



Because it is very needed.

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Preface

Entrepreneuring a regenerative society presents an in-depth introduction to the vision and research themes that the Circular Business Professorship sets out to explore in the coming years. The aim of the Professorship is to develop critical theories and practices in order to explore, better understand and reshape business. We depart from the assumption that business should serve society and not the other way around as it often happens today.

The Circular Business Professorship¹ at The Hague University of Applied Sciences (THUAS) was founded in 2019 with the goal to contribute to rethinking business from the very beginning. The circular economy as promoted by many organizations and governments globally, is based on three major principles: (1) Designing out waste, (2) Keeping products and materials in use, and (3) Regenerating natural systems (Ellen MacArthur Foundation 2015). As part of the newly formed Centre of Expertise Mission Zero², the Professorship collaborates with three other Professorships in developing research and education projects to achieve positive impact for the next economy. Together with Christine de Lille (Innovation Networks), Sander Mertens (Energy in Transition) and Karel Mulder (Urban Metabolism) the Circular Business Professorship aims to foster a society in which CO_2 emissions are eliminated and waste is seen as valuable. The use of new (virgin) resources and unsustainable energy needs to go back to zero. The Centre of Expertise distinguishes itself with the integration of knowledge from business, policy, engineering and design, which enables us to address wicked problems from a system's perspective.

The transition towards circularity requires transformational change in individuals, organizations, society and culture (Raworth, 2019) and the critical approach of the Professorship cuts across each of these aspects in the context of circular business. The Professorship will focus on the value-side of the circular transition while contributing to the intersection of human-nature-technology through crossover projects within Mission Zero. The vision of the Professorship is to become an innovation hub that contributes meaningfully to the regional, national and international circular business landscape with three strategic themes. We do this by building on the strengths of THUAS as a network and UNESCO Associated School³ and by seeking opportunities for longitudinal collaborations across industries.

THUAS has dedicated itself to incorporating the United Nations Sustainable Development Goals (SDGs)⁴ throughout its education to contribute to a better world by 2030⁵. In order to reach these ambitious goals set out by the United Nations we believe we have to place our focus on transformative approaches for societal change. We want to avoid optimizing the current paradigm (i.e. being less bad) in favor of transformative, regenerative and disruptive ideas that go beyond our conventional way of thinking (McDonough & Braungart 2010). As such, we are critical when examining and/or designing circular businesses to ensure they are actually representative of such transformative approaches. The circular economy can be viewed as one such disruptive approach that contributes directly to the SDGs (Schroeder et al. 2018). As such, the Circular Business Professorship will add value to this strategic THUAS goal directly through each research theme and indirectly through interdisciplinary projects within Mission Zero.

In Entrepreneuring a regenerative society, I build upon the critical theories and cultural philosophical perspectives on business developed in my PhD dissertation *Un-dress! Stories of Ethical Fashion Entrepreneuring* (Poldner 2013). In my view, these theories have a broader relevance as they help to better understand and spark alternative approaches to the urgent issues of our current economy and society. The research themes outlined in this publication are closely related to – and developed with – the researchers who are already engaged in the Professorship. Therefore, this publication includes contributions from Bas van den Berg, Helen Kopnina, Albert Kraaij, Rolien Blanken, Frans Lodders, Helen Arce Salazar, Laura Stevens, Wander Colenbrander, Rachel Kuijlenburg and Rahmin Bender. I am very grateful for the unique ways in which all of you express your dedication to a more sustainable world and your generous commitment to our common vision.

I would also like to thank my direct colleagues at Mission Zero: Leontien de Koning, Merel Hillen, Nico Persoon, Margot Custers, Karel Mulder and Sander Mertens. In addition, I really appreciate and enjoy collaborating with other professors on topics such as reshaping business (Martijn van der Linden and Jacco van Uden) and world citizenship (Laurence Guerin). Special gratitude goes out to the two women who seduced me to accept this Professorship and join the THUAS team: Christine de Lille for leading the way in building our Centre of Expertise and Simone Fredriksz, for being the most empowering Dean one could wish for. Thank you for serving as role models for stepping into my own leadership.⁶

Introduction

Our planet's ecology and society are on a collision course, which manifests due to a contradiction in the assumptions of unlimited material growth fueling the linear economic paradigm. Our closed planetary ecosystem imposes confined amounts of space and a finite extent of resources upon its inhabitants. However, practically all the economic perspectives have been defiantly neglecting these realities, as resources are extracted, used and disposed of reluctantly (Ellen MacArthur Foundation 2015). The circular economy attempts to reconcile the extraction, production and usage of goods and resources with the limited availability of those resources and nature's regenerative capabilities. This perspective entails a shift throughout the supply chain, from material science (e.g. non-toxic, regenerative biomaterials) to novel logistical systems (e.g. low-carbon reverse logistics). Because of this, the circular economy is often celebrated for its potential environmental benefits and its usefulness as a blueprint for sustainable development (Ellen MacArthur Foundation 2017). Unfortunately, the promise of the circular economy aiming at enhanced sustainability through restorative intent and design (McDonough & Braungart 2010), is often inhibited by institutional barriers posed by the current linear economy of take, make, use and waste (Ghisellini et al. 2016). Underlying those barriers our cultural paradigm celebrates consumerism, exponential growth and financial benefit instead of human values such as diversity, care and trust.

Based on a mapping exercise of the circular economy discourse in the Netherlands and an overview of international (academic) literature (Van den Berg 2020) supplemented with collaborative co-creation sessions, visiting events, conferences, giving talks and classes, we have defined a gap leading to the focus of the Professorship. First, we highlight the importance of a process approach in studying the transition from a linear to a circular economy, which is why we use the verb 'entrepreneuring' as it indicates the movement we collectively need to make. The majority of work in the field is based on start-ups and only captures snapshots while longitudinal and transition perspectives - especially of larger companies - are missing (Merli et al. 2019; Geissdoerfer et al. 2018; Bocken et al. 2014). We specifically adopt an entrepreneurship-as-practice lens (Thompson, Verduijn & Gartner 2020), which allows us to trace the *doings* – as opposed to only the *sayings* - of organizations involved in circular innovation. Such an approach also enables us to study cross-sector and interfirm collaboration, which is crucial to

achieve ecosystem circularity (Raworth 2019). As materials flow *between* actors in a system, traditional views of 'a value chain' slowly make way for an ecosystem or value web perspective on 'organizing business'. We summarize this first theme as 'entrepreneurship as social change' broadening dominant views of what economic activity is and who the main actors are supposed to be (Barinaga 2013; Calás, Smircich & Bourne 2009; Steyaert & Hjorth 2008; Nicholls 2008).

Second, within the Circular Business Professorship value is a big word in two ways. First of all, we believe that a transition to a circular economy is not just a transition of materials, nor technologies - it is most of all a transition of values. We are interested in how people can explore their own agency in transitioning to a circular economy thereby aligning their personal values with the values of the organization and the larger system they are a part of. Second, while circularity is a broad concept that can be approached through different lenses, the way in which things are valued and how value is created and extracted lies at the heart of the transition (Mazzucato 2018). If we don't understand value as collectively crafted it will be very hard to change things, which is why we specifically focus on multiplicity and co-creation in the process of reclaiming value, originating from an ethics of care.

