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Armenian Diaspora DAOs, the path towards an Armenian Digital Nation

by

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Abstract

Decentralized Autonomous Organizations (DAOs) represent an evolutionary leap in governance and self-sovereignty. DAOs enable zones that are not constrained by geography. They empower people who share a common mission, vision, or identity to govern themselves irrespective of where they live in the world.

Early DAOs, pioneered by projects providing various trustless and permissionless services, are limited in scope because they lack a community with shared values and identity. In this regard, the hyper individualistic libertarian creed of the DAO pioneers makes such community building very difficult. To this end we will explore how the existing communities of diasporan Armenians are well suited to adopting DAO governance, presenting an opportunity to mainstream such governance technology.

Diasporan Armenians form strong, robust, and unique communities around the world through various traditionally structured organizations. As such, the Armenian diaspora represents a community that acknowledges the need for such entities and has created what amounts to the blueprint of a proto-DAO. This, coupled with a shared history of predation from the state and Armenian mercantile sensibilities, presents to the governance technologist and enthusiasts of the world an opportunity to form one of the first digital nations.

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Preface:

“I should like to see any power of the world destroy this race, this small tribe of unimportant people, whose wars have all been fought and lost, whose structures have crumbled, literature is unread, music is unheard, and prayers are no more answered. Go ahead, destroy Armenia . See if you can do it. Send them into the desert without bread or water. Burn their homes and churches. Then see if they will not laugh, sing and pray again. For when two of them meet anywhere in the world, see if they will not create a New Armenia.”

-William Saroyan

If today, when Armenians digitally meet, irrespective of where they are in the world, do they not form a digital nation? How then can this nation work to serve, preserve, and allow to flourish their fellow Armenians and the Armenian culture more generally?

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Introduction: The Vanguard Digital Nation

The Armenian people live as a globally dispersed civilization. This diaspora, originally the result of a trusted merchant network of Armenians, dates back over 1700 years.¹ More recently the diaspora has grown in profile and meaning since the mass exodus of Armenians from their ancestral homelands as a result of genocide during the early 20th century and more recently as a result of the failed central planning of communism. Today the population of the modern Armenian diaspora comprises over 60% of all Armenians.

Diasporan Armenians receive no direct benefits from the Armenian nation state. Nor do they have a formalized Armenian diaspora-based governance and benefits system. They exist within a distributed nation comprised of a collective base-identity and regional variants or in open-source parlance “different forks”. A fork is when divergent developers in an open-source community copy an existing piece of software and alter it in a way separate from the design and direction of the original developer community. This concept is now being used to understand institutional change in human societies.² These communities, though spread out over the globe, have hacked together systems that

more or less successfully preserve a semblance of Armenian identity and culture.

The most prolific of these organizations is the Armenian Apostolic Church. The importance of the church is woven into the very fabric of modern Armenian identity.³ Consequently, wherever a sizable number of Armenians are present, so too will there likely be an Armenian church acting as the spiritual and cultural center of the community. There too exists a number of high profile organizations including the Armenian General Benevolent Union (AGBU) and Knights of Vartan that coordinate civic and cultural activities.^{4 5} For those vying for state power and privilege there are also a great many political parties that extend influence across the diaspora.⁶

These systems, though tested for over one hundred years and in the case of the church for thousands of years, remain wanting. Diasporan Armenians lack the tools for such a nation to meaningfully coordinate and ultimately grow beyond preservation of culture to something even greater.

This article puts forth a suggestion of how Armenians can create and support social institutions that provide value to Armenians

¹ Herzig, E., & Kurkchyan, M. (2015). *The Armenians: past and present in the making of national identity*. London: Routledge.

² Berg, A., & Berg, C. (2017). Exit, Voice, and Forking. SSRN Electronic Journal. doi: 10.2139/ssrn.3081291

³ PM: Armenian Apostolic Church has great importance, role in our people's lives. (2019, August 21). News.am. Retrieved from <https://news.am/eng/news/529640.html>

⁴ About the Armenian General Benevolent Union (AGBU) . (n.d.). Retrieved from <https://agbu.org/about/>

⁵ Knights of Vartan: A Centennial Mission Continues in Force. (2017, August 3). The Armenian Mirror-Spectator. Retrieved from

<https://mirrorspectator.com/2017/08/03/knights-of-vartan-a-centennial-mission-continues-in-force/>

⁶ List of Political Parties in Armenia. (2020). Wikipedia. Retrieved 10 February, 2020, from https://en.wikipedia.org/wiki/List_of_political_parties_in_Armenia

without the explicit need for a single ruling body like a state or the church.

