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Eeva Berglund  
Aalto University

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# TEACHING DESIGN FOR SUSTAINABILITY FROM THE CLASSROOM: UNCOMFORTABLE REFLECTIONS FROM A COMFORTABLE PLACE

EEVA BERGLUND

AALTO UNIVERSITY

EEVA.BERGLUND@AALTO.FI

## ABSTRACT

The paper describes co-teaching on a masters programme with design for sustainability at its core. The programme puts emphasis on involving multiple societal stakeholders but increasingly also on appreciating the often tricky social and value-laden dimensions of designing better futures. In this context, we seek to foster students' imagination and support their utopian thought and futures-oriented design. The classroom experience shows that this is achievable through rather conventional academic practices, ones rooted in disciplinary insight and empirical and historical research. The paper also suggests that enhancing students' self-critical understanding of their own situatedness, even their own comforts, by grounding both teaching and speculation historically, supports their impulse to be simultaneously bold and realistic. It also tempers the tendency in design research to offer "we should" as research outcome. The contents of both "we" and "should" can be left empty, but more is gained by being clear about the implications.

## INTRODUCTION

This paper is about teaching design with sustainability in mind. By any definition, design has many virtues that can be at odds with key attributes of modern

scholarship. Design is not constrained, for instance, by centuries of authorising institutions, whether intellectual (paradigms and protocols) or institutional (professional accreditation bodies). Whilst such discipline-busting qualities are typically considered useful in research oriented towards sustainability, they are also qualities that can make design research prone to naïve (or instrumental) hype about this. Better to acknowledge that "design will not save us" even if it has "radically expanded the socio-technical field of political struggle" (White 2020, 32). Having developed from its beginnings as a discipline in-between or both-and – material-semiotic, art-science, user-entrepreneur, technical-normative, practical-conceptual, and so on – how it manifests has more to do with context and point of view than with any intrinsic property of anything we might label design. Similarly futures research, which we also build on in our teaching, is a young and contested field of academic enquiry, yet equally necessary in as complex, complicated and vulnerable world as ours (Son 2015).

Combining futures with design might seem like grounds for jettisoning history and historicity, particularly given that ubiquitous crisis is shaping design for sustainability and politics alike (Bulkeley 2019). At a time when the future and experiment are so prominent, the classroom and its ancient virtues may seem outdated. This paper argues against that grain that universities remain crucial to enabling feasible collective futures. There collective actors come to recognise themselves as such and there they can pursue important conversations, jointly oriented towards innovation as well as continuity. As the environmental writer Bill McKibben notes, "a college is where society thinks about itself" (McKibben, cited in Death 2019: 45).



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In this paper I<sup>1</sup> report on several years of experience in the classroom, co-teaching two courses as part of the Creative Sustainability Master's Programme (CS) at Aalto University in Helsinki.<sup>2</sup> The programme, with a history going back over 10 years, bolsters students' confidence in the emerging professional fields of sustainable design, planning and business, as well as subfields of environmental engineering. All these fields enjoy socio-political legitimacy but they also routinely face practical as well as conceptual challenges. I want to emphasise here that the classroom remains important in offering the depth of imagination and the breadth of knowledge that can help students in their quest to be better designers for sustainability, capable of applying their understanding in real world situations (Micklethwaite 2022). The paper also suggests that enhancing a self-critical understanding of situatedness, which we do through repeated historical and material grounding, supports students' impulse to be simultaneously bold and realistic. The argument could be extended to design studies and design research (Tonkinwise 2014, Fisher and Gamman 2019, Prenderville and Korja 2022), but this paper limits itself to our master's level teaching.

Above all, our students want change. Yet today's technoscience-intensive environment makes substantial demands of anybody seeking change. And whilst projecting into the future through speculation is core to both design and futures work, when it is grounded in disciplinary understandings of where, collectively, we are, the power and creativity of such projections can be amplified. Historical understanding helps expand the imagination and it strengthens project work. Once "we" is at least roughly specified, it is possible and rather straightforward to build on the history of design, through examples, to demonstrate that and how design is embedded within the environment. Such an exercise also contributes to sensitising ourselves, over and over again, to the situatedness of our endeavours. Thus, rather than relying on an abstract notion of humanity striving together towards an assumed but vague goal of "sustainability", the courses encourage a strong sense of situatedness. How "we" is defined and how it comes to inform learning emerges as part of the academic grounding but will be formative, we hope, of future design practice.

