

## **Introduction: The Capability Approach and Innovation/Technology/Design**

**Ilse Oosterlaken ([e.t.oosterlaken@tudelft.nl](mailto:e.t.oosterlaken@tudelft.nl))  
3TU.Centre for Ethics and Technology / TU Delft**

In her latest book Martha Nussbaum (2011) contrasts the ‘human development & capability approach’ with a simplistic view of development as GNP growth. A view that seems equally simplistic and flawed is one that equals technological modernisation to development. In their pamphlet *The Slow Race; Making Technology Work for the Poor* Melissa Leach and Ian Scoones (2006) provide a powerful critique and describe an alternative discourse on this topic – one that takes seriously local realities, people’s divergent needs and values, and bottom-up participation. This pamphlet has been followed up by an interactive project leading to *A New Manifesto* (STEPS Centre, 2010), arguing that discussions on innovation should to a larger extent address 3D’s: Direction – what is innovation for, what do we aim to achieve?; Diversity – how can we keep open a diversity of innovation pathways, suitable to different contexts?; and Distribution – how do we distribute the benefits and risks? Food for thought at the 2011 HDCA conference in The Hague, which had ‘innovation, development & human capabilities’<sup>1</sup> as its theme and Melissa Leach as one of the keynote speakers.

Tens of papers and posters in their own way applied the capability approach (CA) to innovation, technology and design –as such, the conference illustrated very well that attention or enthusiasm for this topic has steeply increased. So many publications have appeared in the past couple of years that it starts to be hard to keep track. The bibliography that I am currently compiling contains so far 79 publications that substantively engage with both the CA and innovation/technology/design, the oldest dating from 1997 but 53% originating from 2010 or later and 91% from 2006 or later. To get an impression of work being done in this area, good places to start are the special issues on the CA by the journals *Ethics and Information Technology* (2010; 13:2) and *Information Technology for Development* (2012; 18:1), and on HD more broadly by *Information Technologies & International Development* (2010; special issue in vol. 6) – including a reflection on ICT by Amartya Sen himself. The first specialized books on this topic will also appear this year; Dorothea Kleine wrote one on ‘ICT for Development’ (ICT4D) and the CA, and Jeroen van den Hoven and I edited one on the CA, technology and design more broadly – including an introductory chapter with an extensive literature review.

Most work in the broad area of the CA and innovation/technology/design, to the exception of the above, focuses on ICT, and on ICT4D more in particular.<sup>2</sup> On the one hand this may be explained by the fact that many ICTs allow a lot of different uses. Because of this, ICT4D interventions may be seen to provide a paradigm case of expanding a range of human capabilities simultaneously, while leaving the choice to realize specific functionings to the empowered user (Kleine, 2011). On the other hand the ideas and concepts of the CA have proved useful for criticizing ‘mainstream’ ICT4D practice, which has been said to remain ‘heavily focused on economic growth, which is too narrow to capture the impacts of ICT’

---

<sup>1</sup> [www.ethicsandtechnology.eu/hdca](http://www.ethicsandtechnology.eu/hdca). The conference theme addressed innovation in the broadest sense of the word, ranging from grassroots innovation to innovation policy, from technological to social innovation. The keynote by Thomas Pogge for example, addressed a proposal for an institutional innovation – the Health Impact Fund - meant to stimulate pharmaceutical innovations and address health inequality. The focus of this *Maitreyee* will be on technological innovation, bearing in mind that the technical and the social cannot be fully separated.

<sup>2</sup> At the 2011 HDCA conference ICT was addressed in the keynote by Martha Nussbaum, who spoke about “Women and the Internet: Objectification and Human Capabilities.”

(Kleine, 2010), to treat people too much as ‘passive receivers’ and hence not sufficiently respecting human agency (Zheng, 2009), and to focus too much on merely resource distribution or access, even though that is not always enough to empower people to lead the lives they have reason to value (Madon, 2004). Mirroring this prominence of ICT4D in the literature on the CA and innovation/technology/design, this *Maitreyee* also features two articles on ICT4D. Bjorn-Soren Gigler reflects on how to evaluate ICT4D projects from the perspective of the capability approach. In his contribution he explains his evaluation framework and argues that ‘there does not exist a direct and causal relationship between ICTs, information, human capabilities, and people’s well-being’. The second contribution on ICT4D comes from practitioner Saskia Harmsen of IICD, an NGO in The Hague that specializes in this area. She gives a glimpse of the challenges of introducing ICTs in a way that is truly supportive of human development and explains IICD’s participatory, sectorial approach. As a practitioner who has made an effort to familiarize herself with the academic literature on the CA, she also reflects on the challenges and potential benefits that she sees with this approach.

