Cooperation, Curiosity and Creativity as Virtues in Participatory Design

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ABSTRACT
In this essay, I explore how virtue ethics can help to better understand design processes. Three virtues are discussed that people need in order to become participatory design *virtuosos*: cooperation, curiosity and creativity.

Keywords
Cooperation, curiosity, creativity, participatory design, virtue ethics.

INTRODUCTION
Where do new ideas come from and how do we turn ideas into new products or services? In this essay, I will explore how virtue ethics can help to understand creative design processes. More specifically, I will discuss three virtues that are needed for participatory design (PD)—referring in particular to 'classic' Scandinavian PD [3; 10; 14]—or, put differently: I will discuss three dispositions that participants in PD need to cultivate in order to become PD *virtuosos*.

VIRTUE ETHICS
Virtue ethics is one of the oldest Western ethical schools, dating back to Aristotle. It is rather different from two other dominant schools of ethical thought: deontological ethics, which is based on an understanding of one's duties and which focuses on finding and applying moral rules, based on these duties, and consequentialist ethics, which is based on evaluating the positive and negative consequences of one's actions and which aims to maximize the positive consequences. Virtue ethics, in contrast, emphasizes one's character and disposition, one's thoughts and feelings and one's choices and actions in specific situations. Virtue ethics focuses on values and emotions rather than on norms and ratio, and on concrete examples rather than on abstract rules. Virtue ethics is concerned with enabling people to flourish: to increase people's well-being (eudaimonia) and to create a just society (dikaiosune). In recent decades, virtue ethics has become increasingly popular, fuelled, for example, by a discontent with ethics based on abstract rules (like some types of deontological ethics) or reasoning (like some types of consequentialist ethics). Furthermore, the publication of MacIntyre's *After Virtue* [15] helped to put virtue ethics on the academic agenda, and a growing general interest for 'art of living', which is related to virtue ethics, also helped to popularize virtue ethics.

The core of virtue ethics can be summarized as: *to do well what one is good at.* Virtue ethics is teleological, that is, it starts with an ultimate goal (telos): the goal for people to flourish. A knife is a virtuous knife if it does well what a knife is supposed to do: to cut. Likewise, a person is a virtuous person if he or she does well what a person is supposed to do: to flourish. Virtues can be defined as 'dispositions not only to act in particular ways, but also to feel in particular ways. To act virtuously … is to act from inclination formed by the cultivation of virtues' [15:149]. A virtue is like a disposition; it is based on previous choices and actions and it helps to direct future choices and actions. Virtue ethics is not concerned with countering desires, but with cultivating well-formed types of desires [15:160].

In virtue ethics, one aims at finding the appropriate mean or middle for a specific virtue, between deficiency and excess, given the particular circumstances. This is often illustrated with the example of courage, which is the mean between cowardice and recklessness. If you see a man beating up another man in the street, it would be cowardice to do nothing. But it would be reckless to boldly interfere. Unless you are able to handle such a situation; then interfering would be appropriate and courageous. For me, however, it would be appropriate courageous to attract the attention of others and to call the police. Finding this mean 'requires therefore a capacity to judge and to do the right thing in the right place at the right time in the right way. The exercise of such judgment is not a routinizable application of rules' [15:150]. One can find this mean by using practical wisdom (phronesis). It is critical to stress that this mean has nothing to do with mediocrity, but is related to excellence (arete), that is, with doing well what one is good at, what one is dispositioned to do. This

DESIRE '11 conference: Creativity and Innovation in Design, 19-21 Oct 2011, Eindhoven, The Netherlands.

meaning resonates in the word *virtuoso*, which is used to describe the practices of people who do very well what they are good at.

One can learn to cultivate virtues, to think and feel and act in virtuous ways, by trying-out virtuous behaviour or by looking at people that behave virtuously. Using practical wisdom, one can recognize or imagine what a virtuous person does or would do in a specific situation. Virtue ethics stresses one's concrete practices (praxis) and experiences of well-being that are implicit in that practice, rather than seeing pleasure as something that results from a practice. In virtue ethics, 'to live happily' means to live an active, meaningful and fulfilled life—to flourish.

