

Emotionalise Design, Emotional Design, Emotion Design

A new perspective to understand their relationships

Amic G HO*, K W Michael SIU**

* City University of Hong Kong, Community College
amicgho@cityu.edu.hk

** The Hong Kong Polytechnic University, School of Design
m.siu@polyu.edu.hk

Abstract: Scholars have focused on different aspects of design and emotion researches for more than a decade. Various studies, models and theories have been proposed and adopted in order to understand what emotional design should be and the role of emotion in design aspects. Some of them regarded emotion design as a tool that designers use to deliver their messages and emotions, while some believed that it is a kind of experience and response when an individual is using an object. Some also reveal the relationship among users, products and users' responses. Among those, a number of similar terms such as emotion design, emotionalise design have been evoked. Indeed, few studies have been carried out sophisticatedly to explore the relationship between these terms, what they actually mean in their own role and how they interact with each other. This paper aims to explore and illustrate the definition of emotionalise design and emotional design.

Key words: *Emotionalise Design, Emotional Design, Emotion Design*

1. Introduction

After the research theories regarding the aspect of emotion and design raised by Desmet and Norman [10,18], many scholars have raised different theories and methodologies in order to investigate how emotion could change or shape the nature of designs. Design educators, designers from different disciplines and even design students have also tried to include the concern of emotional in their designs and studies. However, as the topic continuously developed, not many theories or researches to investigate the basic definition and perceptions of emotional design and emotion design. Terms are not clearly defined and there is always a confused understanding on what these terms mean and how they are to be applied.

2. Background Information of Emotion

2.1 Origin of Emotion

In order to reveal the relationships among these terms and understand their differences, a theoretical review was conducted in this paper. It is the moment that goes back to the beginning to understand how emotion has been suggested and developed from psychology. According to the past studies, the theories

would be generally categorized into 3 main perspectives, evolutionary, feedback and cognitive [9]. Plato was probably the very first to introduce the term “emotion” in human history. After that his student Aristotle analyzed emotions were types of judgment. Darwin was the first one claimed that emotions are function for survival from his evolutionary perspective [6]. Primarily placed body as the essential for having emotion, James introduced the peripheral theory that emotion is a bodily change [15]. Schachter and Singer took up the idea of peripheral and proposed the two-factor theory that emotion would influence on the social judgment [20]. Tomkin joined peripheral ideas and prompted the facial expression research described by Darwin. He proposed emotion was an affect programme involved both feedback from the body and conscious feeling and determined our urges. Arnold introduced the appraisal theory based on the ideas of Aristotle and Aquinas. According to Arnold, emotions were evaluations of an event in term of goal. Frijda amplified the peripheral theory of Tomkin and connected it with the appraisal theory. Frijda proposed that the goal appraising in an event would elicit an emotion. Therefore, emotion was an ‘action-readiness’ that determines priority among concerns. Based on the peripheral theory of Tomkin, Ekman and Scherer studied cross-cultural universalities of emotional manifestation and provided evidence of basic emotion theory. Ekman argued that emotion provided specific adaptive advantage on vital information communication. Scherer revealed the basic emotion theory that emotion was the interaction of mood and behaviour from the cognitive perspective and being prepared for the behavioural reactions that are required to respond to those both external and internal stimuli [19]. Based on the previous studies on facial expression, Davidson and Cacioppo verified emotion as a self-organising and integrative state, which is coherent across several different response systems included social, psychobiological, behavioural and information-processing variables [7]. As the topic developed, Tassinary and Cacioppo explored that design, as a way of information processing that would influence the perceptions of the consumers (self-referencing) in the procedures. Thus, it is important for designers to understand that design (with both visual and verbal strategies) can encourage emotion (the perceptions of the consumers) [22].

2.2 Researches on the relationships between Emotion and Design

After the inspiration from the psychological studies, design scholars and researchers started to find out how emotion could affect design or vice versa. Based on the inspiration from the peripheral theory by James, Desmet explored how different products could elicit different emotions [9]. This revealed the knowledge that the relationship between design objects and emotion would support designers to evaluate and influence the emotional impact of their designs.

