Design Behaviors

Design Intervention in the Context of Influenced Cognition

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ABSTRACT

When and why is our cultural cognition influenced by external stimuli? How do we recognize objects of our cultural or geographical surroundings? How much have we learned a specific visual language/style in a specific culture, or from a unique geographical region? How much have technology and traveling influenced our cognition? These are some of the questions, which forced me to propose a web-based design methodology to investigate and collect cognitive/perceptual data from all over the world, quite similar to the DNA-tracing project carried out by the National Geographic Society

This design methodology should fulfill the following purposes: (a) Invite individuals to gather and test their cognitive shifts over a period of time; (b) Enable individuals from all over the world to investigate their links to different geographic regions based on their preferred choices; (c) Collect empirical data related to regional perceptual choices for the future research in design and consumer behaviors. The idea is to create a website; http://www.TraceMyognition.com. We already know that current industrial trends and the porosity of technology, design and liberal arts in developed countries have fostered professional practices in design. This distinctive mergence of knowledge has also influenced design pedagogies, and as a result, educators are juggling to find robust methods for the transfer of information or experiences in classroom settings. In South Asian developing countries such as India, Pakistan, Bangladesh, and the countries in the Middle East, there have been noticeable adaptations of design as aesthetical graphical elements, or perceptual satisfaction, to associate oneself to a style or modernized culture. This trend of the perceptual adaptation of a "style" or imported visuals in countries predominantly in the Middle East and South Asian subcontinent has created disastrous mental equations in resolving cognitive and visual problems. The proposed web-based design methodology could at lease help understanding these cognitive mutations.

I was born and raised in a family having Perso-Indian perceptual choices, moved to the west and finished formal design education, created graphics for entertainment industry for ten years and then moved to Middle East for the transfer of my experiences to the young knowledge-seekers in an institutional environment. There was no distinction between arts and craft in my early schooling. Everything beautiful was arts or design for me. After western exposure and formal way of adopting, changing and manipulating elements and principles of design, forced me to understand the dichotomous nature of arts and design together with its crafts. Furthermore, working for motion pictures revealed to me that what are the perceptual decisions of a person watching DVD using "pause" and "play" in order to elevate the intensity of her/his emotions. Moreover, when I moved to Middle East everything was juxtaposition in my surrounding, from lush green artificially watered grass to shinny concrete in the middle of flat terrains of sand.

The word *funkar* in my native Urdu language, as in the Farsi language, is a combination of *fun*, which means arts, and *kar,* which means work, someone whose work is to create art. Anyone who made artifacts was a *funkar*. In our Perso-Indian perception, *fun* is related to all arts but that was before the introduction of the modern design for the development of consumer products.

Kumar Vyas explains this in the context of Sanskrit language. According to him, "The traditional design thinking is rooted in a concept of *kalaa*, which suggests unity among all human arts, skills, science, and techniques. European concept of arts and craft as two separate entities were brought to India when the British set up their arts and crafts, and the craft object vis-à-vis the machine made object" (Vyas, 2006, p. 28).

All the valuable experiences forced fortunate me to investigate my own cognition and I collected those shifts over time. I carried these cognitive changes—or preferred perceptual choices—as my proud possessions for many years and then I thought: why not have a tool which would visually represent my cognition/perception in a form of mutated visual representation. I wanted to see my cognitive representation from earlier simple form to the current evolved form where it has reached by acquiring complex influences. I further hope that by this investigation and design methodology, if I have a tool which could represent my cognition and its changes in a visual form, I could be able to find out to what extent this form has been mutated and how many times was I influenced by cogitative shifts and, last but not the least, how many of us in the whole world have, ethnically and/or geographically, influenced different cognitive shifts by traveling, studying, or by some other kind of significant variable.

Our perception always plays a major role in scanning, selecting; and adopting to our surroundings. Aesthetics and looks has always been a major key player; and as Donald Norman comments, "Emotions, we now know, change the way the human mind solve problems. The emotional system changes how the cognitive system operates (Norman, 2004, p. 18). People have different social structures, cognition, notions of space and time, and imagination of the future in different parts of the world based on geography, climate, and social structure. People in the Middle East and

the South Asian subcontinent share commonalities in the above-mentioned human elements. It is important to investigate "influenced" cognition in order to understand human preferences and choices based on their political, social, and geographical surroundings. My attempt may be a structured point of departure to investigate the role of design in the context of cognitive development, particularly in the emerging urban communities. People in developing urban communities have been importing perceptual choices and preferred visuals without linking them to their indigenous visual evolution. This infection has caused shifts in our visual perception and, consequentially, practice, and theory related to arts and design have become directionless or, at least, not fresh and genuine in some regions. One may argue that this directionless growth of visual adaptation may be a style in itself or an evolutionary phase but with that we witness a clear deceleration in inventiveness and originality. I think our cognitive purity mutates over lifetime from its original initial state of purity (see Figure 1).
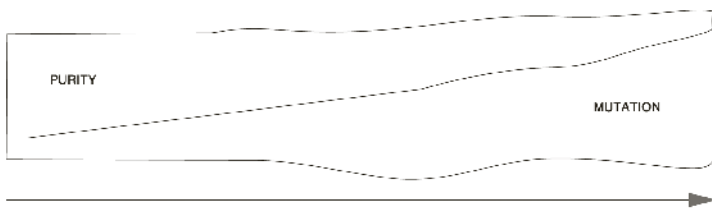