It builds upon the work of a tribe of extreme individualists that are connected by nothing but their desire to be free and their love and appreciation of technologies that can facilitate liberty. The technolibertarian identity and community exists in a powerful way online but has yet to meaningfully extend itself into the physical world. They have all the ingredients to form a virtual ethnicity and digital diaspora of sorts except their binding ideology, inherently breeds creative conflict as one of the base tenants of the ideology is to just be left alone.⁷ In this regard, its strengths are also its weaknesses as the ideology is not inherently conducive to community building, nor is there existing large scale technolibertarian enclaves, though there are attempts to remedy this⁸. This technolibertarian tribe has the tools but not the community necessary for implementation. For while their ideas are exciting, they struggle to create real-world communities that can translate these technologies into societies of the future.

Juxtaposed to these technolibertarian vanguards is the Armenian tribe. A tribe which while highly fractured has still been able to retain an impressive level of cohesiveness. In some ways, the only thing the diasporan Armenians have are their communities. They however lack modern

tools and their communities are largely underserved by present governance systems. In this, there seems to exist an unprecedented opportunity for the Armenian tribes to adopt, adapt and develop systems pioneered by the technolibertarians.

To this end, the proposal of an Armenian digital nation arises. A nation comprised of Armenians from around the world organized through the use of Decentralized Autonomous Organizations (DAOs) in addition to the existing mediums of diasporic cohesion⁹. A nation whose members are clustered according to ideology, geography, and interests in a competitive but independent, non-zero sum manner in which members can freely leave or be party to multiple DAOs at once.

These clusters represent not just new technological innovations for societal organization but rather membership of a nation selected and molded by the participants themselves.^{10 11} Though this is a fluid and adaptive mechanism being described, in many ways the explicit relationship that Armenians will enter into with one another through the DAOs, will “hardcode” what it means to be Armenian.

In doing so, diasporan Armenians will shed the ambiguity of being an Armenian living with one toe in the diaspora and the rest of their body in a host nation. Armenians will be strengthened against the pervasive

⁷ Diamandaki, K. (2003). Virtual ethnicity and digital diasporas: Identity construction in cyberspace. *Global Media Journal*, 2(2). Retrieved from https://www.academia.edu/5102541/Virtual_ethnicity_and_digital_diasporas_Identity_construction_in_cyberspace_Global_Media_Journal_2_2_Spring_2003

⁸ Joseph Spear, "An Experiment in Civic Engagement: The Free State Project" Archived March 25, 2009, at the Wayback Machine, *Oklahoma Policy Studies Review*, Vol. 5, No. 1

⁹ Cunningham, S. (2001). Popular media as public 'sphericules' for diasporic communities. *International Journal of Cultural Studies*, 4(2), 131–147. doi: 10.1177/136787790100400201

¹⁰ Merkle, R. (2016) DAOs, Democracy and Governance. *Cryonics Magazine*, July- August, Vol 37:4, pp 28-40; Alcor, www.alcor.org. <https://alcor.org/cryonics/Cryonics2016-4.pdf#page=28>

¹¹ Piero de Bellis, G., & Tucker, A. (2015). *Panarchy: Political Theories of Non-Territorial States*. Routledge.

whitewashing of centralized globalist cultural narratives.

Such a nation would need to provide social services, structure and stability. It must also be able to adapt and thrive in the increasingly complex global systems in which Armenians find themselves.

Accordingly, the driving force of this nation will be the preservation of freedom of the individual. Who, ultimately, is the final arbitrator in determining the scope and role such a digital nation will play in his or her life. In recognizing this, the digital nation concept creates an environment suited to Armenians needs without being prescriptive or paternalistic.

The digital nation marks the evolution and progression from the nation states and kingdoms before it. An anti-fragile digital nation as resilient as the Armenian people. A forward-looking nation unable to be taken down or corrupted. The solution to preserving Armenian identity and values paradoxically is creating a new structure in which it can grow and evolve.

I. Proposal for an Armenian Digital Nation

It is now possible to construct a nation that is not constrained by geographical boundaries. The Armenian Digital Nation will be comprised of many distinct decentralized autonomous organizations (DAOs).

A decentralized autonomous organization is a new organizational structure with a built-in governance framework encoded as a computer program.¹² This program runs

¹² Ethereum Foundation. (n.d.). DAOs, DACs, DAs and More: An Incomplete Terminology Guide. Retrieved from

itself on a cryptocurrency network. It is self-sustaining and can't be forcefully stopped without shutting down the entire cryptocurrency network. Doing so is nearly impossible when executed properly.

A DAO is essentially a series of smart contracts that when put together defines the characteristics and operations of an organization. Arguably the most famous DAO to date is the one that governs the cryptocurrency Dash.¹³ This DAO operates as a money-as-a-service business. The Dash DAO is able to finance its own technological development work, legal and research work, and marketing through the use of its self-funding treasury and masternode voting system.¹⁴ In many ways the Dash DAO can be thought of as a robot that employs humans to help make it a better digital cash network.

