From good to the greater good

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Abstract

In this chapter, we outline why and how design can (and cannot) support the sustainable well-being of individuals and communities. Building on findings of well-being researchers, we first address the reasons why material well-being, as experienced through the consumption and ownership of products and goods, does not necessarily contribute to subjective well-being. On the other hand, products that are valued for the activities and experiences that these enable can be a profound resource for happiness. This discussion provides the foundation for an approach to design for well-being that includes three main ingredients: design for pleasure, personal significance and virtue. These ingredients will be detailed in depth and several directions to design for well-being will be introduced, addressing both challenges and opportunities for design theory and practice.

Keywords: Design framework, well-being, happiness, experience design, positive design

Introduction

For millennia, design has attempted to improve people's quality of life, and the accelerated technological developments of the last decades have tremendously widened the spectrum of possibilities to do so. Many of us live in a highly designed environment where the majority of our actions are supported and accompanied by products, services and systems designed by humans. In this way, design shapes our lives – from work to leisure, from healthcare and transportation to how we stay connected to the world. This context of design has indisputably made some contribution, making our lives easier and safer as well as providing pleasure, but has it also made our lives more meaningful? In other words: are we *happier* as a result of technological advancement and higher living standards? Unfortunately, empirical data suggests otherwise. For example, while US residents are, materially speaking, much better off than their previous generations (i.e. GNP per capita tripled in the past 50 years), happiness ratings have, on average, essentially remained the same (Diener & Suh, 1997; Easterlin et al., 2010; Helliwell, Layard & Sachs, 2012). This finding, and many other findings like it, not

only question the validity of economic growth parameters as indicators for a nation's prosperity, but also the long-term impact of design on people's quality of life and well-being.

Apparently, while designed and purchased with the intention to add value to our daily existence, products and services do not necessarily contribute to our well-being, as is often assumed. Considering that people's quality of life has always been a core value in design theory and practice, it is therefore surprising that design for (psychological) well-being has not been explicitly addressed in the design literature until recently (e.g. Calvo & Peters, 2014; Desmet & Pohlmeyer, 2013; Escobar-Tello, 2011; Hassenzahl et al., 2013). The question of how design can contribute to well-being becomes even more acute when realising that (next to social inclusion and environmental sustainability) human well-being is a main pillar of sustainable development (Helliwell, Layard & Sachs, 2013). Beyond the ambition to optimise economically sustainable solutions within ecological means, sustainable product design also addresses a more holistic responsibility to design for sustainable societies; thus, including design for well-being and social sustainability. In fact, research has shown (Brown & Kasser, 2005) that sustainable well-being and environmental sustainability are highly compatible as both are derived from intrinsic value orientation, i.e. people who are motivated by values for their own sake such as personal growth, relationships and community involvement in contrast to external incentives such as financial success (Ryan, Huta & Deci, 2008). A society that strives for meaningful experiences and authentic values rather than living in material affluence and driven by short-sighted consumption patterns can combine the three pillars of sustainable development, all at once.

We believe that the design discipline has reached a sufficiently mature theoretical and methodological understanding of how to design simple, as well as pleasurable, solutions in the short term that it is prepared to systematically investigate how to design for long-term impact on people's well-being. We understand design for well-being as the attempt to support people to flourish and to live well. This includes, but also goes beyond, feeling good occasionally (see also Ryan, Huta & Deci, 2008) and, importantly, views people not as consumers but as creators of their own 'good' life. There are many definitions and debates on what constitutes happiness. In our work, we adopt the view that happiness is a combination of experiences of pleasure and purpose (Dolan, 2014), as also aptly put by Lyubomirsky (2007, p32) it is 'the experience of joy, contentment or positive well-being, combined with a sense that one's life is good, meaningful and worthwhile'. The resultant design challenge is, therefore, to create opportunities for people to have pleasurable as well as meaningful experiences supported by design.

This chapter explores the potential and pitfalls of product design to contribute to the sustainable well-being of individuals and communities. Design research on user experiences has moved from a focus on efficiency to pleasure *within* human-product interactions. The next step that we wish to bring forward in this chapter is to support meaningful experiences (in life) *through* human-product interactions. First, we will outline why new activities contribute more to our happiness than new objects, and will argue that objects in turn can be pivotal in mediating activities and experiences. Secondly, we will describe a design for well-being approach that incorporates the three ingredients of design for pleasure, personal significance and virtue (as previously introduced in Desmet & Pohlmeyer, 2013), and will, in the following, expand on each ingredient separately and in-depth. Thirdly, we will reflect on the framework's integration and implications. A main claim of this chapter is that to design for well-being entails prioritising indirect effects and intangible values. Opportunities and consequences of this stance for design (processes) will be further discussed.

Why design for experiences
One of the core findings of subjective well-being research is that happiness is much less determined by what we *own* than by what we *do*. In consumer research, this finding has resulted in the well-known 'experience recommendation' (Nicolao, Irwin & Goodman, 2009): if you want to become happier, buy life experiences instead of material items. Numerous studies have shown that doing things (experiential purchases) provides more long-lasting happiness than owning things (material purchases). The experience recommendation seamlessly fits with the 'activity advice' that is voiced in Positive Psychology, which states that to achieve sustainable increases in happiness levels, it is more effective to cultivate favourable, intentional activities than to change one's circumstances (Lyubomirsky, Sheldon & Schkade, 2005). Essentially, both recommendations predict that spending money on activities, like going to a concert, taking a vacation or doing a cooking workshop are better investments in well-being than spending money on a watch, telephone or new shirt.

