

# Tactics for Norm-Creative Innovation

**Abstract** This paper presents a set of norm-creative innovation tactics developed in collaborative design research projects with the objective of creating more inclusive solutions. Unawareness of social norms are exemplified through some of the flaws design has contributed to. The norm-creative approach explored in this paper involves a first step of being *norm-critical*, i.e. challenging social norms that contributes to inequalities and social exclusion, and a second step of being *norm-creative*, i.e. developing design solutions that counteract such norms through design thinking of what might be. The tactics were developed by extracting and articulating knowledge and experiences from various strands of design methodologies, successively tweaked with norm-creative perspectives and then probed in a series of collaborative design projects. The resulting tactics serve three key roles: Firstly, they contribute in iterative explorations of several stances and action possibilities. Secondly, they promote change of awareness through increasing understanding of diverse user experiences and social exclusion, and thirdly, they contribute both in thinking new about what is and what might be, thereby affording innovative prospects. Tactics for norm-creative innovation can for these reasons be one way of raising awareness and contributing to social sustainability through design.

## Keywords

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## Introduction

Design has considerable social significance<sup>1</sup> – through design(s), we humans give shape, direction, and meaning to our individual and collective existence in the world. With this in mind, in this article we will be exploring some of the ways that design either succeeds or fails to support human beings, and in doing so, endeavor to "provide a new perspective for exploring the many moral and ethical problems that lie at the core of the design professions."<sup>2</sup> To us, that perspective involves analyzing and challenging certain inequalities that design may have contributed to creating. In this article, we put forward the use of *norm-creative tactics* as one way of dealing with such issues. These tactics do not represent a ground-breaking new approach to designing – they synthesize different perspectives with aspects drawn from various threads of design methodology. The novelty of our approach lies in the combination and categorization of the tactics' objectives – from radical to inclusive and social – and the particular way we have tweaked objectives to specifically address social norms in design and innovation.

We define *norm-creative innovation* as a two-step process: first, the designer must be *norm-critical*, and after, *norm-creative*. The aim in the first step is to critically analyze relevant social norms, including socially constructed mental models, outlooks, and values; perceptions of difference; and perceptions of which roles and characteristics we value and devalue<sup>3</sup> – all of which contribute to inequality and social exclusion. The second step involves *norm-creative* design thinking – developing design solutions that counteract such norms through reflection on what might be.<sup>4</sup> In this article, we will explore the notion that *norm-creative innovation* has the potential to produce outcomes that are desirable, valuable, and satisfying because they are socially sustainable.

In the following sections, we will treat design practice and results as a kind of "discourse" involving thinking that both constrains and enables, and which indicates an underlying framework through which things are being decoded, sanctioned, or excluded.<sup>5</sup> This notion of discourse is directly related to how design creates and perpetuates social norms – the values that govern human attitudes to age, sex, ethnicity, and so on,<sup>6</sup> and the actions taken based on those norms, according to whether those characteristics are valued or devalued.<sup>7</sup> After exploring the phenomenon of social norms within design discourse, we look at how innovative, *norm-creative* approaches can expose and challenge the values, attitudes, beliefs, and underlying assumptions that contribute to design outcomes. Drawing on *norm-critical* perspectives, various design methodologies, and our experience with collaborative design research projects, we will explore the hows and whys of implementing *norm-creative innovation* tactics that take such particularities, performances, and material and immaterial entities into account.

## Social Norms in Design

Design is a discipline that enacts a process of thinking and planning to create desired outcomes.<sup>8</sup> However, design can result in outcomes that exclude entire sectors of the population – intentionally or unintentionally. For example, when Swedish insurer Folksam had researchers analyze car crash data in their database, they found that women in the driver's seat were three times more likely to suffer whiplash than men.<sup>9</sup> This data corroborates the findings of another study in 2011 in the United States.<sup>10</sup> Two contributing factors to this result may be (a) the shape of car seats and, in parallel, (b) the state of the art in crash test dummies. Car seats are modelled, designed, and prototyped, and these are tested using crash test dummies. Crash test dummies have been designed – until very recently<sup>11</sup> – using male

biomechanical standards, including the relative strength of the neck bones at risk of injury.

In Sweden (and likely elsewhere), crash test dummies had always been male!<sup>12</sup> Despite the fact that this convention omits an entire portion of the human species, the male dummies were considered neutral testing objects. The car industry had begun its safety testing using crash test dolls inherited from the US Air Force, which were modelled on the typical pilot – a man. This meant that any car seat safety modifications would only protect male users properly.

Here is an example of the normative notion of “man” – a term which was used (until recently) to denote the entire human race. That usage points to what some might call an invisible hierarchy whereby men are perceived as “the norm” and the male (unconsciously) considered as primary. This is characterized in (somewhat archaic) labels such as “female doctor,” and in Simone de Beauvoir’s notion of the other in *The Second Sex*.<sup>13</sup> Feminist theorist Judith Butler holds that gender discourse is *performed* – a rough interpretation of this would be that gender identity is enacted, rather than innate<sup>14</sup> – and *performative*, or “real only to the extent that it is performed.”<sup>15</sup> Butler says that gender performance is “an act that’s been going on before one arrived on the scene,”<sup>16</sup> which implies an unconscious process, and the risk that people only see and perpetuate an expected norm. In this way, the car seat designers tested their seats using male-shaped crash test dummies without even perceiving the normative discourse they were working within – or perceiving that it might be problematic. Imagine the debate if cars were explicitly labeled “for male bodies only” – to our knowledge, such declarations do not exist, but nor do cars carry warnings that some users might not be fully protected in a car crash.

Let us consider another example: personal razors designed for men or women. Women get designs rendered in rounded shapes and soft pastel hues, and which have voluptuous names like “Passion” and “Venus;” men’s designs are cold, linear, and precise, and packaged in strong colors with black lines that symbolize activity and speed, and they have names like “Mach3.”<sup>17</sup> These artifacts epitomize the constructed dichotomy between women and men. Their contrasting attributes are an example of things “doing gender”<sup>18</sup> – re-constructing social norms related to what it means to be woman/female or man/male. According to this theory, social norms pertaining to male and female behaviors and preferences are reaffirmed via the artifacts’ contrasting names, colors, material distinctions, and the way they intermediate action possibilities.<sup>19</sup> In Western societies, dark colors are often linked to men and masculinity, for example, while bright colors and pastel tones are linked to women and femininity.<sup>20</sup> One strategy to introduce an artifact to a new, female market segment might be to “pink it and shrink it.”<sup>21</sup> Western ideals relative to form emphasize technological and rational execution, leading to social norms of precision and uniformity, which may result in artifacts with straight, angular shapes – indicating strength, stability, and speed – being associated with masculinity.<sup>22</sup> The encoded design language<sup>23</sup> in the female products, on the other hand, emphasizes sensuality and playfulness. Such dichotomies reinforce the notion of women and men as each other’s opposites.<sup>24</sup> The perception of a product’s gender is influenced by the design elements of shape, color, and material<sup>25</sup> – in this way, artifacts perform gender by communicating particular attributes and action possibilities (already) associated with women and men.

When function is given a higher value over form, yet another social norm is created and perpetuated.<sup>26</sup> In the past, products and buildings were richly ornamented, but during the industrial revolution, decoration and ornamentation became of secondary importance.<sup>27</sup> In this context, a hierarchy is constructed and supported in which aesthetic forms that relate to function are considered acceptable (for example fake air intakes on cars), while shapes that do not directly relate

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13 Simone de Beauvoir, *The Second Sex* (London: Vintage, 1997).

14 Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* (New York: Routledge, 1999).

15 Judith Butler, “Performative Acts and Gender Constitution: An Essay in Phenomenology and Feminist Theory,” *Theatre Journal* 40, no. 4 (1988): 527, DOI: <https://doi.org/10.2307/3207893>.

16 *Ibid.*, 526.

17 Jahnke, *Formgivning/Normgivning*, 47.

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29 Ibid.

