

SITU  
ATED  
KNOW  
LEDGES

Gray Area

ISSUE 4

*What follows is a lightly edited version of a panel delivered on April 22, 2016, as part of the Gray Area Festival in San Francisco, California. Sarah Brin, Sherri Wasserman, and Georgina Voss spoke about the Experimental Research Lab at Autodesk Pier 9 and the Situated Systems project.*



## THE WHY | Sarah Brin

I'm one of the founders of the Experimental Research Lab at the Autodesk Pier 9 workshop. I'll talk about why we wanted to start a program like this at Autodesk; Sherri will talk about what the project is and how the team has gone about researching their topic; and George will talk about the role of place in this site-based research.

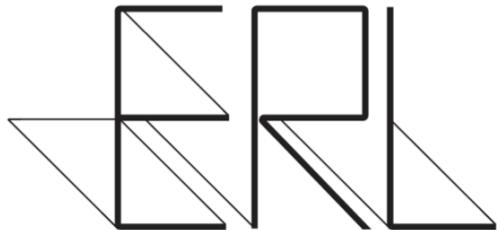
I'm a writer and curator, and have worked as Public Programs Manager for the Autodesk Pier 9 workshop.

At Gray Area last year, Morehshin Allahyari and I talked about the really wonderful Pier 9 workshop that provides all these resources for creativity, but not everyone in the Artists-in-Residence program really identifies as an artist. Consequently, a lot of the work produced in the program has an emphasis on form and aesthetics, and there's not always a quality of what I might describe as "about-ness" to the work. That's fine: Autodesk is a design software company, not an art company. But both Morehshin and I come from more traditional academic art backgrounds in some ways. She has an MFA and has a strong critical component to her work; I have an MA in curating, and I've been working in museums for a decade. We were both really hungry for a more critical and perhaps theoretical kind of discussion at Pier 9.

Pretty much simultaneously and autonomously, Noah Weinstein (the Senior Creative Programs Manager at Pier 9), Morehshin, and I developed separate but similar visions for a program that would build upon all the success and traction of the AiR program, and really support that critical aspect. Morehshin came up with a great name, the Experimental Research Lab, and then we got to work designing the program.

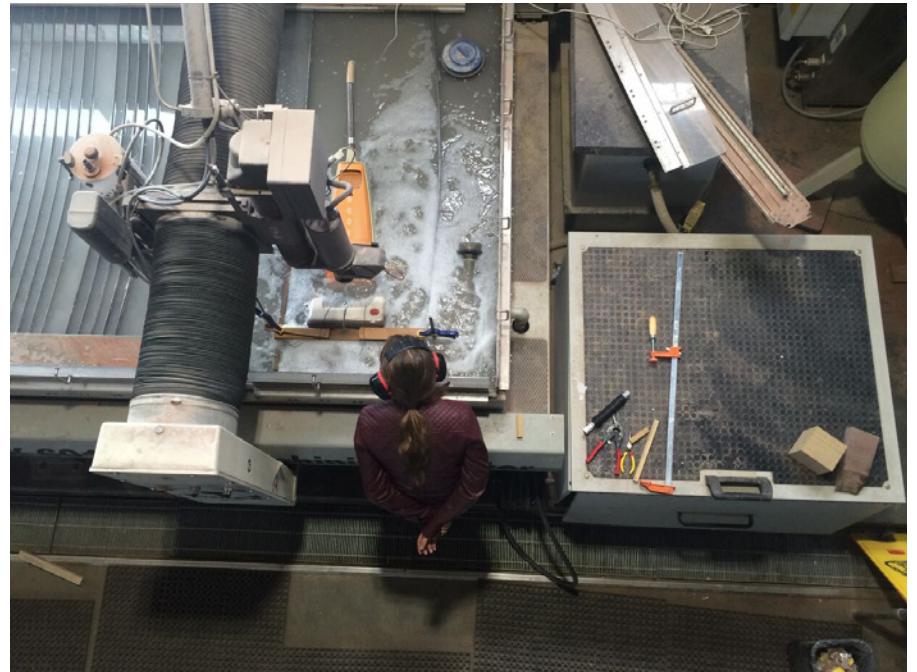
**It was really important to us that the program included three components. First, that it created a legible public discourse that extended beyond tech—I think it can be really easy to get caught up in all the jargon and the hype of a particular discipline, and it's so easy to totally exclude people on the outside from those conversations. Second, we really wanted the group to produce hybrid research, so not just an architecture project, not just art, not just design—we wanted to look at one research question from multiple angles. Finally, we really wanted a project to either really actively use our digital fabrication workshop, or to create a project that was very closely tied to it thematically.**

