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THE DIVISIVENESS OF DESIGN THINKING

**COVER STORY** 

Authors: Jon Kolko

Next?" [3].

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COMMUNITY

THE DIVISIVENESS OF DESIGN THINKING

Design thinking is "kind of like syphilis," wrote Lee Vinsel of the Stevens Institute of

Technology in a recent widely shared article [1]. Other popular critical perspectives on design thinking include designer Natasha Jen's "Design Thinking Is Bullshit" [2] and, as far

back as 2011, Bruce Nussbaum's "Design Thinking Is a Failed Experiment. So What's

If you aren't familiar with design thinking, Tim Brown, CEO of design consultancy IDEO, defines it as "a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success" [4]. It's taking the process designers have used to make chairs, cars, and toasters, and applying it to business strategy and large systems problems.

# ↑ Insights

$\rightarrow$	Design thinking has a rich
	and meaningful history.
$\rightarrow$	Design thinking has
	become vapid and empty.
$\rightarrow$	It's impossible to separate
	design thinking from
	making things.

That sounds pretty good. So why the syphilis and bullshit? In this article, I want to explore the split between the value of design thinking and the backlash, and see if there's room to reclaim the value of this powerful way of working. Bear with the history lesson---it's useful in seeing how design thinking has warped into something superficial.

## ↑ Being Inclusive

Design has historically been a tangible medium, one where we can clearly see or touch the output of the creative process. We can sit in a chair, use a toaster, explore a building, or read a book. But design also generates output that is less apparent. The design of a workspace includes more than just the physical arrangement of a building. The processes used, the working and operating hours, employee titles, corporate hierarchy, and

### http://interactions.acm.org/archive/view/may-june-2018/the-divisiveness-of-design-thinking

compensation structure—these have all been designed, often "top down," mandated from a central source of power. But there are circumstances where these design decisions are made "bottom up," involving or sometimes driven by the people who will encounter these rules and policies in their day-to-day work.

Researcher Pelle Ehn describes this bottom-up approach as a democratic process where the gap between designers and users is closed. He offers examples from Scandinavian software, system, and workplace design. Scandinavian countries have a rich history of social engagement, so it's no surprise that it's in these areas where we find examples of what Ehn calls *participation* (an integration of workers not traditionally trained in design into the process of design) and *emancipatory practice* (the freeing of workers from normative power structures.) In Ehn's model, "the design process involves as participants all those who can be directly affected by the system, its stakeholders ... The designer is someone that through encouragement and facilitation enables the participants and stakeholders to deal more effectively with their organizational messes" [5].

A participatory approach alters the problem-solving activities designers are accustomed to. Rather than conceiving ideas in isolation, participatory design requires collaboration with people who have no training in design and may not even know (or care) what it is.

Rather than conceiving ideas in isolation, participatory design requires collaboration with people who have no training in design and may not even know (or care) what it is.

To work this way, designers need humility. In a participatory, inclusive, and democratic environment, a designer can't be construed as the "person with the answer." Instead, they are a guide or facilitator, one helping apply a foreign creative process. To successfully act as a teacher and a guide, a designer needs to have an emotional connection to the people doing the work. This does not come through a casual interaction with a factory worker; it comes through rich, meaningful collaboration and from showing vulnerability. It takes a lot of time to establish, sometimes months and years.

With an eye toward participatory design practice, we can see how empathy emerged as the first pillar of design thinking—developing a formal, meaningful, and emotional connection with users so they stop being consumers of a design and instead become co-designers.

### ↑ Exploring Problems

The 1950s and 1960s showed an increase in research into artificial intelligence and learning sciences, investigating how people solve problems. Problem solving was thought of as a rational activity, which led to researcher Herb Simon's theory of *bounded rationality*. This proposed that people make rational decisions while solving problems but lack the ability to know all of the potential solutions to a given problem. In the context of this emergent view of human behavior, the word *design* implied any time a person attempts to change a situation from something suboptimal to something optimal, within their bounds of rationality [<u>6</u>].