Third, sustainability efforts are often concerned with optimization of the current – linear – system by means of ecoefficient practices that are a bit 'less bad'; using 'less resources', causing 'less pollution' and 'having less negative impact'. In
contrast, eco-effective practices are inherently good, departing from the notion of abundance: circular thinking celebrates
the abundance of nature's regenerative capacities as well as the abundance of our imagination to envision new realities (Ellen
MacArthur Foundation 2015). Instead of exploiting natural resources, we should look closely in order to learn how we can build
resilient self-sustaining ecosystems like the ones we find in nature. We are in need of rediscovering our profound connection
with and appreciation of nature, which requires us to move beyond the cognitive and employ an aesthetic perspective of
sustainability. This perspective informs our approach to innovating education: aesthetics can support deep sustainability
learning (Ivanaj, Poldner & Shrivastava 2014) and contribute to facilitating the circular change makers of the future.

The current linear economy has driven our planet's ecology and society towards a collision course and it is really now or never: if we don't alter the course towards a circular economy today, then when? When will it become urgent enough for us to take action? Which disaster is needed for us to wake up? We desperately need substitutes for the current neo-liberal paradigm, which underlies our linear society and prevents us from becoming an economy of well-being. In *Entrepreneuring a regenerative society* I propose three research themes – 'entrepreneurship as social change', 'reclaiming value' and 'the aesthetics of sustainability' – as alternative ways of embracing, studying and co-creating such a novel reality.

Fashioning entrepreneurship

When I started my first business back in 2004, I had no clue what entrepreneurship was about. My best friend and I felt a need to make a difference in the fashion industry by first promoting and later selling sustainable fashion brands in our YOI store in Amsterdam. We were not trained as entrepreneurs, but as fashion designers. Incubators did not exist yet, let alone impact investment for social enterprise, so we learnt by doing, relating, connecting and creating. These practices turned out to be at the core of my entrepreneurial enactments in all the other (ad)ventures that followed (Poldner 2020). As a result of my PhD (Poldner 2013), I started reflecting on these embodied experiences of 'doing entrepreneuring' as creative world-making - an ongoing movement of inventing and relating between humanity and materiality. We call this an 'affirmative' approach to entrepreneurship (Weiskopf & Steyaert 2009), which is intrinsically relational and radically contrasts dominant perspectives of entrepreneurship (Steyaert 2007; Gartner 1988). Instead, it invites people to be open and creative like a child (Johannisson 2011): to play, explore, experiment and take risks (Hjorth 2017; Germain & Jacquemin 2017). The Professorship is developed around this perspective of business, leading to three key research themes.











Theme 1

Entrepreneurship as social change

6 Social change is not a project that one group of people carries out for the benefit of the other 7

(Letter to the Bahá'ís from the Universal House of Justice)

AN EMERGING CRITICAL BUSINESS DISCOURSE

The past two decades a growing body of literature has moved away from a functionalist perspective of entrepreneurship: instead of asking how entrepreneurs create utility, scholars started asking how entrepreneurs create new patterns of meaning and understanding (Gartner 1993; 1990). This movement could be seen as a response to the failures of functionalist studies to broaden the definition of entrepreneurship beyond the social and economic opportunity and to address the unsuccessfulness of most entrepreneurs (Jones & Spicer 2009: 12). In order to expand on the notion of entrepreneurship, scholars drew on process theory and a phenomenological, social-constructionist approach. In this view, entrepreneurship should be used as a verb (Weick 1995), stressing the process of 'becoming' (Steyaert 2007). 'Entrepreneuring' then becomes conceptualized through daily activities and interactions (Steyaert & Katz 2004). Calás et al. (2009) built on the conceptualization of entrepreneurship as everydayness and reframed entrepreneurship 'from positive economic activity' to 'entrepreneurship as social change' through a critical feminist lens. Traditional, functionalist approaches to entrepreneurship tend to obscure

important questions on freedom, emancipation and societal impact (Verduijn et al. 2017) while a critical view focuses on discourse (Jones & Spicer 2009), a set of statements mobilized by actors to (re)produce political and economic relations.

A critical feminist lens is essential not just for reframing entrepreneurship, but for reconsidering our entire economic system and the society we have built based on its basic principles of self-interest and financial gain (Marcal 2017). Critical approaches embrace the complex, heterogeneous and even dark nature of entrepreneurial activity (Verduijn et al. 2017). They can support disclosure of mechanisms such as growth (Meadows et al. 1972), greenwashing (Kopnina 2019) and rebound (Zink & Geyer 2017). Rebound is coined as one of the emerging reasons for the potential failure of circular economy practices to deliver on their environmental promises (Zink & Geyer 2017). A common example of rebound can be found relating to energy: when energy efficiency improves, prices lower, and usage/demand rises in response, leading to a higher net use of energy - and a worse environmental outcome (Borenstein 2015). Rebound may significantly diminish hypothesized environmental benefits, as the theory on circular economy places too much focus on material resource flows and lacks the inclusion of (behavioural) economic and market forces (Zink & Geyer 2017). While greenwashing and rebound carry a negative connotation, a concept such as growth is - even in the context of the SDGs - still perceived as a positive force for creating a more sustainable society (Kopnina 2019). Our focus on and definition of growth as exponentially increasing flows of goods needs to be reframed as this is toxic for the system we're living in (Rieback 2019). We should reconsider growth by looking at nature: trees start with growing exponentially, but then comes a point that they stop growing and start thriving - bearing fruits and spreading seeds (Raworth 2017). The guestion is why we need to grow exponentially, when we're not planning on exiting? (Rieback 2019). Stuck in a functionalist 'Silicon Valley' paradigm, we are teaching people to build business models that move capital around. From the early incubator stages of going after seed money to accelerating through investment up to the ultimate goal of getting rich quickly and going for an exit: extraction is our vision of success in a process of artificial growth and perverse incentivization (Rieback 2019). What would happen if we invite people to build regenerative businesses, that fundamentally do more good than harm and that are not 'simply' circular by design, but are vehicles for personal and societal transformation?

AGENCY AND PLAY

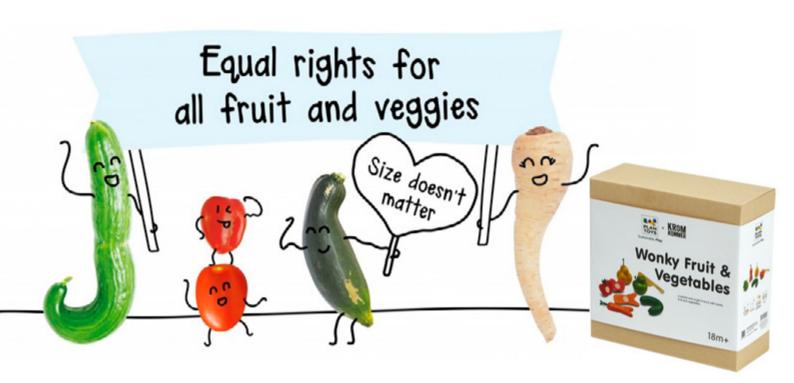
The problem with critical approaches to entrepreneurship is that often little room is left for playfulness while 'entrepreneurship identifies limits of the present and expands the crack so as to create space to play; free movement *before* principles of

discourse and rationality invade' (Hjorth 2017: 49 – cursive added by the author). Grounded in an ontology of *becoming* (Deleuze & Guattari 2004), an affirmative approach views entrepreneuring as a practice of (un)folding, rather than a rational exercise of accumulating information, values and resources (Weiskopf & Steyaert 2009: 196). Common perceptions of entrepreneurship that dominate academic studies typically ignore the original meaning of the concept and reduce it to creating new businesses. The word "entrepreneur" derives from French and can be translated into "taking the initiative to bridge". An affirmative approach views the entrepreneur as a catalyst who brings together (bridges) human and non-human actants such as people, networks, artifacts, spaces, money, ideas, resources, and nature (Weiskopf & Steyaert 2009). Entrepreneurs are thrown into the world and are connected with its different elements in an ongoing process of creating and becoming. Indeed, 'entrepreneurship is then seen as a process that trans-forms (cultural) materials/practices and (re) connects, disassembles and reassembles them' (Weiskopf and Steyaert 2009: 193).