Figure 1. Cognition from purity to mutation

I know that finding an individual cognitive mutation is not an easy task. The proposed methodology is more specific to investigate the qualitative and quantitative data and its tangible graphical representation. This system of inquiry may serve as the epistemological basis for a proposed research-based interactive model. The first step to tackle this challenge is to conduct a review of the literature and try to find out which other people have solved a similar problem and how. The main challenge in its way may be information gathering and analysis. The result may lead the module to the point where it could justify the quantitative approach to categorize a qualitative variables related to human cognition. Another justification to activate this inquiry is to create a bridge between highly sophisticated data analysis web-based-tools and percentile of our complicated cognitive behaviors (see Figure 2).
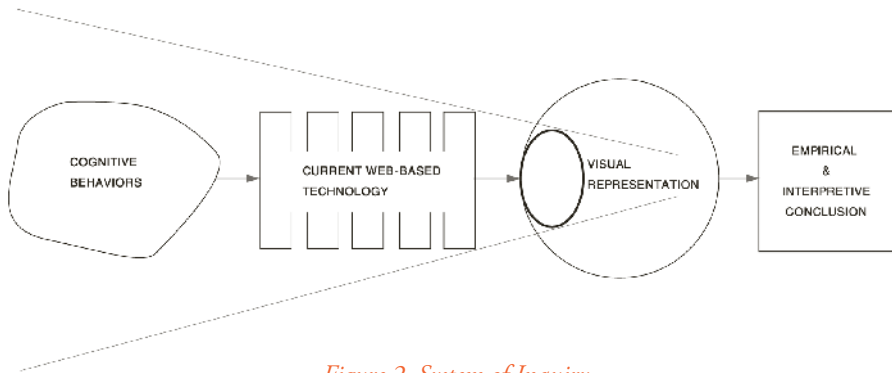

Figure 2. System of Inquiry

This research design was framed by my assumption that we all have mutated our cognition over the period of our lifetime. My results will be based on mostly qualitative analysis of a type of human and his/her geographical traces. Just for example, I may segregate my users into at lease three different types of capital variables:

- **Geographic Capital Variable (GCV):** When and where a person was born, has lived and is currently living.

- **Knowledge Capital Variable (KCV):** The occurrence of learning over a period of lifetime, education, exposure and knowledge carrying environment are some of the percentile-parameters that I would include in my equation.

- **Social Capital Variable (SCV):** It is the user's acquired social influence, his/her social circle, friendship, marriage, and other socio-interactive influences in his/her lifetime.

Within this system of inquiry, there will be multiple methodologies, or choices for structuring the variables. By adopting the subjective assessments for compartmentalization of different variables, I may revitalize the ancient knowledge of qualitative assessments within the modern scientifically investigative paradigm. For example, I may break up the human species into four major races; African, Caucasian, Asian, and individuals of mixed racial ancestry. This categorization will contribute the GCV parameter.

What percentile I should assign to GCV variable? This particular percentage may be driven from my search and findings. For example, we presume that I have found in my research that more than 90 per cent of human genetic variation exists within populations; less than five per cent distinguish what are commonly called "races". Therefore, these findings together with my future search will establish a percentile for the GCV parameter and justify the validity on the bases of scientific data. I further argue my own methodology and cannot eliminate researcher-centric-assessments together with interpretive analysis. But I think this is just a point of departure. This idea is just like a fetus for me. In order to be a newborn, it has to go into many stages or phases. What form it will adopt and what character it will carry, I really do not know at this stage of my curiosity or dilemma related to cognition.

