

Form of Smell: Arupa in Pedagogy of Design-2

Sense of Smell for Foundation Programme.

Abstract:

Sense of smell has so far, got little attention in design pedagogy, especially in Foundation programmes. The paper looks at the unique dimension of 'Smell' to reveal its 'Form' or Arupa in the domain of design. Manifestations of smell in traditional and Industrials modes are briefly discussed. Studies being carried out on 'Smell classification and categorisation in physical and psychological modes' are reviewed in short. Nature of 'smell memory' is looked at in the context of communication as well as its significance for individual Creativity and Inner Order.

A possible framework for designers to study 'sense of smell' is examined, taking clues from recent work on smell scape, smell walks, studies on its links with emotions as well as its role in triggering Creativity and shaping Inner Order. A case for introduction of 'Sense of Smell' in Foundation programmes of design is made, with hints of possible futures.

Introduction:

Way back in seventies, Sugiura Kohei, the legendary teacher of Ulm(Hfg), showed us a 'map of dog', which opened our minds to the 'sense of smell' in design and beyond. Smell has a unique dimension, un-comparable with other senses. Smell surrounds us all the time, when we are awake or asleep. Notions like 'Absence of smell as silence' or 'total engagement with smell as active silence', as it happens in sound (1), become invalid. Often smell becomes dormant to a person who is continuously exposed to it, unless it is intense. For a new person who is entering the smell zone it is a new experience creating a smell image of the place or person. Only in recent times smell is articulated as a design language with concepts like Smell scape, smell walk and smell marks (2). It offers a great opportunity for exploration.

1.0 Smell as part of Biological Life Order (BLO)

Smell, a component of BLO, leads us to a fascinating world of its own to explore. It empowers animals, reptiles, birds, insects and human beings in multiple ways. Smell provides signals of danger to humans, even as it becomes a navigating and communicating tool for animals, fish, insects etc. It also becomes instrumental for 'Hunting and Mating' in animals.

Fish can breathe and smell under water. Only Dolphins and whales seem to have lost their ability to smell. Snakes can smell through their tongues. Insects use their antennas to smell.

2.0 Significance of Smell as Sense, for Designers and Pedagogy of Design

- *Sense of Smell can become a new tool to explore 'Arupa' of products and systems of design. New language of smell, with concepts like Smell scape, smell walks and smell marks is already in the making. 'Smell images of products and systems, Brand identities, will be seen soon with new knowledge of smell simulations in physical and digital modes!*
- *Sense of Smell to trigger creative thinking in individuals needs to be probed in design domain. Smell associations in the past get encoded in I-psych of individuals. Possibility of 'Opening up such deep memories' needs study and experimentation based on examples in other areas like 'creative writing'. Access to 'past encoded smell memories' has the potential to change the Inner Order of an individual designer to move from working order 1 to Working Order 2. (see ref.11)*

- *Smell transmission in digital mode is gaining momentum through AI. This, combined with advances in Scientific research to decode 'smell perception' is likely to open up new vistas in design.*

3.0 Smell in Traditional and Industrial modes

3.1 Smell Traditions in Indian and other Cultures.

India has well developed notions, practices and knowledge structures related to smell. These have been mentioned in Hindu religious writings, mostly for worship and treatments for health based on local natural resources.

Agar, a special wood now replaced with fast burning bamboo sticks, was a preferred source. As a sequel the name for incense sticks became 'Agarbatti'. Sandal wood (Chandan) now a scarce material was another preferred wood to burn for auspicious ceremonies. Now incense sticks come with various scents and brand identities where design plays a role! Scents extracted from flowers and other aromatic plants also are used widely.

Exposures to these smells in a 'Culture', becomes a tacit knowledge for a person. Most Cultures, like Indian, Arabian, Western, south American have distinct traditions of perfumes and fragrances. A tacit knowledge and conditioning develops while growing up in a specific culture.

India also has a tradition of 'Attar's, which are non-alcoholic based extractions of pure perfumes. A traveller in India easily comes across 'Dhoop', smoke produced with local incense materials like Sambrani (a gum-like substance that comes from perfumed bark of a tree) or aromatic wood for worships.

A website <https://www.thebetterindia.com/57799/aromas-instantly-remind-of-india/> mentions 12 typical aromas of India with pictures

Marigold flowers, Sandalwood incense, Masala Chai, Mohendi, Desi ghee sweets, Spice box, Camphor, Pakoras being fried, Jasmine Gajra, Coconut Oil, Cow dung, Tadka.

3.2 Perfumes in Industrial mode: Extraction, of perfumes from natural ingredients like wood and Flowers, is well known. Synthesizing of perfumes artificially also has been extensive and occupies a sizable space in consumer Industry. Perfumes, for personal identity and to get attention of opposite sex, have been prevailing

4.0. Smell Classifications and categories.

4.1 Nature of Smell Perception

- *Different types of energies play a role, in smell perception, by generating molecules which reach olfactory receptors, that convert olfactory stimuli into electrical signals. These are received by the olfactory bulb, site for the processing of olfactory information in the brain.*

We see various energies like Biological as in flowers, natural processes, Heat as in odours generated by burning materials, incense sticks, sambrani,etc., and Chemical as in scents, attar, ointments, etc.

