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EMOTION IN VISUAL DESIGN: A REVIEW

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ABSTRACT

An artwork or visual design creates an impact on the minds of the viewer. It makes us think about a particular topic or subject. This research explores the psychological with respect to physiological understanding of emotional responses. It also tries to understand the behavioural changes which emotion can bring and is associated with creation of Visual Design. This study of various perspectives in the area of emotional connection and relation building will be a guiding resource for artists, designers as well as researchers.

Keywords: Emotion, Visual Design, Impact, Connection, Response

1. INTRODUCTION

Hammer & Reymen (2003) Reflection on design is important as it can be helpful in improving the design process and the product which is in the process of designing or just has been first copied Reymen (2001). Learning from their thoughts and feelings, i.e. experiences is the kind of help reflection on design can provide to the designers which in turn can improve their professional capabilities. In the recent times recognition has been provided to need for design research in the field of stimulating reflection. This process also includes supporting methods and its development. Badke-Schaub et al. (1999), Reymen (2001), Schön (1983), and Valkenburg (2000).

Evaluation of design rationally is the interpretation often projected by the reflection process where there is hardly any importance given to emotions. Questions which are projected, to answer them we confirm that thoughts as well as feelings both are to be given equal importance. Emotions and Rationality both play a leading role in the balanced approach which we adhere to. We hope that for a balanced design process which is led by a balanced design decisions comes from the balanced answers to the essential questions, is the underlying idea.

Norman and Ortony (2006) Views of both the Designer and the User differ from each other about a particular product.

A designer focuses on many design considerations. Appearance and Utility are the two which we are focusing here. In similar way a product receives many reactions from the user. We are focusing on three fundamentally different kinds on reactions from the user. 1) Visceral, (evoked by perception) 2) Behavioral (evoked by expectation) and 3) Reflective (evoked by intellect).

2. EMOTIONAL RESPONSE – THREE LEVELS

User emotional reactions are typically produced internally. There are three levels of processing, which we specifically refer to as Reactive, Behavioral, and Reflective in the theoretical work Ortony et al. (In press). These stages are transformed into Visceral level design and Visceral responses, Behavioral level design and Behavioral responses, and similarly Reflective level design and reactions when the theoretical work is applied to design Norman (2004). We must go into the theory a little bit if we are to comprehend and grasp how the user's emotional reactions to a product evolve, as well as the relationship between what consumers feel and what designers do.

3. EMOTION, DESIGN AND REFLECTION

Hammer & Reymen (2003) Emotion and reflection are associated with one another from a social-psychological point of view. Rosenberg (1990) A key trait that aids in determining the nature of emotions (emotional identification), an attempt to monitor their display (emotional display), and the idea of controlling the experiences of these emotions by inducing physical changes through our minds is reflexivity (an entity's process of reflecting on the actions taken and then re-acting upon the same) (emotional experience). Mills and Kleinman have identified the various ways that people experience their feelings and thoughts (1988). An individual's answers to a situation have been categorised in four different ways. Reflexive and emotional, unreflexive and emotional, reflexive without feeling and neither reflexive nor emotional are the four possible combinations. How individuals experience themselves in different situations, is what this typology is based upon. It has been stated by the authors that circumstances are the main reason behind shaping peoples cognitive and emotional reflexes. The circumstances can be many ranging from historical context, to group membership to situations of uncertainty. People’s responses are generally different to emotion provoking situations as they develop their own cognitive and emotional reflexes over a period of time depending on the circumstances they have experienced.

Norman and Ortony (2006) Designers have less control on the user’s Reflective reactions and more over Visceral and Behavioral one. Here also the control is indirect. We reflect this distinct nature of attempting of designers which influences such reactions in the user as the attempts which create emotional affordances. Designers can create processes which has capabilities to create opportunities in

user to experience emotions. In the similar way as creating and building on the physical affordances they are increasing the possibility of control and manipulation on the object by influencing the user. At the end if affordances are used or not is not in the control of the designer[3].

The use of affordances, both physical and emotional, in this context embodies the notion that "The Design of Everyday Things" introduced to the field of design Norman (2002).