We received a handful of very competitive applications, and we interviewed some folks. Ultimately, we found that, with their combined expertise in material sciences, infrastructure, research, design, and critical theory, the Situated Systems team was the best qualified to meet those objectives, with the understanding that this was sort of a pilot program and that we'd learn a lot in the process. And that's definitely been the case.



## Experimental Research Lab

As many of you probably know, the idea of artist residencies in tech companies is not a new one. Historical examples include Bell Labs and Xerox PARC; contemporary examples include residencies at Facebook, Spotify, Adobe, and so on. I think, depending on the company, these residencies can serve a range of functions, from boosting employee morale, supporting local arts infrastructure, decorating an office, to marketing or demonstrating uses of a company's technology or data.



I won't speak very much about the AiR program at Pier 9, but it serves all those functions in a way that is arguably reciprocal and just. Artists get to keep their own IP, they receive monthly stipends, their work gets to live on outside the building. So thinking about the function of this new program, the Experimental Research Lab, we had a bunch of hopes—that we could look more critically at and become more involved within the deeply complex conversation surrounding the tech sector's role in the ongoing unsustainability of the Bay Area; and that the interdisciplinary qualities of the research could possibly help Autodesk deal better with the problem of its own departmental silos and product groups. Atmosphere and community is a big part of what we see as our strong suits, and we wanted these teams to osmotically, deliberately or more subtly, affect the way our community thinks, communicates and collaborates.

We could talk more about what a weird situation all of that makes, this idea of situating critical, public-facing discourse within a for-profit, publicly-traded company. Like, how do you get people to care? How do you get people to ask questions? How do you acclimate a research team to all the hardware, software and lunchtime rituals of a space like Pier 9? How do you get away with embarking on a potentially provocative process in one of the largest software companies of the world? I feel we're so deeply amidst this process that I don't fully know the answers to these questions. But I'll let Sherri speak to what their work has focused on, and the forms it's been taking.



Ingrid Burrington

Georgina Voss

Debbie Chachra

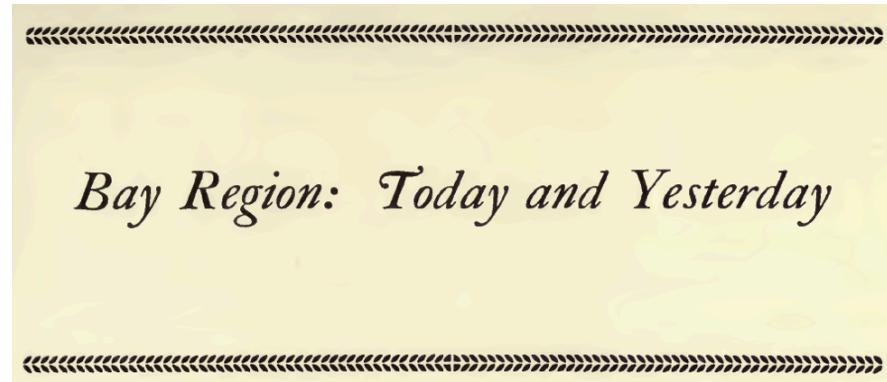
Sherri Wasserman

## THE HOW | Sherri Wasserman

We—Ingrid Burrington, Georgina Voss, Debbie Chachra and me—are a multidisciplinary team, with backgrounds in art, design, technology, history, anthropology, education, journalism, and engineering. We've worked across academia, government, cultural institutions, and industry.