PARTICIPATORY DESIGN

Virtue ethics has several qualities that will probably appeal to designers and to participants n PD projects. First, virtue ethics focuses on concrete and situated actions from the perspective of the moral agent herself or himself and is thus able to offer an insider perspective, that is, the perspective of participants in a PD project (which is different from many ethical traditions that adopt outsider perspectives). Second, virtue ethics leaves open a range of possibilities because it offers no fixed rules (like other ethical traditions tend to do), only that one should attempt to find out what a virtuous person would do in this or that situation. Third, virtue ethics is concerned with cultivating virtues, that is, with improving one's competences, one's ways of thinking, feeling and one's practices, which will appeal to people that want to bring about positive change.

An example of applying virtue ethics to design comes from Harris [11], who proposed that virtues such as discretion, judgment, inner motivation and commitment can help designers to become sensitivity to risk, to become aware of the social context, to develop respect for nature, and to be committed to the public good.

Turning to the context of PD, I would like to propose that the following three virtues are most relevant for PD: *cooperation*, *curiosity* and *creativity*. Below, I will discuss these virtues. For each virtue, I will discuss its roots in PD and the problems associated to finding an appropriate mean or middle.

COOPERATION

In PD, cooperation has typically been conceptualized as cooperation between designers of information systems and users of these systems. The importance and difficulties of cooperation have been key topics in PD. Kensing and Blomberg [12], for example, discussed different forms of cooperation between designers and workers—ranging from limited forms of cooperation, in which workers are only asked to provide information on their work and have little or no control over the design process or its outcomes, to more elaborate forms of cooperation, in which workers are active during analysis, evaluation, design and implementation phases. Another critical topic in PD is the difficulty of cooperation between workers and employers. Bjerknes and Bratteteig [2] discussed tensions and conflicts between workers and employers, and critically remarked that PD should take into account the harsher realities of 'the larger organisational context in which power is enacted', otherwise PD 'becomes a pleasant experiment for those who participated—but the democratic ideals turn into an illusion.'

Many approaches in PD, such as mutual learning (see: Curiosity) and cooperative prototyping (see: Creativity), are ways to promote cooperation between designers, users, workers, employers and other stakeholders. Moreover, they are ways of attempting to find an appropriate middle—to become cooperation *virtuosos*.

Finding an appropriate middle can be associated with the notion of a 'third space', used by Muller [16] to refer to attempts to create 'in-between' spaces in which designers and users can meet and cooperate. Such 'third spaces' belong neither to the designers nor to the users, and can therefore help people to come out of their comfort zones and engage in 'polyvocal (multi-voiced) dialogues' so that they can learn from each other and jointly create innovative ideas—so that they 'learn something that [they] didn't know [they] needed to know!'

Another vision on cooperation in PD is from Bratteig and Stolterman [6], who compare cooperation in a project team with cooperation in a jazz group. They focus on ways to enable people with different skills and perspectives to cooperate, to learn from each other and to create innovations: 'In a jazz group, different instruments with different tonal characteristics form a totality unattainable with only one kind of instrument. The diversity, the clashes between the sounds, the emergent sounds, all form the totality which we experience as music.' Furthermore, they advocated not organizing project teams in ways that inhibit cooperation and creativity, which would happen, for example when one emphasizes control mechanisms and aims minimization of risks: 'Groups are unpredictable risky, and seemingly irrational, but this is precisely why design projects are carried out by groups!'

In PD, a cooperation virtuoso aims to promote cooperation between diverse people—which will enable them to engage in curiosity and creativity, see below—and does this with patience and care for group dynamics, aiming for a middle between attempting too hard to make people cooperate, for example, by top-down forcing cooperation, and neglecting to promote cooperation, for example, by ignoring the subtleties of group dynamics.

CURIOSITY

If I had too much curiosity, I would, for example, approach a person in an interview merely as a means to satisfy my own curiosity, without respect for her or him, and ask impertinent questions. My concern for my own curiosity would then be larger than my concern for the other person. On the other hand, if I had too little curiosity, I would, for example, approach the other person indifferently, and

experience the interview as boring. I would stay within my own comfort zone and would not being touched or moved.

In PD, a curiosity virtuoso is open towards other people and their experiences, and is able to empathize with other people, especially during the process of exploring and articulating the problem. Key approaches to curiosity in PD are mutual learning and ethnography.