3.1. VISCERAL LEVEL DESIGN AND RESPONSES

When surface features are looked into and the appearance of the products are created by the designers, we can say that the designers are concerned about Visceral Design. Viewers automatically appraise and categorise objects according to their perceived value, classifying them as excellent or bad, risky, or safe, warm, and vibrant or depressingly chilly. In this theoretical work, the argument is that these quick assessments have evolved as mechanisms of protection for living beings that which exist within unpredictable and complex ambiences. Dangerous experiences are flagged by negative assessments while positive evaluations wave out sites that are perfect for exploration and in safe circumstances.

People now have access to a vast array of dimensions that are automatically processed and given meaning because to biology. Hence, certain hues are warm, and others are chilly. While other situations, such as the taste of fruits and the delight of colourful appearances, are simultaneously viewed as inviting and safe, others, such as standing at the edge of a high rock or the terrace of a high-rise, are simultaneously deemed to be danger zones. Designers ought to take use of these quick perceptions.

At the visceral level, emotion is extremely straightforward. We refer to it as a "proto-affect" in scientific study since we are not worried about or focused on the effects of that emotion or affect. Visceral level emotions cannot be given such titles since they are so basic. As they are not conscious, they are not worth interpreting. But, we must not lose sight of the fact that these responses are the source of higher level attachments and sentiments, such as worry and concern, happiness and pleasure.

3.2. BEHAVIORAL LEVEL DESIGN RESPONSES

When product use and functionality are addressed by designers, we say that they are concentrating on behavioural design. We can refer to behavioural level responses as taught and informed if the visceral level reactions are instantaneous and biological in character. Where the day to day activities, expertise and behavior come into play and are managed is termed as Behavioral level. Even though in Behavioral level processes are automatically controlled by the sub-conscious, but because training and learning are linked to the acquisition of day-to-day competence, they also include prior knowledge, forecasts of the future, and scenario planning.

Expectations and predictions of the near future are closely connected to Behavioral responses. First forms of identifiable emotions i.e., both fear and hope are derived from these predictions. Randomly people get angry and react by hitting and kicking at objects that hurt them in any way. These kind of actions and reactions are obtained from the Behavioral level, as the non-success of objects creates bold emotional responses as they fail to live up to the expectations of user. How our day-to-day interactions with objects and things should feel is dependent on them and

therefore we call these reactions 'expectation induced' which are evoked at the Behavioral level.

3.3. REFLECTIVE LEVEL DESIGN AND RESPONSES

All layers of analysis culminate in contemplation, user-performed act analysis, interpretation, and progress tracking. Self-image and meta-processing reside here. Emotions such as gratitude, shame, admiration, pride, and the entire series of articulated emotions live in this home of meta-processing and self-image.

Reflection is the name given to the highest level of intellectual functioning that a person possesses, when it is possible to appraise oneself, assign responsibility, and consequently experience feelings of pride and guilt. This is a self-aware and cognizant level. It is the level at which the most developed emotions, or those that include a sense of notion gained from the affective components of the visceral and behavioural levels, taken through with a conscious analysis of that notion, can occur. From the perspective of a designer, this is where individuals display or make their goods look horrifying. Here is where quality joy, pride of ownership, standard and overall brand plays a vital part.

We say that designers are focusing on Reflective design when they are giving attention to these components.

Not only culture and experience influence Reflective level but the whims of fashion as well as one's social group are also responsible factors. Reflective design varies from culture to culture, from age group to age group, and for some people, from week to week depending on the role they are playing in society. Consequently, we all take a note of the difference between the clothes one wears for a night out, to a beach party or to a business meeting with executives of the firm. The conscious choice of our attire is frequently employed to send a message to others about our social standing and the part we performed in the occasion. These are Reflective level differences. Therefore, we call Reflective level responses as 'intellectually-induced'.

Hammer & Reymen (2003) These studies raise a number of questions when we apply them to the subject of designing, including: "Does the design process manifest the above mentioned four ways of an individual which may be taken to respond to a situation? Are there any major differences in the cognitive and emotional aptitude of designers and do they factor into how different personalities of designers are related? Also, what circumstances (design contexts) cause what kind of emotional reactions. Situations of uncertainty are more create a base for more probable instances than the stable situations which can invite emotional responses Mills and Kleinman (1988) .

