempt to curtail power accumulation by separating their institutions into one of three branches of power:

---

[2] For an introduction to the potential implementation of blockchain technology, see Primavera De Filippi, and Aaron Wright, *Blockchain and the Law: The Rule of Code* (Cambridge: Harvard University Press, 2018), https://doi.org/10.2307/j.ctv2867sp.

the legislative, the executive, and the judicial.[3] We will adopt a similar division in the Cryptostate, although there is no reason to limit ourselves to three branches. Finally, should the need arise, we need a mechanism to facilitate the use of executive powers—preferably via a committee rather than any single individual.

A Hierarchy of Administrative Authority

The Cryptostate features a highly decentralized administrative bureaucracy. The highest tier of government encompasses all citizens of the State, whereas the lowest—tentatively named 'the community'— encompasses between fifty and one hundred (so that at any given time any number of people can be divided into appropriately sized communities). The population of the Cryptostate could—and almost definitely will—vary tremendously over its lifespan, so the number of administrative tiers must adjust accordingly. If the total population of the Cryptostate is two hundred people, there will be an upper administrative tier consisting of two hundred and a lower administrative tier consisting of between fifty and one hundred each. If the total population of the Cryptostate explodes to ten billion (Figure 1), then the highest tier will include all ten billion, and the lowest will still have between fifty to one hundred people. The only difference is that, in this scenario, the Cryptostate will have eight intermediate tiers.

The divisions between the tiers are based on two metrics: the first is the total population (lowest tier has to consist of between fifty and one hundred people), and the second is the ratio of sub-units to a unit. For example, in Figure 1, we see that the Global tier consists of five Continental tiers. Each Continental tier comprises twenty Regional tiers. Every Regional tier is made up of ten

---

[3] "Separation of Powers and Checks and Balances," Cornell Law School, Legal Information Institute, accessed April 18, 2019, https://www.law.cornell.edu/constitution-conan/article-1/section-1/separation-of-powers-and-checks-and-balances.

Divisional tiers, which, in turn, consist of one hundred Provincial tiers each. This numerical sequence: 1,5,20,10,100, is designed to mimic the jurisdictional divisions of our nation-state system. For example, in the ten billion citizens scenario, we would see two billion people per Continent, four hundred million people per Region, and twenty million people per Division. The Regional population mirrors that of a large nation-state, whereas the Divisional population resembles a sub-

Total Pop/ Unit	# of Units/Per Preceding Unit	Total Units	Total Pop.	Level (Unit)
10 B	N/A	1	100%	Global
2 B	5	5	20%	Continental
400 M	20	100	5%	Regional
20 M	10	1,000	0.5%	Divisional
2 M	100	100,000	0.005%	Provincial
20,000	5	500,000	0.000002%	Principality
4000	5	2.5 M	*Insignificant*	County
800	5	12.5 M	*Insignificant*	Municipality
50-100	10-20	~125 M	*Insignificant*	Community
25	*N/A*	8	*N/A*	Executive

Figure 1: Visualization of the hierarchy of administrative jurisdictions in the Cryptostate (assuming a population of ten billion).

division inside that nation-state. The Provincial level (of which there are one hundred per Region) is the lowest tier of government with control over its autonomous maintenance apparatus (a judiciary, police, etc., see Figure 4). Once we delve below the Provincial level, the sequence of sub-division conforms to a simple but scalable: $5,5,5,x$ sequence, with x representing the number of divisions required to arrive at a Communal population of fifty to one hundred.

The primary motive behind the fifty- to one hundred-person limit at the Communal tier is social cohesion. A small population would ensure that all members of the community know each other personally, which would foster social cohesion, cultural familiarity, and aid conflict mediation. This limit gives communities a degree of autonomy that is not shared by any other tier of government, and access to Social Institutions. Social Institutions, also called Societies, are semi-

autonomous governance networks that are not administered by government officials.[4] They are voluntary organizations with their own rules and customs.

A Community can choose to associate with any Society, but no Province, Region, or Continent could. This ensures that no Society has official representation on higher tiers of government, and it also increases the likelihood for disgruntled individuals to find alternative Communities to join. For example, two hundred people live in a rural town, and eighty-five people want to join an Orthodox Christian Society, one hundred people do not want to join any Society, and twenty people want to join an Islamic Society. The town would consist of between two to four (either four groups of fifty, or two groups of one hundred) communities, of which one would join the Orthodox Christian Society while the three others would be neutral (as the Islamic population is too small to form an exclusive community).[5] One of the biggest critiques of a multi-ethnic government is that over time it will erode the identities of minority groups, and the Social Institution framework is an attempt to address that.[6] While Societies maintain a high level of local autonomy, they must all be registered with the government, and adhere to all stipulations in any Bill of Rights, or other regulation passed at the Global level.