30 Mariana Alves Silva et al., *NOVA: Tools and Methods for Norm-Creative Innovation* (Stockholm: Vinnova, 2015).

31 Lorna Roth, "Looking at Shirley, the Ultimate Norm: Colour Balance, Image Technologies, and Cognitive Equity," *Canadian Journal of Communication* 34, no. 1 (2009): 111–36, DOI: <https://doi.org/10.22230/cjc.2009v34n1a2196>.

32 Ibid., 117.

33 "Whites Only?," YouTube video, 0:26, September 2,

to function (for example flower patterns on a drilling machine) reduce the value or acceptability of a product. Perpetually idealizing functionality through form in this way can maintain segregation and hierarchies between men and women, boys and girls, adults and children, and upper and lower classes.

In a similar example, hard materials are often valued more highly than soft – and the concepts of soft and hard are often employed to convey connotations, qualities, and capacities that have been normalized as female or male.<sup>28</sup> The material hierarchy is evident in architecture and interior design and their diligent use of hard materials such as stone, stainless steel, and glass.<sup>29</sup> Privileging these materials may for example contribute to designed environments that echo and amplify noise, which can lead to noise-related stress and discomfort – and hence the potential exclusion of some populations.<sup>30</sup>

Yet another example is the light-skin bias in TV and film. In the early days of color broadcasting, cameras were calibrated for color balance using a standardized set of cards featuring women wearing bright contrastive clothing. The cards were called Shirley cards, after the first model to pose for them. All the models were pale-skinned.<sup>31</sup> Although the frame of reference has widened since the 1950s, up until recently, pale skin was the standard against which any other tones were seen as "an aggravation – a deviation from this invisible norm."<sup>32</sup> A viral video on YouTube further illustrates what appears to be a designed predisposition towards light skin: a soap dispenser equipped with a sensor that does not function for a man with darker skin.<sup>33</sup> The video exposes an obvious flaw in the design, which results in a form of social exclusion. Social exclusion is a multidimensional phenomenon, involving the lack or denial of resources, human rights, products, and services, which affects the quality of life among individuals and equity in society as a whole.<sup>34</sup> The kind of thinking that leads to such social exclusion is rooted in mental models and values of difference, and perceptions of valued or devalued characteristics.<sup>35</sup>

Some social norms often support the primacy of able bodies, and people with disabilities are relegated to a status outside that norm.<sup>36</sup> The differently-abled are confronted daily by countless obstacles in the public environment – a building without wheelchair access; a wheelchair ramp positioned at a building's rear entrance or otherwise clearly separate from the public entrance; or public environments that are difficult to navigate for those with impaired vision.<sup>37</sup> The design of the environment in these cases limits or prevents accessibility – it excludes people with disabilities.<sup>38</sup> The performance of this kind of exclusion has been going on for centuries based on characteristics such as ethnicity, gender, identity, disability, and other intrinsic human features. The typically implicit and unspoken character of social norms in some cases contributes not only to marginalization, but also to stigmatization, alienation, and discrimination.<sup>39</sup> Awareness of this tendency among design professionals can contribute to maximizing everyone's freedom, and build social inclusiveness into a more sustainable future society for all.

One reason that design sometimes contributes to social exclusion relates to Madeline Akrich's notion of the "I-methodology" – a set of user representations that resemble the designers themselves or imagined users/actors with specific tastes, competences, motives, aspirations, and so forth,<sup>40</sup> to the exclusion of others, that designers embed into a particular narrative scenario or script – a framework of actors, possible actions, and the space within which they are expected to act. The notion of the I-methodology challenges designers' predisposition to homogenize users into a comprehensible normative entity, and sets out to articulate design and its uses as a sociology of innovation and action.<sup>41</sup> If we accept that all knowledge production is situated in some way<sup>42</sup> – in other words, linked to the expertise, experience, and values that a person has in relation to a given

subject – that means that everyone carries their personal set of norms, mental models, and beliefs into new situations, and acts based on these understandings. No designer can be neutral, and from this standpoint, all are required to reflect on their pre-understandings, pre-suppositions, and preconceived notions when designing new situations and settings, and for new sets of user needs. Are we designing for the user in accordance with our own notions, instead of ensuring a good user experience?<sup>43</sup>

We perform social norms by expressing not only approval or disapproval of specific acts, but also of the characteristics of the actor – sex, ethnicity, body morphology, ability, and so on – and other situational circumstances.<sup>44</sup> Social norms are woven into the fabric of our societies and guide our everyday actions. There are some social norms, however, that exclude certain people from the distinction of being normal. Anyone existing outside a social norm risks being forgotten, disregarded, neglected, or otherwise discriminated against.<sup>45</sup> Exploration of these exclusions under the headings of gender equality or diversity has been taking place for quite some time, but recently the notion of *norm-criticism* has emerged as a frame for discussing how social norms contribute to physical and social exclusion.<sup>46</sup> The practice entails problematizing social norms that limit human life worlds based on factors such as gender, age, sexuality, ethnicity, religion, and disability, and analyzing and questioning those social norms, power relationships and power structures that can be linked to different kinds of discrimination.<sup>47</sup> The goal of being norm-critical is to address the root of the problem – the social norm – rather than the consequences that emerge in the form of inequity and discrimination. If designers are not aware of relevant social norms, they run the risk of designing outcomes that benefit those who are within the norm, often at the expense of those who are outside.<sup>48</sup> Underlying the notion of norm-criticism is a call to action, because by not challenging discrimination, we risk not only perpetuating it, but also validating it.<sup>49</sup>

Despite striving for change, norm-critical analyses sometimes result in what some call *action paralysis* – different aspects are dissected, problematized, and rejected without opening up any accessible way forward. *Norm-creativity* is a more recent concept, with a foundation in organization and gender theory, which explores different ways of responding to non-conscious human interactions.<sup>50</sup> Norm-critical activity involves gaining awareness of social norms that contribute to excluding and discriminating actions, and norm-creative activity is hence the ambition to generate counteractive actions. Norm-criticism plus norm-creativity is a combined approach that move away from gender mainstreaming<sup>51</sup> towards intersectional analysis of norms and other socio-cultural aspects as ground for creative actions for change.

Design artifacts are like texts written by designers and read by users.<sup>52</sup> This “reading” involves implicit design objectives that define, enable, and constrain users according to certain abilities or towards specific performances. Madeline Akrich calls this the designer’s *script*, which (to her) symbolizes the designer’s vision of the how the design should be used.<sup>53</sup> Scripts involve probable action scenarios and control frameworks that the designer inscribes into the artifact. The design process involves establishing action scenarios that involve material alignments with artifact usage, either in line with inscribed scenarios (subscribing) or resisting them (de-inscribing). Scholar Peter-Paul Verbeek is not alone in saying that designs mediate our experience of the world.<sup>54</sup> If that is so, then the social qualities, norms, and characteristics expressed by a design and its use are necessarily part of the designer’s process and the user’s interaction. Interactions are themselves not neutral – the design plays a mediating role that contributes to shaping attitudes and values in society.<sup>55</sup> Users naturally have the right to accept

2015, posted by Teej Meister, <https://www.youtube.com/watch?v=WHynGQ9Vg30>.

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40 Madeline Akrich, “The De-Description of Technical Objects,” in *Shaping Technology/ Building Society: Studies in Sociotechnical Change*, ed. Wiebe E. Bijker and John Law (Cambridge, MA: MIT Press, 1992), 205–24; Madeline Akrich, “User Representations: Practices, Methods and Sociology,” in *Managing Technology in Society: The Approach of Constructive Technology Assessment*, ed. Arie Rip, Thomas J. Misa, and Johan Schot (London: Pinter Publishers, 1995), 167–84.

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44 Gibbs, Control.

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47 Anna Isaksson et al., “Norm Critical Design and Ethnography: Possibilities, Objectives and Stakeholders,” *Sociological Research Online* 22, no. 4 (2017): 232–52, DOI: <https://doi.org/10.1177%2F1360780417743168>.

