



the
Scent of
Creativity

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The Scent of Creativity

Introduction

Smell is the most primitive sense and if not one of the most important sense to most animals. Mothers can recognize their babies by smell, and newborns also recognize their mothers in the same way before the development of other senses. It is also the most mysterious sense among all, but people are often unaware of what our nose tells us. Although our nose does not work as precise as other animals, it is still possible to utilize our sense of smell for gathering information of our surrounding and registering memorable events. On the other hand, the scent of a place can be intentionally organized for the purpose of enhancing the existing establishment.

Background

The Reputation of Olfaction

We experience the world through our five basic senses- sight, hearing, touch, taste, and smell; some senses are more studied than others. It is commonly agreed that our visual perception is the most valued, and our sense of hearing is also highly treasured. Perhaps due to its ambiguous and unmeasurable quality plus the evanescent nature of odor, the sense of smell has been underrated especially in western philosophy, and further on led to reluctant research in this field. Studies in the 1990's shown that smell was considered the least valuable sense and the first one people would sacrifice if forced to choose among the senses.¹ Not so many years ago, people were not aware of the fact that about 80% of what we thought was taste actually was indeed the smell. Today we combined the two sensations and call it 'flavor'. Research had shown that people who have smell deficiency often have trouble differentiating between a cup of coffee from a glass of red wine when both are served in the same temperature, neither could they distinct an apple from a raw potato.²

1. Jim Drobnick, 'Olfatocentrism', in Jim Drobnick (ed.), *The Smell Culture Reader*, Berg, Oxford, 2006, p.2

2. Rachel Herz, *The Scent of Desire*. Harper Perennial, New York, 2007, p. 197.

One lady who suffered from olfactory injury due to a car accident described to The New York Times, those every little events in life seemed to have lost a dimension due to the lost of the sense of smell:

Without the aroma of car exhaust, hot dogs and coffee, the city was a blank slate. Nothing was unbearable and nothing was especially beguiling. Penn Station's public restroom smelled the same as Jacques Torres's chocolate shop on Hudson Street. I knew that New York possessed a further level of meaning, but I had no access to it, and I worked hard to ignore what I could not detect.¹

Even on her visit to the Metropolitan Museum of Art, "Monet's water lilies lost something without the familiar background scents of marble and museum." Anosmia- the term referring to the lost of smell, was a symptom being overlook by most people. But recent observation has shown that in comparison of people who had becoming blind and who had anosmia, the blinded people reported being more traumatized in the beginning than the ones have anosmia. But the follow-up consultation after one year showed that patients with anosmia had much poor emotional health and the condition typically deteriorates as time passed.²

Unlike seeing and hearing, we cannot control the action of smelling; after all, we are breathing all the time. This is the dilemma to get a mere understanding about the frustration of not being able to 'smell'; we can blindfold our eyes to experience being blind, or muffle our ears to mimic being deaf, but how can we not breathe? Thus, it is impossible for a normal person to truly comprehend what it's like to be anosmic. In order to begin my research on the subject of smell, it is necessary to make us aware of the fact that smell and odor are two sides of a coin. To point out the importance of the sense of smell is also stressing the influence of odor have on us.

Philosophers throughout the history have mix-feelings towards the sense of smell. Aristotle had difficulty analyzing the sensation to which odor gives us; it is something that lies between 'outer' sensation and 'inner' sensation.³ To many, olfaction was often downgraded; the sense of smell was seen as primitive, lack of 'pureness' than sight and hearing, it was even viewed as a nuisance by Kant.⁴ The act of smelling was described as unproductive because it has very little to do with acquiring knowledge, freedom, and sociability.⁵ It seemed the only quality of breathing is to serve the need to stay alive. In Darwin's point of view, man's sense of smell is clearly inferior to that of animals', thus he concluded that the sense must have undergone a transformation with time and its present ineffectual status was the result of the fact that it was of little use to man.⁶ The low appreciation towards the sense of smell from the 17th to 19th centuries not only effect our awareness toward smell in term of the amount of scientific research being done on the subject, it also reflected on the development of our language; the word 'smell' is often not identified as unbiased as 'see' and 'hear'. By saying someone 'smells' already implies that person smells bad. There are also much fewer positive expressions compare to negative phrases related to smell. Unlike words such as 'see', 'hear' and 'touch', the word 'smell' can be either a noun or a verb, which adds to the difficulty of describing this particular sense.

1. Molly Birnbaum, 'Finally, the Scent of the City', *New York edition*, 7 December 2008, p. CY3.

2. Rachel Herz, *The Scent of Desire*. Harper Perennial, New York, 2007, p. 5.

3. Annick Le Gu  rer, *Scent: the Mysterious and Essential Powers of Smell*, Trans. Richard Miller, Chatto & Windus, London, 1988, p. 142.