The concept of mutual learning was developed during the UTOPIA project, in which system developers cooperated with graphic workers to develop and evaluate information systems [5]. In this project, the developers had all sorts of meetings with the graphic workers in which they talked about working processes and about technology: the developers learned from the graphic workers' about their practical ways of working, their skills and the tools they use; and the workers learned from the developers about new technologies, for example, about novel displays and printers. Furthermore, they jointly developed and evaluated mock-ups and prototypes (see: Creativity). Mutual learning was also organized in the Florence project, in which system developers cooperated with nurses [1]. During the project, developers observed nurses at work for some months. One of the things they learned from each other is that they had different perspectives on information and communication: the developers first focused on the information that was written on cards, until they learned that the nurses saw these cards mainly as ways to organize communication and cooperation; and when the nurses found this out, they learned about the developers' ways of thinking in terms of making information explicit. Mutual learning is a two-way process—which is quite different from, for example, designers who go to users in order to obtain information from them as input for their design process, or from users who want to hear from the designers what the system will do, so they can evaluate it. With mutual learning, people are curious about other people, their experiences, knowledge and ideas, and jointly develop an understanding of the situation, of the problems and of possible solutions.

All sorts of observations are carried out in PD, mainly drawing from the tradition of ethnography [7; 8]. There are several key principles for ethnography which help one to focus on other people (rather than focusing on one's own ideas about these people): observing people in their natural settings (rather than in a lab); looking at situations holistically (rather than focusing on particular aspects); describing what people actually do (rather than what people ought to do, according to, for example, work procedures), adopting other people's perspectives (rather than staying with one's own perspective) [4].

In PD, one needs the virtue of cooperative curiosity in order to empathize with other people with different perspectives and roles and to engage in mutual learning, so that curiosity occurs in-between people—rather that within one person, for example, within the researcher who is more concerned with his or her own curiosity than with the other people and their experiences—so that curiosity occurs 'in the middle'.

CREATIVITY

If I had too much creativity, I would, for example, follow my own creative impulses and become preoccupied with my own ideas and ignore contributions from others. Or I would diverge too much and let my creativity go in all directions without converging. On the other hand, if I had too little creativity, I would, for example, stay 'within the box' or converge too much and diverge too little. Or I would hamper the creative process, for example, by making inappropriate objections to creative ideas.

In PD, a creativity virtuoso is open towards other people and their ideas and is able to productively combine different ideas, especially during the process of generating and trying-out possible solutions. Workshops and cooperative prototyping are key approaches to creativity in PD.

At the start of a project, workshops are typically organized in order to discuss visions and to generate ideas, and further down a project, people typically start building and evaluating all sort of prototypes. (Of course, there can also be workshops later on in a project or there can be prototypes at the start of a project.) An example of organizing workshops in the context of PD, are Future Workshops [13], in which, researchers, developers, users and managers collaborate in process with three phases: Critique, in which they brainstorm about their current situations and about problems they experience; Fantasy, in which the identified problems are inverted into positive visions for improving situations; and Implementation, in which they develop these visions into plans for concrete and specific actions in the immediate or short-term future.

Another key approach is the collaborative creation and evaluation of mock-ups and prototypes. An example comes from the UTOPIA project [5;9] in which mock-ups—which can be as simple as an empty cardboard box, with the text "desk top laser printer" written on it, on somebody's desk—were made and discussed. Using mock-ups proved to be especially useful in the early stages of a design process because it offers a range of benefits: 'they encourage "hands-on experience," hence user involvement beyond the detached reflection that traditional systems descriptions allow; they are understandable, hence thee is no confusion between the simulation and the "real thing," and everybody has the competence to modify them; they are cheap, hence many experiments can be conducted without big investments in equipment, commitment, time, and other resources; and last but not least, they are fun to work with.' [9:172-3] Compared to traditional ways of describing work processes and information systems' functionality in words, the use of mock-up allowed 'the graphical workers to articulate their demands and wishes in a concrete way … Even the first extremely simple "paper

and wood" mock-up allowed the graphical workers to play a very active role in the design work.' [5:265]

In PD, one needs the virtue of cooperative creativity in order to enable people with different perspectives and roles to visualize and materialize ideas, and to try-out and evaluate these ideas, so that creativity occurs between people and in-between people—rather than within one person, for example, within the designer who is more concerned with his or her own creative ideas than with other people and their ideas—so that creativity occurs 'in the middle'.

CONCLUSION

I began this essay by asking: Where do new ideas come from and how do we turn ideas into new products or services? Drawing from the tradition of virtue ethics and focusing on the context of participatory design (PD), I would like to propose the following tentative answers:

When PD participants cultivate the virtue of curiosity they are able to empathize with others and to engage in mutual learning, so that they can jointly generate new ideas. And when they cultivate the virtue of creativity they are able to visualize and materialize ideas, so that they can jointly develop new products and services. Moreover, they need to cultivate the virtue of cooperation—in particular as an integral part of cooperative curiosity and of cooperative creativity—in order to become PD *virtuosos*.