But an alternative approach had already developed in creative fields, one that characterized problem solving and design not as rational but rather as playful, illogical, and creative. Alex Osborn, an advertiser, codified the now popular idea of *brainstorming*. This basic theory of creativity leverages four principles: avoiding criticism, encouraging wild ideas, aiming for quantity over quality, and combining and building on ideas from one another in a group. In Osborn's methodology, illogical free association should be encouraged, not tempered [7].

This is similar to the work of psychologist Edward de Bono. He describes *vertical thinking* as a conventional logical process, one that "has always been the only respectable type of thinking. In its ultimate form as logic it is the recommended ideal toward which all minds are urged to strive ... computers are perhaps the best example" [8]. This is what de Bono calls "high probability, straight-ahead thinking"—high probability because a sound logical analysis has a high probability of leading to a predictable outcome.

He juxtaposes this with *lateral thinking*. Lateral thinking is about purposefully looking at a situation from an unexpected and sometimes crazy perspective. This form of thinking may be explicitly driven by a provocation (the use of a random word prompt or image stimuli) or implicitly shaped by a playful attitude that attempts to surprise, shock, or disrupt a situation. He likens it to "temporary madness" but describes that the difference is that, "with lateral thinking the whole process is firmly controlled ... it is chaos by direction, not chaos through absence of direction" [8].

Another perspective emerged that began to explain how architects solve design problems. Philosopher Donald Schön identified that, in architecture, "doing and thinking are complementary ... each feeds the other, and each sets boundaries for the other" [9]. For Schön, the creative process is a loop with forward momentum. A designer sees constraints around the problem they are solving and then makes something. The thing they make creates new constraints, and so on. This is phenomenological, as the context of the solution depends on the framing provided by the designer, which is entirely based on their unique subjective experiences.

In each approach—bounded rationality, brainstorming, lateral thinking, and iterative problem framing—the human mind is solving problems by conceiving of *things* (this word

is used loosely) that don't yet exist. These things may be small interactions in well-defined contexts, like conceiving of the proper amount of change to give during a supermarket transaction; larger things in ill-defined contexts, like conceiving of a sketch of a new software interface; or vast things in wicked systems contexts, like conceiving of a new public transit design for a midsize city. The thing that is conceived may be a physical object, a place, a series of laws or rules, or an organizational structure. Along the way to formulating these things, people make decision after decision. Problem exploration may be logical and analytical (it may be verticalized or contained by bounded rationality), or it may be unexpected and playful (lateral or wild).

Problem exploration is the second pillar of design thinking. It's a blend of logical, linear thinking and illogical, divergent exploration—and the ability of the designer to switch between these mindsets freely and frequently.

#### ↑ Iterating on Ideas

The 1970s presented a new growth in the use of computing in the context of work. Computers were for experts. They were large, clunky things; usability wasn't top of mind for the people programming them because programming was such an arduous task to begin with. Because these were highly specialized systems, there wasn't a clear financial incentive to develop usable systems—just functional ones.

Over time, as computers became more prevalent in business, it became evident that hardto-use systems resulted in costly errors. A field called human factors, which originally focused on ergonomics in the military, migrated to computing to help mitigate these usability issues. Researchers in this field advocated on behalf of users by identifying usability defects and inefficiencies. Their method was to create excruciatingly detailed models of human behavior. They mapped each keystroke and each cognitive decision process, and tracked these at a precise level of specificity (often to the millisecond) in order to identify inefficiencies and features that were problematic.

These human factors studies were long and arduous, and as a reaction, "discount" usability methods were soon developed. These were faster ways of identifying where software was hard to use, such as watching real people use software instead of building cognitive models of theoretical use. As computers began to creep into non-business contexts, this form of quick usability testing became more and more important. Usable software was characterized by the phrase *user friendly*, which became a goal for home applications.

