# Anthropology as a Careful Design Practice?

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**Abstract:** How can we envision the future of anthropology in the present times of crisis, when the social as we knew it, and the conventional descriptive and critical practices of our discipline may no longer be adequate? Here I tentatively draw on work at the crossroads of design, where the future can be reclaimed as a disciplinary concern for anthropology. Design has recently become a significant source of methodological and political inspiration for our discipline to take part in the materialisation of alternative forms of world-making. Yet, as design is not a unitary field, I will particularly dwell on how I have re-learnt and experimented with what being an anthropologist might mean in encounters with urban accessibility design activism. In these careful explorations I have found not only an inspiring field of inquiry within knowledge politics, but also a relevant domain for interventions seeking to create technical democracy. Describing a particular case of how I became 'activated' by this design activism – drawing inspiration from their practices for teaching future architects – I speculate on the possible futures for anthropological practice that might open up when, rather than studying or collaborating in corporate or professional design activities, we undertake anthropology as a careful design practice.
*[anthropology, STS, urban accessibility, care, knowledge politics, intervention]*

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"How to let oneself be touched or affected, and how can we confer that which touches us the power to make us think?"

– Isabelle Stengers (2019: 183, my translation)

## Re-designing Anthropology, Caring for the Possible

As much as I believe in the critical power of stories, I wonder many times what anthropologists might be able to achieve in relation to issues beyond the conventional research objects, methods and forms of output that have engaged the discipline for decades: as if the colonial violence, technocentrism and expertocracy of the modern project were not enough, how can we envision anthropological futures – as this collection asks us to – in the face of planetary catastrophes, dying infrastructures, and an upsurge in racism and xenophobic division? Many involved are tentatively devising forms of public engagement in the uncertain hope for a fairer present (see Duclos and Criado 2020, for an overview). Over the last decade, I have pondered on this in my research with activist and professional designers. In doing so, my work joins that of many other anthropologists who have started to address the everyday importance of design – a diverse field, including various professionals, from architects to scenographers, but also industrial and interactive designers – as an object of professional and academic attention (see Murphy 2016 for a useful summary).

Beyond the involvement of anthropologists in corporate design settings since the 1980s – mobilising ethnographic and participatory action-research repertoires to provide designers with more accurate information on prospective or actual users – the increasing importance in the last few decades of critically analysing the modern project and its worldwide effects (Fortun 2006, 2012) has made design disciplines and practices a relevant topic of scholarly interest for anthropologists in a wide variety of settings (Rabinow et al. 2008). Indeed, design features amongst the most important techno-scientific practices shaping contemporary cultures as 'emergent forms of life' (Fischer 2008). Interestingly, they have also become a source of methodological inspiration (Cantarella et al. 2019), the methods of design – from user studies to forms of collaborative and participatory design – having been imported into the disciplinary crossroads known as Design Anthropology (Gunn et al. 2013; Smith et al. 2016), a domain now subject to much needed scrutiny, with various 'cautionary tales' stressing the need to remain critical, foregrounding the limits of design methods and their problematic scripts (Suchman 2011). Come what may, this contact zone with designers and their practices has increasingly become a crucible for the interventive renewal of anthropological practice beyond a comparatist and descriptive project on *ethnos* (Ingold 2013, 2018).

For those working at the hinges of design, searching for a future is indeed becoming a pressing anthropological issue, and the future is being reclaimed as a core anthropo-

logical descriptive and transformative concern (Collins 2008). Some have forcefully argued that anthropology should engage in radically speculative forms of 'future-making' (Halse et al. 2010; Pink and Salazar 2017), akin to "an anthropology for the future, rather than of the future" (Collins 2008: 125), imaginatively partaking in the (un) making of the social beyond the repetitive dominance of progress and technology, and the discipline's reproductive role in toxic forms of colonial, racist, heteropatriarchal, and environmental privilege (Valentine and Hassoun 2019). This is also concomitant to a series of internal problematisations cutting across design disciplines. As the recent 2019 Papanek Symposium in the Porto Design Biennale, titled *Real World: Design, Politics, Future,* framed it: "Design is in crisis: Or, at the very least, in massive transition, exploring and rediscovering its potential during deeply problematic times."[1] Although these modernist practices – with their obsessive and repetitive cascade of programmatic manifestos intended to change prospects and practices from top to bottom – appear to be in constant crisis, in the last few decades the design disciplines have indeed undergone a relentless and recurrent series of mutations stemming from critical reflections on their alleged modernist heritage (Rosner 2018). As a consequence, designers have increasingly felt drawn to the social sciences – particularly Anthropology and Science and Technology Studies (STS) – in search of newer forms of social and ethical relevance, and as a result have rearticulated their professional practices.

The 2008 financial crash produced a severe crisis for design practitioners. Many responded by unfolding participatory methods and responses (Björgvinsson et al. 2012; Brandt et al. 2012) to a quasi-existentialist disconformity with the brutal impact design practice has had either on neoliberalized social relations (Julier 2017) or the environmental catastrophe (Irwin et al. 2016), mobilizing knowledges and skills beyond those of professionals (Manzini 2015). In the wake of these transformations, design practitioners have increasingly been captivated by anthropological and STS repertoires, the most recent being a deep consideration of the 'feminist ethics of care' (Mattern 2018). Examples of this abound: in the last couple of years alone, care has featured as a central theme in design books,[2] exhibitions,[3] conferences,[4] workshops[5] and project courses.[6]

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1 See https://papanek.org/symposium-2019/ (accessed June 30, 2019).

2 e.g. Bates, Imrie and Kullman (2017).

3 *Critical care: Architecture and urbanism for a broken planet* at the Architekturzentrum Wien (Fitz and Krasny 2019); *Broken Nature*, curatorial concept of the 2019 Milano Triennale. See http://www.brokennature.org/ (accessed June 30, 2019).

4 e.g. the Nordic Design Research (NORDES) 2019 conference titled *Who cares?* In which I was kindly invited as a speaker, unfolding a version of the present text in relation to the conference's call https://nordes2019.aalto.fi/ For a compilation of the conference's papers, please see http://www.nordes.org/opj/index.php/n13/issue/view/13 (accessed June 30, 2019).

5 e.g. Floating University , "an offshore campus for cities in transformation" in Berlin, whose 2019 theme was *Climate care* See http://www.floatinguniversity.org/en/climate-care-2019/ (accessed August 1, 2019).

