Making Critical Making: The Value of DIY Production

Garnet Hertz
Department of Informatics
University of California
Irvine, CA 92697-3440 USA
ghertz@uci.edu

CHI'13, 2013, Paris, France.

Abstract
Critical Making is a handmade publication by Garnet Hertz that explores how hands-on productive work - making - can supplement and extend critical reflection. It is also an appeal to the electronic DIY maker movement to be critically engaged with culture, history and society. In this article, the author describes the production of the ten volume project with seventy contributors, and uses the experience to propose the value of doing something yourself as an amateur.

Author Keywords
DIY; Do It Yourself; critical making; critical technical practice; critical design; maker; maker movement; hacker; bookwork; zine; academic publishing; Arduino

ACM Classification Keywords
K.4.0 Computers in Society: general.

General Terms
Design, Human Factors

Introduction: Hackerspaces in China
Geert Lovink asked me what's the point of printing, binding and making a book project by hand – and with 3,000 booklets on my studio floor that need to be stapled and trimmed – I'm starting to wonder the same thing. For anybody that knows Ann Hamilton's artwork,

the production feels like being stuck under an 'Indigo Blue' mountain of paper.[1] It's a good question: Why do things the hard way? What's the value of doing something yourself as an amateur?

Figure 1. Three thousand 'Critical Making' booklets that need to be manually stapled.

The first seed of this project began in talking to Silvia Lindtner – who I work with at UC Irvine – about writing an article for Make Magazine about hackerspaces in China. I've written for Make before and generally know Mark Frauenenfelder from around Los Angeles, and Silvia was in the process of finishing her PhD dissertation on the topic of hackerspaces in China – she had a mountain of brilliant work already done on the topic.

[1] Indigo Blue (1991/2007) is an artwork by Ann Hamilton that features an enormous 14,000 pound pile of denim work clothing: http://www.annhamiltonstudio.com/projects/indigoblue.html

I think I sent a Facebook message to Mark about the concept for the article and he was supportive of us writing something. However, it seemed that an article that looked at the political aspects of DIY culture didn't really have a place in the standard Make table of contents.

I asked Mark about the article because I was en route to do and electronics workshop at Maker Carnival 2012 in Beijing – where I ended up chatting with Mitch Altman about his decision to pull out of Maker Faire because of their DARPA grant. Mitch was visibly upset about this whole situation, like a kid that had just been told that Christmas had been cancelled. I half-jokingly proposed to Mitch that we should just create a new publication that could discuss social or cultural aspects of maker culture – something that could comfortably include an article on hackerspaces in China or the dynamics of DARPA funding hackerspaces in the United States. While brainstorming the idea, we also talked about a format that incorporated a DIY-style publishing model, something that returned to the zine-ish roots of punk or skater publications and wasn't focused on selling products.

After heading back to California, the idea of launching a publication took a bit stronger hold. It seemed obvious that the electronic DIY scene was aligning with larger institutions – the American military, the Chinese government, business and educational institutions – but there was generally a vacuum of thoughtful discussion around the topic. The discussion was much larger than the military and Make, and Facebook threads with Tim

O'Reilly ranting about how DARPA created the internet wasn't really the dialog I was looking for.[2]

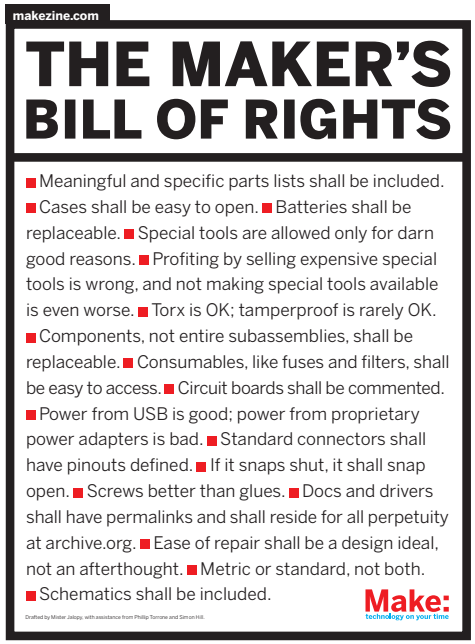

Figure 2. Mister Jalopy's "The Maker's Bill of Rights / Owner's Manifesto".