This is particularly important in a domain like design for sustainability, which has a tendency to we-shouldism, the exhortation to join a morally laden and seemingly self-evidently laudable project. On academic forums sustainable design can focus too much on how

this, that and the other should be done differently at the cost of understanding how things actually are. (Examples abound – and need not be cited – but see Kohtala (2018) for a wonderful practical guide for identifying and dealing with aspects of the problem). Sustainability-oriented we-shouldism may contribute to a very justified critique of One-World-World-ism (Escobar 2017) (to which I return below) or UN-environment-speak. Although the language of planetary boundaries and global problems offers shared co-ordinates for discussion and aspirations, it can also depoliticise what are highly political decisions, just as the initially quite radical idea of the Anthropocene can (Barca 2020). Repeating "we should", particularly in the abstract ways typical of global environmental discourse (Wapner 2021), can and does contribute to a widespread tendency of morally heavy but politically weak panic-mongering. This has a poor track-record and is disempowering. For instance, despite continuous engagement with climate change, and a proliferation of efforts at all levels of government, the problems continue to pile up (Stoddard et al. 2021, 655). Still, the pattern is typical right across the domains of sustainability, not just design.

In the rest of this paper I describe the courses and our teaching approach, specifying if my comments relate to one of the two courses specifically or to both. I discuss the need for a critical, academic, understandings of how design shapes – and doesn't shape – tomorrow's world. I conclude with thoughts on how design education, practice and perhaps even research, might make impact differently if the limitations of design, but also the complex legacy of modern science and the technologically dense social realities of today, were approached more historically. I further propose that this might involve uncomfortable reflections on a space too often left blank in design research and pedagogy: the question of who "we" are.

## CONTEXT AND APPROACH

Since 2018 I have been teaching broadly design for sustainability related content together with İdil Gaziulusoy. As teachers we have very different skills, but we both have backgrounds in environmental sustainability. I defended a doctoral thesis at a British social anthropology department on middle-class environmentalism. This research led to drawing on STS and environmental history and later, to an interest in design. My research and teaching nevertheless remain rooted in the empirically grounded and

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<sup>1</sup> The paper has one author, but my colleague and co-teacher İdil Gaziulusoy has contributed hugely to its findings, insights and even origins, which mean that most likely some wording is probably hers. A big thank you, for all of it!

<sup>2</sup> <https://www.aalto.fi/en/study-options/creative-sustainability-master-of-arts-art-and-design>

comparative legacy of the social sciences and its efforts to appreciate human possibility. İdil Gaziulusoy is a sustainability scientist and design researcher who has been integrating the two fields to contribute into the body of action-oriented research addressing transformations to sustainable futures (Gaziulusoy & Erdoğan Öztekin 2019). She also has experience of futures work beyond academia.

We created the new courses we discuss because we wanted more appreciation and exploration in the curriculum of the Creative Sustainability masters programme, of the consequences of designing. We felt this was intellectually as well as psychologically fundamental on a Master's program training young people to address environmental problems. Both seek to develop a critical sensibility to designing in the context of an urgent sustainability imperative.

In our multidisciplinary environment the students choose from several available “tracks”, with design being only one (currently alongside chemical engineering and business). The courses are taught under the responsibility of the departments, but open to students from across the programme. The timetable not allowing for an extended single course, we now teach two, Values in Design Futures and Sustainability Transitions and Futures, where the first works as a (one of several) prerequisite for the second.

The interdisciplinary lecture and seminar course, Values in Design Futures, explores discourses and practices regarding futures and societal change. Its premise is that design has always been profoundly engaged in shaping society through ideas and visions of the future. Today, as method and practice, it is increasingly used to imagine, explore, communicate and steer change. In so doing, design involves judgements about what is desirable and for whom, it requires working in contexts of potentially conflicting values and surfacing potentially salient issues around change-making. The course prepares students to be more sensitive to the values, ethics and politics of design by pointing to such frontiers in design.