6 e.g. Calvillo and Mesa del Castillo (2018).

Although connected to a far longer span of feminist thought on design and architecture (Hayden 1982), care – which has also captivated recent anthropological and STS imaginations – appears to have become a critical vocabulary of our times. Unfortunately, its expansion to design domains appears trapped in a tense struggle between the engendering or generative and the conservative or restorative usages of the term (Duclos and Criado 2020). While care features in concerns about inclusion, it also appears in xenophobic and racist attempts to 'take care of our own', in proposals to restore a lost function, and potentially violent desires to be 'good', such as in humanitarian endeavours. What might be specific to the design context is how care is being mobilized to signal a mixture of participatory approaches that break the boundaries of professional design intended to 'do something' about global planetary crises, at times wrapped up in solutionist technological agendas. Despite these issues, I still believe care is a worthwhile theme, with the potential to enable alternative speculations of design practice and its effects.[7]

In the hands of María Puig de la Bellacasa (2017) and Isabelle Stengers (2019) the term displays, indeed, a speculative nuance: care as an 'activation of the possible'. That is, what is not yet there or the unfinished that could be, much in the same vein as anthropological work around the 'otherwise' (Kehr, this issue). A materialist and experiential approach to thinking and doing, not wishing to create conditions of inherent goodness (as some uses of the term care might suggest), but to trigger complex, troublesome, and at times unsettling (Murphy 2015) explorations cracking open alternative futures. Rather than caring for what there was and should be – self, nation, ecology – this usage of care also foregrounds the future: not as an extension of the present, or its legitimation (as *telos*), but as the unknown, the emergent, the undecided, the unfathomable, emanating in its very 'unfinishedness' (Savransky 2017), which sometimes has to be made to exist. Seen as a form of care for the possible, these speculative calls for action are not premised on clear moral groundings, and do not preclude uncertainty and failure.

In this sense, design, as an altering and transformative set of practices, is also inspiring an interesting speculative and not-only-textual renewal of anthropological work beyond ethnography (Ingold 2013). In the advent of many reflections on the need to decolonise design practice, vindicating do-it-yourself, vernacular and indigenous practices from the Global South (Schultz et al. 2018), some colleagues advocate for anthropology to more decidedly take part in the materialisation of alternative forms of world-making to the capitalist modes of production that have led to the present crises

7 A clarification for design audiences: My usage of 'speculation' branches out from the recent strand of *speculative design* (Dunne and Raby 2013), highlighting the role of fictional design scenarios as a way of imagining futures. As generative and interesting as this has been for critical reflections on design practice and education – see the *SpeculativeEdu*, Speculative Design – Educational Resource Toolkit, http://speculativeedu.eu (accessed August 1, 2019) or the debates in the *ArchiFutures*, http://archifutures.futurearchitectureplatform.org/ (accessed August 1, 2019) – I draw here on pragmatist philosophy.

(Escobar 2018). As I see it, these modes of caring for the possible through design may also provide appropriate openings to what anthropology could become: a practice that draws from non-modernist traditions of making and doing to enable the construction of experimental and collaborative spaces (Criado and Estalella 2018) to work 'beyond text' – such as in multimodal productions (Dattatreyan and Marrero-Guillamón 2019) – in the hope of producing distinct effects, ranging from the creation of platforms of collective inquiry to the unmaking, 'undesigning', or elimination of particularly harmful modes of world-making (n'UNDO 2017; Tonkinwise 2019). Hence, in what follows, I explore what engagements in design might inspire avenues in which to redesign anthropology, perhaps opening up ways to materially care for the possible. However, as design is far from a unitary field, I dwell here on how my encounters with urban accessibility activists and their practices of politicising design have led me to re-learn and experiment with what being an anthropologist means: that is, how to pry open the possible, and envision newer forms of anthropological inquiry and relevance.

## Activating Design

Working in Barcelona, Munich and Berlin since 2012, I have closely engaged with activists, do-it-yourself amateurs, professionals and teachers in design and architecture concerned with urban accessibility and the articulation of more inclusive processes of city-making. In my work at the crossroads of anthropology and STS, with actor-network theory and other material-semiotic concerns about knowledge production as my main sources of inspiration, I have explored these activist modes of design from various approaches. For instance, I have alternated conventional fieldwork with public administrators in their daily duties relating to accessibility, with many hours of archival research at Barcelona City Hall, in an attempt to understand the impact of a representative body that channels the concerns of 'people with disabilities' into various forms of accessible urban planning and decision-making. I have also taken full part in a number of activist initiatives with urban accessibility and open, collaborative and inclusive design at their very core (Criado and Cereceda 2016).

What attracted me to this field of inquiry and intervention was that rather than a solution-centric practice with a clear-cut goal, it displayed a particularly careful form of knowledge politics. Indeed, urban accessibility activism could be described as the careful speculation 'unsettling' design relations: an inquiry into and a perpetual questioning of what and who counts in design processes, 'assembling neglected things' (Puig de la Bellacasa 2017) in order to enable them to intervene in design practice; a technically democratic project with constant attention on the plural and many times unknown epistemic contours of contemporary issues and their modes of world-making; thus, producing situations in which to speculate with alternative epistemic distributions and materialisations of togetherness.

Working in the vicinity of these diverse practices, I have learnt a significant amount from their hyperbolic aspirations, fraught methods, and careful experimental practices intended to open up inclusion and make the building of cities more hospitable to bodily diversity, not as a solutionist agenda but as a problem-space. Rather than having a clear focus or involving a procedure to tackle these issues through ready-made participatory methods – as if their democratising aspiration was to merely incorporate into design processes those already recognized groups who use particular public infrastructures to gain social integration – I have come to re-describe these activist endeavours taking place inside or outside institutional spaces of political representation, as practices that open up careful, troubled and troubling experimentations with the materialisations of togetherness (Criado 2019). In other words, a way of activating design: that is, putting it in motion, displacing and altering the who and the how of its practices with their activism (Criado and Rodríguez-Giralt 2019).