An affirmative approach focuses on practices of (self-)formation and (self-)creation (Weiskopf & Steyaert 2009: 199) and relates it to wider societal change. Entrepreneurial self-identities (Dentoni, Pascucci, Poldner & Gartner 2017a) are crafted 'by connecting the discursively available world 'out there' with 'inner selves' (Phillips 2012). I argue that in order to more profoundly comprehend the entrepreneurial process and its impacts, we need to develop a better understanding of self and how it is constituted because 'when human beings produce change, they change themselves as well' (Spinosa et al. 1997: 38). Especially the kind of entrepreneurship that aims to transform society – social, sustainable and eco-entrepreneurship - has made us aware of the emancipatory potential of what entrepreneurship is and can bring about (Rindova et al. 2009). An affirmative approach challenges us to move beyond the Schumpeterian view (1934) of the entrepreneur as the central economic - most often male (Ahl 2002; 2006) - actor endowed with exceptional qualities. This heroic figure (Gartner 1988) holds the promise (and bears the load) of revitalizing society leading us into the promised land of economic growth and prosperity. The entrepreneurship-as-practice approach enables us to decouple the act of entrepreneuring from one sole actor as the unit of analysis and rather looks at the practices people enact in relating with each other, their environment and material artefacts (Thompson & Byrne 2018). Viewing entrepreneuring as a process consisting of practices enables a more inclusive perspective and allows business to become a form of art, activism (Poldner 2020) and even spirituality (Rieback 2019). It also allows everyone to become an entrepreneur, not necessarily by starting a business, but by developing, nurturing and expressing entrepreneurial qualities that have a positive impact. It is an open invitation to people to become an agent - or angel - of change. Not as a lonely hero at the top, but as the unique embodiment of a larger social movement (Akemu et al. 2016) towards a regenerative society.

A cool example of entrepreneurship as social change is Kromkommer. Developed as an awareness campaign about the value of wonkey vegetables, Kromkommer grew into a soup brand the past few years. But rather than a company making soup out of wonkey veggies, they want to tell the story of all those vegetables that are commonly wasted 'because they don't look like the standard, perfect vegetables' consumers are demanding. With a rapidly growing world population, 1 billion starving people and many sustainability challenges we need to tackle, it is unbearable that fruits and vegetables are wasted for no reason. Hence, the mission of the company to create social change together with many other stakeholders: a true Krommunity.







Theme 2 Reclaiming value

6 We know what things cost but have no idea what they are worth 7

(Tony Judt, quoting Oscar Wilde)

MULTIPLICITY AND CO-CREATION

We face an ever-growing need for alternatives to how we perceive and understand value, what is considered valuable and how and by whom it can be created (Lauwaert & van Westrenen 2017). When we decouple value from its economic connotation, it remains one of the hardest concepts to tackle while it can be perceived as one of the core ideas that shape society. Maybe that is the reason that we often reduce values, which are moral, cultural, messy, qualitative and difficult to measure, to value, which is economic, quantifiable and can be measured (Skeggs 2013). In the transition from a linear to a circular economy it is essential to focus on reframing the creation and extraction of value. This requires a shift from value being determined by price, as it is today, to value itself once again determining price (Mazzucato 2019). Not only are consumers disconnected from the true value of products; valuation models applied by financial institutions are lagging behind. Circular business modelling is one way to navigate "how a company creates, captures, and delivers value with the value creation logic designed to improve resource efficiency through contributing to extending useful life of products and parts (e.g., through long-life design, repair and remanufacturing) and closing material loops" (Nussholz 2017: 12). Tools such as the value hill (Achterberg et al. 2016) and the Business Model Template (Jonker et al. 2020) can be helpful in capturing multiple value creation (Dentchev et al. 2018) of novel types of entrepreneurial activity.

An affirmative approach, however, affords to move beyond yet another typology or tool and trace entrepreneuring as 'bridging' artefacts, resources, materials, humans. As such it can disclose a process that is complex and economically, socially, culturally, aesthetically, emotionally, ethically and ecologically rich (Poldner, Shrivastava & Branzei 2015). I propose that a multiplicity of values - that goes way beyond the triple bottom line of people, planet, profit - is always co-created as we have seen in a study of alternative food communities (Dentoni, Poldner, Pascucci & Gartner 2017b). Whereas the entrepreneurship literature most often looks at how customers evaluate, share, and commercialize ideas after their consumption (Shepherd 2015), the marketing literature takes a different stance in understanding the role of consumers as value creators perceiving them as participants in the production of value during consumption (Grönroos & Voima 2013). Our study showed how 'sharing consumers' are value creators during the process of acting as value users through subtle ways of organizing social, experiential and epistemic values (Dentoni et al. 2017b). Mazzucato (2018) argues that the creation of value is collective; policy can be more entrepreneurial around co-shaping and co-creating markets and real progress requires a dynamic division of labour focused on the problems that 21st century societies are facing. The increasing number of members in (frugal) sharing communities can work on their entrepreneurial competencies to improve their own well-being and the one of their family and community (Dalziel, Saunders & Saunders 2018). A well-being not based on exchanging something to gain rewards from others, but a well-being based on experimenting the best possible uses of available resources as a collectivity.

TOWARDS AN ETHICS OF CARE

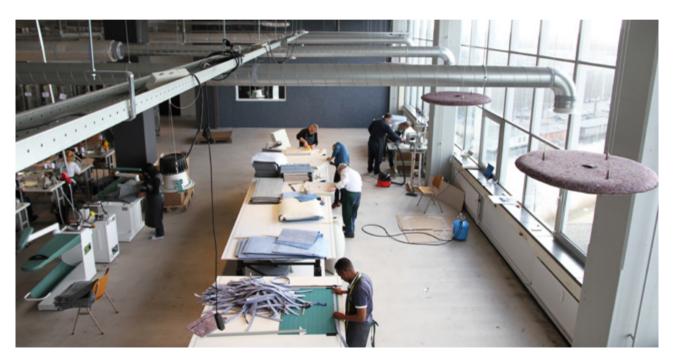
The other day I was at a meeting where the director of our primary school had brought together the parents of all kids in my son's class. She opened the meeting by inviting parents to share one virtue about their child. I mentioned the considerate capacity to care that my nine-year-old boy exhibits. And I was struck that another five parents mentioned this exact same word about their children. What's more: all of these children are boys. The girls were characterized with words such as creativity and imagination, the boys were characterized with the word 'caring'. How – I wondered after the meeting – will they be able to flourish when confronted with a 'provider' role in their future family settings? A role that might not give enough space for their capacity to care? And what about the girls, do we need them to stay at home and exhibit their creativity in hanging out with young children? Or can we rely on their imagination to shape the future, as that quality is also key in building a regenerative society?