---

[4] To clarify, delegates to the Representative Assemblies can hold dual positions in Social Institutions; however, their obligations as a Representative is in no way related to their obligation as a member of a Society. Thus, it is possible for members of a Society to occupy roles in government, but they cannot officially extend their Societal norms to the greater populace (even if one hundred percent of the jurisdiction subscribes to the same Society).

[5] Some may object to the fact that the twenty Muslim citizens are not allowed to profess their beliefs officially, but this restriction is a deliberate decision aimed at promoting some degree of conformity. In most cases, there will always be alternative Communities nearby for a citizen to join, but in the case that there is not (suppose in an extremely rural area), then it is vital that the Community share a common bond.

[6] In a nation-state framework, this fear has merit; however, history shows us that multi-ethnic states can prosper without eradicating cultural minorities. A state's identity is a vital source of legitimacy, and a state is likely to prevent anything that erodes this legitimacy. Thus the idea that minority identities will be eradicated is much more credible if the legitimacy of the government is tied to a specific identity. The Cryptostate is built on the principles of equity, transparency, and accountability. Additionally, the Cryptostate will have certain universal protections—clarified in a Bill of Rights—to protect against such erasure, but for the most part, the creation of Societal rules will be left to the jurisdiction of the various Communities.

The Community is also the lowest tier of direct democratic government. Extremely localized issues, such as whether to instill a curfew, will be settled by a Communal vote. Communities must also elect Representatives to the Municipal Councils, and serve an important role in helping citizens develop statesmanship. For individual citizens, the right to vote on issues depends on the relevant jurisdiction of the issue. As a rule, one can vote 'up,' but not 'across.' Individuals in Community x can vote on issues concerning community x, but not community y. Similarly, citizens of Communities x and y can vote on issues concerning their shared municipality a, but not their neighboring municipality b. The voting principle continues in this manner—up but not across—until the global tier, where every individual is entitled to vote.

Decision Making, Nominating, & Petitioning

We have already established that citizens of a particular jurisdiction can vote on any issue relevant to their jurisdiction, but how is relevance determined? To answer this question, let us follow a hypothetical issue X. First, issue X must be submitted as a proposal through either the Petition Process, a Representative Assembly, or—in rare cases—the Executive Assembly. Depending on the method of proposal, issue X will have different thresholds and qualifications required to be officially nominated. However, regardless of the method of proposal, the final verdict will be decided by a direct referendum.

The Petition Process

For example, a petition aimed at banning litter would be submitted to the Electoral Jurisdictional Authority [EJA][7] which could decide to implement it on a Provincial level. First, the petition would need to be passed in referendums on the Communal, Municipal, County, and Provincial levels. If throughout this process the petition averaged a one percent turnout, then the EJA might decide that an official vote would need a ten percent turnout to be valid. If, however, the petition was controversial or engaging and received a high thirty percent turnout, then the EJA could decide that the official vote would need a sixty percent turnout to be valid. The EJA's rationale behind their decision will be published alongside the announcement of the official vote. Should the citizenry feel that the requirements are unjust, they are entitled to appeal the decision to the Court of Voter Appeals. However, in order to be considered, the appeal would need to be supported by at least twenty percent of the prescribed voter turnout requirement (to demonstrate a significant opposition to the EJA verdict). The petition system ensures that, with sufficient support, any proposal can be nominated for a vote; however, the EJA's restrictions ensure that any proposal brought to an official vote has the support of the relevant jurisdictional governments and sufficient turnout.

The Representative Assemblies

An alternative method to bring an issue to vote is through the Representative Assembly. Representative Assemblies are present on every tier of government, and Representatives are elected using a direct democratic vote. The Assemblies are Deliberative Institutions (Figure 2), and as such do not have any decision-making powers. If a majority of Representatives at an

---

[7] Alternatively, the citizens can attempt to nominate the petition again, and it would likely be reviewed by a different set of individuals.

METHODS OF NOMINATION		
THE EXECUTIVE COMMITTEE	THE REPRESENTATIVE ASSEMBLY	THE PETITION PROCESS
- Only accessible to members on the executive committee (on the Global level). - Not subject to jurisdiction relevance requirement set by the EJA - Subject to voter turnout requirement set by EJA.	- Accessible on all tiers of government, but only by acting representatives. - Subject to the jurisdictional relevance requirement set by the EJA. - Not subject to the voter turnout requirement set by the EJA	- Accessible on all tiers of government, by all citizens. - Subject to both the jurisdictional requirement and the voter turnout requirement as set by the EJA - Can **appeal inappropriate** EJA judgement to independent court.

Figure 2: The three methods through which an issue can be nominated to a vote.

