

THE STUDIO FOR CRITICAL MAKING 2020

TWO TERMS:
CRITICAL MAKING
+ D.I.Y.

BY GARNET HERTZ

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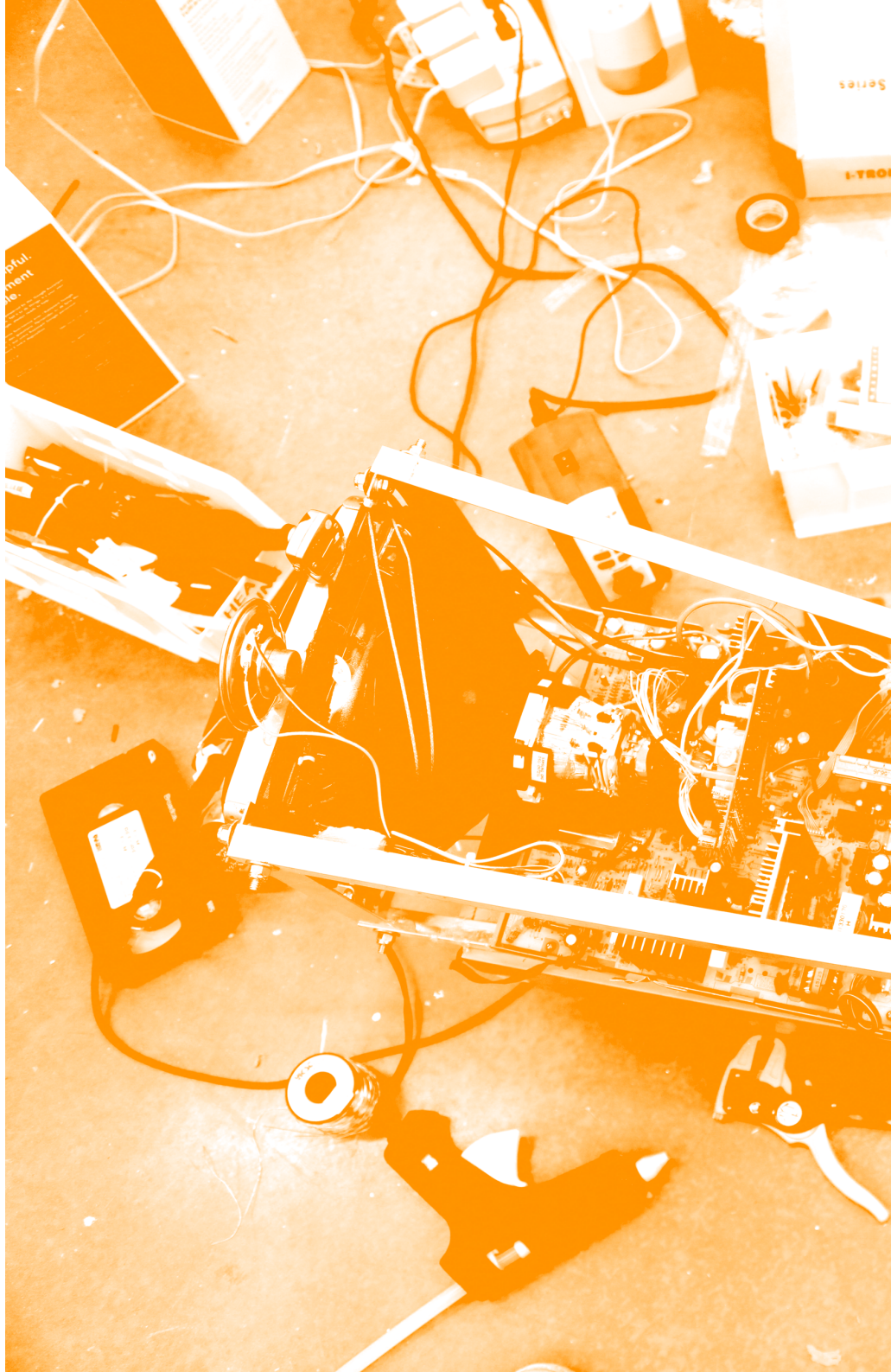
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IMAGES IN ORDER OF APPEARANCE:

1. [making-matters.nl](#) (2020), webpage screenshot.
2. Ratto & Hoekema (2009), *Flwr Pwr: Tending the Walled Garden*. In *Walled Garden*, ed. Dekker + Wolfsberger, Virtueel Platform.
3. Dunne + Raby (2010), *Design for an Overpopulated Planet*.
4. [evoke.ics.uci.edu/about/values-in-design/](#) (2020), webpage screenshot.
5. Krzysztof Wodiczko (1988), Homeless Vehicle Project.
6. Garnet Hertz (2015), Phone Safe 2.
7. Florian Cramer (2019), Does DIY Mean Anything? [cramer.pleintekst.nl/essays/does_diy_mean_anything/](#).
8. Public domain image of craft supplies.
9. Public domain image of a homemade 'jugaad' vehicle in India.
10. Ray Johnson (1970). Invitation to the first mail art show, New York Correspondence School Exhibition.
11. Public domain image of the interior of a Home Depot store.
12. Richard Sennett (2009), *The Craftsman* (detail of cover), Yale.
13. Dalton Ghetti (2003-6), 'Alphabet' pencil-tip sculptures.
14. Garnet Hertz (2004), Cockroach Controlled Mobile Robot #1.
15. Garnet Hertz (2010), OutRun.
16. Garnet Hertz (2020), Snapchat snap code, <http://snapchat.com/add/garnethertz>
17. Garnet Hertz (2020), *Experiments in Surveillance Capitalism: Device for Calling the Department of Homeland Security*.





TWO TERMS:

CRITICAL MAKING + D.I.Y.

BY GARNET HERTZ

11 November 2020

Making Matters Symposium 19/20/21 November 2020: Collective Material Practices in Critical Times

MAKING MATTERS Symposium 19/20/21 November 2020

Collective Material Practices in Critical Times

Ticket reservation is online now!

We invite you to join us for three days of livestreams and online workshops. The livestream presentations are free upon registration. For workshops you can buy a ticket for 2,50 euro. We look forward to your participation.

Reserve your ticket [here](#)

Find the timetable [here](#)

More information about the programme you can find [here](#)

You are cordially invited to join us at the second edition of the Making Matters symposium, which will take place [online](#) on Thursday 19, Friday 20 and Saturday 21 November 2020 in collaboration with [Het Nieuwe Instituut](#) in Rotterdam.

This online symposium brings together international representatives of collective material practices who experiment with their material manifestations to critique and reimagine the world(s) we inhabit.

Confirmed participants:

Aliens in Green, a.pass, Display Distribute, Ensad Lab, Feral Atlas, Garnet Hertz, Jatiwangi Art Factory, Eleni Kamma, The Otolith Group, Olu Taiwo, Jeanne van Heeswijk, Kate Rich and the work group Material Practices (Leiden University, Willem de Kooning Academy, Het Nieuwe Instituut, Waag Society, West Den Haag and associated researchers Anja Groten, Pia Louwerens and Dani Ploeger)

Making Matters
Collective

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GARNET HERTZ

Dr. Garnet Hertz is Canada Research Chair in Design and Media Arts and is Associate Professor in the Faculty of Design and Dynamic Media at Emily Carr University. His art and research investigates DIY culture, electronic art and critical design practices. He has shown his work at several notable international venues in fifteen countries including SIGGRAPH, Ars Electronica, and DEAF and was awarded the 2008 Oscar Signorini Award in robotic art. He has worked at Art Center College of Design and University of California Irvine. His research is widely cited in academic publications, and popular press on his work has disseminated through 25 countries including The New York Times, Wired, The Washington Post, NPR, USA Today, NBC, CBS, TV Tokyo and CNN Headline News. More info: <http://conceptlab.com/>

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CONTEXT

This publication was prepared by Garnet Hertz for the Making Matters symposium on Thursday 19, Friday 20 and Saturday 21 November 2020 in collaboration with Het Nieuwe Instituut in Den Haag. This publication is a collection of notes on the terms **critical making** and **D.I.Y.** and it sketches out a few quick thoughts on the terms and what applications they have for studio practice and cultural studies.

The three day conference is organized by the workgroup Material Practices (formerly known as Critical Making). Recent years have seen the emergence of a new kind of collective material practices that transgress the classical opposition between theory and practice, or thinking and making. These practices actively engage with our catastrophic times and yield collaborations that connect cultural, technological and more-than-human concerns. They show a potential to develop a comprehensive approach to art, science and technologies, driven by the necessity to fundamentally reimagine the relationship of humans to the world.

