Meaningful Design of Toys

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Abstract

Designing objects intended for excitement rather than mere satisfaction has long been a popular subject of design research. Understanding the meaning structures of objects for joy and excitement offers relevant perspectives in this regard for industrial designers. Toys, as objects of play, are pertinent representations of this category and can be an inspirational reference point. The study explores meaning in relation to product design with a particular focus on toys, utilizing the five categories of meaning as a framework for unfolding meaning structures. The aim of the study is to explicate how meaning structures may be examined and designed for, particularly (but not exclusively) in relation to toys. The study indicates that design based on meaning structures rather than exuberant design aesthetics may lead to more meaningful experiences of joyful immersion and exploration of wonder. The paper further aims to demonstrate how the design of toys – and other objects intended for joy and excitement – should (to some degree) adhere to the state of wonder, which may be aided by a focus on meaning structures.

Keywords

Design, Meaning, Toys, Play, Joy.

Introduction

Designing objects intended for excitement rather than mere satisfaction has long been a popular subject of design research. Overbeeke et al. (2003) underlined the importance of fun/playful aspects of designed objects in order to create joyful interactions. They noted that *joy of use* is not the same as (and in some cases, even opposite to) *ease of use*, suggesting a counterpoint to usability, and further advocated for creating a fuller user experience, writing (about the designer) that *it is his task to make the product's function accessible to the user whilst allowing for interaction with the product in a beautiful way*. By this notion they pointed towards a middle ground between tools – designed for a functional purpose reducing irrelevant distractions (and toys) designed for imaginative explorations without a specific purpose. According to Legaard (2022), these object types mainly relate to two different states, either flow (tools) or wonder (toys). Desmet and Hekkert (2007) proposed a framework of product experience, aimed at providing a structure that facilitates comparisons between experiential concepts. They divide product experiences into three levels; aesthetic experience, experiences of meaning and emotional experience. While these can be conceptually divided, they are closely related seeing that an experienced meaning may give rise to emotional responses and aesthetic experiences, and vice versa (Desmet & Hekkert, 2007). The study presented in this article builds upon this framework, focusing specifically on expanding our understanding of *experiences of meaning*, drawing also upon the five categories of meaning introduced by Jensen (2013). While many researchers in recent years have focused on enhancing the emotional aspects of functional objects (Desmet & Hekkert, 2009; Hanington, 2017; Kim et al., 2018; Mekler & Hornbæk, 2019; Zhu & Qin, 2021) the design of toys (objects that are deliberately designed to infuse fun and joy adhering mainly to the state of wonder) has received proportionally less attention in design research, especially from the viewpoint of meaning structures. The current study intends to address that gap by explicating the meaning structures of toys and discussing how these may also relate to other types of objects.

The purpose of the study is to contribute knowledge to the field of product design with a special focus on the designing for joy and excitement, taking a departure in the meaning structures of toys. Besides exploring the distinctions of meaning structures, this study may also be inspirational in exposing ways for how designers might consider the meanings of toy design in the design of other types of objects, in order to increase joy and excitement in the experience with that object.

The Meaning of Designed Objects

We know from many scholars that the concepts of experiences, emotions and meaning are closely intertwined (Dourish, 2004; Anolli, 2005). Anolli (2005) points out that meaning is always the meaning of something, and there cannot be meaning without something to direct the meaning at. In some cases, this can even lead to a product becoming *meaningful* to someone. Dourish (2004) notes that the source of meaning (and meaningfulness) is *not a collection of abstract, idealized entities; instead, it is to be found in the world in which we act, and which acts upon us*. So, it is in the exploration of real-life experiences that we can start to uncover constructed meaning. The relation between meaning and experiences is also underlined by Gadamer (1975) who notes that; *If something is called or considered an experience, its meaning rounds it into the unity of a significant whole. An experience is no longer just something that flows past quickly in the stream of the life of consciousness – it is meant as a unity and thus attains a new mode of being one.*

Krippendorff (1989) focuses on the meeting between the artifact and the creation of meanings, writing that *design is concerned with the subjective meanings of objectively existing objects*. In this study I adopt these perspectives, considering experiences to be unities of meaning where the meaning of something is subjectively constructed through the engagement with objectively designed objects. Desmet and Hekkert (2007) similarly note that *experience is shaped by the characteristics of the user* (e.g., personality, skills, background, cultural values, and motives) *and those of the product* (e.g., shape, texture, color, and behavior).

