Governable Stacks

Organizing against Digital Colonialism

While the island was still a French colony, in 1801, Saint-Domingue's slave revolter turned governor-general Toussaint Louverture convened a national assembly. Later that year, it proclaimed—and at substantial cost, printed—a constitution describing a nominal French territory ruled by the former slave's government. Writes C. L. R. James, "To have it printed meant (in those days) that an irrevocable decision had been taken."[1] Louverture's brazenness made him intolerable to the colonizers. The following year, Napoleon's troops deported Louverture to France, where he died in prison as the French waged a doomed, vicious war to regain the island. On the first day of 1804, Louverture's successor Jean-Jacques Dessalines founded the independent state of Haiti.

The film *Finally Got the News* depicts the League of Revolutionary Black Workers in Detroit, a left flank to the United Auto Workers that identified with the liberation movements spreading across Africa since World War II.[2] The League was a militant organization, enmeshed in the city's violent uprisings during that period. But in the film what we see is not burning city blocks. An organizer speaks from behind a desk in an office, surrounded by what one imagines to be membership rolls and correspondence in progress; members hand out leaflets to fellow workers at the door to their plant.

In both scenes of liberation movements, self-governing coincides with intentional media use. This chapter considers the governance of online space as another site of resistance against domination. Creating spaces governable by their participants is not simply a matter of exiting to a new homestead on some endless digital frontier. That frontier and its homesteads were fictions all along, while platform companies gained growing control over the finite time, space, cultures,

and economies of the embodied world. As in Haiti and Detroit, self-governance requires communities to take control of the technologies with which they organize.

Critics have been converging around the language of colonialism to describe the internet economy, using no shortage of terms: digital colonialism, technocolonialism, data colonialism, data orientalism, digital capitalism, digital extractivism, platform imperialism, postcolonial computing, decolonial computing, and imperial play, for example.[3] Computing, writes Syed Mustafa Ali, "is colonial through and through." Stefano Harney and Fred Moten identify a lineage from the Atlantic slave trade to the packet-switching of ARPANET: "the dream of this newly dominant capitalist science" in which containerized logistics packages every part of life into the possibility of being "shipped."[4] Less developed than the critiques, however, are the means of resistance.

I will use *digital colonialism* as a capacious shorthand for the above terms—forms of domination by governments and corporations through their control over internet technologies. I do so while recognizing the danger of too easily conflating military occupation with more immaterial feats of data extraction and digital labor arbitrage. In the apt phrase of Eve Tuck and K. Wayne Yang, "decolonization is not a metaphor."[5] Corporate capture of online data is not the same as territorial conquest and genocide. But the control of data flows can supplant or aid control over embodied life. To the extent that access to livelihoods and cultural sovereignty occur through digital systems, the coloniality in question is no mere metaphor. Online life, too, is a site of struggle. And if we are serious about the laden language of the colonial, we should be ready to learn from past struggles against pre-digital colonial regimes.

Alongside acts of outright insurrection, theorists and practitioners of anticolonial resistance have articulated the centrality of self-governance in everyday life for their movements. Meanwhile, the aspiration to be "ungovernable" has appeared among thinkers ranging from European philosophers Michel Foucault and Giorgio Agamben to former Black Panther Lorenzo Kom'boa Ervin, each seeking to assert the vital personhood of people caught in dehumanizing systems. Such systems of "governmentality" extend their power into subjects' lives through daily life, imposing order through habits of practice and thought.[6] Yet, I will argue, anticolonial traditions teach that ungovernability alone is insufficient as the basis of either resistance or liberation. It must accompany what the Honduran Indigenous activist Berta Cáceres called "decisive democracy": communities with the means to determine their own futures.[7] To become ungovernable under digital colonialism, in particular, how should we be learning to self-govern?

I pose this question in light of implicit feudalism. Tools for basic group decision-making are not widespread, nor are mechanisms to hold those in authority accountable. The design of social platforms inclines toward enabling the governmentality of platform owners, aided by their user-administrator proxies, rather than

user governance that could turn against the owners' interests. Campaigns of digital resistance often employ the same colonial platforms whose hegemony they oppose.

Both settler colonialism and digital "user experience" involve regimes that dictate who has the right to self-organize, or not, and under what conditions.[8] Micro-targeted discrimination singles out individuals for exposure to exploitative product ads. The same targeting also inhibits public outcry. Algorithmic decisions about welfare checks and prison sentences make it harder for harmed communities to put collective pressure on individual decision-makers. Humanitarian organizations collect data about refugees, which the refugees themselves cannot access, while the organizations use it for future fundraising. Individual users of a platform might be able to see or delete their personal data, yet platform companies alone can analyze and monetize the data of the communities they host. Platforms impose the developers' cultural norms, projecting a false universality that leaves little space for user communities to practice their own cultures. And at least as much as platforms might enable activist organizing, they introduce new varieties of surveillance and repression.[9] People confronting digital colonialism today might resist these kinds of incursions, following past anticolonial struggles, by rediscovering and reinventing the art of self-governance.

This chapter contributes to the design of networks that refuse colonization through self-governance. As a bridge between struggle and fulfillment, I introduce the concept of *governable stacks*: the interconnected infrastructures and practices that enable networked self-governance. Next, a design paradigm of *modular politics* outlines how governable stacks could replace implicit feudalism. I then turn to *governance archaeology*, the work of filling governable stacks with lessons from ancestors across diverse times and places.

"Governance is what we are fighting for," writes Black Lives Matter co-founder Alicia Garza. "We are fighting for the right to make decisions for our own lives and to ensure that right for others."[10] This is both the goal and method for movements around the world, often facing daunting odds. But self-governance is no guarantee of more just outcomes; authoritarians are building stacks of their own, which they can govern as they see fit. The governable stacks that people craft intentionally today can be the basis of a future where democratic online spaces are everywhere we need them.

"TO STRUGGLE AGAINST GOVERNANCE"

Governance talk does not always sit easily with movements for liberation. "Governance is the extension of whiteness on a global scale," write Stefano Harney and Fred Moten.[11] NGOs are the "laboratories" of governance, which use the rhetoric of democracy to uphold order through the guise of humanitarianism. This governance is a cheap sort of domination because the subjects do it to themselves: "Governance arrives to manage self-management, not from above, but from below." Harney and Moten call instead for a politics of refusal and "being without

interests," a call to imagine what it would mean "to struggle against governance": "We are the general antagonism to politics looming outside every attempt to politicize, every imposition of self-governance."