We decided to look at the Bay Region as both Today and Yesterday. I recently attended a talk by Megan Prelinger, and she said something about presentism that really resonates with what we're doing. "I'm against presentism," she said, "because it tends to deny the possibility of change." We're looking backwards and forwards, as well as at today, to attempt to unearth and understand relationships.

We began with some initial ideas of working with the military-industrial complex; tech culture, over time; and the physical environment. We chose these three things because we strongly believed that they are interrelated,



and—between the members of our team—we have both familiarity with and interest in the topics.

As the project took shape, tech culture itself became underlying and inherent to our research as we investigated three more specific topics—land use, environmental impact, and the role of the military in innovation. We also consistently come back to four major ideas: materials, machines, memory, and institutions.

Tech culture in the Bay Area is increasingly, again, an industry of atoms. Though much of the recent concentration has been in software, hardware is returning to the conversation. As our teammate Debbie Chachra often says, this is an industry that shifted from atoms (with the early development of silicon chips and related hardware) to bits (focusing primarily on software) to atoms yet again. Since we perform our research within a fabrication facility, keeping an eye on the importance and impact of materials to our research topics is essential.



APPROVED EPILOG MATERIALS			
MATERIAL	ENGRAVE	CUT	NOTES
Wood	X	X	Treated wood could have additives.
Acrylic	X	X	
Fabric	X	X	
Cloth	X	X	
Ceramic	X		
Delrin	X	X	
Linoleum	X	X	
Leather	X	X	
Marble	X		
Matte Board	X	X	
Coated Metals	X		
Anodized Metals	X		
Paper	X	X	
Cork	X	X	
Tile	X		
Glass	X		
Chocolate	X	X	
Speedcut Rubber	X	X	
Melamine	X	X	
<del>Fiberglass</del>	X	X	
Mylar	X	X	

FORBIDDEN EPILOG MATERIALS		
MATERIAL	DANGER	CONSEQUENCE
PVC(Polyvinyl Chloride)	Emits Pure Chlorine Gas	Gas will release chlorine monoxide, and run meter control systems.
Pleather/Artificial Leather	Emits Pure Chlorine Gas	Gas will run, corrode metal.
Moleskin Notebooks	Emits Pure Chlorine Gas	The material will catch fire.
Polycarbonate / Lexan	Cuts Poorly, Discolors, Fire	This material is very brittle.
ABS	Emits cyanide and melts into the machine	The material releases infrared radiation.
HDPE/ Milk Bottle Plastic	Catches fire and melts	It has a higher chance of catching fire.
Polystyrene Foam	Catches fire	If melted, tendency to make a mess and catch fire.
PolyPropylene Foam	Catches fire	If catches fire, it melts, and only then goes out.
Fiberglass	Emits Fumes	This is the #1 material that causes cancer.
Coated Carbon Fiber	Emits Noxious Fumes	Like fiber optics, it is a conductor, but the insulation drops off and turns into rock and sharp points.
Any Powder	Explode/ catch fire	A mix of two materials. This carbon fiber mat can be cut, but with some fraying, but won't catch.
Butane Lighters	Explode/ catch fire	Compressed Air will blow it away.
Gasoline or other Liquids	Catch fire, burn, blind	
People	Catch fire, burn, blind	
Animals	Catch fire, burn, blind	
Neoprene		

## MACHINES

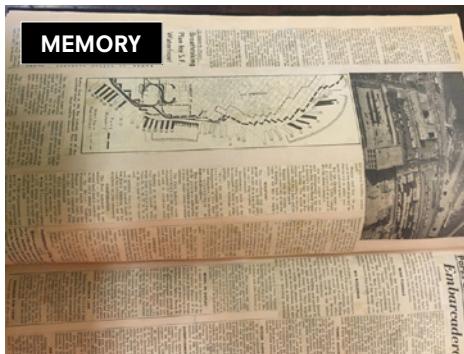


## MACHINES



Pier 9 is a site that includes both software and machines. It is a place absolutely full of machines. We do not just look at Autodesk and our current time; we also look at now in the context of the past. This is a photograph of a machine that was originally sited at the Mare Island Naval Shipyard. Georgina is investigating machines from the auction held at Mare Island in 2000 and tracking down where they went.

