THE BEAUTY OF DOING THE RIGHT THING
10.01.20 – DIES lecture Delft University of Technology – Paul Hekkert

Thank you, Erik and Saartje.

Ladies and gentleman, good afternoon. You have just received a strawberry on a stick. In January. Did it taste good?

Dutch organization Milieu Centraal measures the environmental impact of fruit cultivation according to the month it is consumed. They for example take into account the energy costs related to crop growth and transport via plane, truck, or boat, and also factor in water stress—which is water use in relation to water scarcity in an area. This table presents the environmental impact of eating strawberries in January... As you can see, whether they're imported from Egypt or home grown, strawberries are best avoided this time of year.

But temptation is often put in our path. Recently, I had a lovely conversation with one of the biggest fruit growers in the Netherlands. I asked her why we have strawberries in our supermarkets at Christmas. Without batting an eye, she responded, "Well, that's what the consumer wants."

Pleasing consumers has been of central concern to designers for many decades. Year after year, designers are taught to capture the needs and wants of consumers through user studies, market research, consumer panels and many other techniques. And if they package those needs into products that are also beautiful and usable, people are presented with seemingly irresistible options.

Meanwhile, design researchers—myself included—spend all their time supporting designers' efforts to do things right. For this, we rely heavily on the social sciences, because to understand what people want or like, we must thoroughly understand the psychological mechanisms underlying people's perceptions, motivations, and behaviours.

Much of my own research over the past 25 years has concentrated on identifying the mechanism underlying our perception of beauty. It even gave me the nickname "professor mooi-lelijk". One of my teachers used to say that beauty results from preserving order while *almost* allowing for chaos. Beauty is the mechanism through which humans defy entropy. This notion of beauty is captured by the principle of unity-in-variety: people like a lot of variety, but only if it is somehow organized into a unifying whole. This is the arrangement I came upon when I entered my 6-year old son's bedroom after he had been playing with his cousin for a few hours. When I asked him what was happening, he said "It's the rhino's funeral." The principle of unity-in-variety is applied—almost intuitively—by designers when they design the dashboard of a car, the face of a watch, or the landing page of a website.

Knowing how to make something attractive helps designers make products that sell well. The logic for the industry is plain and simple: if products sell well, they make a profit, the shareholders are satisfied, and the company can grow, ad infinitum. There is nothing wrong with this. Or perhaps there is...

We have reached the limits of growth. In our relentless desire to please consumers, designers have created—yes, *designed*—a value system whose operating principles are having extremely detrimental effects on our environment, our social fabric, our health, and our well-being. These unintended consequences—because these effects are rarely designed deliberately–these unintended consequences of design and technology—yes, technology and design are intimately intertwined—these unintended consequences *are there to remain*, and have become increasingly visible—laid bare by academics, the media, and critics of the tech world.

And designers are aware of this, more than aware. Ten, fifteen years ago, most designers aspired to work in industry, to design a cool thing that would solve a problem, make people happy, and sell millions. These days, designers want to "do good"—make an impact, take responsibility, and contribute to a better world.

Let's have a look at the three designers who have most recently been awarded best graduate from our faculty of IDE. In 2017, Jet Gispen graduated with a thesis on "Ethics for Designers;" in 2018, Anne van Lieren delivered her report on influencing user behaviour; and this year, Dasha Simons presented her thesis on responsible AI. That all three are geared toward design developing a conscience is no coincidence.

In truth, designers have always been value-driven—driven towards beauty, ease of use, efficiency, and a pleasurable experience. Now designers are adopting new sets of values, ones which question the consumer lifestyle, and force people to reconsider their behaviour beyond instant gratification and seamless efficiency.

At the opening of last years' innovation expo in Rotterdam, I had a brief chat with our minister of internal affairs, Kajsa Ollongren. In response to my asking what impressed her most at the exhibition, she referred to the Delft hyperloop: "This morning it took me more than an hour to travel from Amsterdam to Rotterdam," she said, "Wouldn't it be beautiful to do this in less than 20 minutes?" she asked rhetorically. Much to her surprise, I replied, "Faster may not always be better; we might ask ourselves what we would lose in exchange for that speed." She was stunned to hear this from a Delft professor and—a little later—declared on stage that that short conversation had made her rethink her values...