Harney and Moten can claim many precursors. They frequently invoke Frantz Fanon, who admired the "spontaneity" in popular uprisings, the ungovernable reaction of the lumpenproletariat, "the most spontaneous and the most radically revolutionary forces of a colonized people."[12] They evoke the ungovernable villages of escaped slaves in the Americas, including the maroons of Saint-Domingue's high hills, whose raids did not wait for Toussaint Louverture's command but made possible the eventual independence of Haiti.[13]

"You know, I love C. L. R. James," says Moten in passing.[14] James, the Trinidadian chronicler of Louverture's revolution and an instigator of others from Tanzania to Detroit, praised spontaneity as well. His 1958 book with Grace Lee Boggs and Pierre Chaulieu, *Facing Reality*, describes a "most conscious and finished opposition to the parliamentary procedure" found among dockworkers. By their account, "dockers do not like votes"; "they sense the general sentiment and act on that."[15] What holds sway is a worker's je ne sais quoi ability to capture the attention of the others, regardless of role or position: decision without institution.

The age of networks has only deepened the allure of spontaneity among radical theorists, as in Michael Hardt and Antonio Negri's celebration of the "multitude" and the "assembly" against fixed organizational forms or Manuel Castells's "networks of outrage and hope."[16] Underground tracts from such pseudonymous formations as the Invisible Committee and the Vitalist International long for rebellions whose disorder is their vindication, while adrienne maree brown, in the lineage of C. L. R. James and Grace Lee Boggs, presents spontaneous self-organization in nature as a theory of social change.[17] These thinkers seem to hold that the organizational forms of past revolutions no longer compute—especially because we now have computers.

An antithesis: Over a century ago, Vladimir Lenin regarded revolutionaries "who kneel in prayer to spontaneity" as a "fungus"—and not with any of the admiration brown would later hold for fungi.[18] Where there is spontaneity among the masses, it obtains power only through an organized and disciplined vanguard party, such as the one he would lead in Russia. Rosa Luxemburg recoiled at the rigidity of Lenin's vanguard, one molded by the discipline of the factory, the army, and the bureaucracy. She called for a movement that would be "supple as well as firm," capacious enough to hold the full humanity of its participants.[19] A communist regime came to pass in Germany, however, not through her homegrown movement but through Soviet tanks rolling into Berlin. Those tanks emanated from Stalin's dictatorship, as evidence that Luxemburg was right to worry about a vanguard modeled in industrial discipline. Yet what she longed for remains so often elusive: a movement firm enough to gain power while supple enough to wield it humanely.

Now stop and go back, and reconsider those apparently kneeling before spontaneous resistance, against the strictures of governance. Synthesize the

dialectic. Fanon also warned against the "cult" of spontaneity and stressed that the "enlightening of consciousness" necessary for liberation is "only possible within the framework of an organization, and inside the structure of a people."[20] He held that spontaneous energies must find institutional cohesion. C. L. R. James affirmed, in his final interview, "I believe you must have an organization," in something like the Leninist sense. He celebrated the Paris Commune as a forerunner of the Russian soviets, regarding that uprising as "first and foremost a democracy." In "Every Cook Can Govern," an essay that took its title from a phrase of Lenin's, James recommends to workers the ancient Athenian method of ruling by sortition, selecting authorities from the citizenry by lot.[21] Struggle requires organization, that is, but it must be creative and accountable, reaching into the lives of those who self-govern through it and also outward as a model to others. Accordingly the independence movements James helped to inspire sought not just nation-states but a new order of global governance.[22]

Grace Lee Boggs was long a fellow traveler with James in the factions and divisions of sectarian Marxism, a student and friend of Third World revolutionaries. Through organizing in Detroit with her husband Jimmy Boggs, she thought her way into a "politics of personal development" that rejected partisan orthodoxies in favor of a more iterative "dialectical humanism," in which political visions and the people who hold them evolve together through struggle. Later in life, she studied ecology and the dynamics of systems more complex than mere dialectics. As she drifted from Leninism, the centrality of self-governance only deepened. She became a mentor to veterans of the 2011 Occupy Wall Street protests, following their "leaderless" experiments in radical consensus. Her orientation turned from achieving state communism to commoning, the work of stewarding shared projects and resources in relationship with their natural environments.[23]

The influence of Boggs has continued to spread since her death in 2015, at one hundred years old. Political theorist Rodrigo Nunes has envisioned post-2011 movement organizations with Boggsian, naturalistic language like "nebula" and "ecology." He confesses attempting to recuperate a kind of vanguardism, a "networked Leninism"—before concluding with an insistence that above all, activists should "think and act ecologically."[24] In Boggs we see the origins of passages about mycelia and butterflies and trees that recur in the writing of adrienne maree brown. Brown's "emergent strategy" for activists revels not in conflict with corporate opponents but in apparitions of friendship in online threads and tips for weaving consensus processes. Seeking to transcend "protest politics," Boggs described her mentorship of younger organizers like brown as "projecting and initiating struggles that involve people at the grassroots in assuming the responsibility for creating new values, truths, infrastructures, and institutions that are necessary to build and govern a new society."[25]

Fred Moten acknowledges the Boggses' influence as an example of unpayable debts.[26] What he and Harney offer in place of governance is "study"—a term of art that is also resolutely plain, referring to the gathering and learning that takes place

among groups of people in spaces ungovernable to reigning institutions. Like the maroons of Saint-Domingue or the American South, study surely involves an order of its own, apart from the colonial university, a practice of insurgent self-rule. The maroons of study, for Harney and Moten, are never-settled communities of exodus. But their maroons undertake "fugitive planning." They study to plan; they plan so that they can find the space and time to study. To do either and therefore both, there must be something of the self-governance Harney and Moten seem at first to disavow.

These legacies of resistance speak loudly the more you listen: to be ungovernable in any durable way requires self-governing through everyday organizing. Platforms have enabled their users to feel ungovernable and powerful for a time. But without the means of self-governance, those sensations will be always fleeting.

Virality as a Colonizing Strategy

I once entered the office of a labor organizer to find her with her head in her hands. She was running a campaign in the ever-shifting, just-on-time, atomized theater of urban retail. Why so down? The workers were migrating to Instagram. At least on Facebook, she could corral them into groups and post updates. On Instagram, every message had to be hilarious or enraging or gorgeous if she wanted it to reach them. Sometimes the information an organizer needs to share is not any of those.

Rather than persistent groups or organizational membership, Instagram's eminent form of shared experience is the viral image, which circulates an affective impression of shared experience. To spread, the image must be the kind of image that *would* spread, according to the tastes of the poster's followers and the secret churning of the platform's engineering. An announcement for next week's union meeting may not qualify. An organizer trying to strengthen workers' bonds isn't interested in infecting them like a virus.

