CORRESPONDENCE

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Motivation is a process

In a recent editorial, Bronswijk[1] related motivation in gerontechnology to the needs of Maslow as published in 1943[2]. Recent trends indicate that functionality issues are increasingly occupying the field of human-technology interaction, making it move beyond the traditional issues of usability, which have not lost their importance, but cannot suffice in guiding technological design. Asking to make products useful sounds almost trivial. Obviously, the editorial plea of asking attention for motivational issues in technological design is timely and important. After all, what else could be the reason to create new systems and products? Yet, it is clear that many products fail in the market and do not seem to meet the expectations of potential users. Designers and producers may be unaware of needs of potential users. Products may be rather based on one's personal feelings and experiences instead of those in the target market. Understanding people's motives and starting from there might greatly help to build systems and products that are used contentedly. This is not only true for gerontechnology but for technology in general. Perhaps, discrepancies may be felt stronger among senior consumers as this category may (partially) deviate in its needs for technology from the mainstream market for which products are often designed.

In this comment I will highlight two issues. First, I will briefly discuss Maslow's need theory, which was discussed in the editorial. Then, I will turn to the question how to conceptualize motivation as a process. Finally, some conclusions will be drawn on the role of motivation in technological design in general and gerontechnology in particular.

Maslow's need theory[2] has attracted the attention of many practitioners on the search for a conceptualization of human needs. Its hierarchical structure has an intuitive appeal and the humanistic idea that people have an internal force to strive for self-actualization, by striving to reach the highest levels of their capability, reflects an attractive, optimistic perspective on human functioning. Maslow deserves merit for pointing to the complexity of the human needs. Probably the most important contribution of this model is that it offered an alternative to earlier models that explained human motivation as a function of unconscious forces and biological principles like instinct and drive. I happily underline van Bronswijk's suggestion that Maslow's needs hierarchy may help designers to scrutinize their designs.

However, Maslow's ideas are not uncontested. Evidence is lacking that the proposed needs system is valid. Maslow's hierarchy has not been supported by solid research. For example, how do we explain the scientist's drive, who is untiringly working to prove his theory, while ignoring his biological and social needs? Nor are we able to say when someone is self-actualized. For example, is the individual who is a couch potato a model of self-actualization? What if he truly believes that he is using his channel-changing talents to the best of his ability?[3]. For Maslow, however, self-actualization is more stringent and seems to be preserved to a rare breed of world celebrities like Einstein or Lincoln.

Maslow's model identifies needs but does not specify explicitly how people deal with need satisfaction. Instead of a static concept, motivation can be conceived of as a process instigating and sustaining goal-directed activity. Considering the process may reveal insights on the relation between needs and actions. Needs are not necessarily followed by action. Cognitive models of motivation, like the group of expectancy-value models[4] suggest that people form attitudes and make choices on the basis of their *salient* expected consequences. Non-recognized consequences will not be included.

Furthermore, people are willing to make trade-offs between incompatible consequences that are perceived, and accept drawbacks if necessary. Persons may have to deal with ambivalence for example when a conflict arises between utilitarian