In the Armenian Digital Nation context, DAOs will be geared to providing value to the specific Armenian communities they've been designed to serve. DAOs can range in purpose from one that maintains public roads in an Armenian enclave, to DAOs designed to deliver humanitarian services and aid to Armenians anywhere in the world at risk. More generally they can be viewed as unbundling the functions of government and/or devolving responsibilities to

<https://blog.ethereum.org/2014/05/06/daos-dacs-das-and-more-an-incomplete-terminology-guide>

¹³ Mosley, Lawrence and Pham, Hieu and Bansal, Yogesh, Towards a Systematic Understanding of Blockchain Governance in Proposal Voting: A Dash Case Study (July 8, 2019). Available at SSRN: <https://ssrn.com/abstract=3416564> or <http://dx.doi.org/10.2139/ssrn.3416564>

¹⁴ DiRose, S., & Mansouri, M. (2018). Comparison and Analysis of Governance Mechanisms Employed by Blockchain-Based Distributed Autonomous Organizations. IEEE. Retrieved from <https://ieeexplore.ieee.org/abstract/document/8428782>

non-territorial jurisdictions.¹⁵ The Armenian Digital Nation will grow to facilitate and deliver many services we've come to expect from legacy governance systems.¹⁶

The DAOs will serve two main purposes. The first is to coordinate and make available 'public' services to Armenians. The second is to provide a mechanism of collective ownership of assets by DAOs constituencies. These constituencies will be formed on a membership basis in which both the DAO and its constituents enter into a voluntary and well-defined covenant.

Just as DAOs can vary geographically, they too can choose to organize in many different ways. One DAO can be set up to provide a single specific service while others may form to provide many different complementary services. DAOs will also likely be organized differently from one another structurally. Voting mechanisms, what technology the DAO is built on, membership and collateral requirements (if any), revenue models, and level of trust or distrust within the community being served will all vary depending on how the DAO is setup.¹⁷

The end result is a series of organizations that are radically transparent, permissionless, inclusive, resilient and difficult to disrupt or take down. The best ideas on how to govern and provide social services for Armenians will be put to the

test. DAOs competing for members will produce organizations fine tuned to meeting the needs of their particular Armenian constituency.

II. Services and Goods in the Digital Diaspora

The goal of the Armenian Digital Nation is not the wholesale rewriting of social order. While this particular technology and potential ramifications of the digital nation may be radical, they are built upon a historical and solid philosophical and intellectual foundation. One which leverages the existing social and cultural tools and mediums to create an imagined but real diasporic identity.¹⁸ This continuation itself is the embodiment of a larger concept which is that of emergent order in a decentralized world.

Private goods and services are delivered through free markets and free trade. This is an emergent phenomena. Even the most repressive controlled markets can not stop individuals from freely trading, even if only on the more risky blackmarket.

For the most part I do not expect to see many changes in how private goods are bought and sold as a direct result of the proliferation of DAOs. The laws of scarcity and the efficiencies created by free trade will remain the same. Where things get interesting is for what we consider public goods.

Public goods and services are those provided to and enjoyed by communities. Such examples would be roadway

¹⁵ MacDonald, T. (2015). Theory of unbundled and non-territorial governance, Doctor of Philosophy (PhD), Economics, Finance and Marketing, RMIT University.

¹⁶ Merkle, R. (2016) DAOs, Democracy and Governance. Cryonics Magazine, July- August, Vol 37:4, pp 28-40; Alcor, www.alcor.org.

<https://alcor.org/cryonics/Cryonics2016-4.pdf#page=28>

¹⁷ Buterin, V., Hitzig, Z., & Glen Weyl, E. (2019). Liberal Radicalism: Formal Rules for a Society Neutral among Communities. Management Science. Retrieved from <https://arxiv.org/abs/1809.06421>

¹⁸ Calhoun, Craig. (2016). The Importance of Imagined Communities – and Benedict Anderson. Annual Review. Debats. Revista de Cultura, Poder i Societat. 1. 11-16. 10.28939/iam.debats-en.2016-1.

maintenance and building, social welfare services, defense, etc.

The problem with public systems has been twofold. The first is the conflation of the public property (infrastructure) and the public operators (those delivering the service of good). It is often very difficult to make changes to the bureaucratic structures that are formed when there is no distinction between the public operators providing a public service and the public assets at their disposal to deliver these services. Public property has always had a disconnect between its custodians, benefactors and beneficiaries.¹⁹ Through representational voting, some of these imbalances were met. This process works but is messy. Representatives can be corrupted or are incentivized to have an inappropriate time preference and the ideal path is not always taken.²⁰

The second problem with public systems is the way in which funds are gathered to pay for public goods, namely through taxation and debt. The debt is an issue because it allows politicians to remove the constraints of proper budgeting while indebting future generations. Taxation and representative government is problematic because it removes the person paying for the service from the decision making.