'Economic inequality is out of control. In 2019, the world's billionaires, only 2,153 people, had more wealth than 4.6 billion people. This great divide is based on a flawed and sexist economic system that values the wealth of the privileged few, mostly men, more than the billions of hours of the most essential work – the unpaid and underpaid care work done primarily by women and girls around the world' (Coffey et. al 2020).

This quotation from the Oxfam report 'Time to Care' signifies a fundamental flaw of our economic system and the society we have built based on money and egoism (Marcal 2017). Adam Smith, founding father of modern-day economics was a bachelor living with his mother who did not need to work as he lived of the inheritance of his father. His argument was that the butcher and grocer only sold the foods that made up his dinner to make money. But the real person who cooked Adam Smith's dinner every evening was his mom, not out of self-interest, but out of love (Marcal 2017). Today, mothers spend on average twice as much time (six times as much in emerging economies) on childcare than fathers leading to the *motherhood penalty:* lower wages and less wealth – often leading to poverty at a later age (Dalziel, Saunders & Saunders 2018). Feminist economics proposes an alternative to the flaws of the neo-liberal economic system centered around social provisioning and placing gender as a central category of analysis (Agenjo-Calderon & Galvez-Munoz 2019). The value of the billions of hours spent on unpaid care work is about \$11 trillion a year, which should be a decisive argument to shift the entrenched perception that unpaid work isn't valuable leading to lower levels of well-being for women and men alike (Coffey et. al. 2020). After all, women do not perform so much unpaid care work because economists do not know how to measure its value.

My invitation would be that an affirmative perspective of entrepreneuring can buttress the urgency of reclaiming value in a playful way. Play awakens agency in people and empowers them to view the world 'through the eyes of a child': it opens up the capacity to reimagine the realities adults are often cemented in. This 'homo ludens' adds to the multi-faceted personality of 'the entrepreneur' as someone who experiments with how to synergize economic needs with caring for self and the environment (Johannisson 2011: 139 – bold added by the author). An ethics of care permeates and transcends entrepreneurs' self-understanding to expose the unfit underpinnings of global industrial ecosystems and helps them replace such foundations with more ecologically and socially responsible alternatives (Poldner, Branzei & Steyaert 2011). When we consider that everyone has a capacity to care as well as to become entrepreneurial, imagine the society we can create – together.

A wonderful example of reclaiming value is the pioneering work of i-did. Initiated in 2008, at a time that society was becoming more and more divided in a we/they discourse, i-did's goal was to provide jobs for people who had been unemployed for a long time. The core business of the company is that they provide on-the-job training through sewing new products from the felt created out of textile waste from large companies such as IKEA. As such, i-did creates not only social and educational value for their employees, but also ecological and aesthetic value for the IKEA customer who is made aware of the company's mission by means of an innovative product. Multiple value creation in action; right here in The Hague!







Thene 3

The aesthetics of sustainability

6 The highest act of reason, the one through which it encompasses all ideas, is an aesthetic act: truth and goodness only become sisters in beauty 7

(Hegel 1997: 182)

AFFECT AND THE BODY

In 1998, I started studying fashion design at the Amsterdam Management and Fashion Institute (AMFI). I felt attracted to this school as it had a curriculum not so much focusing on becoming an autonomous designer, but rather offered a combination of creativity and commerce. During my PhD I adopted an aesthetic approach to studying business and organization, drawing on aesthetics as a gateway to learn how to become more sustainable (Ivanaj et al. 2014). Ethics and sustainability in organizations has been dominantly discussed from a rational perspective of morality: 'Morality was founded as an enterprise of domination of the passions by consciousness' (Deleuze 1988: 18). In the circular economy, often the focus lies on technological aspects such as supply chain management and cleaner production systems where cognitive knowledge creation is favored over intuitive and emotional development (Shrivastava 2011: 1-2). Conversely, the aesthetic turn in organization studies has 'highlighted shortcomings of causal theories of organizing' (Strati 1999: 13) and focuses on corporeality (Linstead & Höpfl 2000), sensory experience (Taylor & Hansen 2005: 1212) and 'the beautiful' (Strati 1999).

The cultural (Kagan 2013) and aesthetic (Harper 2017) sustainability literature involves the inclusion of the arts as a form of aesthetics into 'informing the transition to more sustainable practices' (Kagan 2013). This literature often associates the concept of aesthetics with ecology, thus linking ecological aesthetics with cultural sustainability (Nassauer 2004). Whereas creativity and sustainability are often seen as two separate entities in organization studies, aesthetics can serve as a mediating tool to translate individual creativity into sustainable messages within and beyond the organization (Poldner, Dentoni & Ivanova 2017). Aesthetic sustainability humanizes the concept of sustainability by shining light on how we as humans emotionally connect with the objects that surround us in everyday life.

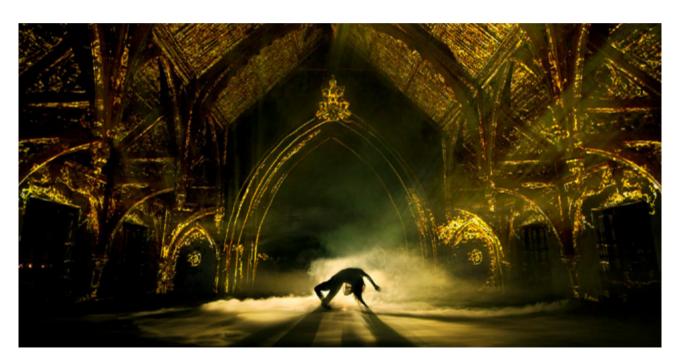
The more I studied sustainable organizing, the more I became fascinated by the role of the body and the way it affects and is affected in processes of becoming more sustainable. An affirmative approach to entrepreneurship is inherently relational-material and is not about entrepreneurs, it is about relations with other 'bodies', whether human (Jones 2003) or non-human (Law 2008). In one study, we looked at the designer-entrepreneurs' bodily practices in relation to developing their ventures and observed how they - in varying ways - internalized life's lessons and then materialized these into their design practice (Poldner, Branzei & Steyaert 2019). In another study, we provided a nano (hyperlocal) view of climate change mitigation by viewing regenerative organizing through the eyes (as well as senses) of the households engaged in communitybased energy projects. We unraveled how 'nano' (smaller than micro) bodily practices intermediate nature and technology: if not 'corrected for' by community members, energy production would only take place when sufficient natural input is available (Walther, Poldner, Kopnina & Dentoni 2020). Considering technology as our 'next nature' (Van Mensvoort 2019) the study of how different materialities - technological, natural and human agencies - affect each other and the ethics that are involved, will become only more relevant in the near future. An aesthetic perspective affords us to marry ethics and economics within a holistic framework for making informed business decisions (Dobson 2007). When we build on the affirmative possibilities of ethics (Pullen and Rhodes 2015) derived from embodied, lived experience as it is conceived before the actual (cognitive) organization of ethics (Diprose 2002), we can increase our sustainability. In other words: when we pay closer attention to our bodily 'system' as part of nature rather than juxtaposing it with nature, it can support our sustainability efforts. In the process of becoming an agent of change, we need to move beyond the cognitive and employ an aesthetic perspective of sustainability. That also implies that we should not leave the general attitude of 'being and becoming in the world' at home when we go out and do business.

