

Symposium on the History of Technology: Past, Present, and Future
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***Tools for Imagining a Better World:
Social Technology, Organizational Dark Matter,
and Reading for Difference***

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I would like to start by joining the chorus of thanks to Roe for so many things and for 20 years ago, offhandedly mentioning a topic that ended up becoming my dissertation and that, in a lot of ways, I'm still thinking about. And thank you for inviting me to this symposium. It's been really great to reconnect with history of technology. It feels like coming home in a lot of ways. My path has kind of taken me some distance from the discipline, into public history, into museums, and then, most recently, into working more directly with social change kinds of efforts.

In putting together my remarks and listening to the other talks over the last two days, I'm really reminded how important those foundations in history of technology continue to be for the work that I'm doing. So that's what I want to talk about today -- some of the places that I see history of technology showing up in especially the social change work that I'm involved with and places where I see opportunities for more conversations, for new conversations.



So what I'm talking about is broadly under the flag of public history, which most generally is history that's directly involved with broader public needs and projects. There's a lot of really valuable projects, but the one that really draws me is this effort to build a just, sustainable, thriving world. There's been an undercurrent over the past few days of talking about crises. We could probably create a tally of the crises that have been mentioned. We could add to that tally. I'm sure all of us have things to add to that list, and it feels like a really long list of crises.

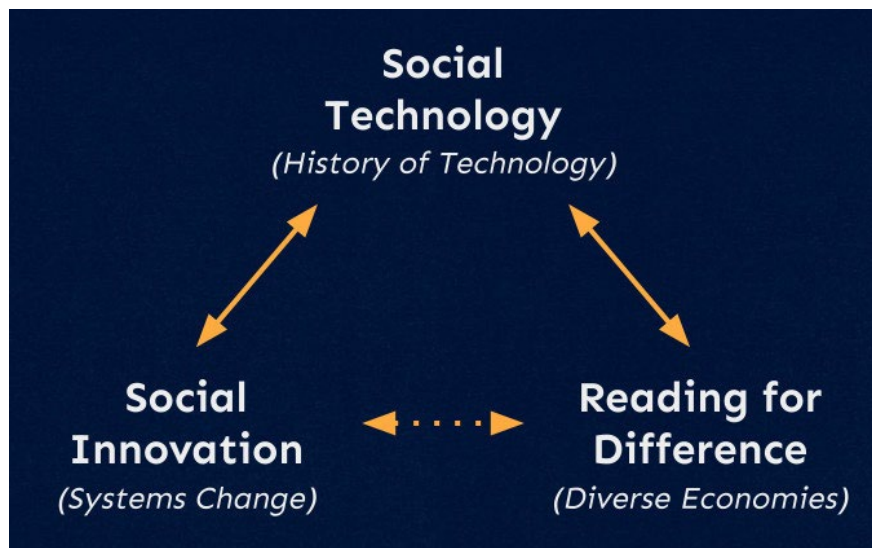
In a lot of ways that it's not really a list of different crises, that they're all interconnected. It's one big crisis, and ultimately, they are symptoms of deep structural, systemic issues. They're signs of limits, contradictions, just plain problems with the way that people are trying to organize themselves, trying to organize other people, trying to organize their stuff, trying to organize the natural world. There are big systemic problems, ultimately, the solutions are big systemic solutions.

So not to put too fine a point on it, but I think the project is ultimately about moving from a world that's dependent on extraction, exploitation, hierarchy, and violence -- you could add to this list -- to one that's rooted in autonomy, cooperation, equality, and regeneration. That's a big task. It feels idealistic. Theologian Thomas Berry calls this "the great work," but I think, ultimately, making this kind of shift is the route to creating a just, sustainable, thriving culture. I think it's really the route to not having a really horrible future in a lot of ways.

As daunting as this big project is when it's described in these kinds of abstract terms, down on the ground, there are seeds and sprouts growing up all over the world. People creating new ways of living in their communities, new ways of relating to each other, to the land, to the

earth. People are already building this kind of world. So I think a lot of the effort is about encouraging, nurturing, spreading those seeds so that they can connect up, and I think this is a place where history of technology has a role to play in the big project.