As such, interpreted meanings will also be personal, and will depend on the person perceiving it. Blumer writes (Battarbee & Koskinen, 2008); *People act towards things* (such as physical objects, people as well as abstract ideas) *on the basis of meanings they ascribe to them*. The fact that meaning is found in the world is consistent with the way Thibault (2016) divides toys into two types - those that are improvised, and those that are designed. He writes that; *Improvised toys are toys that are not crafted for that purpose but are used as toys by players. Again, designed toys are created purposely, such as industrially made and handmade toys*. When something is used as a toy, it is appropriated to the realm of the play situation, no matter what purpose the object may originally be intended for. Vygotsky (2016) described how children may use a stick to represent a horse because the semantic expression of the stick allows this approximation. In line with Vygotsky, Legaard (2022) noted that *toys per definition are meant for 'pretend', meaning that they relate to an imagined fantasy*. In this imagined space objects (and players) can be and do almost anything the player decides, as long as the approximation is possible. He refers to the immersed, explorative state of play as *wonder*. Designed toys are, ultimately, created for the immersion into a play-based state of wonder and for exploring emotions connected to a play experience, without any purpose beyond the play activity in itself. McCarthy and Wright (2006) use the concept of enchantment (in relation to technological objects) as a parallel to the wonder of play, in their approach to make technological experiences more joyful and creative. They write that; *Our particular concern with the power of technology to enchant is motivated by the capacity of enchantment to evoke both the transformative openness and unfinalizability of experience and the capacious potential of imagination to power holistic engagement by bringing past or future meanings into present action, making the mundane creative*.

Their notion of enchantment (fueled by openness, imagination, and creativity) is in line with how something can be experienced as playful/joyous. The subjective nature of experiences and the inherent freedom of imaginative experiences means that it is not possible to understand exactly how the intended meanings of an object will be perceived. As noted by Castella (2018); *We can never really foresee all the ways a child will use a toy, but we can embed features that open up opportunities for imagination*. Increasing designers' understanding of the possible relations between the intended meanings of the toy and the resulting play experience, enables designers to create toys with a higher chance of eliciting meaning, and points towards the focal point and intention of this article: Utilizing meaning structures of toys as a way to better understand and design for perceived meanings, hereby enhancing the possibility for toys to elicit meaningful play experiences.

Five Categories of Meaning

Perceiving the meaning structures of an object requires cognition. Desmet and Hekkert (2007) wrote that *Through cognitive processes, like interpretation, memory retrieval, and associations, we are able to recognize metaphors, assign personality or other expressive characteristics, and assess the personal or symbolic significance of products*. Considering that toys, being objects for play, relate to the state of wonder rather than the state of flow (Legaard, 2022) and, by that, adheres to exploration rather than accomplishment, the design intention in terms of supporting meaning structures in toys are different than for tools.

The following sections will explore the meaning structures of toys, utilizing the division of meaning into five categories, introduced by Jensen (2013), as the primary framework. The five categories are as follows;
1. Symbolic Meaning
2. Associated Meaning
3. Pragmatic Meaning
4. Profound Meaning
5. Affective Meaning.

While they are inherently intertwined, they can conceptually be described and treated as separate entities. The five types of meaning can be used as lenses for understanding the meaningful relations that users may have (or can obtain) with a product.

Generally, the five categories of meaning relate to different levels in accordance with the three dimensions of experience as described by Jensen, these being: Instrumental, Usage, and Profound dimensions. While we can work with a conceptual division of the five types of meaning, where each can (primarily) be connected to one of the dimensions, we still consider all five types of meaning to be closely linked in the overall experience of an object, and needs also to be considered as a unity for a harmoniously designed object. Meanings are furthermore not to be considered static entities but may develop and change over time. The object itself undergoes typical *wear and tear*, altering it slightly, and the user likewise develops (e.g. becoming more skilled), changing the way he uses the object, or he may change his perception of the object. The table below illustrates the relations between the dimensions of experience and the categories of meaning, and further proposes a fourth dimension (the temporal dimension) to be added, as explained in the following.