The Sustainability Transitions and Futures course, ideally taken after the Values course, builds on theories and practices of socio-technical and socio-ecological transformations for sustainability. These include theories of transition management, resilience and social practice, typologies and processes of sustainability transformations at different scales, as well as methods of futures and participatory inquiry in the context of sustainability transitions. The students work on developing strategies for sustainable (socially, ecologically and economically resilient) and just futures through analysis of a given transition situation. Students develop a project outline as a group and reflect on the roles and expected inputs of the relevant actors (architects, urban planners, designers,

researchers, policy makers, public, private and civil society actors, etc.) in context.

Both courses support the wider aim in the curriculum to nurture creativity. However, although Aalto celebrates creativity, it is also under pressure to operate as a limiting and privilege-upholding, conservative space, easily marshalled to promote business values and Finland's export industries. Besides, exploratory knowledge production and alternative future making are growth industries. In the CS programme, they may – but may not – help to chip away at the timidity of current policy and business circles, who have been working on the expectation that the future will be much like today only with new gadgets, a “simple extension of today” (Stoddard et al. 2021, 659).

If visions of the future animate political life as never before, dominant narratives highlight innovation as a technical practice and imperative, making staring into the future a popular sport. We emphasise that design has always been profoundly engaged in shaping society, even if its historicity is easily forgotten (Tonkinwise 2014, Mazé 2019). As regards environmental, green or sustainability-oriented inventions and programmes of improvement, despite initial appearances as self-evidently virtuous and desirable, many produce widespread damage. All such projects have complex political impacts and often unspoken moral norms built into them. Thus we work with a broad understanding of design as a practice of constantly working and reworking socio-material realities.

Design is to some extent always an exercise in alternative future-making. To quote anthropologist of design Keith Murphy (in George Marcus 2021, p. 97)

“Design is always, even its smallest details, interventionist in ways that constitute the very discipline itself. And this is a condition whose implications most design disciplines, and most designers, don't spend much time worrying about; because intervening is just what they do” (p. 109).

To “just do” something is not, we emphasize, free of theory let alone values, and so we seek to help students stop to think: what are, or would we like to be, doing? And, of course, who is the we? Maybe also, who are we to be doing this? Engaging with such questions requires understanding design, like all human action, as contingent, contextual, ambiguous and nuanced and even tricky (Fisher and Gamman 2019), and always situated. At one level, and at certain stages of the student experience, to acknowledge this simply serves to complicate things and open them up to critique.

## SITUATIONS AND RELATIONS

Creative fiction and other exercises for the imagination have a prominent place in our pedagogy. Fiction is a way to “craft specific relations and situations” (Wangel 2021, 172), and offers a productive analogy between design and writing. And so we deem it absolutely necessary to engage with science- and other fictions, with visualisations, and to discuss the imagination and imaginaries (Jasanoff 2015). We build on the well-known futures cone, but also on the idea that futures should be preposterous (beyond the merely projected, possible, preferable, etc. of the futures cone) in order to be challenging (Voros 2017). In recent years we have started with an exercise, ‘The first five minutes of the future’, (Institute for the Future 2020) where students get to experience the simultaneously cognitive and affective aspects of futures thinking, but also appreciate the sometimes considerable differences in their own thinking, and how these differences are conditioned by their personal, socially and materially mediated, histories. Those for whom failures of government are routine, imagine difficult scenarios and their causes in quite contrasting ways from those, like most Nordic students who have been lucky enough to be brought up to trust governments and “the authorities” to manage socio-technical systems. The exercise also points immediately to the significance of affective response and social context, concerns that fiction is generally better equipped to acknowledge and explore than non-fiction.

On the Values course I consistently highlight the work that has gone into embedding designs that we take for granted. I foreground the legacy of a broadly unsustainable design culture (Julier, forthcoming) as something that shapes our material conditions and technical capacities, as well as our moral and other values. On the course we also zoom in and out of the different meanings of the word value itself, and try to be analytical and rigorous about it (e.g. den Ouden 2012). This also involves unpacking and complicating the idea of value – an inherently relational concept – as ever truly “objective”.

As climate fiction and its growing popularity suggests, the imagination is a powerful tool in uncertain times, but its power is not limited to conditions of flux. Rather fiction, in narrative, film, pictures and so on, can link environmental (or any significant) change tightly to personal experience. Sense-making happens gradually, as a newly met protagonist and their strange surroundings unfold in relation with each other. Potentially even the most incurious of readers or viewers will shift their own perspective. Specifically, reflecting on the 1909 short story, *The Machine Stops*, by E.M. Forster, has allowed students to develop complex analyses that combine critical as well as

empathic insights into past dystopian futures as well as our own contemporary challenges. The story’s sad events – its life of isolation and technological dependency poignant during the pandemic – allow students to identify politics and context-specific values as necessary to living life as humans rather than as invitations to judge the situation as ‘good’ or ‘bad’, or the author as a technophobe or worse.