The rise of ubiquitous social media rode on waves of protest. Individual voices, linked with hashtags, seemed to herald collective liberation. Protests spread on social networks like never before: the Zapatistas in 1994, the Battle of Seattle in 1999, Iran and the Tea Party in 2009, and then the wave of 2011 that began in the Middle East and spread to Europe and Wall Street. The Umbrella Revolution, Black Lives Matter, #MeToo, End SARS, Standing Rock, and so many others followed. Believing that the new social media rendered foregoing social structures obsolete, activists experimented with direct democracy at the scale of thousands. But after the exhilarating viral moments passed, the social media that radically democratic protesters relied on failed to support persistent organizations.[27]

Despite the outpourings of promise and hope and near-term victories, 2011's digitally mediated uprisings have fallen under the police of Mohamed Morsi and the bombs of Bashar al-Assad, the famines of the Yemeni civil war and the warlords of Libya. "Pirate" political parties arising out of online protest have tended to collapse upon their first encounter with power, if they ever got there.

At the Occupy Wall Street encampment, reporters would arrive and be transfixed by the media center—the nerve center, the center of power because it was the producer of media.[28] And media were powerful indeed, as they aided in drawing thousands upon thousands of people into what began as a small, precarious protest. Videos of police attacking activists bred sympathy and attracted participants, who began entertaining a feeling that the movement might be on the brink of sparking some kind of revolution. At least at first. By early the following year, the videos didn't work the same way. An activist monitoring the analytics data noticed at the time that "riot porn is losing its luster for mass online consumption."[29] As the social-media attention waned, so did the movement's influence.

A decade later, nearly all the viral movements of 2011 had succumbed to emboldened versions of the forces they had opposed. The likes of Abdel Fattah el-Sisi, Vladimir Putin, Donald Trump, and Xi Jinping discovered how to outlast digital insurgencies, obscuring outbreaks of dissent under a deluge of obfuscation. Virality is a commodity online, and armies can produce it for themselves. Zeynep Tufekci offers an illuminating distinction: the networked "signal" of movements can be self-defeating without "capacity" to translate it into durable, adaptable organizations that can wield leverage long enough to achieve shared goals.[30] For movements that claim a democratic mandate, capacity for power requires capacity for sustainable self-governance.

The classic strategy of colonial domination—*divide et impera*, divide and rule—proposes to dominate by training subjects to feel an illusion of power through their conflicts with one another. On colonial platforms, too, users joust for influence and affirmation, identifying themselves ever more deeply with the non-transferable reputation they obtain. Virality is fleeting if it ever happens, but the possibility is there, feeding what Jodi Dean has identified as a fetish of circulation, an end in itself that supplants goals for political change. Before long we have recapitulated the final scene of the 1954 McCarthyist blockbuster *On the Waterfront*, in which the dockworkers flee from their union's problems into the arms of the boss, newly able to experience their common exploitation as individual liberation.[31]

Virality seems to offer a sort of ungovernability in the relentless freedom to say anything and constitute momentary publics. But the economy of virality does not bow to the drudgery or necessity of self-organization. Platforms optimize for "engagement" through chatter—not decision, resolution, or consensus. Community control is not in the specifications unless communities put it there themselves.

SPINNING WHEELS AND GOVERNABLE STACKS

The actor Charlie Chaplin met Mohandas K. Gandhi in London in 1931. Chaplin later recalled that, after a bout of anxiety about what to say, he began, "I am somewhat confused by your abhorrence of machinery."[32] Gandhi explained that machines were not the enemy, the empire was. He spun his own cloth to resist the British textile monopoly in India, which controlled the processing of

Indian-grown cotton through English factories. The competition with industrial looms, backed by imperial decrees, decimated traditions of homespun textile production. (Europe's looms of the time were highly sophisticated technologies, containing in their designs critical precursors to digital computers.) Gandhi called for people across India to join him in spinning their own cloth on simple devices under their own control—an act of political, economic, and cultural self-rule. As he explained to Chaplin, Gandhi traded a machine out of his people's control for another they could use with dignity. Three years later, after hearing a story about factory conditions in Detroit, Chaplin had shed his earlier confusion and began work on the classic satire of mechanized capitalism, *Modern Times*.[33]

Today Gandhi holds a tenuous place in the anticolonial canon. His ever-evolving vision of national liberation fell short of liberation for all, particularly people facing subjugation by race, gender, and caste.[34] His demands on followers, beginning with his own family, could be ruthless and cruel. And yet Gandhi was an anticolonial leader who was both especially resolute in articulating a strategy of self-governance and successful in the work of dispatching foreign occupiers. His success inspired more struggles from Soweto to Alabama. And his teachings combined that confusing attitude toward machinery with the practice of creative self-governance.

The flag of the pre-independence Indian National Congress had at its center a spinning wheel, the symbol of Gandhi's "constructive programme": self-rule, or *swaraj*, as the basis of both resistance and the society that would follow. After independence, the flag lost the spinning wheel, but by law it still must be made of hand-spun cloth. Gandhi believed that self-sufficient and self-governing people would become ungovernable to colonizers. He regarded this, not the more famous and visible acts of protest, as the heart of his politics. "Civil Disobedience without the constructive programme," he wrote, "will be like a paralysed hand attempting to lift a spoon."[35] The link between self-governance and resistance was so strong for Gandhi that he regarded his personal self-control, even in diet and sexuality, as intertwined with the fate of the independence movement. He was interested in technologies that he saw as better suited for community governance.[36] The spinning wheel was a cipher with which Gandhi encoded self-governance into the Indian independence struggle—by his stubborn insistence on using a governable tool.

The spinning wheel remains a cipher, a site of conflict over the meaning of Indian democracy. Hindu nationalist prime minister Narendra Modi, despite having political ties with Gandhi's assassin, promotes homespun cloth; he has organized photo ops of himself operating a spinning wheel. Modi has meanwhile shuttered boards that gave actual artisans a voice in policy, under the slogan "Minimum Government and Maximum Governance."[37] The technology of the spinning wheel itself does not guarantee self-governance, but for Gandhi at least it was the symbolic base from which ever-enlarging acts of self-governance could defeat an empire.

In the spirit of this technological cipher, I propose the pursuit of governable stacks—the webs of tools and techniques that can support self-governing online

communities. Governable stacks are cyborg assemblages of interoperating technology in symbiosis with human relationships.[38] Those relationships organize power in partnership with the technology more than through domination over it. Governable stacks are also an orientation toward ungovernable organizing under digital colonialism. They are the socio-technical substrate of governable spaces.