DESIGN WITH NATURE

Sustainability endeavours are often concerned with optimization of current – linear, man-made – systems for example by means of life cycle assessments. Circular thinking departs from the notion that the earth offers an abundance of resources and that we can find many self-sustaining ecosystems in nature (Bruggeman 2018). This understanding is primarily based on the cradle to cradle concept (McDonough & Braungart 2010) and on biomimicry – 'innovation inspired by nature' (Benyus 2002). Products and services have to be redesigned to be regenerative and contribute meaningfully to the circular business landscape. In order to achieve this, design approaches for circular products, business models and services for the circular economy have to be re-examined (Bocken et al. 2019; Jabbour et al. 2019; Lüdeke-Freund et al. 2018). In this regard, biomimicry is especially promising of which the 'Design with Nature' minor serves as a progressive example (Stevens et al. 2019) as it is centered around applying life's principles to prototyping material artefacts.

The 'power' of a material artefact should not be underestimated as it can serve as a boundary object as we saw in the case of Fairphone: "members of the effectual network self-select and pre-commit resources to the social enterprise not because they expect immediate calculative benefits from the artefact, but because the artefact embodies and symbolizes their beliefs and values" (Akemu et al. 2016: 872 - cursive by the author). The groundbreaking work of Neri Oxman is another example of aesthetically re-engaging humans, systems and organizations through a new materiality (Poldner & Dentoni 2020). By eliciting emotions, boundary objects also play a critical role in crossing disciplinary boundaries to facilitate knowledge co-development and learning in emerging sustainable communities of practice (Benn et al. 2013). Veja, the first ecosneaker company in the world, is a good example of creating a business out of a sneaker as a boundary object (Poldner & Branzei 2010). From the start, the founders understood really well that the product always needs to be more important than the process, thus that the design of the artefact is core to the sustainability of the company. Even though Veja sneakers served as conversation pieces and the company can be considered a pioneer in leading the emerging sustainable fashion community (many companies that followed copied the Veja concept), the business case made the company survive most of the other early innovators. My suggestion would be to not only derive material artefacts, but also novel types of business models from life's principles as proposed by a biomimicry approach. In addition, social biomimicry and eco-mimicry draw attention to 'ways of organizing' social and ecological systems. The guestion then becomes what we – as humans - can learn from for example how bees and ants organize and achieve collective outcomes. My proposal is that by studying these creatures, we can come up with possibly more fruitful ways of governing the transition to a regenerative society.

An example of how aesthetics and sustainability can be married in a beautiful way is the Metaal Kathedraal, a former church turned into metal factory after which it was transformed into a breeding ground for building a nature-based society. The original spatial features of the factory and church have been preserved and support the aesthetic experience one immerses in when visiting this place. The purpose of the Metaal Kathedraal is to nourish the arts to provide the imagination of the unimaginable and give a soul to the scientific facts on climate change and ecological disaster. As a meeting and working place it is one of the most inspiring locations I can imagine, lucky me – as I live around the corner.







Entrepreneuring education

Our aesthetic lens, our focus on reclaiming value and our perspective of entrepreneurship as social change affects all activities within the Circular Business Professorship, for example when it comes to innovating education. Revising education for the context of circularity is essential and understudied; barely 2% of the 90 circular research leaders in the Netherlands specifically focus on education for circularity as a strategic research theme (Van den Berg 2020). We need to rethink the foundational core on which our current educational system rests; to challenge the hidden curricula of unsustainability (Wals 2019). Some of our research attention already went in this direction, but we want to draw more on aesthetic approaches as they - rather than 'only' cognitive approaches – can support deep sustainability learning (Ivanaj et al. 2014). We approach education as an embodied, multi-sensorial activity that has potential to fundamentally affect the learners that are involved in it; teachers, students as well as other change makers.



Conclusion

Entrepreneuring a regenerative society highlights the importance of reshaping business towards an economy of well-being. Reclaiming value as a constituting factor in a caring society requires a tilting vision in which aesthetics can play a key role (Lauwaert & van Westrenen 2017). Aesthetics provide a unified view of the nature and purpose of business that overcomes the incoherencies and inconsistencies of the ethical or economic view of business (Dobson 2007). To have an eye for beauty, the self and 'the other', to derive pleasure from connecting with nature and to focus on the real, lived, mundane experiences of everyday entrepreneuring are keys to make regenerative the new 'business as usual'. A practice approach enables us to study the process of transitioning from linear to circular and to unravel the collectivity of change agents co-creating a multiplicity of values. The affirmative perspective is perceived as uplifting, offering transformative potential: concepts of success and failure are malleable – a matter of interpretation – thus unfolding events may be seen as destabilizing or affirmative.

We move from a desire to reclaim value, thereby reactivating older, less-appreciated, sometimes even laughed-at values that are cast aside by a dominant discourse on productivity, speed, individualism and control (Lauwaert & van Westrenen 2017). In order to achieve ecosystem circularity (Raworth 2019), we always engage stakeholders in interdisciplinary ways playing with novel (design) approaches inspired by nature, arts and the senses....

6... because it is on the edges of different systems where friction and energy emerge that offer a chance to challenge one's competence, reframe one's way of thinking and seeing, expand one's chance to explore the edge of one's competence, learn something entirely new, and expand one's horizon ?

(Wenger 2000)

Let's play, learn, be entrepreneurial and do research together, towards a regenerative society as our dot on the horizon.

With a bow of gratitude to the love-system I originate from; my parents who granted me my name - as in Dutch, Kim is another word for horizon.

Contributors

The Circular Business Professorship is comprised of a group of 10 lecturer-researchers. This section is a selection of short essays that shows a glimpse of the research and educational activities they are engaged in with regards to the themes of the Professorship.



Helen Arce Salazar

Helen Arce Salazar (Ph.D. Tilburg University, 2017) is a coordinator and lecturer in Economics and Microeconomics at the International Business program of THUAS. Helen studies consumer behaviour and peer influence towards adoption of sustainable products and practices with a focus on packaging.

Reclaiming value

4 Companies should ask consumers what they truly value and come up with creative, collaborative solutions to satisfy their needs. 7

This might entail that consumers don't desire yet another product, while producers often only think in terms of physical, material 'stuff'. Companies have often lost their ethical compass and just focus on producing things that generate financial value and that consumers then *think* they need. Instead, consumers might want a range of products or a combination of products and services. Look for example at communication: people have a need to communicate with others so they buy a computer, internet and a wifi subscription, often from a range of different companies. Consumers don't actually value all these different elements; what they value is the fact that the combination of these products and services enables them to communicate. Imagine that one company or a range of companies collaborates to offer the best possible 'communication' package to consumers. There needs to be more alignment between what is produced and for whom it is produced, which requires working together across the value chain. At the moment we need to deal with unnecessary waste from products that nobody needs, while we should focus on cross sector collaboration to close the loop and achieve a circular economy. To attentively listen to consumers is for me the key to the transition from linear to circular.

My research is focused on consumer behaviour: what drives people to make certain choices and how can we use this knowledge to improve businesses, to make them more sustainable? Consumers show an increasing interest in products incorporating sustainable and social attributes. Consequently, companies face pressure to innovate responding to consumer demands, and to focus on sustainable solutions that reduce harmful materials and favor green alternatives. In my current study I aim to 'unpack' the relationship between consumer behaviour and sustainable packaging by empirically verifying which dimensions of sustainable packaging (recyclability, biodegradability, reusability) are perceived and valued by consumers. If we take plastic as an example of a common packaging material: plastic is almost demonized by consumers, but it's not plastic in itself that is the problem, but the way it is being used. Plastic is actually a fantastic product that can be recycled multiple times so we should make sure that plastic doesn't go to waste. It is not the product, but it is how we use it and that has everything with consumer behaviour. Thus, let's ask consumers what they really want and how we can help them to live a most meaningful life.