Dealing with uncertainty is a fact which designers have to face more often, and this only reinforces that emotions play an important part in the process of designing. If we wish to let reason and emotion play their respective parts in design reflection, we must provide designers the opportunity to articulate their thoughts and feelings. In the section that follows, we examine the potential ways in which we may relate to and connect emotion with design contemplation. The questions listed above should be taken into account for additional investigation.

4. THE DESIGNER'S PERSPECTIVE

Norman and Ortony (2006) To comprehend the importance of emotion from the designer's perspective, we need to know what the designer is attempting. The designer's main focus should be on combining various product limitations and

dimensions into a cohesive design. As the primary focus of this study, we limit our comments to two elements of products: utility and appearance.

1) Emotion by Accident

Users' emotional reactions to products are displayed without the designer being aware of it. This is true in the craft industry, where designers feel themselves to be expert artisans who create everyday products. In such circumstances, we say that the display of emotions is unintentional. They were not meant for the interactions between the user and the product.

2) Emotion by Design

To imbibe and invoke emotions of the user is the motto of many products which are designed to do so. Number of ways is there with the designers to create this situation. Most designers have a good sense of how consumers will react to and perceive a product, as well as an understanding of the importance of the three design elements that can induce and have an impact on users' perceptions. i.e., reactive (Visceral), functional (Behavioral), and self-image as well as considerations of the brand (Reflective).

User visceral reactions result from their initial emotional reaction to the way the product feels and looks. A gut feeling, or more formally called as the "wow effect" in the majority of positive circumstances.

5. THE USER'S PERSPECTIVE

We noticed right away that the emotional approaches of the items determine what the designers intend for the end users' emotions to be. If we have to know and understand the affective interpretations of users to products, the focus should be on Appearance and utility. Emotional affordances can be created by design, and they can arise by accident too. When designers prioritise utility, there is a higher likelihood that something will evolve by accident than when they prioritise appearance. We as users are many times inspired by just by the beauty of a product or can be repelled by its ugly appearance. We as users many times are filled with joy at how greatly some device which is mechanical like for an example an automobile is performing or get a shock by its unproductiveness. We are many times dazzled by the brilliance of a particular design features while on the other hand many times are surprised at their obvious mistakes.

1) 'Emotion by Accident' Products

The interaction which a user has with any product is the dependent factor for key to emotion-by-accident. In this kind of interaction, a user can experience certain kind of emotion just because of the utilitarian aspects of the product. This is a different kind of response from what is planned by the designer.

2) 'Emotion by Design' Products

Designers shape many products intentionally to bring out certain kind of emotional responses within the users. This is a point which we came across in the section on Designer's Perspective.

Integration of different components is required to design the services which satisfy voluntary requirements to create emotions in others. Not even one component is unique or new necessarily, but the final composition has the ability to enable a person to easily (at their convenience of place and time) do something which is intentional to give rise to an emotional response in another person. These kinds of services are example of a way to design for emotional affordances.

The Telekatessen project, from the Institute for Interactive Design in Ivrea, is a fascinating proposal for this kind of service. The idea is to provide a straightforward method for someone to send a special surprise present for someone else. With the help of this service, anyone can opt at random to surprise someone with a chocolate or pastry gift along with a little note piped in icing on top. Sending a text message to the bakery store sets the action in motion. The bakery SMSs the recipient the details along with a gift certificate. The bakery produces the pastry with the message imprinted in icing when the recipient of that message visits the shop and displays the message.

Institute for Interactive Design Website describes it in the way given below:

Imagine getting a message telling you that a special someone has arranged for you to pick up a surprise at a nearby bakery. When you show the shopkeeper the message you've received, they give you a chocolate-flavored pastry with a handwritten note from your lovely friend on it.

This imaginary service might actually exist. In this instance, the service is the intended object rather than the actual physical thing. It may have a very large-scale effect. The goal is to leverage data services and pastry shops to directly convey one person's emotions to another. Even though it is a service design, the final product is still physical, edible, and delicious.

6. SUMMARY

The designer's perspective (of necessity) and user's perspective are different. It is true that a person might have various emotional reactions depending on how they use, own, or react to a service or product's outcomes. Designers can attempt to elicit emotional responses from their users by developing emotional affordances, but they have no direct influence over the feelings that the user will express.