The geek-colloquial meaning of *stack* is a set of interoperating hardware and software. A tool higher up in the stack depends on those beneath it. Benjamin H. Bratton takes this usage further, describing the stack (or "The Stack") as "a new architecture for how we divide the world into sovereign spaces."[39] While he investigates The Stack primarily as medium of "planetary-scale computation," I want to turn our attention first to the stacks we experience at the scale of more immediate community. The planetary scale will emanate from those, but first of all a stack is a set of relationships. It might include all that enables one to use a social-media service, for instance: the server farms, the corporation that owns them, its investors, the software the servers run on, the secret algorithms that analyze one's data, the mobile device, its accelerometer sending biometric data to the server farms, the network provider, the backdoor access for law enforcement, and so on. The layers of a stack might further include the waterfalls or coal powering it, the wars fueled by rare-earth mining, and the mythologies and rituals that dictate what people in it will tolerate. Each layer is in fact multiple layers, and layers build on each other. The layers come with intersecting relations of dependency, along with emergent freedoms:

- *Community*: membership, codes of conduct, norms, rituals, relationships, economics, governance processes, histories, care work, education
- *Interface*: applications, servers, experience design, hardware, localization, usage constraints, access rules, operating systems, app stores, maintenance, repair, technical support
- *Infrastructure*: backbone networks, last-mile connectivity, government regulation, electricity access, network topology, legal ownership, corporate structure, hardware production, research and development
- *Ecology*: raw materials, health of workers and users, clean air, stable climate, resource-commons management

Recall how implicit feudalism spreads across the stacks where it occurs by filling power vacuums. Email is an open, decentralized protocol, but it has become dominated by a few companies who have used their friendly interfaces and market power to make the protocol a centralized dragnet. If a nondemocratic company holds legal liability at the legal layer of its stack, it will have to avoid running social-networking software that gives users enough decision-making power to conflict with its executives' control. The concept of the admin has spread from the design of server operating systems to the communities that arise on social applications. Centrally controlled technology has inspired a new breed of centrally controlled

organizations. These layers of the stack could, in principle, operate in distinct ways; in practice they rarely do. Feudalism at one layer demands it of other layers. But if feudalism can spread across stacks, surely democratic designs could, too.

Before governable stacks were a concept, they were an experience for me, particularly through an organization in which I have been an anecdotal participant-observer for a decade. May First Movement Technology is a cooperative that provides Web hosting, cloud services, and public education for a 850-strong membership composed largely of activist organizations in the United States and Mexico. It is a descendant of the Indymedia movement, which pioneered social media practices in activist communities at the turn of the millennium. Through the tools May First offers, I have been able to move much of my daily computing away from companies that surveil and extract and into servers I co-govern, running freely available software. I have formed relationships with the people who maintain these services and participated in decision-making over bilingual conference calls and online ballots. I learn about new tools from fellow members, and we sponsor events that teach people outside our membership how to challenge the power of big tech in their lives and their communities. This is slow computing, its pace measured not by bandwidth or processing speed but by attention to the social dimensions of everyday practice.[40]

While Silicon Valley elites escape to phone-free retreats and agonize about their children's exposure to screens,[41] May First offers no such "abhorrence of machinery." It does not accept the false choice between addictive, surveillance-addled apps and a fantasy of returning to blissful innocence. Instead, members share technologies that do what they need and that they can reasonably control. These technologies and the self-governance we surround them with are our stack.

For me, being part of a governable stack like May First has unlocked political possibilities. The experience has motivated years of working to build governable stacks elsewhere, because I know that it can be done. With time, ungovernable stacks have come to feel like foreign lands. I often use them out of deference to other people's comfort zones, as well as to my employer's policies, but they never feel like home.

Technologists seeking alternative visions have often gravitated to the Free Software and Open Source movements, which employ creative licensing to enable the sharing of accessible and modifiable code. These movements have been successful in terms of the sheer volume of widely used software in their commons. May First relies on commons-based software exclusively. But the movements' emphasis on the freedoms of individual users, as well as of corporations, has privileged those with the technical know-how to take advantage. The software commons has spawned operating systems that fly in military jets and databases that aid in the imprisonment of asylum seekers. In the name of freedom, too, developers have harbored sexism and other forms of exclusionary culture.[42] Governable stacks should prioritize community accountability alongside individual freedom.
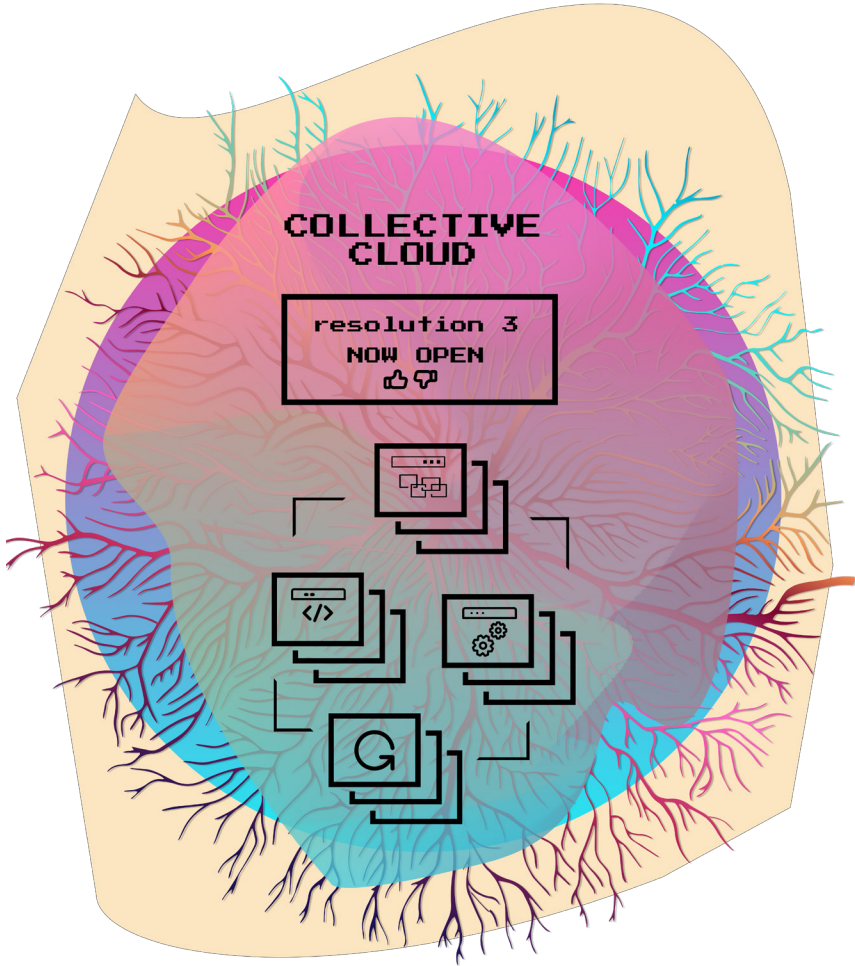
FIGURE 11.