Rahmin Bender

Rahmin Bender (Ph.D. Fielding Graduate University, 2020) is a lecturer and researcher at THUAS and operates Creativo Design, a design thinking management consultancy. Rahmin studies the application of design thinking and creative problem solving on wicked societal problems with a specific focus on circular economy, social entrepreneurship, and new forms of socio-economic systems. He is also a researcher and lecturer at Wageningen University & Research with a focus on entrepreneurship at the margins and in emerging economies.

Entrepreneurship as social change

6 Real ideas are never finished, but we often commodify them to gain financial value. How can we apply ideas while continuing to learn? 5

My research revolves around how concepts such as degrowth, the triple bottom line, and circular economy relate to each other and what happens to them when they become a commodity. There is a rush to develop an idea and then turn it into something static: in business you need to make a product and in academia you need to publish, while to me an idea is always a process. All actors that develop a concept are selective on how they curate their model and I am curious how they decide what should be part of their model and what they leave out? What is the vocabulary used in all these models and what are common threads or underlying soft and practical values? Concepts that aim to offer an alternative to dominant discourses often strategically use hyperbolic language to make a counterpoint while building on the structure and language of the existing paradigm. As they become popular and are being adopted by consulting companies like McKinsey and Deloitte, they start taking on attributes of the system they originally wanted to counterbalance. In other words; they do the same thing, but then in reverse. I call that commodification, which can only be avoided by fundamentally questioning the characteristics of the current system.

This is also what I try to teach my students: a humble posture of learning. I am supposed to teach them neo-classical economics as if they are rules of nature while it's just us humans who made them up. Alternative concepts are often disregarded as treehugger beliefs while to me the real ludicrousness is what gets pushed down our throats by mainstream economics textbooks. By nurturing in students a humble posture of learning—a state of consistently and critically reflecting and adapting your values and beliefs based on consultation, action and reflection—I hope to instill conscious world citizenship in my international business students.

As an entrepreneur myself, I am fascinated specifically by post-growth entrepreneurship. This concept, developed by Melanie Rieback, which uses the metaphor of the tree that stops growing upward and starts thriving. When we look closer at that analogy, growth might be good because in fact trees continue their 'growth' by helping other trees to grow. Trees stop growing so should companies also stop growing or can they grow in a similar way as trees? This could be done by companies helping other companies to grow, for example, through a system of social franchising, collaboration, or cooperatives. I think it is critical to acknowledge that growth in itself is not bad, but changing the way we think growth should look like is a more nuanced and necessary conversation.

Bas van den Berg

Bas van den Berg (MSc University of Edinburgh, 2018) is a coordinator and lecturer of the 'Mission Impact' minor at THUAS. Bas researches what regenerative and circular societies mean for education and learning and uses the generated insights to help innovate a variety of educational programs such as: *The Challenge (HBO-ICT)* and the *Circular Business Games (BFM)*. He is about to embark on a PhD in Education and Learning Sciences at Wageningen University & Research.

The gesthetics of sustainability

If we are to transition to a regenerative society, we need to rethink learning. 7

What does education aimed towards achieving the regenerative vision of society shared in this address look like? This is an introspective and reflexive question that is often forgotten, ignored, circumvented or skipped because it requires critically engaging with our tacit mental models which have seeped in through neoclassical thought. If the immense and largely untapped potential of (higher) education as a catalyst for regenerative-oriented futures is to be realized, challenging these assumptions with new practices, ideas and approaches for sustainability-oriented learning is needed. In some ways, this will require moving forwards to the past (exploring ideas about education before neo-classical times, particularly indigenous forms of learning) as well as engaging with (post-)postmodern approaches (such as designing critical sustainability education with stakeholders in real-time) to radically transform the culture and practices of learning.

A critical dimension that is often ignored and overlooked in sustainability science discourse is that of our inner worlds, such as our values, mental models and worldviews. This exclusion is largely due to the complexity and ambiguity involved in making these worlds tangible and thus researchable. However, how can we act, do, feel and be(come) regenerative if our internal worlds are not oriented towards sustainability? My research centers around this exploration of shaping and transforming inner consciousness as a catalyst for learning-based transitions towards regenerative futures. I explore the capacity to transform through practices of imagining and speculating thereby building on artful research, particularly the visual, to make the unsayable discussable. In this way, I use hope to co-create images of desirable futures with the purpose of catalyzing inside-out change in the here and now.

My aim is to contribute to shaping sustainability-oriented 'ecologies of learning' that allow education and learning to be our critical guide towards regenerative realities.

Rolien Blanken

Rolien Blanken (MA Radboud University, 1997) is lecturer and researcher in the 'Circular Business' minor at THUAS. Her research focuses on how to integrate frameworks for circular business models in education. As an entrepreneur and former business consultant she is able to mix the concepts of 'business' and 'sustainability' in higher education. Her specialties are operations management, business models, sustainable economics, business skills, entrepreneurship, management and organisation.

Reclaiming value

If you go back to the core of what economy truly is about, multiple value creation is a given. 7

I would argue that the concept of 'economy' was better understood and explained before the era of neo-classicism. The classical economists perceived economy as an intimate part of society. They would find it odd to encounter today's vision on economy as a neutral, technical discipline, which rarely relates to societal, ecological and ethical matters. There are plenty of alternatives to the dominant economic paradigm, but the problem is that they are not regularly taught. That is what I try to do: going back to the origins of economic theory to make students aware that it is not just money that makes the world go round. Students are often biased and think in either/or when it comes to economy and ecology. But the funny thing is: both words are derived from the same ancient Greek word 'oikos' which means 'home'. In other words: economy equals ecology, but we have totally lost sight of that perspective. And when economy can be translated to 'household management', is it not fascinating that we mostly value transactions taking place *outside* of the household nowadays?

My research centers around one such alternative to look at the economy; the doughnut model developed by Kate Raworth. Although the doughnut is very inspiring - and contains all the ingredients needed to develop a broader view on our economy - students experience the breadth of this conceptual model as a hurdle. They perceive the doughnut as being too 'abstract' and are in need of more 'hands-on' tools to understand how to implement its principles. That is why I propose a translation of the doughnut economy into educational materials that can enrich the (business) curriculum of universities of applied sciences.

I hope that my research can contribute to a realization that there are many things in our society and environment that can help us to make better decisions towards a regenerative future. Is it economy that shapes society? Or society that shapes economy?

Wander Colenbrander

Wander Colenbrander (MSc Erasmus University, 2003) is a senior lecturer at the Industrial Design Engineering program at THUAS. Within this program, Wander is coordinator of the international minor on 'Sustainable Packaging Design & Innovation'. He studies the relations between packaging, packaging design, sustainability and education.