Designers should work in this complex situation of multidimensional demands and limitations. We have only looked into two aspects. With the examples of 1) Beauty and 2) Utility, we can see how these two factors play a distinct function for designers than for users. By focusing on different design attributes, designers can aim to understand and control users' visceral, behavioural, and reflective responses through the affordances they give.

Hammer & Reymen (2003) To conduct a fair design reflection, a comprehensive understanding of the design process is necessary. Such a comprehensive viewpoint ought to be founded on the shared opinions of the design stakeholders. The software architecting process, which is expressed and explained in, is where the stakeholder issues, stakeholder notions, and associated opinions are taken IEEE Standard 1471-2000, (2000). Designers are significant stakeholders since they are involved in their own works of art. Quality, functionality, cost, supply chain, time-to-market, service, logistics, look & feel, and the touch of a design are concerns of stakeholders.

From this point forward, we will refer to the opinions of the designers and stakeholders as stakeholder opinions.

The two important factors of being rational and emotions should be incorporated in Stakeholder views and stakeholder views should be based on the personality and involvement of the respective person. Formulas and models are used generally to express *rationale for a viewpoint*. Engineers are generally thought to be less skilled at expressing the emotional components of a viewpoint, such as doing so through artistic expression or verbalising their feelings. Here, we take into account the design team, the design environment, the design procedure, and the product that will be produced in light of the relationship between emotion. The

object in focus's look, feel, and sensibility, as well as its artistic or aesthetic beauty and impressions in a particular setting, are tied to the main emotions. These emotions can project positivity or can be negative depending on the given situation. Our approach is different form the generic method of interpreting views only in the way of models which are abstract. The issues that develop when designers concentrate on abstractions are extremely evident in software engineering. One of the main reasons why computer systems are ineffective and fall short of what their users expect when they consider their daily operations is the attitude that underlies them. Abstractions are of prime importance in engineering design, but they are only connected with how we think and not to how we feel or experience.

To develop a holistic vision, many stakeholder perspectives must be combined into a vivid representation of a design or design process. We are able to realise and recognise an inner vision that is formed from many stakeholder viewpoints and is best for directing the designer to have both an intellectual and an emotional connection to the subject of contemplation. This results in a process that takes into account not only technological interpretations but also perspectives connected to futuristic uses of the design, as well as its environmental, psychological, ethical, and sociocultural effects. Planning for future design activities should be based on the lively image. To get to this stage, the designer must understand the dynamic image and create a deep meaning from it that is based on both logic and emotion. We refer to intuition as the creative process of comprehending and attempting to understand the whole significance of a circumstance. To get an unforced and free association the act of intuition should be prepared carefully and documented. This signifies that the design process and design first go through this careful evaluation form all the relative touch points by building on a lively image. Therefore, prerequisite to an intuition is a lively image. Also, in order to provide space for in-depth insights, the designer needs to be free for a while.

Summarizing emotions must be a clear part of design reflection. Our strategy is holistic in a number of respects as opposed to the typical reductionist methods used to address the design dilemma. The reflection initially produces a product based on the perspectives of all stakeholders. Secondly, both, a rational approach as well as feelings are overviewed are considered. Finally, the designer is involved in the process not only as an intellectual being but as a human being.

7. PROCESS OF REFLECTION

We divide the design reflection process into the following five steps to include emotions in an explicit way. 1) Identifying the questions to be addressed by the process of reflection. 2) To collect the point of views of relevant stakeholders. 3) Building upon the lively image. 4) To investigate and find out in-depth meaning and addressing the initial questions of the lively image build-up. 5) Drawing results from the conclusions. When first three steps are grouped it turns into a preparation phase and when the last two are grouped the called collectively as a conclusion phase. A break should be provided between the two phases of reflection. Some incubation period in between the phases simulates natural addressing processes and is necessary before the conclusions to be drawn. Each of the steps is explained below.

Establishing a number of vital *questions* is the start of *preparation phase* as indicated in the introduction. The current state and the desired state of the product that is to be developed, the design context, and the design process may be the subjects of these queries.

The second stage entails defining the concerns of significant stakeholders and the related stakeholder points of view in regard to the issues set forth in the first step.