Another strategy for challenging digital colonialism comes from labor power. Employees at Silicon Valley giants have achieved reforms by organizing against certain ethical outrages at their workplaces.[43] This can be a means of achieving greater governability for the communities those workers inhabit. Yet there are limits to what the campaigns are likely to achieve, since these workers are invested—often literally, through stock options—in the basic business models of their employers. Employees' actions can present the impression that their protest cleanses the colonial tools they produce. But governable stacks do not seek merely to improve the occupier. "Decolonization is not an 'and,'" as Tuck and Yang write. "It is an elsewhere."[44]

Experiences with governable stacks introduce us to possible elsewheres. The spinning wheel pointed toward an elsewhere—the invention of a democratic India—just as "feminist servers" in India today carry on and challenge that legacy, modeling a digital society free of patriarchy.[45] May First is an elsewhere for its members. Collectives, families, and movements can assemble and adjust their stacks over time, seeking to make their technological lives more governable wherever possible. Communities might go on using colonial platforms for education and organizing.[46] They might spread viral messages and enjoy what others share. But if they have governable stacks to go back to, they are more than just subjects. They are maroons, with swamps and forests of their own. There, they can imagine and work toward a world where they can be safe and powerful anywhere.

May First is infinitesimally small by the standards of the online economy. But spinning wheels are small, too, and they helped drive away the British Empire. Adrienne maree brown credits Grace Lee Boggs for helping her see the fractal nature of movements, that "what we practice at the small scale sets the patterns for the whole system."[47] There was a fractal in the free maroons of Saint-Domingue who stormed down from their mountains into combat with French troops so that the whole island could be free. There was a fractal in the spinning wheel on the Indian National Congress flag, extending from a traditional practice to an eventual industrial policy. Resistance can spread up and down the stack. Carefully chosen practices sever habits of dependency on the systems that otherwise seem inevitable. Echoing the Cold War–era Non-Aligned Movement among countries caught between the United States and the Soviet Union, governable stacks could be the basis of a new movement of digital non-alignment, asserting many diverse sovereignties against the dueling forces of Silicon Valley and Shenzhen.[48]

Stack Design and Pedagogy

Not all intentional stacks are governable. Groups dedicated to racism and authoritarianism have become particularly intentional about their network stacks, migrating to dedicated platforms such as Stormfront, Parler, and Gab as more mainstream networks remove them. These have tended to build their communities more around the appeals of persecution and provocation than promises of self-governance—although Parler, for instance, pioneered user juries for enforcing its sparse content-moderation policies.[49] Stacks are contestable spaces, and some self-governing is no guarantee that anything good will come of it. The particulars of design matter immensely, as do the kinds of political skills that communities teach each other.

For any layer or component of a stack, we might ask a common set of questions, along three vectors:[50]

- *Sovereignty*: Who is ultimately in control, and how? Is there too much reliance on external resources? What happens to the value that derives from labor and culture? How easy is it for individuals and communities to exit if they so choose?

- *Democracy*: How can participants be part of the flows of power? Are those flows explicitly stated and widely understood? Are interfaces accessible and culturally appropriate?
- *Liberation*: Does the stack resist systems of exploitation? Is it centering people and experiences that other stacks marginalize? Does it reduce unwanted dependencies? How could it spread to other communities and make self-governing easier?

The point of these questions is not a litmus test for knowing what is or isn't a governable stack. The point isn't to achieve governability and be done, but to continually seek more of it across more layers and vectors. The stack is never complete, any more than a community can be. Sometimes governability is possible through reconfiguring tools already available, or perhaps it is necessary to make new ones. Tiziana Terranova, who has proposed the idea of a "red stack," writes that insurgents can build "new platforms through a crafty bricolage of existing technologies, the enactment of new subjectivities through a *détournement* of widespread social media literacy."[51] One way or another, the point is to organize technologies that can bend with the ungovernable contortions of self-governing— technology for communities that can be, as Rosa Luxemburg hoped for, "supple as well as firm."

In the sense of Grace Lee Boggs's dialectical humanism, governable stacks invite the people who use them to change their relationship with technologies, to imagine different sorts of technologies, and to be changed themselves. We learn with each other, and we learn with the machines, which take on life of their own. Governable stacks enable what Christopher Kelty calls "recursive publics"— communities whose work is, at least in part, the making of what makes their community possible.[52] The stack is a cyborg cycle, and it is pedagogy. Crafting it, across its layers and vectors, means learning with it.

The Detroit Community Technology Project, developed under the tutelage of Grace Lee Boggs, uses education through stacks as a strategy for self-governance. The organization trains people to deploy locally managed internet infrastructures, particularly in majority Black neighborhoods that have been systemically underserved. In this work, organizers refer to Boggs's maxim of stressing "critical connections" over "critical mass."[53] This is because setting up a local WiFi node on an apartment building may seem small compared to the scale of a regional telecom monopoly. But in the shaping of imagination for people involved, small interventions like this can do far more than the scalability of the telecom ever could. To shift the stack and to learn with it is to make a rupture. While a stack run from above provides mere service, a governable stack can introduce experiences of shared power. Those experiences can shatter the telecom's claim that its dominance is inevitable. Whoever touches the governable stack risks recognizing that another kind of relationship with technology is possible.
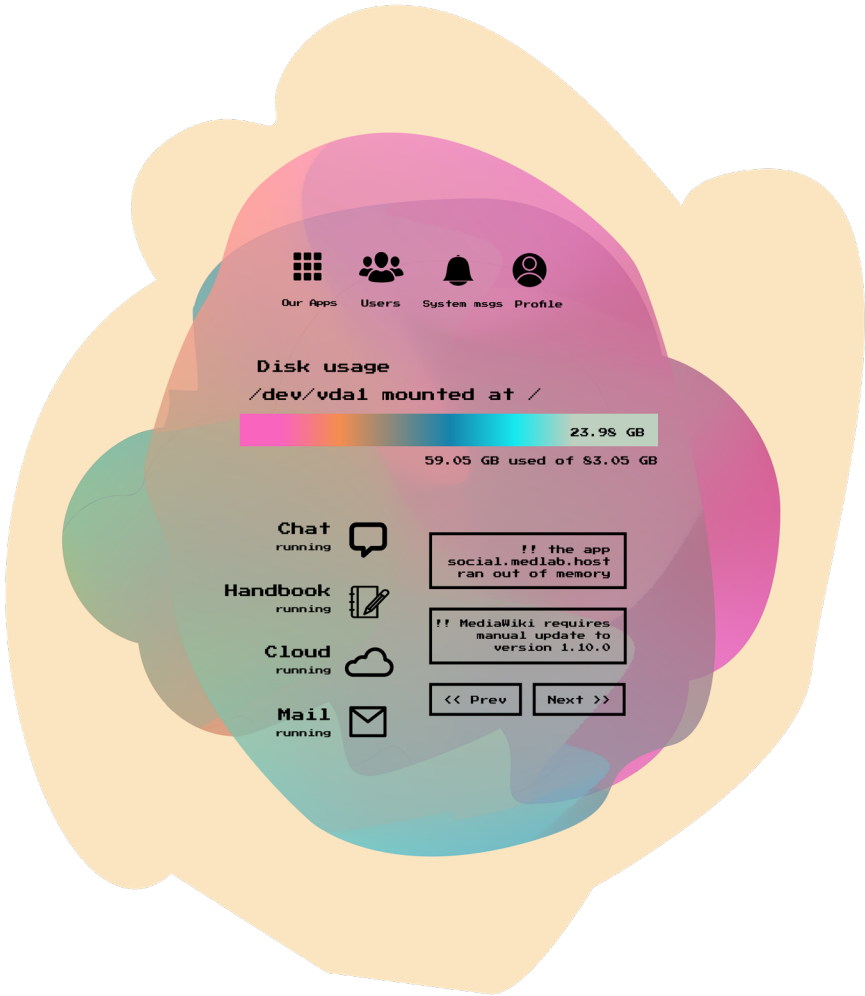
FIGURE 12.