Interestingly, conducting research in such an epistemically troubled field – populated by people who rightfully dispute being treated like 'research objects', and argue for more emancipated forms of research – also opens up other potential registers for an experimentally collaborative anthropology (Criado and Estalella 2018). Thinking with these practices, I have become activated in many situations: this has led me to explore modes of anthropological engagement with urban accessibility activism and its design practices, seeking to discover what carrying out anthropology might mean in such spaces. But rather than merely practicing an anthropology *of* these forms of design and its predicaments, or working and inquiring *through* its practices, I have in some cases been impelled to practice anthropology *as* a form of design. To illustrate this, I will unfold two accounts: after outlining an example of urban accessibility activism – the surveillance of a Bavarian square by blind activists – I speculate on the kind of anthropological futures an engagement with this activism might bring forth. In particular, I show how this experience activated me when teaching future architects and designers, tentatively exploring how we could be making these politicisations of design impact 'from within' singular pedagogic experiments. I will conclude by proposing that in order to pry open the future, anthropology may need to resolutely partake in practices of careful design. Perhaps in the aftermath even becoming a careful design practice?

## *Learning 'not to see'*

We're outdoors. It's a sunny but icy Bavarian morning in late November 2015. Melanie Egerer is struggling to understand how this pavement – a series of granite tiles with irregular, mountain-like shapes – works (Figure 1). She gropes with her cane over and over again, making strange faces and sounds as she seems unable to feel the differences. Erika Mühlthaler asks her to translate her experience: "from one to ten, how distinctive is it?", she says in German. Melanie goes over it several times, repeatedly rubbing the floor as we all stand around her. Then, she mumbles: "5?". This is not a regular accessibility testing, more an improvised (*spontan*) one, as Erika called it. But it's important

Figure 1 BBSB members testing the 'creative' approach to the podotactile pavement: a series of granite tiles with irregular, mountain-like shapes

for the *Landschaftsarchitekt* who designed this – also present – to be aware of their predicaments.[8]

Today I have joined a delegation from the *Bayerische Blinden- und Sehbehindertenbund* (BBSB).[9] The BBSB conducts political work with municipalities and the regional government, advocating for 'their' inclusion, the fulfilment of existing regulations, and participation in newer ones. Some months ago, at the inaugural event of the new STS centre where I am employed, I met Erika, the architect in charge of BBSB's *Barrierefreiheit* (accessibility) division until next summer.[10] She told me about a pedagogic project they were undertaking that I should consider following ethnographically. The BBSB's *Experten in eigener Sache* ('experts in their own affairs/experience', a vocabulary invented in the German independent-living movement to challenge being treated as 'lay-people' or 'non-experts') are training undergraduate students in *Landschaftsarchitektur* at the Hochschule Weihenstephan-Triesdorf to assist them in accessibility advocacy. These students are also part of the delegation.

My interest in this project is the reason why I joined today. In the last weeks, I have attended some of their meetings, learning how they work together using a marvellous wealth of devices facilitating blind/non-blind architectural design: tactile construction kits, multimodal maps, a system of embossed sketching, commercial light meters, and

8 In Germany, landscape architects (*Landschaftsarchitekten*) oversee public spaces and green areas.

9 The Bavarian association for the blind and partially sighted, a representative body of people 'read' as such, according to biomedical diagnostic criteria, such as 'visual acuity'.

10 TU Munich's *Munich Center for Technology in Society* (MCTS) in whose Chair of Participatory Technology Design I worked from 2015 till 2018.

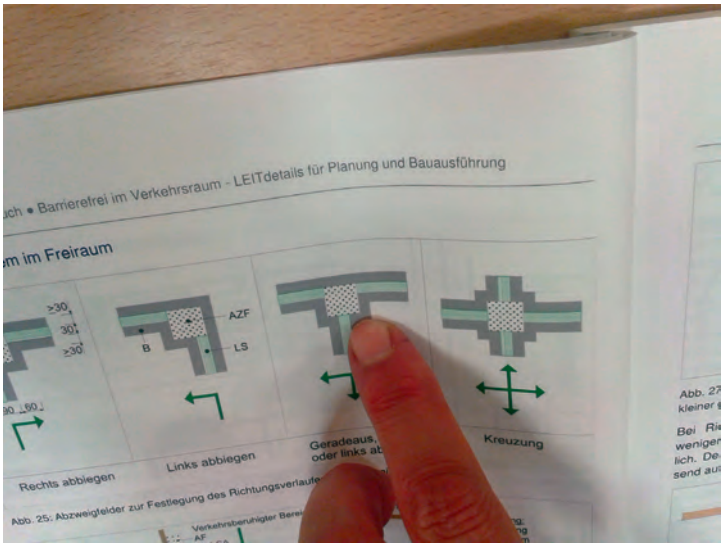



Figure 2 The BBSB architect signals how to build podotactile pavements following the DIN norm

grids that assist the analysis of visual contrast. The BBSB advocates regularly perform accessibility tests in public spaces across Bavaria and produce thorough reports. This is no simple matter: while struggling to be experts in their own affairs, they have to deal with a burdensome technical expertise exhausting them with requests to prove their points well beyond their own experience in documents and reports. This is why BBSB members possess a subtle knowledge of legal technicalities and are truly fluent in the relevant design regulation lingo.

Today they're revising a new arrangement in Pasing's Marienplatz (the city centre of a peripheral urban nucleus in Munich's metropolitan area). As Erika informed me, the *Landschaftsarchitekten* decided on their own – "surprise, surprise", she joked – to implement a "creative" and "more beautiful" solution for the square's tactile pavements, without asking anyone. There is a suspicion the *Landschaftsarchitekten* have not followed the standards BBSB support. Most Western European cities are, in fact, undergoing processes whereby full wheelchair accessibility will be granted. But given architects' visual-centric and volumetric professional understanding of space, multi-sensory interventions – such as those required by the blind, deaf or neurodiverse – have proven much more complicated to think, regulate, and implement.

However, norms and standards do exist to help designers in these tasks: for instance, the German Institute of Normalisation (DIN, a public-oriented but private foundation) has developed a number that the blind find extremely useful. Municipalities, as well as other public and private bodies, can follow these standards when approaching the

Figures 3–5 The BBSB delegation tests different aspects of Pasing's Marienplatz new shared street. Left: Detail of the dropped-kerb bike lane. Centre: Dropped-kerb bike lane running through the sidewalk. Right: An older person crosses over the dropped-kerb bike lane and car lane without difficulties

design of outdoor spaces, which also feature in commonly available handbooks that architects can draw inspiration from, such as the one I was shown by Erika (Figure 2). The latest version includes distinctive *Bodenindikatoren* (tactile pavements and tiles), conventionally addressed as *Rippen* (corduroy or ridged lines, indicating direction) and *Noppen* (dots or nodules, indicating warning).[11] As the BBSB agrees, these are the best method for enabling Melanie and her colleagues to discern relevant spatial information: potential boundaries and dangers, such as a crossing or car lane, and safe walking lines.