By the 1980s, as it became easier to develop for user interfaces and more acceptable to work with and for end users, a need emerged for tools to quickly build and explore software design. Prototyping tools like Hypercard resulted. These tools helped interface designers not only to prototype but also to test interfaces quickly, rather than testing full production products. A new generation of computing evolved that was philosophically aligned with people rather than with technology, albeit still grounded in an idea of logic and structure.



This approach—making things at a low level of fidelity, testing them with real people, learning from the testing, and iterating—is about ensuring an ongoing match between the thing that's been designed and the people who are supposed to buy, use, or experience it.

A third pillar of design thinking is characterized by making things at rough levels of fidelity; testing them with real people to understand if they are usable, useful, and desirable; and using prototypes to communicate a value proposition.

### ↑ Making Sense of the World

This combination of building empathy, exploring a problem, and prototyping and testing a solution is design thinking. It is design *thinking* because it is *thoughtful*—it is about intellectual topics and intellectual investigations. But it is also *design* because it is about making things.

There is another part of design thinking. While these very practical ideas of design thinking were emerging, so too was a different theoretical view of technological advancement—a view of design as a cultural phenomenon. Design as problem solving views the world as a series of issues to be optimized. It values optimization, correctness, and logic. This other perspective thinks of the world as a place to be experienced. Here, design is a lens for

human experience that values history (such as understanding how technology has shaped the world around us so far), significance (such as the role of objects in defining our values, ethics, and morals), and humanism (such as engaging with the human condition).

In this world, design is not only a specialist activity of *building* artifacts, such as objects, furniture, and posters. It is also a way of *understanding* that world in flux, of humanizing technology, and of building and shaping culture. This view is aligned more with the work of Pelle Ehn than that of Herb Simon.

In this model, the skills of design help us experience the world. Making things, and appreciating that things are made, gives us a way to manage the complexity that comes with new technology. Models and sketches are used not to bring innovations to life but rather to contextualize innovations that are emerging so we can participate in modern culture. Design in this context is a liberal art, because making things acts as a foundation for engaging with the world, just as reading literature or exploring science gives us the ability to contribute as a member of society [10].

## ↑ Design Thinking with Depth

We have countless examples of real and meaningful empathetic immersion in the context of social problems—people doing design thinking as described above without ever naming it as such. This includes designer Lauren Serota's work in Myanmar to understand rice-farming production, financial inclusion, and mobile money use (<u>laurenserota.com</u>); designer Robert Fabricant's impact work at Dalberg in countless countries (<u>dalberg.com/our-ideas</u>); and designer Erik Hersman's work at BRCK, bringing Internet services to African countries (<u>brck.com</u>).

We have educational institutions like Designmatters at Art Center with dozens of casestudy examples of design thinking at work in a vast set of contexts (designmattersatartcenter.org).

We have high-profile examples of service designs driven by design thinking, often with a focus on civic engagement and humanitarian impact. For example, Carl DiSalvo's work at Georgia Tech focusing on socially engaged design and civic media includes examples of this at work in actuality, not just in theory (<u>carldisalvo.com/bio</u>). Designer Sarah Brooks was the chief design officer at the U.S. Department of Veteran Affairs, where her team leveraged design thinking to improve the services offered to veterans [<u>11</u>].

Design as problem solving views the world as a series of issues to be optimized. Another perspective thinks of the world as a place to be experienced.

What's common about these examples is that the people doing the work have experience studying and doing *design*, not just studying and doing *design thinking*. Serota studied industrial design, worked at the consultancies Lextant and frog, and has spent the past four years working in the field in Myanmar. Fabricant was the VP of creative at frog. DiSalvo was an interaction designer at Meta. Brooks was a producer and then director at Hot Studio. Natasha Jen is a partner at Pentagram. Even Tim Brown, the CEO of IDEO who popularized design thinking, studied design at both Northumbria University and the Royal College of Art, and worked as a practicing designer.

In all of these cases, the designers have tactical and hands-on experience making things. They've learned and practiced skills in form giving, in iterative prototyping, in design fundamentals like composition, color theory, and sketching, and in creating things that people actually use. Their intellectual design thinking supports, but does not replace, their actual ability to design.