Imagination is called for also when students ideate and create their own visualisations (of sustainable futures for places they know well, for example). However, imagination is also called for as well as developed in the thinking through history<sup>3</sup> of the courses. We discuss, through examples to hand as well as ones found in literature, the fact that the industrial revolution was not merely a question of technical and business innovation, but a revolution in desires and aspirations. In terms of world building, we can analyse this with the language of sociotechnical systems and transitions, of social practice, but also of sociotechnical imaginaries (Jasanoff 2015). Ruth Schwartz Cowan’s (1976) text, ‘The Industrial Revolution in the Home’ appears to be an eye-opener, as are other histories of modern life that foreground gender, class, race and other differences that make a difference.

Our approach is not just historically but territorially grounded, requiring students to envision futures for a specific site, for example the university campus itself. Yet both courses are fundamentally rooted in academic research, the work on both courses aiming to link this to personal and collective experience, and to the multiple crises impacting it. This means engaging with and developing the skills to practice academic research, whilst simultaneously critiquing it as an institution. Such engagement, can (at least) be fun and exciting, but it can lead to exploring with the students whether or not research we can rely upon has been carried out on the issues that are important to us, and if not, why not. To wit: “If relevance rather than authority or objectivity had been the name of the game, the sciences would have meant adventure, not conquest” (Stengers 2018, 144).

On the Values course, which is based considerably on historical examples and social science-oriented research, students survey ways that directional change and intentional world-making have unfolded in the past, from state-level planning to marginal intentional communities like eco-villages. They also learn concepts for comparing and exploring how these projects, whether deemed industrial, political, protest-driven or whatever, have been reflected upon by contemporary observers. On the Sustainability Transitions course, built around a place-based group

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<sup>3</sup> With thanks to a reviewer for this helpful synthesis.

project, visiting lectures offer glimpses of relevant academic input into the sustainability problem at hand. The readings on both courses come from academic journals and text books, and are written and researched by members of the academic community in general, from various discipline and often eclectic sources. This may amount to something that critics of anthropology once called “butterfly collecting”, anecdote upon anecdote on the creativity and wonderfulness of humanity, unwittingly flattening out and exploiting (colonising) other worlds for selfish ends. I reject such an interpretation.

Whether in teaching, research or practice, neither science-bashing nor techno-hubris will suffice. Rather, the sustainability and other crises that impinge on collective life require first, the re-civilizing of the academy that philosopher and historian of science Isabelle Stengers calls for. It demands that modern science and scholarship remain on the table but in a more defensible form than its current “debasement” as she calls it. Locally meaningful and transdisciplinary cognitive effort is also crucial, but in tune with the real-world focussed heritage of STS, whose force and relevance come not only from abstraction, but also from the concrete ways that knowing becomes meaningful. This may, or it may not, depart from what official versions of science deem important (Stengers 2018, 143). In our context of a situated but planetary sensibility, such locally relevant nuance is crucial and we keep returning to its specificity in the classroom.

## DESIGN AND INTELLECTUAL WORK

Similar ambitions are reported from across the educational spectrum of design for sustainability. Writing about the last ten years of a master’s programme at Kingston, London, Paul Micklethwaite (2021) emphasises sustainability literacy but also the significance of engaging narratives. Damien White’s (2020) historical overview of design for sustainability reaches back to the 1880s and William Morris, whilst also recognizing the considerable work that is so easily overlooked but now being made available for study as “hidden histories” of Indigenous, African American or other design practices of political minorities. Literature extending design ever further out from industrial arenas is growing apace, providing a wealth of case studies and, with them, a new understanding of how limited have been conventional views of design but also of the modern civilization and notionally western, industrial, lifestyles with which design has been associated, and from which most impulses to make it more sustainable (and these western-style lives less unsustainable) emerge.