Table 1:

Dimensions of Experience	Categories of Meaning
Instrumental dimension	Symbolic meaning Associated meaning
Usage dimension	Pragmatic meaning
Profound dimension	Profound meaning
[Temporal dimension]	Affective meaning

Associated meaning and Symbolic meaning are closely linked, expressing how aesthetics of form and material in a design convey its personality. They both relate to the instrumental dimension, described by Jensen (2013) as the directly perceivable attributes of an object such as form, materials, colors, and signage. But where the associated meaning refers mainly to perceived values, the symbolic meaning refers to the character/personality through contextual correlation, e.g. expressing a thematic alignment with the dark realm of the Batman character.

Pragmatic meaning refers to the Usage dimension and is linked to understanding the processes of interacting with an object, e.g. whether a button affords pushing or turning. Profound meaning refers to the profound dimension and expresses the higher purpose that makes the experience meaningful, e.g. that using a bicycle is not done for the experience of using the bicycle, but for the experience of traveling through a beautiful path in the forest, just enjoying the scenery. In the profound dimension, things become transparent in use, meaning that you forget all about pedaling and just listen to the birds singing.

The fifth category of meaning (affective meaning) is different, in that it does not relate to a singular experience of using the object, rather it evolves from repeated use, or from how an object is obtained. As such it does not relate to any of the three dimensions of experience described by Jensen (2013), leading to proposing the addition of a fourth dimension of experiences, denoted the Temporal dimension. In relation to the spatial dimensions, the fourth dimension is also considered the dimension of time, and it appears pertinent in this context since affective meaning is always related to time, giving an object (or its acquisition) its own history. Gelman and Davidson (2016) for instance noted that *an object's value is unique to the individual owner who shares a history with that object*. The following sections explore the meaning structures of toys, using the five categories of meaning as lenses.

1. *Symbolic Meaning*

Symbolic meaning can be regarded as the use of visual metaphors, where a product resembles or explicitly references something else than what the product actually is. Verganti (2009) mentions the *Anna G* corkscrew by Alessi as a product that he considers innovative in its meaning. It works in exactly the same way as most other corkscrews but is shaped to resemble a dancer, which is what Verganti (2009) argued giving this product a new meaning. In this case, the metaphor is completely detached from the actual product.

Krippendorff (1989) described symbolic meaning as other-referential notions (in trying to resemble something that it is actually not, using metaphors) and argued that it alienates people from participating in the real-world and considered it a mark of bad styling. He writes that; *Products that either appear different from what they are (are made in the image of something else, hide their operation behind unrelated facades, deceive users with fake symbolisms) or are covered with linguistic instructions and graphics*. So, what Verganti (2009) saw as design-driven innovation adding a new meaning is nothing more than fake symbolism and bad styling in Krippendorf's view. Krippendorff (2005) further argued that using metaphors can aid but also mislead recognition, and said that *the use of metaphors should not be confused with the idea of forcing a design into alien clothing*. But in relation to toys, the use of other-referential notions actually adds to the immersed experience, seeing that toys are part of enabling/eliciting a meta-reality. Leeuwen and Westwood (2010) wrote that *whilst the design of a tool, for example, requires minimizing ambiguity of meaning, toys in the spirit of Winnicott require maximizing ambiguity, enabling many possible interpretations for the function of an object*. The illustration below shows a play installation in Copenhagen, Denmark, designed with a high level of ambiguity, but still providing symbolic clues towards a play theme, e.g. a squid or (a melting?) Darth Vader.

Figure 1: *Play installation in Copenhagen. The design aesthetics sparks imagination without defining if it is a squid, Darth Vader, a space ship or something else entirely. It is an interesting example of symbolic, yet ambiguous, meaning in design aesthetics. Photo by the author.*

In the play, these symbolic meanings enable interpretation of the meta-reality, allowing the *wonder* to unfold as the basis for the play experience. Sicart (2014) stated that *through toys, we realize that play is possible, and we start playing*. In that sense, a toy can provide clues for playing either because it was intended for play or because it simply affords a play situation through its inherent characteristics. Vygotsky (2016) likewise noted that; *Properties of things as such are still significant: any stick can be a horse, but, for example, a postcard can never be a horse for a child*. A toy such as a teddy bear shaped like a dog obtains symbolic meaning when incorporated into the narrative of the play activity, referring to an envisioned fantasy, in which the dog becomes meaningful (and imbued with a semblance of life).