The conference brings together practitioners from various backgrounds and disciplines such as artistic research, experimental publishing, visual art, business and performance. These practitioners will share their work in which thinking and making are entangled, and will discuss the critical potential that this entanglement entails.

Through online workshops and presentations, the contributors invite a broad audience of artists, activists, teachers, theorists, students, designers, etherpads and other non-humans, to engage with diverse subjects such as alternative economies, feral ecologies, shared authorship, xeno-biologies, pedagogies, publishing infrastructures and radical collectivities.

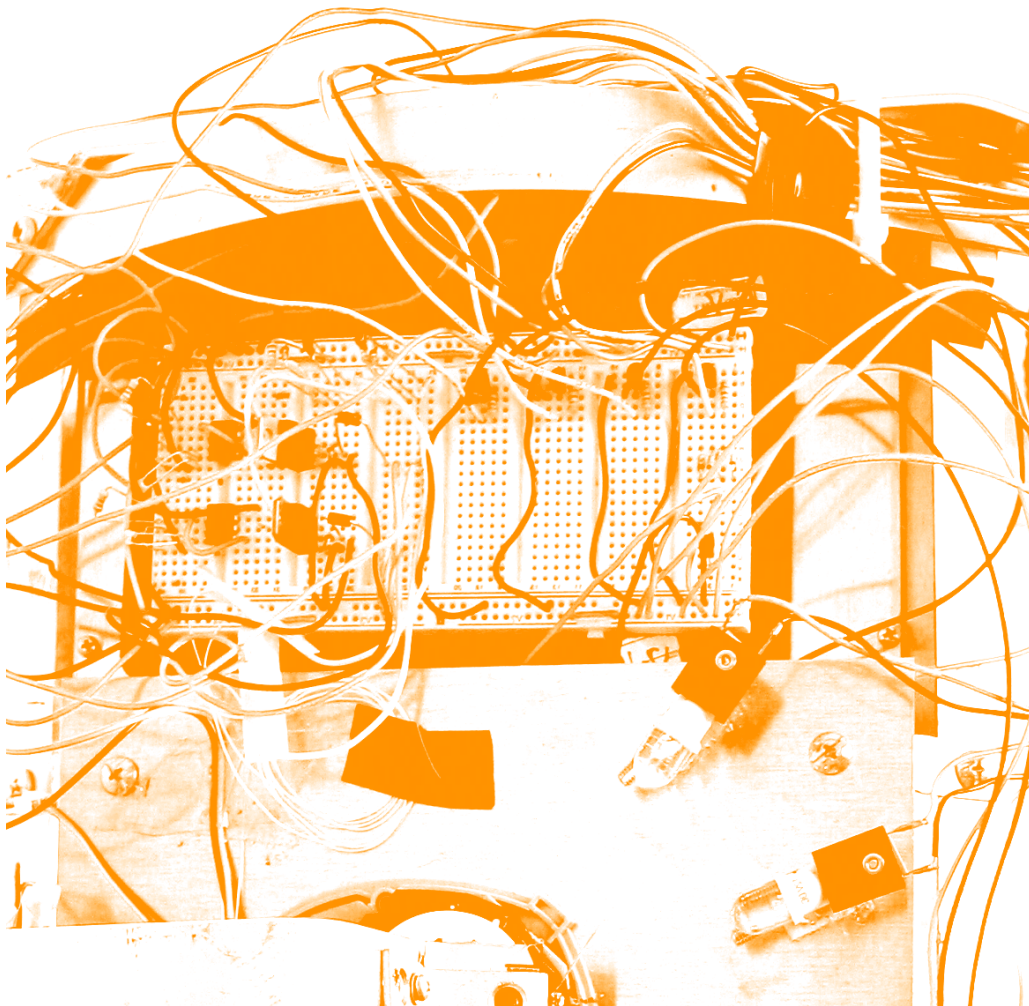


As a result, D.I.Y. can be thought of as appreciating amateurism and an effort to break out of managerial constraints. Rejecting standard metrics of efficiency, speed, resolution, or capacity means these projects can share the attributes of both post-optimal objects and craft production (Dunne, 2005). ■

D.I.Y. projects are generally built using everyday and available materials and are not-for-profit. D.I.Y. is often driven by an immediate functional need: to fix something or create an object that addresses what is missing from popular culture. Typically, common materials are used in D.I.Y. practice. This often leads to an aesthetic of openness: inexpensive materials often promote an attitude where others are invited to do it themselves. The challenge of building the object also leaves traces of how it was built, and acts as a visual guide for how to build it. 'Yourself' implies an amateur that driven by personal goals—part of a search for authenticity—rather than financial gain.