One of our students, Julia Fort Munoz, recently reframed the values associated with mobility. Her graduation project was to envision the future of mobility services for a mobile app of Daimler, called FREE NOW, where customers can locate and book transportation modes, such as taxis or scooters. Her new narrative was that people who are looking to get from A to B are not always aiming to take the fastest route. Instead, their minds may be more focused on "getting some alone time" or "working on self-development." Those values will not only affect the type of transportation people choose, but also *how* that mobility is offered. FREE NOW saw great potential for its strategic direction in this new frame, and they immediately offered her a job.

The act of reframing is one of the special competences designers bring to the table to innovate, radically.

Design researchers have worked hard to come up with firmly grounded theoretical models and methods that can enable designers to do exactly that: look at worldly phenomena—I am deliberately avoiding the word problems—with a fresh perspective. Here is one such model: the Vision in Product design method, known among designers as ViP. It forces designers to look at and map the future world at the systems level—how do I see that world and all its interconnections?—and take responsibility by defining the *raison d'être* underlying their design intervention—what will be meaningful to people in this future context?– before coming up with the intervention itself. ViP teaches that to envision any future world, designers need to be aware of trends and developments because the world is constantly changing. But underneath these changes, many things stay the same... *many things remain*. These stable factors are called principles, and they are manifold: principles of psychology and humanity, principles of physics, economy, biology, and ecology.

Such principles from ecology were recently applied by Reframing Studio and partners in the domain of mental health to reframe and redesign the Dutch mental health care system. Redesigning Psychiatry considers mental disorders as interaction problems that can often be prevented or diagnosed early—if we redesign the system. The implications of this frame are far reaching. It affects the roles and actions taken by every major stakeholder in the system, from caregivers, to insurers, to social service administrators. It also directly implicates other systems that are not yet part of the mental healthcare system, such as education. And the frame opens horizons toward new products and services—for example, imagine having a mental health check-up as regularly as you go to the dentist. The case demonstrates how difficult it can be to change the system, especially when we need to expand the system and encompass other siloed systems. The case foremost demonstrates the power of reframing and "what design can do."

Methods like ViP are especially needed in light of the challenges that designers are facing today. Rather than looking to satisfy individual needs for comfort or ease—the old paradigm—designers are pursuing collective, long-term values such as sustainability, social cohesion, trust, health, and well-being, much like lawmakers who discourage acts that are individually beneficial but collectively harmful. These types of values only reveal their benefits in the long term, and people do not tend to engage with them easily or naturally—there are too many good reasons to keep on driving cars, checking smartphones, or enjoying a hot tub on your porch… Shifting our behaviour to meet these long-term, collective concerns poses people with a dilemma, a "clash of concerns". To bring out the best in people, to help them do *the right thing*, a designer needs a profound understanding of people's values, and why they are not motivated, lack willpower, and stubbornly persist in behaviour that is ultimately not good for them or the community. The focus of design should, in the words of the late design historian Victor Margolin, "be broadened from products to the way we organize possibilities for human action." We can do this by making it not only possible, but *feasible* for people to eat less and eat better, use clean energy, exercise more, or select the proper mode of transportation.

Designers are uniquely positioned to help people in making the right choice, but to do it effectively, they cannot simply rely on their intuition. In the words of Harvard psychologist Steven Pinker, "If there's one thing we know about cognition, it's that people (including experts) are arrogantly overconfident about their intuition."

Designers need models, principles, and theories—but, in today's world of limitless technological promise, above all they need methods, tools, processes, and strategies that will help them bridge the gap between the possibilities technology offers and the values cherished by society. This set of tools and methods we call Key Enabling Methodologies, the designerly equivalent of Key Enabling Technologies. They include tools to facilitate imagination, strategies to foster behavioural change, models for value creation, instruments to measure impact, and field lab templates for experimentation. The KEM toolkit helps designers to more meaningfully connect evolving technologies to human and organizational characteristics in light of a changing world with ever-changing demands. In the words of Nobel Laureate Herbert Simon, "the engineer, *and more generally the designer*, is concerned with how things *ought* to be—how they ought to be in order *to attain goals*."