To investigate the relationship between emotion and the different aspects of design that include the design process and the design objects, Enders further investigated the application on emotion theories in the design process by an experimental design process model named LEONARDO [11]. Demirbilek and Sen er stated that story-character features would be integrated in designed products to achieve positive emotional effects on consumers [8]. On the other hand, Spillers aimed at understanding how the product usability influenced the user experience, attitudes, expectations and motivations (emotions)

[21]. He concluded that emotion played a valuable role in the sense of making an impact on how the users interpret, explore and appraise the implications of design.

3. Difference between “Emotional Design” and “Emotion Design”

From the different research perspectives mentioned above, generally, emotion and design were closely related and influenced each other. Among all these studies, it was not difficult to discover that some of them adopted the term “Emotion Design” while some prefer to use “Emotional Design”. Or some even adopt a version like “Emotion aspect in Design”, etc. Do these terms carry the same meaning in usage or do they actually meaning different things? In order to have a better understanding on the possible differences and definitions of these terms, an inductive approach has been adopted and a descriptive system has been set up to understand how different scholars and theorists proposed theories and models in regards to them.

3.1 Emotional Aspects in Design

Although the effects of a designer’s own emotion are not obviously recognised, some research studies have discovered the role of a designer’s own emotion in relation to the design process. Related theories were analysed in order to investigate and establish a clearer understanding on what *Emotionalise Design* should be. Chhibber and his research team investigated if the designers would apply their own knowledge in the concept of the design instead of being merely focused on the users’ point of view [3]. They suggested that designers would adopt an intuitive evaluation of data. Aken further focused on the management aspect. He pointed out that designers who have more experience and strong emotion would have better management in the design process [1]. Took the different perspective from Aken, Malka claimed that many designers have shown interests and studied popular objects and environments, stressing their morphological, functional and cultural aspects. He revealed that designers would develop their own knowledge and present emotional impacts from other perspectives on the issues that they were interested in by their professional practice [17].

Based on the above design researches, several criterions and conditions related to the design aspect in design have been concluded:

- Designers tend to use more emotional and intuitive methods in the design process.
- Better management in the design process if they introduced more personal experience with strong emotion.
- Designers could present their emotions from their own perspectives on the issues that they are interested in.
- Included emotion aspects can establish a close relationship between the designers and design outcome.

3.2 Emotional Design

Although there were quite a number of research studies explored the concept of “Emotional Design”, however, a more concrete definition for “Emotional Design” has not yet proposed and compromised.

Hence, the following theories from different scholars were discussed and analyzed in order to obtain a more comprehensive understanding on what *Emotional Design* should be.

In the past design researches, people used the terms “emotion” and “pleasure” as collective nouns to represent all kinds of affective phenomena that were regarded as “intangible, non-functional, non-rational”. Therefore, the research on the influence of product experience in emotion was short of conceptual clarity. Hekkert and Desmet firstly tried to find out definition of the design emotion by conducting research and proposed an experimental conceptual model, Emotion Navigator [14]. The model revealed that a product could elicit several emotions, and there was no one-to-one relationship between the emotional responses and product appearance. Different with Hekkert and Desmet, Norman divided designs into three levels by the information processing according to the situation and response: visceral, behavioural and reflective. [18]. His concept on “Emotional Design” was not only focused on the effort on consumers/users by the design object, but also included the relationship between designers and design object. Hakatie and Rynnänen verified the three levels could be linked to the attributes of different products by a simple research experiment [13]. It is realized that the product’s selection criteria were clearer in visceral and levels rather than in the reflective level. While inspired by the theory raised by Norman and based on Hekkert and Desmet, Lo defined “Emotional design” with the focus on the user’s needs and experience [18,14,16]. Therefore “design researches and practices had been extended beyond their function, form and usability, to emotional dimensions that enrich the user experience.” Choi further explored on building up pleasurable experiences when answering users’ needs and demands. He concluded that emotional design would be able to strengthen the usability of a product by creating a strong mental attachment between the users and the products [4].

Apart from those theories mentioned above, it was realised that “Emotional Design” referred to a product that could elicit emotions. They also pointed out that “Emotional Design” focused on the user’s needs and experience. While some other key criterion and conditions for Emotional Design were shown in the following:

- There were three levels of information processing according to the situation and response: visceral, behavioural and reflective.
- “Emotional design” was not only communicated through the style of design, function, form and usability, but also built up experience for the user on their needs and demands.
- There was no one-to-one relationship between the emotional responses and design appearance.
- Emotion design should be consumed by the users and it was possible to appear in the real market.