This essay is a first move in an exploration of the potential of virtue ethics to better understand PD. A next step would be an empirical study. I plan to conduct observation and interviews in one PD project (*WeCare*) to study examples of virtuous practices, such as: the project manager's way of promoting collective walks outside during busy meetings, in order to promote cooperation; one team member's way of reminding the other team members to talk with respect about users, in order to promote curiosity rather than stereotyping; and another team member's practice of promoting creativity by mediating calmly between other team members that quarrel about technology and the conflicts that occur between quality, lead time and budgets.

ACKNOWLEDGMENTS

This essay was written within the context of the *WeCare* project, which is partly funded by the *Ambient Assisted Living* (AAL) programme.

REFERENCES

1. Bjerknes, G. and Bratteteig, T., Florence in Wonderland: System development with nurses, in *Computers and democracy: A Scandinavian challenge*, G. Bjerknes, P. Ehn, and M. Kyng (eds.), Avebury, Aldershot, 1987, pp. 279-296.
2. Bjerknes, G. and Bratteteig, T., User participation and democracy: A discussion of Scandinavian research on system development, *Scandinavian Journal of Information Systems* 7, 1, pp. 73-98, 1995.
3. Bjerknes, G., Ehn, P., and Kyng, M. (eds.), *Computers and democracy: A Scandinavian challenge*, Avebury, Aldershot, 1989.
4. Blomberg, J., Giacomi, J., Mosher, A., and Swenton-Hall, P., Ethnographic field methods and their relation to design, in *Participatory design: Principles and practices*, D. Schuler and A. Namioka (eds.), Lawrence Erlbaum, Hillsdale, NJ, 1993, pp. 123-155.
5. Bødker, S., Ehn, P., Kammersgaard, J., Kyng, M., and Sundblad, Y., A UTOPIAN experience: On design of powerful computer-based tools for skilled graphic workers, in *Computers and democracy: A Scandinavian challenge*, G. Bjerknes, P. Ehn, and M. Kyng (eds.), Avebury, Aldershot, 1987, pp. 251-278.
6. Bratteteig, T. and Stolterman, E., Design in groups--and all that jazz, in *Computers and design in context*, M. Kyng and L. Mathiassen (eds.), MIT Press, Cambridge, MA, 1997, pp. 289-315.
7. Button, G., The ethnographic tradition and design, *Design Studies* 21, 4, pp. 319-332, 2000.
8. Crabtree, A., *Designing Collaborative Systems: A Practical Guide to Ethnography*, Springer-Verlag, London, 2003.
9. Ehn, P. and Kyng, M., Cardboard computers: Mocking-it-up or hands-on the future, in *Design at work: Cooperative design of computer systems*, J. Greenbaum and M. Kyng (eds.), Lawrence Erlbaum Associates, Hillsdale, NJ, 1991, pp. 169-196.
10. Greenbaum, J. and Kyng, M. (eds.), *Design at work: Cooperative design of computer systems*, Lawrence Erlbaum Associates, Hillsdale, NJ, 1991.
11. Harris, C. E., The good engineer: Giving virtue its due in engineering ethics, *Science and Engineering Ethics* 14, pp. 153-164, 2008.
12. Kensing, F. and Blomberg, J., Participatory design: Issues and concerns, *Computer Supported Cooperative Work* 7, 3-4, pp. 167-185, 1998.
13. Kensing, F. and Madsen, K. H., Generating visions: Future Workshops and metaphorical design, in *Design at work: Cooperative design of computer systems*, J. Greenbaum and M. Kyng, Eds. Lawrence Erlbaum Associates, Hillsdale, NJ, 1991, pp. 155-168.
14. Kyng, M. and Mathiassen, L. (eds), *Computers and design in context*, MIT Press, Cambridge, MA, 1997.
15. MacIntyre, A., *After virtue* (3rd ed.), Duckworth, London, 2007.
16. Muller, M. J., Participatory Design: The third space in HCI, in *The human-computer interaction handbook*, J. Jacko and A. Sears (eds.), Lawrence Erlbaum Associates, Mahwah, NJ, 2002, pp. 1051-106.