Extending the Owner's Manifesto

There is obviously a lot more to electronic DIY culture that what is found in the pages of Make. Make has done a lot of amazing work in popularizing the field, but it's been sanitized into a consumer-friendly format in the process. With the exception of a few articles – such as Mister Jalopy's "The Maker's Bill of Rights" (AKA: "Owner's Manifesto", Figure 2) – Make has avoided things that are at the core of how I envision this field. Things such as hacker work that circumvents infrastructures, tactical media that is political, circuit bending work that is interested in opening up and messing around with the sealed black boxes of consumer electronics, media archaeological work that is interested in history and intervening and playing with it, or people that are into making custom "bespoke" things like lowrider cars or bikes. I spent time growing up on a farm in Clemenceau, Saskatchewan, and draw a lot of energy in my studio work out of rural kludging: creatively using things because you don't have money or resources. Make doesn't really speak to this, or any of these topics.

Make may have started by interviewing Natalie Jeremijenko, but it's lost any sort of edge it might have had: in gaining popularity, it's leaned toward a DIY culture fixated on 3D printing, $20 kits and short term gadget projects. It's as if "hacking" has been sanitized and transformed into "making" – with politics, activism, tactics, history, economics and social issues removed in the process.

Back of Envelope Table of Contents

The project started out as a Facebook post asking people to submit short two page zine-like pieces that

---

2 http://www.facebook.com/photo.php?fbid=10150649823645918

responded to the concept of critical making, a term that Matt Ratto coined several years ago.[3]

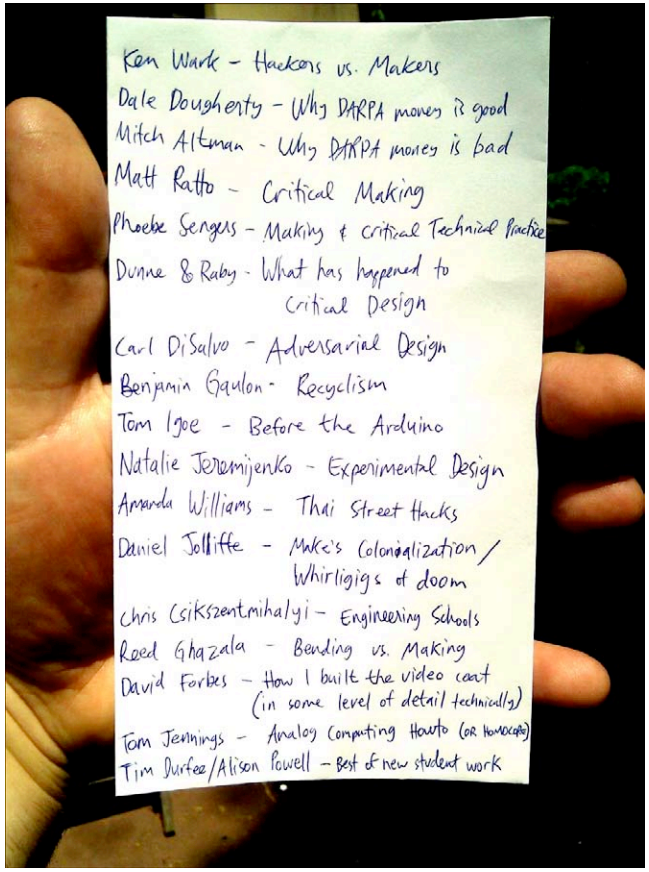

Figure 3. Back of envelope table of contents posted to Facebook.

