Design for moral and societal values can be supported by current design methods. Developments in design methodology have let to methods that include investigation techniques to identify the goals and values of clients, users and society, and tools to check if design solutions are meeting them. For instance, goals and values can be found by ethnographic studies and design probes, and by lab and field tests with mock-ups and prototypes it can be determined whether products realise these goals and values. The values considered in these design methods include usability of products and intelligibility of interfaces, but also more moral and societal values like safety, sustainability and social integration. There seems no obstacle to use these methods for design for other moral and societal values like privacy, trust and justice, hence current design methods may support Responsible Innovation with tools like ethnographic studies and tests with mock-ups.

Developments in design methodology have however turned designers into rather independent problem solvers who can take distance from the tasks clients set. These tasks can be ill-formulated, contradictory or uninformed by the technological state of the art, and designers may therefore proceed by challenging, reformulating and even changing those tasks. Specifically in design methods for innovation designers are licensed to engage in design processes that end up solving altogether new tasks. Designers explore alternative uses of technologies, as in technology assessment, but embrace them as opportunities for innovation, unlike technology assessment. Current designers are not doing anymore what they are told: when ordered to find technical solutions while introducing specific moral and societal values, designers may end up designing products for different values.

This independence of designers may support the Responsible Innovation program; it has broadened the skills of designers, and these skills may further design for moral and societal values. Yet, it also ii opposes efforts to get control over the values designers introduce. Hence, if the program indeed is about gaining this control, it needs means to let designers design for exactly those values that clients or society specify. A strict means is to explicitly forbid designers to change the ethical and societal values part of design tasks, and to introduce upfront criteria that designed products are to meet to incorporate these values. An open question is whether there are more liberal means for control, in which the independence of designers may still further design for moral and societal values.

The argument is supported by two cases: one of social design against crime and one of innovative design as carried out at Philips Design.

Decentring the technology? Re-thinking the performance of drip irrigation

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In debates about water scarcity, drip irrigation is frequently referred to as a promising way to save water and thus to help solve the water crisis. In these debates, drip irrigation is seen and presented as a technological innovation that allows growing 'more crop per drop' of water. Because of this promise, many countries in which water availability poses limits to agricultural growth (for instance Spain, Chile, Morocco) actively promote the introduction of or transfer to drip irrigation. In this presentation, we critically discuss the belief in drip irrigation as a remedy to problems of water scarcity by contrasting empirical evidence from drip irrigation realities in Morocco with a review of the scientific literature on the efficiency of drip irrigation – and using this contrast to reflect on the implications of the parallel existence of different ontologies of drip irrigation.

We show that the claim that drip irrigation will save water is based on a very specific ontological definition of what drip irrigation is and does, one that pertains to a distinct professional and epistemic culture of irrigation engineers. It is also a definition that assumes (or perhaps prescribes) a very specific set of operational instructions, boundary conditions and technological specifications. In few of the actual drip irrigation realities observed in the Saiss in Morocco, these assumptions apply. Expressed in engineering terms, the performance of these systems is often also sub-optimal, for instance using more water per kg of yield than would theoretically be needed. A 'normal' irrigation engineering reaction to such evidence would most likely include suggestions such as (1) to improve the technical specifications of the system and (2) to teach farmers how to better operate it – better matching water applications to crop water requirements.
Viewed from the perspective of engineers, then, the use of drip irrigation by farmers is not as it should be. However, when viewed from the perspectives of farmers and when seen from their logics and rationales, their particular uses of drip irrigation make sense – even when not leading to greater water use efficiencies. Farmers skilfully (re-)construct drip systems to match their specific wishes and constraints and use these following their own specific logics of production and livelihood strategies.