Checklists as well as models can be created to address the thoughts and feelings which are appropriate and related to the different views.

The third step is to deal with imagination where the designer integrates the different stakeholder views, and a lively image is formed. To do it, they have to look back for a while and analyse the views so that they can get a complete picture of the possible scenario.

There should be a Pause in between the preparation and conclusion phases. You should do things that are not immediately related to your reflecting and designing activities. To complete or confirm their opinions on the design situation and activities, communicating with stakeholders or other designers can be helpful. We assume that during this gap, the reflecting process continues in the mind in an unconscious manner.

When the lively image starts showing up and revealing its core by means of intuition, we can experience the starting of the conclusion phase. To fully understand the design process or its essence, it is frequently necessary to conduct multiple reconsiderations of image and viewpoint. The designer is now in a position to address and respond to the primary issues mentioned in step 1. The replies can be supported by the designers' personal emotions. Drawing conclusion and marking out the future actions to be taken ends the reflection process.

Figure 1

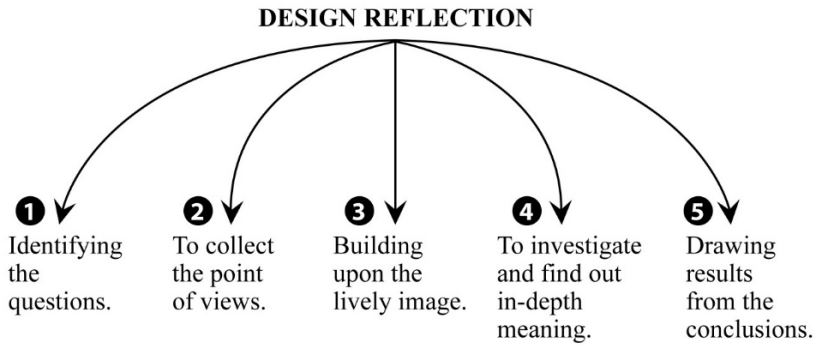

Figure 1 Design Reflection

8. CONCLUSION

We have developed a prescriptive model of the reflection process that combines emotion by putting emphasis on the feelings of both the stakeholder and the designer. The end outcome ought to demonstrate a fair method of considering design in which both reason and feeling are important. To carry out a well-balanced design reflection, tools for each of the five steps of the reflection process must be created, and the reflection process must be integrated into the design process. The latter may come about if the reflection process is used as suggested in to begin and conclude design sessions Reymen (2001). Particular focus should be placed on the mindsets necessary for balanced contemplation and the personality qualities related to emotional manifestations. The use and effects of the typology described by Mills and Kleinman (1988) in the field of designing, particularly for design reflection, should also be the subject of further study.

Baker (2004) Many models about emotion and perception have been found useful and relevant in Vedic philosophy. One of the ideas have influenced and inspired this particular theme of color and emotion affecting the product, the consumer and the designer. The idea of this concept is that there are three interwoven mental states in which we all fluctuate in between the degrees of these states. They are: energy, inertia and clarity. These three states have been given colors. Red is associated with energy; black or dark blue is associated with inertia and light or colorless is associated with clarity Baker (2004)

Passion, anger, agitation, excitement, enthusiasm, humor, excitement, and pleasure are the areas associated with red mental energy. Sadness, sleepiness, lethargy, boredom, fatigue, depression, and relaxation are strongly associated with black mental inertia. Light, still, balance and just as it should be – feeling or tendency is associated with clear mental state as it has no degrees Baker (2004).

As designers we strive for equilibrium and balance and therefore, we need and should create interplay of these states. Similar qualities are exhibited by the products in them. Some designs may showcase passion, aggression, bright and loud, excitement or sensuality because of its red energy. Some designs may exhibit and provide an essence of lethargy, heavy, solid, soothing, safety or boring due to its possession of dark energy. And some other designs may manifest clarity and light energy and therefore showcase harmony and a sense of uplifting in them. If we generalise this idea, we can say that all bright, strong, and bold colors can be energising, all dense and dark colors can give or provide heavy and grounding affect. Soothing is the word for all that Clear and Light. Baker (2004), McDonagh et al. (2004)

Hammer & Reymen (2003) Our approach works well when the designers are equipped with the aspects of intuition and emotions, which is its main limitation. This means that they must give a) outmost importance to these phenomena, 2) Watch them closely and c) distinguish between the sorts of emotions and their meanings. However, the majority of engineering programmes work hard to accomplish the opposite.

