



## CLASSICAL ELEMENTS: A METAPHOR TO IDENTIFY AND TIE MEANING AND EXPRESSION IN THE DESIGN PROCESS

R.S.D.Wickramanayake<sup>1</sup> and Dr.U.G.D. Weerasinghe<sup>2</sup>

<sup>1</sup>Faculty of Graduate Studies, University of Colombo/Colombo, Sri Lanka

<sup>2</sup>Department of Architecture, University of Moratuwa/Moratuwa, Sri Lanka

**Abstract:** The paper discusses a studio design project that introduces the design language to first-year undergraduates via a series of active learning endeavours which revolves around metaphors of classical elements. The project eradicates: (1) Preconceived notions of material; (2) Inclination to use representational symbols; and (3) Technical ambiguity in presentation that disrupts the speedy and directional flow of the design process. In so doing, it ties meaning and expression. After describing the studio practice, the paper delves into the literature to retrieve its embedded theoretical framework. This brings to the surface the validity of using metaphors of classical elements as a universal device to identify, focus, articulate and thereby tie meaning and expression in design. The malleability of classical elements, gained through their liaison with image schemata, was found to facilitate this. The result is an emergence of a probable taxonomy of primary meanings and expressions that can be utilised across the arts.

**Keywords:** *design process, meaning and expression, classical elements, metaphor, image schemata*

### 1. Introduction

Guiding students to compose is vital in teaching design. Composing is used to convey an intended meaning to listeners, observers, readers or any other users in a comprehensible manner. Composing relates to how our human brain has been wired to perceive through Gestalts. Gestalts are the groupings that happen in our brain in order to comprehend the information received. Design is using method, intentions, forms and space to produce utility with meaning and style. Design at its highest level is integrating the above and transcending all to make art ... coherent, consistent, lively and rhapsodic (2010, Soon). Art is produced when the presence of forces making a perceived pattern in a composition evokes an experience (Arnheim, 1958). In 2D and 3D composition, design elements such as size, line, shape, texture, colour, etc., are handled utilising design principles such as balance, rhythm, emphasis, scale and proportion to achieve harmony or unity to produce this artistic expression. Other modes of artistic work, too, have similar elements and organising principles in their language, in order to convey meanings into aesthetic expressions. Prior to a 'meaning' being transformed into an aesthetic expression in a design, the learners need to root out the exact abstract qualities demanded by that meaning at the inception of the design process. Meaning is composed of values (Broadbent, Bunt & Jencks, 1980, p.284). The form is the symptom; the non-observational component is the meaning (Broadbent, Bunt & Jencks, 1980, p.278). Darcy Thompson calls form, the