We capture the difference between the engineering definition of drip irrigation and the definitions of farmers by making use of the work of science and technology scholars, most notably Mol and Law (Mol, 2002; Law, 2002). Following their proposal 'to decenter the object in technoscience' (Law, 2002), we propose replacing the engineering view of drip irrigation as ontologically defined by its material and technological characteristics with one that sees drip irrigation as something that comes into being in and

through day-to-day sociomaterial practices, engineering practices among them (cf. Mol, 2002:6). The implication is that there is not one ideal drip irrigation system that is the truth and the norm against which others can be measured and judged. Instead, there are many possible drip irrigation systems, including the engineering one, which are all equally true. Yet, they do different things – and the question to answer thus becomes not how to adapt environments and people to an already existing technology (what engineers tend to do), but to understand how drip irrigation systems are handled in practice. As noted, the drip irrigation systems that are handled and operated are not the same from one site to another – with sites including the experimental plots of the technology manufacturer or researcher, the different fields of farmers, or policy discourses. There are many drip irrigations, a multiplicity that refers both to the technical and material characteristics of the technology, as to the ways in which the technology is aligned to hydrosocial networks – to water sources, institutions and livelihood strategies of farm households, as well as to environmental policies and legitimatizing strategies of bureaucracies and private companies.

Such an analysis suggests that the strength of the belief in drip irrigation as a (partial) solution to problems of water scarcity does not so much stem from the actual water savings achieved with drip irrigation (which indeed appear to be few), but instead rests on a particularly beneficial coming together of different enactments of drip irrigation – that of the 'efficiency producer' variety of engineers, with that of 'finding solutions to the water crisis' variety of policymakers with that of the 'provider of (new sources of legitimacy) of water bureaucracies, etc. -. To express this in the terms proposed by Mol and Law (2001), the success of drip irrigation (including the strength of the belief in its water saving abilities) can perhaps be attributed to its ability to change shape, its ability to do many things at the same time. One drip irrigation system is not quite like the other, and different drip systems function differently. And yet, the different systems still resemble each other enough to allow – and make it useful to – continue speaking of and recognising all as drip irrigation, or to suggest some continuity or sameness. This sameness or constancy does not depend on any particular defining feature of the technology, nor on any particular way in which it is aligned to other objects and people in hydrosocial networks, but rather "on the existence of many instances which overlap with one another partially" (Law and Mol, 2001).

One possible implication of this analysis for responsible innovation goes against what many trained engineers would have the tendency of doing, which is to standardise and optimise for one specific objective (water efficiency, for instance). Instead, it would lead into the direction of designing for flexibility, plurality and variability. And in fact, this is already what can be observed as happening in Morocco, with farmers, engineers and welders engaging in creative alliances of 'bricolage' to design and construct drip irrigation systems that suit specific demands and circumstances.

Abstracts poster session

Variations within experiences of surveillance: a case-study of nightlife-districts in the Netherlands.

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Contemporary society can be characterized by increases in surveillance, interacting with, and mediating, our daily lives (Ball et al., 2012). Surveillance in nightlife-areas is just one example. There, CCTV, on-the-ground-policing and private security are increasingly implemented under the rationale of security and to increase subjective experiences of safety amongst nightlife-area visitors. However, it can be argued that it is not intrinsically clear how visitors of nightlife-areas experience and appreciate the various types of surveillance going on in nightlife districts in terms of safety. Additionally, it can be argued that during the implementation of surveillance, and especially CCTV surveillance, the surveilled body becomes heavily abstracted from its context. In line with feminist and emotional geographers (Pain, 2006) this paper argues that differentiation in social and situational contexts in which the surveilled body is grounded yet matters. Different visitors, on the basis of their intersecting social-economic identities, might prefer different configurations of surveillance on the basis of the various situations that one can encounter during the course of a night out.

Preferences for surveillance, in terms of subjectively experienced safety, are estimated by using stated preference techniques (Louviere and Timmermans, 1990) and are drawn from survey data. Our sample is drawn from educational institutions in Utrecht and Rotterdam, the Netherlands, over varying levels of education. These two cities were selected on the basis of both differences in their approaches in managing nightlife (Van Liempt and van Aalst, 2012) and differences in the composition of the overall city population. Findings from our analysis indicate that, when it comes to increasing subjectively experienced safety, effects of CCTV are limited compared to on-the-ground-policing and private security. Hence, we argue that the 'human touch' of surveillance, that is being able to act and help directly, is important for subjectively experienced safety. Our findings also show that the very dynamics and interactions between the various surveillance agents are important to understand subjective experiences of safety. We also found that