48 Nina Lykke, *Feminist Studies: A Guide to Intersectional Theory, Methodology and Writing* (New York: Routledge, 2010).

49 Kevin Kumashiro, “The ‘Acceptability’ of Race/Gender/Sexuality-Based Discrimination in Democratic Schools,” *Transformations: The Journal of Inclusive Scholarship and Pedagogy* 14, no. 1 (2003): 7–34, available at <https://www.jstor.org/stable/43587166>.

50 Rebecca Vinthagen and Lina Zavalía, *Normkreativ [Norm Creativity]* (Stockholm: MTM, 2017).

51 For example, see Naila Kabeer, *Gender Mainstreaming in Poverty Eradication and the Millennium Development Goals: A Handbook for Policy-Makers and Other Stakeholders* (Commonwealth Secretariat, 2003), available at <https://www.idrc.ca/en/book/gender-mainstreaming-poverty-eradication-and-millennium-development-goals-handbook-policy-makers>; Sylvia Walby, “Gender Mainstreaming: Productive Tensions in Theory and Practice,” *Social Politics: International Studies in Gender, State & Society* 12, no. 3 (2005): 321–43, DOI: <https://doi.org/10.1093/sp/jxi018>; Mary Daly, “Gender Mainstreaming in Theory and Practice,” *Social Politics: International Studies in Gender, State & Society* 12, no. 3 (2005): 433–50, DOI: <https://doi.org/10.1093/sp/jxi023>.

52 Steve Woolgar, “Configuring the User: The Case of Usability Trials,” in *A Sociology of Monsters: Essays on Power, Technology, and Domination*, ed. John Law (London: Routledge, 1991), 58–100, DOI: <https://doi.org/10.1111/j.1467-954X.1990.tb03349.x>.

53 Akrich, “The De-Description of Technical Objects.”

or oppose interactions, either by choice or by being excluded from the design or designer’s intention. But for user groups that are often overlooked or disregarded, such continuous exclusion is irritating, denunciative, and likely discriminatory.

Verbeek’s theory of *material morality* seeks to explain these multilateral relationships between designers, artifacts, and users.<sup>56</sup> The theory has a pragmatic aspect related to how human beings act in the world, and an experience-oriented aspect that relates to how design transforms human perception of the world. According to the theory, actions are not only the result of our intentions, they are enabled, shaped, and transformed through our use of human-made artifacts, tools, and technologies. Designing, then, should not be understood as a simple linear process of embedding action scenarios in an artifact, because those actions are not only the result of embedded social norms, they are shaped and transformed *through* the interaction. A conscious, skilled designer ought to have learned to identify a range of objectives for a design, and should – through mindful effort – be able to discover additional dimensions in a design scenario.<sup>57</sup> An example of this would be for urban designers to also include traffic, disability, and cost factors in their iterative explorations of context, in addition to drawing from their personal knowledge. Embracing this exploratory mindset asks designers to willfully dig through social conventions, existing contextual practices, entrenched policies, and so on. Scholar Sara Ahmed would call this disruption the act of a *feminist killjoy*.<sup>58</sup> To wit:

“Does the feminist kill other people’s joy by pointing out moments of sexism? Or does she expose the bad feelings that get hidden, displaced, or negated under public signs of joy? Does bad feeling enter the room when somebody expresses anger about things, or could anger be the moment when the bad feelings that circulate through objects get brought to the surface in a certain way?”<sup>59</sup>

Challenging that lack of norm-critical perspectives – which constitutes a “refusal to look away from what has already been looked over”<sup>60</sup> – means that designers challenge the idea that they automatically understand a design context or who the users are. This attitude of disruption is similar in the context of innovation, which takes place (according to some definitions) when it breaks the rules and breaks with business as usual – when it is enacting change, not simply speaking of it.<sup>61</sup>

Design is an actor in human life worlds. Bad design is often noticeable – it can give us a backache or a headache. Good design, on the other hand, can offer relief from and support for our everyday lives. Design that excludes or discriminates, as we have seen in the examples described previously, is perhaps not the designer’s intention. However, “many of the resulting products, services, and systems are equally reductive when it comes to the integration of lived experiences of race, class, gender, sexuality, and ability.”<sup>62</sup> Even human-centered design can be guilty of this, out of ignorance, dismissiveness, or a failure “to account for the needs of certain individuals and groups in favor of others, thereby potentially exacerbating existing structural inequalities.”<sup>63</sup> When designers create in ways that benefit some groups more than others, then that outcome is discriminatory.<sup>64</sup> This ignorance may be caused by designers having to switch their empathy “on and off” to achieve ultimately capitalistic ends.<sup>65</sup> Nevertheless, placing (specific) humans at the center of design potentially “forecloses on everything outside the center”<sup>66</sup> – including the marginalized members of society *and* the environment. Perhaps the social norm really does perform the object<sup>67</sup> during the creative process. In our experience, those who exist outside social norms find that design solutions rarely seem to include them as intended users. This is why we must question who

decides which social group is relevant, and analyze the locus of power differences between relevant and (seemingly) non-relevant social groups.<sup>68</sup> When normal means “white, middle-aged, able-bodied man,”<sup>69</sup> that leaves a wide swath of humanity outside the circle – people who cannot subscribe to its action scenarios, have been excluded from the designer’s intentions, or just do not follow the script. By disrupting their own *modus operandi*, designers utilizing norm-creative innovation tools can intentionally target more inclusive, more sustainable outcomes.

## Method

In 2014, Swedish research and innovation agency Vinnova launched an initiative combining gender equality and diversity with design and innovation. The overall objective was to contribute to fostering greater social equality by developing accessible methods in which a norm-critical perspective was the incentive for innovation.

Vinnova was responsible for inviting businesses and organizations to apply to the project as well as funding projects that were suited to testing the norm-creative innovation process. Six organizations were granted funding to explore product and service projects across a range of domains, from health care ER response to computer gaming. In each case, between three and four participants were involved. In addition, three design firms were invited to assist participants during the design process. As design researchers with experience within these areas, Vinnova invited us and two other colleagues<sup>70</sup> to plan and facilitate project operations, and develop the tools and methods for the norm-creative innovation process.

The overall project had three phases. The first was an initial *conception* phase, during which gathered material, reviewed our prior experience, and researched the literature. We synthesized all of this into a set of methods and tools. The second was the *collaboration phase*, with a focus on user experience.<sup>71</sup> Practicing designers and everyday users explored social aspects in design across the various projects together, using the tools and methods we had developed during the first stage. After this stage, we conducted interviews with project participants to gather feedback on their experiences of tools and methods used and results achieved. The third and final stage was the *materializing* phase. During this phase, we examined all of our results, redesigned the tools and methods that we had probed during the second phase, and created a card deck/toolkit. In addition, to ensure the legitimacy of the material, we invited 15 academic and other external experts to review the material.

The toolkit<sup>72</sup> consists of 52 method cards. On one side are descriptions of 12 social norms, 12 challenging tactics, 12 inspiring role models, and 12 experiment cards. On the other, we outline 52 norm-creative design methods (Figure 1). After final editing, layout, printing, and packaging, the norm-creative innovation toolkit – a new way of communicating desirable outcomes for innovation projects – was launched by Vinnova in October 2016. It is still in distribution.

We used a qualitative approach for our research, with the objective of identifying prospective breakthroughs through a holistic search for perceived meanings and experiences of the tools and methods being used.<sup>73</sup> Its *scientific* validity lies in its application of validated theories and methods to achieve the research objective of contributing to more inclusive design solutions; its *pragmatic* validity lies in its results, which are useful and practical; and its *normative* validity lies in our research objective to address and impact change something considered as a flaw.<sup>74</sup>

54 Peter-Paul Verbeek, “Beyond Interaction: A Short Introduction to Mediation Theory,” *interactions* 22, no. 3 (2015): 26–31, DOI: <https://doi.org/10.1145/2751314>; Peter-Paul Verbeek, “Toward a Theory of Technological Mediation: A Program for Postphenomenological Research,” in *Technoscience and Postphenomenology: The Manhattan Papers*, ed. Jan Kyrre, Berg O. Friis, and Robert P. Crease (London: Lexington Books, 2015), 189–204.