[3] http://criticalmaking.com. See Matt Ratto, Critical Making: Conceptual and Material Studies in Technology and Social Life. The Information Society, 27: 252–260, 2011

I was interested in bringing together a cluster of things under that banner: maker culture, critical technical practice, hacking, tactical media, art and technology, critical design, zines and experimental publishing. I drew up a "dream team" table of contents on the back of an envelope, took a photo of it, and tagged/posted it Facebook.

I had initially thought of the project as a zine, but it soon grew beyond this: after a few key people – like Ken Wark – confirmed on Facebook that they'd submit content, it quickly grew. It was like starting a Kickstarter campaign, but instead of money the currency was content. At the start of the project, I thought that I'd have 50 pages at most, so didn't really think much of committing to giving away 300 free copies... although as content continued to stream in, I soon realized that it may actually take some labor to produce the project. I ended up with sixty people submitting over 300 pages of original content that ranged from academic essays, highly technical descriptions of projects, documentation of artwork, interviews, physically cut-up layouts and pages dripping with ink. Because so much content was submitted I decided to split the project into multiple booklets around specific topic areas: Manifestoes, Projects, Science, Terms, Conversations, Make, Places, History, Childhood and an Introduction.

The Materiality of Making

The design of the project went through several versions, from being envisioned as a slim zine, to being thought of as a book covered with recycled keyboard keys, to having a riveted binding with a aluminum spine something like Pontus-Hulten's "The Machine." The physical printing and construction of the project

turned into a mountain of work, with about 350 pages of content the 300 copies of ten booklets are roughly a stack of booklets 18 feet tall weighing about 300 pounds. Just the staples cost $160.

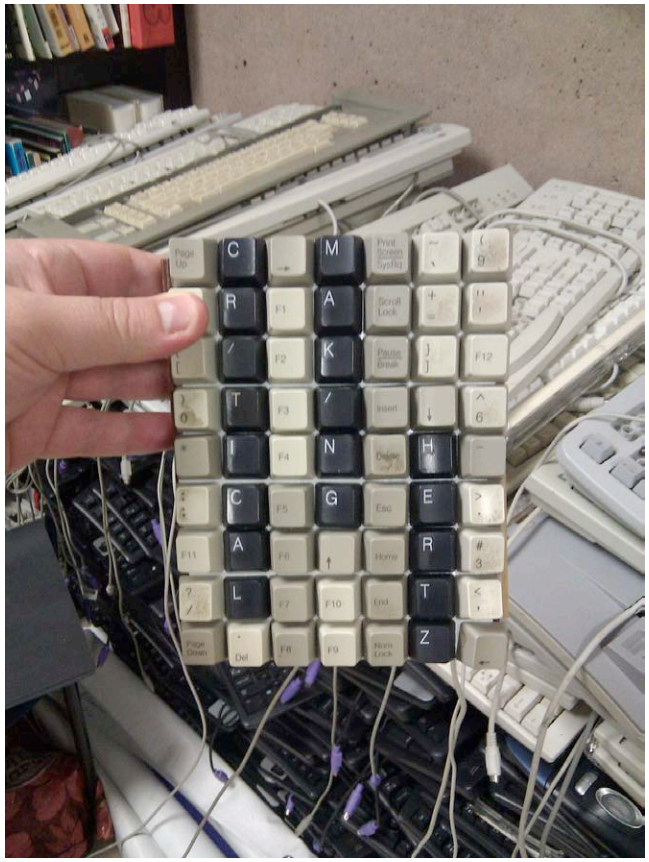

Figure 4. Early cover prototype built out of keyboard keys.

A quote on just getting the black and white photocopying done was nearly $5,000. I hacked around this cost, managing to talk my way into getting a malfunctioning photocopier for free and spending a couple of days bypassing the security on it and fixing it: as it turns out, Konica Minolta bizhub C40 hacking starts by hitting STOP-0-0-STOP-0-1. All 3,000 booklets were folded by hand, resulting in about 100,000 pages. This was and is painful amount of work.