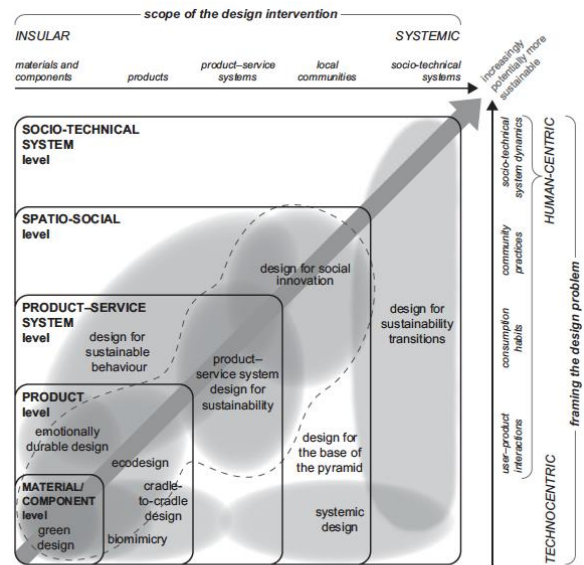


Figure 12.3 The DfS innovation framework with the DfS approaches mapped onto it

Fig. 1: Ceschin, F. & Gaziulusoy, İ. (2019) ‘DfS innovation framework’ in *Design for Sustainability (Open Access): A Multi-level Framework from Products to Socio-technical Systems*. Routledge.

Abstracting discourses, as I noted, can be a problem for sustainability, but they are necessary to make sense of a dynamic world. Similarly thinking in terms of systems may be criticised for its simplifications, but is equally necessary for learning. Ceschin and Gaziulusoy’s (2019) Design for Sustainability innovation framework, summarised in the image above, shows that innovation is generally materialised in ways that embed it in wider systems: products within product-service-systems, community initiatives within wider socio-technical systems, and so on. This foregrounds the limitations of design interventions, but also identifies potential spaces for shifting away from unsustainability or transitioning towards sustainability. The framework allows for comparative understandings of how and where interventions towards more sustainable practices are likely to have traction.

Ceschin and Gaziulusoy’s framework highlights change over time - history again – and it shows how the scope of design interventions for sustainability has broadened in focus. Designers need to be equipped with ever growing knowledge and competencies because over time design has been drawn away from working on the narrowly technical and being centred on individuals to broadly socio-technical and collective work. At the same time, the world at least appears ever more complex. This means that to understand it only transdisciplinary collaboration including requires (however defined) stakeholders – e.g. manufacturers, users, policymakers, advocacy networks. Inevitably, stakeholders will bring with them a range of values and desires that will contradict if not come into conflict

with each other. Our pedagogical aims include nurturing the capacity to cope with discomforts that this is likely to create.

Concrete examples of design show it always already as both material and conceptual, always full of negotiation. Its ambiguities and messy aspects become apparent sooner rather than later. We seek to give students space for and practice in simply appreciating the tricky ethical and political terrain involved. For instance, the easily uttered exhortations for “humanity” to “listen to the science” can be complicated by noting how changing, hesitant and even internally contradictory have been scientifically backed projects of sustainable technology, not to mention how situated are people’s abilities or indeed willingness, to value products or practices presented in the abstract, as “more sustainable”. In contrast, when they work on a situation they have a stake in, and can reach a joint understanding of the shortcomings of the present, the weight of the past as well as the pull of the future, the drive to compromise – and to accept compromise – may be enhanced.

Both courses thus build on speculative and critical design that problematise the idea that design is about producing solutions to problems (Wangel and Fauré 2021). My own sense is that students are truly expanding design out into political terrain but without, becoming overly constrained by this realisation. My wishful huch is that they may even be rethinking what design could and should be in the 21<sup>st</sup> century.

Both courses, of course, are about global and planetary phenomena. Scientific understanding is fundamental here, but again, the history of design turns out to be more significant than is often noticed. We live in a world where pretty much everything, including things considered natural, shows traces of having been designed, and much of what we do to create change and improvement is about fixing problems created by previous technologies and designs (Mitcham 1997, Berglund 2019, Julier, forthcoming).