55 Bruno Latour, “On Technical Mediation—Philosophy, Sociology, Genealogy,” *Common Knowledge* 3, no. 2 (1994): 29–64, available at <http://www.bruno-latour.fr/node/234>; Peter-Paul Verbeek, *Moralizing Technology: Understanding and Designing the Morality of Things* (Chicago: The University of Chicago Press, 2011), 56.

56 Ibid.

57 Pierjo Birgerstam, *Skapande Handling: Om Idéernas Födelse [Creative Action: On the Birth of Ideas]* (Lund: Studentlitteratur, 2000).

58 Sara Ahmed, “Feminist Killjoys (And Other Wilful Subjects),” *The Scholar and Feminist Online* 8, no. 3 (2010), available at [http://sfonline.barnard.edu/polyphonic/print\\_ahmed.htm](http://sfonline.barnard.edu/polyphonic/print_ahmed.htm); Sara Ahmed, *The Promise of Happiness* (Durham: Duke University Press, 2010).

59 Ahmed, “Feminist Killjoys,” para. 12.

60 Ibid., para. 43.

61 Alf Rehn, *Dangerous Ideas: When Provocative Thinking Is Your Most Valuable Asset* (BookBaby, 2013), chap. 2, EPUB, available at <https://store.bookbaby.com/book/dangerous-ideas>.

62 Laura Forlano, “Posthumanism and Design,” *She Ji: The Journal of Design, Economics, and Innovation* 3, no. 1 (2017): 16–29, DOI: <https://doi.org/10.1016/j.sheji.2017.08.001>.

63 Ibid., 28.

64 Kumashiro, “The ‘Acceptability’ of Race/Gender/Sexuality-Based Discrimination,” 7–34.

65 Thomas Wendt, “Decentering Design, or a Critique of Human Centered Design”

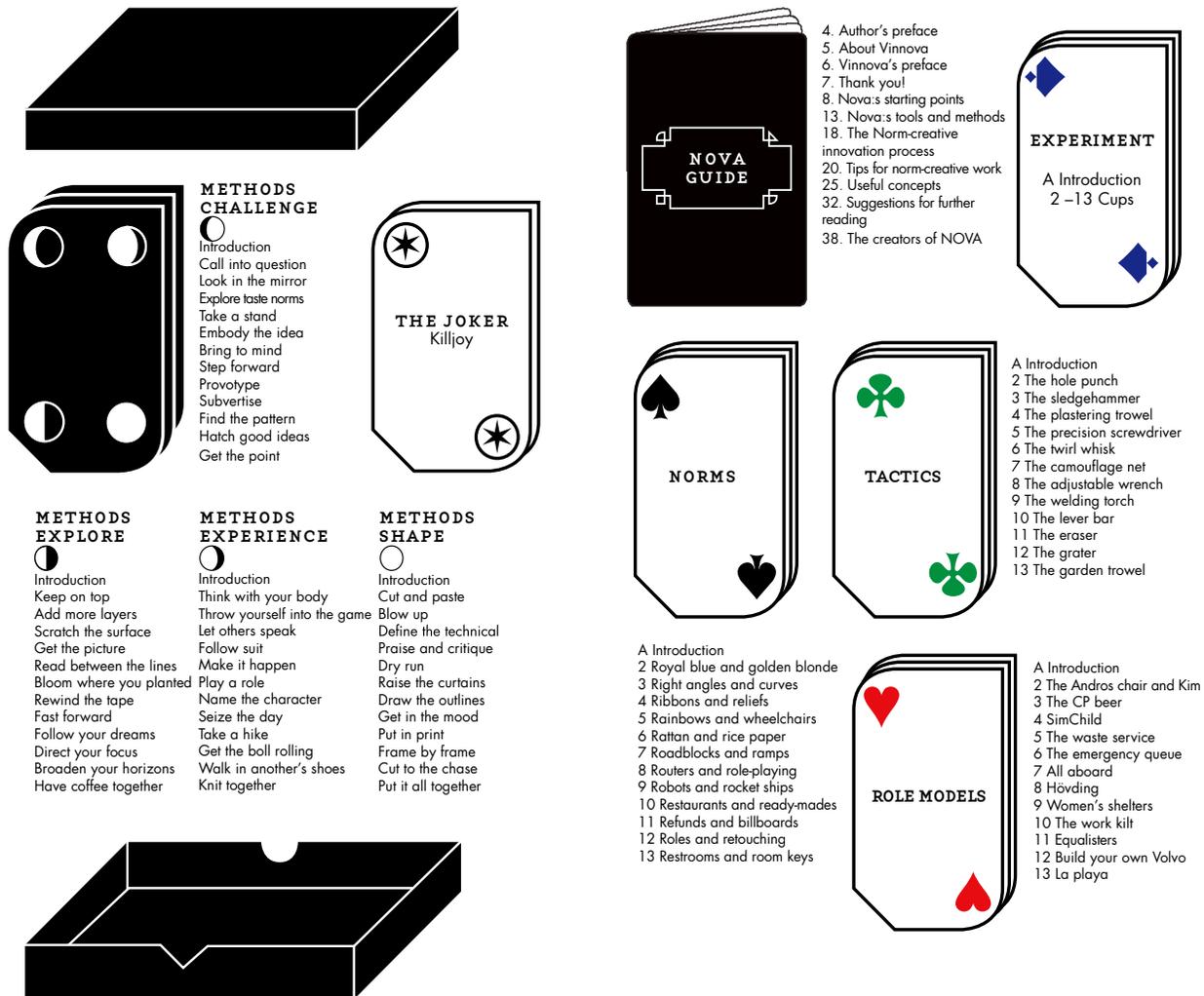


Figure 1 The complete norm-creative innovation tools and methods toolkit. Copyright © 2016 Mariana Alves Silva, Karin Ehrnberger, Marcus Jahnke, and Asa Wikberg Nilsson.

(presentation, Information Architecture Summit, Vancouver, British Columbia, March 2017), slide 36, available at <https://www.slideshare.net/ThomasMWendt/decentering-design-or-a-critique-of-human-centered-design>.

66 Ibid., slide 27,

67 Butler, *Gender Trouble*.

68 Anne-Jorun Berg and Merete Lie, "Feminism and Constructivism: Do Artifacts Have Gender?," *Science, Technology, & Human Values* 20, no. 3 (1995): 332–51, DOI: <https://doi.org/10.1177/2F016224399502000304>.

## Outcomes

All design methodologies have different objectives informed by explicit and implicit rationales for certain actions. Favoring one approach over another, however, says much about the expectations placed on the designer – it is said that we are what we solve.<sup>75</sup> In a way, the objectives of a design process can perform its result, especially if we accept that design approaches are implemented within design discourses that have attendant (social) norms. The norms are influential – they ask designers to include certain concerns and exclude others. They prescribe the designer's focus of attention, how the design space should be understood, what the urgent issues are, and how these should be approached. To counter this – and perhaps create new norms within this context – some have recommended that the designer step out of traditional ways of thinking and acting.<sup>76</sup> For us, to articulate norm-creative tactics we firstly identified the objectives in existing design approaches. These we summarize in Table 1.

As briefly outlined in Table 1, the focus of attention in a specific approach focuses the designer's activity and understanding of possible solutions, which may (in some cases) translate into routine actions minus any serious examination of the situated problem from more angles than the obvious. In the following section, we will propose a set of norm-creative innovation tactics that support such exploration. These tactics clarify where designers can focus their attention, prescribe a variety of standpoints from which to understand a problem, highlight urgent issues, and suggest procedures for action.

