

The Enrichment and Decay of Ionia

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As a fiction writer, my only real domain of expertise is things that have not happened. Fortunately for my relevance to this workshop, the creation of a new country where democracy can be reinvented without the burden of precedent *is* something that has not happened. So I thought I would tell you about when it did: 90 years from now, in Ionia. Not the region of Anatolia, but the experimental polity that took its name as both an homage to the birthplace of Western philosophy and a reference to ionizing radiation.

There were, by then on Earth, seven nuclear exclusion zones with areas in excess of 50 square kilometers. These were quarantined regions of radioactive contamination that made them uninhabitable—though not historically uninhabited. In several sat abandoned towns, full of silent streets and sun-bleached facades. The evacuated infrastructure of displaced communities, superficially hospitable, scintillating with invisible danger.

Ionia was built in one of these, its occupation made possible by the *Thermococcus gammatolerans*-derived gene therapy that improved the DNA repair capabilities of human cells. It was an involved procedure to edit all of the body's many different cell lines, but it was necessarily undertaken by every Ionian resident-to-be. And though it made life in Ionia possible, it did nothing to enable subsequent departure. Bioaccumulation of radionuclides meant that, without weeks of chelation therapy to remove heavy metals from their tissues, longtime residents of Ionia would be walking nuclear hazards anywhere else. Becoming an Ionian was, for most practical purposes, a permanent decision.

For its founders, this was a feature. They dreamed of a community of the sincerely invested, engaged with and beholden to one another. A community infused with the kind of trust that requires a costly signal of commitment. So costly that though the Ionians maintained a standing offer of subsidized gene therapy for any of the displaced who originally called their city home, few availed themselves of it, and fewer still chose to return. The early immigrants to Ionia were almost exclusively those captivated by the grandeur of the political experiment itself.

Among Ionia's architects were a number of ecologists, people who thought of government as a kind of biological adaptation, a component of humanity's extended phenotype. Like any biological system, it was bound by the inverse relationship between efficiency and resilience. So, Ionia was an intentionally inefficient experiment in direct democracy. Direct democracy is, of course, often criticized as inefficient, but the Ionians embraced this. It is criticized, too, for the difficulty of educating the populace on all the decisions they must make. The Ionians realized that the results of elections themselves could be all the education an electorate required, provided they were sufficiently inconsequential.

Tuesday in Ionia was election day. Every Tuesday. The ballot was consistent, with propositions listed in order of how long they'd been continuously upheld. Voting was done electronically, with secrecy and verifiability ensured via homomorphic encryption. Each voter's ballot was submitted not on its own but re-encrypted alongside last week's; Ionian elections were decided by anonymized and aggregated voting histories rather than individual votes. This was necessary because elections in Ionia were not a matter of strict majority rule. Ionians believed that the voice of the minority should, at times, be amplified above other voices, for both Madisonian reasons and to increase the sample of empirically tested ideas. The minority threshold they chose was 20%, and so they adopted a principle of one person, four votes.

Picture an Ionian Tuesday that finds a new proposition on the ballot. No one has ever voted on it before, and so everyone's vote is counted four times. The proposition passes, with 80% in favor and 20% against. A week later, it's on the ballot again, and all vote as they did before. Those in the minority, having lost last Tuesday, still have all four of their votes. Members of the majority, having won, now only have three votes each for this proposition. If all else remains the same, next week the majority will have their votes counted twice, and the week after only once. Thus, after four weeks, the 80% whose votes count once will tie with the 20% whose votes still count four times. Ties in Ionia defaulted to continuity, and an Ionian's voting power never dropped below a single vote, so this situation could theoretically maintain forever. But

if the 20% minority can convince a single extra person to see things their way, then they will win. By five votes, since in Ionia it was assumed that a voter changing their mind did so for good reason, and so regained full voting power.

Of course, the minority will have to use their week of victory to persuade many more people if they want to keep on winning: next Tuesday, as the winning side of the last election, they will have only three votes apiece. If they do convince enough new people to join them to win for a second week in a row, then in the election after that they'll have only two votes each, and the ones who switched sides last week will only have three. Moreover, anyone who consistently voted with the majority, having now been on the losing side for two elections, will have a vote restored to them. In Ionia, every two consecutive votes on the losing side of an issue gave a person one more vote on that issue, up to the maximum of four.

