SELF-GOVERNANCE IN SCIENCE

Commercial and academic communities use private rules to regulate everything from labor conditions to biological weapons. This self-governance is vital in the twenty-first century, when private science and technology networks cross so many borders that traditional regulation and treaty solutions are often impractical. *Self-Governance in Science* analyzes the history of private regulation, identifies the specific market factors that make private standards stable and enforceable, explains how governments can encourage responsible self-regulation, and asks when private power might be legitimate. Unlike previous books that stress sociology or political science perspectives, Maurer emphasizes the economic roots of private power to deliver a coherent and comprehensive account of recent scholarship. Individual chapters present a detailed history of past self-government initiatives, describe the economics and politics of private power, and extract detailed lessons for law, legitimacy theory, and public policy.

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Self-Governance in Science

Community-Based Strategies for Managing Dangerous Knowledge

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For the organizers: Leo Szilard, Richard G. H. Cotton,
Markus Fischer, and all the other scientist-entrepreneurs
who proved the skeptics wrong

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Preface

I thought this project would last a year or two.

That was in 1999. I had just written an article on whether Congress should pass new legal protections for science data.[1] Two days after the piece appeared, the late geneticist Dick Cotton sent me an e-mail asking if I would help six hundred mutations biologists negotiate with industry to create a community-wide database.

I felt sheepish, not least because I didn't know all that much about science data. But this seemed like a good way to learn, and the idea of a community-wide initiative intrigued me. Then, too, the project suited me. I had been a business lawyer, so I knew something about transactions. Also, helping Cotton's group would let me try out ideas about how private governance worked. Amazingly for a social scientist, I could experiment.

In the end, I spent hundreds of hours on Cotton's project. As I report in Chapter 5, the results were mixed. The good news is that I quickly saw that success was possible. I suppose that sounds like small beer, but skeptics like to dismiss self-governance as obviously insincere ("public relations") or wrongheaded ("like herding cats"). What I had seen instead was that the great majority of mutations scientists wanted this project to work. If self-governance was a fraud on the public, then these scientists were also victims.

More importantly, I began to see what the "cat-herding" trope missed. When I joined the project, Cotton was still trying to convince colleagues one at a time. At this rate, persuading all six hundred community members really would have been impossible. But as Web pioneer Tim Berners-Lee once said, organizing private standards is like pushing a sled: hard at first, but then progressively easier, until finally all you can do is hang on.[2] I particularly remember one meeting where opponents who had sniped endlessly at Cotton's project began to realize that success was possible – and

that they might be left out. Suddenly, in the space of an afternoon, everyone wanted to help. I knew that Silicon Valley standards wars often ended with one side's collapse, but seeing the thing happen in life was amazing.

And yet, despite this, that first experiment deadlocked. In its way, that was even more instructive. Like everyone else in America, I grew up in a society that takes majority rule for granted. But why exactly should that be? The mutations initiative started to unravel when just three out of eighty-some members loudly announced that holding a long-planned vote was "unethical" and would "split the community." On the face of things, the tactic was absurd. Even so, it worked: three hours later, the majority shuffled out of the meeting without ever having called for a show of hands. If I had been an activist I would have been crushed. But I wasn't an activist, I was an observer, and the whole thing intrigued me. The usual democracy rhetoric never says much about dissenters except to praise them. Now I saw that there was more to think about. The sheer weirdness of the outcome hinted at a deeper theory.

Later, I tried again. In 2006, the Carnegie and MacArthur foundations asked my Berkeley project to help a second group of academics – "synthetic biologists"* this time – organize an antiterrorism standard. In many ways, the result turned out to be a replay of the mutations experience, this time with a single dissenter staring down almost two hundred colleagues.

By now I was addicted. In 2007, business executive Markus Fischer asked me to help develop a private standard to make sure that companies that make artificial DNA did not accidentally sell, say, smallpox genes to terrorists. Third time lucky. Partly this was about culture: business executives focus on results, and if the meeting had failed, I think the participants would have cursed the organizers for wasting their time. But other phenomena were more familiar. Once again, there was a dramatic tipping dynamic: once Big Pharma giant AstraZeneca began praising self-regulation, firms that had bitterly opposed private standards frantically reversed themselves. Three months later, Fischer's European trade organization standard and a near-identical American copy had spread across the globe. The thing could work.

So I had my experiments. I saw how they resembled one another. I had puzzles that didn't make sense. Best of all, I could see that the usual bumper sticker reasoning ("public relations," "herding cats") was not nearly good enough. But in that case, I had to wonder what a really correct theory would

* Synthetic biology can be adequately if loosely defined as the branch of genetic engineering that uses artificial DNA to perform experiments.

look like. The obvious next step was to fit what I had seen into conventional social science. I began by doing what I should have done all along – chasing the literature in libraries and on the Web.