Assembly support a nomination,[8] then the issue is submitted to the EJA for review before an official vote.[9] However, unlike with the petition process,

any Representative Assembly nomination is only reviewed for jurisdiction applicability, and not assigned a voter turnout requirement. While Representative Assemblies do not have any decision-making capabilities, they do have the ability to bring issues to a vote without a turnout requirement. This is because all Representatives are democratically elected and have an implicit mandate from their electorate, so a vote passed in an Assembly theoretically has the turnout of everyone in the jurisdiction.[10]

A Representative Assembly can only nominate an issue that exclusively concerns its jurisdiction, but if an issue concerns overlapping Assemblies—e.g., a highway spanning multiple Provinces—then the matter is referred to the next tier of government—in the case of Provinces, this would be a Regional Assembly.[11] However, if the same proposal is nominated through the

---

[8] For an issue to be successfully nominated through the Representative Assembly system it must first reach a fifty-one percent approval rating in the relevant jurisdictional Assembly.

[9] Importantly, jurisdictional governments are not allowed to vote on issues that concern other jurisdictions. Such matters are deliberated in the Assembly of the next tier of government.

[10] However, Representatives only receive one actual vote in any official election.

[11] It is worth noting that the Regional Assembly includes Representatives from many non-affected provinces as well, and as such has a higher probability of being stalled or dismissed.

Petition System, then the EJA would specify select relevant jurisdictions and only grant voting rights to citizens in said affected jurisdictions. This creates a framework where local disputes are easier to address using the petition system, while more universally relevant issues are easier to nominate through the Representative Assemblies.

The Executive Committee

The final way to bring an issue to a vote is through the executive method.[12] The Executive Committee is the only body in the Cryptostate's governance apparatus that is capable of making decisions without a democratic vote. The Committee's primary function is to make decisions in the case of emergencies, but it also has the authority to nominate issues that affect the entire Cryptostate. Unlike with Representative Assemblies, any vote proposed by the Executive Committee is assigned a turnout requirement by the EJA. Thus, the Executive method is best for issues that require a certain degree of urgency or are at the forefront of people's consciousness.

The rationale for having varying requirements for the different methods of nomination is to account for the potential fringe use cases of these methods. For instance, the Petition Process requires some degree of moderation because all citizens in the Cryptostate, regardless of age, are entitled to a vote. Many modern democracies simply deny children the right to vote; however, that is not necessarily the best approach, as it does not give children exposure to the political process, and reinforces the idea that democratic rights can be curtailed for those deemed unfit. Instead, in the Cryptostate children are exposed to the realities of political life, theoretically from birth.[13]

---

[12] The Executive Committee is discussed in detail in the Executive Institutions section of this article.

[13] It is very likely that children will vote similarly to their parents, but they are nonetheless being educated in democratic practices. This exposure will also play a vital role in developing a tolerance to voter fatigue.

If two children submitted a petition each, one to prevent littering in schools, and another to make ice cream free, then it would be wrong to claim both children are unfit to participate in the electoral process (as one displays a degree of maturity). At the same time, it would be arbitrary to discard the petition for ice cream but keep the petition against littering, as the basis for that decision would be personal preference. In the Cryptostate, such a dilemma would be addressed via the all affected interests principle. Both petitions affect more people than just the children, but it is entirely possible for both petitions to pass while flying under the radar due to low voter engagement. This is why the EJA must assign a voter turnout requirement. If, in a city of two hundred, both petitions passed with twenty votes, then it would hardly be accurate to describe them as representative. However, if the petitions passed with twenty votes each, and then the EJA determined that one needed one hundred votes to succeed, and the other needed eighty (taking the all affected interest principle into account), then the result of the subsequent election would be considered representative. So the open-ended nature of the Petition Process is counteracted by the turnout requirement. Similarly, the lack of consensus required for the Executive Committee method is counteracted by a voter turnout requirement. The Deliberative Assemblies feature a certain level of both consensus and voter engagement and are thus the most efficient method through which to nominate legislation.

Dynamic Geographic Governance

The Dynamic Geographic Governance [DGG] framework is a dynamic algorithm that automatically rearranges citizens into communities. The DGG is built-in to the Passport of a citizen and parses through information—weighing a variety of factors such as location, kin, age, sex, ideological preferences, etc.—to divide individuals into Communities that share an ideological

identity.[14] The fifty to one hundred range for a Community ensures that any reasonably dense population center will have an abundance of Communities into which citizens can be sorted.[15] The plethora of options will ensure that various groups can preserve their cultural or religious identity; however, it also allows for situations where a minority population is forced to join the majority, but as mentioned earlier, this is to foster communal cohesion.[16] The DGG is integral to maintaining the high autonomy and flexibility required by the Cryptostate on the Communal tier. Without the DGG we would be forced to create static Communities, which would make it both challenging and complicated to adjust to migration or population growth.

Additionally, because a Community can only associate with a non-geographic Society (see Fig 4.) via a supermajority consensus, the DGG functions as a community-building tool (as over time members of the Community will come to embrace that identity over others). Societal disputes over jurisdiction are settled by the Social Institution Regulation Authority, while the Judiciary settles disputes over the rules and regulations of a particular society. Decision making within Social Institutions will function independently of the EJA, as the exact mechanisms through which this is done will be left to the discretion of each Society.