We have found the concept of the Anthropocene, particularly the patchy Anthropocene (Tsing et al. 2019), useful in highlighting the unintended consequences of former designers or designs.- without, as yet, having come to more than intuitions. When *Feral Atlas* (Tsing et al. 2020), the exploration of the dynamics and impacts of humanly created infrastructures was published online in 2020, it added to our toolkit of accessible (in several senses) and helpful scholarly guidance for making sense of the complex phenomena that the idea of the Anthropocene seeks to capture. Although not an explicit approach for us, we endorse the following constructive

characterisation of the intellectual work needed to make sense of Anthropocene conditions from one the Atlas’s introductory essays:

“*Feral Atlas* mobilizes an intellectual commons, that is, a set of approaches to the Anthropocene in which heterogeneity and open-endedness are essential characteristics. This commons is neither bounded nor exclusive; differences— across continents and regions, across disciplines, across ontologies, and across forms of access and privilege—are key. And yet, taken together, the reports and stories in *Feral Atlas* urge a collective shift in how we make sense of the world.” (Tsing et al. 2020)

Our teaching also respects scientific heritage but adopts a historicised perspective on science itself as situated yet utterly necessary to dwelling in technological worlds. A wealth of inspiring materials is available online, for example in the science fiction published by the journal *Nature*, and the reflections on such work in publications closer to the social science humanities, e.g. Davoudi and Machen (2021) recently used on the Values course.<sup>4</sup>

With such materials at our disposal, it is not so hard to complicate, at least, the heritage of modern technical and engineering practice, and its associations with “hardness” and with realism and rationality. With them, we can push against futures work that involves only a thin understanding of social (and thus socio-technical) change and human experience.

## DISCUSSION

The academic work that we incorporate into teaching comes from many sources, only some of it directly from our own research. We aim for classroom content that teaches us about the world out there, and that heightens our capacity to notice and learn. This curiosity-driven approach also alerts us to how peculiar we ourselves are. For example, it helps to understand that there are good reasons why not everyone thinks or acts as we (however defined) do ourselves. A key resource then is research in the humanities and social sciences, that showcases the incredible histories and endless ways of being human. Of particular interest, of course and a resource for imagining, are accounts of human life beyond the presumed universality of the modern west, not just in science fiction but in social fact.

In this endeavour, social reserch of different kinds, but maybe anthropology particularly, shows just how diverse human existence is and has been: We think that

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<sup>4</sup> With thanks to Nina Janasik of the University of Helsinki.

X is natural, but have a look at the Y, they do this natural thing like this!

Particularly in a context of halting but impactful decolonising of knowledge (Whyte 2018), a critical sensibility might, however, suggest that this kind of simplified ethnological comparing will inevitably and damagingly lead to exoticisation or worse. And yet, to quote from a well-cited survey of the failures of climate politics (Stoddard et al. 2021), in projecting into the future my co-teacher and I do want to align with the “indigenous and decolonial traditions of thought” that “are already a powerful critique of education’s role in reproducing and defending the status quo. Critical futures studies, anticipation studies, and analysis unpicking deeply colonial framings of histories, social practices, and beliefs are all challenging the over-reliance on modelling in generating accounts of the future” (Stoddard et al. 2021, 676). Ingredients for this can be found in anthropological classics like Marshall Sahlins’ *Stone Age Economics* from 1974, with its accounts of people who work little but stay healthy and happy nonetheless, or in the recent cult book, David Wengrow and David Graeber’s *The Dawn of Everything* (2021), which upturns the story of European enlightenment: it gives less credit to dead white men than to the dead American (ancestors of those now labelled indigenous or native) people with whom, as it turns out, those now-biologically-dead Europeans engaged in as they broadcast their own politics.

Fortunately the Department of Design at Aalto has a research culture that is open to such broad critique. Although the arts may be better known as indulging a certain navel-gazing, there is, we intuit, a willingness for critical and self-critical exploration of where we are and who we are. Design for sustainability education particularly needs to keep in view the situatedness – and the patchiness – of any endeavours that might alter or somehow compromise the comforts and freedoms that are currently taken for granted by most of the university community.

What is particularly relevant for sustainability is that “we” are at least partly a community of downshifters. That makes a difference to how we can expect our designs for sustainability to have traction and leverage, making it possible to wax romantic about, for instance, giving up comforts or resources. Besides in the economics of the “we”, there is cultural specificity, indeed strangeness, in our science. This goes beyond technical and scientific disagreement and beyond resorting to the typical but misleading binary of “subjective opinion” clearly distinguished from “objective fact” that so many students – and staff – easily resort to. Following STS, the power of science is not diminished by recognising its historical roots and current dynamics, and its imbrication not only in matters of fact but in matters of concern and value. After all, to quote historian of science Lorraine Daston,

“the history of objectivity is an intellectual and a social history, but it is a moral history as well” (1992, 614).