So I'm going to talk about three ideas that are coming out of three different conversations, and these are conversations that right now seem separate, but there's a lot of overlap between these ideas, and I think, in that the ground defined by the triangle, there's a really productive conversation that's available. And so I'm going to take us on a little tour of these three points on the triangle, starting with history of technology.



When I look at my bookshelf of histories of technology, when I think back to the books I read with Roe in a graduate seminar, long ago, when I flipped through the new issues of “Technology and Culture,” what really stands out to me is less the stories about material stuff and more the stories about how people organize themselves, how they organize each other, how they kind of hold the whole thing together. I love machines. Machines are what got me into the field, but these days, it's these more immaterial organizational kinds of technologies that are really holding my attention.

Just to stick with the classics I read with Roe – I’ve been thinking about the Mega-Machine from Lewis Mumford, all of the working-class organization resistance techniques in E.P. Thompson, the different ideas of management in David Noble, the family systems in Cowan's work, the different ideas about using and owning land in William Cronon's work. Out of

these, what really holds my interest are the social technologies-- the techniques for organizing activities, making decisions, marshaling resources.



So, just to make this concrete, if you ask most people kind of outside this room about railroad technology, they'll probably picture, like, a steam engine, part of that material part of the technology, but if you ask a historian of technology about railroads, you're going to hear about all this other stuff, all this less material things -- joint-stock company, as a technology for gathering and distributing capital, companies' hierarchical structure -- and this is apparently the first organizational chart that was created as a technology for organizing large numbers of people in a complex operation. The work gang as a technology for coordinating labor, exploiting labor, and on and on -- you could list these coordinating social kinds of technologies.

You can go down to smaller scales. I often think of meetings, agendas, bureaucratic forums. These are all social technologies. Larger scales, stock markets, international trade agreements, even government constitutions -- these are all techniques for organizing activities, making decisions, collecting and distributing resources.

And like any technology, each has its affordances, its assumptions, its politics, and its alternatives, and I really appreciate the richness of the stories about these kinds of technologies that you find in history of technology. They're part of a complex evolution. They emerge in contested environments, the result of a clash between power and resistance. They involve tangible artifacts, learned activities, social norms, and then, as they change, they're also changing the possibilities in the world.

All of this is obvious in a history of technology context, but in my experience, it's not obvious when I talk to folks outside history of technology. I think this kind of work is really useful in complicating and denaturalizing kinds of organization that people just see as natural, just as neutral, just as an efficient way to do things. Of course, this is how a meeting works. Of course, a corporation is the way to organize a big operation. Digging into the story makes it more complicated, and I think those rich stories have a lot to offer to the folks who are directly engaged in inventing new kinds of organizational technologies, new kinds of social technologies.

So that takes me to the second point of the triangle: social innovation. This comes out of the world of systems change, just transition, and there are many disciplinary flags that people operate under in this world. I put up just a few of the terms that people use to describe their work, and there's a lot of diversity here. There's big differences in politics, in professional backgrounds, in contexts. There's people on this list who would hate to be on the list together, I'm sure.



But underlying all of these, I think there's a core common ethic. There's some core ideas. They all tend to be transformative. They're thinking about big system change, as opposed to sort of smaller reform. They tend to be egalitarian, collaborative, and plural. So they're seeing changes coming from below. They're really interested in direct democracy. They're wary of top-down command and control, big kinds of projects, and they're generally interested in paradigm shifts and changing how people think about themselves, how people think about their world.



Here are three quotes from three very different sources that get at the broad political spectrum in this world.

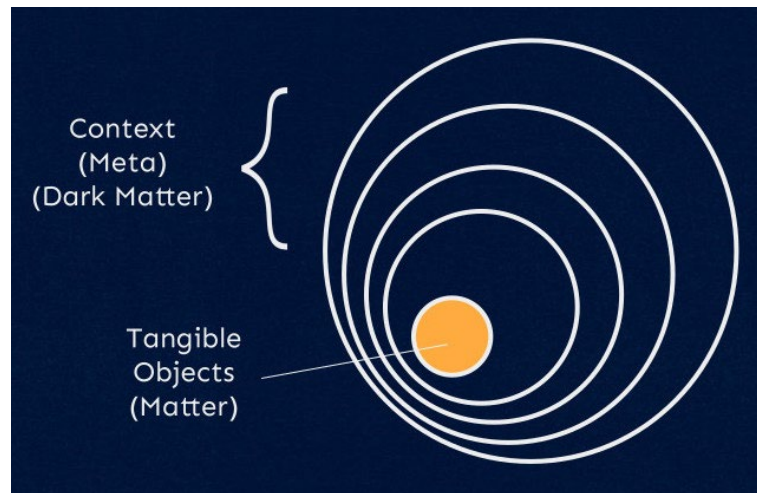
“We're forming the structure of the new society in the shell of the old.”