## MEMORY



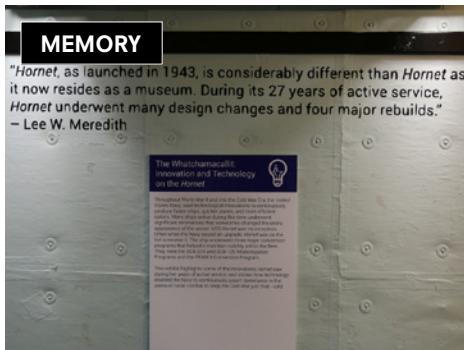
## MEMORY



## MEMORY



## MEMORY

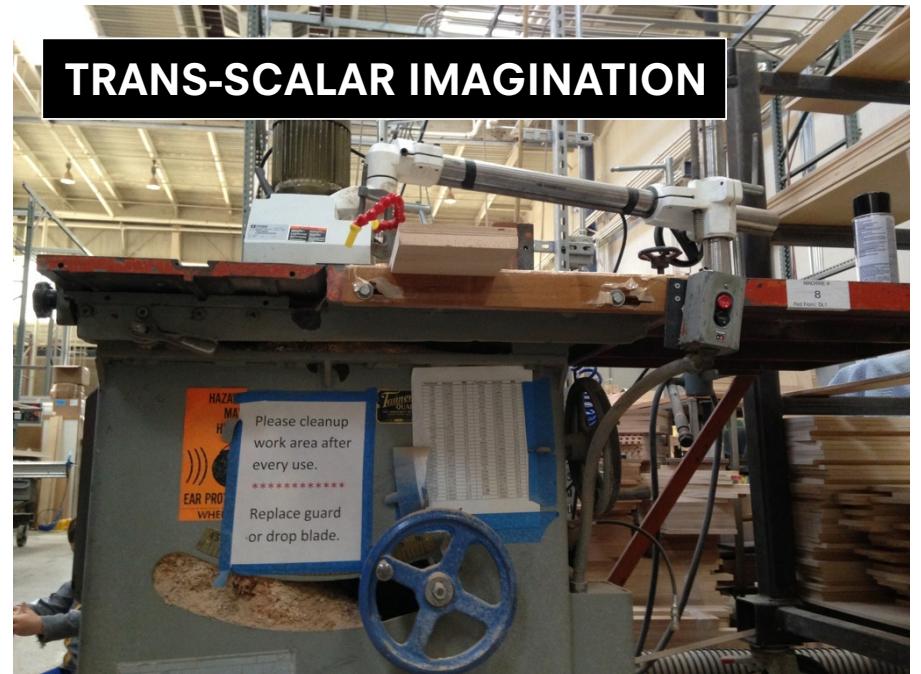


Looking backwards, memory may take many forms. It may look like a newspaper page, a piece of ephemera held in the Prelinger Library. Memory may look like the decommissioning notice stenciled on a building at the Alameda Naval Base, a military site closed in 1995. Memory may appear in the form of the SF-88 Nike missile silo located in the Headlands. After decommissioning, volunteers recreated the site, and the National Parks Service—the official stewards of the location—now give tours, while the machinery of the site is maintained by former military men. Former military and enthusiasts also rehabilitated and now maintain the USS Hornet Museum. They tell the histories of the ship, and they tell their own stories. The glimpses of institutionalization within the site, such as a panel from an exhibit inside the ship about innovation and technology on the *USS Hornet*, also remind us of the persistent link between the military and tech innovation in the region.