2. Associated Meaning

Associated meaning comes from both direct and indirect expressions that people associate with specific values or personality traits. A direct expression could for instance be a Fairtrade label associated with insurance that environmental, labor, and development standards were met during the production of the product. An indirect expression could for instance be the use of recycled materials associated with being protective of the environment. These meanings can add value for the person buying the product because it also relates to their identity. Associated meaning is typically a way for companies to create stories that customers buy into and share/express to others. The aim is to establish a connection between the values of the customer (such as preferring recycled materials because they wish to protect the environment) and what the product expresses. The use of associated meaning is of course strong if the company values also support what is expressed through the product. Associated meaning also relates to an understanding of things that are not symbolic, e.g. the feel of particular surfaces.

We may, for instance, associate a smooth wooden surface with something that is pleasant to touch. Barthes (2013) writes a critique about what he calls *chemical* toys, where he underlines the missing experience of pleasure (e.g. of a seemingly *warm* and *soft* wooden surface or the cuddly softness of a plush toy), stating that *their very material introduces us to a cenesthesia of use, not of pleasure. Such toys die, moreover, very quickly, and once dead, they have no posthumous life for the child*. Associated meanings in relation to e.g. a teddy bear are the smooth, rounded shapes and the softness of the materials, implying that it would be pleasant to touch and cuddle.

3. Pragmatic Meaning

Pragmatic meaning relates closely to what Gibson (1977) described as *affordances*. A button, for instance, may be understood to be operated by turning rather than pushing based on the way it is designed. A hammer may similarly be recognized by its pragmatic meaning through its structural appearance (consisting of two connected bodies; a head and a handle). It deals with how a product expresses a potential for action. Gibson (1977) introduced affordances as the potential for action between an organism and its environment through direct perception. He writes that *the affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill* (Gibson, 1977). The concept of direct perception that Gibson mentions suggests that meaning can be perceived without conscious processing, leading directly to doing, i.e. giving an instant understanding of the way a product is intended to be used. Knowing how to use a door handle is a type of pragmatic meaning that may be perceived non-consciously through the product's affordances. Norman (1988) introduced affordances to design in *The Psychology of everyday things*, in which affordances were also linked to usability. He later described affordances as; *The perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used. A chair affords (is for) support, and, therefore, affords sitting*.

However, as Markussen and Krogh (2008) point out, *affordance theory only provides us with a limited understanding of how affordances in interaction design involve a dynamic and mutual interplay of socio-cultural factors, mental models, and embodied skills. It treats user experience as a disembodied visual experience*. Pragmatic meaning should therefore be dealt with in a way that encompasses a much broader range of experiential stimuli (not just the visual) and how a person's interpretations of a product dynamically change. When we consider toys in relation to pragmatic meaning, there is a need to maintain a balance between openness for exploration and interpretation, and a need to also experience familiarity (e.g. understanding how to engage with a product) in order to become immersed in the experience. A possible path to ensure that affordances can both encourage exploration and enable familiarization is to think of affordances as something that can change and develop during use, in line with who distinguishes between two types of affordances (Gaver, 1991); Sequential and Nested. He described these as follows; *Sequential affordances explain how affordances can be revealed over time; nested affordances describe affordances that are grouped in space*.

Legaard (forthcoming) further proposes the concept of latent affordances in relation to constructive toys, which he relates to the perceived potentiality of the construction set (i.e. what it might become when elements are connected). Exploration of the experience in this sense can be supported by sequential, nested, and/or latent cues from the toy. Some affordances of a toy relate to real functionality, e.g. that a teddy bear, being soft in both expression and material, affords cuddling, or that LEGO bricks afford physical connection with other bricks. Other affordances point towards the explorative space of the wonder, relieving them from a *real* functionality, enabling the freedom of e.g. an expressive exaggeration. In this case, an oversized handle for instance can be interpreted as something that is extremely heavy in a pretend play situation. In a study of playground equipment by Withagen and Caljouw (2017) they found that children use many of the affordances that the simplistic structures provide.