diagram of forces (Alexander, 1964). Meaning is the collective understanding these forces. The expression is not added; it belongs to the form (Shultz, 1965). The abstract qualities demanded by meaning could be interpreted as the integrated qualities of lightness, heaviness, tension, calmness, etc., in diverse proportion. To gain clarity about these integrated qualities, their basic generative constituents are explored separately in this project. What is significant in this task is that these qualities, experienced by the senses during the act of perceiving, traces a relationship with the classical elements: water, earth, air and fire. Therefore, a studio design project that focuses on the generic abstract qualities of meanings to introduce design elements, design principles and composition was designed by the author for first-year undergraduates. The project identifies and celebrates classical elements so that, one day, the students will understand the combinations of such around them and create such in forms and spaces they create as per their functions and contexts. Existing literature provides diverse interpretations of classical elements, which date back to thousands of years. “The pre socratics - an overview”(2011) conveys, many [philosophies](#) and [worldviews](#) contain a set of classical elements that are believed to reflect the simplest essential parts and principles of which anything can consist, or upon which the constitution and fundamental powers of everything are based. These elements of earth, fire, air and water are analogous to the categorised experiential sensations of the natural world. The names are symbolic of their inherent qualities and/or modes of action (Highbaugh, 2015). The four elements are considered as the base of all observation of real sensations in Buddhist teaching. These elements convey how a physical thing is sensed and perceived. These elements are sensed and perceived by solidity or inertia (earth), heat or energy (fire), expansion and vibration (air), and cohesion (water) (Highbaugh, 2015). Called *Rupa skanda*, or form aggregates, they can be experienced by all five senses and perception. Earth is experienced by its hard–soft quality, water by its cohesive and oozing quality, fire by its hot–cold quality, and air by its blowing and distending quality (Buddhagosa Thera, 1956). Although usually translated as ‘element’, the Chinese word *xing* means ‘changing states of being’, ‘permutations’, or ‘metamorphoses of being’ (Highbaugh, 2015). The Chinese *Wu Xing* –constitutes five elements, phases or agents – they are: fire, earth, metal (literally, gold), water and wood (Highbaugh, 2015.). “The pre Socratics - an overview” (2011) conveys that many concepts related to the natural elements, were once thought to be analogous, are now understood more figuratively. Even though there are different interpretations, the elements of earth, fire, air and water are common constituents. As per Arroyo (1975), they are not merely symbols or abstract concepts; they refer to the vital forces that make up the whole of creation, which can be perceived through the physical senses. They comprise everything we normally experience (Merlin, 1989, p.93). Anthony Lawlor describes these elements as qualities of a conscious pattern of intelligence, which portrays the characteristics in physical form (1994, p.12). [Proclus](#) (412–485 AD) maintained that each of the elements has three properties. Fire is sharp, subtle and mobile, while its opposite, earth, is blunt, dense and immobile. Air is blunt, subtle and mobile, while water is blunt, dense and mobile (Highbaugh, 2015). How we experience a quality through our senses and mind seems to have a relationship with these classical elements. When one sees a feather floating in the air, for example, it may induce a lightweight, soft and airy expression. If it is glued on a board, the former expression disappears. Paper is considered to be soft when compared with thicker cardboard but, when compared with tissue paper, paper is identified as hard. Stone is hard, but ‘the cheese ball’ in *Mahabalipuram*, India, or playful elephant carvings in *Ranmasu Uyana*, Anuradhapura, Sri Lanka, lacks that hardness. It seems that it is not just the material, but how it is handled, that conveys the expression. Materials, too, change their expression, depending on what they are with. It could be the background or the diverse internal constituents in a form. Signs and symbols are also expressed in 2D and 3D. The meaning of a rabbit may be imbued with softness, yet if it is drawn with crude lines or with rough colours, this meaning may not be conveyed. The articulation of design elements, such as line quality or colour, in the expression could become a barrier for achieving clarity. Students’ preconceived notions of material expression and symbols of representation, along with non-accurate presentation were found to block active knowing and clarity in design endeavours. They are less likely to be successful in channelling meaning from the inception of the design process to its final 3D expression; they lose their way in the middle ground. Therefore, a studio design project – which

eradicates preconceived notions on material, symbols and technical ambiguity of presentation – was deemed necessary. The project demanded non-representational symbols and explore vivid material possibilities, which convey diverse expressions with an emphasis on technical accuracy. It was structured utilising the tacit knowledge gained through the design studio’s previous endeavours. It used an exhaustive categorisation of the classical elements as a guide for students to comprehend the primary generic categorisations of meaning and expression. The project followed a step-by-step method to transform secondary school thinking to university design thinking being acquainted with ‘designerly ways of knowing’ (Cross, 1982). Tacit knowledge gained through the practice was driven to another level, when confronted with the following statement on design research. ‘In design research, logical progression from observing to describing to explaining and then prescribing does not always happen. Too often in design research papers, we find very little by way of explanatory framework: most papers, if they have any empirical basis at all, jump from description right into prescription without pausing to think why the observed patterns occurred’ (Dorst, 2008, p.6). Therefore, this paper describes a studio design project and then explains via exploration of relevant literature - why an initial meaning of a design idea could be transferred in a focused and guided manner to its final articulated expression due to using metaphors of classical elements.

## **2. Aim**

The aim is to explore and explain how metaphors of classical elements can act as a focusing device in capturing meaning, as well as act as a device to articulate expression, tying meaning and expression in the design process.

## **3. Significance**

The project is significant as it (1) Offers an opening to identify generic exhaustive meanings and expressions through active knowing, thereby provides an understanding that everything is a mixture of these meanings in different proportion, just as the three primary colours are mixed in different proportion to create an infinite number of colours; (2) Paves the way for a primary perceptual taxonomy of meanings and expressions; and (3) Integrates pre-modern knowledge and modern knowledge for its nurturing, stimulating respect and understanding across different cultural domains of knowledge and perception.

## **4. Method**

The paper utilises two methods to achieve its aims:

1. Observation and reflection of the studio practice.
2. Exploration of the relevant literature as per embedded occurrences in the practice.