The glimpses of institutionalization also remind us that, along with looking like the exhibit on the *USS Hornet*, institutions may also look like a military “Do Not Disturb” sign at Alameda, where the *USS Hornet* is docked. (The Alameda Naval Base is also a Superfund site.) Institutions may look like a playful wooden sculpture of a robot placed outside of Pier 9, and institutions may look like this quote from artist Andrea Fraser’s 2005 essay “From the Critique of Institutions to an Institution of Critique”: “Moving from a substantive understanding of ‘the institution’ as specific places, organizations, and individuals to a conception of it as a social field, the question of what is inside and what is outside becomes more complex.”



Being mindful to the diversity and complexity of institutions is important to our work. We wonder what it means to perform multidisciplinary research work within an institution, looking at the institution, seeing the institution as places both formal and informal.



Within our research we pursue a lot of different topics. We currently approach these topics through three primary ways: trans-scalar imagination; situated knowledges; and materiality and memory.

Trans-scalar imagination is a geographic concept that Scott Slovic extended to the idea of imagining individuals and groups of people within narratives. One way that we apply this approach is through Georgina’s research regarding Mare Island. As a team, we investigate the military-industrial complex and decommissioned bases of the Bay Area, as Georgina also specifically tracks the individual Mare Island machines.

Situated knowledges is a concept we borrow from Donna Haraway’s seminal essay of the same name. In this essay, Haraway writes, “We just live here and try to strike up noninnocent conversations by means of our prosthetic devices, including our visualization technologies.” We take the concept of striking up

## SITUATED KNOWLEDGES



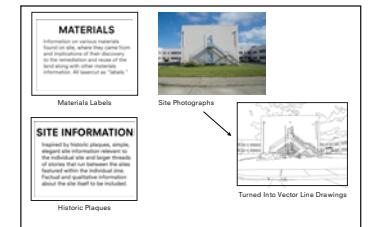
## SITUATED KNOWLEDGES



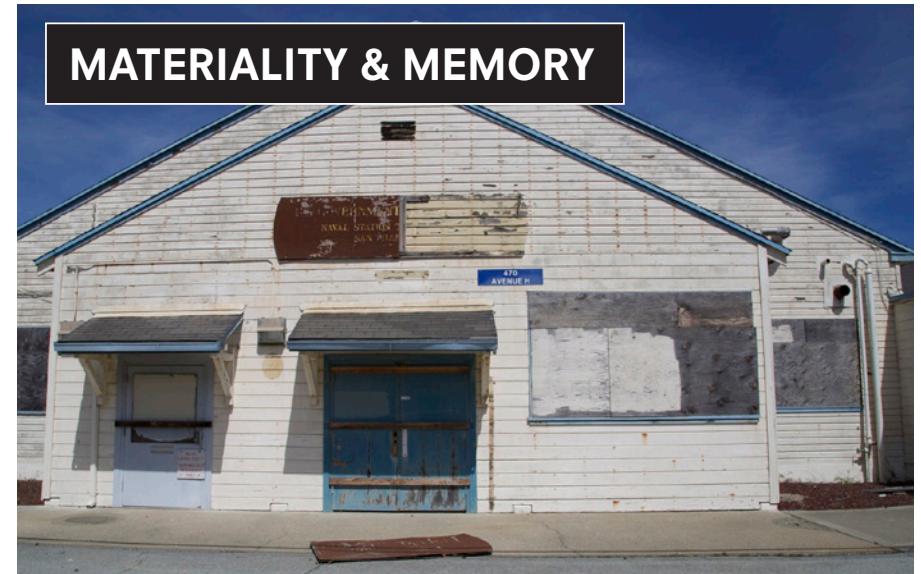
noninnocent conversations seriously, and this manifests specifically in our zine series of the same name. We make paper copies and distribute them online as both screen reading and DIY print files.

