

YEAH, I TALK TO MY CAR,... SO WHAT? DIFFERENT ROLES AND LEVELS OF CLOSENESS IN PERSON-OBJECT RELATIONSHIPS

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Abstract: Often people refer to objects in similar terms as an interaction with people. We give names to some objects and sometimes we even talk to them. We also expect similar behavior from products as we expect from people with an "equivalent" degree of relationship. We expect fidelity and support that "don't let us down." This similarity between the way that we interact with people and objects suggests the possibility of raising a framework, outlined in this paper, which allows the development of simple and understandable language for the different stakeholders in the process of product creation, design and development. The application of this to the relationship that we have with the products allows us to classify them, in order to reach a proper understanding of what people expect from them, and determine the types of relationships that they can generate with users.

Keywords: *person-product relationships, product anthropomorphization, product emotions and feelings, product attachment, product design, emotional design*

1. Introduction

7.00 am. John wakes to the sound of the music on his radio alarm clock and gets out of bed. In the kitchen, checks the time on his watch, runs the coffee and puts two slices of bread in the toaster. Then he goes to the bathroom and gets into the shower. When he returns to the kitchen, coffee and toasts are ready. He carries his breakfast at the table, and remembers that this piece of furniture has been in his house long before he can remember. At that very own table he celebrated birthdays, Christmas parties, meetings with relatives and friends. Now the wood has darkened but the table remains strong. On the way down the steep road that leads to the city, close to the top of the hill, his car comes to a gripping stop making strange noises. Then John says: "Go, go, you can do it!" The car manages to reach to the top and the engine returns to its normal sound. John smiles and says "I knew you wouldn't let me down!". This is the car where he received his first driving lessons, they crossed the country together, it has served as transportation and shelter and through the years it became John's limousine and truck. On its way to work, John stops at the ATM he always uses since it is placed on its way and normally there are very few people using it. Then, at his desk, John turns on his computer, where he keeps his working documents, e-mails, etc. and although it belongs to the company, he has also copied some pictures of friends and family there.

We live side by side with objects, we interact with them, we are part of a world of objects that bring positive and negative emotions in us (Desmet, 2002; Norman, 2005). In many ways the objects are the ones that define who we are and who we want to be (Belk, 1988; Kleine & Menzel Baker, 2004) at the same time, we define them in human terms, giving them character, intentions and personalities

(DiSalvo & Gemperle, 2003; Epley, Waytz, Akalis, & Cacioppo, 2008; Frayer, 2010; Govers & Mugge, 2004). Such longlife cohabitation causes not only a constant coexistence with objects, but a relation in terms that transcend the physical or utilitarian interaction, in other words, affective and emotional way.

In the short story at the beginning of this work, we could notice the variety of relationships developed by John with the objects with which he interacts. For example, there are products that are practically a part of him (the watch), others only fulfill a practical function at home (the toaster), some have been part of his life (the table), others are a true friend (the car) or are seen just like a colleague (the computer). John has a different relationship with each of these products. Feeling closer to some of them and more distant to others, thereby he has different expectations of what each object *should or can do for him*. In other words, John expects his car to accomplish some implied duties that are shown in a friend to friend relationship, such as trust and loyalty (Annis, 1987; Aristotle, 2004). If the ATM does not work, John will look for another. If the toaster fails, he will replace it, but if the car comes to a griping stop, he will feel betrayed because John considers his vehicle as a friend.