The underlying mechanism that explains the limited long-term effect on well-being of material objects is called hedonic adaptation: the natural ability of people to adapt to new circumstances (Frederick & Loewenstein, 1999). Hedonic adaptation predicts that no matter how big a circumstantial change is, our happiness will return to a baseline level. So we may be delighted when buying a fancy new smartphone, but this delight fades when we get used to the phone, and it becomes the new reference, the status quo rather than a gain. As a consequence, we require continued increases in material possessions to achieve the same level of well-being. Brickman and Campbell (1971) introduced a treadmill metaphor to describe this effect: people who strive to change their happiness are a bit like rats on a

treadmill; they are running and running, but not really getting anywhere. While people eventually adapt to all kinds of changes, hedonic adaptation in relation to buying products (e.g. a bigger house, a more expensive TV screen) has been shown to advance particularly fast (Patterson & Biswas-Diener, 2012). This effect partially explains why it has been repeatedly shown that materialistic people are less happy than people with low materialistic beliefs (Kasser, 2002).

The implication for design seems clear-cut: design for well-being is design that primarily focuses on activities and experiences. After all, the goal of design for well-being as a general field is to have a lasting positive impact on people's lives. This long-term perspective, in line with an emphasis on experiences, challenges prevailing consumption (and design) models.

What that actually means for designers and design processes, however, is less clear-cut because the distinction between experiential and material purchases is not as sharp as it seems. Many products enable gratifying experiences and activities. In fact, Guevarra and Howell (2015) recently showed that buying products that enable experiences (like sports gear and musical instruments) can have a similar well-being effect as buying experiences. This shows that well-being driven design does not require us to abandon material objects, but it does require us to (re)focus our attention on the activities and experiences afforded by these objects. Ergo, if designers only investigate the direct effects of handling a device, the most profound opportunities might be missed. Imagine, for example, playing soccer with your nephew in the backyard on a late summer night. If you reminisce about this experience years later, will you first think of the ball's quality or rather about the fun you had together, the feeling of connectedness, the pride on his face after he scored his first goal? Clearly, the ball is an essential part of this experience, i.e. a resource, but in this case it is not the source of well-being as such. Hence, by acting as a resource that enables or stimulates meaningful or pleasurable activities, design can indirectly affect our well-being. In addition, as symbolic representations design can direct us to positive aspects of our lives or remind us of past meaningful experiences (Pohlmeyer, 2012). These directions open up new design opportunities that require new theories, frameworks and methods to complement those available in traditional interaction design (for an overview, see Jimenez, Pohlmeyer & Desmet, 2015).

Three ingredients to design for well-being
In a previous publication we proposed three main ingredients to design for well-being, i.e. Positive Design: design for pleasure, design for personal significance and design for virtue (Desmet & Pohlmeyer, 2013), as visualised in the framework in Figure 1. We proposed that,

while each ingredient independently stimulates subjective well-being, the intersection is where people flourish: besides having positive emotions, an individual must also have a sense of meaning, engagement, interest, and purpose in life to truly thrive (Dolan, 2014; Lyubomirsky, 2007; Seligman, 2011; Peterson, Park & Seligman, 2005; Sirgy & Wu, 2009). Consequently, while each of the three design ingredients can serve as a guide in designing for well-being, design for flourishing takes all three into consideration.
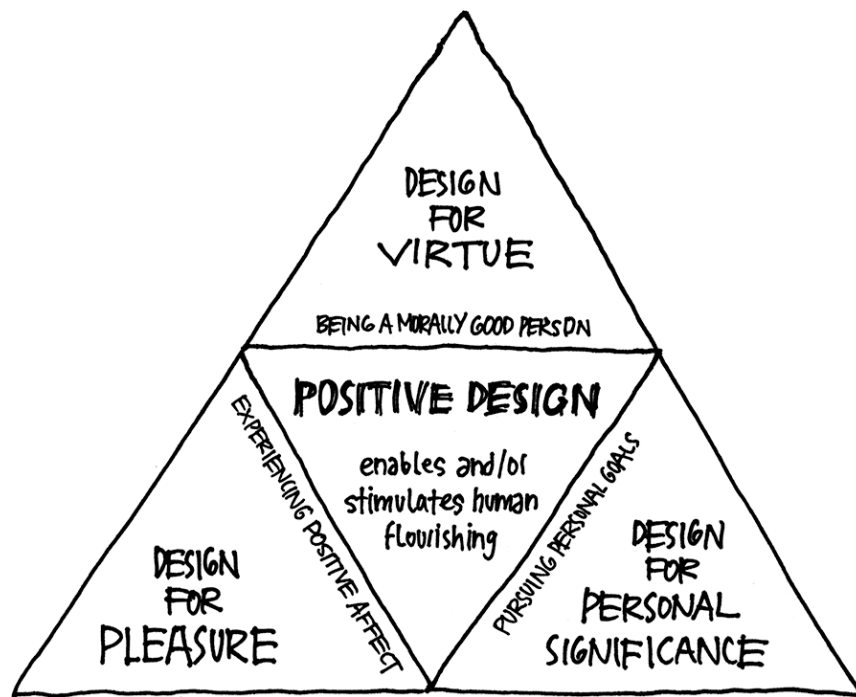
Figure 1: Positive Design Framework (adapted from Desmet & Pohlmeyer, 2013)