4. Le Gu  rer, p. 194.

5. Le Gu  rer. p. 175.

6. Le Gu  rer, p. 189.

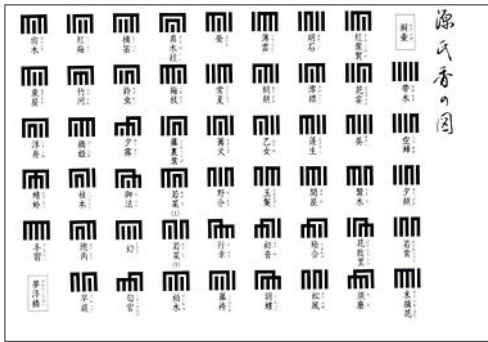


figure 1



figure 2

The History of Scent

If we look further back into the history of mankind, the way we overlook the sense of smell and scent had not always been the case. The Egyptian civilization was very advanced compared to others of its time. One of the major achievements in the Egyptian culture is the process of preserving corpses- making mummies. Mummification involved lengthy and complicated procedures. After the corpse had been cleaned and dried, the embalment would take place; the corpse was to be anointed with oils and perfumes. This ritual was carried out to achieve synchrony with eternity. Then the corpse was to be emptied and filled with resins, unguents and storax, then finally wrapped with linens coated with spices.¹ Scent played a major role of making the connection with the after life. Nero- the last emperor of the Julio-Claudian dynasty, was probably a bit too fond of scents; in some celebration events, nets filled with rose petals were suspended from the ceiling for the purpose of scenting the rain and creating an enjoyable air. In Japanese tradition, the practice of ‘incense ceremony’ can be dated back to the 6th century. It is regarded as one of the three classical arts of refinement along with the tea ceremony and the flower arrangement.² During the incense ceremony, several specific types of aromatic woods are being burned in association with a literature theme (figure 1). This tradition had fade in time, but until recently it reemerged as a practice for mental training.³ Also found in the ancient Chinese culture, burning incense was a way of measuring time; different incense stick would be used to mark different time of the day. The use of ‘incense clock’ can be dated back to the Song Dynasty around 10th to 13th centuries AD (figure 2). In the book *Understanding Media*, author McLuhan mentioned that not only the incense was burned in order to tell the time of a day, particular scents were picked and arranged in specific sequence to inform the season and zodiacal sign.⁴ In the Arab-Muslim societies, a person’s smell can well be as important as the present of the person. A person with good odor conveys a state of his wellbeing. The use of scents is highly regarded in the exercise of religious events and social rites.⁵

1. Anna Barbara & Anthony Perliss, *Invisible Architecture: Experiencing Places through the Sense of Smell*, Trans. Robert Rurns, Skira, Milano, 2006, p. 19.
2. Annick Le Gu er, *Scent: the Mysterious and Essential Powers of Smell*, Trans. Richard Miller, Chatto & Windus, London, 1988, p. 216.
3. Barbara, p. 65.
4. Marshall McLuhan, *Understanding Media: the Extensions of Man*, Routledge & Kegan Paul Ltd., London, 1964, p. 146.
5. Fran oise Aubaile-Sallenave, ‘Bodies, Odors and Perfumes in Arab-Muslim Societies’, in Jim Drobnick (ed.), *The Smell Culture Reader*, Berg, Oxford, 2006, p. 391.

Scent and Memory

Psychologist Maurice Pradines once said, smell is a “needful sense” but provides “neither a true knowledge of the world nor a true knowledge of oneself.”¹ Perhaps because of the fact that the sense of smell is hard to grasp through scientific or philosophical concept, it evoked the imagination of very few philosopher but many poets and artists. French philosopher- Charles Fourier, suggested that the scientific exploration had a blind spot regarding the way we experience aroma, which played an important role in harmonizing the universe.² In Helen Keller’s essay- *Sense and Sensibility*, she described the sense of smell is a fallen angel; “for some inexplicable reasons the sense of smell does not hold the high position it deserves among its sisters.”³ The deaf-blind social activist valued her sense of smell as the most important apparatus:

I never smell daisies without living over again the ecstatic morning that my teacher and I spent wandering in the fields, while I learned new words and the names of things. Smell is a potent wizard that transports us across a thousand miles and all the years we have lived.

To her, the smell of the surrounding helps her finds the way, the odor of people leads her directly to the personality of each person. Another French philosopher- Gaston Bachelard, gave very little credit to the sense of smell in the context of scientific study, but he places great importance of smell regarding aesthetics. Bachelard closely related smell with memory and imagination, he portrayed odor as the guardian of the timeless past:

I alone in my memories of another century, can open the deep cupboard that still retain for me alone that unique odor, the odor of raisins, drying on a wicker tray. The odor of raisins! It is an odor that is beyond description, one that it takes a lot of imagination to smell.”⁴

This very same sensation also affected great writers such as Marcel Proust. His world renowned book about memory, *Remembrance of Things Past*, described the smell and taste of a spoonful of tea soaked with a piece of madeleine cake which took him back to re-experience a long forgotten memory:

No sooner had the warm liquid mixed with the crumbs touched my palate than a shudder ran through my whole body, and I stopped, intent upon the extraordinary thing that was happening to me. [...] Suddenly the memory revealed itself. The taste was of a little piece of Madeleine which on Sunday mornings [...] Aunt Leonie used to give me, dipping it first in her own cup of tea, [...] Immediately the old gray house on the street, where her room was, rose up like a stage set [...] and the entire town, with its people and houses, gardens, church, and surroundings, taking shape and solidity, sprang into being from my cup of tea.⁵

1. Annick Le Gu  rer, *Scent: the Mysterious and Essential Powers of Smell*, Trans. Richard Miller, Chatto & Windus, London, 1988, p. 195.

2. Le Gu  rer, p. 196

3. Helen Keller, ‘Sense and Sensibility’, in Jim Drobnick (ed.), *The Smell Culture Reader*, Berg, Oxford, 2006, p. 181.

4. Juhani Pallasmaa, *The Eyes of the Skin: Architecture and the Senses*, Academy Editions, London, 1996, p. 38.

5. Marcel Proust, *In Search Of Lost Time vol. 1. Swann’s Way*, Vintage, London, 1996, p. 51.



Proust was so shockingly moved by the incidence; the sight of the tea and the madeleine cake did not recall his memory, but an insignificant act of tasting and smelling rippled all these vivid reminiscence:

But when from a long-distant past nothing subsists, after the people are dead, after the things are broken and scattered, still, alone, for fragile, but with more vitality, more unsubstantial, more persistent, more faithful, the smell and taste of things remain poised a long time, like souls, ready to remind us, waiting and hoping for their moment, amid the ruins of all the rest; and bear unfaltering, in the tiny and almost impalpable drop of their essence, the vast structure of recollection.¹