The more I read, the more I realized how much history really did repeat itself. Academics had already obsessed about "splitting the community" at the 1975 Asilomar Conference on Recombinant DNA, where biologists had taken the first tentative steps to regulate genetic engineering. In the Nineties, big companies had repeatedly bullied suppliers to self-regulate in multiple industries ranging from food to coffee to fisheries. Above all, I saw how often self-governance had succeeded. The food in grocery stores was almost entirely governed by private rules and private timber regulation was roughly as burdensome as the government kind. Most strikingly of all, American physicists had once blocked Nazi Germany's last, best chance at an atomic bomb.

My library phase took a long time. Like many interdisciplinary subjects, the central papers were scattered in strange places – obscure political science journals, specialist law reviews, even forestry periodicals. This made progress much slower than it should have been. Even today, most practitioners still struggle to get their arms around basic facts. As for theory, authors seldom offered more than an offhand sentence or two. Then, too, what they did say almost always drew on sociology and political science. This was not surprising for a subject called "governance." But it ignored a great deal. Surely it mattered that private organizations had replaced government's famous "monopoly of violence" with economic signals. But markets are usually celebrated for giving people what they want. So why did some markets do the opposite by conferring power over others? And how did this shape the way private governance was practiced? Somehow, the subject needed to make contact with economics.

At this point, the reader could be forgiven for thinking that I wrote this book on the Edmund Hillary principle that self-governance is mostly interesting "because it's there." But in truth, there are better reasons. The first is practical. I have already said that most scientists support self-governance. But it is equally true that I have never met a single community member who came to the subject knowing much more than the magic word "Asilomar." This is profoundly disabling: a community that does not know its own history wastes endless time reinventing bad ideas. If anything, the deficit was worse for government officials. Some years after 9/11, the FBI began asking academic and commercial biologists to join "stakeholders conferences," transparently hoping that participants would volunteer to regulate themselves.

But in fact, the agents knew next to nothing about private standards. One FBI agent even told the press that public problems are "not something you can solve in a meeting in a hotel conference room."[3] Anyone who knew even a little history could have told him: for private regulation, that's *always* how it's done.

The second reason to study private governance is intellectual. The founding generation of modern political scientists – figures like Harold Lasswell and Robert Dahl – had rebelled against pre–World War II traditions that equated politics with the lawyerlike study of government and its rules. Politics, they protested, was timeless and universal, something that happened every time humans tried – which sooner or later they always did – to organize collective action. The profession's first efforts to separate politics from institutions had encouraged comparative studies across hundreds of jurisdictions. But those results were more limited than they seem, not least because practically all modern governments either descend or pretend to descend from the same eighteenth-century blueprints. Elinor Ostrom's great contribution in the 1990s had been to expand the universe of case studies to include informal and nontraditional governments. But her examples were almost always preindustrial and depended on norms and cultural facts that had vanished centuries ago. Modern audiences were bound to find these lessons obscure.

The New Self-Governance is different. It exists today. The players look exactly like the rest of us. Best of all, it is inventive: while every large organization claims to be "democratic," it does so through wildly different institutions. This ought to be a godsend for scholars.

My final set of reasons relates to policy. Despite hundreds of empirical papers, scholars still write about the New Self-Governance's law and legitimacy challenges as if the whole subject were hypothetical. This ignores most of what we know about real initiatives. Worse, general problems are hard to solve. Progress might come faster if we focused on the "special cases" that actually exist.

In the meantime, there is a growing urgency. For the past decade or so, it has become conventional for national security scholars to call for private governance.[4] But they have said almost nothing about how to go about organizing such ventures, so that the advice they give to policymakers – that governments should pursue "creative partnerships with stakeholders" and "drive change within the system"[5] – is mostly platitudes. This is unacceptable. Governance scholars have studied this subject for a quarter century now. We can do better.

Looking back, I am glad that I took a practical path into this subject. Aside from the sheer pleasure of the thing, it fed intuitions that I might never have noticed from written sources alone. All the same, it raises obvious dangers of subjectivity. The best answer, I think, is that intuition is only scaffolding. A theory is either right or wrong. It explains the previous literature. It predicts. Or it doesn't. Either way, the final product is what matters.

Despite this, I have also taken two explicit precautions against subjectivity. The first was to remember that a good lawyer focuses on process and solutions but respects his client's goals. This helped me maintain a certain detachment. I think it is fair to say that I never much cared which side won the substantive arguments I witnessed, so long as the debate itself proceeded fairly. The fact that many of the arguments were highly technical made this easier than it sounds.

Finally, I have relied on the usual discipline of scholarship. Practically all of the facts that follow are footnoted in the conventional way. Granted that I have occasionally added my own testimony; this is mostly in the spirit of entertainment. Nothing depends on these additional facts, and the careful reader will find that she arrives at the same arguments just as quickly without them.

I thought this project would take a year or two. That was eighteen years ago. Now the book is in your hands. Here's hoping you enjoy the trip.

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With this kind of help the current book ought to be perfect. It is not. The errors and omissions are mine alone.