The university lab I direct has also sought to manage a stack as an exercise in pedagogy and space-making. We operate our own suite of software for chat, file sharing, polls, websites, and multiplayer games. Students use these to collaborate, and those who are interested can learn to be co-administrators.

The lab's "cloud" is an ever-evolving experiment, still short of what I would hope for from a governable stack. Most students have yet to play much of a role in decision-making or design. The stack also resides on the servers of a faraway hosting company; I hope someday that students can hear the hum of the machines running their tools. And I question whether our stack is challenging any colonizers. Its hiccups often seem to remind students why they prefer systems that

powerful companies manage for the price of their data. At least so far, I fear that our steps toward governability might have taken us at least as many steps back. We feel alone in what we are doing, and that makes the frustrations all the more demoralizing. It becomes easier for any one group to make its stack governable when others are doing the same.

What user-experience designers call "friction"—when a technology requires extra work from users—is instructive. Friction reveals what is not being designed for and what runs against the grain of dominant systems. Friction happens a lot for those building governable stacks, and it happens a lot in our lab. But then there are also times when the stack simply works, to the point that we stop noticing all of the tinkering and learning that it took to get there. Governability feels available and obvious. These moments are worth observing, too, because they show that governable stacks could be normal as the organizing logic of our online lives, so expected and obvious that we have to stop ourselves to notice. When we do notice, we start to see how rudimentary governability could become the basis for even more.

MODULAR POLITICS

In my town there is a manufactured-home park that has been searching for the right technology to support its self-governance.[54] It recently became a cooperative when the residents organized to buy out their landlord. They are sensitive to the prospect of ending up in an exploitative relationship again. As they explore what their stack might involve, they face a minefield. The local telecoms have a history of poor service and high costs in low-income communities. Corporate cloud services for file-sharing and communication aren't well equipped to serve residents who, in many cases, lack access to the latest machines and apps. Popular collaboration software does not have features meant for cooperative decision-making. Implicit feudalism reigns. Every layer of the stack grinds against their self-governance—a burden that the residents don't have time or money to deal with.

Imagine, then, a different set of options instead. Internet service comes from a local cooperative, deploying high-speed fiber connectivity at cost; one of the residents is on the company's board. Along with similar communities elsewhere, the residents are part of a software cooperative that provides communication tools focused on self-governance among people with varying access to devices. The major processes outlined in their bylaws occur on the platform. After a few years, the residents decide to shift from having a single board to organizing through working groups, each focused on particular aspects of running the neighborhood. On their platform, they simply replace the Board plugin with one for interconnected Circles. When some members fear the platform is collecting too much personal information about them, they are able to satisfy the concern with a discussion at the platform's next annual meeting, where they pass a resolution that changes its data retention policy.

Elinor Ostrom conceived of the experience of self-governance as an "action situation." Faced with a decision, what choices does a person or group have at hand? An action situation occurs within an "action arena," the context that situates the available options. What changed for the mobile home park between the reality and the speculation was how a different stack makes for a different action arena.

Modular politics is a model for the design of action arenas in online spaces that I developed with my collaborators in the Metagovernance Project, an online network of researchers and builders.[55] We imagine this model as a foil to implicit feudalism, the basis of an emerging "governance layer for the internet." It is a workshop for artisans of self-governance. To that end, we outlined four design goals:

Modularity   Platform operators and community members should
                have the ability to construct systems by creat-
                ing, importing, and arranging composable parts
                together as a coherent whole.

Expressiveness   The governance layer should be able to implement as
                wide a range of processes as possible.

Portability   Governance tools developed for one platform should
                be portable to another platform for reuse and
                adaptation.

Interoperability   Governance systems operating on different platforms
                and protocols should have the ability to interact
                with each other, sharing data and influencing each
                other's processes.[56]

Together, these goals provide the foundation for experimentation with and the circulation of governance designs—exactly what implicit feudalism inhibits. Tools that implement modular politics could be embedded in many kinds of online spaces, from social media and productivity tools to labor markets and virtual classrooms. Modularity means that insights from one kind of community can be combined with those from another. Portability means that a third community can adopt them both, even in a different kind of technical and social context. A group of environmental activists, for instance, could adopt a voting module designed for an online game and connect it with their own code of conduct. Interoperability means that the group's decisions could spread to other similar groups around the world; when a critical mass of them agree about something, it could trigger a global mobilization. Expressiveness means that modules can be designed to enact many kinds of processes, reflecting diverse cultural traditions and regional norms. Evolution thrives on diversity. No system will be neutral, but designers can set out to make it as pliable as possible, avoiding the temptation to simply replicate the architecture of the computer or the culture of its builders in the design of social spaces.

In 2017 I was part of a small group that founded Social.coop, a self-governing social network. Our primary service for members is to maintain a server running

Mastodon, the open-source social media platform.[57] To set up the system in a way that resembled even the most basic kind of cooperative, however, we needed a lot more than Mastodon, whose design cleaves to implicit feudalism. For deliberation and decision-making, we turned to Loomio, the platform developed on the model of consensus process in the 2011 Occupy encampments. To clarify what counts as a decision and how to hold one, we set up a wiki to manage bylaws and other documents. The payments platform Open Collective, designed to support open-source projects, enabled us to collect dues, pay expenses, and manage our membership. Working groups turned to Matrix chat rooms for day-to-day operations. In order to assemble a governable stack, we had to make the internet bend over backward and require our members to create way too many accounts. Even then, our self-governance has continued to feel like a necessary hack, like we are always paddling upstream rather than following a natural flow.

If platforms like Mastodon were to support a modular framework for governance design, stacks could evolve more in step with the communities that use them. While some layers of a stack should serve as a stable foundation, others might need more rapid experimentation—just as national constitutions are harder to change than local laws.[58] The increasingly divergent rulesets in different language editions of Wikipedia, for instance, suggest that online communities can benefit from adapting their governance to particular contexts.[59] As Elinor Ostrom put it, evolution across multiple communities helps produce institutional diversity: the mix of overlapping, interacting structures that reflect the complex realities and needs of human societies.[60] Modular designs can enable stacks to better reflect the multiplicity of their communities.