For instance, in relation to a dome created of metal tubes they noted that *children climb on this dome, but also sit on top of it, jump from it, and use it as a little house to dwell in and to gather together*. About the functionality of toys, Heljakka (2019) noted that; *Toys are functional in two senses: First, they are functional if they can be used to play. Second, they can have different functions that can be employed in play. In other words, to differentiate toys from other designed artefacts, toys should mainly be given affordances that can be employed in play, and they should offer their players possibilities to use the toys in different acts of play.*

She further noted examples of the functionality of toys in relation to the playability, e.g. that the toy has *pose ability* (can be positioned in different ways during play, which is important for e.g. action figures) and *hug ability* (is designed in a way that affords hugging, which is important for e.g. teddy bears). In this sense, considering interaction possibilities with a broader perspective of how an experience may unfold is valuable for the toy to support the exploration of the play experience.

4. *Profound Meaning*

The experiences people have been typically directed at a deeper meaning. People are not, for example, riding a bicycle just because they want to ride bicycle. They do it to get somewhere, to exercise, to enjoy the scenery, to get fresh air – or for other purposes that hold meaning for them, personally. Riding a bicycle needs a purpose beyond the physical act in itself. In his keynote at IXDA, Buchanan (2011) said that *we come with a reason*, meaning that the person using a product is interested in the meaningful content of the experience. Using the product or doing the interaction is not as important as the underlying meaning.

Profound meaning seeks to understand how the product influences a person's experiences at a deeper level through the immersed experiences that people have. Designers can design the physical product, and through pragmatic meaning design with the intention of a particular use. But in order to influence the experience at a deeper level, there is a need to also understand how the product and interaction influence the profound meaning perceived by the user in the particular experience, as the user becomes immersed in the experience.

Profound meaning emerges at the point where the user becomes immersed in the experience (i.e. what Jensen (2014) refers to as the profound dimension). At that point, the pragmatic meaning becomes non-conscious (when the product in itself is no longer the object of attention), and has been *dissolved* into meanings and impressions that frame the experience. These can be considered constructional parts of the immersed experience, seeing an experience as an event where its meaning rounds it into the unity of a significant whole (Gadamer, 1975).

In the play, the immersed experience is primarily an experience of wonder. And this is important to consider in the design of toys for immersive play experiences. So, where a tool (as the counterpart to toys) is defined by its utilitarian function, a toy is defined by imaginative and explorative opportunities. A princess dress, for instance, is made to constitute the imagined role of being a princess, a toy car enables those playing to travel anywhere instantly, and the hammer of Thor creates lightning and thunder.

5. *Affective Meaning*

Affective meaning does not relate directly to a singular experience of using the object but evolves through either repeated use of the object, or from how an object is obtained (e.g. a watch that used to belong to one's grandfather). Affective meaning emerges once a personal relationship between the product and the user has been established. Studies have shown that repeated interactions can lead children to form emotional attachments with their toys (Kahn et al., 2006). In a study on young children's preferences for toys by Gelman and Davidson (2016), they looked particularly at what they call *attachment objects*, these being something that the child regularly sleeps with, has possessed for at least 1/3 of their life, and that provides comfort. They found that *children preferred their original, visibly used objects to newer replacements that were matched in overall appearance*. The idea of the object gaining affective meaning through repeated interactions speaks towards considering the durability of the toy and its ability to age with grace, in which case the wear and tear of extended use become part of the shared history between the child and the toy.

Figure 2: *A little boy with his companion, a teddy bear. Picture from www.Pixabay.com.*

Animate objects (e.g. a plush toy designed to resemble an animal) have the ability to establish an instant emotional bond with users. The perceived personality of such a toy (enabled by the anthropomorphic design) allows the child to explore social relations to (and with) his companion, and (not least) to have *someone* to explore with, providing a sense of safety and comfort. In design, anthropomorphic design has often been used to increase likeability, for instance, in the design of cars such as the Mini Cooper, designed with reference to an English bulldog (Landwehr et al., 2011; Laursen & Barros, 2022).

Relation between Meaning Structures and Types of Toy

If we compare some of the toys that were selected *Toy of the year 2022* by the US toy association (Toy Industry Association, 2022) specifically focusing on the differences in terms of their meaning structures, it is evident that there is no all-encompassing principle to designing meaningful toys. The meaning structures will always relate to the type of toy and the intended play experience.