1. CRITICAL MAKING

Most simply, critical making is a contraction of the terms "critical thinking" and "making": to think by building things. The term itself was coined by Matt Ratto in 2008 to describe the combination of critical thought with hands-on making: if we can critically think, why can't we also critically make? By bringing pedagogical practice together with material engagement, he sought to open up and extend critical social reflection.



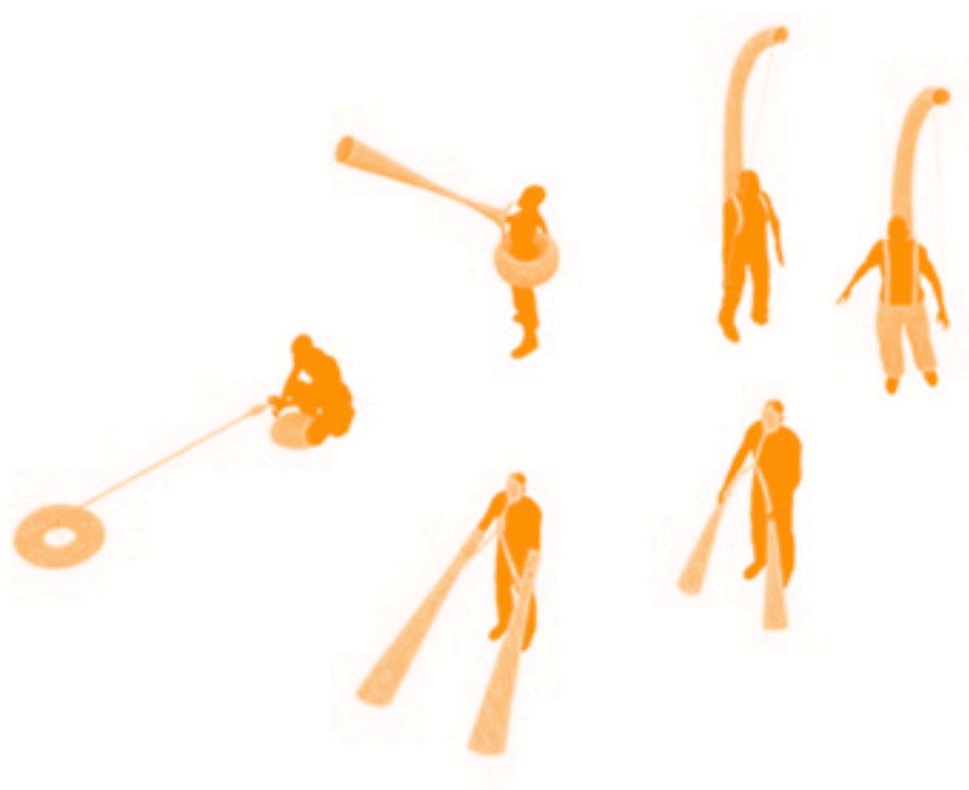
FLWR PWR - Tending the Walled Garden

Matt Ratto
<http://criticalmaking.com>
Stephen Hockema

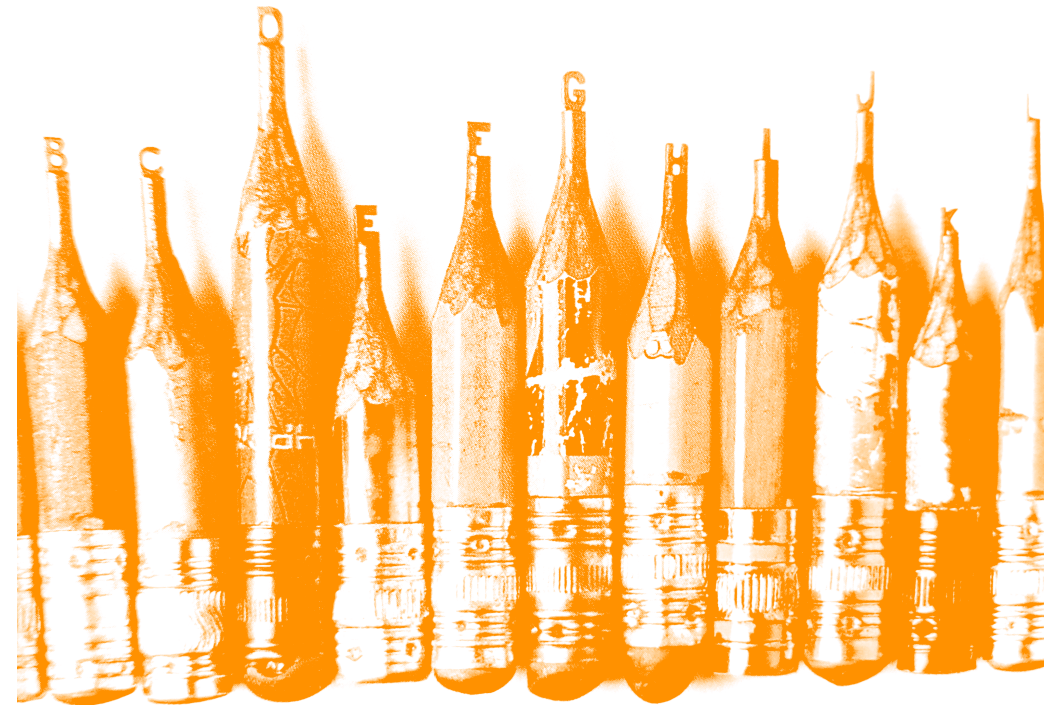
Matt Ratto is an Assistant Professor in the Faculty of Information at the University of Toronto. He is also a founding member of the Virtual Knowledge Studio for the Humanities and Social Sciences in Amsterdam and a research fellow at the HUMLab, University of Umeå, Sweden. His current work focuses on critical studies of digital media and the role of knowledge practices in collective and individual growth and development.

< Imagine a garden of dream flowers, powered by duracell, made of abandoned Starbucks coffee cups, styrofoam cubes cut from the latest iMac packing materials, a brain made in Italy, a blossom made by 1/2 Tod 1/2 Bot. The flowers glow with an eerie pulsating glow, sending secret missives across a darkened room. Some flowers horde their individuality, resisting attempts to transform, to change. Others broadcast their distinctive natures broadly, encouraging nearby flowers to go with them, to be like them. Still others promiscuously

Stephen Hockema is an Assistant Professor in the Faculty of Information at the University of Toronto. He holds a joint Ph.D. in Computer and Cognitive Science from Indiana University, where he specialized in perceptual and linguistic development and learning, and a BSCEE and MSEE from Purdue University, where he specialized in artificial intelligence, machine learning and natural language processing. He also has many years of industry experience working in the telecommunications industry and as a software developer.