### **4.1. The studio practice**

This is the first studio design project, for Level One – B. Arch. – students. Initially they are oriented with embodiment to be empathetic towards meanings and expressions. Inclined with that, a short workshop on either ‘Who Am I?’, ‘Artist in Me’, or a meditation session was done prior to the project.

#### *4.1.1. Aims and objectives of the studio design project*

**Aim:** Transform a specific abstract meaning to a composed 2D and 3D form. Here, the specific abstract meaning is the most generic of all meanings: either, earth, fire, water or air.

**Objectives:** (1) Explore the relationship of abstract meaning and expression; (2) Explore ‘design elements’ and ‘design principles’ of visual form; (3) Explore the relationship of form and space; (4) Discover principles of perception behind composition; and (5) Explore and discover the inherent expression of materials and their diverse ways of manipulation. The project focuses on active knowing of the classical elements, within the contexts of spontaneity, surprise, fun, believing in oneself and team spirit. The project follows a sequential progressive zone of proximal development (ZPD) and scaffolding (Lev Vygotsky archive, n.d.). Peer learning is compulsory, as are studio

submissions and homework – if the students are to proceed to the next session of activities. The atmosphere in the learning sessions is relaxed, but nevertheless target-oriented. A specific grace period is always given to students for them to relax and think prior to engaging in a particular hands-on activity. This is aimed at reducing undue stressful competition. The activities aim to include the pedagogical principles of ‘intuition and method’ and ‘subjective experience and objective recognition’ (Itten, 1975), in the foundation course at *Bauhaus*.

4.1.2. Utilisation of the Kolb Learning Cycle.

The studio project utilises the Kolb Learning Cycle (Fry, Ketteridge & Marshall, 2009, p.15). This is used for each step of action in Fig. 3. The reflective journals are expected to be maintained by the students.