The *Masterverse* figures (awarded action figures of the year) are naturalistic in their design expression, linking the symbolic meaning directly to the themed narrative. They come with accessories such as swords and shields, which further support the theme, and the ability of the toy to perform within the narrative play experience. Rubin and Howe (1985) noted that realistic toys are more conducive to facilitating pretend play than abstract toys in line with Legaard (2020) who wrote that *When children play with dolls, we often see them investigating what that character would do in a certain situation, engaging with other children in imaginative situations.*

Squishmallows (awarded both toy of the year and people's choice awards) on the other hand, are designed to be representative (with reference to animals or to other familiar objects such as a milkshake (e.g. Amelie the strawberry milkshake) or Popcorn (e.g. Arnul the popcorn), but in contrast to the *Masterverse* action figures, they are not designed to be naturalistic and are instead adapted to the basic form and function of a pillow. They have some indications of anthropomorphic design with animate features such as eyes and nose, but are intended to be conducive to emotional experiences (e.g. for hugging and comforting) with an emphasis on affective meaning rather than symbolic meaning. They afford cuddling, seeing that the velvety surface of the materials has a texture that is pleasant to touch and the material used inside the Squishmallows is soft and spongy.

Figure 3: *Squishmallows at the Toy Fair in Nuremberg 2023. Photo by author.*

These design characteristics of associated meaning express comfort, which again relates to pragmatic meaning because they are understood to be interacted with for instance by hugging. The trusty companionship elicited hereby is the foundation for building affective meaning, e.g. through owners sharing experiences and emotions with the toy.

Figure 4: Masterverse action figures. Photo by author.

If we look at the *Masterverse* figures intended for pretend play, the pragmatic meaning relates directly to the playability, and thus the imagined narrative of the play activity. The action figures can sit and stand in many different ways, enabled by a large number of flexible joints. The many possibilities for positioning and adapting the toy give it a high level of poseability, described by Heljakka (2019) as an important feature for character toys. The poseability of these toys relates directly to the themed narratives and the toys are thus specifically positioned within a narrative play experience. Other toys, e.g. the LEGO Daily Bugle (awarded construction toy of the year), are intended to expand both constructions play and narrative play. It is a tall LEGO building with many authentic details, and it comes with a variety of mini-figure characters from the Marvel superhero universe. It consists of elements that are easily connected, offering the functionality related to basic construction in terms of pragmatic meaning. But while it functionally allows construction, it does not afford re-construction because of the highly scripted design of the finished construction. As such, the play value of this toy is mainly focused on narrative play, enabling the themed narrative to be explored similarly to the *Masterverse* figures.

Focusing explicitly on meaning structures thus explicates that the initial construction of the toy is more of a production matter than a consistent part of the play experience, which can be considered puzzling for something awarded *construction toy of the year*.

All three toys have collectability as a main feature when considering the profound meaning of the toys. They are not considered to be singular objects but are part of a family of related objects that can be continually expanded. While the addition of new elements that fit the theme/collection can add to the possible exploration of the thematic narratives, McAlister et al. (2011) noted that completion (or at least a continued expansion of the set) is also a main motivator in regard to collectible toys. So, the profound meaning of adding new pieces to the collection can be both in terms of expanded possibilities for themed narratives (e.g. Masterverse figures and LEGO superhero collections), but also to expand the collection of objects that are connected (e.g. Squishmallows). A college student interviewed about the popularity of the Squishmallows mentioned that the many personalities and names of the toys make it fun to collect them (Kennedy & Nakashima, 2021).

These examples illustrate that there is not one all-encompassing principle to designing meaningful toys, rather it depends on the type of toy and the intended experience of the play activity.

Discussion

The current study proposes a focus on the meaning structures of toys as a way to enable the design of objects that has a more profound impact on the experiences of play, rather than only initial attraction. If the aesthetics of a toy, for instance, prescribe the play context (e.g., the design of a castle), the person(s) playing will be exploring an imagined narrative within that setting. Objects that are more abstract or simple in their form (e.g., standard LEGO bricks) enable the user to construct and develop objects for a narrative themselves, in an attempt to approximate the reality of the construction to the envisioned meta-reality. The aesthetics of the toy thus relates to the intended experience in relation to the imagined play space rather than functional purpose or visual style.