I define D.I.Y. as a materially-oriented, embodied practice that is individually-directed and non-managed. D.I.Y. practitioners often believe there is a value in manual labor, while rejecting the optimized structure of mass manufacturing. This work is intrinsically rewarding and politically engaging. 'Doing' is an embodied activity where hands and mind work together to manipulate physical materials. The built objects often bear the marks of non-standard and non-professional approaches to building artifacts.



Critical making also echoes aspects of critical design, a related term that suggests building design prototypes can push users into more complex emotional and psychological territory by questioning social norms, stimulating discussion, and prompting criticism of design (Dunne & Raby, Auger).

In other words, D.I.Y. artifacts frequently have a low-fidelity and 'folk' look to them. This often is a byproduct of D.I.Y. builders making do with whatever is at hand, a bricolage of limited materials and skills. D.I.Y. work is typically done by amateurs driven by a lack of resources and the love of making things. As a result, D.I.Y. projects often bear visual marks of how they were built or cobbled together.



These two schools of thought have different concerns. Critical making strives to be more process-oriented and hands-on, while critical design is generally more scenario-oriented. Critical making is more focused on the hands-on constructive building process, while critical design primarily creates dialogue, often a critique of commercial product design. In both cases, both of these critical objects clash against normative design ideals that are common in products like optimization, efficiency, and utopianism.