The Four Branches of Government

---

[14] The DGG will never be a perfect algorithm and there will always be individuals that are discontent with their allocated Community. In such cases, citizens can signal their dissatisfaction to the DGG so that they are prioritized for reassignment at the next update phase.

[15] The DGG updates Community assignments every twenty-hour hours, to incorporate new members of the Cryptostate, or to reassign discontent members. Communities that reach one hundred members will not be included in the reassignments unless someone within the community wishes to leave. There are already sophisticated match-making algorithms employed in the video game industry that can be re-appropriated for the DGG's purpose. For an example of such an algorithm, see: Sharad Agarwal and Jacob R. Lorch, "Matchmaking for online games and other latency-sensitive P2P systems," *ACM SIGCOMM Computer Communication Review* 39, no. 4 (2019): 315-326, https://doi.org/10.1145/1592568.1592605.

[16] For example, if a rural community of eighty people has a thirty/fifty split regarding which community they wish to join. The thirty individuals would be forced to assimilate, find twenty more members to create their community, or move to join another community.

The numerous institutions in the Cryptostate can be divided into four categories: executive, functional, deliberative, and regulatory. The reason for this was briefly mentioned earlier, but to reiterate: the Cryptostate is designed to include all people on the planet, and as such it is imperative that no single actor—or clique—can seize power. Thus, the Cryptostate features many anti-corruption mechanisms,[17] democratic decentralization, and a strong distaste of tyranny. In this

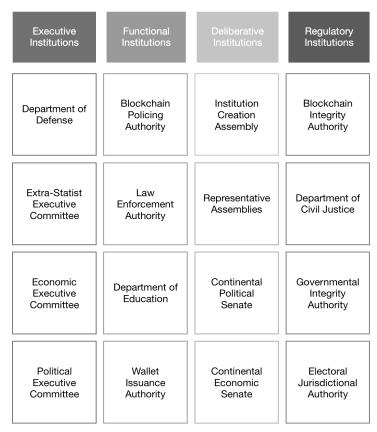| Executive Institutions	Functional Institutions	Deliberative Institutions	Regulatory Institutions
Department of Defense	Blockchain Policing Authority	Institution Creation Assembly	Blockchain Integrity Authority
Extra-Statist Executive Committee	Law Enforcement Authority	Representative Assemblies	Department of Civil Justice
Economic Executive Committee	Department of Education	Continental Political Senate	Governmental Integrity Authority
Political Executive Committee	Wallet Issuance Authority	Continental Economic Senate	Electoral Jurisdictional Authority

Figure 3: Preliminary sketch of the Cryptostate's four institutional categories, and the various institutions within the categories.

section, I will discuss the differences between the four branches and briefly outline the specific institutions within each category. As it would be impractical to describe the minutiae of each institution, I will instead emphasize the general purpose they serve in the broader framework.

Executive Institutions

The Executive Branch of government concerns institutions that have a decision-making capacity beyond conventional means. Direct democracy is wonderful, but it is not necessarily time-efficient, and in time-sensitive situations, the executive institutions have the power to direct state

---

[17] The most important, and effective, of these mechanisms is the blockchain. See Fred Steinmetz, "Using Blockchain Technology for the Prevention of Criminal Activity," *The Money Laundering Market: Regulating the Criminal Economy*, ed. Killian J. McCarthy (Agenda Publishing, 2018): 199-222, https://doi.org/10.2307/j.ctv5cg8z1.11.

policy—albeit for a limited period. The four institutions that make up the Executive are the Department of Defense [DoD], the Extra-Statist Executive Committee [ESEC], the Economic Executive Committee [EEC], and the Political Executive Committee [PEC]. The Department of Defense is an umbrella institution for the various non-domestic instruments of violence at the Cryptostate's disposal. Conceptualizing a coordinated self-defense apparatus in a society as decentralized as the Cryptostate is a serious challenge, and one possible method to reduce the difficulty of such a task would be to leave the Department of Defense centralized.[18]

That being said, the flexible nature of the Cryptostate's jurisdiction would make violent action against it impractical. This is because the Cryptostate is capable of existing in our present national framework. Individuals opt to join the Society, so if a hostile actor wanted to target the Cryptostate through material destruction, then it could only do so by sabotaging its own infrastructure or persecuting its own citizenry. While this is certainly possible, the Cryptostate is essentially just an idea and code. Theoretically, any individual with access to the internet could create their own Cryptostate. The value of the Cryptostate depends entirely on the value of its economy—the goods and services that its citizens have access to, the number of people the Cryptostate provides a livelihood for, and the general welfare of its population. What makes the Cryptostate valuable is its citizens, so the only meaningful way to attack the Cryptostate would be to ban all individuals from associating with it (which can certainly be done, but requires a lot more effort that could be completely undermined by creating another Cryptostate to take its place). Of all the institutions we will discuss, the DoD is the least developed—so much so that the original draft of the Cryptostate did not even feature it.