**Table 1. Outlining design objectives of various design approaches and their links to norm-creative tactics.**

Approach	Objective
<b>Human-centered design</b> <ul style="list-style-type: none"> <li>• Problem solving</li> <li>• Solution-oriented</li> <li>• User-oriented</li> <li>• Emphatic</li> </ul>	<p><i>Human-centered design</i> (HCD) is commonly seen as a shift away from technology-centered design to create new solutions based on the physical and psychological needs of the people being designed for. The emphasis is on user experience throughout the process – in other words, developing a comprehensive understanding of users. <sup>i</sup></p> <hr/> <p><i>Design thinking</i> is an approach that produces innovative outcomes through divergent and convergent thinking, integration of design methods and tools into business operations. There is an explicit focus on users and user contexts rather than mere product/service/system provision – with the objective of blurring of the boundaries between product and service, producer and user in ways that generate innovative opportunities. <sup>ii</sup></p> <hr/> <p><i>Universal design/Inclusive design/Design for all</i> are approaches whose aim is to generate designs that can be used by as many people as possible. This is done through understanding diverse user needs and conditions. Their main objective involves building human life worlds that benefit all people, not just the temporarily able-bodied ones. <sup>iii</sup></p>
<b>Collaborative design</b> <ul style="list-style-type: none"> <li>• Cooperative</li> <li>• Democratic</li> <li>• User-centered</li> <li>• Process-oriented</li> <li>• Inter-disciplinary</li> </ul>	<p><i>Participatory design/Co-design/Collaborative design</i> are democratic approaches that involve a shift in attitude from designing <i>for</i> users to designing <i>with</i> users, requiring new ways of thinking, feeling, and working aimed at creating robust new knowledge and outcomes. <sup>iv</sup></p> <hr/> <p><i>Service design</i> makes user experience the focal point throughout the design of services and systems. The design objective is to enhance services in ways that improve existing systems and support customer satisfaction. <sup>v</sup></p>
<b>Critical design</b> <ul style="list-style-type: none"> <li>• Problem-finding</li> <li>• Process-oriented</li> <li>• Attentive</li> <li>• Problem-oriented</li> <li>• Political</li> </ul>	<p><i>Critical design</i> is an approach which emphasizes the social or environmental aspects of a design space, and confronts the status quo rather than solving the issues. The approach involves problem-finding in the service of society, and using design to question “what is.” The design objective is to make people think, increase attentiveness, reveal conventions, and initiate discussions. <sup>vi</sup></p> <hr/> <p><i>Social design</i> seeks to provide value to society as a whole, instead of targeting the desires of a specific (economic) market. The approach criticizes the lack of moral and socio-economic responsibility in design practice, aims to design for the benefit of all, promotes equality, and challenges the lax waste of resources and knowledge. <sup>vii</sup></p>
<b>Norm-critical innovation</b> <ul style="list-style-type: none"> <li>• Problem-finding</li> <li>• Equity</li> <li>• Social</li> </ul>	<p><i>Norm-critical</i> approaches typically seek to expose norms, values, and mental models that contribute in limiting people’s life worlds. The objective is to achieve equality and diversity, through (for example) intersectional analysis of power structures, performances, mental models, values, and constraints in ways that enable design to achieve change. <sup>viii</sup></p> <hr/> <p><i>Social innovation</i> approaches aim to embrace entrepreneurship and innovation in support of social needs, relationships, and collaborations. The output of these approaches might be products, services, or models addressing previously unmet needs. <sup>ix</sup></p>

i Donald A. Norman, *The Design of Everyday Things* (1988; New York: Basic Books, 2002); Donald A. Norman and Steven W. Draper, *User Centered System Design: New Perspectives on Human-Computer Interaction* (Hillsdale: L. Erlbaum Associates Inc., 1986); Donald A. Norman, “Human-Centered Design Considered Harmful,” *interactions* 12, no. 4 (2005): 14–19, <https://doi.org/10.1145/1070960.1070976>; Ting Zhang and Hua Dong, *Human-Centered Design: An*

*Emergent Conceptual Model* (London: Royal College of Art, 2009), 1–7, available at <http://bura.brunel.ac.uk/handle/2438/3472>; IDEO.org, *The Field Guide to Human-Centered Design: Design Kit* (IDEO.org, 2015), available at <http://www.designkit.org/resources/1>.

ii Richard Buchanan, “Wicked Problems in Design Thinking,” *Design Issues* 8, no. 2 (1992): 5–21, DOI: <https://doi.org/10.2307/1511637>; Tim Brown, *Change by Design: How Design Thinking Transforms Organizations*

*and Inspires Innovation* (New York: Harper Business, 2008).

iii Bettye Rose Connell et al., “The Principles of Universal Design, Version 2.0,” North Carolina State University, last modified April 1, 1997, [https://projects.ncsu.edu/design/cud/about\\_ud/udprinciplestext.htm](https://projects.ncsu.edu/design/cud/about_ud/udprinciplestext.htm); Wolfgang F. E. Preiser and Korydon H. Smith, eds., *Universal Design Handbook*, 2nd ed. (New York: McGraw-Hill, 2011); Edward Steinfeld and Beth Tauke, “Universal Designing,” in *Universal Design: 17 Ways of*

*Thinking and Teaching*, ed. Jon Christophersen (Oslo: Husbanken, 2002), 165–90; Simon L. Keates and John Clarkson, *Countering Design Exclusion: An Introduction to Inclusive Design* (London: Springer-Verlag, 2004); Edward Steinfeld and Jordana L. Maisel, *Universal Design: Creating Inclusive Environments* (Hoboken: John Wiley & Sons, 2012); Francesc Aragall and Jordi Montana, *Universal Design: The HUMBLE Method for User-Centered Business* (Aldershot, Gower Publishing, 2012); Hans Persson et al.,

(Continued on next page...)

**Table 1.** (Continued)

“Universal Design, Inclusive Design, Accessible Design, Design for All: Different Concepts – One Goal? On the Concept of Accessibility – Historical, Methodological and Philosophical Aspects,” *Universal Access in the Information Society* 14, no. 4 (2015): 505–26, DOI: <https://doi.org/10.1007/s10209-014-0358-z>.

iv Pelle Ehn, *Work-Oriented Design of Computer Artifacts* (Stockholm: The Swedish Centre for Working Life, 1988); Lucy Suchman, Foreword to *Participatory Design: Principles and Practices*, ed. Douglas Schuler and Aki Namioka (Hillsdale, NJ: Lawrence Erlbaum Associates, 1993), vii–ix; Susanne Bødker, “Scenarios in User-Centred Design – Setting the Stage for Reflection and Action,” in *Proceedings of the 32nd Annual Hawaii International Conference on Systems Sciences HICSS-32* (IEEE Computer Society, 1999): 1–11, DOI: <https://doi.org/10.1109/HICSS.1999.772892>; Elizabeth B.-N. Sanders, “From User-Centered to Participatory Design Approaches,” in *Design and the Social Sciences: Making Connection*, ed. Jorge Frascara (London: Taylor and Francis, 2003), 18–25; Marion Buchenau and Jane Fulton Suri, “Experience Prototyping,” in *DIS '00 Proceedings of the 3rd Conference on Designing Interactive Systems: Processes, Practices, Methods, and Techniques* (New York: ACM, 2000), 424–33, DOI: <https://doi.org/10.1145/347642.347802>;

Eva Brandt, “Designing Exploratory Design Games: A Framework for Participation in Participatory Design?,” in *PDC '06 Proceedings of the Ninth Conference on Participatory Design: Expanding Boundaries in Design-Volume 1* (New York: ACM, 2006), 57–66, DOI: <https://doi.org/10.1145/1147261.1147271>; Tuuli Mattelmäki, *Design Probes* (Aalto: University of Aalto, 2006), available at <http://urn.fi/URN:ISBN:951-558-212-1>; Elizabeth B.-N. Sanders and Pieter Jan Stappers, “Co-creation and the New Landscapes of Design,” *CoDesign* 4, no. 1 (2008): 5–18, DOI: <https://doi.org/10.1080/15710880701875068>.

