

Product Metaphors

A Framework for Metaphor Generation and Experience in Products

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Abstract: Metaphor is a subject that has attracted a growing scholarly interest, though the vast majority of the studies focus on verbal use of metaphors. However, metaphors are also frequently employed by designers in order to bring new perspectives into products, and enhance their appeal and meaning. On the other hand, the design domain still lacks a coherent understanding and a theoretical basis for why and how designers generate metaphors and how users experience them. Therefore, this study aims to constitute a framework that involves designer and user perspectives on product metaphors.

Keywords: *Metaphor, Product metaphors, Metaphors in design*

1. Introduction

Metaphors are indispensable parts of our everyday lives. With the use of them in language, we are able to define abstract concepts on a more concrete level; we express ourselves clearer and easier, or just make verbal puns. Some researchers even assume that our conceptual system, involving thinking and acting, is metaphorical in nature [6]. Metaphor is defined as “understanding and experiencing one kind of things in terms of another” [6] (p.5), like in the example of ‘love is a burning fire’. The abstract nature and uncertain qualities of love (i.e. *target*) are made clearer by defining it with more concrete characteristics of fire (i.e. *source*) like destructiveness and/or uncontrollability.

Metaphor is a subject that has been studied by many disciplines; especially in language and cognitive science, contemporary theorists explore its nature and functions extensively. However, the use of metaphor is not confined solely to language and thought; the design domain often exploits metaphors for transforming previous descriptions and perceptions of products. As an example, in Figure 1, the action of stabbing a man (source) is reflected to the action of putting knives in a knife-holder (target) through the ‘form’ of the product. Therefore, this metaphor transforms our usual way of experiencing knife storing, and consequently provides a novel and remarkable interaction with the product.



Figure 1. Voodoo knife holder by Raffaele Ianello

Despite the pervasiveness of metaphors in products, the inclusion of metaphors as a research subject in design is still limited. There is no comprehensively constituted theoretical framework for explaining the processes underlying metaphor generation and reception in products. Therefore, this study aimed to propose a framework for ‘product metaphors’ that explains the role, functions and uses of metaphors in products.

2. A brief overview of the related work

There are numerous studies that investigate the different dimensions of metaphors, of which a narrow fragment will be presented in this section. To start with, the relationship between target and source has prompted many metaphor theorists from language and cognitive science domains to investigate their distinct but interrelated roles. Target provides dimensions for attribution, while source provides properties to be attributed to the target [2]. However, two different aspects should be taken into consideration in order to decide on target, source and mappable qualities effectively. The first one is the ‘kind’ of similarity existing between the target and source; the other one is their ‘degree’ of similarity [7]. Regarding the first aspect, the most accepted theory is from Ortony [9]. He argues that the salient properties of the source are linked to non-salient properties of the target in metaphor generation. Saliency refers to the dominant, typical and distinct features of a particular concept/thing. For instance, regarding the former example, the ‘destructiveness’ of fire is a salient feature; its oxygen consumption is not. Therefore, when one aims to construe a metaphor emphasizing destructiveness of a thing, using fire as a source would be more effective. This theory is also able to explain why certain characteristics of the target are mapped to the source rather than the whole network of attributes associated with it. Secondly, in terms of the ‘degree’ of similarity between target and source, the plausible approach is that a moderate degree of similarity makes a good metaphor [7]. This is in parallel with the ‘Most Advanced, Yet Acceptable’ (MAYA) principle of aesthetics. According to MAYA, the most appealing metaphor maximizes the implicitness of the source-target mapping, without going beyond the recipient’s capacity for recognition and understanding [3].

When the recipient encounters a metaphor, he/she consciously or unconsciously decides on the target, source, and mapped features so as to recognize and understand the metaphor [3]. Then, he/she may or may not appreciate the metaphor according to his/her qualitative judgments on its certain qualities. Besides the comprehensibility of the metaphor, its novelty, aptness of target and source, and implicitness-explicitness can be considered as candidates for affecting metaphor quality [3, 4, 7].

In addition to the studies in language domain that focus on target-source relation, metaphor comprehension and quality measures, some other researchers investigate metaphors in nonverbal expression. They address the mostly visual, and sometimes auditory, tactual and olfactory manifestations of metaphors in art, films, advertisements, cartoons or computer software. Most of these nonverbal metaphors may use more than one sensory mode, which can be considered as ‘multimodal’ expressions of metaphorical thoughts or concepts. Although verbal and multimodal metaphors draw upon different representation systems, many theories that are related to verbal metaphors appear to have correspondences in the domain of multimodal metaphors.

3. Knowledge Gap and Research Goal

Product metaphors are a member of the multimodal metaphors since products always allow for metaphorical mappings between various sensory modes [4]. However, the products have specific structural, formal and stylistic qualities, and socio-cultural meanings that necessitate studying product metaphors separately. Therefore, with this study, it is aimed to constitute a framework that gathers the vast variety of factors found in the literature in a systematic structure so as to understand the relations between several variables. Almost all of the factors used in the generation of the framework are from language and cognitive science domains; therefore, its validity for products was investigated by applying to the various product metaphor samples.