## ↑ The Critique of Design Thinking

Two paths of design are diverging. There are people and firms practicing design thinking by making things, driven by practitioners aware of the history of making things and skilled in the craft of making things. And then there are people and firms practicing design thinking by, well, thinking about things. The difference is profound. When we make things —again, the word *things* is used loosely, applying to both a toaster and a business strategy—we become intimate with details, with material, with complexity, and with simplicity. We iterate and immerse and explore and craft. The work has intellectual depth because it has formal depth. *Formal depth* isn't just a pretentious phrase. It means someone has given shape to an idea. Form has ties to aesthetics, history, meaning, and people. It references all of the ideas described above.

It's safe to say that most people practicing popularized design thinking haven't explored the psychology of problem solving, the history of union-led interventions in Scandinavia, or the idea of design as a liberal art. And why should they? The intellectual grounding of this work is highly academic, published in arcane journals, and only abstractly connected to practical application. This text itself is probably too dense for many people to enjoy, and we would never find it featured on Buzzfeed ("The Top 3 Things You Need to Know About Design as a Liberal Art—*click here, the results will blow your mind*!")

Similarly, they probably haven't spent years drawing, building and modeling, and giving detailed form to complex ideas. And, again, why should they? I am skilled in drawing, but I don't want to put in the work to become a brilliant philosopher. I can read philosophy and appreciate it, though. I can develop taste and criticism for a liberal art without being an

expert in that discipline, and so too can others develop taste and criticism for design without ever becoming competent designers.

But inspirational daylong workshops and courses, an urgency by businesses to find ways to innovate, and the popularity of TED talks have encouraged more and more people to move beyond taste and criticism, and to actually begin designing things—without, however, the rich skills and knowledge described here.

As a result, instead of empathy as the result of long-term immersion in a culture, as is the case of Pelle Ehn's work in Scandinavia, we have two-hour "subject-matter expert" interviews where we gain a scratch-the-surface understanding of business needs. Instead of Osborn's view of structured brainstorming, we have chaotic "working sessions." Instead of Simon's methodical understanding of how the human brain works, we have a "grip it and rip it" culture of test and iterate, abdicating proactive reflection for reactive alterations. Instead of a view of design as a way of understanding culture and carefully shaping it through craft and care, we appropriate it as a way of driving innovation through a relentless pursuit of newness. And instead of beautiful, usable, significant, and relevant *designed things*, we have "canvases" and "playbacks" and "design sprints"—and lots and lots of Post-it notes.

Back to the provocations from which we started. In his argument against the disease of design thinking, Lee Vinsel makes several foundational points. First, he describes how studying design thinking "gives students an unrealistic idea of design and the work that goes into creating positive change. Upending that old dictum 'knowledge is power,' Design Thinkers give their students power without knowledge, 'creative confidence' without actual capabilities" [1]. Students graduate design-thinking-centric academic programs with the ability to think about design but without the ability to design things, and as we've seen above, design has its roots in the creation of things. Students of design thinking often don't have craft skills.

Next, Vinsel describes how design thinking has become a way for us to feel good, but not to actually do good. Ideation sessions encourage positive thinking at the expense of critical thinking—design thinking is framed as fun work, rather than the serious kind. The brainstorming of Osborn or the lateral thinking of de Bono is fun only incidentally; it's primarily a serious activity. The reflective practitioner described by Schön works uninterrupted and with rigor for hours upon hours. And the intent of Ehn's work is to improve the social conditions in the world around us, not to make it onto the cover of *Forbes* magazine.

Vinsel points his argument most firmly at the business of design thinking. "In the end, Design Thinking's not about design. It's not about the liberal arts. It's not about innovation in any meaningful sense. It's certainly not about 'social innovation' if that means significant social change. It's about COMMERCIALIZATION" [1]. For him, design thinking is just a package sold by consultants and universities.