However, this busy morning they have many more things to test beyond "creative" tactile pavements. The new square has been implemented following a public space trend that blind advocates across Europe are fighting against: the *shared street*, in which the pavement is removed, making it difficult to distinguish pedestrian from vehicle lanes (Figures 3–5).[12] This is appreciated by people carrying luggage or in a wheelchair, but is very problematic for others, such as the blind and partially-sighted. Hence, the BBSB

11 The DIN 18040-3: 2014–12 *Barrierefreies Bauen - Planungsgrundlagen - Teil 3: Öffentlicher Verkehrs- und Freiraum*, following the tradition initiated by the *tenji* blocks built in Japan in 1965 as a street braille code by Seiichi Miyake.

12 To my awareness, the issue has been paradigmatically problematic in the UK and Spain, where a wide variety of demonstrations and parliamentary hearings have taken place in the last few years (see Criado and Cereceda 2016).

Figures 6–8 The BBSB delegation tests different aspects of Pasing's Marienplatz new shared street. Left: Melanie Egerer tests the tactile differentiation of the podotactile pavement. Centre and Right: BBSB interns use different tools to test the colour contrast between the podotactile pavement and the regular pavement

delegation want to check it out in detail, particularly at a time when a new DIN norm around *Bodenindikatoren* is being discussed.[13]

To explore the shared street, the delegation engage in many tests, as there are a multitude of ways of being blind or partially sighted. This is evident in their various ways of exploring public spaces. Melanie uses a cane with a large white ball on the end, always in contact with the floor to detect protrusions. Each type of cane entails a different walking technique, although all involve the signature 'swing arc' move from the hips. Whereas some are in permanent contact with the floor, those with a tubular end are employed to feel obstacles on 'tap-tap-tap' intervals. This is why the BBSB delegation is comprised of half a dozen *Experten in eigener Sache* displaying a wide array of walking techniques. Together with their assistants in training they engage in different measurements (e.g. determining tactile, visual and light contrasts), and conduct diverse embodied tests across the square's pavements (Figures 6–8).

Interestingly, the fair-weather conditions are not the best for considering important aspects any designer should bear in mind. As Erika informs me, poor atmospheric conditions tend to increase inaccessibility. Walking under the beautiful winter sun in an Alpine breeze, I become dramatically aware of how in/accessibility might need to be

13 Recently published as DIN 32984: 2018-06 *Bodenindikatoren im öffentlichen Raum*.

Figures 9–11 BBSB's architect stages a demonstration of the inaccessible choice of materials and the problem it poses to identify street zoning contrasts. Left: Detail of different pavement's (lane and sidewalk) junctions, showing different degrees of grey. Centre: A water puddle forms at the junction of both pavements after a student drops water from a flask. Right: The BBSB architect uses the lightness meter grid to measure the contrast of all wet pavements

appreciated not just socio-symbolically or socio-materially (cf. Schillmeier 2010) – as has been customary in Disability Studies – but also atmospherically (cf. McCormack 2018). Apparently one the most interesting features of the newly designed square was a set of steel nodules or dots (*Noppen*) intended to render squares accessible in snow. But, as the *Landschaftsarchitekt* recounts, most of them disappeared as the first wave of snow-sweepers cleared the streets.

Beyond an interest in attempts to deal with snow as a design challenge, Erika wishes to enable her colleagues to mitigate atmospheric conditions. Hence, she addresses the problems that the choice of materials and colour-continuity in the square might create for the partially blind in rain. The *Landschaftsarchitekt* doesn't see the problem. To avoid engaging in a byzantine discussion, Erika finds a way to stage her point (Figures 9–11): she asks one of the students to buy a bottle of water in a nearby shop, and when she returns, Erika instructs her to open it and pour some water onto the sidewalk. The water darkens the concrete. To bring her point home, Erika takes out the commercial *NCS Heilligkeitsmesser* (a lightness meter, consisting of a grid with openings showing colours along a grayscale) that she carries at all times, and demonstrates how, when wet, the distinctiveness of these materials is diminished. This kind of atmospheric test proves that the visual and tactile differentiations of pavements need to be starker and sharper. Thus Erika paradoxically makes 'visible' for the ocularcentric professionals the need to sensitize themselves, learning what it means 'not to see', or not to see well,

hence stressing the need to involve the sensible expertise of blind and partially-sighted people from the onset.

These attempts to disrupt the ocularcentrism of design professionals, and undo its stigmatising and exclusionary effects, beautifully render the remarkable form of knowledge politics in which urban accessibility design activism engages: namely, a form of technical democracy. As situations such as Pasing's Marienplatz test show, these activists undertake careful attempts to broaden the knowledge ranges that should be important when designing urban spaces, and make the at times difficult to convey experiential knowledges matter, thereby democratising design by impacting on hegemonic forms of expertise. For this, they tend to employ what I call 'documentation interfaces' (Criado and Cereceda 2016): situations to frame, elicit, and discuss diverse bodily experiences and the environmental and material affordances to host them; but also particular media resources to produce a trace of experiential knowledges in various forms of record. Erika's demonstration made the need for architects to sensitise themselves and 'learn not to see' amply evident.

Technical democracy does not mean merely substituting the expertise of architects with that of activists, but rather engaging in groping explorations into the uncertain articulation of more common urban worlds. Indeed, the tests and demonstrations by BBSB advocates and design employees could be recounted as a particular dispute in what Callon and colleagues (2011) refer to as the 'double delegation' of contemporary forms of representative democracy, in which political and technical representation – the concern for the *demos* and the concern for what the world is about – tend to be split from one another, creating asymmetries of expertocratic nature. Urban accessibility design activism has indeed been a pioneering field since the 1970s, not only in the fight for better and wider political representation of bodily-diverse people in governing institutions, but also in technical democracy disputes (Hamraie 2017), challenging the asymmetries of whose knowledge should count in remaking ableist societies.