One plausible way that a public service can be delivered via a DAO is through the use of a crowdfunded proposal system baked into the DAO. Proposals can be generated

through requests for proposals by the DAO or service providers can proposition the network on their own volition.²¹

For example let's say that an Armenian eldercare provider comes to the DAO and offers to care for 100 elderly Armenians in a specific region. They would present a budget to the DAO outlining how the requested funds would be spent, how long the service period would be, how they would operate, etc. This eldercare provider would ask for a certain amount of funds over a specified period of time, after which they would again need to approach the DAO for additional funds.

Voting DAO members would evaluate the request and they would vote on whether the shared funds of the DAO are to be awarded to the proposal owner. If the proposal owner provides a convincing enough argument, they will receive funding and the public service will be delivered according to the proposal details. An alternative finance avenue that will be ever-present is the option for members to directly finance the proposal owner through a direct person-to-person cryptocurrency payment as well.

So far what has been described is essentially a slightly more advanced crowdfunding system that addresses the second problem of public services- the financing model. Where things get really interesting is when we include the concept of public property into the mix and address the problem of who actually owns it. Before we can dive into this we need to explore some elemental questions.

¹⁹ Buterin, V., Hitzig, Z., & Weyl, E. G. (2019). A Flexible Design for Funding Public Goods. *Management Science*, 65(11), 5171–5187. doi: 10.1287/mnsc.2019.3337

²⁰ Smith, T. (1979). Political Man, Economic Man, and the Problem of Time Preference. *Social Science*, 54(1), 16-27. Retrieved February 11, 2020, from www.jstor.org/stable/41886346

²¹ Wiecko, R. (n.d.). Understanding the Governance and Budget System. Retrieved from [https://dashpay.atlassian.net/wiki/spaces/DOC/pages/8585240/Understanding the Governance and Budget System](https://dashpay.atlassian.net/wiki/spaces/DOC/pages/8585240/Understanding+the+Governance+and+Budget+System)

What is Armenia and who owns it? These questions on the face of it may seem silly but at the moment exist on the edges of libertarian thought.²² One can imagine a world in which all things are privately owned either by organizations or individuals. The answer then to the question would be that Armenia would be owned by everyone who owned property in Armenia.

What then would happen if through rational self-interest, the people living in Armenia decided to sell their property to Chinese businesses for millions of dollars more than what they were worth on the open market? At what point would the area no longer be Armenia. Based on observed norms over ancestral lands the claim of ownership of Armenia would remain disputed even if the majority of Armenia was owned by foreigners, but under what claim? Herein lies the contentiousness of an otherwise straight forward private property framework such as put forth by Rothbardian scholars.²³

Who owns the commons and who are the owners of a nation? These questions during the nation state era are contentious, often violent questions. Today, through a process called tokenization, property and public infrastructure can easily be collectively owned. Tokenization is the issuance of cryptocurrency tokens that represent a piece of a physical or digital asset or other real-world entity.²⁴ Such assets can be roads,

businesses, parks, schoolhouses, and so on.
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Tokenization enables a transparent and robust system of fractional ownership. It removes the need for centralized trust coordinators and replaces them with trustless, open, immutable, auditable and transparent cryptocurrency networks.

There are many benefits to tokenization. It enables much quicker and easier authentication and trade by doing away with the need of moving around pieces of paper, appearing in person, or requesting permission to prove anything. The entire process becomes digitized and benefits enormously in terms of ease of use, lowered overhead costs, and increased functionality. Such a system provides immediate benefits to digital nationals who are potentially located all over the world.

Tokenization replaces the need of state entities tasked with the ownership of a public good. Such goods, like a public park, can now be literally, not figuratively, owned by the citizenry. This ownership structure does away with abstractions of who represents, controls and is responsible for these assets that make up the collective wealth and cultural inheritance of a people. The Digital Armenian Nation, and all its asset holdings, will be owned demonstratively by those who own the corresponding tokens.

Tokenization of this sort can be achieved via DAOs, or DAO members, owning cryptographic tokens that represent

²² Hoppe, H.-H. (2018). *Democracy - The God That Failed: the Economics and Politics of Monarchy, Democracy and Natural Order*. Routledge.

²³ Rothbard, M. N., & Hoppe, H.-H. (2014). *The ethics of liberty*. New York: New York University Press.

²⁴ da Costa Cruz, J., Sophie Schroder, A., & von Wangenheim, G. (2018). *Chaining Property to Blocks - On the Economic Efficiency of Blockchain-Based Property Enforcement*. Business Information Systems Workshops.