Another problem is that emotions can be created based on the designer's biases, the circumstance, and the environment. But when a designer starts basing decisions on emotions, they risk making blunders. Nonetheless, the risk of making errors may be eliminated if they are well-prepared, in other words, if they adhere to the procedure outlined in the research report.

CONFLICT OF INTERESTS

None.

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REFERENCES

Badke-Schaub, P., Wallmeier, S., Dörner, D. (1999). Training for Designers : A Way to Reflect Design Processes and Cope with Critical Situations in order to Increase Efficiency. In Proceedings of the 12th International Conference of Engineering Design, München, Vol.1, edited by Lindeman et al., (München:Technische Universität München), 205-210.

Baker, S. L. (2004). Colour and Emotion in Design. De Montfort and Loughborough Universities, UK, 188-189. Taylor & Francis. https://doi.org/10.1201/9780203608173.

Baker, S.L. (2000). Power Diagrams. Websiteaccessed01/2000.

Hammer, D. K., & Reymen, I. M. M. J. (2003). The role of emotion in design reflection. In D. Mcdonagh, P. Hekkert, J. Van Erp, & D. Gyi (Eds.), Design and emotion: The Experience of Everyday Things: Proceedings of the 3rd International Conference of Design and Emotion. July 1-3 2002, Loughborough, UK, 421-425. Taylor & Francis. https://research.utwente.nl/en/publications/the-role-of-emotion-in-design-reflection

IEEE Standard 1471-2000, (2000). Recommended Practice for Architectural Description, (IEEE Press).

Lazarus, R. S. (1966). Psychological Stress and the Coping Process. New York : McGraw-Hill.

Lazarus, R. S. (1991). Emotion and Adaptation. New York : Oxford University Press.

Mandler, G. (1984). Mind and Body : Psychology of Emotion and Stress. New York : W. W. Norton.

McDonagh, D., Hekkert, P., Erp, J.V., Diane, G. (2004). Design and Emotion, The Experience of Everyday Things. Taylor & Francis.

Mills, T., and Kleinman, S., (1988). Emotions, Reflexivity, and Action : An Interactionist Analysis. In Social Forces, 66(4), (Chapel Hill : University of North Carolina Press), 1009-1027. https://doi.org/10.1093/sf/66.4.1009.

Norman, D. A. (2002). The Design of Everyday Things. New York : Basic Books. (The re-issue, with a new Preface, of The Psychology of Everyday Things.) Published in Italian as “La caffettiera delmasochista.”

Norman, D. A. (2004). Emotional Design : Why We Love (or Hate) Everyday Things. New York : Basic Books.

Norman, D., Ortony, A. (2006). Designers and Users : Two Perspectives on Emotion and Design, Northwestern University, Lawrence Erlbaum Associates.

Ortony, A., Clore, G. L., & Collins, A. (1988). The Cognitive Structure of Emotions. Cambridge (UK) : Cambridge University Press. https://doi.org/10.1017/CBO9780511571299.

Ortony, A., Norman, D. A., & Revelle, W. (In press). The Role of Affect and Proto-Affect in Effective Functioning. In J.-M. Fellous & M. A. Arbib (Eds.), Who Needs Emotions ? The Brain Meets the Machine. NewYork : Oxford University Press.

Reymen, I. M. M. J. (2001). Improving Design Processes Through Structured Reflection : à Domain-Independent Approach. [Phd Thesis 1 (Research TU/e / Graduation TU/e), Mathematics and Computer Science]. Technische Universiteit Eindhoven. https://doi.org/10.6100/IR538800.

Rosenberg, M. (1990). Reflexivity and Emotions. In Social Psychology Quarterly, 53(1), (Washington : American Sociological Association), 3-12. Schön, D., 1983, The Reflective Practitioner : How Professionals Think in Action, (New York : Basic Books).

Valkenburg, R. (2000). The Reflective Practice in Product Design Teams, Ph.D. Thesis, (Delft : Delft University of Technology).