### *Designing Architectural 'Intraventions'*

Beyond their intervention in knowledge politics, the training experiments the BBSB engaged in that day struck me as equally, if not more important. At the time, I was puzzled by the difference between the students I taught in TU Munich's Department of Architecture and those working at the BBSB. Most urban designers, if they receive any accessibility training at all, rarely go beyond a superficial knowledge of regulations. The effects of this lack of knowledge, together with a lack of supervision by disabled representatives can be disastrous, as the rearrangement in Pasing's Marienplatz forcefully demonstrated. In contrast, after months of work at the BBSB, the accessible assistants in training had a deep understanding of what 'learning not to see' involved; rather than conceiving themselves as creative and expert geniuses they were professional facilitators, never attempting to speak in the name of others.

These technical assistants are living proof of how, for inclusion to happen, the body of the designer has to be actively 'prototyped' (Kullman 2016) to become sensitive through experience to what it means to inhabit space as diverse kinds of bodies. In fact, various devices and multi-sensorial gadgets exist to performatively mediate bodily diversity in co-design situations.[14] However, as BBSB's interest in the training programme shows, a proper intervention in technical expertise requires disrupting formal conditions: not only training technicians, but creating infrastructures whereby the *Experten in eigener Sache* take control of exposing technicians to their bodily diversities. Thus, the example of this interesting pedagogic initiative stayed with me over the following years.

As an STS-minded anthropologist, teaching architecture students provided a unique opportunity to experiment with pedagogic modes where, rather than training my students to become proto-anthropologists – reading and commenting critically on architectural practice – I could invite them to reflect *anthropologically* on their own practice, and learn to pay attention to and value the variety of knowledges and skills already present in design situations. For this, I asked them to reflect on more collaborative, participatory and democratic design approaches, such as I had witnessed, and how these could be incorporated in their own practice. However, this was not an easy or straightforward task. Earlier, I had naively begun to offer regular seminars discussing insights from participatory and collaborative design practitioners, as well as STS work on technical democracy, in the hope this would have an impact on my students' architectural practice. But as interesting as these readings were, it quickly became abundantly clear that 'just reading' would never inspire students to address the challenge of democratising their own architectural or design practice.

Also, although recent work in anthropology and STS has attempted to do away with 19th century understandings of 'the social', opening up to more-than-human registers, most architectural colleagues – and this includes students – only understand the presence of a social scientist as a representative of 'the social'. And for this, they solicited courses on 'social methods' and hardcore knowledge on 'the social'. This quandary led to a series of collaborative teaching engagements with fellow STS-minded urban anthropologist, Ignacio Farías. Convinced that the most fertile approach in such an environment might be to promote their consideration of the challenges posed by work on 'technical democracy', we repeatedly refused to comply with the distribution of tasks the double delegation dictates. We were impelled to invert the 'deficit model' of par-

14 An excellent example of this being the quite radical approach of Patricia Moore (1985), a pioneering universal designer who spent a whole year impersonating different kinds of older women, creating all sorts of gadgets to be able to 'feel' their social and bodily exclusion. This approach, common in many 'disability awareness' activities has been regularly criticised by disability rights advocates and scholars (see Williamson 2019: 171–172): on the one hand, it produces an over-exaggerated sense of the tragedy of disablement; on the other hand, it tends to foreground the designer's own experience instead of those of people with disabilities.

Figure 12 Presentation in the Partizipatorium where different members of the audience wear a wide variety of goggles used to sensitise people to blindness and partial sightedness

ticipation invoked when seeking to enhance public engagement or citizen participation in science and technology: as we routinely said at the time, in our teaching experiments we felt the need for our STS-inflected anthropological practice to move from the 'expertization of laypersons' – a classic public engagement trend, such as in citizen science – to the creation of pedagogic situations for the 're-sensitization of experts.'

Counting on experiences like BBSB's – in fact, their training devices and experiences were presented in a short cycle of seminars we organized in 2016, *Partizipatorium* (Figure 12) – we realized the classroom space and the training of future design professionals were largely unattended but critical aspects of the 'technical democracy' project, and that a more careful mode of approaching this would be to attempt to train future professionals (see Farías and Criado 2018, for a more developed account of this) "to become aware of the limits of their own expertise, to open themselves to other forms of sensing, knowing and valuing and ultimately, why not, to be trained differently".[15] We then started to consider transitioning from a 'predicative' pedagogical mode – that is, teaching discursive concepts and readings – to a series of what we called 'more experiential' ones, following, amongst others, Ingold's (2013) interest in *knowing from the inside*; that is, understanding architecture from an experiential understanding of its practices. Perhaps a better way to describe this might be that we attempted to develop 'architectural intraventions', a term coined by architect Alberto Altés (2016) to address the interesting pedagogic situations he designed, in which all present plunged into "an engaged understanding of the relations of things, materials, and people within a [design] situation [...], as well as improvisational and speculative skills" (Altés 2016, p. 116). Rather than a discourse-driven programmatic approach, inspired by these experiences 'from within' to relearn what doing architecture meant, we created challenging collective learning situations in which we could all become sensitized to what might be involved in enacting conditions of appreciation and practices of careful design similar to the ones I had observed in my work with urban accessibility design activists: enact-

15 See https://webarchiv.typo3.tum.de/TUM/iup-mcts/events/partizipatorium-series/index.html (accessed December 31, 2020).

ing a change 'from within' the very practices of architecture students, and mobilising anthropological concerns about knowledge and experiential diversity therein.

This was possible because of our role as teachers at the Department of Architecture. We discovered that like any other member of the department, we could offer 'design studio courses'. These are the classic mode of learning for designers, conventionally consisting of an orienting brief, later developed into a more or less open making project. We saw this as an opportunity to prove our point: intravention was indeed our approach when designing a series of studio projects entitled 'Design in Crisis'. Our implicit aim was to critically place our students' modes of design in crisis – critical design also meaning 'crisis-causing', according to Tonkinwise (2019) – through particular experiences or situations where students could 'learn to be affected' – "meaning 'effectuated', moved, put into motion by other entities, humans or non-humans" (Latour 2004a: 205), or 'activated' – by, say, multi-sensory design conditions and a wide variety of not-only-human actors. As such, the challenges we wanted our students to face were not only discursive ones. We wanted them to enter into careful design situations, this being the principle mobilised when articulating the setting of our courses. To this end, we started conceiving challenging class-room briefs, situations, and assignments so as to 'intravene' the particular tools and modes of thinking of the architectural professionals we worked with 'from within'.