Design for pleasure

In the introduction to this chapter, we argued that there is more to happiness than 'feeling good'. Our intention was to stress that the importance of positive emotions should not be overestimated. However, it is equally important to not underestimate their contribution to happiness. In fact, positive experiences are a central part of well-being. A life exclusively devoted to personal growth and serving a greater good without experiencing joys in life does not appear fulfilling: lasting happiness is found in a balance of both pleasure and purpose (Dolan, 2014; Lyubomirsky, 2007; Sirgy & Wu, 2009) and in experiences that are beneficial in the present as well as in the future (Ben-Shahar, 2008). There is ample evidence that positive emotions make an independent and direct contribution to well-being (Seligman, 2011). Moreover, they have additional appealing, indirect effects that, in turn, contribute to happiness, such as enhanced creativity, open-mindedness, flexibility and resilience (Fredrickson, 2001; Isen, Daubman & Nowicki, 1987). Hence, design that increases the frequency of conscious experiences of positive emotions and decreases those of negative

experiences makes an important contribution to people's well-being. We refer to this contribution as *design for pleasure*.

In the Oxford English Dictionary, pleasure is defined as:

> '*the condition or sensation induced by the experience or anticipation of what is felt to be good or desirable; a feeling of happy satisfaction or enjoyment; delight, gratification. Opposed to pain*'.

The concept of pleasure is broad because there are many different causes of pleasure, i.e. things that can be considered enjoyable. A person can enjoy the bodily sensations of taking a warm bath, the challenge of an intellectual debate, the time spent with a dear friend or the idea of moving to a new city. Tiger (1992) offered a structure to these broad ideas by distinguishing between four pleasures that differ in terms of underlying causes. They include physio-pleasure (sensual delight), psycho-pleasure (derived from satisfying the intellect), ideo-pleasure (pleasures linked to people's values and ideals), and socio-pleasure (feeling connected to others and/or to society as a whole). Jordan (2000) successfully introduced this model to the design discipline, showing that all four pleasures can be experienced when using a product and that each can be consciously designed for. Not only the causes but also the experiences of pleasure are widely diverse. People can experience a wide range of positive emotions. For instance, Desmet (2012) identified 25 different positive emotions that can be experienced in human-product interactions. These include experiences that appear light and simple, such as joy, surprise and amusement, as well as some that are seen as more complex and substantial, such as pride, love and relief as they connect to deep-seated ideals, achievements and social values. Our point is not to suggest a hierarchy among pleasures, but to emphasise the diversity and profoundness that pleasure can entail.

Products can serve various roles in our pursuit of pleasure. Perhaps the most obvious is that they can be a direct source of pleasure – for what they are, symbolise or represent. One can enjoy the texture of a sweater, the smell of a new book, the craftsmanship of a chair and the innovativeness of an intelligent bracelet. Likewise, one can enjoy the refinement and ease of use of well-designed software and the challenge of playing a computer game. Because sometimes assumed otherwise, we should stress that these pleasures are not necessarily superficial. Surely, some may be considered shallow or frivolous, like the thrill of riding a roller coaster or the pleasure of eating candy. But product pleasures just as much include experiences that are profound and impactful, like the awe experienced at the sight of a Pollock masterpiece or the experience of gratitude for having a pacemaker that enables one to

travel. As a second role, products can act as resources for activities that provide pleasure. Here, the individual does not take pleasure in the product itself, but in the activity in which the product is used. A hand-blown wine glass can be enjoyed for its beauty, but it also facilitates an enjoyable social interaction (see also Figure 2). Likewise, painting brushes enable inspiring moments of self-expression, and airline services enable adventurous holidays. An interesting additional contribution of design is that it can stimulate people to be more aware of their positive emotions and to savour their experiences. In his seminal work, Maslow (1954, p136) observed that 'self-actualizing people have the wonderful capacity to appreciate again and again, freshly and naively, the basic goods of life, with awe, pleasure, wonder, and even ecstasy, however stale these experiences may have become to others […]'. Design can stimulate one's capacity for appreciation. Pohlmeyer (2014) explores how design can support people to deliberately pay attention to positive experiences in order to enhance and prolong the positive emotions derived from the event and thereby to delay hedonic adaptation. A wedding guestbook invites people to reminisce about the day many years later, the light of a candle enhances the atmosphere of a romantic dinner and social media platforms allow sharing personal highlights with others. Too often we take things for granted; too soon and hastily we strive for the next new thing. This includes the fascination over the extra space in our new apartment, the pride in our recent accomplishments at work as well as the pleasure of newly acquired products.