The above discussion about GCV parameter can go further and several elements might make it even more complicated, as "race" defined by the United States Census Bureau and the Federal Office of Management and Budget (OMB), is a self-identification data item in which residents choose the race or races with which they most closely identify. The categories represent a social-political construct designed for the race or races they considered themselves to be and "generally reflect a social definition of race recognized in United States". According to the racial classifications used by the Census Bureau, issued October 30, 1997, by the Office of Management and Budget, there are five minimum race categories, which are American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, White, Hispanic or Latino. This is just one example. When we see our world in general there are many countries, which have different races within their territorial boundaries. Consider India, which has 16 official languages and Pakistan where, officially, 15 languages are spoken. According to (CIA) Central Intelligence Agency of United States, Ethnic groups in India are

Indo-Aryan 72%, Dravidian 25%, Mongoloid and other 3%. Both the countries have a plethora of cultures and sub-cultures. To start with, I am looking at constructing one or two modules for specific and current territorial/ethnic boundaries in the world. This may give me an opportunity to analyze an isolated scenario and retrieve some results based on case studies within that module (see Figure 3).
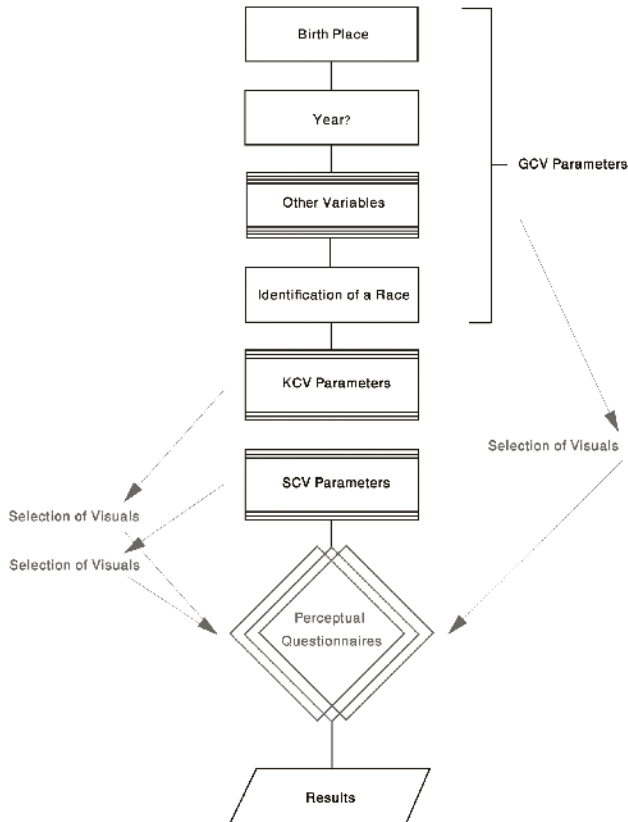

Figure 3. Structure of the Proposed Model

The model is just at its very early stage and may transform into entirely different structure. At this early stage, I am focusing mainly the perceptual aspect of cognition. I am thinking of building this user interactivity on Java, MySQL, and/or PHP, a server-side HTML embedded scripting language. The long-term research engagements will results many layers of qualitative and quantitative findings. I am looking into the development of immersive environment for the user's results. This will invite many users to play and engage in the data collecting process. For my own data collection, the results may be phenomenal, as I could generate users' empirical findings from all over the world, their cognitive traces and shifts in their perception.

From a user's perspective, the model should generate three graphical and numeric data in three layers:

(1) Dominant influence based on indigenous style and/or external sources

(2) Trace Map over the planet Earth to see the traveling factor on cognition

(3) Cognitive shifts (preferably in an immersive environment) to analyze cognitive mutation visually

The outcome of this research is two-fold: (1) to provide a conceptual framework for users worldwide for the understanding of the range of cognitive shifts and; (2) to collect an empirical data across the world for future research in design behavior. In this way, I will target two system of inquiry—scientific and mythical.

The categorization of individual variables, by which these variable will be making sense and graphical representation of these data variables are all based on scientific system of inquiry, whereas specific assessments of evaluations, and assessments of individual poetic qualities are based on a mythical system of inquiry. The second phase should include much of the scholarly work done in design history, design theory, and consumer behaviors in relation to the ethnicity. This dichotomous system of inquiries should be the fuel for the schematic design of a possible user interaction. Therefore, questions, figures, and instructions to lead a user in this website should depends on the manipulation of phenomena that could be measured by mathematics and non-mathematical evidences i.e. verbal, visual, and artifactual (see Figure 4).
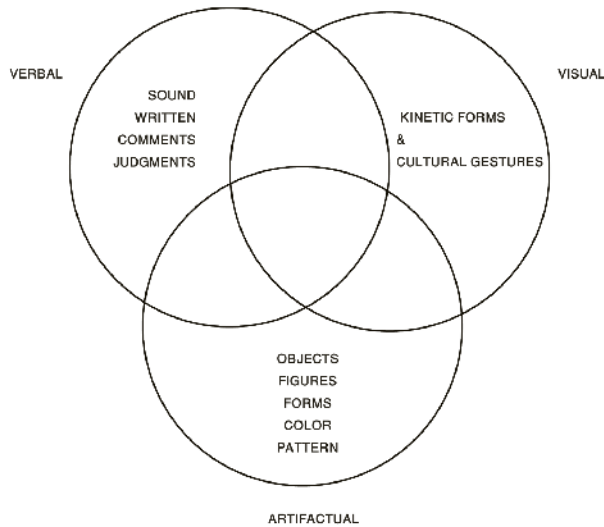