For instance, drawing inspiration from my ethnographic experience with accessibility activists, in the summer semester of 2017 I taught *Design in Crisis 2: Coming to our senses*, in which I sought to treat blindness as method. However, rather than making students 'act as if they were blind' – a conventional and severely criticized approach in accessibility awareness, which tends to exaggerate the effects of 'impairment' (Kullman 2016) – blindness was the way to produce an intravention, an experiential approach to radically challenge the ocularcentric practices and techniques of architectural design, and an experimental pedagogical method in conditions of epistemic asymmetry, vindicating the etymological understandings of pedagogy: that is, a practice of producing conditions of exposure for noble children – *pedagogy* etymologically meaning 'the voyage of children' (Serres 1997: 8) – usually undertaken by a former slave in Ancient Greece. As beautifully recounted by Michel Serres: "The slave knows the outside, the exterior, exclusion, what it is to emigrate; stronger and adult, he catches up a bit with the more fortunate child, establishing a temporary equality that renders communication possible" (Serres 1997: 49).

Following that trail of thought, blindness as method reflected my condition as a pedagogue exposed to blind activism and advocacy, akin to the radical-democratic project of *The Ignorant Schoolmaster* described by Rancière (1991), whose most important pedagogic principle was teaching what one doesn't know and eliciting students' intelligence, proving their equality with that of the teacher. As a non-architect teaching future architects, I certainly had some experience in the topic after my years following different urban accessibility struggles, but I did not know how to address some of the issues 'as an architect', and was also open to be challenged by the experience. The

course was conceived as having two parts. In the first, we were to carry out 'sensory explorations' to place their modes of design in crisis: exercises to foreground the multisensory terrains we needed to navigate in order to 'learn not to see'. These exercises needed to not be too complex, but also not too obvious, so as to create some curiosity-producing tension. Also, the particular requirements for each session were only revealed on a week-by-week basis. For instance, one day I made us all walk blindfolded in couples, learning a route from point A to point B for several hours, after which students had to confront the almost impossible task of generating a 'non-euclidean' visual representation of such walks. On another occasion, students were required to walk for fifteen minutes along one street, audio-recording any reactions to and descriptions of urban smells; many times they lacked the words to do so. The audio file was then passed onto another person who had to listen carefully and turn it into a three-dimensional model. A very interesting conversation on the difficulties this entailed ensued: how could we translate the fluffiness and airiness of the topology of smells, with their varying intensity and rhythm, into the concrete and static Euclidean understanding of regular architectural models?

Although the first-person approach usually taken by designers has conventionally been criticised by disability rights advocates – even more so when it involves virtual reality simulators or designed suits – since this might further 'disable' them by replacing their experience and expertise, this approach still has relevance. Drawing inspiration from Kullman's (2016) description, value is given to the need of any designer, blind, deaf or not, to mobilise an approach to experience and the senses so as to be able to act as facilitators in the exploration of complex arrangements where incommensurable bodily needs and desires need to be coordinated (see also Kullman 2019). After some weeks of this training, the official course assignment was revealed: much to their terrified consternation, the group of six students were required to dispose of any kind of individualism and collectively prototype a new architectural toolkit for a blind architect. Yet, the idea was also to demonstrate that this was feasible. My main inspiration for this was Chris Downey, a San Francisco-based architect who, after becoming blind, started adapting his tools of the trade in order to continue working. In regular media appearances, Downey claims that blindness has actually made him "a better architect".[16] It was highly important to make students aware that, however crazy or strange the proposal appeared (in fact, 'crazy scenarios' or 'simulacra' tend to feature in many architectural training settings), the brief responded to a 'potentially real' situation where their particular mode of designing should be readdressed. This particular approach – together with literature relating to 'intravention' – was kindly suggested by

16 See, for instance, https://www.archdaily.com/769991/4-ways-technology-can-improve-architecture-for-and-by-the-blind (accessed February 28, 2019), and his recent collaboration in a studio project by *The DisOrdinary Architecture Project* at the Bartlett School of Architecture, https://www.theguardian.com/world/2019/sep/02/can-blind-people-make-great-architects (accessed September 28, 2019), where blind people became architectural teachers.

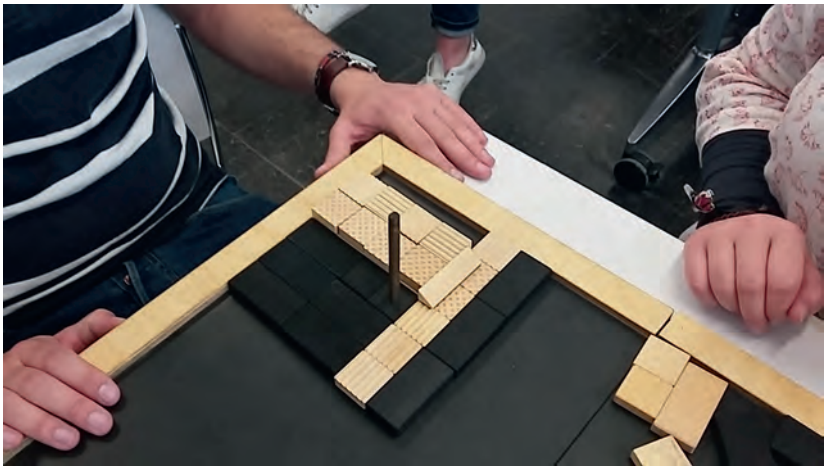


Figure 13 The students of Design in Crisis 2 learning to use the *Modellbaukasten: Taktiles und visuelles Blindenleitsystem im öffentlichen Verkehrsraum*

and discussed at length with Ester Gisbert (lecturer in Architecture at the University of Alicante, and PhD student in Anthropology at Aberdeen), whose inspiring teaching work influenced the design of this course. Thanks to an Erasmus+ teaching exchange, she kindly acted as guest 'crit' of the course: this was important not only to engage in debate about the experiment, but because I believed that unless a fellow architect validated my pedagogic experiment, the students were unlikely to take it seriously. [17]