²⁵ Shang, Q., & Price, A. (2019). *A Blockchain-Based Land Titling Project in the Republic of Georgia: Rebuilding Public Trust and Lessons for Future Pilot Projects*. *Innovations: Technology, Governance, Globalization*, 12(3-4), 72–78. doi: 10.1162/inov_a_00276

ownership of a public good. In the example of a road, the owners of these tokens would essentially form a board of ownership that would be responsible for the road. They would be tasked with creating strategies to build and maintain their public property. The owners could elect to hire contractors to operate on their behalf such as with toll collection, road building, permitting, fundraising, etc. This again would function through a proposal system similar to the one stated earlier.

By keeping the public property separate from the public operators there are lower switching costs for replacing operators who fail to deliver or abuse the public's trust. It will therefore be more difficult for entrenched interests to subvert or corrupt such a system.

If for example a DAO's Army, contracted to provide defense, begins to push for offense, a legally unambiguous changing of the guards can be undertaken in which the assets of the military are legally assigned to a competing military organization or faction of the intractable Army. The source of truth would be recorded on the DAO's public ledger and is legally indisputable.

Tokenization allows for the members of a DAO to own pieces of the public property and with this ownership stake can exert greater political voice. Tokenization also creates a coherent avenue of exit should a fundamental disagreement happen, allowing one to sell their tokens. The satisfaction or dissatisfaction by way of demand for the tokens (a measure of entry/exit for the token) will provide a market price for the public property. This price will be very valuable in providing clarity during disputes. It will show exactly how much a piece of

public property is actually valued by the public, not a poetic valuation that is far too often used to delay growth and progress.

III. DAO Membership and Voting

It is up to each individual DAO to construct how they will define and implement membership requirements. As the focus of this paper is on an Armenian Digital Nation, these DAOs would likely have a requirement that the participants are Armenian. Each DAO would need to decide what inclusion criteria would constitute a member as being Armenian and they would need a way to verify this.

For example an Armenian Digital Nation DAO based in Malta could have the requirements of proof that an ancestor was Armenian, proficiency in the Armenian language, membership of an Armenian civil society or baptism in the Armenian church. Prospective members could present their evidence to the DAO through an online portal and the membership committee or the entire DAO could vote on whether the evidence is sufficient and choose to admit the member into the DAO.

Each DAO would also be responsible for the creation of a covenant that outlines what can be expected of the DAO by the members, and of the members by the DAO. Instead of a nonexistent social contract, the DAO would have an explicit set of rules that members would need to honor to remain a member of the DAO.²⁶ These could potentially include a code of conduct, membership to an in-person organization, a

²⁶ Reijers, W., Obrolcháin, F., & Haynes, P. (2016). Governance in Blockchain Technologies & Social Contract Theories. *Ledger*, 1, 134–151. doi: 10.5195/ledger.2016.62

fee or fee schedule, or collateral requirements.

Within the DAO, membership can or cannot be hierarchical in nature. This would be up to the DAO to decide as part of their covenant. Some DAOs may choose to create leadership positions or committees that execute certain functions on behalf of the DAO. As with all things DAO related, these relationships would be coded into the structure of the DAO itself. Well designed DAOs will be forced to create ascension and descension protocols for these members so as to mitigate harm from corrupt or overzealous members that seek to act tyrannically over the DAO by abusing their positions.

Creating strong membership requirements will certainly go a long way to ensuring the DAO functions as designed. Another additional tool at the disposal of the DAO is collateral holdings required of some or all levels of members. This is another variable the DAO would need to configure.

There is a strong precedent set that by requiring collateral staking, in other words putting skin in the game, leads to a more responsible custodianship of the DAO. The most successful DAOs require very large collateralized nodes of the network to participate in its governance.²⁷ Dash for instance requires a very large number of dash to run a masternode in its network.²⁸

Staking is important because it addresses the Sybil attack problem faced by

decentralized peer-to-peer networks.²⁹ In traditional cryptocurrency networks it is impossible to confirm that each node is held by a single real person. In this situation, where participants can forge identities, it becomes very difficult to implement a reputation system or to do network-wide polling/voting. The risk that participants will skew the results makes it very untrustworthy. This is especially true when there is the potential of an actively hostile person or group attacking the network and attempting to disrupt it.

To counter this threat, the element of collateralized staking adds additional cost to such an attack. An attacker will not only need to run the numerous servers to attack such a network but more significantly will also need to acquire and stake the tokens of the network. If they are successful in disrupting the network and causing it financial harm, they too will be harming their investment of the staked tokens. If the staking requirement is set high enough it makes the cost of attacking the network prohibitively expensive.

A similar attack that is addressed by an adequately high staking level is that of vote purchasing. If the stake for a vote is too low, it is conceivable that a person could purchase many votes to influence the outcome of a decision. If the participants are adequately vested in the network, they will be much less likely to part with their vote, and if they were to, it would be at a high price to the attacker.