We also use the concept of situated knowledges as inspiration to look at Pier 9 as a viewshed, that we could imagine annotated within and without through the lenses of different perspectives.

One of the sites you can see from the Pier is Treasure Island, the artificial island located in the Bay. A recent site visit to Treasure Island, after site visits to other decommissioned bases, confirmed for me that plywood is the material of choice of decommissioned military bases. One of the ways that we apply the approach of materiality and memory is to use our skills—as material scientists, historians and anthropologists, designers and photographers—and the unique resources of working at Pier 9 to thread narratives across multiple sites in the form of a bespoke object that can also be more widely distributed.



## MATERIALITY & MEMORY



## THE WHERE | Georgina Voss

The critical aspect of the Experimental Research Lab is that it's situated at, and in, the Autodesk Pier 9 facilities, in San Francisco. We began this project thinking about the notion of situated knowledge from Donna Haraway—the forms of objectivity that account for both our own agency in this project as knowledge producers, but also for the Bay Area as the object of study. We can't—and didn't want to—uncouple that relationship between ourselves and our surroundings, but instead wanted to explicitly use that relationship as a way to approach our work, both in terms of what we're looking at, and also how.

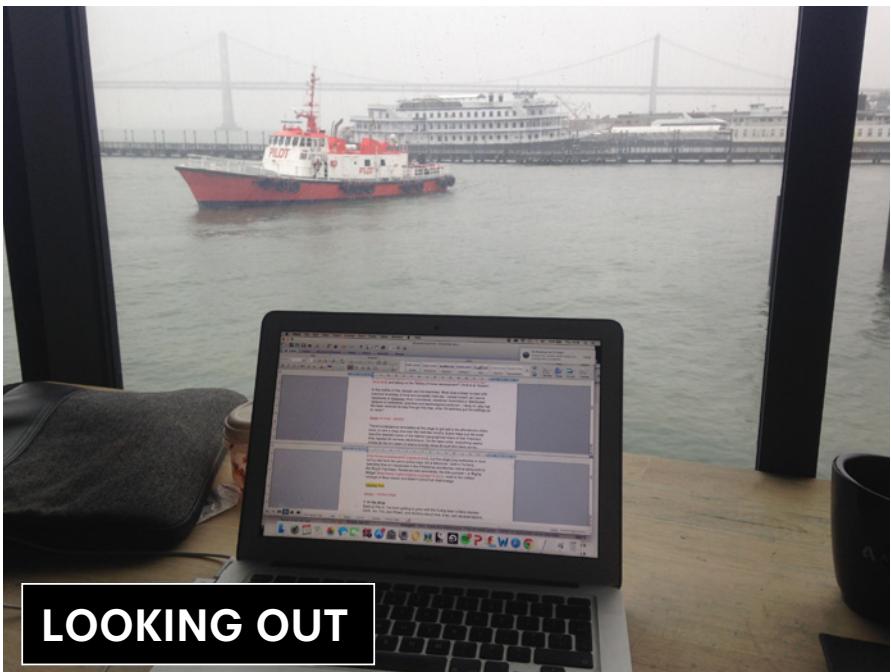
So we're at Pier 9, which is filled with huge machines. Machines like the waterjet, capable of cutting through six inches of metal on a five-axis head; machines like the 3D printers, which take mesh files and translate them into



three-dimensional objects over several hours; and the other machines that don't involve software, but cut and grind and sand and slice the materials we work with, wood and metal and acrylics and paper.

Like many other companies in the Bay Area, Autodesk deals in software, but it's for computer-aided design in the physical realm. The machines are a constant reminder of the material aspects of technology—not only the casings and motherboards of computers themselves, but of the different affordances between software and hardware, the tool-paths and XYZ coordinates that act as the handshake between them.

