The Divisiveness of Design Thinking

Design thinking is "kind of like Syphilis", says a recent broadly-shared article by Lee Vinsel of the Stevens Institute of Technology. Other recent perspectives on design thinking that have experienced wide circulation include designer Natasha Jen's "Design Thinking is Bullshit", and as far back as 2011, author Bruce Nussbaum's "Design Thinking is a Failed Experiment. So What's Next?"

If you aren't familiar with design thinking, Tim Brown, the CEO of the 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." It's taking the process designers have used to make chairs, cars, and toasters, and applying it to business strategy and large systems problems.

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 1

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 compensation structure have all been designed. These are often designed "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, and so it is no surprise that it is in these areas where we find examples of what Ehn calls "participatory" (an integration of workers not traditionally trained in design into the process of design) and "emancipatory" (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."

A participatory approach alters the problem solving activities designers are accustomed to. Rather than conceiving ideas in isolation, participatory design requires the need to collaborate 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 towards 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 2

The 50s and 60s 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, and researcher Herb Simon introduced a theory of *bounded rationality*. This proposed that people make rational decisions while solving problems, but they 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 sub-optimal to something optimal, within their bounds of rationality.

But an alternative approach had developed in creative fields, one that characterized problem solving and design not as a rational activity but as a playful, illogical and creative one. 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.

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 towards which all minds are urged to strive... computers are perhaps the best example." 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."

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." 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 and 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 mid-size city. The thing that is conceived may be a physical object, a place, a series of laws or rules, 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 also illogical, divergent exploration—and the ability of the designer to switch between these mindsets freely and frequently. Important skill

Iterating on Ideas 3

The 70s presented a new growth in the use of computing in the context of work. Computers were for experts. They were large, clunky things, and 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 because more prevalent in business, it became evident that hard-to-use systems resulted in costly errors. A field called human factors emerged to help mitigate these 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, 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 for 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*, and this became a goal for home applications.

By the 80s, 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. As a result, prototyping tools like Hypercard emerged. These tools helped interface designers to prototype and test interfaces quickly, rather than testing full production products. There evolved a new generation of computing 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 there's an ongoing match between the thing that's been designed and the people that 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. History 70s->80s

Making sense of the world 4

It is this combination of building empathy, exploring a problem, and prototyping and testing a solution that 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's 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. This view of design as a lens for human experience 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*, like objects, furniture, and posters. It is also a way of *understanding* that world-in-flux, of humanizing technology and literally 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, give us a way to manage the complexity that comes with new technology. Models and sketches aren't used to bring innovations to life. Instead, they are used 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.**

Design thinking with depth 5

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, designer Robert Fabricant's impact work at Dalberg in countless countries, and designer Erik Hersman's work at BRCK, bringing internet services to African countries.

We have educational institutions like Designmatters at Art Center with dozens of case study examples of design thinking at work in a large and vast set of contexts.

We have high-profile examples of service designs driven by design thinking, often with a focus on civic engagement and humanitarian impact. For example, Associate Professor Carl DiSalvo's work at Georgia Tech focuses on "socially-engaged design and civic media", and includes examples of this at work in actuality, not just in theory. Designer Sarah Brooks was the Chief Design Officer at the US Department of Veteran Affairs, where her team leveraged design thinking to improve the services offered to United States veterans.

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 last 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. Jen is a partner at Pentagram. Even Tim Brown, the CEO of IDEO that popularized design thinking, studied industrial design at the Royal College of Art and worked as a practicing designer.

The critique of design thinking 6

There are two paths of design, 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. But I can read philosophy and appreciate it. 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 a competent designer.

But inspirational day-long 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 but without the rich skills and knowledge described above.

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 2 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 giver their students power without knowledge, 'creative confidence' without actual capabilities." 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 these 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 only as fun, rather than serious work. The brainstorming of Alex Osborn or the lateral thinking of deBono is fun only incidentally; it's primarily a serious activity. The reflective practitioner described by Schön works with rigor for hours upon hours of uninterrupted time. And the intent of Ehn's work is to improve the social conditions in the world around us, not to make it on 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." 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, over-simplified and sterile steps.

Bruce Nussbaum, formerly the editor of BusinessWeek, agrees. He describes 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."

I too have been publicly skeptical of the value of a design thinking approach for all of the reasons I described above.

In 2010, I tweeted "wtf is design thinking without design?" and in 2013, I snarked "I think I'm going to do some design thinking, now. said no one ever."

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 4 days, you'll learn about empathy, and you are now certified to be empathetic."

And in 2016, I described that "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."

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-light"—as if an empathetic and meaningful connection with people can be forged in days or hours
- It's become a tool of consultancies to sell work, not to drive real impact Useless

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 7

There is a great irony to this. The reason design is now in vogue is primarily because the relationship of design thinking to value has been made overt, championed by the same Bruce Nussbaum who derided it earlier. 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 be seen as a strategic competency, and that simultaneously popularized both a deep and thin form of design.

And 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 described that "Designers 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."

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 "many view design thinking as a solution to all their woes. Designers, enjoying their new level of strategic influence, often reinforce that impression." 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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