Another potential clever solution towards membership is to put the onus of who becomes a member on the existing members

²⁷ Opačić, M., Veinović, M., & Adžić, D. (2018). A Short Introduction Into Innovative World of Masternode Coins. Proceedings of the International Scientific Conference - Sinteza 2018. doi: 10.15308/sinteza-2018-147-152

²⁸ 1 masternode = 1,000 Dash = 1 vote on proposals. There is no limit on how many masternodes someone can acquire.

²⁹ Sybil attack. (2019, August 16). Retrieved from https://en.wikipedia.org/wiki/Sybil_attack.

of the DAO. A vouching system has a historical precedent and perhaps can be used again to form trust in an otherwise trustless entity.³⁰ An example could be an invite based system that links together members. In such a system each member could invite 1 person who then could invite one person and so on. Alternatively the number of invites could be proportional to the stake one has in the DAO.

If later on the network votes to expel the member for whatever reason there could be conditions in place that would punish or even expel the member that invited this person into the DAO. The same can be applied to any who were linked downstream as well (having been invited to the DAO by the offending member). The severity of punishment could be based on voting percentages where with a high threshold like 99% of votes to expel the member all the associates would be expelled as well. There is much to ponder about such an arrangement. It is still a very unexplored idea in the DAO context. That being said, such a procedure would add additional negative externalities to offending the network and would likely act as a social and perhaps even financial (if collateralized membership is required) deterrent to bad behavior.

It is worth pointing out that members of the DAO are not necessarily the beneficiaries of the DAO. This too would be something left to each DAO to decide. It is most likely the case that the DAO membership would consist of the equivalent of “tribal elders,” people with the resources and experience to

lead a DAO to successfully fulfilling its mandate. The beneficiaries would be the people who receive the benefits generated as a result of the proposal and treasury system.

While the Digital Armenian Nation may be thought of as the series of intertwined DAOs that form to serve Armenians, the Digital Armenian National may, in some cases, not be a member of any particular DAO. So when thinking of the membership of the DAOs we really are only discussing the system of governance and voting of the Digital Armenian Nation.

There are a number of ways that voting can be conducted within DAOs. The earliest DAOs, such as with Dash, have adopted a proportional voting system. The number of votes a person has is equal to the number of masternodes they operate. Other projects, particularly certain POS systems, seek to make voting a right of every holder, in which there is no minimum capital requirement. Unfortunately such systems open themselves up to certain vote-buying schemes that can threaten the strength of the network.³¹

In modern representative democratic political structures, aside from referendums, voting is done by elected officials on behalf of voters. While this voting modality has limitations, in some instances it may prove to be useful in the DAO era. Not all who can vote may have the time or energy to stay informed or interested in all the dealings of an organization.

³⁰ Hanson, R. [Paralelní Polis]. (2019, October 16). Robin Hanson - WHO VOUCHES FOR YOU?: A RADICAL CRIME LAW PROPOSAL | #hcpp19 [Video file]. Retrieved from <https://www.youtube.com/watch?v=rPdHXw05SvU>

³¹ On-Chain Vote Buying and the Rise of Dark DAOs. (n.d.). Retrieved from <http://hackingdistributed.com/2018/07/02/on-chain-vote-buying/>.

One such alternative to direct voting could be a form of liquid democracy in which members would choose individuals they trust to vote for them.³² The benefit in such a system is that the wisest members are given more say. Such arrangements can be prospectively reversed if the delegate doesn't vote in a manner pleasing to the delegating member. With such a setup members can rely on the expertise of community members instead of attempting to become experts themselves, or even worse voting while ignorant. At the same time, voters who have delegated their votes will have a greater control over the process and more transparency into how their delegated vote is ultimately conducted.

IV. Imagining an Armenian Digital Nation

The challenge of imagining a robust network of DAOs coming together to form a digital nation is, of course, that it has never been done before. We only have a handful of early projects, all small in scope and impact, to draw inferences and ideas from. To tie everything together let's attempt to imagine what a mature digital armenian nation might come to look like.

In making what is essentially a user-story, let's take the most extreme of examples- that of a stateless individual. We can make the assumption that the Armenian Digital Nation is far advanced but that the world has not yet evolved (or devolved) into a stateless society. While hardly comprehensive of all the ways such an idea can manifest itself, the point of this exercise is to imagine what

may be possible in the hope of providing coherence to the larger idea.

The protagonist of this imaginary scenario is Hrant. Hrant lives in a newly erected Free Economic Zone in a developing nation that essentially has zero taxes and for the purposes of this example can be viewed as a blank slate for governance. His city within the free economic zone has an Armenian enclave with many Armenians and Armenian businesses calling it home. Hrant and a number of his neighbors have a vested interest in creating a healthy and thriving neighborhood in their city so they have banded together to create a local DAO.