---

[18] A risk of centralizing the defense apparatus is that of a military coup; however, such an event is unlikely for the same reason that a foreign invasion is unlikely. The Cryptostate is not tied to physical locations, and the only way to attack it would be to attack all its citizens. At the same time, without the citizens, the Cryptostate has nothing of value to any potential aggressor.

In addition to the DoD, the Executive Branch features three executive Committees, one for regulating political affairs, one for regulating economic affairs, and one to function as a diplomatic corps. These committees are made up of twenty-five Representatives, five from each Continent, elected via Single Transferable Vote [SVT].[19] The Committees are the only institutions in the Cryptostate that can make decisions without requiring the public's consent. Should an emergency arise, the appropriate Committee can choose to enforce policy for three months at a time, but at the end of the emergency period, all Representatives are required to resign, and new elections are held. Furthermore, the old Representatives are barred from holding office for the next twenty-five years. These restrictions are intended to disincentivize the abuse of emergency powers. If no emergency arises, then each Representative to an Executive Committee serves a twenty-five-year term. All other Representative offices in the Cryptostate only serve four-year terms, but the Executive Representatives serve longer terms to balance any short-termism in the Representative Assemblies and to promote long-term planning at the macro-scale.

Of the twenty-five seats in an Executive committee, one is re-elected each year. This is to counter any potential disconnect—caused by the longevity of a Representative's term—by providing an avenue through which to register shifting public sentiments. For example, if a citizen were elected to the ninth seat of the Economic Executive Committee, then they would see one of their fellow Representatives replaced every year until, in twenty-five years, they would vacate their own seat. If the Committee declared an emergency, then they would need to vacate their seats

---

[19] "We give evidence that Single Transferable Vote (STV) is computationally resistant to manipulation: It is NP-complete to determine whether there exists a (possibly insincere) preference that will elect a favored candidate, even in an election for a single seat. Thus strategic voting under STV is qualitatively more difficult than under other commonly-used voting schemes. Furthermore, this resistance to manipulation is inherent to STV and does not depend on hopeful extraneous assumptions like the presumed difficulty of learning the preferences of the other voters. We also prove that it is NP-complete to recognize when an STV election violates monotonicity. This suggests that non-monotonicity in STV elections might be perceived as less threatening since it is in effect "hidden" and hard to exploit for strategic advantage." See John J. Bartholdi and James B. Orlin, "Single Transferable Vote Resists Strategic Voting," *Social Choice and Welfare* 8, no. 4 (1991): 341-354, https://doi.org/10.1007/BF00183045.

immediately (and would be barred from all offices for another twenty-five years). If a Representative passed away or resigned, then elections would be held immediately, but the replacement Representative would only serve for the duration of their predecessor's term. Representatives to the Executive Committees are elected exclusively by voters from their respective Continents, and the only eligible candidates are those that hold (or have held) a position in their respective Continental Assembly.

When designing a government, any entity with executive power has the potential to be abused, yet our current political institutions are filled with such institutions. In most states, even elected Representatives have very little accountability once in office. It would not be unreasonable to suggest that a significant factor behind people's fear of any global government is the assumption that the political institutions of that government would be similar to those currently in use. The staggered election cycles, contingent emergency powers, and lengthy term limits are all unique characteristics to the Cryptostate's Executive Branch, and these features were designed to limit the ability of malicious actors to exploit the system.

Deliberative Institutions

The Deliberative Branch of the Cryptostate is composed of representative institutions with the authority to nominate issues to a vote. This includes the Representative Assemblies of all levels of government, and purpose-specific Assemblies such as the Institution Creation Assembly, the Political Continental Senate, and the Economic Continental Senate. Elections in the Representative Assemblies are conducted using the Single-Transferable Vote system, and the candidacy pool at the upper levels are restricted to those that served previously on a local government—to ensure familiarity with candidates as well as to reduce the number of potential candidates. Members of

Representative Assemblies serve four-year terms and can only serve two terms. The number of Representatives at the Assemblies of each tier of government varies based on the total population of the Cryptostate, but generally, the number of Representatives per tier increases until the Provincial level, at which point it stagnates at five hundred Representatives per unit.[20]

If there are insufficient candidates to fill all positions, the seat is considered an absentee in any votes and thus does not count toward the required majority votes needed to nominate an issue. Theoretically, the Cryptostate would allow an individual to spend most of their lives in various public offices so long as they continue to change offices and have the support of their constituents. For example, a citizen could serve in the Community Assembly to become an eligible candidate for office on all other Representative Assemblies. They could then go on to serve in the Municipal Assembly for a term, or go directly to the Continental Assembly. The citizen's only limitation would be the term limit per Assembly.