Just as the aroma of the madeleine cake took Proust back to the pleasurable past, the same effect can also bring back recollection filled with other emotions, such as joy, anger, rage, heartache, or terror. Many New Yorker had experienced the smell of fear in January 2007- when a smell of gas leak was in the air in the area of lower Manhattan that reminded people of the smell when World Trade Center was attacked.²

The above portrayals might sound all very poetic and arcane, but the connection between scent and memory can be very practical as well; interesting researches have found that students who studied material while exposed to a particular scent performed better on tests when that scent was present. Apparently, their memory of what they learned was improved solely by the presence of the scent that accompanied their exposure to the material.³ Researches have shows that while smell recognition might not be as accurate as visual recognition, it outlast much longer. A experiment conducted by T. Engen showed when people are asked to identify a image shown minutes earlier, there is a almost 100 percent accuracy, and only 20 percent accuracy on odor recognition, but the same degree of accuracy lasts up to one year, while visual recognition falls off rapidly with time.⁴

1. Marcel Proust, *In Search Of Lost Time vol. 1. Swann's Way*, Vintage, London, 1996, p. 54.

2. *Collective Smelling*, Podcast, The Smelling Committee, New York, 2009.

3. Rachel Herz, *The Scent of Desire*. Harper Perennial, New York, 2007, p. 83.

4. J. Douglas Porteous, 'Smellscape', in Jim Drobnick (ed.), *The Smell Culture Reader*, Berg, Oxford, 2006, p. 101.

The Olfactory System

How does our sense of smell have such pungent inducing ability? From a biological point of view, smell is the most ancient and primitive sense. It is the first sense to develop; by three months into pregnancy, the fetus already has fully functioning sense of smell in the womb.¹ There are about 20 million olfactory receptors covering our nostrils, although only 300 to 400 of them are functioning. In comparison with vision, there are only 4 types of receptors receiving all these color we see². An ordinary person can discriminate about 12 thousand different odors, while professionals such as perfumer, whisky blenders, and chef may do a much remarkable job of differentiating almost 100 thousand odors.³ The fact is that despite of the great amount of knowledge we know about human biology, scientist are still not totally sure of how our nose takes in odors; different theories are still in debate on this matter till this day. One thing we are sure of is that the olfactory system is very close to our limbic system (figure 3,4). The limbic system is the part of the brain structure that's responsible to emotion, learning, and memory, our olfactory system is so close to it that there are only 2 to 3 synapses apart.⁴ Because of such close association with the limbic system, memories evoked by odor have a stronger emotional impact.

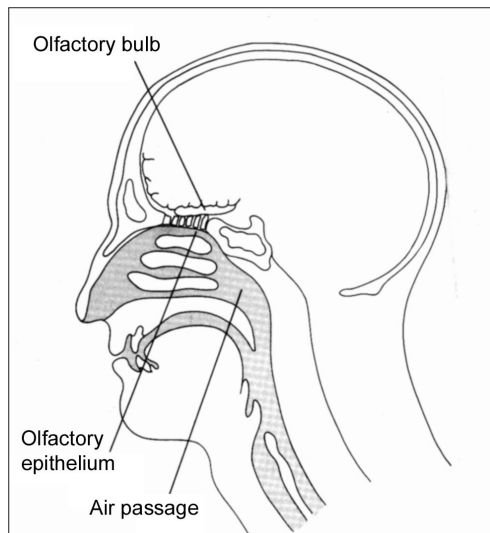


figure 3

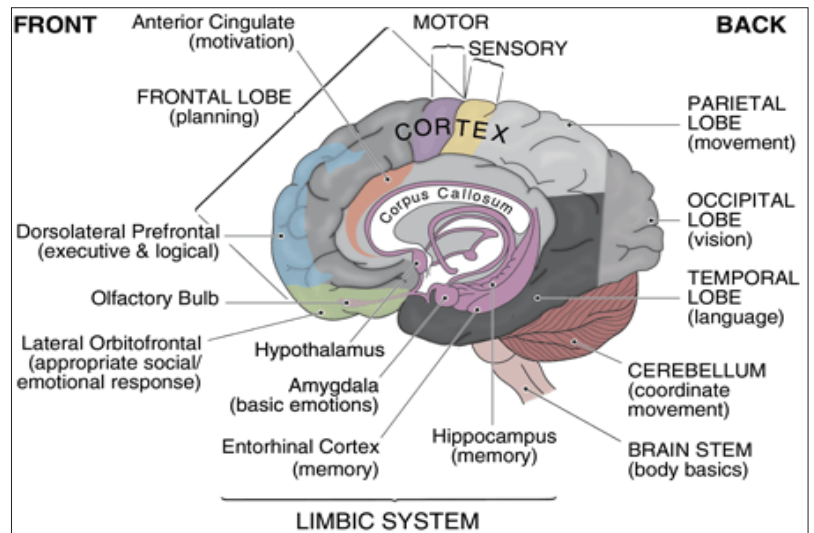


figure 4

1. Rachel Herz, *The Scent of Desire*. Harper Perennial, New York, 2007, p. 33.

2. Herz, p. 24.

3. Herz, p. 22.

4. Rachel S. Herz, 'I Know What I Like; Understanding Odor Preferences', in Jim Drobnick (ed.), *The Smell Culture Reader*, Berg, Oxford, 2006, p. 191.



figure 5

The Smellscape

It is hard to pinpoint the location of a scent, but nonetheless a smell can very well represent a space; it does not content in a space but rather enrich and characterize it. Every place has its distinct scent, whether it's a country, a city, a certain street, or even a room. When I think of the trip to India years ago, I associate the experience with the smell of incense, spice, industrial pollution and my own sweat. When I went back to Taiwan last summer, the hot humid air welcomed me as soon as I stepped out of the airplane, followed by the smell of my mom's old car all the way home. J. Douglas Porteous also made similar connection:

[...] the wild-herb scents of rural Greece; the peculiar odor of Humberside mud; the smells of horse, sea and grass on Easter Island; Italian pasta and aniseed in Boston's North End; Arab and Chinese food in South End; the cedar kindling and dried alder in my woodshed.¹

Odor is part of a place identity, and to *The New York Times*' perfume critic, Chandler Burr uses his nose to remember the places he had been to. In one of the article he wrote, 'Scent of Place', Chandler described how a bottle of air from Shinjuku Station, Tokyo, can instantly transport him to Japan; "the smell of miso, tires, viscous pork ramen noodles, the Marunouchi train, sliding glass doors, steel light poles, and aluminum elevators", the smell alone represent the whole city to him.²

Smell is indeed part of history; the Viking Museum in New York tries to recreate the harbor smell of tenth-century Jorvik, while people in Glasgow also seek to recreate the smell of their underground subway system. There have been some attempts to map smell and record the particular scents in space. In an essay written by Eleanor Margolies, the first chairman of public hygiene of Paris, Jean-Noel Hallé, made a series of smell-map.³ The chairman would wake up early in the morning and walked along the bank of Seine and meticulously wrote down every odor he'd encountered. Surrealism artist Marcel Duchamp once gave a glass capsule of Paris air as a souvenir to his friend (figure 5).⁴ To him,

1. J. Douglas Porteous, 'Smellscape', in Jim Drobnick (ed.), *The Smell Culture Reader*, Berg, Oxford, 2006, p. 96.
2. Chandler Burr, 'Scent of Place', *Condé Nast Traveler*, 2006, retrieved 12 March 2009, <<http://www.chandlerburr.com/articles/scentsofplace.htm>>
3. Eleanor Margolies, 'Vagueness Gridlocked: A Map of the Smells of New York', in Jim Drobnick (ed.), *The Smell Culture Reader*, Berg, Oxford, 2006, p. 110.
4. Anna Barbara & Anthony Perliss, *Invisible Architecture: Experiencing Places through the Sense of Smell*, Trans. Robert Rurns, Skira, Milano, 2006, p. 209.

the smell of air is really essential in representing a place. Swiss architects Herzog & de Meuron included a limited-edition perfume formulated specially for their exhibition: *beauty and waste in the architecture of Herzog & de Meuron*. The perfume was called *Rotterdam* and it supposed to smell like the city- a mix of Rhine, hash, dog, fur, algae and mandarin.¹ The architects believe the scent of the city is as equally fundamental as models and drawings in order for the viewer to understand their projects.

Alike our fingerprints, odor is a natural identification; each of us has our very own odor. As however highly evolved we'd like to think of ourselves, we give off different body odor according to both our physical health and the state of mind. In the essay wrote by Porteous: "The Viet Cong were reputedly able to scent American troops by their cheesy odor, product of high consumption of milk derivatives. Similarly, the Japanese once knew European as *bata-kusai* ("stinks of butter")."² Similar comments were made in different parts of the world.

Only a decade ago, Doctors' nose was the first detective apparatus for analyzing illnesses, anthropologist and biologist- Lyall Watson once listed: "Typhoid fever smells of freshly baked brown bread. Tuberculosis carries the sour scent of stale beer. Encounters with yellow fever are reminiscent of visits to a butcher's shop. The breath of some diabetic patients has the sharp odor of acetone."³ The odorous aspect of a diagnosis is far less emphasis nowadays, but that doesn't omit the existence of the scents.



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1. Marina van den Bergen, 'Architecture of the sense', *Archined*, 2005, retrieved 10 March 2009, <<http://www.archined.nl/recensies/an-architecture-of-the-senses/>>
 2. J. Douglas Porteous, 'Smellscape', in Jim Drobnick (ed.), *The Smell Culture Reader*, Berg, Oxford, 2006, p. 93.
 3. Eleanor Margolies, 'Vagueness Gridlocked: A Map of the Smells of New York', in Jim Drobnick (ed.), *The Smell Culture Reader*, Berg, Oxford, 2006, p. 112.



Scent is also a time indicator; the smell of time was noted in the first half of the 20th century for its weekly events. The domestic economy was required to have ‘washing-day’ and ‘baking-day’. Usually the ‘washing-day’ occurred on Mondays; the day would be filled with heat and humidity, followed by the smell of hot iron on calico. Baking day smells even more exciting; the house overflowed with buttery bake goods and hot jams.¹ The morning air and the night breeze smell differently even in the same area. The smell of spring is different from that of a snowy winter night. Smell is ever changing, but yet persistent.

Scent and Color

I personally have come to notice that sometimes we are so committed to our eyesight that we neglect other senses. One of the recent incidents was when I was sharing a cup of blueberry-flavored milkshake with a friend, and when I took the first sip of it, it didn’t taste blueberry to me at all- it tasted like vanilla! My friend first did not agree but couldn’t be sure anymore after a couple more sips. The color of the milkshake was white, but that doesn’t suggest anything since all artificial flavors are colorless. One study showed that when a cherry-flavored purple-colored drink is served, most people still think it’s a grape-flavored drink. On an even more radical test, some wine experts drank a glass of white Bordeaux with red food coloring and describe it as how red Bordeaux should taste; the same white Bordeaux was then served again without any food coloring, the experts agreed it’s a lovely white Bordeaux.² People make strong correlation between color and tastes, and often many assessments are made based only on what we see instead of a collective sensation from all senses.