This DAO has two primary functions, to collectively finance public goods and to collectively own property. With their DAO they administer funds to maintain order in their area by hiring a well-respected security organization to patrol their streets and investigate property crimes. They pay for the upkeep and cleaning of the roads, sidewalks and other public places in their neighborhood as well as trash collection and recycling. Hrant and his fellow DAO members also pay for a number of insurance schemes designed to minimize the risk to the community from theft, fire, accidents, etc. The DAO also has funded the building of the local schoolhouse, a park, several pedestrian paths and bridges, a public toilet, several municipal buildings and roads, all of which are represented by tokens owned by the contributing DAO members.

Hrant's local DAO receives income from some of the services it provides, such as a toll they erected on their bridge. The remainder of their finances come from regular contributions of Hrant and his neighbors to the DAO's treasury. The DAO

³² Falkvinge, R. (2013, July 1). Swarmwise - The Tactical Manual To Changing The World. Chapter Six. Retrieved from <https://falkvinge.net/2013/07/01/swarmwise-the-tactical-manual-to-changing-the-world-chapter-six/>.

programmatically forecasts how much money is needed from each member of the DAO based on their previous budget cycle. The funds are collected into the DAO's treasury paid in the most popular cryptocurrencies Dash and Bitcoin. In return, the members receive DAO tokens with which they can vote and exert influence on the DAO.

The collected funds are allocated through voting by each voting member of the DAO to service providers who have successfully propositioned the DAO to provide their service. At no point can the DAO give out more money than it has in its treasury. This makes budget deficits impossible. If Hrant's community, represented by the DAO, wants greater numbers of services provided they know they must first pay more money.

At this point, the amount of money being spent to maintain and improve their community through DAO's treasury has grown quite large. Fearful of corruption and misallocation of funds, the DAO hires an independent auditing firm through their proposal funding mechanism. It is their responsibility to evaluate the proposals made to the DAO and confirm they are genuine.³³ This firm follows the projects post-approval to validate they deliver as promised and report back to the DAO. Similarly a number of jobs and volunteer opportunities arise performing services to help maintain the functioning of the DAO and the subsequent value generation to the community. These roles and responsibilities are approved and paid through the same proposal and treasury system used to pay other contractors and service providers.

Hrant has been renting a room in his house to Ani for some time. She has just received word that her job is transferring her to a new city. While Ani was never a property-owner in the community she was a member of the DAO and during her time she accrued various tokens representing the ownership of a municipal waste facility and their local park. Because she is moving, Ani no longer wishes to keep these tokens. Fortunately, there is a built-in token marketplace within their DAO and she is able to list her tokens at the price she feels they are worth. Anyone in the world is able to purchase these tokens though members of the DAO have the right of first refusal should they want the tokenized property to remain solely within their community.

Hrant has been keen to instill an 8pm curfew in the park because he feels it will make the neighborhood safer and lower maintenance costs for the park. Their local DAO votes on such matters and votes are proportional to how much of the park one owns by way of tokens. For this reason, Hrant is quick to purchase the park property tokens from Ani to strengthen his position. With the selling of her tokens and no longer contributing to the DAO, Ani has effectively left the DAO.

Of course the funding of a local municipality does not properly constitute a nation. Hrant, however, is attuned to greater Armenian community and consequently is member to several other Armenian DAOs that are focused on issues and services that extend beyond what would be suitable or appropriate for his local DAO to administer. One such DAO is dedicated to improving and maintaining the health of Armenians who live in the same country as Hrant. The DAO acts as a health service organization that

³³ This is like the Dash Watch organization of the Dash DAO. www.dashwatch.org/.

raises funds and directs capital to providing healthcare or payment of healthcare for its members. Hrant knows not all the Armenians in his country can afford to pay for comprehensive healthcare coverage so he is willing to contribute money to that end. As with his local DAO, various organizations and service providers approach the healthcare DAO with proposals on how to provide the best value healthcare to the DAO members. The service is tiered providing various levels of coverage.

Another DAO Hrant is member to is geared towards providing protection and emergency services to Armenians anywhere in the world in danger from hostile agents. The DAO is able to triage the concerns of its members and the proposal system is then used to find the most suitable solution based on all the intricacies of the particular issue.

For example a community of Armenians is at risk of being invaded within the next week by a fundamentalist Islamic terrorist group. The situation is brought to the attention of the DAO and they solicit proposals on how to address this problem. Private mercenary contractors (PMC), other organizations, and individuals propose how they could solve the problem. Some suggest a proactive military strike against the jihadist army, others propose bolstering the defences of the community, and others propose an evacuation of the community and offer to house them for some months in a neighboring country.