As discussed earlier in this article, the Representative Assemblies do not have decision-making powers, so their primary role is to nominate relevant proposals for a public vote. However, one should not underestimate the influence of these offices, as the Assemblies are the only institution that can bypass the voter requirement for nominations and are thus far more likely to pass legislation than via the petition system. These Assemblies make up the bulk of the Cryptostate's deliberative apparatus, but there are three others: Continental Senates (economic and political) and the Institution Creation Assembly [ICA].

The Continental Senates are divided into political and economic branches. Each branch has five hundred Representatives—one hundred delegates from each continent—and, unlike the

---

[20] The total number of Assemblies could vary, but the number of Representatives would not. For example, there could be a total of 100,000 Provincial Representatives and 1000 Continental Representatives, but there would still only be 500 Representatives per Assembly.

Representative Assemblies, Senators can only be elected from current or former Continental Assembly Representatives (similar to the Executive Committees). The Senate is tasked with addressing economic or political issues that affect multiple Continents, and functions as a deliberative equivalent to the Executive Committee. However, unlike the Executive Committees, the Senates retain the privilege of nominating issues without a voter turnout requirement.

The final institution in the Deliberative Branch is the ICA. The ICA is structurally identical to the Senates in all respects except two: first, the ICA's mandate is exclusively concerned with designing various supplemental institutions to address the changing needs of the Cryptostate; and second, the ICA's electoral pool is open to all citizens. The ICA and the EJA are two institutions that need to draw heavily on the expertise of academics or industry professionals. This is similar to the lobbying mechanism in the United States; however, the potential for corruption or abuse is severely negated by the fact that neither institution has the ability to make decisions. While the ICA is explicitly tasked with creating new institutions, other Representative Assemblies, Executive Committees, and petitions are allowed to do so as well.

Functional Institutions

The Functional Branch of the Cryptostate is composed of institutions that enforce and enact the decisions made by the Executive or Deliberative Branches. Thus, the institutions in the Functional Branch will expand and contract to accommodate the actions and institutions created by the Deliberative Branch. The functions and structure of the Functional Institutions vary tremendously, but they are all held accountable by an Oversight Committee of Representatives at every tier of government. These committees are composed of delegates assigned randomly from the Representative Assemblies. The Oversight Committee functions as a legislative liaison

between the institution, its members, and the government. They have the authority to alter institutional directives temporarily, suggest permanent changes to the ICA, and reprimand abuses of office (provided they have a warrant).

Functional Institutions operate on every level of government down to the Provincial level, but not below. So the Community, Municipality, and County governments are all dependent on the Provincial Functional apparatus. This is mostly for practical reasons, as it would be very challenging to coordinate, supply, and oversee day-to-day affairs for these services on a local level. In its current iteration, the Cryptostate features four Functional Institutions: the Blockchain Policing Authority [BPA], the Department of Education [DoE], the Wallet Issuance Authority [WIA], and the Law Enforcement Agency [LEA]. The DoE and LEA are equivalent to our contemporary police and educational institutions. Education is the cornerstone of any democracy, and while specific directives are out of the scope of this article, it is worth mentioning that educational infrastructure, whether teachers or equipment, will be the first focus of the Job Guarantee Program.[21]

On the other hand, the BPA and WIA are institutions exclusive to the Cryptostate. The BPA's primary responsibility is to monitor the numerous blockchains used by the Cryptostate. Attempts at deceit, unauthorized government spending, suspicious transfers of money, and suspicious voting activity, are all activities monitored by, and subject to the inquiry of the BPA.

---

[21] For a discussion on specific recommended policies, see Pavlina R. Tcherneva, "The Job Guarantee: Design, Jobs, and Implementation," Levy Economics Institute, Working Papers Series No. 902, April 3, 2018, http://dx.doi.org/10.2139/ssrn.3155289.

However, just as in our present system, an actual arrest can only take place with a warrant from the judiciary—or, in this case, the Blockchain Integrity Authority.

The WIA is the embodiment of the expansive demos necessitated by the all affected interests principle. The WIA is responsible for distributing and maintaining Wallets and Passports for all current and prospective citizens of the Cryptostate. The WIA has a straightforward mandate: to enfranchise all interested individuals and to ensure the accuracy of information submitted by

Figure 4: Visualization of the division between democratic mechanisms and maintenance mechanisms as well as the various categories of institutions within the categories, and the various jurisdictions in which these institutions function.

prospective citizens. In addition to this vital role, the WIA manages Passport maintenance, distributing unique Passport categories, and implementing protocol updates.