It was an inherently unstable system, one that allowed cycles and reversals. That's what its designers wanted: instability balanced by continuous feedback, like a living body maintaining active homeostasis. In practice, Ionian elections did not settle into polarized periodicities. Instead, a system that didn't allow lasting consolidation of electoral power forced people to negotiate solutions that were, on the whole, acceptable to everyone—or at least more acceptable than the disruption of them being regularly overturned and then reinstated.

Also, Ionians usually didn't all vote on the same propositions. The Ionian system incentivized people to not vote on things they didn't care about. By not voting on matters they thought unimportant, they maximized their own future power should the issue ever become important to them.

As for the propositions themselves, they were introduced to the ballot by legislators, who were chosen from geographic districts by sortition to serve staggered, eight-month terms. They self-organized into committees and raised the issues of their constituencies. Any legislator could unilaterally add one item to any ballot, but most additions were the result of deliberation. Each ballot item listed its endorsing legislators, and unanimous endorsement was not uncommon, as the electoral system motivated lawmakers to do their consensus-building work in advance.

Removing an item from the ballot required a ballot proposal to do so, which, if passed, would remove both the targeted item and the proposal itself. These were usually used to remove things no longer relevant, like authorizations for completed projects. Removal props were sometimes used, though, as statements of protest or to spark discussion. Every few years there would be a removal prop for the item at the top of every ballot: the ratification of Ionia's system of basic income. Those were always paired with or closely followed by a removal prop for that removal prop.

The norm in Ionia, when it thrived, was for the ballot to remain largely consistent for months at a time, the weekly election more often a ritual of collective affirmation than a clash of ideas. And Ionia did thrive, for a while. The first residents, once established, were able to build on their unique strengths as a radiation-resistant population. As Ionia grew and reinvested in itself, it became a hub for various forms of waste disposal, materials processing, and radiopharmaceutical fabrication. The depots and drop points at the edge of the exclusion zone expanded, over time, into sprawling distribution centers. These were joined by clinics and dormitories, for the newcomers receiving their gene editing and departing Ionians undergoing chelation therapy.

There were tumultuous periods. The construction of the chelation clinics was one. The children of Ionia, once grown, were not all as happy as their parents to accept isolation from the rest of the world, and they demanded the freedom of departure. But there was much debate over the wisdom of lowering the barrier to exit and what effect doing so would have on social cohesion.

It was not a lowered barrier to exit that doomed Ionia, though, but rather the loss of the barrier to entry. After 60 years, Ionia was forcibly reintegrated with the rest of society. It had never been officially sanctioned, merely too inconvenient to quash, and, later, convenient to ignore. But after two half-lives

of cesium-137, the environment was susceptible to bioremediation. The region was decontaminated, and the city claimed, renamed, and stripped of self-governance.

After its fall, it was often said that the shield of radiation was all that had allowed such a thing as Ionia to ever exist in the first place. One erstwhile Ionian, confronted with this opinion, famously replied that, if it was true, then they hoped someday the whole of the world might glow in the dark.

About the Author

Eugene Fischer is an author best known for writing fiction about the intersections of society and biology. He's won the Otherwise (formerly Tiptree) Award for speculative work that explores and expands concepts of gender and been a finalist for the Nebula Award and Theodore Sturgeon Memorial Award. He holds an MFA from the Iowa Writers' Workshop, where he created the program's first undergraduate course on writing science fiction. He lives in San Antonio, Texas.

About the Ash Center

The Mission of the Roy and Lila Ash Center for Democratic Governance and Innovation is to develop ideas and foster practices for equal and inclusive, multi-racial and multi-ethnic democracy and self-government.

About the Second Interdisciplinary Workshop on Reimagining Democracy

This essay was adopted from a presentation given at the [Second Interdisciplinary Workshop on Reimagining Democracy](#) held on the campus of Harvard Kennedy School in December 2023. Convened with support from the Ash Center for Democratic Governance and Innovation and the Belfer Center for Science and International Affairs, the conference was intended to bring together a diverse set of thinkers and practitioners to talk about how democracy might be reimagined for the twenty-first century.

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