- Attempts to classify or categorise smells, based on 'abstraction' like in colour has been a difficult task. Yet to look at the history starting from Aristotle's figurative descriptions is fascinating.

In 1756, Linnaeus suggested seven classes, named, aromatic, fragrant, ambrosial(musky), alliaceous(garlicky), hircine(goaty), foul and nauseating. Amoore(1970) suggested seven classes, considerably congruent with Linnaean system: Ethereal, floral, musky, pepperminty, camphoraceous, pungent and putrid. By analogy with the colour spectrum, it is claimed that all scents are combinations of two or more of the primary odours or of their many subclasses. - J.D.Porteous (3) (page 358 smellscape)

Tendency to compare smell with vision has a limitation as its coding differs from Vision. Visual modes of representation have been powerful. With invention of 3D geometry, we are able to capture the full 'shape information' by abstracting it into 3 views which enables us to rebuild the physical shape exactly as original.

Various elements of design like balance, proportion, symmetry, etc have evolved mostly based in on 'Vision'. To certain extent these have overlapped with perception of 'sound' or 'auditory sense'. In case of smell new paradigms have to come into picture to deal with its perception as it is altogether a different experience.

Scientific studies to understand the perception of smell are going on. We come across several theories and their denials like Shape theory, 'odotope theory', turin's theory (which is based on detection of vibrations by the olfactory receptors). These approaches, though not solving the problem to full extent, give hope for the Future according to researchers like Jennifer C. Brookes. (2010) (4)

Work based on AI to digitize smell transmission, articulating an electronic nose, Vibration-based biomimetic odour classification(PD-EVA) (5) on one hand and the research in neuro-sciences with elaborate studies on perception of rodents, and humans will bring new knowledge which can transform our engagements with smell.

5.0 Smell memories

Smell memories have a unique dimension. Since smell abstractions are not possible to represent in a physical mode, mental modes become significant. *As we have observed earlier, traditionally smell descriptions have been dealt in its physical manifestations. For example, Smell of Cow dung has been easier to be referred or remembered. It is difficult to identify such a smell memory in a classification like, Ethereal, floral, musky, pepperminty, camphoraceous, pungent and putrid mentioned by Amoore. Our smell memories have been dominated by artificial extractions like scents, attars and incense sticks. New languages of smell may evolve with the scientific work on perception of smell.*



Interestingly, smell memory associations from the past and childhood seem to have a different significance in shaping the Inner Order of a person as well as triggering creativity.

6.0 Framework for designers to study sense of smell

It has been a challenge to evolve a language for sense of smell in the domain of design. We can take stock of the pioneering work done, for further explorations.

6.1 Smell scape, smell walk, smell mark

Concepts like Smell scape, smell walk and smell marks coined by Porteous, J. D, have brought a new dimension to explore.

- A Phd thesis done at RCA, by *Kate McLean*(6) is note worthy.
- In a paper on, Smell walking and mapping (7), authors Chris Perkins and Kate McLean elaborate how to set up a successful smell walk, and how to design a smell map to convey perceptions of a smellscape to an appropriate audience.
- *Sissel Tolaas's work* (8) as Smell artist, communicator and creator of smell archives is significant. Tolaas is working actively and concentrated on the topic of SMELL / SMELL & LANGUAGE - COMMUNICATION since 1990, within different sciences, fields of art /design and other disciplines. Tolaas established the SMELL RE_searchLab Berlin in January 2004,
- A research paper, *Recent Advances in Smellscape Research for the Built Environment* (9) by Jieliang Xiao, has several useful suggestions for further work in this area.

These inputs provide new avenues to innovate and explore sense of smell in design pedagogy.

6.2 Smell and Emotions

The connection between our sense of smell and emotions is unlike that of the other senses because, in olfactory system, nerves connect directly to brain structures of the limbic system. Odours can trigger both positive and negative emotions as aromas are associated with specific memories. (10)

We see positive and negative associations people make with smell memories

Lindsay Holmes, Senior Life Editor, HuffPost in an article (11) mentions 11 scents which are good for wellbeing starting from Lavender for a good sleep to Cinnamon which sharpens one's brain, etc.

6.3 Smell as a trigger to Creativity

We may examine whether a notion of 'Silence of Smell' gives us a clue for Creativity. Silence of smell is not anosmia, inability to smell. Sense of smell is often dormant but cannot be equated with 'silence'. Its uniqueness is, its strong association with other events and experiences as memories. Past encoded Experiences constitute 'Inner Order' of an Individual. Thus, role of Smell in Creative thinking needs attention. Pleasant and unpleasant smells seem to have little play in such associations. Arthur Koestler mentioned, in his book, 'Act of Creation', a 'well-known writer, Fredrich von Schiller, who used to get triggered by smelling rotten apples'. But such experience may have no meaning or effect on another person as experimented by Alice Blanchard.