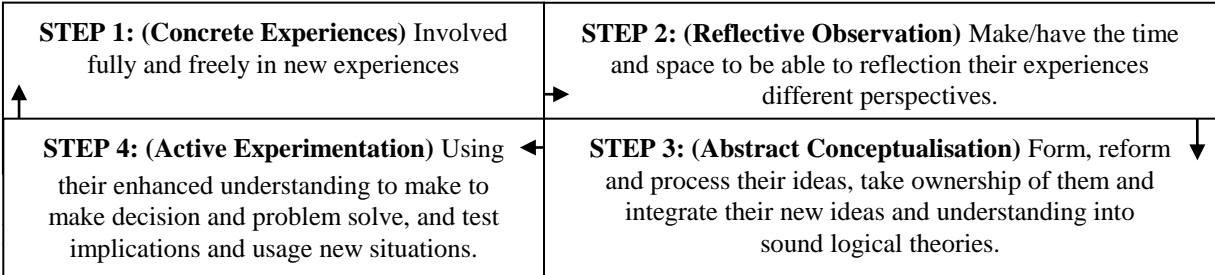
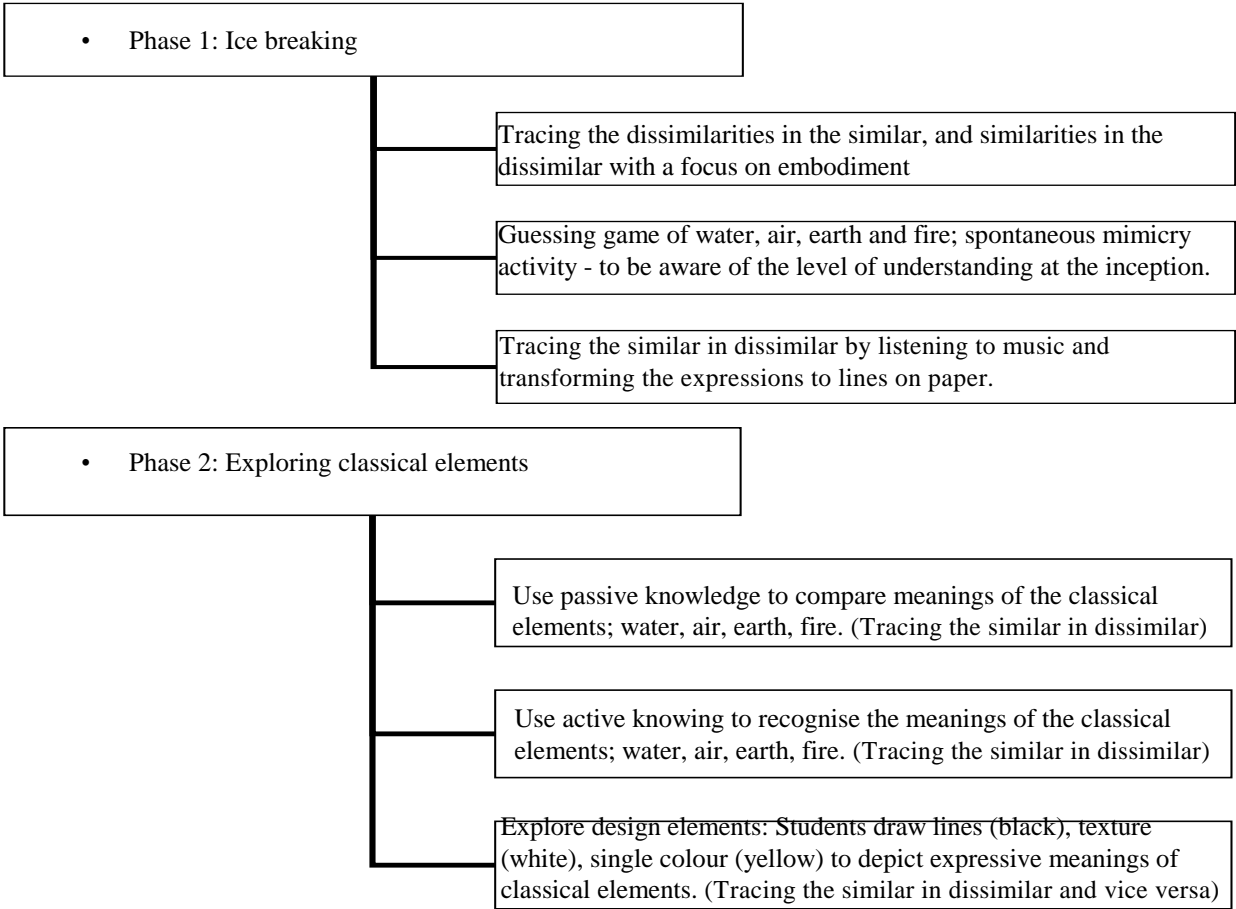
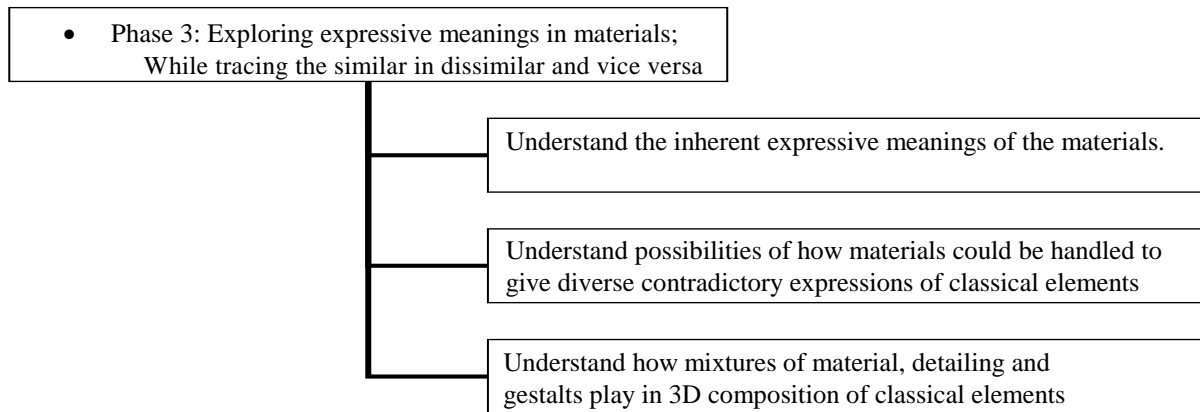


Figure1. Kolb Learning Cycle

4.1.3. The three phases of the studio practice





**Figure2.** The three phases of the studio practice

## 5. Results

### 5.1 Studio practice

#### 5.1.1. Ice breaking

After a series of ice-breaking exercises that encouraged empathy towards the project, the culmination exercise was to listen to music and transform its expressive quality into lines. Here are the generic responses the students provided after listening to the sounds (at the studio session) – capturing meanings from sounds.