4. The Framework on Product Metaphors

In the design literature, there are many models aiming to explain the relation between designer and user [1]. The common aspect of these models is that the product is considered as a communication medium between designer and user; and this approach is adopted for this study since metaphors are never merely inherent in products but created together by designers and users. Therefore, the product mediates between the intentions of the designer (i.e. metaphor generation) and the experience of the users (Figure 2).

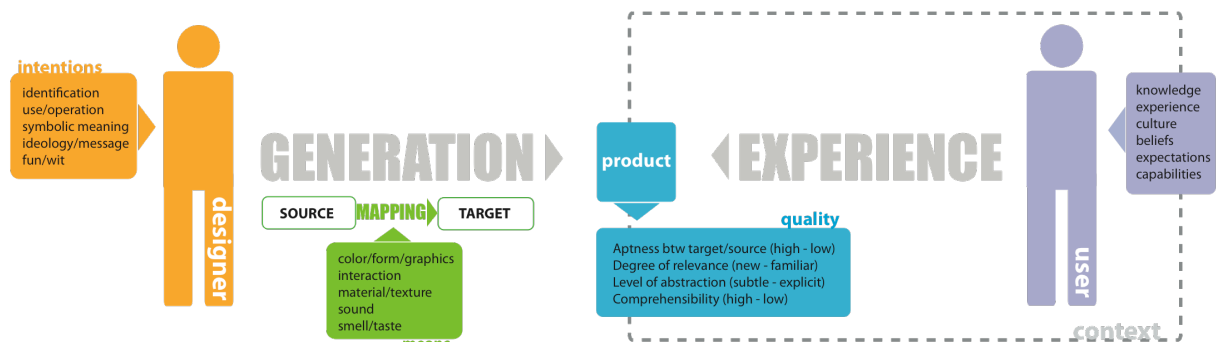


Figure 2. The basic framework on 'product metaphors'

The left side of the figure represents the metaphor generation process of the designer. The designer uses a metaphor in a product so as to transform our usual way of seeing things. Similar to verbal ones, product metaphors have a source domain in which certain feature(s) are appropriated, and a target domain where these feature(s) are transferred. Consequently, there are some visually or conceptually related, mappable features between the source and the target. The formerly mentioned saliency and moderate complexity principles of target-source similarity are also valid for the product metaphors. The designer may choose to make this mapping explicitly with leading cues enabling the user to perceive it, or with a subtle sense giving the user more freedom to understand it. In each case, the intention of the designer is significant.

In the design domain, there are a limited number of studies that address the intentions of the designer for employing metaphors. For instance, Müller [8] argues that metaphors lead to the elaboration of a new concept, and highlight or hide certain product properties; Krippendorff [5] maintains that metaphors make new technology comprehensible. Yet, the most comprehensible approach is from Hekkert and Cila [4] who classify the intentions for using product metaphors as: (1) identification (easing recognition and categorization of the product); (2) use/operation (conveying information about how the product is used); (3) symbolic/figurative meaning (presenting a symbolic meaning); (4) ideology/ ethics/morality/message (promoting or criticizing an ideology, giving messages to the users); and (5) fun/wit (providing fun and humor). The importance of metaphor is apparent with these functions as they all contribute to designing successful products. For example, using metaphors in providing 'identification' and giving information about 'use/operation' are directly related to the intuitive use of products that promotes perceived usability. Similarly, using metaphors for conveying a 'symbolic/figurative meaning' and providing 'fun/wit' would also provide the users to experience pleasure in interaction; meanwhile, the unique qualities they bring to the product would increase its differentiation and create market success. Lastly, using metaphors for promoting or criticizing 'ideology/ethics/ morality' can also offer pleasure to their users, as well as it would bond them as a group or a society who are concerned about a

certain idea. These intentions can be realized by manipulation of different qualities of products. Their color, form, material, texture, sound, interaction, smell and taste correspond to different modes of perception, and these qualities are the means for creating multimodal metaphors in products.

After the designer generates the metaphor, the right side of the Figure 2 comes into play. The user –illustrated here experiencing both the product and its context- construes and appreciates the new associations the designer created through the product. His/her interpretations may correspond with the designer's intentions, but they may also differ from those in varied ways according to his/her knowledge, experience, culture, expectations, beliefs, etc. Then, this experience leads to an evaluation that assesses the quality and appeal of the product metaphor. Similar to the verbal metaphors, aptness between source and target, comprehensibility, novelty, implicitness-explicitness can also be considered to have an effect on the success of metaphors in the products.

5. The Future Direction

This framework was constituted to provide a theoretical basis for the metaphor generation and experience processes. In the light of this framework, further research will focus on the specific relationships between its variables. Firstly, the subject will be explored from the user side of product metaphors in which we will try to understand how metaphors are experienced, and what kind of experience aspects are relevant for the designers to intentionally influence. In this stage, participants will be interviewed about their understanding of product metaphors on existing product examples. The relationship between target and source, metaphor comprehensibility and the criteria affecting the metaphor quality will be investigated with these interviews.

After assessing the aspects that are relevant for product metaphors, we will take a designer's stance that focuses on strategies for generating successful metaphors. These aspects will be systematically manipulated by the researcher herself and by workshops involving designers, and some strategies will be developed. Then, the outcome of these strategies will be tested again by user studies. With these set of studies, we aim to provide insight for designers on creating successful metaphors on products in this PhD project.

6. References

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