The machines at the Pier, and the work that they do, also echo the ancestry of the tool-based practices that San Francisco itself was built on. This molding machine formed part of the arsenal of tools at the now-decommissioned Mare Island Naval Shipyard, the first shipyard on the west coast of the US. When it was closed down, the area was flooded with these machines (allegedly kicking off the 'Maker' movement here, but I'm not sure that the timing is quite right) from Mare Island and from the workshops in other military bases too—Alameda, Oakland. They remind us of the material work of creation, production, and fabrication that go into technology, but also of the critical roles of maintenance and upkeep.



**LOOKING OUT**



**LOOKING BACK**

The Pier itself reminds us of these different textures across the Bay Area and the longer history of the local industrial complex. It's located here, not down in the South Bay. Autodesk Pier 9 was intentionally designed to be publicly-facing, showcasing the future of design—not locked away in an office park somewhere down in Mountain View. Its remit is to set up public conversations about what design might be and about the possibilities of digital fabrication (and, of course, Autodesk's role in them), which echoes our own interests in showcasing objects and processes as a means to set up similar conversations about technology, design, politics, and intent.

We also think about what we can see when we look out of, and back at the Pier itself. Unsurprisingly, for a project about the Bay Area, we've been thinking a lot about water infrastructure and politics—the dozens of Superfund sites that resulted from semiconductor manufacturing in the South Bay, the groundwater pollution scattered across the city and Oakland.

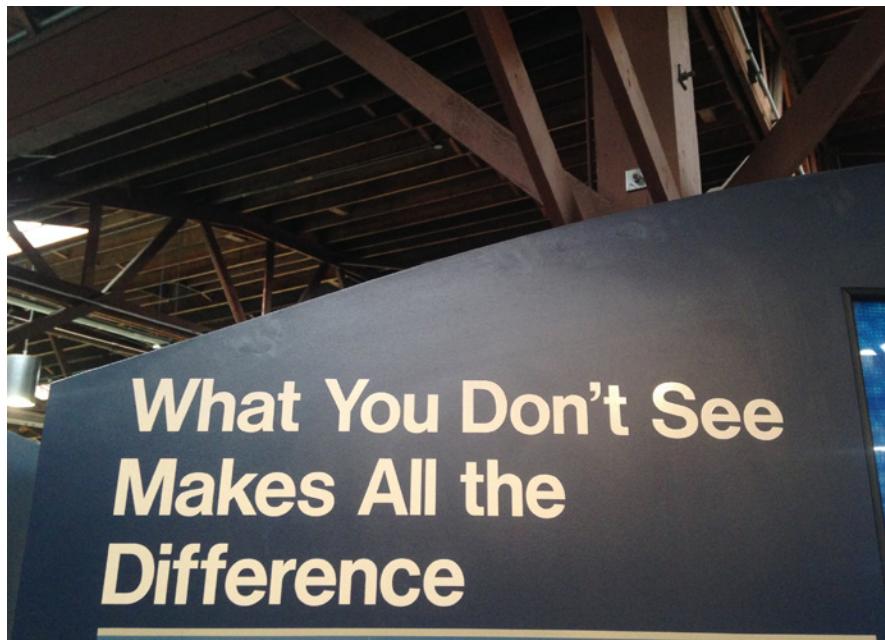
Looking out, we see the historical role of San Francisco in coastal defence, which led to the formation of the shipyards and airbases, but also of the foundries and metalworks which supported them. And the relationship gets set up back in the Gold Rush, when the US Army Corp of Engineers were brought in to limit the damage wreaked by hydraulic mining. The role of the military in this area is complex.

These aren't neutral issues, and we can't abstract ourselves out of them. On the pier itself, we're heavily bound by CalOSHA regulations and are mindful of the environmental effects of our work. But we're also mindful of the effects of the workplace environment on our research.



## PEOPLE & MACHINES

As a public-facing space, the Pier is designed to be experienced, and the charisma of the machines lies at its heart. I took a somewhat dramatic selfie with one of the giant robot arms in the OCTO Lab during my first week to show off to friends via Instagram (and which—I'll confess—is not the only photo I've taken of myself with the machines here).