Figure 2: Bits 'n Bytes, by Marije Vogelzang. A low-tech conveyer belt to pass on delicious food (physio-pleasure) and stimulate social interaction (socio-pleasure). Photograph by Fred Ernst

Above, we reflected on how products can contribute to well-being by acting as a (re)source for positive experiences. We should mention that design can also contribute by reducing displeasure or negative emotions. Researchers have found the measure of 'affect balance', i.e. the sum of positive emotions experienced minus the sum of negative emotions experienced, to be more informative than solely positive emotions. It is a matter of relativity – flourishing people experience relatively more positive emotions than negative emotions (Fredrickson & Losada, 2005). Hence, even if someone encounters many positive experiences throughout the day, should these be outweighed by negative experiences, this will have an overall detrimental effect on that person's happiness level. Many design efforts focus on reducing displeasures and negative emotions, e.g. making a chair less uncomfortable and introducing safety devices like helmets. However, negative emotions can be valuable too and are sometimes inevitable. In contrast to the philosophical movement of utilitarianism that seeks a maximisation of pleasure and minimisation of pain, our understanding of design for well-being takes a more holistic approach by accepting that negative experiences are part of life and should not be abandoned per se. For instance, guilt is an important emotion to indicate moral norms, grief is a manifestation that one cares, and under certain circumstances some fear can even add to enjoyment in creating rich experiences (Fokkinga & Desmet, 2012). Finally, just as negative emotions can be positive in the larger picture, so too, can positive emotions have a negative connotation. For instance, lust and confidence are not positive per se. Think of an abusive situation or of someone who overestimates his competencies, which might lead to risky (for himself) or annoying (for others) behaviour. To determine an emotion's true valence, the situational, social and cultural context, as well as the extent and manner of expression need to be taken into consideration. We call for a sensible and balanced, user-centred design approach that considers contextual factors along with long-term consequences and moral standards.

This section has shown that emotions are a critical part of being human, and of our well-being, and that design for pleasure is a multi-faceted, nuanced endeavour that can contribute to well-being in many ways. Momentary positive emotions alone, however, would draw only a fragmented picture of what it takes for people to truly flourish. In the following sections, we extend our model with the well-being ingredients of personal significance and virtue that add experiences of meaning and purpose in life.

Design for personal significance
People are born with a natural tendency to grow and develop. We all have an innate striving towards actualising our personal potentials, whatever they might be. As a consequence, we

seek out novelty and challenge, explore and learn, exercise and develop our capacities. We often do so by committing to longer-term 'personal goals' that serve as a platform for expressing and developing our desires and deeply held values. These can be all kind of goals, such as getting a diploma, building a miniature city, raising children or mastering the craft of molecular cooking (e.g. for an overview of 135 inter- and intrapersonal goals see Chulef, Read & Walsh, 2001). Personal goals differ between people and may change over time, but the clue is that having (and working towards) them is a profound source of happiness (Lyubomirsky, 2007). They do so for a variety of reasons. Firstly, they provide us with a general sense of purpose and meaning. Secondly, committing to goals stimulates vitality, gives direction and structure to our daily lives, giving us something to work for. Finally, goals support us in developing our personalities, helping us to connect possible futures and past achievements into a coherent sense of self (Sheldon & Elliot, 1999).

The second ingredient of design for well-being addresses the sense of *personal significance* that is derived from the pursuit and accomplishment of personal goals: design that supports us in living the life that we want to live, doing what we find worth doing and being the person that we want to be. Hence, it moves from a focus on experiencing pleasure in the moment to one of experiencing meaning in the longer term. Before we address how design can contribute in various ways, we should first note that some goals, when achieved, engender more well-being than others. In other words, it matters what goals people select. It has been shown that when people select less favourable goals, they may waste much time and energy trying to approach possible futures that, even if attained, turn out to be empty or even harmful (Kasser, 2002; Sheldon & Kasser, 1999). Goals that have been empirically shown to be particularly beneficial for one's happiness are:

- *approach-oriented* towards something desirable (as opposed to avoiding a negative outcome) (Coats, Janoff-Bulman & Alpert, 1996)
- related to an *activity* rather than to circumstances and possessions as the latter are especially prone to hedonic adaptation (Sheldon & Lyubomirsky, 2006)
- *intrinsically motivated* (as opposed to external pressure) and express *authentic, deep-seated values* (Ryan et al., 1996; Sheldon & Elliot, 1999)[1]

A person's values are his or her beliefs about what behaviour and end-states are desirable. They transcend specific situations or activities and serve as guiding principles that help us make personal decisions (Schwartz, 1994). Examples of such values include protecting the

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[1] Sheldon and Elliot (1999) refer to these goals as being *self-concordant*.

environment, enjoying life, safety, social power, freedom, tolerance, creativity and tradition. Different people have different values. Yet, as shown above, some are more favourable than others, depending on the underlying motivation. In a similar vein, while acknowledging interpersonal differences, Ryan, Huta and Deci (2008) propose that activities related to the values of personal growth, relationships, community and health are typically profound sources of well-being. Hence, although personal goals are, by definition, personal and thus a matter of subjective preferences, evidence-based recommendations regarding what kind of goals and values to pursue can be additionally taken into consideration to increase the resulting well-being effects.

Having personal goals with a maximum net gain of happiness is not necessarily evident or easy. People may not be aware of their personal values, or these may be obscured by values that are imposed on them by others, media and industry, or they may not know how to formulate goals that reflect their values (Schmuck & Sheldon, 2001). Moreover, even if they commit to favourable goals, it often requires courage to embrace them and willpower to balance conflicting goals and resist the temptations of short-term goals with immediate gratification that endanger longer-term goal attainment (Hofmann et al., 2012; Metcalfe & Mischel, 1999). Equally important is the notion that personal goals are supported (rather than hindered) by external conditions, including educational, economic and social resources (Deci & Ryan, 1985). This means that, even if a personal goal is authentic, when circumstances prevent us from making progress towards attaining the goal, it will be a source of ill-being rather than well-being.