The Value of DIY Production

Returning to Lovink's question about why it is useful for me to print, fold, staple, and ship this myself – or maybe to extend his question a bit further: Why DIY?

During the production process, I think three things became apparent.

First, doing something yourself, as a non-expert, is a crash course in understanding how something actually works, and it is the fastest way to unpack and learn about the things that would normally remain invisible and taken for granted. The process of being humiliated by things that you think are easy or mindless is a valuable experience – I generally think that innovation occurs out of porting your ideas and processes into a field that you're not familiar with, and actually doing this on a regular basis is a crucial part of practicing inventiveness.

The second thing that became apparent is that there is a push against e-readers occurring, and the momentum of the project was partially fueled by its format as a photocopied and handmade zine. I see this as part of new wave of post-digital print – like McSweeney's or Visual Editions – that is vigorously exploring the value of the printed page. It is clear that the printed page is far from dead: it is important to remember that

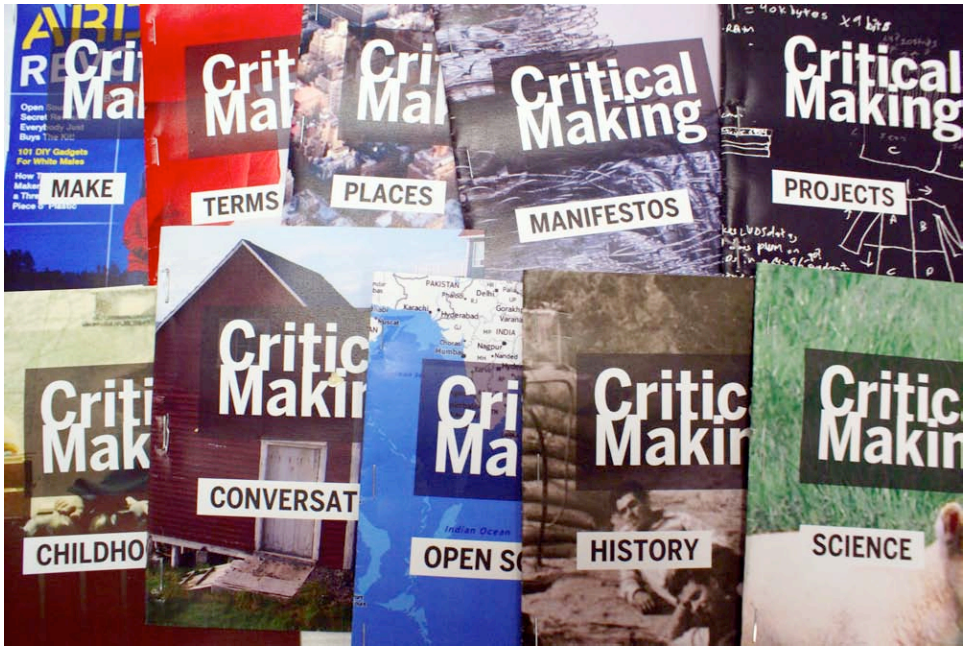

Figure 5. Finished 'Critical Making' booklets.

technologies that are pronounced obsolete continually take on alternative "zombie" forms that are resurrected into new uses, contexts and adaptations.[4]

The third thing that became clear is that there is a large community of people involved in "making" that have little in common with Make. In my case, a flood of people came out from academia and the arts that had something in common with the concepts of critical making, critical design or critical technical practice – and a belief that hands-on physical work has a clear place in enhancing and extending the process of critical reflection.

At the core of it, though, I'm a fan of doing things myself because of the satisfaction of my work and the customized thing I produced at the end of the painful process: in this case, a small mountain of books that nobody else could have produced.[5]

[4] Hertz & Parikka, Zombie Media. Leonardo 45:5. MIT Press, 2012.

[5] In particular, Matthew Crawford provides a useful discussion on the joy of manual labor in Shop Class as Soulcraft: An Inquiry Into the Value of Work. Penguin, 2011.