3.3 Emotion Design

After almost a decade of development on the researches under emotion and design, not many terms of “Emotion design” could be found. Scholars would prefer to use the term “Emotional Design” instead to describe all the designs that contain/related to emotion. In order to have a better understanding on what “Emotion Design” means, some concepts and related theories raised by different scholars had been investigated to clarify its possible definition.

Cupchik drafted out the idea of “Designing for Experience” which could be the most familiar concept with “Emotion Design” [5]. He pointed out that the key theory of “Designing for Experience” focused on the interaction of designers and users with design objects. Within the process of experience design, the design object was given meanings or messages by the designer in the design process. The users used the design with the planned function and that can have an effect on a designer's creative functioning. Similar concepts suggested by Tzvetanova on the interaction between the users and the designers [23]. The user factors were the most important criteria to evaluate the quality of the emotion design. Funke further proposed that design acted as a semiotic instrument in an experience-market [12]. Emotion transformed the objective expectation of a product into the subjective disposed expectation; they transformed the information about a product objectively offered in terms of its function into what the user's personally expected and experienced. Hence, the consideration on emotional aspect in the usage and design process should be more important than function. From the above, design with emotions could satisfy both the needs of what the users expected and what the designers could plan and offer in the interaction of experience.

After all, the design researches that specifically included the term “Emotion Design” with a clear and comparative concrete definition were indeed limited. It could only possibly summarise and find out the basic concept of *Emotion Design* raised by the different scholars mentioned above; while some key criterion and conditions for Emotion Design are shown in the following:

- The Emotion Design communication model should be identified with the three main roles: design object, designer and users.
- The design object is usually given meanings or messages by the designers in the design process.
- Users probably used the designs with the planned function or emotion domain.
- The users and the designers would have interaction through the planned function or design.

From the above theoretic review on all those theories, it has been discovered that there were confusions and misunderstandings on the application of these terms. Researches that have been discussed and analysed above were those limited amount that tried to define and explore the basic definition, nature and possess characteristics on “Emotion Design” and “Emotional Design”. Instead most of the researches applied these terms with the usage to represent designs that contain/related to emotion. Hence a newly proposed model for a clear definition and nature of these terms is being proposed.

4. New Model for Emotionalise Design, Emotional Design and Emotion Design

4.1 Proposed New Model

First of all, before we started to propose a new model to explain the relationship between these terms, it is essential to redefine the role of emotion in the normal design cycle. From the theoretic review mentioned above, emotion in the whole design process should contain three main components: designers, design outcome and the users, same this will become the framework of our proposed model. While most of the other theories proposed by other scholars like Desmet & Norman [10,18], their focus

mainly lie on the relationship between design outcome and users although it had been suggested that the emotions is a crucial aspect to affect the designers in designing the outcome.

Based from that, a new theoretical model that specifically includes the three key core elements in the normal design cycle have been suggested, shown in Figure 1. Inside the model, the main roles of designers, design outcome and users lead an important framework. This model tried to focus on finding out and explaining the close relationships between *Emotional Design* and the newly suggested term *Emotionalise Design*.

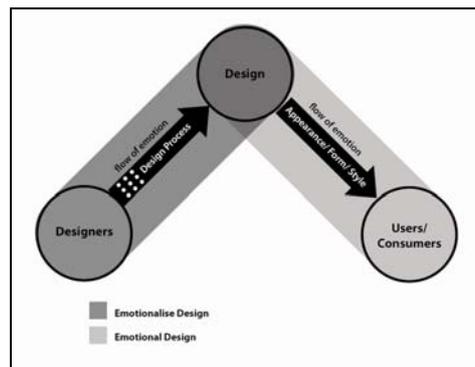


Figure.1 Model to illustrate the relationships between *Emotionalise Design* and *Emotional Design*.

4.2 Emotionalise Design

First of all, before the final design outcome has appeared in the market, designers have to undergo the design process to finish the design. In many cases, designers usually include or even inject some sorts of emotion concerns in their design process to reach the final design outcome. On the other hand, the design outcome possesses certain types of the designer's emotion. In this situation, designers inject their own emotions into the design process that lead to a design outcome, which could be called *Emotionalise Design* from the view of designers.