Natasha Jen's argument that "design thinking is bullshit" is slightly different. A partner at the design consultancy Pentagram, Jen views design thinking as a watering down of a complex process—that design thinking stuffs a nuanced, detailed, thoughtful, and often messy approach into a series of manufactured, oversimplified, and sterile steps [2].

Bruce Nussbaum, formerly the editor of *BusinessWeek*, agrees. He says that "by packaging creativity within a process format, designers were able to expand their engagement, impact, and sales inside the corporate world. Companies were comfortable and welcoming to Design Thinking because it was packaged as a process" [3].

I too have been publicly skeptical of the value of a design thinking approach for all of the reasons I describe above. In 2010, I tweeted, "wtf is design thinking without design?" [12] and in 2013, I snarked, "I think I'm going to do some design thinking, now. said no one ever" [13].

In 2011, I sarcastically called it a unicorn in a conversation with Don Norman, and went on to say, "My problem is that I don't understand how I can, how anyone can, extract the thinking part from the doing part. And right now, if you go get an MBA at a bunch of good schools, you might take a class called Design Thinking, where you'll take a bunch of design methods. You'll learn a method called empathy. So for four days, you'll learn about empathy, and you are now certified to be empathetic" [14].

And in 2016, I described how "I don't really know what design thinking is. For me, there is just design; it's a way of thinking, and a way of making. Doing the 'thinking' part is often alluring because it's approachable, and that's a good thing. It changes the way you look at the world, and methods for divergent, creative thinking can be (and should be) taught to just about anyone. But the act of making things takes time to learn. It's something that, again, everyone should be able to do; but it is not something everyone can do without years of practice" [15].

These critiques of design thinking are not unique to Vinsel, Jen, Nussbaum, or myself. They are echoed in blogs and conference presentations. The critiques of design thinking are:

- It takes a thoughtful, complex, iterative, and often messy process and dramatically oversimplifies it in order to make it easily understandable.
- It trivializes the role of craft and making things, which is fundamental to the process of design.
- It promotes "empathy lite"—as if an empathetic and meaningful connection with people could be forged in hours or even days.
- It's become a tool of consultancies to sell work, not to drive real impact.

These critiques of design thinking are just, as is the emergent backlash against the methodology by designers and design organizations. When viewed from the historic roots I've described above, today's design thinkers lack craft, lack intellectual foundations, and can't make things.

### ↑ The Value of Vapid Design Thinking

There is a great irony to this. The primary reason design is now in vogue: The relationship of design thinking to value has become overt, championed by the same Bruce Nussbaum who also publicly derided it. When Nussbaum was the editor of *BusinessWeek*, he regularly put design thinking on the cover, giving it a front-and-center presence for executives and business leaders. He helped elevate design to a strategic competency; that simultaneously popularized both a deep and a thin form of design.

Through that lens, design thinking is not a problem. It's a gift.

Specifically *because* design thinking has been packaged and become popularized at such an overly simplistic level of detail, it has helped those of us who have depth, skill, and rigor to become more valued. For years, designers have bemoaned their lack of impact. In 1985, the *New York Times* wrote that "[d]esigners nevertheless call themselves the invisible industry. Many companies either don't use them or use them in frivolous ways. Designers tend to agree that most products on the market are ghastly in design or adorned with meaningless decoration and could use their helping hand" [16].

Now we have recognized impact, and it's not about styling. It's strategic. We can realize this strategic impact, make more money, and work on increasingly meaningful work just by stomaching the superficiality of design thinking and riding its wave of popularity.

In a cover story in *Harvard Business Review*, I wrote that "many view design thinking as a solution to all their woes. Designers, enjoying their new level of strategic influence, often reinforce that impression" [<u>17</u>]. While I wrote that as a criticism, I now think I meant it as a celebration. Organizations seek silver bullets, and they've moved from the shiny objects of Six Sigma to agile to lean to design thinking. It is guaranteed that companies will move on from design thinking to the next big thing. But in its wake, the popularity of design thinking will leave behind two benefits: validation of the design profession as real, intellectual, and valuable—and a very large need for designers who can make things.