Since developing the modular politics framework, my collaborators and I have begun to see it coming to life. One of us, Amy X. Zhang, has developed a prototype governance platform called PolicyKit, which adds governance functionality to popular social platforms; the Metagovernance Project experimented with making it more modular and expressive through a further prototype called Gateway.[61] At Social.coop, we have used Gateway to integrate our cash flow on Open Collective with our decision-making on Loomio; once a decision reaches a certain threshold of approvals, the payment attached to it proceeds automatically. In small ways like this, we have begun to experience inklings of a governable stack.

Modular thinking has been spreading far more widely than our experiments. The civic participation platform Decidim, used largely by city governments for citizen feedback, has a modular structure. Its growing library of modules ranges from specific decision-making mechanisms to integrations with other platforms.[62] The platform continues to evolve through a governance process that runs on the platform itself. But most explorations of the modular approach have been in the context of blockchains—the kinds of online spaces where shared ownership is the default, where co-governance of some kind is necessary for anything else to work.

The stacks that support DAOs and other crypto communities need to include at least some basic technologies for participant governance. Safe, the most popular

"multisig" wallet that DAOs use to manage their digital assets, expects communities to set a certain threshold among their members to approve a transaction. But Safe also supports a project called Zodiac, "an expansion pack for DAOs" that enables communities to create and adopt diverse governance modules. Another widely used tool for building DAOs, Aragon, has been entirely rebuilt with a modular design, supporting governance applications that run on a core "kernel." OpenZeppelin, a software library for building crypto applications enables users to design and assemble governance processes with modular bits of code.[63] My collaborators at the Metagovernance Project have convened these organizations and more like them in DAOstar, an effort to develop shared standards for DAOs, enabling greater portability and interoperability among them.

Systems that implement modular politics offer a wider canvas for governable stacks. The canvas raises a new set of questions: What palette will people use to paint it? What habits and biases and histories will inform the images we create?

GOVERNANCE ARCHAEOLOGY

Cowrie shells may be the most widespread and persistent kind of money in human history. The former homes of small mollusks, the shells are usually smooth, even shiny, except for the toothed edges that run along a lengthwise slit. For millennia they have been used to store and exchange value from Africa, China, and India to inland parts of pre-Columbian North America. Europeans harvested them in bulk from the Indian Ocean in order to buy enslaved West Africans. But they were not just cash. Cowries have also served as jewelry, aids in divination rituals, gambling chips, and ballast for ships. On the wampum belts of Indigenous North Americans, they served to establish contracts, treaties, and histories.[64]

From the financial to the mystical to the artistic, the cowrie's array of uses is not unlike what people hope to enable with blockchains. This new kind of programmable ledger may not be as wholly new as some claim. Among the creative and horrific annals of cowrie use, surely there are lessons for making governable stacks today.

How we imagine governance histories will orient our responses to governance crises and governance opportunities. "When people decide important matters, they turn to the past," writes political theorist Anne Norton. "They look to history and custom, they consult the advice, the wisdom and the dreams of the past. They are not bound by the past, but they bear it in mind. The past does not rule them, but they go forward mindful of those who came before."[65]

Thomas Jefferson's library, now reconstructed at the Library of Congress in Washington, DC, reflects a culture concerned with mimicking Greek and Roman antiquity. The founding governance documents he co-authored root their authority in that particular history. The Indigenous societies of his immediate surroundings also influenced Jefferson and his ilk, but his colonial ambitions depended on regarding them as "savages," not as sources of inspiration.[66] Organizing a new

institutional order is in part a matter of organizing a set of relationships with one's predecessors.

Governance archaeology is a practice of intentionally crafting relationships between new governance designs and preexisting legacies. Conventional archaeology deals with the remnants of the past that are still here in the present, unearthing them for study and displaying them for the purposes of the living; governance designers do something similar, whether consciously or not. They draw on their muscle memory and their ancestors when deciding what seems right and what might work.

Political scientist Federica Carugati and I began devising the concept of governance archaeology as we assembled a database of collective-governance institutions across time and space.[67] Our hope for the database was to find ideas applicable to present challenges in the online economy, but its applications extend beyond just online contexts. If political institutions are ripe for reinvention all around us, what kind of library will inform their replacements?

Recent popular works of "big history" attempt to render the long sweep of the human past useful for innovators. Yuval Noah Harari's *Sapiens*, widely read in Silicon Valley and its allied subcultures, regards technology as an especially motive force, constraining and unlocking the spiritual-social options of any given epoch. In response, David Graeber and David Wengrow's *The Dawn of Everything* retraces the archaeological record as a story of staggering diversity in governance forms, an invitation to devise similarly diverse arrangements in the present.[68] Both works have captured public attention and appear on the bookshelves of today's elites. Governance archaeology is an attempt to make the relationships between legacies of the past and designers of the present more explicit, more rigorous, and more self-aware. The goal is not simply to amass a larger quantity of reference points but to refer to them more responsibly.

The case of Jefferson is a reminder that colonial relations distort historical knowledge—from his nostalgic perception of southern Europe to his erasure of the Indigenous federations and the African diaspora around him. Governance archaeology must see such power relations and interrogate them. A decolonial posture might begin with two steps: expanding the canon of democratic legacies while repairing relationships with legacies that have suffered violence, ignorance, and subjugation. On repeat, these open us to what decolonial theorist Catherine Walsh describes as "a past capable of renovating the future."[69]

To expand the canon is to attempt something like the "ecology of knowledges" that Boaventura de Sousa Santos proposes.[70] In such an ecology, cowrie shells and blockchains can inhabit a common universe, together with the coins of medieval Italian city-states and the concurrent *hawala* money-transfer system across Islamic trading networks. Among these, de Sousa Santos challenges us to practice "radical copresence": a juxtaposition across lines of culture and power that refutes the centrality of the dominant narratives. For instance, Athens was but one example of democratic governance in the ancient world. Republics could be found

among cities in what is now India, including cases of choosing leaders by random lot. Hereditary chiefs around the world have had to respect long-evolved collective decision-making processes in their communities.[71] Each social artifact we collect in our database is distinct, and each bears lessons that could inform the design of governable stacks. The Western canon of political history becomes only one legacy among many.

The second step of governance archaeology, the repair, means cultivating relationality. It aspires toward ancestry—learning to regard those we learn from as political ancestors, while we work to become good descendants. "The role of the ancestors," explains Ronaldo Vázquez in an essay on decolonial listening, "is not a passive or a conservative one, but rather an active source of meaning."[72] Descendants should want to be worthy of what they learn. They must also be willing to question their ancestors' convictions and add their own experience to what they inherit.