After sensory exploration sessions were carried out, students were told to do research on and test existing devices, methods and skills of blind/non-blind communication. In the process a particular gadget I had purchased for one of the sessions captured their imagination: the *Modellbaukasten: Taktiles und visuelles Blindenleitsystem im öffentlichen Verkehrsraum* (see Figure 13), a 30x30cm magnet board commercialised by the Markus-Gemeinschaft e.V. with 1:10 wooden tactile and visual representations of DIN-regulated public space standards (noduled and ridged pavements), regularly used by the BBSB to train, test or co-design. In their critical appraisal of what it afforded for architectural design, some expressed the idea that this gadget could perhaps be used as a reference point to expand beyond strict DIN-regulated standards. Yet, I discovered another challenge: regularly, students resorted to the classic humanist mode of many forms of social design, claiming they were designing something 'for the blind.' To pre-

17 Gisbert's (2018) approach to the conception of design studio situations was very inspiring: For some semesters she had been teaching courses on what she called 'experiments in craft', where she addressed the radical need to re-tool architectural practice from a detailed understanding of the singularities of each user. The documentation of her experience can be accessed here: http://experimentosconeloficio.arrsa.org/ (accessed February 28, 2019).

vent this problematic stance, I encouraged them to think hyperbolically and repeatedly that they were not just designing for a specific user-group, but learning from them to create conditions, for themselves and others, to practice a non-visual form of architecture. Despite this complexity, many of them took the challenge head on.

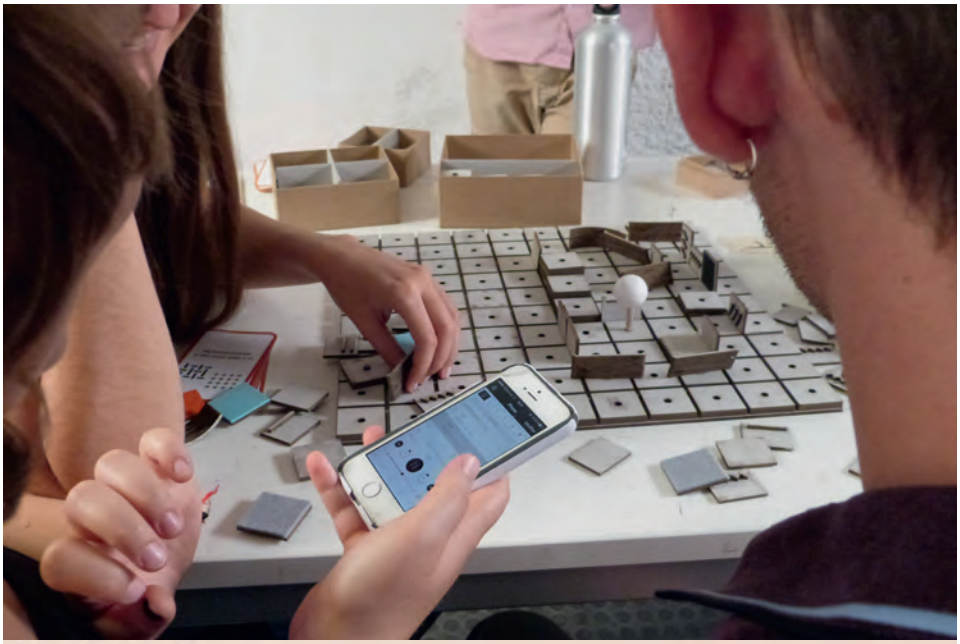
Based on their research and these discussions, they started to slowly prototype a toolkit for non-visual or, rather, multi-sensorial architectural design practices. For more than 8 sessions, half of our regular weekly 4 hours were largely devoted to an open collective discussion on what they had done, the reasoning behind their choices, and sketching or discussing new ideas: whether to use a grid space or not, and if so, what size; whether it made sense to incorporate other tactile possibilities, smells or sounds, and the design issues this would open up. My proposal was that the resulting object, rather than a working toolkit or a designed solution in itself, would represent their problem-driven learning process, so a full documentation of the process was enforced, generating many moments of reflexivity on the tasks at hand. The prototyping process was also a moment of discursive elaboration: in the remaining two hours, we debated readings from STS-inspired forms of participatory design (such as Björgvinsson et al. 2012, or Brandt et al. 2012). Many of these were the same readings I had used in previous 'predicative' approaches to teaching, but this time taken in an experiential dialogue with their ongoing predicaments and making processes. In line with these authors, I repeatedly argued that the most important aspect of their design practice was, rather than 'finding a solution', to 'articulate the problem' accurately, thus opening up the design process as a careful exploration in which to become aware of what/who counted, and what/who was potentially being left aside or behind in the design process.

And this was how, bit by bit, various prototypes of a device for non-visual architecture gradually came into existence (Figures 14 and 15). In their words, what they addressed as the 'ManualCAD' (as a do-it-yourself and hands-on alternative to the Computer-Assisted Software, CAD) was to be conceived as follows:

> "ManualCAD is a portable game for architectural design in which both blind or visually-impaired architects, and architects who have the sense of sight can participate and create together. The game consists of a cardboard board [grid] of 40 x 40cm, various pieces, with different textures and shapes, and a smell box. In addition, you will need a mobile phone to record different sounds and thereby introduce them during the game".[18]

The course also involved their ideas being confronted by people who might potentially benefit from them, by staging tests with other peers as well as blind people from the BBSB; although, paradoxically, the latter had no interest in the students' incorporation of sound and smell, the students disregarded their advice, since this might entail ad-

18 The process and final outcome are available in the open documentation platform that the students produced as part of their final assignment: https://designincrisis.wixsite.com/designincrisis2017 (accessed February 28, 2019).



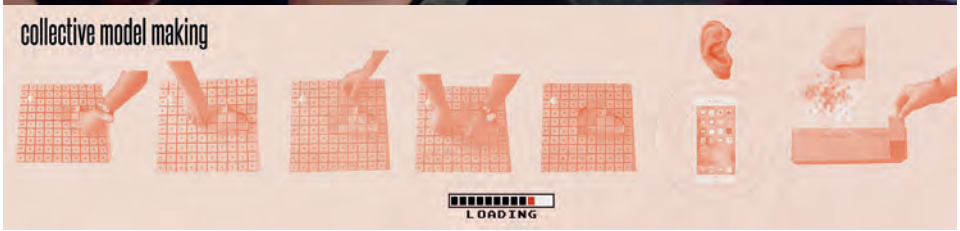



Figure 14 (above) The students of Design in Crisis 2 testing the ManualCAD
Figure 15 (below) Promotional material for the ManualCAD created by the students, showing different potential multi-sensorial uses

ministering a closure to the gadget and its potential use of multi-sensory processes in, say, green space design with diverse users. Rather than a solution for an almost impossible challenge, the pedagogic situation that placed their modes of designing in crisis elicited an object enabling them to raise important questions or, rather, to open up design as a problem, materialising the explorations required. Nevertheless, this may be wishful thinking. I have had no contact with any of the students since the course ended and thus am unaware whether this experience actually had an impact on their practice.