<i>Mp</i> (Moderately soft)	<i>Allegro</i> (Lively & cheerful)	<i>Largo</i> (Broad, Slow)	<i>Agitato</i> (Agitated)
Soothing, Calm, Flowing	Cheerful, Quick, Light	Heavy, Static, Not lively as the former, No tension	Dynamic, Tense, Aggressive

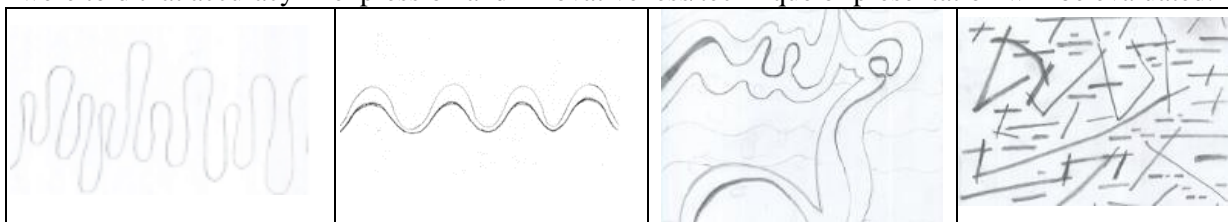
**Figure3.** Music listened and students’ responses

Students were then asked to think of comparisons of these meanings.

Weight: Not very light	Very light	Heavy, not extremely heavy	Extremely heavy or extremely light
Speed: Slow, not very slow and not quick	1. Quick	2. Very slow	3. Very fast or very slow

**Figure4.** Comparison: Meanings of the sounds

The students then were asked to transform the meanings of the sounds into line expressions. They were told that accuracy in expression and innovativeness/technique of presentation will be evaluated.

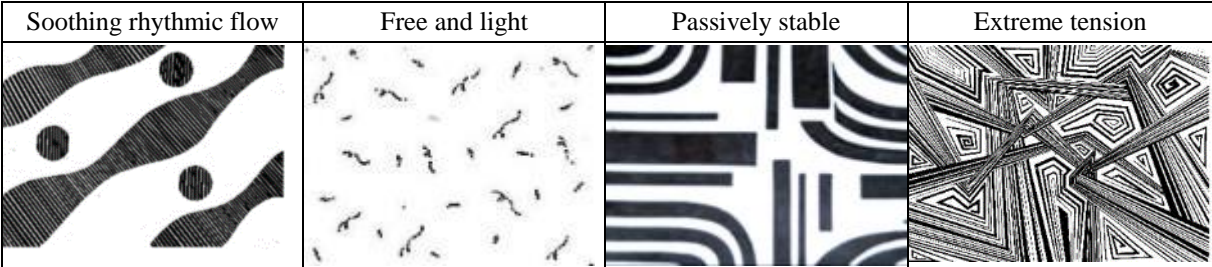


**Figure5.** Students’ line drawings of the music

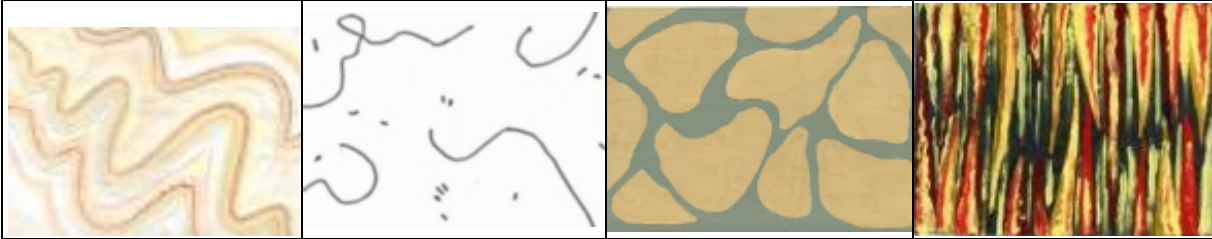
#### 5.1.2. Studio practice: Phase 2: Exploring classical elements

Students were separated into four groups and asked to concentrate on one type of music played, then draw an A4 line panel with similar expression and meaning (in 3 hours). Some mentioned that it was the first time they had indulged in such a deep endeavour. What was unknown to them was that they had already begun to exemplify and deal with the properties of the classical elements: water, air, earth and fire. Afterwards, studying the classical elements and their diverse interpretations as groups, the

students concluded the meaning of water to be soothing, with rhythmic flow; air as free, cheerful and light; earth as passively stable; and fire as extreme tension. This was the result of their passive knowledge and active subjective experiences being transformed to objective collective recognition. Multisensory, pre-conceptual contrasting primary generic meanings of the classical elements are expressed and denoted by the following design elements.