In a study on the design of playgrounds Withagen and Caljouw (2017) found that there was no correlation between what children found aesthetically pleasing and the quality of play. On the contrary, messy structures with a fair amount of variation appeared to enable a heightened level of genuine play. This underlines how design aesthetics of play experiences are experienced as subordinated to the meaning of the play activity (described here as *profound* meaning), supporting curiosity and creativity in order to enable an immersed state of wonder.

Other studies of aesthetics in relation to play focus on exuberant design aesthetics, for instance, in the description of *semantics of fun* by Blythe and Hassenzahl (2003). They write that *If there is an aesthetic of fun then it is gaudy and fleeting, it bursts at the eye like a firework*.

Blythe and Hassenzahl (2003) focus on the intensity of perceptual stimulation as the main point in designing for fun. However, as described here, most play activities do not demand such intensity in the perceptual stimulation. On the contrary, such enhanced stimuli tend to distract players from the play experience, and are rarely supportive of meaningful play experiences. Zosh and Hirsh-Pasek (2017) wrote (as a piece of advice to parents when choosing toys) that; *by thinking more about the experience and less about the toy, you will quickly begin to separate fact from fiction when it comes to fun, educational, meaningful toys versus fads and chocolate covered broccoli*. A play house that is crooked and tilted may provide freedom of interpretation as to who might live there and the narratives that could unfold, but may, on the other hand, be less conducive to *playing house* in which case the structure is more intended to support a familiar notion of an *ordinary* house. The symbolic meaning of the two are different, and thus guides the players towards different paths to explore.

Figure 5: Playhouse. Image from www.Pixabay.com.

The underlying discrepancy between play activities without purpose and objects (tools) designed to support a specific purpose tends to limit design opportunities for enhancing emotionally engaging design to a focus on either emotions or game-based playful interventions that still allow a focus on purpose and the state of flow (Bakker et al., 2020). Hummels (1999) noted how the switch from using a record player to just putting on a CD changed her experience, where the latter deprives the experience of analogue interactions e.g. watching the record spin while manually placing the stylus on the tone arm in the intended position. Today, that experience is even more impoverished in terms of interaction seeing that music is typically being streamed via a mobile phone. Relating product meanings more to ludic forms of play might enhance experiences in ways that accept the interruption of flow and convenience, in order to create rich, explorative, sensorial, and joyful experiences. An approach to that is, as proposed here, using meaning structures unfolded in toy designs to design other types of objects that adhere more to the state of wonder. This may allow designers to *transfer the experiential stimuli* (Jensen, 2012) from toys to increase joyful engagement with other types of objects. One could imagine, for instance, a lamp where you do not dim the light simply by touching it, but by creatively reconstructing tangible elements of the lamp, thereby also changing the expression of the lamp.

Conclusion

The study intended to explicate how meaning structures may be designed for, particularly (but not exclusively) in relation to toys. This was done by exemplifying meaning structures for particular toys in relation to play experiences, drawing upon examples of different types of toys as well as non-play objects.

The study focused specifically on expanding our understanding of *experiences of meaning*, drawing mainly upon the five categories of meaning introduced by Jensen (2013).

The study indicated that the design of toys based on meaning structures rather than e.g. exuberant design aesthetics may lead to more meaningful experiences of joyful immersion and exploration of wonder, and drew out specific differences in relation to how different types of toys convey meaning and allow playful exploration. The study explicated that there is no all-encompassing principle to designing meaningful toys, seeing that it always depends on the type of toy and the intended experience of the play activity. Rather than considering play a specific design language relating just to the high intensity of perceptual stimulation, it is thus suggested to focus on meaning structures as an approach to design for specific play experiences. For this purpose, the five categories of meaning can be a valuable tool for enabling meaningful and explorative play experiences through the design of toys.

The study further illustrated that understanding the meaning structures of joyful objects such as toys may also enable designers to transfer the qualities of toys to other types of objects, eliciting experiences of joyful excitement rather than mere satisfaction.

In future studies, it would be interesting to unfold the concept of meaning structures further through explicit design cases and explore how meaning structures may also be transferred from toys to purposeful objects.

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