One benefit of adopting the CA, Gigler (2008) argues, is that it ‘places, in contrast to the current discourse around the digital divide, the human development of the poor and not technology at the centre of analysis’. By clearly distinguishing between the means and ends of development and making valuable individual human capabilities the ends that ultimately matter, the CA can indeed be taken to be a human-centred rather than technology-centred approach. We should, however, be careful not to draw a false contrast here. In order to become truly human-centred, we may need more rather than less attention for technology itself (Oosterlaken, 2009). Designer Annemarie Mink is part of a project that explores how the CA can be integrated in the methods and practice of ‘design for development.’ One step in the research process has been to use the CA to reflect on a design project previously undertaken by her in India. In her contribution she shares how the CA – with its talk about adaptive preferences and agency/choice - has helped her to see the implications of her design in a new light. In his contribution, Rafael Ziegler acknowledges that design may play a role in innovation processes that promote human development. Yet his sanitation example illustrates the importance of the social dimension in successful innovation. Ziegler conceptualizes social entrepreneurs as people exercising their agency in innovation processes that lead to ‘new combinations of human capabilities’. In line with Sen’s claim that capabilities are both the ends and means of development, he sees his ‘capability innovation thesis’ as providing both an explanatory and an evaluative perspective. Ziegler challenges us, like Melissa Leach, to engage with the question what innovation is for and who benefits.

It is my hope that this *Maitreyee* issue contributes to further research community building in the area of the CA and innovation/technology/design, both in theory and practice. Just like the HDCA as a whole, this community needs to be highly interdisciplinary. It should – and already does - include scholars from different disciplines, like philosophy and ethics of technology, science and technology studies, information systems research, engineering design, as well as ethnographers and social scientists working on the various domains of human life and society in which technology plays a role (such as health, governance, and so on). Technology has everything to do with well-being, with agency, with the kind of lives we are able to live. Let’s use the CA constructively, so as to ensure that technological progress gets moulded in innovations and designs that promote justice and development.

## References

- Andersson, A., A. Gronlund & G. Wicander (2012). "Development as freedom – how the Capability Approach can be used in ICT4D research and practice" (editorial). *Information Technology for Development* 18(1): 1-4.
- Coward, C.T., M.L. Smith & R. Spence (2010). "Introducing the Essays from the Harvard Forum II" *Information Technologies and International Development* 6(special issue 2010): vii-viii.

- Gigler, B.S. (2008). Enacting and Interpreting Technology—From Usage to Well-Being: Experiences of Indigenous Peoples with ICTs. *Information Communication Technologies: Concepts, Methodologies, Tools, and Applications*. C. Van Slyke, Hershey, IGI Global.
- Kleine, Dorothea (forthcoming autumn 2012). *Technologies of Choice? ICTs, Development and the Capabilities Approach*. Cambridge, Massachusetts: MIT Press.
- Kleine, D. (2011). "The capability approach and the 'medium of choice': steps towards conceptualising information and communication technologies for development." *Ethics and Information Technology* 13(2): 119-130.
- Kleine, D. (2010). "ICT4What? - Using the Choice Framework to Operationalise the Capability Approach to Development." *Journal of International Development* 22(5): 674-692.
- Leach, Melissa & Ian Scoones (2006). *The Slow Race; Making Technology Work for the Poor*. London, Demos.
- Madon, S. (2004). "Evaluating the Developmental Impact of E-governance Initiatives: An Exploratory Framework." *Electronic Journal of Information Systems in Developing Countries* 20(5): 1-13.
- Nussbaum, Martha C. (2011). *Creating Capabilities*. Cambridge, Mass.: Harvard University Press.
- Oosterlaken, Ilse & Jeroen van den Hoven, eds. (2012). *The Capability Approach, Technology and Design*. Dordrecht: Springer.
- Oosterlaken, Ilse & Jeroen van den Hoven (2011). "Editorial: ICT and the Capability Approach." *Ethics and Information Technology* 13(2):65-67.
- Oosterlaken, I. (2009). "Design for Development; A Capability Approach." *Design Issues* 25(4): 91-102.
- STEPS Centre (2010). *Innovation, Sustainability, Development: A New Manifesto*. Brighton, STEPS Centre ([www.anewmanifesto.org](http://www.anewmanifesto.org)).
- Zheng, Y. (2009). "Different spaces for e-development: What can we learn from the capability approach." *Information Technology for Development* 15(2): 66-82.

## *Insights*

### **Development as the Freedom to Use Information: Why Do Informational Capabilities Matter?**

**Bjorn-Soren Gigler ([bg238@georgetown.edu](mailto:bg238@georgetown.edu))  
Center for Latin America Studies, Georgetown University**

Under what conditions can ICTs enhance the well-being of poor communities? Most ICT evaluations are predominately based on conventional approaches and thus narrowly focus their assessments on measuring the immediate, short-term, and measurable program outputs in terms of enhanced 'access to' and 'usage' of ICTs. Applying the capability approach (CA) to the study of ICTs provides an alternative evaluation framework (AEF). Instead of focusing on technology, it puts central people's well-being. No direct and linear relationship is assumed between improved ICT access and enhanced socio-economic development. It develops instead an impact chain that attempts to unpack the various indirect effects of ICTs on people's well-being and examines the mechanisms by which access to — and meaningful use of — ICTs can enhance people's 'informational capabilities' and in turn expand valuable capabilities.

#### **The CA-based Alternative Evaluation Framework (AEF) for ICTs**

Recent studies on operationalizing the CA in the context of ICT4D have shifted the focus away from evaluating ICT programs solely on criteria related to access, expenditure, and the establishment of infrastructure and have instead placed the impact of ICTs on human well-being (Garnham, 1997; Madon, 2003). Doing so reveals that having ICT access is a necessary but insufficient condition for its use (Gigler, 2004). This goes hand in hand with one of the fundamental principles of the CA; differences in people's internal capacities determine whether