As a university and a programme, we can situate ourselves self-reflexively and reasonably precisely, if we want to, in this broader history. This alerts us to its moral as well as intellectual impulses. Since being established, the programme has nurtured a tendency that Damien White has characterised (along with other programmes) as being underpinned by “a common understanding that the fields of design, social practice and design for social innovation must explicitly push back against neoliberal design and managerial and corporate visions of ‘design thinking’, and be comprehensive, restructured, politicized and mobilized to argument all manner of interventions concerned with transition to post-carbon societies” (White 2020, 31). The normative, indeed moral, impetus is to the fore.

Arguably as a dedicated masters on sustainability the CS programme is succeeding relatively well to maintain its edge and edginess, as it competes (for students) against a plethora of well branded international programmes, now that sustainability(-as-usual) education is gaining popularity. We explicitly try to stay present to the realities and pains of achieving something beyond-sustainability-as-usual. Whatever the ranking, we do draw in a very special bunch of young people who are disillusioned about sustainability-as-usual too. Perhaps this also nurtures self critique.

Like the examples of sustainability interventions on the courses, this aim points back to situatedness. For the programme draws a cosmopolitan student body but with a grounding in largely European and USA-based academic work. Many students critically identify this problematic legacy as a One World World (Escobar 2017) way of thinking, reductionist or colonial, tunnel vision or whatever, but in any case rooted in the specifics of Western hegemony and supporting the fiction that “the global” equals “universal”. This One World World leaves no real choices, just as the non-historical conception of history blinds scientists to alternative possibilities and definitions of relevance (Stengers 2018). For whether it is the demands of the climate or of the economy, the imperatives that guide policy and morality appear unassailable. Yet they are systematically uttered from a position – “our” position – of systemic unsustainability.

In analysing this uncomfortable situation, students often articulate eloquent critiques of neoliberalism, often particularly harsh on that aspect of it that appears to reduce the value of information and even knowledge to a market-based epistemology (“the market knows best” or “it’s the economy, stupid” or the famous TINA doctrine, “there is no alternative”). But they can also appear to get caught in tropes akin to collective self-flagellation or they indulge in rhetoric that denigrates western science and other core institutions that actually



shape our lives and identities. This is *needlessly* uncomfortable and debilitating.

Taking a broader view, the predominantly comfortable context of the Aalto campus regardless of whatever social, cultural or individual qualities people have, we all somehow value and benefit in some way from the legacy of western hegemony that, correctly, students identify as problematic from a sustainability point of view. We are a community – loose but real. This also sets the tone of our joint learning. From global South as well as North, with diverse academic and social and even generational experiences, we all want to design for sustainability. As designers of better futures, in the classroom at least we belong to a “comfortable slot”.

This idea comes from anthropological debate about what “slot” the discipline studies (Trouillot 1991) – the savage, the suffering, the super-rich, etc. – and whether any such study can or should proceed without exoticisation. I develop in relation to the mundane but politically significant everyday lives of middle-class citizens who engage in currently popular forms of design activism (Berglund 2019).

Given the context of extremely normative and, in its own way, falsely universalising, notion of sustainability and design for sustainability, it matters that we are teaching in this comfortable slot. This is not just a generic global North, though the slot is easy to find here, but a subject position from where striving for sustainability is simultaneously normal, cynical and often extraordinarily difficult. It is, after all, almost impossible to live a sustainable life, defined in material throughput terms, in the Nordics – unless one is homeless, that is. And yet it is from this very same comfortable (but unsustainable) slot, from which so many environmentalists and sustainable designers exhort people to relinquish their driving, flying, steak-eating and other cherished habits and then wonder why their appeals fall on deaf and even hostile ears.

The idea of the comfortable slot is useful for learning and quite easy to define and situate, if the intention is to highlight an important but easily overlooked feature of design for betterment: it often emerges from places where the improvement on offer (a sustainable solution) can be imagined as widely desirable (even imperative) and achievable at a cost that any reasonable person would deem worth paying for. This position sidesteps the inconvenient truth, that reasonableness comes together with other sentiments and comforts that are not universally shared. Nor, quite often, are the claims to sustainability uttered from that position even hard to refute.