In our pursuit of personal goals, products can serve as resources. For example, musical instruments enable musicians to develop their talent, while running shoes support the development of an athlete's individual running technique and overall performance. Moreover, products can also help us to stay committed to these goals. They can act as reminders for our current goals. Having a piano not only enables us to develop our musical abilities, but having it in the living room makes it a positive reminder of our aspiration to learn how to play the piano. In the case of conflicting goals, products can support to harmonise goals by moderating and resolving dilemmas, or trigger reflection by the user (Ozkaramanli, Desmet & Özcan, 2015). Studies by Ozkaramanli and colleagues focus on corresponding design strategies, e.g. reducing temptations by introducing barriers or making long-term goals more attractive. For example, a healthy diet stands in contrast to the urge to snack on sweets. Here, a barrier of a jar lock and timer could be added to restrict the user to only indulge in 'bad' habits at a pre-committed time (see Kitchen Safe by David Krippendorf in Figure 3).

Figure 3: Kitchen Safe by David Krippendorf. A time-locking container, designed to support self-control.

Products can also lower the threshold to commit to particular goals. A starter kit for molecular cooking, for example, can break down the complexity of the undertaking, opening up the activity to people who previously believed it to be technically beyond them. Design can support motivation, for example, by adding sources of pleasure or by enabling achievement of smaller sub-goals. Complex Lego models are designed to enable children to quickly establish an initial achievement (e.g. building a vehicle) while working to the completion of the larger model (e.g. building a city with many vehicles and other more complex elements). Likewise, online course accountancy, for example, can be designed to include little moments of pleasure that stimulate commitment. A final contribution of products is that they can strengthen our awareness of one's past achievements or of one's progress towards a future goal. Someone may hold on to his worn-out dancing shoes because they serve as a tangible representation of his efforts to become a ballroom dancer (Casais, Mugge & Desmet, 2015). Likewise, trophies and souvenirs can serve as reminders of our past achievements, keeping these vivid by making them touchable and perceptible (Belk, 1988).

Note that enjoyment too can be an authentic personal value, and in that case, people can experience significance from activities that provide pleasure. Moreover, pursuing meaningful goals can be pleasurable in itself (see *ideo-pleasure* in Tiger, 1992). In other words, while pleasure and significance are conceptually different sources of well-being, they can co-exist and strengthen each other.

This section has shown that while design contributes to well-being by playing a role in our pursuit of pleasure ('am I enjoying life?'), it also contributes by playing a role in our pursuit of personal significance ('am I living the life that I want to live?'). We experience a sense of

significance when committing to goals that support our personal values. Design can act as a resource for these activities, and it can also symbolise personal values and past achievements.

Design for virtue

To experience momentary pleasures and to live a life in accordance with one's personally significant goals accounts for a great deal of our well-being. This, however, describes a very subjective perspective of what one expects from life; it does not include what one gives back to society, nor does it include a normative stance as to what is right or wrong to expect or how to act in the first place. Does it matter how I reach my goals, and is it at all of importance what kind of person I am? Indeed, the question of morality must not be neglected in a discourse on well-being.

Building on virtue ethics that go back to Aristotle's *Nicomachean Ethics*, but have recently regained attention (e.g. through Alasdair MacIntyre's work *After Virtue*, 2010), the third ingredient of design for well-being is *virtue*. While virtues are also closely connected to values, they are distinct from personal significance in three key aspects:

- virtues are derived from *objective* lists of universally agreed-upon values
- they have a *moral* stance
- they describe what constitutes the good *character* of a person, thus an inherent part of their personality

In other words, virtues are character traits of a person ('what kind of a person am I?') that are morally valued in religion, philosophy and cultural traditions ('am I behaving honourably?') and advance the good of others as well as of the self. Consequently, to design for virtues not only affects the lives of individuals, but also affects people in interaction and, ultimately, society at large.

One list has been proposed by Peterson and Seligman (2004) who identified six core virtues that emerge across history in the traditions of China (Confucianism and Taoism), South Asia (Buddhism and Hinduism), and the West (Athenian philosophy, Judaism, Christianity and Islam): *wisdom & knowledge, courage, humanity, justice, temperance,* and *transcendence*. While virtues are at the highest level of abstraction, the authors further specify 24 more concrete positive traits[2] that are manifest in a range of behaviours and that define the

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[2] Peterson and Seligman (2004) refer to these traits as *character strengths*: 'Character strengths are the psychological ingredients—processes and mechanisms—that define virtues' (p13)

respective, universal virtues. For example, the virtue of humanity is operationalised with the traits love, kindness and social intelligence. The classification system covers a variety of perspectives: from cognitive (e.g. curiosity), emotional (e.g. bravery), interpersonal (e.g. kindness), and civic (e.g. fairness) to those that protect against excess (e.g. self-regulation) and provide meaning (e.g. gratitude) (Peterson & Seligman, 2004). Many other lists exist and can be consulted. However, due to its overarching nature, detailed description and scientifically based assessment measures, we believe that this list is a valuable entry point for designers.

Aristotle argued that virtues are not a means to happiness, but fulfilling in themselves; happiness is simply a by-product of a virtuous life. As designers, we feel comfortable to make use of this side benefit. In particular, as an important prerequisite for design holds: virtues are not inborn. Instead, they are the result of our upbringing, (social) practices, training, and instruction. This means that they are, although relatively stable once established, in principle capable of change (Peterson & Seligman, 2004) and therefore also malleable through design. Clearly, a person's character itself – just like happiness as such – cannot be designed. However, a person is always situated in a physical and social context, which in turn can be designed.