Hrant seeing this in the news and following on the reporting done to the DAO recognizes the need for the DAO to take immediate action. The threatened Armenian community in question is quite small and has little means to defend themselves. They also don't

have anything of cultural significance in their community at risk of being destroyed. For this reason, Hrant votes to provide funding to a PMC and housing mogul who have teamed up. They have requested funds to protect and collect the soon-to-be refugees and transport them to the safety of the housing mogul's recently finished apartment complex in a nearby country. Within the allotted window of action, this proposal receives the most votes from the DAO and the mission to evacuate the Armenians begins.

A similar DAO operates in much the same way in order to protect, preserve, and restore Armenian cultural heritage sites around the world.

Hrant and his relationship with his DAOs and their subcontractors is a very fluid process. At any given time, the DAOs present a multitude of options and different ways of serving the Digital Armenian Nation. While there is no single DAO or even collection of DAOs that wholly represent the Digital Armenian Nation, Hrant still feels a strong kinship to his fellow Armenians and the various DAOs at his service. For even the DAOs he is not a member of are providing value to Armenians and lots of experimentation and cross-DAO learning takes place. The ideas that don't work die and the ones that do work get replicated. In this way, the Digital Armenian Nation can be thought of as a swarm with no center but rather many pieces catering to Armenians and Armenian culture.

Conclusion

Though the focus of this paper is on the Armenian diaspora as a potential user of DAO based governance, there are other

distributed nations as well that are well suited to advancing these ideas and implementing accordingly. I am hopeful that representatives from all these communities will work together to further the reality of DAO-driven digital nations.

It would be nice if the need for such governance technology was simply to improve and make the old ones more efficient. Unfortunately, the reality of the situation is rather dire. As I sit here writing this, Armenian communities in northern Syria, after surviving for years the threat of the Islamic State are now actively under attack by the Turkish military. Armenians around the world watch on in horror, and clamor through social media for intervention from various states including from the Republic of Armenia. Though collectively they have the resources to make a difference, they lack the tools to organize and implement a solution to help these threatened Armenians. This is the state of the Armenian diaspora in 2019.

Going forward, it is interesting to think about how things will look post-digitization. When the Armenian diaspora fully adapts to being a people without a set geography. As more services, capital and resources are made available to them, surely the Armenians will be better off. Perhaps more interesting is how this change will affect what it means to be Armenian.

Ultimately, Armenians may even lose the association of Armenianness with the physical landed area that we think of as Armenia. I know from floating out these ideas, this one idea in particular is very repulsive to most Armenians. The Armenian land is viewed as practically sacred. When

pressed for a justification of these concerns what I inevitably hear is that these connections to the land are largely pragmatically driven around the question of “how will we remain Armenian?”. Supposing the Armenian Digital Nation can blossom to maturity, it very well may be the answer to this question.

Without a digital nation in place, I think these concerns are largely justified. Diasporan Armenians who move to places without a local Armenian presence and without sufficient numbers quickly lose their Armenianness.

So then, looking at the present state of affairs of the survival and growth of Armenian culture from a system network perspective, it becomes clear that there are several single-points of failures that if triggered would cause, or would be perceived to cause, irreparable damage to the Armenian nation. These centralized points of influence, primarily the Church and the Republic of Armenia, represent the two largest nodes in a fragile system. Underlying both the Church and especially the State is the importance of land in relation to Armenianness. Which is all to say, that if there was no Armenian land then there would no longer be Armenians. But why does this need to be the case?

Historically, Armenians have persevered under the rule of others in large part because of the Church. When looking at the technology at our disposal, I see no reason why we can't make this even more true today. If Armenians remain rooted in a land-based identity there exists the perpetual risks of war and state. Held hostage by whomever lay claims to the land.

If Armenians are able to shed this land-based component of their identity, much like many in the Diaspora have done or are in the process of doing, the Armenian culture can never die so long as it remains valuable to Armenians. This process will almost certainly be accelerated by the advent of the Armenian Digital Nation.

If Armenians can remain Armenian even in losing ancestral Armenia, they paradoxically are stronger for it. If a large number of Armenians can be displaced by war but have the infrastructure and systems to be supported without egregious loss of life or prosperity, they are stronger for it. This in lies the concept of antifragility. If the Armenian people, rather than being a point on a map that can be conquered, are an amorphous nation spread across the world, they can never die. If in this nation Armenians create the environment and systems to support themselves, they will prosper and grow.

Now to be absolutely clear, this is not advocating that Armenians should readily give up their land. Property rights are absolutely key to everything discussed. Rights are meaningless without the ability to enforce and protect these rights. No matter how well prepared with contingencies from the DAOs and their treasurys, the theft, destruction, misery, and violence implicit with losing the Armenian homeland is truly terrible to imagine. The present day owners of Armenia and the future owners during the digital nation-age do well to prepare and train to defend their property claims. Likely Armenians will turn to the Armenian Digital Nation as one more tool to accomplish this.