“To change something, build a new model that makes the existing model obsolete.”

“We are in between stories. The old story is no longer effective. Yet we have not learned the new story.”

These are quotes that show up all the time in this world. People just mentioned the shell of the old world, like, in conversation, in passing. These quotes get at the spirit of folks working in this world.

So this is the context for social innovation, which is a technical term for new ideas that meet social needs and create new social relationships or collaboration. It maps pretty closely onto the kinds of social technologies I was just talking about. This is a field where people are thinking really carefully about the kinds of systems and structures that shape people's lives and thinking about. How do you change those structures? How do you create projects that are really going to make a big difference?



This is a diagram that comes out of the strategic design world. So the orange circle are tangible objects, the kinds of things that designers traditionally have worked on -- objects, services, that kind of thing. And then the context is the broader world that that object exists in. So that's patterns of use, cultural expectations, organizational structures, government contexts. And so they talk about “the matter” and “the meta” or “the matter” and “the dark matter.” The metaphor is that the physical stuff you see is the matter, but it's actually being shaped by all these invisible forces that are analogous to dark matter from physics.

The designers working in this world are developing a whole set of strategies for thinking about the relationship between the matter and the meta. They're developing projects that involve asking how you go from tangible objects to shifting the larger context, or how you shift the context that make different kinds of objects possible and really working back and forth, strategically? That's the strategy and strategic design between these different scales.



So just to make this more concrete, this is a low-carbon, multi-use building project in Helsinki. There's lots of interesting things about this project, but I put it here because the folks creating this are specifically thinking of this project, both in terms of creating a building but then also creating something that's a platform for broader social change in Helsinki, Finland, and beyond. So, for example, in developing this building, they're also rethinking the fire codes in Helsinki to be more flexible to allow newer, sustainable, low-carbon materials. They're developing new types of leases, and new restaurant licensing to make it easier for low-income or immigrant folks to open businesses and restaurants here. Which are all designed to have broader ripple effects out through the city. So they move back and forth between creating this building and designing these contexts and kind of playing the two back and forth to open up a space of change.



Another example: People's Network for Land and Liberation. This is a network of organizations scattered across the country. These folks are each in their own place creating functioning solidarity economies and post-capitalist systems.

They're building farms, houses, stores, factories, cultural centers, all kinds of things in that tangible space, but in the realm of social innovation, they're also rethinking the mechanics of property, of work, and employment. What does it mean to be an employee with an organization? New kinds of community ownership, community land trust -- they're expanding the realm of community land trust here, new kinds of inclusive decision-making, of stewardship within the natural world. How can they build kind of seven-generation thinking into the daily processes that they're doing every day?

So, again, these are folks who are going back and forth between these practical projects of they need to get the apples to grow. They need to have the store be functional, but they're also thinking about these larger contexts and kind of redesigning those social technologies around themselves. I think one of the really striking aspects of folks working in this area is the kind of hands-on aspect. In the same way, if you take apart a machine, you understand it in a different way than if you just observe it. I think the folks who are in this world who are trying to create these systems, who are trying to work back and forth between the tangible objects and the context, developing a really interesting set of vocabulary of concepts for understanding those systems and those relationships that, I think, could have a lot of value in history of technology.

They are also fascinating because they are inventing social technologies in real time. Over even a course of months, I see ideas that used to be just in one area suddenly popping up in other areas. It's exciting to see those emerge in real time, and they're also folks who are just generating so many possibilities, so many different ways of organizing themselves, of making decisions, distributing resources. It's incredible proliferation of possibilities.

So that brings me to the third point, reading for difference, and this comes out of the Diverse Economies Research Program in Critical Geography. Diverse Economies centers around the work of J.K. Gibson-Graham.