Regulatory Institutions

Finally, we have the fourth branch of the Cryptostate: Regulatory Institutions. Regulatory Institutions oversee the functions of all elements of the Cryptostate, from government institutions and Societal regulations to disputes in civilian life. Like their contemporary counterparts, Regulatory Institutions are primarily concerned with interpreting legislation and determining the legality of actions. Regulatory Institutions—the Blockchain Integrity Authority, the Department of Civil Justice, the Governmental Integrity Authority, and the Electoral Jurisdictional Authority— are integral for maintaining the health of the Cryptostate.

Unlike other institutions, all Regulatory Institutions operate outside the traditional jurisdictional hierarchy. An Oversight Committee of fifty Representatives is randomly selected from all active Representatives—from the Provincial level and above—to monitor the activities of these institutions, but these committees are only capable of referring individuals suspected of unethical behavior. Altering the ability of the Oversight Committee to interfere in regulatory operations can only be achieved through a public referendum (and even then, only specific actions can be vetoed, not their overall mandate). All Regulatory Institutions can only be staffed by individuals who have never held public office, and any former employee at a Regulatory Institution is barred from all Representative offices for twenty-five years. A board of twenty-five directors, elected in a universal referendum, head each institution and serve twenty-five-year terms, with annual staggered elections as with the Executive Committees. In the event that these institutions

are themselves compromised, citizens and elected Representatives can initiate a vote of no-confidence to vacate all offices and begin anew.

The first of these institutions is the Blockchain Integrity Authority [BAI]. As briefly noted, the BAI works in tandem with the Blockchain Policing Authority to ensure that no attempt to undermine the integrity of the Cryptostate's blockchains succeeds. The importance of this function cannot be overstated. Blockchain technology is at the heart of the Cryptostate, and all other institutions rely on the security and integrity of the blockchains. A modern equivalent to the BAI does not exist, but if it did, it would be akin to having an institution dedicated to maintaining the integrity of our voting systems, government communications system, national identification system, and our financial system, all in one. Blockchain technology is already extremely resistant to manipulation, but the sheer importance of this technology to the functioning of the Cryptostate merits extensive protection and regulation.[22]

The Department of Civil Justice [DCJ] is the Cryptostate's equivalent to a judiciary. It has jurisdiction over the vast majority of legal issues, from copyright law to human rights abuses. The only legal categories that fall outside the DCJ's jurisdiction are blockchain-related matters and political crimes. Unlike in most states today, political crimes are judged by a separate institution: the Government Integrity Authority [GIA]. This essentially gives both the GIA and the DCJ a second line of defense. If individuals in the DCJ are suspected of corruption, then the GIA is entitled to prosecute them, and similarly, if individuals in the GIA are suspected of corruption, then the DCJ is entitled to prosecute them. In the Cryptostate, government officials are held to a very high standard, and political crimes are punished sternly. Corruption, nepotism, money

---

[22] The task of monitoring and regulating the blockchain is divided between the Regulatory and Functional Branches. The BAI is the judicial arm of blockchain policing, and can issue warrants or begin investigations, but the responsibility to physically enforce the BAI falls to the BPA (Figure 3).

laundering, and cronyism are serious issues that undermine a state's integrity. The transparency of the blockchain already discourages monetary-based corruption, but other forms of favoritism and exploitation can still go unchecked. The GIA's mandate is to eliminate political crimes within all government institutions.

The final institution I will discuss is the Electoral Jurisdictional Authority. The EJA is the arbiter of jurisdictional conflict with respect to voting mechanisms. If a community in Buenos Aires wanted to vote on whether or not motor vehicles are allowed in their city, it would be up to the EJA to determine whether they have the jurisdiction to move forward with that vote, or if it must be referred to a higher Assembly. The EJA consists of a core staff—composed of citizens (under the same restrictions as all other Regulatory Institutions)—and a fluid amalgamation of professionals (lawyers, academics, industry leaders, etc.) to advise EJA officers on the most appropriate jurisdictions for a given petition. Like other Regulatory Institutions, the EJA features a staggered board of directors and an oversight committee. However, the EJA also features a Court of Voter Appeals. The Court is a semi-autonomous department within the EJA, and it consists of fifty dedicated officers and forty members randomly selected from the Continental Assembly.

Overarching Themes

In this article I have reviewed the mechanisms and institutions that make up the social and political framework of the Cryptostate. Throughout this process, there have been recurring themes worth explicitly addressing. The first theme is enfranchisement. Much of our present institutions are far too restrictive with regard to enfranchisement. Even institutions that are supposed to represent the people, such as Parliament or Congress, do not genuinely enfranchise us. Our

economic institutions are even worse in this regard, as they are often not even masked as working in the interest of the people. The Cryptostate attempts to rectify this. Excluding emergency powers, the only way to pass legislation is through a popular vote. Elections to the various political offices are all direct and use an SVT system to better capture voter preferences.