v Leonieke, G. Zomerdijk and Christopher Voss, “Service Design for Experience-Centric Services,” *Journal of Service Research* 13, no. 1 (2009): 67–82, DOI: <https://doi.org/10.1177%2F1094670509351960>; Marc Stickdorn and Jakob Schneider, *This is Service Design Thinking: Basics, Tools, Cases* (Amsterdam: BIS Publishers, 2012); Vanessa Rodrigues, Johan Blomkvist, and Stefan Holmlid, “Perceived Action Potential: A Strong Concept in Development,” in *ServDes2018. Service Design Proof of Concept, Proceedings of the ServDes.2018 Conference*, ed. Anna Meroni, Ana María Ospina Medina, and Beatrice Villari (Linköping: Linköping University Electronic

Press, 2018), 1162–74, available at <http://www.ep.liu.se/ecp/article.asp?issue=150&article=094&volume>.

vi “Critical Design FAQ,” Anthony Dunne and Fiona Raby, accessed November 12, 2018 <http://www.dunneandraby.co.uk/content/bydandr/13/0>; Anthony Dunne and Fiona Raby, *Speculative Everything: Design, Fiction, and Social Dreaming* (Cambridge, MA: MIT Press, 2013); Martina Fineder and Thomas Geisler, “Design Criticism and Critical Design in the Writings of Victor Papanek (1923–1998),” *Journal of Design History* 23, no. 1 (2010): 99–106, DOI: <https://doi.org/10.1093/jdh/epp067>.

vii Victor Papanek, *Design for the Real World: Human Ecology and Social Change* (New York: Thames Hudson Ltd., 1985); Ezio Manzini, *Design, When Everybody Designs: An Introduction to Design for Social Innovation* (Cambridge, MA: MIT Press, 2015).

viii Paulina de los Reyes, “Intersektionella perspektiv på etniska relationer” [Cross-sectional perspectives on ethnic relations], in *Etnicitet. Perspektiv på Samhället* [Ethnicity. Perspective on society], ed. Mikael Hjerm and Abby Peterson (Malmö: Gleerups utbildning, 2007); Katarina Bonnevier, *Behind Straight Curtains: Towards a Queer Feminist Theory of Architecture* (Stockholm: KTH, 2007), available at <http://kth.diva-portal.org/smash/get/diva2:11685/FULLTEXT01.pdf>;

[kth.diva-portal.org/smash/get/diva2:11685/FULLTEXT01.pdf](http://kth.diva-portal.org/smash/get/diva2:11685/FULLTEXT01.pdf); Sara Ahmed, *The Promise of Happiness* (Durham: Duke University Press, 2010); Janne Bromseth and Frida Darj, eds., *Normkritisk Pedagogik: Makt, Lärande och Strategier för Förändring* [Norm-Critical Education: Power, Learning and Strategies for Change] (Uppsala: Centrum för genusvetenskap, 2010); Fanny Ambjörnsson, *Rosa: Den Farliga Färgen* [Pink: The Dangerous Color] (Stockholm: Ordfront, 2011); Fanny Ambjörnsson, *Vad är Queer?* [What is Queer?] 2nd ed. (Stockholm: Natur & Kultur, 2016); Catherine J. Nash and Kath Browne, *Queer Methods and Methodologies: Intersecting Queer Theories and Social Science* (Farnham: Ashgate Publishing, 2012); Rebecca Vinthagen and Lina Zavalia, *Normkreativ* [Norm Creativity] (Stockholm: MTM, 2017).

ix Malin Lindberg, Lena Forsberg, and Helena Karlberg, “Gendered Social Innovation – A Theoretical Lens for Analysing Structural Transformation in Organisations and Society,” *International Journal of Social Entrepreneurship and Innovation* 3, no. 6 (2015): 472–83, DOI: <https://doi.org/10.1504/IJSEI.2015.073540>; Per-Anders Hillgren and Louisa Szücs Johansson, *Designlab för Social Innovation* [Design Labs for Social Innovation] (Malmö: Mötesplats Social Innovation, 2015).

## Tactics to Address Social Aspects in Design

A strategy is a general plan of action to achieve an outcome, while tactics are the means, methods, or procedures used to attain an objective. A strategy can comprise several tactics.<sup>77</sup> The overall strategy of norm-creative innovation is to foster socially sustainable societies. In this context, norm-creative tactics are the various stances and procedures designers can use to work towards that objective. These 12 norm-creative innovation tactics illustrate various action paths, such as designing for marginalized people or for all, designing collaborative solutions, or designing with the intention to stir debate and draw attention to a certain phenomenon or issue. Tactics are starting points, similar to what some describe as lenses.<sup>78</sup> To differentiate and clarify the specific objectives of each norm-creative tactic, we named them after traditional hand tools (Table 2). The order that you deploy each

**Table 2. Outline of norm-creative tactics and their objectives.**

Tactic	Objectives	Inspired by
<i>The Hole Punch</i>	Addresses social norms of exclusion by influencing public opinion and increasing awareness through communication/storytelling of negative user experiences.	<ul style="list-style-type: none"> <li>• Critical design</li> </ul>
<i>The Sledgehammer</i>	Opposes social norms of exclusion by performing user experiences of marginalization, exclusion, or discrimination.	<ul style="list-style-type: none"> <li>• Critical design</li> </ul>
<i>The Plastering Trowel</i>	Counteracts social norms of exclusion by creating solutions that fit and work for as many user groups' needs and preferences as possible.	<ul style="list-style-type: none"> <li>• Human-centered design</li> <li>• Universal design</li> <li>• Design for all</li> </ul>
<i>The Precision Screwdriver</i>	Corrects social norms of exclusion by addressing the specific needs of marginalized groups through the design outcome.	<ul style="list-style-type: none"> <li>• Human-centered design</li> <li>• Inclusive design</li> </ul>
<i>The Twirl Whisk</i>	Thwarts social norms of exclusion by tweaking the problematic issue into a new form or function.	<ul style="list-style-type: none"> <li>• Human-centered design</li> </ul>
<i>The Camouflage Net</i>	Outsmarts social norms of exclusion by packaging the new in familiar and recognizable ways.	<ul style="list-style-type: none"> <li>• Human-centered design</li> </ul>
<i>The Adjustable Wrench</i>	Neutralizes social norms of exclusion by creating flexible solutions that can be expanded, transformed, or otherwise reconfigured by the users themselves.	<ul style="list-style-type: none"> <li>• Collaborative design</li> <li>• Service design</li> </ul>
<i>The Welding Torch</i>	Annuls social norms of exclusion by creating collective and shared systems or service solutions.	<ul style="list-style-type: none"> <li>• Collaborative design</li> <li>• Service design</li> </ul>
<i>The Lever Bar</i>	Challenges social norms of exclusion by building on affirmative actions and reversed privileges for marginalized groups.	<ul style="list-style-type: none"> <li>• Human-centered design</li> <li>• Inclusive design</li> </ul>
<i>The Eraser</i>	Counteracts social norms of exclusion by obliterating "bad designs" and starting from scratch.	<ul style="list-style-type: none"> <li>• Norm-critical innovation</li> </ul>
<i>The Grater</i>	Works against social norms of exclusion by creating objects that challenge exclusion through their form and/or function.	<ul style="list-style-type: none"> <li>• Critical design</li> </ul>
<i>The Garden Trowel</i>	Opposes social norms of exclusion by creating solutions that transcend norms and categorizations.	<ul style="list-style-type: none"> <li>• Critical design</li> </ul>

tactic is not important, in our estimation. The general idea is to be aware that different objectives will point the design process to different outcomes. For this reason, we propose that you explore several different tactics to ensure that the problem situation and context from a variety of perspectives and in light of a more comprehensive set of concerns. Table 2 contains a brief outline of norm-creative tactics and their objectives.<sup>79</sup>

Again, some of these norm-creative tactics draw inspiration from existing tools and methods. Examples are *the Sledgehammer* and *the Grater*, both of which are derived from critical design. Similar to critical design, the rationale behind these is to draw attention to particular phenomena, not resolve them. The Sledgehammer tactic achieves this via creating a physical experience, and the Grater by materializing artifacts that draw attention to specific problems. In our experience, such

69 Forlano, "Posthumanism and Design."

70 Mariana Alves Silva and Karin Ehrnberger.

71 Merlijn Kouprie and Froukje Sleeswijk Visser, "A Framework for Empathy in Design: Stepping into and out of the User's Life," *Journal of Engineering Design* 20, no. 5 (2009): 437–48, DOI: <https://doi.org/10.1080/09544820902875033>.