It is necessary to establish that these significant affective relationships with products are not pathologies. These behaviors, when they are not extreme, tend to be a way to overcome lack of affection in relationships with people (Epley et al., 2008; Frayer, 2010; Guthrie, 1995) and a common resource in contemporary society (Epley, Monteleone, Gao, & Cacioppo, 2010; Wetmore, 1999). They may even contribute to consumer welfare, *“especially when considered relative to less desirable alternative responses to loneliness, which include alcohol abuse, delinquency, and the side effects of antidepressant medications”* (Lastovicka & Sirianni, 2011). In today's consumer culture it is common to try to meet social needs through the establishment of secure relationships, where the rejection ratio is less likely (Lastovicka & Sirianni, 2011). On the other hand, it is normal that individuals who reported not to be attached to material things also present a lack of enriching human relationships, while those who have strong ties with other people also have these bonds with certain material objects (Csikszentmihalyi & Rochberg-Halton, 1981). Understanding the phenomenon of relationships with objects is persistent in current society one must distinguish then abnormal situations, and use their scope for achieving greater well-being and development of nurturing relationships to users.

The aim of this paper is to establish the type of relationships users have with the objects around them and how these relationships are remarkably similar to those developed among people. In addition, some of the main theories that explain both types of relationships and how they can be useful to the design practice by proposing a model based on the roles that the products meet in their relationship with people and the expectations that users generate based on these roles.

2. Interpersonal relationships

Many of the concepts associated with human-product relationships arise from other disciplines. The notion of *product attachment* relates to the concept of *attachment* proposed by Bowlby (1982) on mother-child relationship and how it determines subsequent forms of adult relationships. Bowlby's theory has been a key in the quest to explain the dynamics of relationships between people. Nonetheless, nowadays there are other proposals: The so-called "social network theory" says that relations between people are not only about attachment. There are also symmetric and reciprocal relationships, and notices other significant relational figures in addition to mother figure (Takahashi, 2005). With a different approach, the *exchange theory* applied to relationships (Homans, 1958; Simmel, 2002) states that, there is also a relational pursuit of profit and equity as in the exchange of consumer goods. Similarly, Kenrick, Neuberg, & Cialdini (2009) indicate that social behavior is driven by internal goals or motivations. Fiske & Haslam (1996) propose categories according to the role that could be played by people in social relationships, among these categories, the *ranking of authority relationships* involve asymmetry, e.g. military relations. The relationships between people and products are also asymmetric, inherently (Lastovicka & Sirianni, 2011; Shimp & Madden, 1988).

Love is one of the most studied issues in the context of interpersonal relations. But people may experience other feelings, like friendship or caring (Bowlby, 1982; Sternberg, 1987) and these

feelings can vary throughout life (Levitt, 2000; Takahashi, 2005), as well as changing the role that people play in the lives of others. Friends often become romantic partners, or colleagues become friends, also involving a change in mutual feelings.

There are several theories to explain the phenomenon of love and similar feelings, one of the most accepted and enduring is that posed by Sternberg (1987) called *the triangular love theory*, with three main components, *intimacy*, *passion* and *commitment*, which are symbolically placed on the vertices of an equilateral triangle and from the combination of these, arise seven varieties of feelings: *Affection*, feeling of deep friendships, where there is a deep bond with the other, based on intimacy, but no sexual passion and commitment to long term is not present. *Infatuation* is an intense love that may come and go quickly, composed only by passion. *Empty love*, is commitment without intimacy or passion. *Romantic love* is composed by passion and intimacy, which create emotional and physical union respectively. *Companionate love* often appears in marriages that have lost their passion, or among life partners with intimacy and commitment. *Fatuous love*, where commitment is based solely on the passion that is generated by the desire to be together, there is no intimacy between the parties. Finally, *Consummate love*, the most complete kind of love, where the three components are balanced.

3. Relationships with products

3.1. Product attachment

Product attachment can be defined as “*the emotional bond that a consumer experiences with a special and significant object*” (Govers & Mugge, 2004; Schifferstein, Mugge, & Hekkert, 2004).

