

## Guiding and changing user behaviour

by Nynke Tromp en Steven Dorrestijn

November 12, Delft, 14:00-16:30

### Intro

Anticipating how products guide and change user behaviour helps preventing undesired product use, or helps promoting a desired behaviour change. In this workshop participants tried to design with the explicit intention to guide and change user behaviour. The workshop started with introductory presentations by Steven Dorrestijn and Nynke Tromp about some theoretical background and basic concepts concerning product impact on user behaviour. Dorrestijn talked about the philosophy of technology as a background of product impact theory. Next, he explained the difference between physical and cognitive product impact. Tromp took over and introduced how the influence on behaviour can be coercive, persuasive or implicit. She then explained the design assignment. The 35 participants worked on the assignment in groups. Finally the outcomes were presented to each other.

### Philosophy and ethics of technology

Reflection about the relationship between technology and humans is the subject of the philosophy of technology. The questions addressed are: What is technology, and how does technology change humans? In the early days, technology was seen as a means to complete the human being. In this way technology was considered naturally good. However, because not all humans were able to enjoy the benefits of technology, scarcity and inequality due to technology still had to be overcome. In line with this thought the architect and designer Le Corbusier (in *Vers une architecture*) wished to change social life by radically renovating the material, technological conditions. For him this was the only alternative for an otherwise unavoidable revolution.

Due to the experiences of the World Wars and the rise of environmental problems midway the twentieth century, opinions on technology changed from merely utopian to dystopian. The perspective on technology became predominantly ethical: Does technology serve humanity or does it in the end dominate humans? Technology was no longer seen as neutral or good, but as a threat to human freedom and dignity. The challenge became to defend nature and human existence against the rush of technology, or to adapt technology again to humans. This was for example reflected in *Design for the real world* by design critic Victor Papanek.

More recently philosophers began to replace the generalized views on the significance of technology by more detailed studies into various kinds of relationships humans have with technologies. In *What things do (De daadkracht der dingen)* Peter-Paul Verbeek proposes a

framework to understand how technologies change human experience and action. This empirically orientated philosophy of technology can be applied to design in order to guide and change user behaviour deliberately. In this way designers can make pragmatic (and responsible) use of the social effects of technology that philosophers have always stressed.

### Guiding and changing user behaviour

To design for guiding and changing user behaviour it is necessary to think not of technologies as tools to satisfy pre-existing human needs. Instead one must start to think the other way around: How can products be used to change action patterns or user preferences?

Two conceptual distinctions were introduced to be employed during the workshop. The first was the difference between *cognitive* and *physical* product impact. With reference to automotive technologies (Lane Change Support, Martijn Tideman) it was shown how the difference can result in two design options. By applying meters, signs, messages, etcetera, one can try to influence the users decision-making processes, which happens on a cognitive level. On a physical level, one can apply a nudge from the brake pedals or the steering wheel to guide the driver's behaviour, hereby shortcutting his decision-making processes.

The second conceptual difference was concerned with the strength of impact: *coercive*, *persuasive*, and *implicit*. Road design that makes use of obstructions that simply must be obeyed (e.g. speed bump) can be called coercive. But on the road you also meet with a lot of lines, signs, color-coding that guide without coercion, but by way of more subtle persuasion. With reference to a cross road where all interventions to slow drivers down were removed to promote safety by enhancing the driver's attentiveness, it was made clear that user guidance can also be implied in the structure of a design without behaviour steering features.

The distinction between coercive, persuasive and implicit influence does not refer to the designer's intention, but to the user's experience of the influence. This focus on experience (rather than on designer's intention or design qualities) is important, as it allows better to predict both effectiveness and acceptance of the design influence. To envision this experience, the participants were encouraged to think in terms of concerns. If the user is concerned with the environment, a strong intervention to encourage sustainable behaviour may be experienced as persuasive, while somebody who doesn't care about the environment at all, probably experiences the same intervention as quite coercive. On the other hand, if somebody never buys a ticket in the train (obviously without any concern about legislation or authority), applying interventions to stop this behaviour with a strong authoritarian character (coercive) probably won't make the difference. In the latter case, implicit influence will probably be more effective. The main idea of the workshop was to explore 'design for behaviour', by both varying cognitive and physical interventions as by playing with the experienced strength of the influence.

## Workshop

For the assignment, the group was split into smaller groups of about 3 or 4 people. Each group received a specific design brief. To get insight in the design approach of the groups related to the design brief, we decided to give half of the groups a slightly different assignment. This means that there were 10 groups, of which 5 received an assignment, and the other 5 received the same assignment, though slightly different. As an example, one group received the assignment “design a product that decreases aggressive behaviour towards the bus driver”, while an other group received the assignment “design the bus driver’s seat in such a way that it decreases aggressive behaviour towards the bus driver”. Although this doesn’t hold for all groups, the groups with an assignment including a specific product tended to start with brainstorming immediately, while groups without a specific product, tended to start with getting insight into the possible user concerns (see illustration with map of concerns). The distinction between coercive, persuasive and implicit was not always easy to get familiar with, but it did trigger the designers’ feelings of responsibility as well as their personal preference of how we should deal with behaviour change: how forceful can or should you be as a designer?

Finally all groups gathered again, and we altogether discussed our ideas. And although this again doesn’t hold for all groups, getting assigned a specific product appeared to lead more easily to implicit influence than starting without a specific product to design. Implicit influence, i.e. influence of which the user is slightly to not at all aware and of which the influenced behaviour is experienced as the natural way of behaving, appears to be the most difficult to design. Coercive and persuasive design, in which the product influence is very explicit, seem easier to design. A beautiful outcome of the workshop was a design to decrease aggressive behaviour towards the bus driver. The design was based on what the group called ‘reflective philosophy’ and enabled the bus driver to let the voice of the aggressive person echo (as you sometimes experience with your own voice using a cell phone). The idea was that as soon as you hear yourself, you become very much aware of yourself and what you’re doing or saying. This sudden and unexpected awareness will then most probably decrease your aggression.

Whether behavioural implications belong to the responsibility of designers, or whether design is the discipline to counter global issues didn’t receive a unanimous answer. However, what we did all agree upon is the fact that the awareness with designers about the behavioural implications of design is still way too limited.