That sustainability in general and sustainable design in particular are contested is illustrated by a lively issue in the transition politics around campus: the sustainable-because-electrified SUV. Researchers argue passionately about many aspects of the electrification of transport, but public debate is muted, demonstrating

nicely that what is presented as sustainable is often only questionably so. Pursuing the point with students, we begin to connect climate-change denial and populist anti-environmentalism also to the often technologically driven sustainability projects that emerge in the comfortable (often recognisably ecomodernist) slot (Malm et al. 2021). Such situations point to troubles that are ignored at great cost to professional sustainability work as well as politics (but that is another debate!)

What I want to draw attention to, is how easily the comfortable slot is also a moralising or naïve slot, from where it is easy to be ignorant of how long and how much it takes for socio-technical shifts to happen. It is, as well, quite likely, an overconsuming slot. But for all that, we are (as part of the university community if not otherwise) members of it, and we should not judge ourselves, at least not too harshly, for it. Nor do we teach how to judge others. As teachers and as a community, to borrow once again from Isabelle Stengers, it might be best to leave “question of innocence and guilt ... to the judges. What matters is rather the possibility of creating relevant modes of togetherness between practices, both scientific and non-scientific; finding relevant ways of thinking together” (Stengers 2018, 145).

Ursula le Guin, a science fiction author whose work features in our teaching materials, also highlights togetherness, but from her own area of expertise, story telling. It is worth offering an extended quotation:

A people that doesn't live at the center of the world, as defined and described by its poets and storytellers, is in a bad way. The center of the world is where you live fully, where you know how things are done, how things are done rightly, done well.

A child who doesn't know where the center is—where home is, what home is—that child is in a very bad way.

Home isn't Mom and Dad and Sis and Bud. Home isn't where they have to let you in. It's not a place at all. Home is imaginary.

Home, imagined, comes to be. It is real, realer than any other place, but you can't get to it unless your people show you how to imagine it—whoever your people are. They may not be your relatives. They may never have spoken your language. They may have been dead for a thousand years. They may be nothing but words printed on paper, ghosts of voices, shadows of minds.

But they can guide you home. They are your human community. (Le Guin 2019).

Insights from the history of science like observation of science-fiction authors, are just some of the resources that university gives access to, and that, I suggest, truly support us in our human need. In the text quoted above, Le Guin goes on to write that all “of us have to learn how to invent our lives, make them up, imagine them. We need to be taught these skills; we need guides to show us how. Without them, our lives get made up for us by other people.”

Human need in 2022/3 is both generic and specific. Here I have concerned myself with the specifics of our students, mostly people wishing to build careers in making change towards more sustainability. I suggest that supporting them to have the confidence and shared impetus to act, to be simultaneously bold – even preposterous – and realistic, is enhanced by an experience of thinking together. This will help avoid having their lives being completely made up for them by other people, to use Le Guin’s words. Proof of this is in the student work submitted in these past years, which has strengthened over the time. Let me add that the atmosphere in the classroom is often full of humour and playfulness by the end of the courses. Perhaps in part this is also due to thinking of pedagogy in design for sustainability as a way to nurture designers with the capacity to judge, but not behave judgementally. Rather than proffering “we should” as research outcome, when it is informed by a collectively negotiated and historically informed sense of importance, learning in the classroom can nourish curiosity and creativity akin to the adventure of science and scholarship. The university is unrivalled as a place for honing conceptual and intellectual skills and inspiring technical capabilities, and at its best it does not ignore moral imperatives or unevenly shared problems but actively debates them.

An admittedly uncomfortable tension remains: on the one hand, the impetus for change or getting as fast as possible to the transformed future, and on the other, the need to slow down sufficiently for critical thinking as well as serious self-critique to happen. This may be irresolvable, but I suggest that rather than leaving a blank where the “we” is, and proclaiming from there what everyone else should be doing, as a Nordic design community we could do better. I have shown that it is possible to try, at least, to nurture a better awareness of our own positionality and a respect for existing values and identities, and so at least hope to avert the frustration of design work that is not that curious about values and goals that it does not share.

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