Critical making, as I see it, is useful in reintroducing a sense of criticality back into post-2010 maker culture: to un-sanitize, un-smooth and re-politicize it. Critical making can also be helpful as a critique of 'zombie formalist' and gadget-oriented electronic art. This perspective on critical making is interested in mobilizing approaches from experimental media art, critically engaged industrial design and computer science interaction research that take cultural production and humanities-oriented inquiry seriously within the context of building functional technologies. Approaches include the concepts of critical technical practice, values in design, critical design, theory objects, and reflective design. This body of scholarship argues that all built technological artifacts embody cultural values and that technological development and hands-on making can be combined to create provocative objects that encourage a re-evaluation of technology in culture.



Values in Design – EVOKE Lab

evoke.ics.uci.edu/about/values-i...

Values in Design

Values in Design (VID), or more fully, *Human Values in the Design of Information Systems and Technology*, is a movement that goes beyond traditional requirements engineering to consider individual and social values as equally important inputs to the technology design process.

Beginning as an effort led by Helen Nissenbaum, Geoffrey C. Bowker, and Susan Leigh Star, the VID program recognized that technology is far from neutral, and the design process is predicated on a series of human decisions – decisions that are steeped in the personal and professional values held by designers. In this way, values become deeply embedded into our technologies, from the level of bits and algorithms up to the large systems and infrastructures that enable and constrain our daily activities. Drawing attention to the values embedded by system and technology designers, as well as the (usually different) sets of values held by those who use the technology, the VID approach informs and shapes the design process to result in devices, experiences, and information policies that resonate with their uses in context.

For example, the rise of location-based applications on smart phones has led to issues of

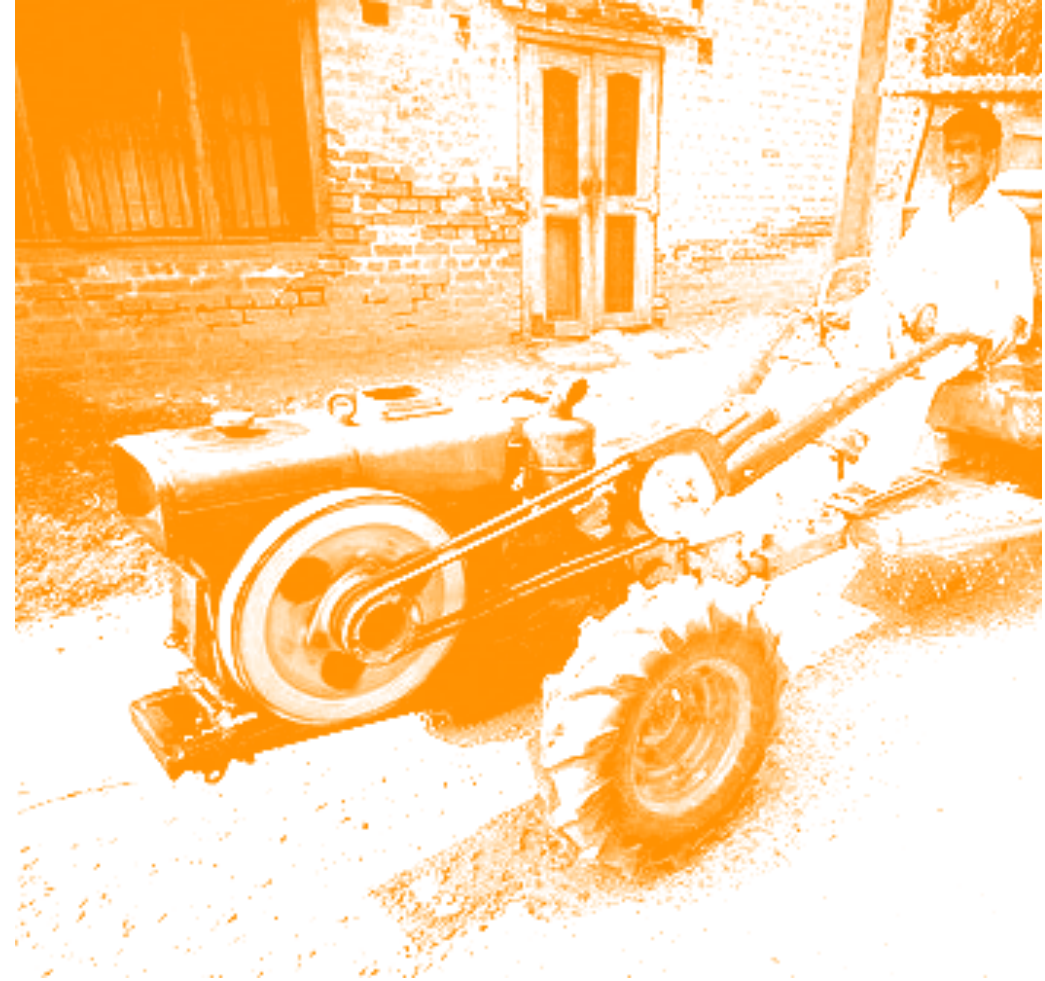
Specific cultural and artistic movements can be thought of as D.I.Y.-oriented. This includes the punk movement, Fluxus, mail art, or even phone phreaking. Looking to our current day, a “D.I.Y.” perspective contains valuable amateur practices that can help us navigate contemporary political and corporate dilemmas. In a basic sense, communities have always had to “make do” through necessity.