Design can create enabling (as well as hindering) conditions (Peterson & Seligman, 2004) to trigger, train and establish virtuous behaviours. It starts with the everyday objects, services and buildings that already surround us. These can be designed to support the development and manifestation of virtues by facilitating corresponding practices, offering opportunities of training, supporting decision-making[3] and providing instruction recommendations. This, for example, has been particularly well demonstrated in religions by the design and reverence of artefacts (e.g. bible, prayer beads), rituals (e.g. meditation, fasting during the month of Ramadan), places (e.g. Temple Mount), and the built environment (e.g. synagogue, temple, altar, confessional box) (see de Botton, 2013, for an intriguing review). In the secular world, in contrast, fairly little effort has been put into the design and establishment of virtues in our daily lives. For instance, although schools try to foster the development of children, the primary focus lies on learning intellectual knowledge, skills and abilities, but not on morality and personality. How would a school, a classroom or a curriculum be designed if the learning goals would be social intelligence, humour or modesty? The way a classroom is designed affects how (and what) students learn. Traditionally, a teacher stands in front of a class where he or she presents information while students are expected to take notes individually. The

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[3] i.e. practical wisdom (Schwartz & Sharpe, 2010): the ability to judge what is the right thing to do

fixation of chair and table arrangements solely to the front in some lecture halls might be efficient in terms of tidiness, but discards the opportunity of interactive learning with peers. In contrast, a recently renovated lecture room at our university (TU Delft) was designed in such a way that students can connect with classmates to the left, right, in front and behind themselves within seconds, allowing them to practise, among others, teamwork, collaboration, and perspective (see Figure 4). As mentioned earlier, design will have an effect on consumers and end users whether they want it or not – designers, in turn, have the responsibility to carefully envision and support desirable effects to the best of their knowledge.

Figure 4: Classroom layouts for individual, teacher-centred learning and teamwork, respectively.

Despite the direct advantages of behaving nobly, more than the outcome of virtuous acts it is a person's motive behind these that determine their goodness. In other words, virtues are morally valued, independent of outcome. One can think of multiple ways in which design can accelerate and increase desirable outcomes. Yet, ultimately, the person has to be responsible for the behaviour and outcome in order for it to be a reflection of his or her character and to have a well-being effect for the individual. With regards to environmental sustainability, temperance and related positive traits that protect against excess come to mind. Technology that automatically down-regulates heating and relies on green energy, design that saves on packaging or opts for biodegradable materials and sharing platforms are all valuable, indispensable and effective examples of sustainable design that focus on outcome. Without doubt, these approaches and outcomes are of great value. However, in addition, we would like to point out that in design for well-being that supports the development of a good character a person needs to take responsibility and ownership of actions and needs to make decisions him/herself. Examples of when a person cultivates the virtue of temperance (and justice) are when she deliberately chooses fair-trade products or becomes a member of a sharing community, and when she (re)uses her products as long as they are still functioning and not

harmful to the environment. Design can help people in making good decisions by, for instance, showing the choice of alternatives or providing feedback that triggers reflection (Jimenez Garcia, 2014; Laschke, Diefenbach & Hassenzahl, 2015), but in order to have a well-being effect products should not make decisions on their user's behalf. The advantage of this perhaps seemingly slow approach in contrast to more efficient, automatic solutions is that once a character is formed, it leads to favourable habits that last in the long run, e.g. to turn the lights off when leaving home, and is fairly stable across situations, e.g. one will also turn the lights off at the office. When a character is formed, it is shown in any kind of interaction – someone who loves to learn will not only show this trait for the upcoming exam that is critical for one's future career goals, but also when visiting a museum or talking to friends. Stability and ownership of desirable decisions and actions safeguard lasting well-being effects and – importantly – release the person from a dependency on the design.

In relation to the Positive Design framework, objectively recommended virtues can certainly also be of personal significance to the extent that these relate to the same values. In particular, while all virtues can contribute to one's well-being, some positive traits have a better personal fit than others. These so-called 'signature strengths' (Peterson & Seligman, 2004) are a person's top strengths: they feel most authentic to a person ('this is the real me'), are intrinsically motivated, and exceptionally fulfilling. They are thus concordant with one's personal interests and values. Research has shown a strong link between signature strengths and well-being (Seligman et al., 2005). One explanation for this link is that strengths support goal attainment (Linley et al., 2010), which in turn also benefits personal significance. Furthermore, as virtues are, by definition, fulfilling in their own right, they themselves can also be a source of pleasure. By putting one's signature strengths to use in a variety of situations and domains, one is most likely to flourish.

In summary, design for virtue can help *initiate* the development of a good character through instructions, e.g. signs for priority seats in a bus, it can provide *enabling conditions to practise* and *internalise* the manifestation of virtues in decision-making and behaviour and provide corresponding *feedback*. However, eventually, as a virtue becomes part of a person's character, such design facilitators will no longer be needed. They can still have a supportive function, but the user acts independently. It is with this view on design as a resource that we hope design can support responsible, active and virtuous citizens to live well in a sustainable society.