## 'Intravening' Anthropology: A Careful Design Practice?

When anthropologists or other social scientists are asked to take a role in design practice, we tend to be required to remain complicit in the modernist pact of social utility and the public good of technoscience (Latour 2004b). This involves a clear demarcation of ontological regions, and a well-maintained division of labour: the social sciences being conventionally framed as providing knowledge about 'the social' – giving insight to designers about users and their situations – or managing, through more or less participatory methods, the 'ethical predicaments' or the 'social or societal consequences' of designers' work, or providing conceptually-rich descriptions of the designers' activities. But, what if our role was not to represent the social, or set up participatory processes to ease the designers' work, or to act as theoretical guides, but to do 'as' designers do; that is, to partake in the fabric and the remaking of worlds (Halse et al. 2010; Pink and Salazar 2017; Escobar 2018; Cantarella et al. 2019)?

In recent years, several scholars have expressed concerns about the role of design as an inspiration for the renewal of anthropological practice. Lucy Suchman (2011: 3) in particular states: "I believe that we need less a reinvented anthropology *as* (or for) design than a critical anthropology *of* design. The latter requires, among other things, ethnographic projects that articulate the cultural imaginaries and micropolitics that delineate design's promises and practices." However, I also doubt whether the most effective way to attempt a change in these practices would be to engage in producing critical discourses or ethnographic representations on the effects of design. As my teaching experience with architects has shown me, I remain hopeful that there is more we could be doing if we took the challenge of placing their modes of design in crisis seriously. What I learnt in the modest gesture of linking what I had witnessed in BBSB activities to the design of a course situation was that it might be possible to perform an intravention of future designers. However, this may require fully activating a programme for 'intravening', one in which anthropology is developed into a careful design practice, in at least two senses.

Careful as this would involve activating the possible paths for anthropology to matter in contexts of fraught and uncertain knowledge politics. Indeed, beyond merely trying to connect, transpose or transplant knowledge from one point to another, in attempting to place design students in crisis – that is, confronting them with the problems of what attempting to design carefully could mean – the approach that emerged in *Design in* Crisis was to temporarily force them to relearn their practice by drawing them into complicated situations in which they had to articulate the impact on their practice of problems such as the ones I had witnessed in urban accessibility design activism. Although learning from, partaking in the production of and searching to facilitate the circulation of a plurality of knowledges is indeed a core agenda for anthropology as a discipline, in these particularly fraught times of ours, with new totalitarian divides and unprecedented more-than-human challenges, we also need to remain attentive and continue learning from many design activists' various forms of making

neglected knowledges matter: not only from their careful ways of describing, assembling, meeting and groping into the unknown contours of what makes our experiences, but also and more importantly from their detailed interventions and the exploratory materialisation of relations to display what is traditionally left out. We must also remain vigilant for experts who repeatedly say they care for the common good.

But also careful in the attempt to bring usually neglected forms of experiential wisdom – in this case, of blind and partially-sighted people – to bear in order to attempt a hi-jacking of the 'double delegation' that allows technical modes of reasoning to claim epistemic superiority and leave the social to us. Indeed, rather than placing activists and architects and their embodied modes of perceiving and making in a plane of mutual resonance, perhaps anthropologists may need to learn to produce careful 'inversions' of the conditions of expertise (Puig de la Bellacasa 2017). That is, expose designers' expertise and making practices to their potential exclusionary effects while also attempting to explicitly block or undo the particular 'responsiveness' of architectural modes of reasoning – these professionals are usually cast as contemporary harbingers of the public good through technical knowledge – not from a critical external vantage point, but 'from within' their own practice. This requires at least two things: reworking the asymmetrical conditions in which the creation of interfaces to share experiential knowledge tend to take place, in an asymmetry between technosciences and laypeople, and breaking with the hierarchisation of scholarly knowledges in which we operate or, more generally, in the tacit agreement pre-framing our tasks as dealing with 'the social.'

In such heavily asymmetric epistemic contexts, anthropology must be aware of how thwarted its attempts might be when not trying to do more than mobilise the knowledge of not-so-known or usually neglected uses and users for designers to consider when searching for technical closure or 'solutions'. Any real attempt at creating a lasting epistemic transformation in these contexts of asymmetric knowledge politics – so those neglected knowledges can matter – would explicitly require an immense experimental investment in forms of designing careful conditions to resist the contemporary traps of interdisciplinarity, in which we are reduced to being 'professionals of the social', required to comply with the modernist pact of technoscience's social utility. Indeed, in contemporary contexts where allegedly-desired odes to knowledge-sharing and cross-pollination abound, we must remain cautious of the very fraught prospects these joint endeavours tend to have due to the asymmetrical regimes of disciplinary value in which we tend to operate (Rabinow and Bennett 2012), structuring many institutional habits of thought and systems of credit, merit and credibility that distinguish the pedigree of, say, architects and designers or any other scientists from anthropologists or any other social scientists.

What I believe these 'intraventive' openings show is that to envision a future – for anthropology and beyond – there is perhaps no other way than to pry open the uncertain, but also deeply asymmetric and expertocratic conditions of the present. For this, we may need to place at the very core of our anthropological endeavours a critical desire to design conditions for opening up to a plurality of knowledge platforms, so as

to heighten our joint arts of learning how to know and live with one another (Duclos and Criado 2020). A careful practice to undo the conditions of those whose actions have the potential to be harmful. Drawing from this, and if anthropology wants to contribute to more careful modes of togetherness, so that diverging and plural worlds can thrive, perhaps we need to envision ways of engaging with design, not just through superbly written stories with a critical or conceptual twist, but also learning to affect it 'from within' its own practices.

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