The gesthetics of sustainability

6 Packaging is often seen as the culprit, but we ignore that packaging design can serve as our ally to combat environmental issues. 7

Since many years I have been coordinator of the minor 'Sustainable Packaging' and my research focuses on three elements of packaging. First, the role of packaging in society is enormous as every product we purchase needs to be packaged; packaging is always a part of the total product experience. Online shopping has changed the rules of the game in a revolutionary way because all those products need (extra) packaging to be able to be delivered at your doorstep. At the same time we also observe that people select a product based on its features and then don't care much about which packaging it arrives in. This leads to a shift from designing the packaging to putting the design focus again on the actual product. Second, sustainability in packaging is a crucial theme, especially when we look at packaging and the food industry. These two industries can't be seen as separate from each other because 75% of all packaging is meant for food related products. In The Netherlands, 25% of economic activity happens in the food sector; it is the largest industry of our country. As such, packaging has a huge economic impact, also in terms of waste. Packaging is not seen as a sexy industry and is often associated with trash as that is what we encounter on the streets; all those empty cans, bottles and other packaging materials. But the environmental impact of food waste is much larger than of packaging waste and better packaging can lead to less food waste, so smart design is essential.

Third, we educate students to ask critical questions around packaging design and encourage them to look at the entire value chain. When a product turns into a service, packaging might become obsolete as we see during the corona crisis. Our local farmer can't sell his products on the market and has started delivering at home: strawberries fresh from the crates – no packaging needed. It's no longer about just designing aesthetically pleasing packaging, even when made from biodegradable materials such as mycelium; it's about taking a systems perspective. Our aim is to train the next generation of packaging professionals that have learnt to see design as a flywheel for sustainable transformation.

Helen Kopnina

Helen Kopnina (Ph.D. Cambridge University, 2002) is a coordinator of the 'Sustainable Business' minor at THUAS, a lecturer, researcher and inspirational speaker. Helen is the author of over a hundred peer-reviewed articles and (co)author and (co)editor of sixteen books on the inter-related subjects of environmental social sciences, environmental sustainability, sustainable development, circular economy, biodiversity conservation and environmental education.

Reclaiming value

We need to challenge dichotomous thinking about humans versus the environment.

Corona has given us two things that I could summarize as being at the core of my research. First, when the lives of vulnerable social groups and the health of the larger community is under threat, larger philosophical and ethical questions about our relationship with nature emerge. Second, issues of product longevity and sustainability become more pressing leading to the question how we can organize society in such a way that alternatives for our current economic system become viable. I consider myself an environmentalist with a background in anthropology, thus interested both in people and in nature, and this combination has led me to wonder why we consider the three aspects of the triple bottom line as being equal. I always ask my students: 'Can we even have people, let alone profit, without planet?' That is also my critique of how the SDG's have been formulated: finding a balance between the social, economic and ecological perspectives makes no sense if we don't put the Earth first. Therefore, some of my work evolves around the value of nature and the legal personhood of non-human beings. There are several types of nature conservation: types that serve humans (anthropocentric) and others that serve nature and humans equally (ecocentric).

When we look at alternatives for growth such as circular economy and cradle to cradle (C2C), the biggest opportunity I perceive is how they can support dematerialization and circular design thereby altering our current linear system of production. Ideally, C2C can bring us a step closer to a reconciliation of the ecological and social worlds, both in terms of practical design and evolving values of clean production. However, if our population continues to increase on this planet, things will not fundamentally change. There is luckily a win-win between human/women/reproductive rights as a framework for decreasing population growth. Two billion people are currently aspiring the Western lifestyle and abandoning tradition, such as increasing meat consumption in historically vegetarian India. More people equals more consumption even though you live as green as possible: the kids of environmentalists also become consumers. If we want a healthier and happier planet for generations to come, we need to switch to the voluntary reduction in population globally, and to the "economy of enough" – degrowth or post-growth.

Albert Kraaij

Albert Kraaij (Msc Free University Amsterdam, 1992) is lecturer and researcher in the Entrepreneurship Program at THUAS. Albert studies the transition towards more sustainable business models with a focus on frugal innovation. Previously, Albert served as a financial controller, which informs his interest in quantifying multiple value creation with regards to the SDG's. He is also affiliated with the LDE Centre for Frugal Innovation in The Hague.

Entrepreneurship as social change

innovative solutions while others only see restrictions. 7

My background as a financial controller makes me passionate about measuring multiple value creation. I perceive that we're in an age of transforming business models: financial thinking is important, but not as a means to only make money. In other words: you need to earn enough money to keep going, but you want to maximize on other values. When we work with business modeling tools such as the Business Model Template (BMT), we often see that entrepreneurs get stuck in the last phase. Calculating long-term impacts and quantifying the values created are usually very difficult for them. That is why I focus my research on developing a tool that helps our student entrepreneurs to put numbers to their ambitions of contributing to the SDG's. When they learn to systematically collect data, they can much better predict the effects of their plans. This process supports them in making more strategic decisions when translating their vision to a tangible and sustainable business case.

We can also learn so much from frugal innovation, which basically means doing more with less. Entrepreneurs in emerging economies are able to lift themselves from poverty by seeing opportunities in scarcity. Right now, in the corona crisis, we see how entrepreneurs are able to come up with innovations, within the conditions of social distancing. I know of an asparagus farmer who has built a drive-through so that customers can still enjoy his products. We could use this crisis as a learning lesson in dealing with limitations of what we are allowed to do or not in the face of ambiguity. When we fully tap into our entrepreneurial capacity to be creative and perceive frugal solutions in constraints, we can really bring about societal change. Whereas our neighbors in developing countries might not have certain resources to their availability, we should make a conscious decision to no longer want to use precious resources. Entrepreneurship is really about starting from scratch and relying on innovative strength to pull ourselves from not only this crisis, but the other challenges that are awaiting us as well. Let's innovate the shit out of here!

Rachel Kuijlenburg

Rachel Kuijlenburg (MA THUAS, 2010) is a lecturer and researcher in the area of Integrated Facility Management and Procurement Management at THUAS. Rachel investigates how to promote sustainable behaviour in the workplace, specifically around waste reduction together with facilities companies at the Custodial Institutions Agency and FM Haaglanden. After all, what you do not purchase cannot turn into waste.

The gesthetics of sustainability

6 Our ambition to move towards Mission Zero is in the hands of the facility manager. 7

The facility management profession has an important role to play in the mitigation of global average temperature rise. Although the design of a space is mostly initiated by architects, real estate agents and the like, the facility professional is responsible for maintenance and the operation of the facility services. His/her responsibility is the integration of 'people', 'place', 'process', and 'technology' which should lead to well-being ('prosperity') for building occupants. Unfortunately, even though they have good intentions, facility professionals struggle to find efficacious solutions to stimulate sustainable behaviours and processes.

The Dutch government aims to realize a maximum of 35% residual waste by the end of 2020 for its own operations. However, too often sustainability policies are linked to waste separation with the idea that they are tangible and easy to implement, but this is an oversimplification of reality: waste is the end station of an entire supply chain. For this reason my research focuses on meaningful interventions at both the start and the end of the supply chain: purchase management, waste management, and everything in between that is necessary to improve the sustainability of facility operations.

My main research question is how we can design spaces in such a way that people will not only experience a feeling of well-being, but also be nudged towards sustainable behaviour? It's not just about putting recycling bins in a space, but it is crucial to put them in the right place within a space in such a way that it becomes obvious for people how to use them. In education I stimulate 'learning by doing' thereby engaging all the senses. I let my students separate waste themselves and by feeling, smelling, hearing what waste really is, they become conscious about how much gets thrown away. As such, their learning becomes embodied and not just 'studied', which they will take into their futures as facility professionals. My conviction is that sensorial experiences have a big impact in achieving sustainable change.