This concern with the contingent is driven by values.

Many see the design thinking methodology—as instructed at Stanford's d-School, and used famously by design firm IDEO, but already researched in the 90s at our own school—as the best way to bring about social change. A key element of the design thinking approach is co-creation: end users are enlisted as collaborators in the innovation process. The practice seems appealing, but it is also problematic, and there are several reasons for this. One is that most people are "stuck in the moment," and take the system they are part of for granted. What they lean towards is fixing the current situation—fighting symptoms with band-aid solutions. What's more, social science has repeatedly demonstrated that people do not really know what is best for them, nor do they know *why* they do what they do. In the words of neuroscientist Sam Harris, "None of your conscious choices are conscious choices. You are the last to know why you're doing what you're doing." If we want to preserve long-term, common values, relying on users' experiences and opinions might actually be a risky option...

In 1995 I defended my PhD thesis on aesthetics at this university, and its proposition #8 was: "The referendum is a seemingly democratic instrument: It responds to the conservative nature of people who are generally ill-informed and deprives members of parliament, who are most often well-informed, of their mandate and responsibility." If only the British politicians had read my thesis before they decided to let the people vote to leave or *remain*…

According to some, a citizen's council—a different form of user participation—would do a better job. It would at least diminish polarisation and lead to a better informed debate. And what could design do in this context? The widespread polarisation that often characterizes public discourse–and that often conceals the moderate opinion of a majority–is the topic of Jacco Bijlsma's soon-to-be completed master's thesis. Instead of the black and white, thumbs up or down, "likes and dislikes" all over Twitter and Facebook, he wants to give a voice—and a symbol—to reason, and bring it back into the debate—a call for radical reasonableness. A few years ago, some of us proposed an alternative solution that could very well eliminate the most perverse mechanisms operating in the current democratic system. Given that we are celebrating TU Delft's anniversary and the 10th lustrum of our

school, it's the perfect occasion to pitch this beautiful concept once more: to Vote on your Birthday! Instead of sending people to the voting booth every four years, they are invited to cast a vote each year, electronically, and on their birthday. After four years, all votes are counted on a pre-designated "counting day."

I think this is a beautiful concept and not only for its potential impact on the democratic process—which is also beautiful, but only in a metaphorical sense. The beauty of the concept resides in its efficiency: the intervention itself is minimal, but the consequences for every stakeholder in the democratic process are considerable. Think of it: citizens' choices would be less influenced by current affairs, the media would have no interest in making mountains out of molehills, and politicians would stick to a long-term policy for their country. The concept fits another aesthetic principle, the principle of Maximum Effect for Minimum Means. We *aesthetically* prefer solutions that are seen as efficient ways to realise major goals. The MEMM principle not only governs the design of objects, concepts, and services, it also governs the formulation of mathematical proofs, solutions in engineering, or the use of metaphors in literary texts and poetry. These kinds of creations are so good that they look deceptively simple...

Last year, Nynke Tromp and I published a book on social design in which we discuss strategies to deal with value conflicts between immediate gratification and long-term, collective benefits. These strategies are not recipes—designers would never accept that kind of directive—but rather generic procedures towards achieving a goal. If people do not voluntarily engage in behaviour that will benefit their well-being in the long run, we can help them by making a healthy alternative more attractive. Elderly people with dementia, for example, are often inactive and socially isolated. Former PhD student Hester la Riche found a way to capture their attention and engage their bodies in enjoyable, healthy physical movements through her use of technology and gamification principles. This magic table has been a success both socially *and* economically: the company that was built around its production, Active Cues, now has 50 employees, and it has sold more than 2000 consoles to elderly care centres around the world.

The hardest and most desirable strategy is to resolve the conflict: the desired behaviour becomes the new normal thanks to the designed product. Many of us love Netflix. But does anyone feel good the day after binge watching five episodes of their favourite series? That's what Netflix wants us to do, and they have built in all kinds of mechanisms to keep our attention. Recently, our student Matthijs Huijbregts decided that video streaming services could be designed differently... The service allows people to keep on doing what they love to do most—consume media, watch movies, be entertained—but in a way that also makes them feel good the next day. Matthijs is seeking to maximize our well-being, and to achieve this he relied on two decades of research in positive psychology, research that has carefully laid bare the mechanisms and activities underlying our long-term happiness.