Figure 4. Mythical system of inquiry

The Graphical User Interface (GUI) of this endeavor should consider the simplicity and raw attribute of its user worldwide. The design should not only invite the audience but also provide them with some notion of their influenced cognition. The user after a multiple, simple, and interesting questionnaire should be able to experience at lease three graphical data type on the screen: (1) a trace map representing the user's traveling behavior over the map of the world; (2) users-influenced cognition and its 3D graphical representation of dominant attribute; and (3) a 2D data chart illustrating all the attributes. I am aware that 3D graphical representation may push the current web-based immersive technology but there is nothing wrong with exploring the available options. One possibility may be to start the uninfluenced cognition with the representation of a simple cube (see Figure 5).
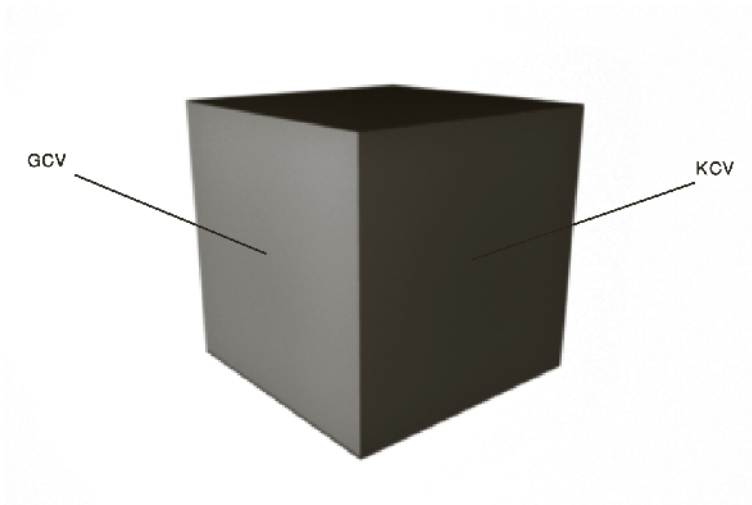

Figure 5. Representation of GCV and KCV parameters.

The six facets or sides of a cube may represent or carry distinctive cognitive attributes. In reference to the above discussion, in addition to other variables, these facets may represent the three capital variables—GCV, KCV and SCV—of a targeted user. Individual facets on this cube, based on user's cognition, may further divide a single variable into two or more representations. For example, GCV may further be categorized into (a) geographical boundaries GCV1 and (b) ethnic affiliation GCV2 of a user. In this way, one facet of the cube may transform into two more dynamic facets to represent each GCV1 and GCV2 sub-attributes of a GCV variable (see Figure 6). User can rotate and visualize the mutation within an immersive environment.
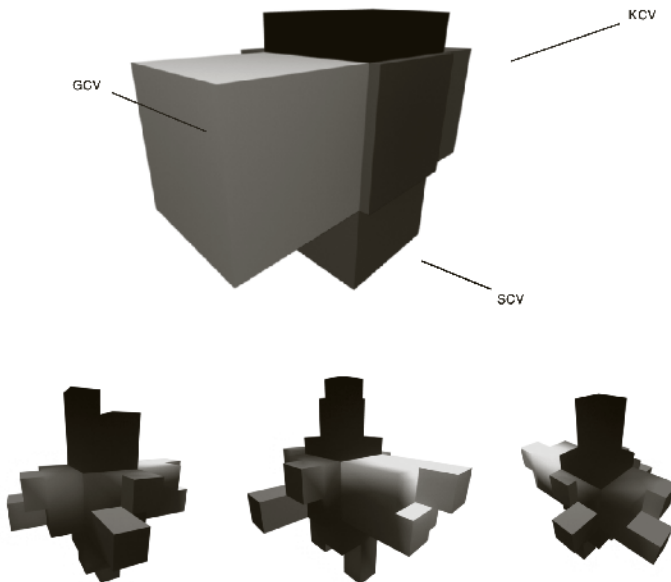

Figure 6. Variables represented in 3D Mutation

CONCLUSION

In sum, the discussion above has proposed a design methodology to utilize inter-active technologies over the web and search for an individual cognitive dilemma. A prototype based on a few geographical regions and simple questionnaires could generate a platform for the start of this website: http://www.TraceMyognition.com. The graphical representation of cognition is intended to assist users in making sense of their thinking and preferred choices. Future work aims at a simple prototype with graphical user interface to implement the methodology. The authenticity of this specific system of inquiry would necessitate collecting appropriate questions for users' interaction, and proper quantitative data analyses and visualization.

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