Identified Problem

The lack of Olfactory Identity

The sense of smell is a treasure we often take for granted. It is the basic instinct that signals us whether to ‘approach’ or to ‘avoid’. If we smell something nice, we want to be closer to the source or be surrounded by that aroma, conversely, if the smell is bad, it might be something unpleasant or harmful and therefore we will stay away from the

1. Porteous, p. 99.

2. Rachel Herz, *The Scent of Desire*. Harper Perennial, New York, 2007, p. 56.

cause. Human being breathes approximately 30,000 times a day, whether we are awake or asleep, in the daylight or in the darkness and it seems very foolish to me that we underestimate the power of such an important sense.

We are constantly being stimulated by scent whether consciously or not, and our brain makes associations between the scent we are breathing in and the actions we are conducting. We collect memories with all aspects of our senses. Odor has a unique way of registering itself in our memory, and numbers of scientific experiments have proven that odor evokes memory from much further back in time. Studies show that while visual cues recall 50% of memory after 3 months, odorous cues still recall 65% of memory after one year. This is not to say that odorous cues are better than visual or audio cues; they are simply 'different' kind of memory cues. Experiments done by Rachel Herz, a visiting assistant professor of psychology at Brown University, had shown that what's special about odorous cue is that the memory is more holistically recalled and it usually contains more emotionality.¹

I believe there are many of us who have experienced the 'Proust effect' or have had 'Proustian memory', and if the act of smelling can sometimes be so powerful, how has it not been considered more indispensably in the task of refining our everyday life? Our nose might not be as sensitive as the nose of bees, dogs, rats, and salmon, in fact, the human nose are probably one of the numbest amount animals, but that does not justify for disposing its involvement with our everyday life. Searching for ways to utilize our sense of smell will surely improve our living quality.

Every place has its olfactory identity, most of the time it happens naturally, for example: a fish market smells fishy, the fitness center locker room smells humid and sweaty, a barn smells like hay and other cut crops, a barbershop smells like hair product and perm solution, and etc. In a conversation taken place in Les Ateliers Hermès, perfumer Jean-Claude Ellena explains how scent is both part of a place and a representation of the place. In a crafts studio such as Les Ateliers Hermès, the space is filled with the scent of leather, "if somehow the place's odor was removed, the people would say: this is not their place", said Jean-Claude.² We've also started smelling some strategically placed scent; in the recent years, many high-end hotels and retailers have started investing on olfactory identity and taking advantage of this undisclosed technique. An American apparel brand, *Abercrombie & Fitch*, systematically sprays their own cologne inside the store in order to attract customers; subsequently the customers will linger in the store longer and shop for cloth as well as the cologne. Despite the positive and negative response to that particular scent being released into the air of the shop, the connection is already well establish between the scent and the brand. *The Bellagio* in Las Vegas emits customized scent in the lobby to enhance their establishment and to induce a pleasing atmosphere to the customer. This technique in a way is similar but more tactful to the bakery effect; when the aroma of freshly baked goods clenches the passerby and draws them to the bakery. It's difficult to measure the effectiveness of using scent to attract customer in the short run, but nonetheless, it establishes a brand image in another dimension.

With these precedents in mind, one can wonder if there could be an olfactory identity for HDK? Probably not a fragrance for wearing, but a scent that can be recognized and associates with the school. Is it possible to define the smell of creativity? These are the questions waiting to be discovered.

1. Rachel Herz, *The Scent of Desire*. Harper Perennial, New York, 2007, p. 67.

2. Anna Barbara & Anthony Perliss, *Invisible Architecture: Experiencing Places through the Sense of Smell*, Trans. Robert Rurns, Skira, Milano, 2006, p. 99.



figure 6

Result

The Scent of Creativity

There is a unique atmosphere in the school, which is made up by the physical material and the activities happening inside the building. The atmosphere of the school and the people in the building complement on each other, this is the essence and the spirit of HDK. What does creativity smell like? It should epitomize the environment and agitate the interactions within. Creativity came whiffing down from the air duct as wood dust being sucked-in under the saw bench; it twirls up with the curly bits while milling a piece of metal; it leaks out from the coloring marker when idea transforms onto sketches; it came with the breeze in the stretched corridor as discussion occurs unintentionally; it lightly blows on the face of a student listening to colleagues' presentations. Creativity is the colorful paints that stained the work suit; it is the clay bits trapped in the fingernails; it is the steam coming out from the hot iron; it is the sweat in the palm before a presentation; it is the red brick wall that stacked up the building more than a century ago.

These are the olfactory identity of HDK, the scents of creativity, the smell that ties with ordinary yet emotional events. The emotional leverage is endearing to us when past experiences are no longer recoverable except through recollection, and we value objects by the emotions they provide rather than their physical worth. It's why the memories of them often transcend everything else about them. As wrote by Donald Norman, "life is a series of temporary, fleeting experiences. The rest is, literally, memory."¹

In order to study the scents of HDK, various objects found in the school were extracted, such as wood, metal, clay, paint and other materials. Apart from these tangible materials, several aromatic plants were also extracted for their fragrance to represent the imaginary aroma (see Appendix 3). These fragrances symbolize the vibrant atmosphere in HDK as well as provoke the creativity within it.

Nineteen experimental extractions were made at the time of writing, and five scents were selected after casual survey with students for the collection of 'The Scent of Creativity' (figure 6). Among the five scents, some of which are single note and others are combined scents:

1. Donald Norman, 'Selective Memories', *Metropolis*, 2009, retrieved 18 March 2009, <<http://www.metropolismag.com/story/20090318/selective-memories>>

Scent of:	Ingredient(s)	Impression
Tradition	Vanilla, cinnamon, and anise	The smell of vanilla often reminds of warm feelings. The smell of cinnamon and anise often relate to traditional events.
Workshop	Pine wood	Pine wood are often the choice of making study models and it releases a particular fragrance upon cutting into it.
Exploring	Old books	The strange satisfaction found in reading a good book is hard to be replaced by any technology. The attic of our library is full of old magazine and books, it's the smell of hidden treasures.
Drawing	Pencil shavings	We started doodling with pencil before learning to use fancy softwares. The simple act of shaving a pencil symbolize the irreplaceable value of sketching.
Inspiration	Lime and herbs	The acid in lime is often used to prevent oxidation, and the fruit itself is actually good for our body. Herbs are never the main ingredients of any dish, but they make different cuisines vibrant and authentic.