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POST COMMENT

#### @Jim Couch (2018 05 08)

Powerful, articulate and comprehensive article. Both for its historical background and intellectual arguments. Probably the best dissertation I've read regarding Design Thinking. This should be a must read for anyone interested in the subject. That said, while there are many points that I agree with, I am not convinced that I share the same conclusion.

Jon concludes with the following statement - "...the popularity of design thinking will leave behind two benefits: validation of the design profession as real, intellectual, and valuable—and a very large need for designers who can make things."

While I can only hope that these benefits will come to fruition, my recent experience suggests otherwise

I work for a large, conservative financial enterprise where "Design Thinking" has caught on like wild fire. Being a senior member of the UX Design team, I was elated back in 2015 when I saw the HBR cover. I figured this would serve as catalyst to increase requests for our services and spur more intellectual conversations about design. Instead, while everything remained business as usual, what I witnessed was LOB's reaching out in every direction seeking external Design Thinking expertise - IBM, Darden, Experience Point/IDEO, d.school, Duke, LUMA and Gartner.

What ensued were initiatives with no less than seven (7) different entities offering Design Thinking training/consulting. Once I discovered these, I reached out to the appropriate parties with 2 two words of advice/caution – 1) "...uh, you do know that we have these skills and resources internally, don't you?", and 2) Be careful. We run the risk of "learning" multiple dialects with emphasis placed in different areas if we're going to be getting training from multiple providers.

My intervention got me invited to several of the "training" programs. I sat through "pitches," one-hour computer based training modules, 3-hour sessions, and a 3-day immersive workshop. In all but one of the sessions, what I experienced was "training" provided by non-designers who clearly were parroting well-orchestrated design thinking scripts. These individuals had little to no practical knowledge or experience doing design. Additionally, none of them acknowledged the design profession as the resource that has developed, cultivated and uses these techniques on a daily basis. Worst yet, in several instances, I had to correct a few of the instructors as their comments or advice were just inaccurate.

So, as a designer who endorses Simon's "everyone is a designer" philosophy, I'm concerned that the subject is being taught by too many people who don't truly understand the intrinsic nature of the design thinking process. I'm afraid that this rote, mechanistic training will result in a host of "graduates" who at best will set up Tuesday afternoons to do "design thinking." While I support the socialization of Design Thinking and the democratization of Design, I see little evidence that the design profession will benefit or be credited.

Imagine someone outside the financial/accounting worlds, whose only experience with GAAP was an intensive trainer-the trainer course attempting to teach these principles. This is what we are experiencing. It's time for designers to take back desing thinking. Only then will the desing profession truly benefit.

#### @Afarin (2018 05 10)

Great article! I love how Nelson and Stolterman (2003) define design, an emergent compound composed of real, true, and ideal. For me Design Thinking is a blueprint of how a designer think. Reading about "Design thinking" does not make you a designer, it just tells you how designers think. Unless you put theory into action you cannot practice design.

@john mortimer (2018 05 26)

Interesting analysis, and perhaps relevant in certain examples and as a particular view. I would like to point to the demise of the auto industry in England in the 1960's and the rise of useful, well made and reliable cars

from Japan. What followed was the collapse of the British car industry. The principles that created this situation were the same as Design Thinking.

What this article shows us is that going on a few training courses and being trained in Design is not sufficient to create true value in an organisation. But in what field is this true? I would say that no-one who has gone on a few courses or study, and it could be engineering or philosophy, would be in a good place to use it effectively.

If this is what the article is saying then I would not expect a Design Thinking agency to use such inexperienced people. I would suggest that the author also mentions that this is primarily the mistake of hiring inexperienced people, rather than deciding that Design Thinking is somehow fundamentally wrong.

All trends go this way from sporadic start, juvenile thrusts, and learning about what works, and Design Thinking will eventually develop into a mature and skills and experienced based competence. This will also slowly move into the mindset of business - not as it is so often now, just an add-on. Just give it time, it has taken the auto industry decades and still some international auto manufacturers lag behind what they should be learning from the 1060's.

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