The program's origin story: Gibson-Graham started in critical geography studying the deprivations of global capitalism. But they started to worry that they were actually reinforcing the power of capital. They were actually reinforcing sort of the feeling that there's no escape; there's nothing else, that there's no alternative. So they started to reconstruct their work with the goal of

doing research that was fostering possibilities. They developed an anti-essentialist approach that's always kind of peering around that mainstream story. They're always trying to look at the other things that are happening.

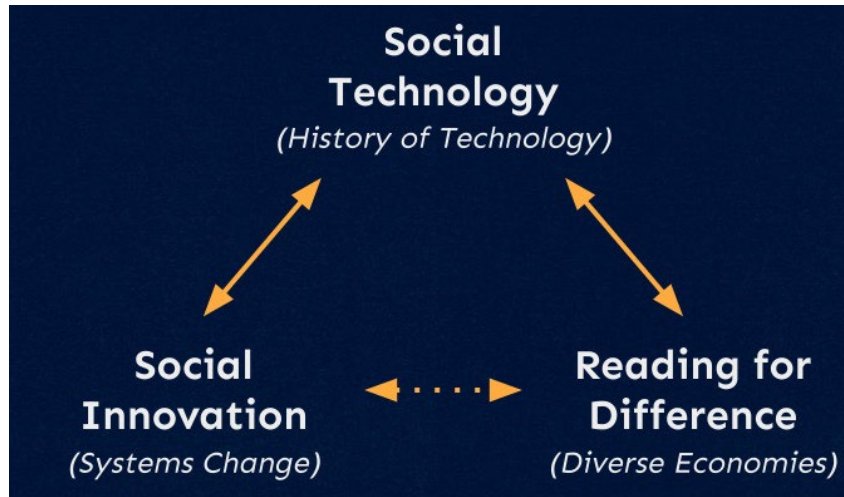
They often talk about an iceberg analogy. Above the water you have wage labor,



capitalist firms, the formal economy --- that's the things that kind of stand out most obviously, but underneath, submerged, are all these other kinds of economic activity that people ignore or don't take seriously. Gibson-Graham wanted to unearth this broader world. They started thinking more about household work, community gardens, illegal activity, informal support networks, and all kinds of other ways that people go about getting the things they need, and then also looking for differences within the dominant system. A capitalist corporation isn't just one thing. There's a lot of diversity and difference in there.

And so reading for difference is part of the toolbox they developed. This is one of the ways that they work on finding and generating these different possibilities. The goal of their work, of these decentering methods, is to show the great variety of ways of living that people already do every day. If you only think about wage labor, other kinds of work seem very alien or distant. When you start thinking about all the ways that people go about provisioning themselves, suddenly non-capitalist engagement, cooperative engagement, this is part of what people do every day. It's just under the surface. It's just part of the flow of life.

And so, by doing this activity of reading for a difference, they see these different possibilities and take them seriously. I think this idea is a key to kind of completing this triangle and coming back to history of technology. In a lot of ways, reading for difference, finding all of those things that are happening, is really familiar to historians. Like, that's what historians do in creating the kind of rich narratives that the field does so well.



In this diagram, the social innovation folks are producing new kinds of possibilities. The reading for difference folks are studying those possibilities and kind of understanding what they mean. What I find is, in both of those, there isn't often a very fine-grained sense of history. The past ends up getting kind of collapsed into a sense of "the bad old days." So I think there's an important role for history of technology to pointing to those complex, layered, inconsistent ways that that current system developed for finding those cracks, for understanding all those different layers that are already present.

The triangle also highlights other areas of history and history of technology that are sometimes below the radar. I'm thinking about all of the things that kind of happen outside that mainstream line of capitalist, corporate, industrial society, so wonderful histories on cooperative enterprise, on commons, on various kinds of underground organizations of working class, informal organizations.

So this is where I really want to know more. I want to know more about the social technologies that fell by the wayside, about the roads that weren't taken, about all the other ways of organizing that have always existed alongside those more familiar stories. I think there's an

amazing wealth of ideas, inspiration, cautionary tales available in those stories, and I think all of them would be a really valuable contribution to this work of building a better world.