A typical example could be the case of RMX Extended Mix book. The book was designed by Rinzen, a group of Australian artists. Clifford, one of the members, stated every one in the group produced an initial piece for one of eight themes. Then the files were passed progressively to each designer, being modified, augmented, and erased each step of the way [2]. In this case, designers may express their own perspectives on the issues that they are interested in with professional skill. Their emotions, own interests and intuitive evaluation, as a result can inject in the design process, but did not consider much from the consumer's perspectives initially.

Another example is student design assignments, student designers inject certain kinds of their own emotions into their assignments that aim to achieve the learning objectives for their projects to complete. Although the design outcome may be able to motivate the users' emotional responses, this outcome will not be consumed directly by the users in real market under normal circumstance. Therefore design student assignments could only be regarded as *Emotionalise Design*.

Actually in reality, it is not easy to recognize the examples for *Emotionalise Design*. Since designers may inject certain kinds of emotions into the design process to design the outcome, and most of them are likely to transform into *Emotional Design* once appear in the market. It may carry certain kinds of emotions to communicate and interact with the users to motivate them into next emotional response by the appearance or function. In the case of the RMX Extended Mix book, the book finally appeared in the market for the consumer to read may induce their emotional responses. Hence, the book could be regarded as *Emotional Design* at last, depends on the stage that the design is being mentioned.

4.3 Emotional Design

When the design outcome has been designed and appeared in the market, it may possess the ability to motivate the emotions of the users with their consumption. This kind of emotion attributes/motivation mainly comes from the style of design, function, form, usability and the experience that the outcome could be built for the users. In another words, the design outcome may initiate the users' emotions and cause some emotional responses that may make them happy, annoyed, excited, frustrated, etc. In this situation, the design outcome can motivate users' emotion and is called *Emotional Design* from the view of users. Example of *Emotional Design* could be the Juice Skin packaging designed by the Japanese designer Naoto Fukasawa (if it had consumed by the users in real market).

4.4 Emotion Design

If we look into the whole process of emotion flow, i.e. from the designers who inject their emotion(s) in designing the outcome (Emotionalise Design) to the users get motivated for certain emotional responses due to the consumption of the design outcome (Emotional Design). There are interactions between the designers and the users through the design outcome, hence establish a strong relationship among these three roles. This also becomes the ground for the *Emotion Design*.

4.4.1 Visceral, Behaviour and Reflective Levels

The concept of Emotion Design could also be explained with three levels of processing: Visceral level, Behavioural level and Reflective level raised by Norman [18]. The first level of Emotion Design is mainly at visceral level and shown in Figure 2. At this first level, the brains of the consumers received the signals by way of the first impression on the design outcome (that resulted from the designers' design experience) and gave the emotional responses instinctively.

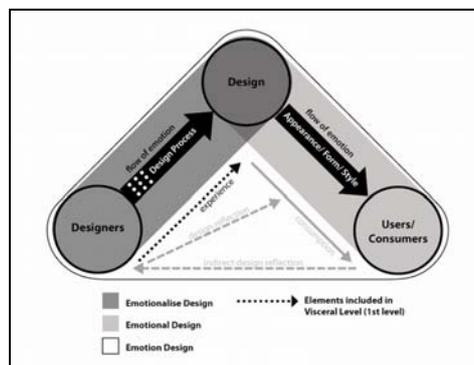


Figure.2 3E Model to illustrate Emotion Design in Visceral Level

describe something that related to emotion yet; few had engaged to investigate the detailed meaning behind and support for such theories.

The proposed model is useful to introduce a new theoretic concept as the indicative regulation on how to adopt these three key terms with the exact meaning included. Also it can be valuable to make clear differentiations among them to avoid any further confusion in the topic. More case studies and applications could be suggested and proposed in the next stage to make the terms more practical.