Frans Lodders

Frans Lodders (Msc University of Twente, 1993) is lecturer in the Marketing Program (CE) and coordinator of the 'Circular Business' minor at THUAS. Previously, Frans held different positions in marketing, sales and consultancy in the chemicals and electronics industry. He is driven to help SME's in the transition to more circular and sustainable business models.

Entrepreneurship as social change

6 If we're not able to bring value to the table for SME's, circular will go bankrupt. 7

As coordinator of the minor 'Circular Business' I perceive it as a vehicle for becoming conscious about the opportunities for multiple value creation. Not just for the students and companies involved, but of course also for us as lecturer-researchers. The students work in groups in collaborating with entrepreneurs on scanning the companies' sustainability impact. Even though it is often complex for companies to translate circular business principles to their daily operations, the projects serve as a way to trigger the process of thinking about how they can contribute to a more sustainable world. Value can also be low hanging fruit; companies are often able to take little steps in making a difference. Students are currently still educated in a classical economic tradition in which financial value is the priority, but the minor inspires them that value can be created in multiple ways. The problem we often find is that even when companies are keen to make sustainable impact, they have difficulty with implementation because of legislative obstacles.

The corona crisis is a huge opportunity for the government to take leadership; reward businesses that do good and penalize companies that only extract value. When all those entrepreneurs we work with get compensation for their sustainability efforts, they will be much more likely to continue on a green path. To me that is the only way to support the transition to a circular economy. The opposite is a doom scenario: all those SME's are facing financial troubles while the larger corporates have enough reserves to sit out or even make (mis)use of the crisis.

Now that the Dutch government is helping SME's to survive, it would be best that our political leaders lay claims on companies' sustainability performance. This would be necessary to prove that circularity can become mainstream, which is urgently needed as otherwise we remain in our green bubble. The real challenge lies with the masses: how can we scale circularity so that it becomes the new normal?

Laura Stevens

Laura Stevens (MSc Architecture Delft University of Technology, 1997 & MSc Biomimicry Arizona State University, 2020) is a senior lecturer in the Industrial Design Engineering program and coordinator of the minor 'Design with Nature' at THUAS. Half of her time there is also spent as a researcher working on her PhD in the field of biomimicry and design. Laura is the author and co-editor of two books on 100 women in the building industry called 'Building Passion' and of a series of peer-reviewed articles and book chapters on the topic of Biomimicry Design Thinking as a methodology to enhance circular, systems-thinking solutions in design by learning from biological strategies and mechanisms.

The aesthetics of sustainability

6 Biomimicry learning is about opening your eyes for the R&D of the past millions of years. 7

Biomimicry - the merging of Biology and Design - is (for me) the best of both worlds in learning to do as nature does while employing some amazing engineering. It is all about recognizing biological functions and translating found natural strategies and mechanisms into engineering concepts. We call this *Emulate*, the first essential element of the field of biomimicry. The second essential element is *Reconnect*, where we realize how important it is to be connected and to appreciate being part of nature. The ethical design decisions we make during the design process, or *Ethos*, is the third element. To attempt a sustainable design is great, but to make it in a sweatshop using child labor defeats the entire purpose. The last two elements are what makes biomimicry different from bionics or other nature inspired design. It helps us understand the importance of science while not forgetting where it came from or for whom we do things - for future generations.

Simply by internalizing the design principles of biomimicry - life's principles - social change as an attitude in life can be encouraged. Think of using local materials and energy, cultivating cooperative relationships within the community, or incorporating diversity. These are all ethically good decisions, but they're also key to survival in the long run. As an architect as well as a graduate of Arizona State University Master of Science program in Biomimicry, I've become a professional Biomimicry Design Educator. Those I am so lucky to teach, can become practitioners in the design world, helping to design for circularity within the systems we live. My research aims to help students steer away from the hollow mimicking of simple forms and move towards complete systems. In our minor 'Design with Nature' students tackle relevant global challenges with real clients such as torrential rains, storm flooding, heat and humidity, waste-to-resource issues and building shelters in these operating conditions. One team has looked to nature to design creative, comfortable and fun working spaces for the newly renovated Business Faculty at THUAS that will re-open in February 2021!



Notes

- THUAS has developed 30 research groups, which conduct practice oriented research about current and relevant social issues and build the connection between education, professional practice and society. More information can be found on the website: https://www.thehagueuniversity.com/research/research-groups
- 2 THUAS is in the process of building 7 Centres of Expertise. Each centre is composed of various research groups that collaborate on a specific theme. They work with multi-year programming and focus on long-term collaboration with government and private partners. More information can be found on the website:

 https://www.thehagueuniversity.com/research/centre-of-expertise
- 3 THUAS has been a UNESCO Associated School since 2009. International unity, tolerance and solidarity are important goals for member institutions of the worldwide UNESCO Associated School network. More information can be found on the website: https://www.thehagueuniversity.com/about-thuas/organisation/the-hague-university-of-applied-sciences-is-a-unesco-associated-school
- The 17 Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all.

 They address the global challenges we face, including those related to poverty, inequality, climate change, environmental degradation, peace and justice. More information can be found on the website:

 https://www.un.org/sustainabledevelopment/sustainable-development-goals/
- In 2018, THUAS signed the declaration of intent to pay special attention to the United Nations Sustainable Development Goals in our education. More information can be found on the website: https://www.thehagueuniversity.com/about-thuas/thuas-today/news/detail/2019/09/16/sustainable-development-goals-in-our-education
- I am indebted to Danielle Bruggeman whose book 'Dissolving the Ego of Fashion' has inspired me to develop and structure my own research vision.

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Kim Poldner (1978) is an organization studies and cultural theorist specialized in sustainable fashion. In January 2019, she was appointed as Professor Circular Business at THUAS, the Netherlands. She is also affiliated with Wageningen University & Research (WUR) where she founded the Circular Fashion Lab in 2017.

Kim graduated at the University of St. Gallen, Switzerland: for her PhD project she longitudinally studied 58 sustainable entrepreneurs in the fashion industry. She initiated and organized the first edition of the sustainable fashion event Un-Dress in 2012, named after her PhD dissertation: *Un-Dress – Stories of Ethical Fashion Entrepreneuring*.

Her research interests evolve at the crossroads of entrepreneurship, aesthetics and sustainability and she has written award winning case studies on sustainable fashion pioneers such as Veja and Osklen. She publishes in journals such as Organization, Journal of Business Venturing, Organization & Environment, Business & Society and Journal of Cleaner Production.

Before she embarked on an academic career, Kim was founder of the first eco fashion store in The Netherlands in 2005 and initiator of online platform Eco Fashion World. Her green wardrobe, including her up cycled wedding dress, was exhibited during the exhibition Wear I Am in 2017. Learn more via www.wur.eu/circularfashion and https://www.thehagueuniversity.com/research/research-groups/details/circular-business

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Laura Stevens

With thanks to

Leontien de Koning (editorial coordination) Jac Ravensbergen (Jargo Design) Chantal Engelen (Kromkommer) Mireille Geijsen (i-did) Maureen Baas (Metaal Kathedraal)

Publisher

The Hague University of Applied Sciences

ISBN number: 90-830-7809-0

Date: June 2020

This book is published on the occasion of the inaugural speech by Kim Poldner upon acceptance of the Circular Business Professorship, delivered in abridged form on 16 April 2020 at The Hague University of Applied Sciences, the Netherlands. All rights reserved. No part of this publication may be reproduced and/or made public by printing, photocopying etc.