Alice Blanchard, AWARD-WINNING SUSPENSE NOVELIST, points out in her blog, <https://aliceblanchard.com/blog>

an interesting experiment she did with 'rotten apple smell' with inspiration from *Fredrich von Schiller*. She concludes her experiment with the following quote:

Centuries later, few remember Friedrich von Schiller for Ode to Joy, but people like me remember him as the rotten-apple guy.

Too bad, because in Ode to Joy, he wrote this:

*Joy, joy moves the wheels
In the universal time machine.
Flowers it calls forth from their buds.
Suns from the Firmament,
Spheres it moves far out in Space,
Where our telescopes cannot reach.*

6.4 Silence of Smell in Inner Order

What is the role of 'experience of smell' in I-psyc for Creative break through?

Creative Thinking is dependent on one's 'Identity' and 'Meaning of self' at different levels like Working Orders 1, 2 or 3(12). Deep associations surface in moments of 'Silence' shaping Inner Order. Smell memories of past may become significant in this context. How smell gets encoded with the past events in one's life is little known

7.0 'Sense of smell' in foundation Programmes

Introduction of 'smell as sense experience in foundation programmes can have many objectives

- *To open up the road to holistic education by sensitising to sense of smell.*
- *To explore the concepts related to space perception like smell scape, smell walks and smell-marks in local contexts. This can add to the bank of collective knowledge.*
- *To study 'potentials of smell' to create favourable moods to enhance the richness of design.*
- *To discover one's 'Inner Order' and to look at the Arupa or Implicate order of design through the lens of smell.*
- *To probe individual 'deep memories of smell', for triggering, one's creativity as well as moving into higher working orders.*
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Several tasks can be introduced to accomplish these objectives.



7.1 Smell Sensitisation: Experiencing smell boundaries, Locating smell source, Examining the concept of 'centrality' of Smell as an abstraction.

Tasks or Exercises

- Smell Identification games: Groups of 4 or 5, can be formed. Each group may create a smell source and pose a challenge to other groups to locate the smell-centre.
- Experiencing 'smell boundaries, blind folded, can be 'fun'. Students can work in groups of two to draw a smell boundary in a given space which can be compared with other groups.

7.2 Exploring Smell scape, Smell walks and smell posts:

Topic can be introduced through a ppt-talk + reading material

- Groups of 5 or 6, can work to create a smell map of chosen out-door areas. Local language used by people, for the smells, can be part of documentation.
- Smell walks of different zones can be given as tasks to groups
A dialogue process can be initiated on how people relate to it.

7.3 Exploring moods created by Smell

'Opposite Moods' can be chosen for depiction with smells.

- *Pleasant vs Unpleasant*
- *Active vs Relaxing, Soothing*
Active: Smell of Coffee, crushed Cinnamon, Peppermint
Relaxing, Soothing: Vanilla, Pine
- *Serious Vs Joyful*
Serious: burnt rubber, burning green wood
Joyful: freshly cut grass, Vanilla
- *Energetic vs Intoxicating, sleepy*
Energetic: Jasmine, Citrus fruits
Sleepy, intoxicating: Vanilla, Burnt Hashish

Class room tasks: Different groups can be assigned to collect source materials for 'opposite Smells', to simulate them in the classroom. Agarbattis, Scents or Attars can be procured depending on the resources available.

Each group can present the chosen mood using the connected smell in a theatric mode. Smell overlaps, penetrations into other zones, can be part of explorations.



7.4 Exploring Individual creative triggers

Students can narrate and write down their individual smell memories from their past. Identifying any specific smell which acts as creative trigger can be done through an 'imagery session' where they can experience deep relaxation. Individual presentations and group discussions can enliven the class room experience. Individual 'dialogue process with a teacher' can be a useful mode.

8.0 Smell products in near Future

With increased awareness of 'sense of smell' and the new possibilities of its presence in digital mode we can visualise various scenes.

- A teacher switching on 'smell switch' which gives 'coffee aroma' in a class to make students attentive without drinking coffee!
- A digital company having a daily 'smell sequence' for its employees:
It would start with a pleasant mood created by smell of *freshly cut grass*, followed by *cinnamon aroma* for attentive work. Next comes a lunch break with *vanilla aroma* followed by *aroma of coffee* for a group meeting and so on. All the smells will be triggered digitally through net communication. Time engagement slots with each smell will be planned as required for a particular day!
- A long distance call from a colleague along with coffee aroma through internet to keep one 'attentive'. The digital signal will be triggering a smell activating device at receiver's residence or office.
- A modern Museum allowing a visitor to touch an ancient product which triggers an associated aroma from that period.

We will be looking at an interesting smell Future soon!

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