Mugge (2007) presents different conditions for attachment to occur. It notes that in the first place, a product may become special for a person due to the role it plays in expressing its own identity. A product can also be considered special because it represents affiliation with a group with common values and interests. The authoress points out the intrinsic qualities of product can encourage the attachment, this includes meanings related to the material properties of the object, as its style, design or exclusivity, but it can also be evaluated for its usefulness and functional attributes. Besides, the products may have cultural, spiritual and religious significances. It concludes that a product can be considered as if it were a living creature with human qualities. In this role the product gets its meaning from the *personification* (Review Mugge (2007) chapter two for more details).

3.2. It's alive! Anthropomorphism and Design

The notion of considering appreciated objects as living creatures is studied by several authors, including Jordan (2000) for whom the products should be “*living objects*” with which people relate, and Battarbee & Mattelmäki (2004) that define these products as “*companions*”, perceived by people as owners of soul and character, often with a personal story of how they were acquired and how they have survived. For example, in the narrative at beginning this work, the protagonist speaks to his old car as if it were a person, makes a request to it and then thanks it.

Although the term *personification* is valid, if we assign to objects intentions, a personality and a character, the term *anthropomorphism* is more accurate. This name has been widely used from a psychological perspective (Epley et al., 2008; Guthrie, 1995), it is also possible to find studies that use the prism of Design, Art and Marketing (DiSalvo & Gemperle, 2003; Frayer, 2010).

Anthropomorphism is explained by several reasons, among them are the *lack of control by the person on objects*, such as when in the short narration above John speaks to his car due to the threat it stops. Another common motivation is to *simplify complex technology* by giving its own will in order to enable communication with it in human terms (Wetmore, 1999).

The *lack of social relationships* can also be a motivator of anthropomorphism (Epley et al., 2008; Guthrie, 1995). In spite of the negative connotation that may be assumed to this motivation, there are perspectives that suggest it may be a positive condition. In fact it was established that these types of relationships with pets reduces depression in the elderly (Garrity, Stallones, Marx, & Johnson, 1989) coincidentally, it has been reported that attachment to robotic pets, such as robotic AIBO dogs (Sony)

also increases the welfare of the residents in a hospital or nursing (Banks, Willoughby, & Banks, 2008).

Some products like cars, musical instruments, weapons and robots will tend to stimulate anthropomorphize because the functions that cannot be carried out without "participation" of the product. You cannot make music without an instrument, or driving without a vehicle, it is imperative that the product is fully involved in the activity making a team with the user (Wetmore, 1999). Aggarwal & McGill (2007) state that the efforts of the manufacturers can go further than suggesting that their products are human, they can also propose a specific type of person such as a chatty person, a friendly one, a romantic partner, etc., thus facilitating the development of feelings toward the products, as if these were people. It is particularly important in the process of anthropomorphism, assigning a specific genre, as it conditions the type of relationship with the product that may be established later. The common practice of naming certain objects require immediate determination of gender and *personality of products* (concept labored in Govers, 2004).

3.3. Love between people and products

Although objects do not correspond to the love received in active, they users understand the feedback through superior performance and an attractive appearance. Even the concept of "physical intimacy" is present in person-object relations. This is the case of users who wash and wax their car with extreme frequency and dedication, or who perform mechanical maintenance to their own vehicles, rejecting the idea that other people have this contact with the product (Lastovicka & Sirianni, 2011).

Wang et al. (2004) conducted a study on the sentiment that Harley-Davidson Bikers have for their machines, based on the classification of love proposed by Lee (1977). The outcomes disclosed are highly consistent with some forms of love found in interpersonal love relationships, and confirm that this relationship is truly a romantic relationship and show some differences on interpersonal relations: Bikers manifest possessive love style (*Mania*) and selfless love (*Agape*), which do not coexist in the love between people. Russo (2010) examines the love that people feel for shoes and cars through the application of theory and scales proposed by Sternberg (1988) and she describes the person-product love experiences as enduring and as changing over time. Also using Sternberg's proposal, Lastovicka & Sirianni (2011) found the presence of several types of love triangular theory's own relationships of users with cars, bicycles, computers and firearms. The authors report in all categories of products the presence of *romantic*, *fatuous* and *companionate* love. According to Lastovicka & Sirianni while social deprivation based on couple relationships can be partially compensated on the development of romantic relationships with products, the gaps from other relationships may be partly offset by establishing relationships with other products, such as friendship or love based on fellowship, acknowledging the existence of a different strain in relations between people and objects.