Many industries and institutions are still readily seduced by the tired metrics of attention, efficiency, speed, and stakeholder gain, all of which support old, biased, short-term values. Adopting long-term, collective values—such as equality, responsibility and well-being— leads to new offerings that benefit people ánd planet. In all the debates about the promises of Artificial Intelligence, we should investigate what "beautiful algorithms" and "AI for

Good" can mean and bring us. And even when it comes to the organization of nations, more humane metrics than just GDP can make a difference to the well-being of people, as the happiest country in all of Asia can testify...

The Cinepal example also shows that science can inform us about *what is right*.

Like so many people, you may have wondered by now where designers might find the legitimacy—or the arrogance—to show or just tell people what is best for them and the planet. We need not rely on theistic morality or romantic heroism as leaders like Bolsonaro or Trump would have us believe. Various thinkers in cognitive science have recently argued that science can in fact be our moral guide, and even form the foundation for a moral philosophy. Quoting Pinker once more, such a philosophy "must draw on simple, transparent *principles* that everyone can agree upon.
The ideal of human flourishing—that it's good for people to lead long, healthy, happy, rich, and stimulating lives—is just such a principle, since it is based on nothing more (and nothing less) than our common humanity." On top of this reliance on science, our new generation of designers will benefit tremendously from collaborating with the engineers and moral philosophers from the Delft Design for Values institute so that they can express commonly-shared and globally beneficial values in material culture and technology.

And "doing the right thing" does not necessarily have to come at a price! Many politicians would have us believe that we must develop a taste for sacrifice: they ask us to eat less meat, exercise more, stop flying, or leave our cars at home. Whether we are considering energy consumption, food options, or healthy behaviours, designers can develop possibilities for action that make us *love* the right thing, take for granted that it is the obvious choice, and incorporate it into our everyday lives without much effort or any sense of loss.

Cynics may say that not much is likely to change if global business leaders cling to their short-term money-making strategies. "Maximizing shareholder value plays up short-termism while downplaying the long-term view and a broader interpretation of whom the corporation should benefit," Mariana Mazzucato argues in her much-acclaimed *The Value of Everything*. But this purpose is at a turning point. More and more major corporations are expressing their willingness to adopt a long-term view that involves greater social responsibility, value for all stakeholders, and the belief that solving social problems should be part of their core business strategy. There is a form of conscious, compassionate, inclusive, and sustaining capitalism on the rise, and it is unstoppable—and design can help make it a reality.

We need not rely on the private sector alone. The creation of collective values also entails a courageous public sector. Policymakers are beginning to see that major social transitions will not come to fruition if they are subject to endless negotiation—social systems innovations are too complex, too wicked for that—and have begun to call on social designers to help them envision and create more desirable community infrastructures.

Designers have discovered the beauty of doing the right thing. And design researchers have given them the tools and models to do so. My colleagues Pieter Desmet and Anna

Pohlmeyer have published a manifesto for Positive Design—designs that foster human flourishing. Positive designs are pleasing to use, allow us to pursue personal goals, and help us to do what is morally right. I trust that many of the design examples I have shown are situated in that sweet spot. Positive designs are economically viable AND beautiful—yes, beautiful. Their beauty resides in the way they reconcile opposing forces, opposing concerns, and opposing values.

As philosopher John Dewey argued in 1934, "The most elaborate philosophic or scientific inquiry and the most ambitious industrial or political enterprise has, when its different ingredients constitute *an integral experience*, aesthetic quality."

Despite the newness and complexity of the challenges confronting designers today, beauty *remains* a guide. Beauty not as a surface quality of objects, but beauty as a psychological mechanism, as a way to bring meaningful order in this complexity–without simplifying it. After all these years of doing research in aesthetics, I have come to the conclusion—a conviction that is empirically established—that beauty arises from simultaneously addressing and harmonizing apparent opposites. If designers manage to resolve the tension between short and long term concerns, between immediate gratification and sustained well-being, and between conflicting personal and social values, they create a world that is worth living in. We academics may not make it easier for designers, but the result is profoundly gratifying: the beauty of *doing* the right thing.