Another important theme throughout the paper was preventing tyranny and ensuring accountability. Every institution was modeled with this theme in mind. The Executive Branch features staggered election cycles and severe consequences for the use of emergency powers. The Representative Assemblies feature shorter term lengths and term limits. The Functional Institutions all feature Oversight Committees and are divided into autonomous units at each tier of government. The Regulatory Institutions are equipped with the power to hold all other institutions accountable but are simultaneously tasked with holding each other accountable. Finally, in the event that the Regulatory Institutions are compromised, the people can call for an institutional reset to begin the process anew.

We now arrive at the question of pragmatism. Sure, there are problems with our governance structures, and sure, the Cryptostate might be able to address many of these issues, but how do we go from here to there? There are many ways to get from point A to B. A lot will vary depending on where we start, but the process can generally be divided into phases that apply to all cases. The Cryptostate will bypass the nation-state framework, but to begin we need a host state. Because the

Cryptostate is a relatively sophisticated governance framework, a lot of the early steps can only be achieved by a state in which citizens have abundant access to energy and the internet.

Implementing the Cryptostate

The first step is for a Host State to transition from fiat currency to a cryptocurrency. This is a relatively minor but essential step in the process, because it will give the entire planet exposure to cryptocurrencies. Ideally, a host government would dedicate ample resources to educating its citizenry (and, if possible, the global population) on the mechanics, benefits, and challenges of distributed ledger technology—as I have attempted to do in my senior thesis. Once the Host State is convinced that its citizenry has adjusted to the currency transition, it must then make another radical shift: expand its definition of citizenry to include all members of its economy.

The key to success in executing such a move is to offer citizenship to individual people, not other states or multinational corporations. As individual citizens we lack enfranchisement and are far more likely to recognize the potential benefits offered by the Cryptostate. Individuals can be incorporated into the Cryptostate by the Wallet Issuance Authority, and it should not be too challenging for them to acclimate to their new status as a citizen, provided they understand the fundamentals of the philosophy behind the Cryptostate. During these early phases of creation, individuals need to take the initiative and govern themselves—maintaining only the thinnest veneer of loyalty to the Host State so as not to arouse hostility from other states.

To successfully manage this transition, we need to leverage the network effect (i.e., the bigger the Cryptostate becomes, the more successful it can be). The first step is to ensure that the cryptocurrency at the heart of the Cryptostate is exclusively used as legal tender. This would mean that all existing corporations, goods, and services in the Host State would be using the blockchain.

For the sake of brevity let us refer to this currency as the Crypto-Dollar (CD). Then, the Host State can offer a Passport to any individual that holds any CD. These Passports will have multiple tiers depending on who, or what, is using them (so for example, foreign nations using the CD as a reserve currency would get an identifiable wallet to exempt their wallets from standard wealth transfers). This would create a visual map of all CDs around the world.

Next, the Host State needs to begin to transform its internal structures into those described in the article. If the Host State already has a federal structure, then the shift to an even more decentralized structure would be easier. The successful implementation of these institutions is very important for showcasing the appeal of the Cryptostate to the rest of the world. The Host State needs to advertise the benefits of its decentralized governance framework, because it serves a dual function as an argument for why the Cryptostate can function on a global scale.

An emphasis should be placed on the anti-tyranny mechanisms and the direct democratic mechanisms. Additionally, it is worth mentioning the Cryptostate's high autonomy for geographic communities, extensive wealth redistribution mechanisms, protection of individual liberties, participation in the democratic process, and the benefits of blockchain technology for security and transparency (the different Wallet tiers from private individuals, public servants, corporations, and other organizations each with a various degree of privacy on the public ledger, etc). Some of these liberties are already enjoyed in certain parts of the world, but the Cryptostate would seem like an enticing prospect to those with corrupt, non-transparent governments. At this stage, citizens and corporations have been introduced into the Cryptostate. The new Crypto-Dollar will either slowly

proliferate across the world, or the Cryptostate will have reached the boundaries of those economically affected by its actions.

A Hope for our Future

The myriad of issues faced by citizens due to structural deficiencies within the nation-state, intergovernmental and supranational organizations, and our global economy, can be addressed through a more democratic forum such as the Cryptostate. The Cryptostate's framework is designed to be flexible. Its governance structure can be adjusted to accommodate a population of a small country—such as my native Bangladesh—or it could become a global federation. Rampant wealth inequality, facilitated by the global accumulation of capital, can be addressed by wealth redistribution protocols. A lack of a voice in economic policy can be addressed by the distributed ledger technology at the heart of the Cryptostate's economic system, and the incredibly democratic structure of its government institutions. The loss of well-paying jobs to the forces of automation and globalization can be addressed by job guarantees and extensive social programs. A State must assume responsibility for all those affected by its actions, and in today's world, such a state would inevitably consist of large parts of the world. In an ideal world, a government modeled on the Cryptostate would come to span the entire planet, as our current system benefits few outside specific interest groups that can leverage the fractured nature of present international landscape. The Cryptostate offers an alternative path to democracy in our age.