## CRITICAL CHOICES

So what can't we see? This panel—‘What You Don’t See Makes All the Difference’—was taken from one of our early field trips out to the Bay Model, and I think it captures a key element of our work. We can't ‘see’ the relationships that we build with the machines, or our dependencies on them. We can't explicitly ‘see’ the culture of the workplace around us: the cultural norms, the social dynamics, the everyday practices—small and large—what Latour might call the ‘Laboratory Life’ of the pier. We can't ‘see’ the strategic decisions that guide it. And this—the unseen, the hidden, the impalpable, the sociocultural, the relational—has been critical for us in approaching just what long-term effects the industry of defense has had on San Francisco.

There are acute political choices we make in our engagement with the machines, and the workplace, and the environment in this work, around our designs and interventions. Digital fabrication carries its own aesthetics and biases, in the capture and editing software, and from the machines which spit it out.

## IMAGE CREDITS

### WHY

Image 1: Autodesk

Image 2: Charlie Nordstrom

Image 3: Autodesk

Image 4: Robert Rauschenberg, Open Score

Performance presented as part of 9 Evenings: Theatre and Engineering,  
The 69th Regiment Armory, New York, N.Y., United States,  
October 14-23, 1966.

Still from the factual footage shot in 16 mm film by Alfons Schilling.  
The Daniel Langlois Foundation for Art, Science, and Technology,  
9 Evenings: Theatre and Engineering fonds.

(from <http://www.fondation-langlois.org/html/e/page.php?NumPage=642>)

Image 5: Blue Bergen

### HOW

Images 1, 3-5: Sherri Wasserman

Image 2: excerpt from *The Naval History of Treasure Island*, courtesy of the  
Prelinger Library (<https://archive.org/details/navalhistoryoftr00unitrich>)

Image 6: Georgina Voss

Images 7-12: Sherri Wasserman

Image 13: Georgina Voss

Images 14-17: Sherri Wasserman

### WHERE

Images 1-8: Georgina Voss



**Sarah Brin** is a writer and curator specializing in participation, new media art, and public spaces. She worked as the Public Programs Manager at Pier 9, where she curated and commissioned a range of interdisciplinary projects, including the Experimental Research Lab, a fellowship program focused on creating accessible public discourse around meaningful applications of technology.



Sarah's research on artist-made games established the groundwork for PlaySFMOMA, the new game designer-in-residence program at the San Francisco Museum of Modern Art. She has also produced exhibitions and publications for institutions including UCLA, the MAK Center for Art and Architecture, Vice, the Los Angeles Museum of Contemporary Art, the NYU Game Center and elsewhere. Sarah holds an MA in Art and Curatorial Practice from the University of Southern California and a BA in European Cultural Studies from Brandeis University.



**Georgina Voss**, a *Situated Systems* team member, is an anthropologist of technology and innovation systems, working at the intersection of design, futures, and policy. She is a co-founder of design and research co-operative Strange Telemetry, and teaches at Goldsmiths, University of London.

**Sherri Wasserman**, a *Situated Systems* team member, makes things for print, digital, and physical space. She serves as Director of Experience Design for Unified Field and is an artist/designer-in-residence at metaLAB at Harvard University.

*Situated Knowledges* is part of *Situated Systems*, an experimental, collaborative, site-specific research project which explores military and industrial infrastructure in San Francisco and the Bay Area, investigating how this history has shaped the technology culture of the region and its outputs. This zine series collects interviews with people conducted as part of this project. *Situated Systems* is the inaugural project of the Experimental Research Lab at the Autodesk Pier 9 facility, from February through June 2016. The title of this series comes from Donna Haraway's 1988 essay, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," in which she writes, "Situated knowledges are about communities, not isolated individuals."

<http://situated.systems>    twitter: @situatedsystem

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