The scent of creativity is...

embedded in the brick wall...





escaping from the wood shavings...



dancing with the metal curls...

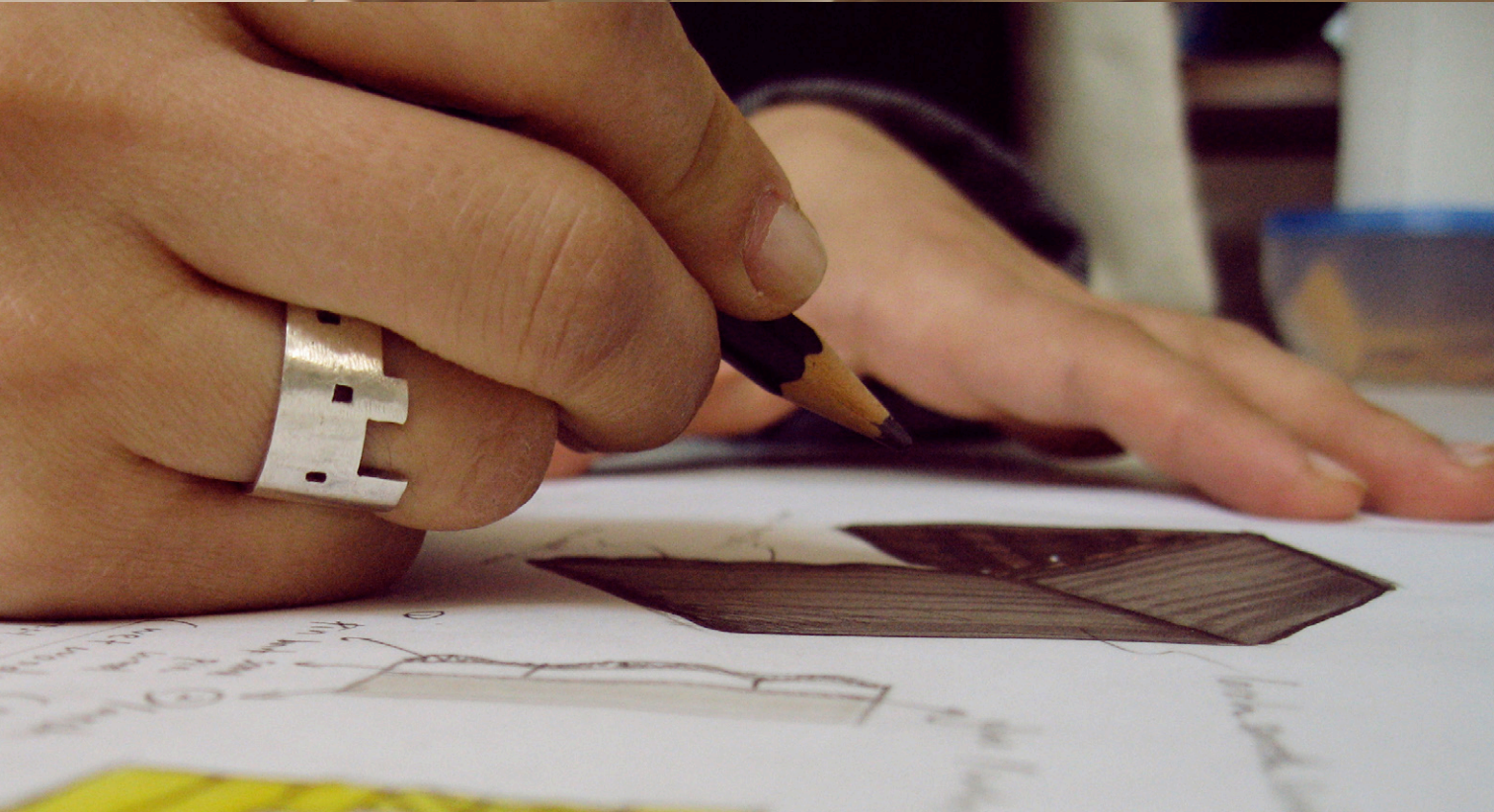


buried under the pages...





tinctured on the finger tips...





lingering between conversations...



Discussion

Application

These scents not only represent creativity, but can also be applied within the building. The scents of HDK can be applied onto acceptance letter to incoming students so they can already breathe in the scent of creativity before they arrived (figure 7). The same smell can then be applied to the entrance carpet used on special event days such as the first day of semester (figure 8). A recent developing technology working on embedding scent into micro-ceramic pods that bond with carpet threads, and when being stepped on, the pods will break and release the fragrance.¹ The scent can last up to a year in normal household usage. The idea behind is to use the scent as an emotional trigger that recalls the excitement of receiving acceptance letter with key events. Shimizu, one of the largest Japanese architectural, engineering and construction firm, has been implementing customized scents into their projects. Since the late 1980s, they have developed a system called 'Aroma Generation System', where subtle fragrance release into the building through air-conditioning duct and vents.² Research results had show enhanced efficiency and reduced stress among workers in these cases.



figure 7



figure 8

1. Emma Moore, 'Olfactory futures', *Wallpaper*, October 2007, p. 149-150.

2. Damian, Peter & Kate Damian, 'Environmental Fragrancing', in Jim Drobnick (ed.), *The Smell Culture Reader*, Berg, Oxford, 2006, p. 148-149.