Framework integration and implications

Well-being is a complex concept that also necessitates a somewhat more elaborate approach in design. In short, pleasure is about what one enjoys, personal significance is about what one wants and virtues are part of a person's character that is manifested in interactions with the world and considered morally good. The three well-being ingredients all have their unique contribution to well-being that cannot be fully compensated by the other two. As shown in Table 1, pleasure, significance and virtue share a number of overlapping attributes, however, in different combinations.

Table 1: Differences and similarities of well-being ingredients

	Pleasure	**Significance**	**Virtue**
Temporality	in the present	future and past	constant
Focus	emotions	personal values and goals; (life) satisfaction	universal values; morality; character
Experience evoked	pleasure	meaning	meaning
Perspective	subjective	subjective	objective
Related discipline	psychology	psychology	philosophy

The Positive Design framework integrates different perspectives on the central question of what constitutes happiness and the good life from psychology and philosophy. Its aim is to flesh out those ingredients that are promising and needed when designing for well-being in order to:

1. *Understand well-being of people holistically*

   A holistic understanding of well-being allows the consideration of short- as well as long-term goals, pleasure as well as meaning and subjective as well as objective standards. A nuanced understanding of pleasure in people's lives, of the diversity of goals, of the impact people have on their surroundings as well as the interplay of all three, equips designers to provide more fitting solutions to stimulate human flourishing than by only addressing one component of well-being. Each ingredient can contribute to one aspect of happiness, but only a balanced life that includes all three perspectives is one in which people flourish. Different designs might have different emphases, the collective of designs, however, should strive for a balance of pleasure, personal significance and virtue. Preferably, all three are combined in one solution. In an earlier publication (Desmet & Pohlmeyer, 2013), we referred to this combination as the sweet spot of Positive Design.

Overlap can evolve on different levels: each ingredient can be combined with one of the other two as well as with both. Activities that reflect our values and connect to personally significant goals are both meaningful and pleasurable. Snowboarding can be a pleasurable sport for someone who finds meaning in being connected to nature and who wants to be physically active. Emotions signal what is important to us – someone who values customs and traditions might get excited when unwrapping the Christmas ornaments to decorate the tree, cheerfully singing along. Positive emotions can also be motivating to commit to goals and values even in the face of difficulty, uncertainty or disappointment. A steep slope is no guarantee for immediate success in the snowboard example; it might take several attempts before one masters this route gracefully. Yet, the anticipation of becoming one with the mountain can provide the motivation not to give up. Positive emotions can be strategically used in the short term to reach a long-term (meaningful) effect. As people might experience that it is difficult to delay gratification (Metcalfe & Mischel, 1999) or to make long-term goals viable in everyday behaviour, design could create pleasurable moments to motivate people to act and thereby implicitly pursue a long-term goal. Furthermore, the expression of virtues can be pleasurable, like bravery in the snowboard example. Although values and virtues can be both intrinsically motivated and therefore not pursued for the sake of positive emotions, these certainly enrich an experience. Finally, virtues can be personally significant and ideally manifested through signature strengths.

Overall, Positive Design is an approach focused on the subjective experience of people paired with universal, moral values as well as evidence-based recommendations.

2. *Provide guidance on what (not) to design for*
   Most designs intend to improve people's quality of life in one way or another. Positive Design approaches this goal systematically by scrutinising how design can be relevant to people's psychological well-being. Here, the explicit long-term well-being effect is the key driver in practice as well as in research. Previous work on usability and user experience focused primarily on short-term efficiency, functional effectiveness and the immediate hedonic consequences of human-product interactions. The fundamental mechanisms of information processing and experience are largely applicable for any effect. Thus, they hardly give guidance in terms of what to design, but rather how. For example, the design of input devices and dialogue principles can be used for a games console just as for nuclear weapons. Positive Design is a specialised field that makes use of the fundamentals of interaction design, but always in relation to well-being.

The Positive Design framework holds that in addition to positively addressing pleasure, personal significance and virtue, it is also important that none are violated. This means that a solution should not introduce displeasure or pain that is not in support of an overall pleasurable experience, nor should it infringe someone's values or stimulate feelings of pointlessness, and it should not hinder the development of virtues or encourage vices. If someone derives pleasure from tyrannising others, it is considered immoral. Consequently, a design supporting such behaviour would not be seen as Positive Design even though pleasure and personal significance are met and might subjectively please this specific user. Hence, although Positive Design is an inherently user-centred approach, it does not imply that users' desires should be supported at all costs.

By incorporating virtues and rejecting violations within the framework, Positive Design is one of the very few models of user experience to include a moral stance, expressing what (not) to design for (see value-sensitive design (Friedman, 1996) for a notable exception).

3. *Structure the corresponding design process*
Sooner or later the rather abstract concepts of the framework have to become concrete and actionable in a design process. How can one deliberately design for happiness, and what steps constitute a Positive Design approach? We expect that available user-centred design methods are equally usable for happiness-driven design. As in all user-centred approaches, designs that aim to contribute to user well-being need to be tailored to a defined target group and contextualised accordingly. Yet, something is different in a Positive Design approach, and that is the rank order of priorities. Rather than working one's way up from technical requirements, to interactive elements, to finally experiential consequences, the direction is flipped in Positive Design: the higher goal of pleasurable and/or meaningful experiences is guiding the design process from the start, which results in a metaphorically speaking top-down approach as elaborated in the following.