**Figure6.** Similar: line; Dissimilar: water, air, earth and fire



**Figure7.** Similar: 2D; Dissimilar: water, air, earth and fire

5.1.3. Studio practice: Phase 3: Exploring expressive meanings in materials

Material’s inherent meaning, ways of manipulation, mixing and detailing were all expected to be understood by the students.



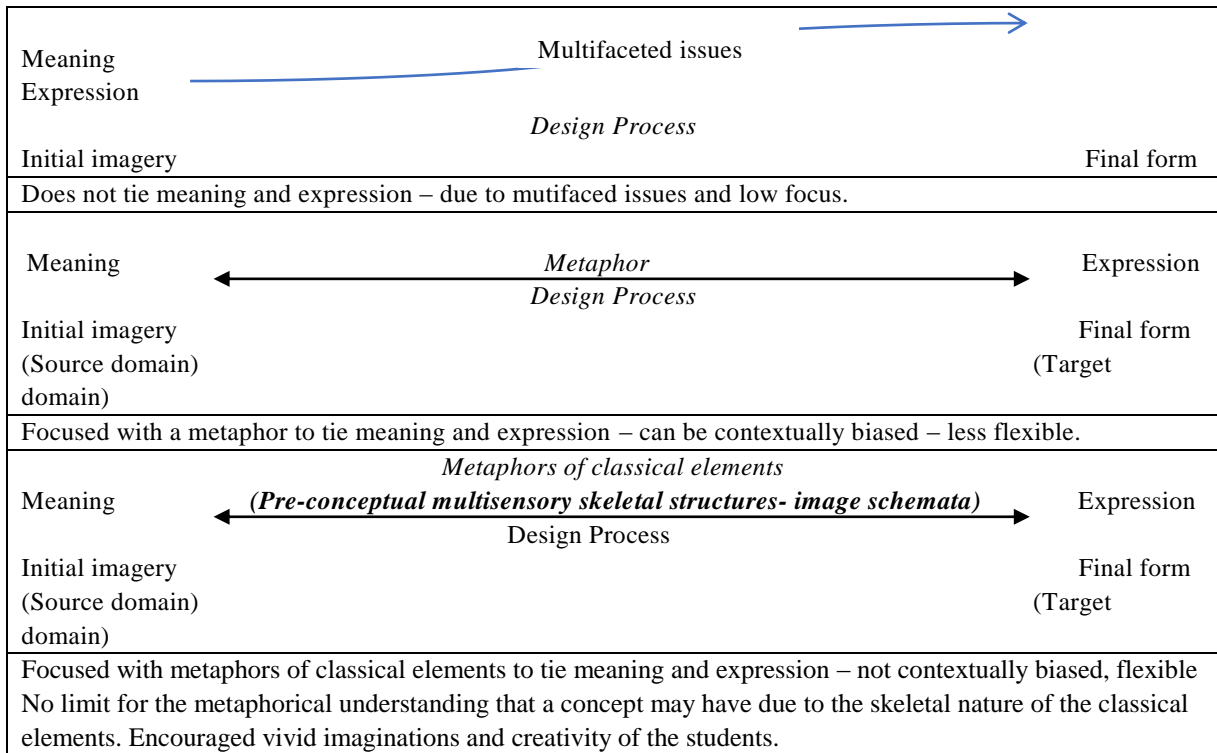
**Figure8.** Similar: 3D; Dissimilar: water, air, earth and fire.

This in an introduction to the world of primary meanings; via tacit knowledge gathered by making

**5.2 Exploration of the relevant literature to find verifications as per embedded occurrences in the practice.**

The literature was explored to find why the initial meanings could flow towards the final artefacts in a speedy directional manner, and provided innumerable articulations for a single expression. The findings revealed that classical elements provided; (1) the primary categorisations of all meanings and expressions. Metaphors of these meanings provided; (2) a focus to travel along the design process, linking meaning and expression. Metaphors map source and target domains, tracing the common. Image schemata, seems to be pre conceptual skeletal structures of repetitive patterns. The multisensory, multimodal nature of these schemata, are almost the same as classical elements that can be traced back from our embodied selves. Due to the skeletal nature of these; (3) imagination is celebrated with infinite possibilities of articulations for a particular expression.