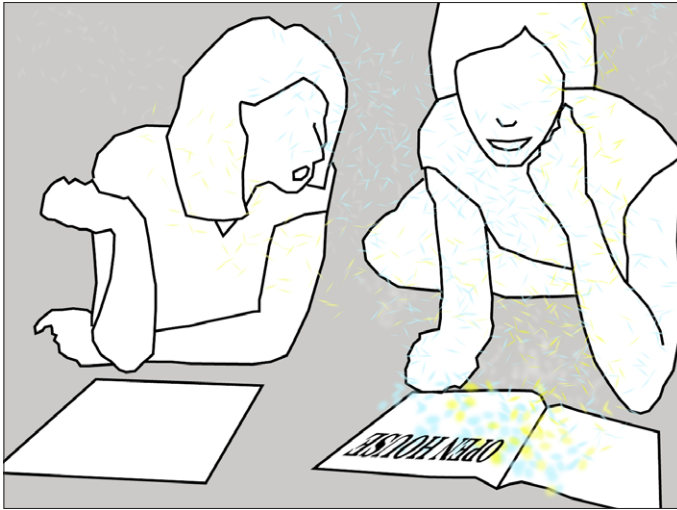


figure 9

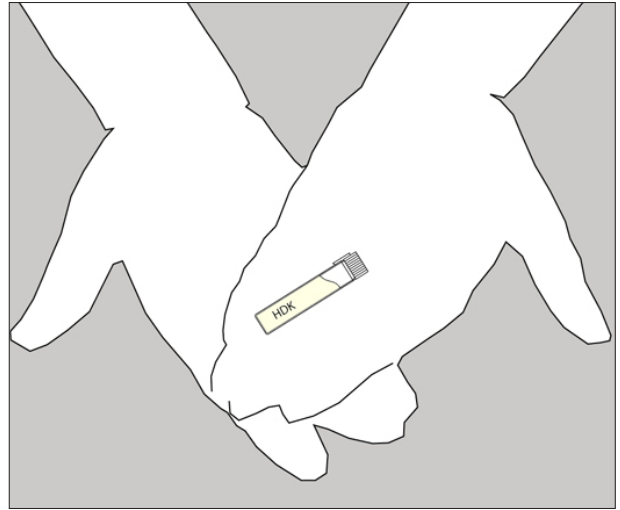


figure 10

With the precedence studies showing that products with pleasant fragrance are more preferable than the unscented ones,¹ another scenario would be embedding the scent onto open house invitation (figure 9). Upon the open house day, small vials of the same fragrance can be distributed as give-away for the visitors (figure 10). In comparison with printed information which most of the time ends up in waste bin, a vial contains the 'Scent of HDK' is more unusual and evokes curiosity for acquiring further information (which can then be found from the web site address printed on the vial).

Graphical image, such as a logo, is one way of representing an organization; it stands in the frontline of introducing the principal value and invites others to discover the characteristic behind it. A scent identity can be used in ways to enhance the existing brand image, as well as in different context. The scents of HDK can be used to enhance a workshop organized by the school but held in another location. One important factor to keep in mind is that the usage of such scent is as a delicate practice as the scent itself; it can easily turn into an irritating matter without proper attention, such as allergic reaction or causing sick building syndrome. Conversely, appropriate application can undeniable expand the existing appearance. After the scent identity is established, it is possible to merchandising it as an individual product to be sold at perhaps the Röhsska Museum. A current exhibition in the Oceanside Museum of Art features site-specific fragrance installation that represents the olfactory experience of the museum (figure 11). The same fragrance presented in the exhibition is also available as a retail product in the museum's store so the visitors can incorporate the museum experience in their own surroundings.²

The technology is gradually catching up with our sense of smell and a number of institutions have been working on olfactory communication. Nokia phone has release a concept scent phone in 2007³ (figure 12); a company name

1. Rachel Herz, *The Scent of Desire*. Harper Perennial, New York, 2007, p. 227

2. Institutional Wellbeing: An olfactory plan for the Oceanside Museum of Art, *The Oceanside Museum of Art*, 2009, retrieved 25 March 2009, <<http://www.oma-online.org/exhibits.html>>

3. James Driver, 'Smell you later', *Lifelounge*, 2007, retrieved 15 February 2009, <<http://www.lifelounge.com/Smell-you-later.aspx>>

TriSenx has developed a computer device that releases scent when allied software has the designated encoding¹; the Nakamoto Laboratory of Tokyo Institute of Technology is also developing an odor recorder.² It is realistic to say that in the near future, we will be able to fax a scent, send a smelly e-mail, watch a cooking show on television that actually smells delicious, and open up the website of HDK and get a whiff of creativity.

We experience space with all of our senses; tiny bits of sensuous stimulation make up the atmosphere. Swiss architect Peter Zumthor believes that a place should have a distinct atmosphere that stirs our emotions; such atmosphere is a combination of light, sound, temperature, and scent.³ His Swiss Pavilion at the Hannover expo in 2000 was constructed mostly with wooden beams; one immediate effect was the coolness under the hot sunny days and warmer temperature when it was cool at night. In an more delicate level, the choice of wood released a distinct scent into the air, giving visitors the sensation of being in an aged wood shed, which might be very similar to the feeling of being in Switzerland.

Some perfumers already start to discover new territory of scent application. Highly respected perfumers Christophe Laudamiel once gave a lecture at Harvard University's Graduate School of Design. He spoke to young designers on the effect of how scent can influence the perception of a space.⁴ In fact, in the article written by Chandler Burr, a woman who recovered from olfactory deficiency described the experience as a bizarre sensation; it felt like the dimension of her room had changed and the geometry of the surrounding is altered in some indescribable way, and then she realized her sense of smell has come back!⁵ Being able to smell is very much about where you are and what relation you have to other entities in time and space.