4. The expectations of users and the roles of products

A model has been developed specifically to be taken into consideration in the pursuit of definitions of the "roles of products". It has been created providing a wide range of feelings and emotions, the diversity of relationships that can be established between people and also between people and objects, and the different roles that play the products in every person's life at that level.

4.1. "Roles of Product" Model (RPM)

The expectations that an individual deposits in their close friends and relatives arise mostly on the specific role they play in his life. If we add that to the notion established above that the person-object relations have in many ways similar dynamics than interpersonal relationships, one can conclude that having a greater understanding of the roles that the products play in the people's lives will also allow a better definition of the expectations that individuals put into their products.

For that purpose, the model (figure 1) starts from the determination of the feelings experienced by people in relation to the products, and using a simple analogy based on terms from interpersonal relationships (such as family, friend, pet, neighbor, etc.), it will configure one or more roles that the product will occupy in the life of the users.

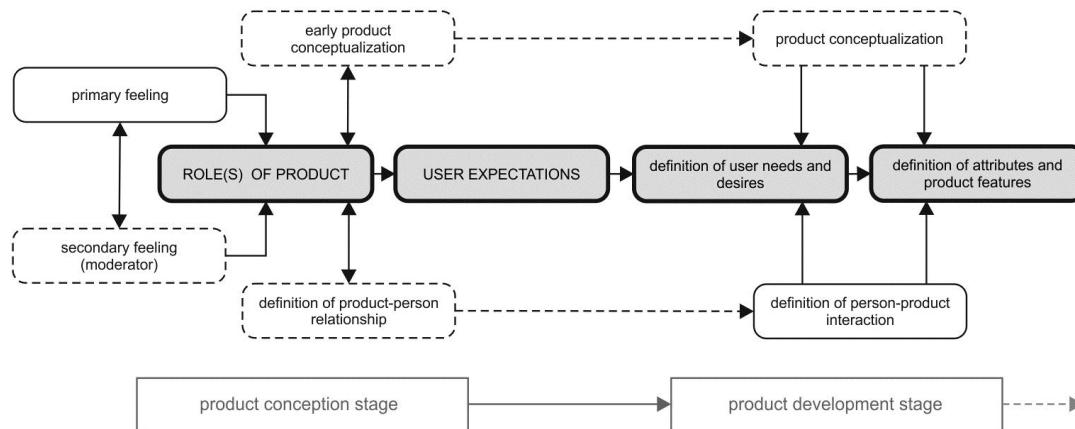


Figure 1. “Roles of Product” Model (RPM)

As stated, often the products fulfill different roles to different people. Therefore it is important to establish more of a role for some objects, according to the nature of the interaction with them, for example, a medical device like an EMR machine can be a kind of "co-worker" for the practitioner, but another user, as the patient on the stretcher will see it very differently.

These defined roles will contribute directly to the definition of user expectations and indirectly to the process of conceptualizing and defining product requirements. Furthermore, the definition of specific roles for the products can contribute to the investigation of the nature of the interaction between user and product, because depending on the degree of closeness with the product, this interaction may vary. Thus, in a product that probably plays a distant role an intimate interaction or likely to have plenty of physical contact is not adequate, as it can with a product within a close relation, when this kind of contact can be even value.

Using the defined categories of feelings (Table 1) we present some initial ideas for the roles that often play the products in the lives of people, the expectations they generate, and features examples of each.

Table 1. Roles of products and expectations of the users.