new york correspondance school exhibition



Arts-oriented contexts include the terms of interrogative design, critical engineering, perverting technological correctness, adversarial design, tactical media, and works of contemporary media art — all of which take an attitude of humanities-based inquiry into the production of art objects and technologies. Our job should be interrogative, as Wodiczko describes: "Design as a research proposal and implementation can be called interrogative when it takes a risk, explores, articulates, and responds to the questionable conditions of life in today's world, and does so in a questioning manner." (Wodiczko, 1999)



My interest in grassroots technological innovation, like the Indian concept of 'jugaad,' is meant to empower communities often left out of Silicon Valley's narrow concept of innovation as success in the marketplace. Scarcity and need can be an opportunity for creativity. D.I.Y. practice disrupts boundaries but also creates new structures and fields of expertise. The "disruptive" and "countercultural" eventually becomes co-opted and absorbed by the mainstream to varying degrees. Eventually, hobbyist knowledge becomes institutionally validated, then existing in tension with new forms of amateur practice.

In North America, "D.I.Y." brings to mind home improvement stores like The Home Depot that assist individuals in repairing or upgrading their residences. However, it also often refers to fabric shops, scrapbook supply stores, hobby stores, and car part suppliers. Although locations like this attract many professionals, the appeal of D.I.Y. is that a job can be done cheaper and under one's own time frame. Throughout, the common assumption is that "doing it yourself" makes the person using the object responsible for making, repairing or modifying it. However, D.I.Y. is more than just self-repair without the use of experts.

My interest in the term critical making comes from a historically-situated perspective of studio practice. I agree with Ratto so far as critical making is helpful to infuse maker culture with a sense of critical reflection and re-politicize technology design. I am also invigorated by critical design's idea that the builders of technology — hackers, engineers, industrial designers, computer scientists, and product developers — can reflect on the assumptions and values embedded in their technological designs. However, by contrast to both Ratto's interpretation and Dunne & Raby's critical design, I see value in applying the approach to artistic practice.

As Albert Borgmann, a philosopher who informed my approach to the concept of Critical Making, put it, "if we are to challenge the rule of technology, we can do so only through the practice of engagement" (Borgmann, 1984). These interrogative approaches are helpful in tempering the wide-eyed optimism of startup-oriented maker culture and reconnecting it with its historical, tactical and controversial histories. That is, it "must critically explore and reveal often painful life experience rather than camouflage such experience by administering the painkillers of optimistic design fantasies" (Wodiczko, 1999). Cleverly exploring the difficult lived-through experiences is more stimulating than making something faster or more efficient.

These themes and lessons can help steer the maker movement towards art and research, and away from the dual shoals of apolitical claims and crass commercialism. It will fail if it does not extend itself into a larger discussion about **why** things are built in the first place. ■



2.

D.I.Y.

According to the New Oxford American Dictionary, D.I.Y. is simply an abbreviation for “do-it-yourself.” On its own, this definition provides little clarity. Some theorists like Florian Cramer have asked whether the term D.I.Y. actually means anything at all, or suggested that it is “best understood from within, since it includes personal involvement and entanglement” (Cramer, 2019).