Transformative justice activists, for instance, frequently acknowledge that practices such as accountability circles draw on living-yet-suppressed Indigenous legacies. Through the adoption of those practices, alliances form. They use the term BIPOC—Black, Indigenous, and people of color—to stress solidarity between the two most violently oppressed groups in US history. They recognize efforts to address assault in Black communities alongside struggles seeking justice for missing and murdered Indigenous people.[73] Common practices breed common causes.

Ancestry is not a one-way relationship. It is not automatic. It asks more of designers than to take and apply; it expects reciprocity, and reciprocity comes with opportunities of its own. Perhaps, before including a historical voting mechanism on a governable stack, designers should speak with the direct descendants of the people who developed that process and ask how they see it today. Asking permission may be appropriate if there is an authority in a position to grant or refuse it. When a stack produces value from a community's insights, royalties or reparations might go back to that community. There is no formula for reciprocity. Yet if the current moment is to be a formative one, akin to that of Jefferson, the new governable stacks should relate to their precursors more honorably than he did.

Stacks are assemblages of living beings, institutions, and technologies, assembled so the components can be more powerful together. It is for power, also, that militaries and corporations assemble stacks under their own control. Colonial stacks are ubiquitous in online life for many of us. They impose surveillance, economic exploitation, and social control within and across borders. Long before digital colonialism, the anticolonial tradition has shaken off empires through techniques and technologies of self-governance. The act of making useful, governable stacks will refute colonial claims that democracy has no place on networks or that it is too difficult. Governable stacks are confrontations. They wear down the reigning assumptions. They show how so much more of our online world could become governable space.
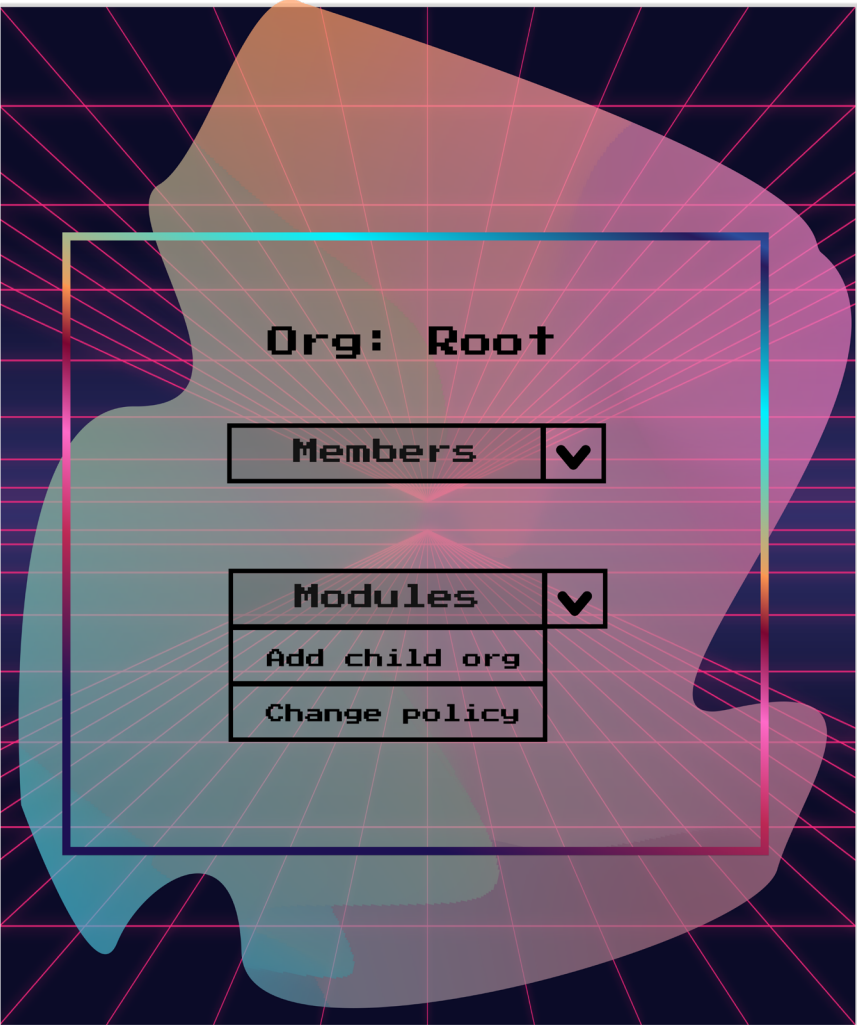
FIGURE 13.

Modpol

modpol.net

Modpol is a self-governance toolkit for communities in online worlds. My collaborators and I created the first implementation in a multiplayer game called Minetest, an open-source, noncommercial game developed by its players. Minetest resembles the more popular Microsoft-owned game Minecraft. Our goal was to translate the modular politics framework described in chapter 4 into code. Doing so has forced us to clarify the framework in greater detail than outlining it in words and to contend more directly with our underlying assumptions and biases.

With Modpol, Minetest players can form groups, called "orgs," and choose the set of governance modules available in the orgs they form. They can also create their own modules in Lua, a programming language often used for modifying games. Modules can activate other modules; a module to admit a new org member might call a module that needs everyone's consent, or it could call a coin-flipping module, or it could defer the question to another org. While figuring out how to make this work, there were a few design decisions we made that helped Modpol depart from the pattern of implicit feudalism:

- *Groups over roles*. Instead of assigning powers to particular users, Modpol assigns powers to orgs. Ultimately, it is on the level of org membership not individual permissions that things happen. Orgs can make decisions using whatever modules they choose. They can use the consent module we created to approve decisions with a certain threshold of votes; they can also defer an approval to a one-member org if they want a role-like structure. But sovereignty stems first from the collective, not an individual.

- *Freedom over authority*. The default setting for org decisions is trust—any user can take any available action within an org. The system does not assume that one admin holds all the power. Org members can change that and create an admin structure (or anything else), but they have to do so intentionally. Autocracy is just one option among many for how to run a group, rather than being the presumption at the outset.

- *Inheritance over blank slates*. Usually, new spaces for online groups on a platform start out the same. Real social life, however, is infused with habit, tradition, and muscle memory. Modpol reflects that. When new orgs form within existing orgs, they inherit the rules of their parents. Those rules can be changed. But the rules begin with whatever users were already doing.

Minetest is a game for building worlds. Players explore landscapes, gather resources, and use them to create the kinds of spaces they want to inhabit and show off. Modpol is also meant for building. Players can create worlds of interlocking orgs, each with their own rules and processes. Modpol could be used to organize teams for Capture the Flag or to govern an anarchist castle. It is an engine for organizing self-governance.