All products affect how people behave and experience the world, and these effects are both direct (enjoying lightweight hiking shoes) and indirect (enjoying a mountain hike with these shoes) (e.g. Verbeek, 2005). Fokkinga et al. (2014) proposed two corresponding 'levels of influence' of the designer. The first level includes everything that happens between the user and the product: how products are perceived, used and experienced. The second level includes all the behaviours and experiences that the product facilitates, enables, leads to, supports or promotes, but in which the product itself is no longer the main focus. Traditionally, design briefs detail requirements for the first level of influence. For example, a brief for a new racing bike can include requirements about ease of storage and cleaning,

smoothness of the gears and novelty of appearance. These requirements define the design space for the design's objective properties, such as colour, weight and material. The resulting design is evaluated in terms of this first level, often without considering the wider effects on experience and behaviour, and finally quality of life. In the case of the racing bike, the user may enjoy having racing weekends in the mountains, become increasingly healthy and savour new achievements. These secondary effects can be taken for granted (because it is assumed that this is what racing bikes are about), seen as a bonus (that marketing can capitalise on) or not considered at all. We propose that design for well-being requires us to overturn the chain of events from technical details to interaction effects and finally to the overall effect level, and to instead 'start from the top'. Positive Design requires us to formulate our initial design intentions on the level of resultant, long-term impact. Naturally, for a design to be successful, technical details and direct effects are also vitally important, but if one does not start with determining intentions at the top level, one may never reach it or may introduce features that distract from or contradict the design's essence. This means that design for well-being requires us to first imagine the experiences and activities that will be enabled and facilitated by the product before starting to design the objective properties of a given product. Hence, here function follows experience, and means follow function.

The Positive Design framework has three corners (see Figure 1), and each can be taken as the point of departure when formulating design intentions. Which corner to start with and/or prioritise depends on the particular project, including the user group, type of design, the designer and the client. For some products it may be useful to first explore pleasures (e.g. entertainment products), and for others to start with exploring virtues (e.g. products that aim to motivate pro-social interactions) or personal significance (e.g. design for behaviour change). Either way, we propose that in a second instance, the remaining two ingredients need to be considered too, for Positive Design to be achieved.

The key here is that pleasure, personal significance and virtues depend on both the user, and the context of use. Hence, one needs to determine or envision which pleasures, personal goals and virtues are most suitable for the given design project through an inherently user-centred design approach. In addition, objective and evidence-based recommendations from psychology can be consulted to determine which virtues are most fitting (signature strengths) and which goals are most favourable (authentic and intrinsically motivated) to optimally boost long-term well-being.

Conclusion

In his book *Flourish* (2011), Martin Seligman notes, '…the task of positive psychology is to describe, rather than prescribe, what people actually do to get well-being' (p20). Design can be inspired by the resulting insights, but it cannot merely describe – design mediates people's lives (Verbeek, 2005) and will always be prescriptive to a certain extent. This comes as a powerful opportunity to have impact, and, at the same time, comes with the corresponding responsibility.

Positive Design outlines a design future that moves from designing for short-term user satisfaction to long-term human well-being. It combines the vast amount of knowledge developed in user experience design with empirical evidence of positive psychology, i.e. the science of happiness. It aims to give direction on what (not) to design in order to foster sustainable development in terms of human well-being.

At the core, Positive Design is a user-centred design approach. Yet, it requires a re-consideration of existing design principles and approaches. For one, Positive Design takes a holistic approach by incorporating the well-being components of pleasure, personal significance and virtue, which have been detailed in this chapter. We advocate an integration of all three ingredients to stimulate a balance of pleasure and purpose in life and, thereby, human flourishing. Our epistemological approach is a triangulation of perspectives from the user and context itself, paired with objective lists of virtues from philosophy, coupled with evidence-based recommendations from psychology. This complexity affects new demands of analysis and synthesis in the design process.

Furthermore, rather than focusing on the direct impact and material value of a design (as a source), designers should envision the indirect impact of a design (as a resource) by supporting activities and experiences in order to foster well-being. This intended overall effect should be the entry point and leading direction in a design process that all subsequent decisions relate to – a reprioritising of the design process. Positive Design is thus not simply a label to attach, but a fundamentally new design approach. It is a way to look at the world in relation to design. As it mainly functions as a resource for well-being and emphasises indirect effects, it is not a niche-approach, but applicable to all domains and technical means (e.g. analogue, digital, product, service) as long as the intended effect can be achieved. Although the design intentions might sound grand, the solutions themselves can address simple interactions and practices in everyday life, e.g. cooking, driving, and even shopping. In other words, looking through a well-being lens can benefit any design for users.

Design for well-being also requires active user involvement. To achieve an increase in people's well-being in the long run, people should not expect to 'be pleased', but rather to engage in activities from which they will derive pleasure and meaning. Users thus need to put effort into the activities and ought to be actively involved in the experience in order to take ownership of its well-being effect. Put differently, one cannot passively consume well-being, and the good life is not about optimising decisions on behalf of the user and providing favourable circumstances. It is a way of living that design can facilitate, but one that a person has to be responsible for in the end. Consequently, design has to walk the line of supporting the user while safeguarding authenticity of the experience. In this vein, design empowers people to live a life of individual, and ideally collective, well-being.

Positive Design is still a nascent theory and more work needs to be done to refine a structured approach to Positive Design and the specification of design effects. Yet, we believe the framework can already serve designers as a source of inspiration and guidance that stimulates design thinking beyond the direct, short-term impact of the product to truly and lastingly enhance people's quality of life.

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