6. References

- [1] Aken, J. E. V. (2005). Valid knowledge for the professional design of large and complex design processes. *Design Studies*; 26(4), 379-404.
- [2] Bucher, S. G. (2004). *All access: The making of thirty extraordinary graphic*. Gloucester, MA: Rockport.
- [3] Chhibber, S., Porter, C. S., Porter, J. M., & Healey, L. (2004). Designing pleasure; designers' needs. *Proceedings of The 5th International Conference On Design And Emotion*. Retrieved December 14, 2006, from <http://www.designandemotion.org/>
- [4] Choi, S. (2006). Emotional universal design – Beyond usability of products. *Proceedings of The 5th International Conference On Design And Emotion*. Retrieved December 14, 2006, from <http://www.designandemotion.org/>
- [5] Cupchik, G. C. (2004). The design of emotion. In D. McDonagh, P. Hekkert & J. vanErp (Eds.), *Design and emotion: The experience of everyday things* (pp. 3-6). London: Taylor & Francis.
- [6] Darwin, C. (2007). *The expression of the emotions in man and animals*. London: Murray. (Original work published 1872)
- [7] Davidson, R. J., & Cacioppo, J. T. (1992). New developments in the scientific study of emotion. *Psychological Science*, 3, 21-22.
- [8] Demirbilek, O., & Sener, B. (2002). Emotionally rich products: The effect of childhood heroes, comics and cartoon characters. In D. McDonagh, P. Hekkert & J. vanErp (Eds.), *Design and emotion: The experience of everyday things* (pp. 278-283). London: Taylor & Francis.
- [9] Desmet, P. M. A. (2002) *Designing emotions*. Delft: Delft University of Technology.
- [10] Desmet, P. M. A. (1999). To love and not to Love: Why do products elicit mixed emotions. *Proceedings of the 1st International Conference Design and Emotion*. Retrieved November 5, 1999, from <http://www.designandemotion.org/>
- [11] Enders, G. (2004). Design practice presentation on tools and methods for emotion-driven design. *Proceedings of The 4th International Conference On Design And Emotion*. Retrieved July 14, 2004, from <http://www.designandemotion.org/>

- [12] Funke, R. (1999). Emotions: The key to motivation in the experience society. Proceedings of the 1st International Conference Design and Emotion. Retrieved November 5, 1999, from <http://www.designandemotion.org/>
- [13] Hakatie, A., & Ryyänen, T. (2006). Product attributes and the model of emotional design: How the product development engineers perceive product features? Proceedings of The 5th International Conference On Design And Emotion. Retrieved December 14, 2006, from <http://www.designandemotion.org/>
- [14] Hekkert, P., & Desmet, P. M. A. (2002). The basis of product emotions. In W. S. Green & P. W. Jordan (Eds.), *Pleasure with products, beyond usability* (pp. 61-67). London: Taylor & Francis.
- [15] James, W. (2003). What is an emotion?. In R. C. Solomon (Eds.), *What is an emotion?: classic and contemporary readings* (pp. 66-77). New York: Oxford University Press.
- [16] Lo, K. P. Y. (2007). Emotional design for hotel stay experiences: Research on guest emotions and design opportunities. International Association of 50 Societies of Design Research [Press release]. Retrieved November 4, 2007, from International Association of 50 Societies of Design Research Ondisc Database.
- [17] Malka B. P. (2004). Popular design and cultural identities – Emotional exchange: Study cases in Israel. Proceedings of The 4th International Conference On Design And Emotion. Retrieved July 14, 2006, from <http://www.designandemotion.org/>
- [18] Norman, D. A. (2004). *Emotional design: Why we love (or hate) everyday things*. New York: Basic Books.
- [19] Scherer, K. R. (1984). On the nature and function of emotion: A component process approach. In K. R. Scherer & P. Ekman (Eds.), *Approaches to emotion* (pp. 293-317). Hillsdale, NJ: Lawrence Erlbaum.
- [20] Schachter, S. & Singer, J. (1962) Cognitive, social and physiological determinants of emotional state. *Psychological Review*, Issue 69, 379-399.
- [21] Spillers, F. (2004). Emotion as a cognitive artifact and the design implications for products that are perceived as pleasurable. Proceedings of The 4th International Conference On Design And Emotion. Retrieved July 14, 2004, from <http://www.designandemotion.org/>
- [22] Tassinary, L. G., & Cacioppo, J. T. (1992). Unobservable facial actions and emotion. *Psychological Science*, 3(1)3 Issue 1, 28-33.
- [23] Tzvetanova, S. (2007). Emotional interface methodology. International Association of 50 Societies of Design Research [Press release]. Retrieved November 4, 2007, from International Association of 50 Societies of Design Research Ondisc database.