72 Alves Silva et al., NOVA.

73 Matthew B. Miles and A. Michael Huberman, *Qualitative Data Analysis: An Expanded Sourcebook* (Thousand Oaks: Sage Publication, 1994).

74 Erik Lindhult, "Att Bedöma och Uppnä Kvalitet i Interaktiv Forskning" [Assessing and Achieving Quality in Interactive Research], in *Gemensamt Kunskapande—Den Interaktiva Forskningens Praktik* [Common Knowledge—the Practice of Interactive Research], ed. Bengt Johannisson, Ewa Gunnarsson, and Torbjorn Stjernberg (Växjö: Växjö University Press, 2008), 333–48.

75 Brian McCormack, "The Problem with Problem Solving," *Issues in Integrative Studies* 27, no. 19 (2009): 17–34, available at <http://hdl.handle.net/10323/4446>.

76 Kees Dorst, "Design Problems and Design Paradoxes," *Design Issues* 22, no. 3 (2006): 4–17, DOI: <https://doi.org/10.1162/desi.2006.22.3.4>.

77 Diffen, s.v., "strategy vs. tactic," accessed November 12, 2018, [https://www.diffen.com/difference/Strategy\\_vs\\_Tactic](https://www.diffen.com/difference/Strategy_vs_Tactic).

78 John Law, *After Method: Mess in Social Science Research* (London: Routledge, 2004).

79 For a complete description of each tactic, see Alves Silva et al., NOVA.

80 "The Andro Chair," *Androstolen*, accessed November 12, 2018, <http://www.androstolen.se>.

81 Cristine Sundbom, Karin Ehrnberger, Anne-Christine Hertz, and Emma Börjesson, "The Andro-Chair: Designing the Unthinkable—Men's Right to Women's Experiences in Gynaecology," *Nordes 2015: Design Ecologies*, no. 6 (2015): 513–15, available at <http://nordes.org/opj/index.php/n13/article/view/399>.

82 *Ibid.*, 513–15.

tactics are valuable when combined with other approaches, which enables participants to explore the initial problem situation from different perspectives. What arises may then be taken further down a variety of avenues with help of other tactics, or by continuing on the critical design path.

In the following sections we present some of the ways we have implemented norm-creative tactics. Each case reports activity from a Vinnova design project constellation that one of the authors was working with. To make the tactics' impact more readily discernable, we classify them under three headings: radical, inclusive, and social. This classification further highlights their objectives and the intended scope of their impact.

### Exploring Radical Norm-Creative Tactics

This exploration took place in 2012. It involved designers Karin Ehrnberger and Cristine Sundbom in cooperation with Emma Börjesson and Anne-Christine Hertz from the Health Technology Center, Halland. The project was conducted as part of a research initiative at the Health and Technology Center, to more closely examine whose needs are given priority and whose are neglected in health-related technology and innovation development. The project portrays the use of *radical* norm-creative tactics. Its objective was to draw attention to issues or marginalized users through the design output: the *Andro Chair*, "designed for men, based on women's experiences."<sup>80</sup> Andro refers to andrology, the discipline that deals with male health, especially related to the male reproductive system – in other words, the male equivalent to gynecology.

The problem setting for this project was this: some women experience discomfort before and during pelvic examinations, sometimes so much that they completely avoid them. The traditional gynecological examination chair has the user lay on her back, with her feet placed in stirrups that separate her legs and expose her genital area. The chair is designed to suit the needs of the gynecologist, not

the patient. Through interviews with women, men, midwives, gynecologists, andrologists, urologists, and nurses, the project team learned that some women perceive the chair as cold, ommissive, and degrading.<sup>81</sup>

Instead of designing a new gynecological chair, the aim was to challenge and illustrate the problem situation by changing the user from a woman to a man. In this case, the participants were probing the *Sledgehammer* tactic: performing experiences of social exclusion and power dynamics – and in this case, placing men in the chair instead of women. After this, they used the *Grater* tactic to acknowledge what had gone unnoticed (female discomfort). The reason for this is twofold: to unveil the hidden norms and acceptances based on gender hierarchies that affect design, and to use design as a tool not only to solve problems, but also to facilitate discussion beyond traditional academic discourse.<sup>82</sup>

The result is the Andro Chair (Figure 2): the male patient lies on his stomach, legs spread and bent in a submissive kneeling posture, his back turned, so the doctor can easily access the prostate from behind (Figure 3). Initial reactions from some men signaled that they would not accept examination in

Figure 2 The Andro Chair. Illustrating the Andro Chair. Photo by Anders Andersson. Copyright © 2018 Androstolen/Health Technology Center Halland.





**Figure 3** The choreographer and actor Carl Olof Berg demonstrating the use of the Andro Chair. Copyright © 2018 Health Technology Center Halland.

this manner at all, questioning why anyone would design such bad solution. Even though it creates the ideal posture for prostate examination, just like its female cousin the chair creates an ommissive and degrading patient experience. Their reactions indicate that design can contribute to making invisible social norms visible when it “reverses” the norms of the design. The Andro Chair received great attention and elicited quite strong reactions, illustrating that norm-creative *radical* tactics have real potential to create more profound understandings and challenge “what is” through design output. They invite participants to counteract social norms – that they can now grasp clearly – through innovatively thinking new.

### **Exploring Inclusive Norm-Creative Tactics**

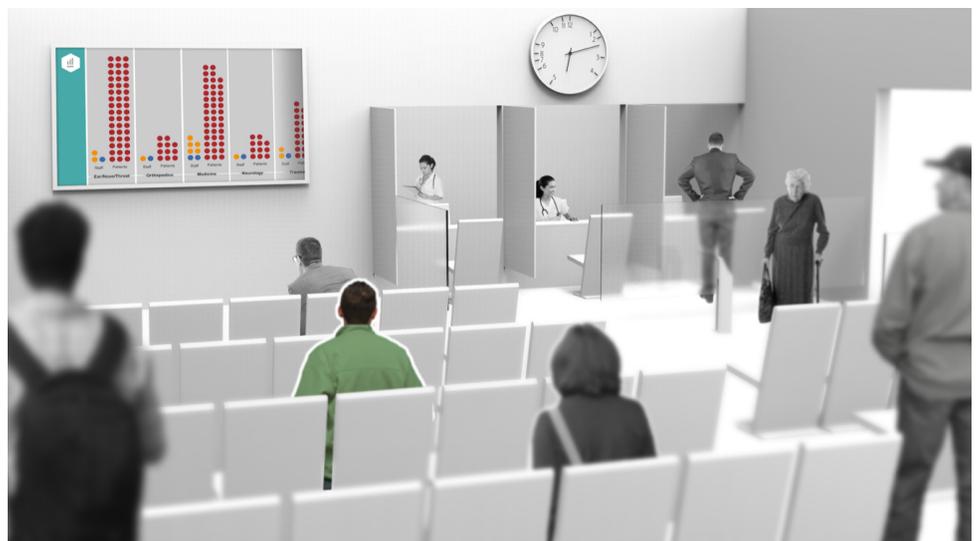
This probe took place in 2014 and involved designers Madlene Lindström and Marcus Heneen from Veryday in collaboration with design researcher Åsa Wikberg Nilsson and Karolinska Hospital (Solna, Sweden). The design process they used exemplifies the use of *inclusive* norm-creative tactics, which aim to foster solutions that fit and work for as many users as possible. The project was set in Karolinska hospital Emergency Department. Recent hospital statistics had indicated that female patients on average waited longer than males for treatment in the ED. It seemed that generally more active and persistent patients got faster treatment – more often this meant men.