Feelings	Roles of Product	User Expectations	Examples	Features
Individuality	Self-Extension	Similarity, complementarity	Clothing, jewelry, watches	Objects are perceived more as "part of oneself"
Love/ Romantic / Confluent	Romantic partner	Company, Intimacy, Attractive, Likeness	Motorcycles, musical instruments	Attribution of gender, presence of attachment
	Family	Permanence, unconditional, Transcendence, loyalty	Sofas, family tables, large furniture	Evocation, meaning, existence of attachment
Fraternal / Filial	Friend	Loyalty, fidelity, Likeness, Independence	Cars, Laptops, weapons	"Teaming", existence of attachment
Fraternal / Companion	Pet	Sympathy, Charming, cuteness	Cuddly toys, robots, toys	Anthropomorphism, existence of attachment
Protective Affection	Home servant	Loyalty, discretion, dignity, simplicity efficiency	Coffee machines, household appliances, small furniture	Appreciation through the use, development takes time

	Fellow worker	Capacity, efficiency, professionalism, empathy, familiarity	Computers, Tools and Technical Tools	Appreciation through the use, development takes time
	Neighbor	Community awareness, respect, discretion	Games benches and plazas, bus stops	public goods
Attitude	Professional o Shop Assistant	Efficiency, Professionalism, warmth, empathy	Medical devices, ATMs, vending machines	Trust in capabilities of these objects
	Authority	Impartiality, efficiency, simplicity and reliability	Traffic signs, barriers to passage, tolls	Neutrality, Severity

5. Conclusions

5.1. Applications for industrial design practices

The “Roles of Product” Model (RPM) should continue its development to generate a structured protocol that allows its application as a concrete tool that meets three key objectives in the design process. (1) It encourages interdisciplinary dialogue among members of the teams involved in product development, often from diverse areas such as Marketing, Engineering and Design, through a language based on analogies and metaphors but also easy to understand regardless of the professional training, and can also be used in processes involving users of these products. (2) The tool should facilitate understanding of user desires and roles that objects play in their lives, and (3), to guide the direction to take during the requirements definition process and the subsequent establishment of specific features in the products.

The RPM can be carried out both in design education and practice in product development in companies or design teams. Because of their simplicity, cross-language codes and the idea of early insertion in the design process is presented as a useful tool to assist in the understanding of the design cycle and the process of conversion of the needs of users’ product features. Although the practical methodology for using this model in a real design project is still being defined, preliminary experiments have already been made using cards with roles, as a "serious game" where small groups defend two or three roles and gives reasons why the product would play that role. In a subsequent process the ideas are analyzed interactively using a table and post-it, discussing which product attributes are represented and how.

5.2. Future research

The objective of this research is to lay the theoretical groundwork for further investigation of the treated area and the development of practical tools for the design process. Therefore, from this **first** version of the RPM, the process should continue through qualitative and quantitative validation of the various roles and expectations that exist for them, particularly to confirm understanding and assimilation of roles for the users, and set demonstrably representative expectations of the user perceptions. Yet it should always be provided space for discussion on the expectations of each role. It is precisely the definition of these expectations which is expected to be generated an enriching exchange between product development teams. Thereby when facing certain roles, users and types of products, these expectations may vary.

In the context of emotional design research has been proposed the use of negative emotions to encourage interaction and usability of products (Fokkinga, Desmet, & Hoonhout, 2010). Similarly, in the exploration of feelings and roles of products it is possible to find out negative dimensions, which could also be used in the proposed model. Recognizing the implicit negativity in some roles, such as an alarm clock, can also help define the expectations users have of this type of product. Of an alarm

clock the user can simply wait to be effective and minimally irritating as possible. Aware of those expectations, this feature can be implemented after a number of ways. The variation of negative to positive roles, for example through physical interaction with the products, can be a valuable resource in product design field, that encourages the user and generate positive emotions and well being in this transition process. The scope of this "role play" can lead, as part of the dialogue, to consider other similarities between interpersonal relationships and person-object relationships, and integrate the language created.

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