**Figure9.** The impact of metaphors of classical elements on the design process (Source: DRS)

Occurrences	Cause
Categorical identification of meaning	Classical elements
Framing the focus, plug gaps and jumpstart the design process, eradicating the not-so-important.	Metaphor
Providing infinite possible elaborations, as it is a pre-conceptual, multimodal skeletal structure. Maps source domain and target domain.	Image schemata

**Figure10.** Impact of classical elements, metaphor and image schemata on the design process (Source: DRS)

The meanings the students identified are their experiences of the classical elements. These elements are found to be pre-conceptual, multisensory, multimodal and generic structures that are malleable. They do not have a particular form. Forms for such could be infinite in number. This vulnerable nature of classical elements as a metaphor transforms material at hand to immaterial. Even though the students are handling the material, the material gets no attention as they are transported by the metaphor from the source domain to the target domain. Metaphors nature, allows only essentials to be intact, dismissing the unimportant or the ‘unwanted common places’ (Ayoob, 2007). Material quality is only understood while handling it. Thereby unnecessary docile thought as well as preconceived notions of it are dismissed. In the aspect of eradicating the inclination to use representational symbols, students were instructed to express meanings only through design elements: size, line, texture, colour and mixtures of them. This itself framed the scope and removed the representational symbols. The formal imagination that has been described by Bachelard (1994) is considered out of the scope. Even with this existing framework, a possibility of direct representation through design elements exists; for example, line work and colour may depict the lines and colours of - physical fire. Allowing the students to do such, and then letting them critiqued by fellow students, made their work reach a higher level of abstraction. Moreover, as the focus is on the final target (target domain), the technical ambiguities of uncertainty of presentation too gets dismissed. Technicalities are to be learned separately. In the design process, the focus is on embodied spontaneity and accuracy, rather than prior knowledge or technical skill. A similar method of expression was conducted by Itten in the foundation

course at the *Bauhaus*, and this project was inspired by that. The difference is that this method utilises the exhaustive categorical qualities of classical elements, which offers a probable taxonomy of meanings and expressions.

## 6. Discussion and Conclusion

This paper brings to the surface the validity of using classical metaphors as a universal device to identify, focus, elaborate and thereby tie meaning and expression to the design process. The malleability of classical elements, gained through their liaison to image schemata, was found to facilitate this. The result is an emergence of a probable taxonomy of primary meanings and expressions that can be utilised in all arts. Water, earth, air and fire were interpreted as metaphors in this project. The literature review found that these metaphors gave a focus, plugged gaps (Black, 1955) and jumpstarted the process, letting certain common places fall away (Ayoob, 2007) in transporting the image schemata (Johnson, 1987) from source domain to target domain. Talmy's force dynamics (Gardenfors, 2007) and Darcy Thompson's diagram of forces (Alexander, 1964) relate to experiential skeletal structures that are multisensory and pre-conceptual. What the students experienced in the studio practice, and the definition of image schemata mentioned by Mark Johnson (1987) and Gibbs & Colston (1995) seem to match. Definitions of image schemata and classical elements in the literature, too, matched while their internal categorisations did not. 'Image schemata' listed by Mark Johnson (1987, p.113) and Lakoff & Turner (1989) seem non-exhaustive and are still mentioned as a list, in comparison to the categories mentioned in the classical elements. The all-inclusive, exhaustive and holistic method that existed in both the east and west during the pre-Socratic era seems useful to support the categorisation of image schemata. Kant's work has a close relationship with classical elements: with its basic deciding factor of time and space, where time is related to frequency and space is related to weight. Lines, textures, colours, 2D and 3D seem to follow frequency and weight as properties in the skeletal structures of meanings and expressions. Similarly, Miguel de Beistegui's hyper-sensible (2012) and Gaston Bachelard's imaginative materiality (Kaplan, 2012) appear to have a connection with meaning and expression in 3D compositions. A proposed new line of thinking, to categorise meaning, arrived at with studio-based research that agglomerates pre-modern and modern thinking, will be helpful in design thinking in terms of clarifying meaning and expression. Once the students have an experiential idea about the primary four contrasting meanings, it will be a subtle guide when they play with their designs in the future. This research may require support from existing established knowledge to provide clarity and proof to further strengthen the case.

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