Instead of exploring the stated problem in terms of opposing categories of male and female patients, the constellation of team members looked for ways to calm the active patients and support and encourage passive ones. The main tactic implemented in this project was the *Plastering Trowel*, which is intended to foster solutions that work for as many people as possible through a design process that focuses on user experience, interaction, and visual communications that do not contribute to unnecessary constraints, stereotypical representations, or exclusions in the user situation. In addition, the *Hole Punch*-tactic, with its focus on increasing awareness of norms – in this case through a re-framing of participant’s mental model of what the actual problem was – was used later on. Finally, the *Welding Torch* tactic then reinforced the social context as part of the solution and enhanced the team’s focus on creating both a good working environment *and* a positive patient experience.

**Figure 4** An illustration of the digital app created for Karolinska patients arriving at the ED. Copyright © 2018 Veryday.



**Figure 5** An illustration of the visual communication device. Copyright © 2018 Veryday.



This process resulted firstly in the design of a digital artifact that provides patients the ability to describe their symptoms in a neutral way upon their arrival to the ED (Figure 4). A second outcome was a digital communication display that visualizes information regarding wait times, up to date information regarding available hospital staff, and other details (Figure 5). The *inclusive* norm-creative tactics embraced several perspectives and user groups at once, which resulted in a solution for patient intake that was neutral; a solution for patients that provided clearly visualized, easy to understand information; plus a solution for hospital staff that provided patient details in comparable ways. These results seem promising – both in terms of how inclusive tactics can embrace and address several users’ needs at once, and how well they challenged the framing of the original problem situation as gender based.

### **Exploring Social Norm-Creative Tactics**

The third experiment took place in 2015, and involved design researcher and city developer Marcus Jahnke, service designer Julia Jonasson, and residents from a low-income residential area in Sweden. This brief case study, the Waste Service project, exemplifies the objectives of *social* norm-creative tactics.

The problem was this: established garbage and waste management solutions in



Figure 6 An illustration of the Waste Service System App. Copyright © 2015 Albin Andersson.

the area were situated in locations that were not particularly easy to access, especially if residents did not have access to a car. That localization exposed a middle-class social norm: the expectation that everyone has a vehicle. In the city where the study took place, the inhabitants of one low-income residential area had problems getting rid of bulky and hazardous waste, which had to be transported to a waste station outside the city. Many of the area's residents were immigrants, which falsely led some to assume that this was why they did not dispose of their waste properly. Nevertheless, the present waste system was considered neutral.

The main tactic implemented in this project was the *Plastering Trowel*, which aims to create solutions that fit the needs of many. The reason the team chose to employ this tactic was that it meets needs without categorizing user groups, and avoids stereotypical expressions in its solutions. Through this, the original problem situation was challenged. The team rejected the rationale that ethnic background was the root of the problem, and instead chose to explain the current waste management system as performing the social norm that “everyone owns a car.” The team constellation deployed the *Welding Torch* tactic, and utilized its co-creation methods to arrive at socially inclusive waste management solutions. They utilized the *Lever Bar* tactic to return to the original problem, more clearly isolate its implicit social norms and better focus on the marginalized groups. These tactics were implemented iteratively, which enabled all to consider the problem situation through different lenses.

The outcomes included a new service for the removal of bulky waste and unwanted furniture that users can request through a digital app (Figure 6). This was also a solution grounded in social entrepreneurship: residents would be able to work for the service, and the municipality could support the project by providing employees with electric mopeds they can use to pick up unwanted items, take them for repair, or transport them to waste stations. This kind of social innovation challenges another social norm in society – that major actors are the only ones that can contribute to waste system management.

All these case studies included a variety of tactics in their design process. Project participants noted that typically they used one main tactic supported by several secondary tactics. These cases demonstrate that radical, inclusive, and social norm-creative perspectives can be implemented in iterative cycles of design space exploration. The tactics outline action possibilities that feed into discussions

among users and clients, raising awareness of the numerous alternatives and social consequences of taking certain actions.

## Discussion

This paper has outlined objectives for norm-creative innovation tactics and demonstrated some of the effects and impacts of taking such stances into account. We believe that the issues that norm-creative activity brings to light deserve more attention from society in general and the practice of design in particular – especially given our need to ensure sustainable societies going forward. We would like to emphasize that the objective of norm-creative innovation tactics is not to create neutral design solutions, whatever those might be. Rather, it involves a mindset of explicitly placing diverse user experiences at the core of the design process and, through the lenses of tactics, exploring several possibilities of humanizing a particular setting or phenomena.

There is an interesting dynamic in created by norm-creative tactics that would benefit from further reflection. They serve to *augment the design process*, meaning that the initial exploration of the design situation is expanded by focusing on one tactic, and then another, and so forth. Combining them helps shape an inquiry based on different stances and contributes to an iterative exploratory approach. This, in turn, *serves designers*, by challenging them with discursive activity and asking them to re-frame their understandings and preconceptions of what is. This is why norm-creative tactics contribute to innovative, inclusive, sustainable possible futures which ought to be. Using several tactics also *serves the design outcome*; iterative tactical explorations lead to robust results. The design team has been able to explore and question what each solution will potentially afford or contribute to society. These case studies demonstrate that the tools designers personally introduce into the design process can influence the results in myriad ways.

As previously noted, the tactics outlined in this paper draw inspiration from several existing design approaches which have been deconstructed and tweaked to adhere to a norm-critical stance. The tactics we see as lenses that focus design team's attention on specific objectives. Our contribution, the toolkit, provides a novel array of tactics to approach a design situation. To our knowledge, such a wide-ranging collection of different design approaches does not exist, except within the constraints of universal design or critical design, for example.

This study demonstrates that norm-creative innovation tactics can break down perceived realities. It has shed some light on certain deficiencies and contradictions in design, as well as flaws in some solutions that we propose derives from ignorance of social norms. Design discourses operate within and contribute to what society recognizes as important and hence contribute to the performance of social norms in design outcomes. The tactics point out overlooked user issues or other phenomena that deserve recognition and contribute to more mindful design space explorations. Thus, through more probing and inquiry, the outcome of this study may lead to the development of a “we-methodology,” beyond the “I-methodology,” that values and requires collaborative inquiry and seeks necessarily inclusive solutions.

In this paper, we have described that to confront the issue of marginalization in the design space requires a change within design practice itself. We submit here that norm-creative innovation tactics are a way to support design space exploration, clarify the focus of attention, prescribe different interpretations of the problem space and what the urgent issues are, and suggest procedures for action. This change of approach can contribute to truly novel solutions. Our hope is that this brief outline of the tactics and their uses will contribute to designers'

understanding how they can implement these changes in their own practices, and that this, in the long-run, will contribute to social sustainability through design.

## **Conclusion**

Using norm-creative tactics is one promising way to illuminate and support empathic understandings of social norms that influence design. The results we have garnered demonstrate that these tactics contribute to shifting understandings of the initial phenomena and reframing understandings of use, users, the problem situation, and the solution. They foster new approaches to a problem situation based on several stances and action possibilities – a re-framing that can contribute to innovative outputs. Some design discourses inadequately address and challenge our notions of user and/or problem, and the result is a disharmony performed by products, services, and environments that marginalizes or excludes some users. The tactics we propose can serve to augment existing design disciplines, practices, and approaches in three critical ways. Firstly, they contribute to iterative explorations of several stances and action possibilities. Secondly, they promote shifts of awareness through increasing understanding of diverse user experiences and social exclusion. Thirdly, they contribute both to novel explorations about what is and what might be, increasing the scope of innovative prospection. Adequately challenging marginalized problems in a design space means changing how we practice design itself. We must learn to automatically include new, more inclusive ways of thinking and acting that support long-term social sustainability through design.

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