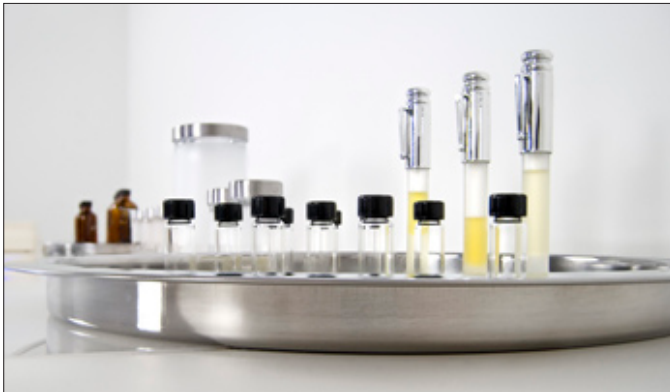


figure 11



figure 12

1. TriSenx, 2005, retrieved 18 February 2009, <<http://www.trisenx.com/intro.html>>
2. Tokyo Institute of Technology, 2007, retrieved 15 February 2009, <http://silvia.mn.ee.titech.ac.jp/MNL_index.htm>
3. Anna Barbara & Anthony Perliss, *Invisible Architecture: Experiencing Places through the Sense of Smell*, Trans. Robert Rurns, Skira, Milano, 2006, p. 157.
4. Emma Moore, 'Olfactory futures', *Wallpaper*, October 2007, p. 149-150.
5. Chandler Burr, 'Scent of Place', *Condé Nast Traveler*, retrieved 12 March 2009, <<http://www.chandlerburr.com/articles/scentsofplace.htm>>

Olfactory in Larger Context

We have learned to appreciate form, sound, and even texture, but very little to odor. Especially in the world of design, people tend to ‘look’ at a design and come to a conclusion, or pre-judge an object by its appearance. It is no doubt to me that a well-designed object must have a pleasant form, but we should be able to make complement on all aspects.

In J. Douglas Porteous’ essay, the author described olfaction often seems to arouse emotional or motivational response, whereas visual experience is much more likely to involve thought and cognition.¹ Vision conserves us a safety distances from the object, we are allowed to frame ‘view’ in pictures and camera lenses; thus the likelihood of an intellectual response is considerable. By contrast, smells environ, they permeate the body and the immediate environment, and thus one’s response is much more likely to involve affection.

With the vast amount of information to be discovered everyday, our society has placed most of the information-gathering burden onto our eyesight. There are more published prints than we ever had in the human history, and with the ever-increasing computer technology, we receive information mostly with visual and audio perceptions. Often our other senses have no chance to experience the object that our eyes see. The abusive use of our eyesight results in unnecessary massive printing, over-packaging of products, and ultimately numbness towards visual stimulus.

According to Porteous, some French school began offering classes on the subject of smell consciousness, and study result shows that student enjoy improved sensorial relationship with food and become more distinguished, consequently these students have broaden sensibilities and less resistant to required curriculum.² On the other hand, interesting phenomenon such as the emergence of oxygen bars, aromatic cookbooks, scented consumer items, aromatherapy and etc., have made ‘smell’ an indulgence rather than a natural perceptive. The Guggenheim Museum in New York City will be holding the world premiere for “Scent Opera” in May 2009. The description on the brochure wrote: “... a new art form... based only on smell and sound... Original scents and music will be performed in the dark via a customized scent organ...” This is an interesting experiment worth notice for. Some artists have taken the advantage of the invisible factor of scent and use it as a tool to encourage viewers’ own imagination. In 2003, Japanese artist Nobi Shioya collaborated with seven perfumers to create a scent for each of the seven sins.³ A recent exhibition at the Reg Vardy Gallery in England presented 14 extinct smells. These smells included the scent of the plants that was extinct due to climate change, and well as the scent of historical events. Maki Ueda recreated the body odor of political suspects that was preserved by the Stasi in order to track them someday with dogs. Christophe Laudamiel envisioned the smell of the atomic blast at Hiroshima. During the cold war period, all subway stops that traversed the Berlin Wall were blocked except one- Fredrichstrasse, it remained open as a transfer station for the West Berliners. Sissel Tolaas created the smell of that subway platform- one of the few places for those of the free world to sniff the hint of communism.⁴

1. J. Douglas Porteous, ‘Smellscape’, in Jim Drobnick (ed.), *The Smell Culture Reader*, Berg, Oxford, 2006, p. 91.

2. Porteous, p. 104.

3. /TS/, *Compressed Art*, 2003, retrieved 16 March 2009, <<http://compressedart.whatwedoissecret.org/TS/>>

4. If There Ever Was: An Exhibition of Extinct and Impossible Smells, *The Reg Vardy Gallery*, 2008, retrieved 2 March 2009, <<http://www.regvardygallery.org/>>

Nonetheless, the sense of smell is important to us both biologically and emotionally, after the Soviet astronauts returned the space in 1982, the reporters asked them what did they miss during the record-making 211 days, they replied: “the smell of flower, the city noises, city smells.”¹

Reflection

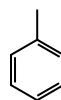
The scope of this project to me feels very broad and yet very sensitive at the same time. I was trying very carefully not to create a ‘perfume’ (besides the fact of lacking the skill for it), nor did I wish to make an air freshener. During the process of various scent experiments (see appendix 2), it was tempting to come up with a ‘delicious’ or ‘good’ smell because the discussions would often lead to subjects about food and taste, and I was afraid if that would lead to more of a ‘cooking’ project instead of a design project. But after all, I did want to approach the topic of olfaction from the aspect of memory and imagination.

The idea usage of such scents is to enhance place identity and not so much about making merchandise. It is almost like grocery shopping in traditional Taiwanese market; where folks shop the main ingredients such as meat and vegetables, and at the end the vendor will throw in a small bunch of herbs free of charge. But who would know that dash of freshly chopped coriander makes that particular dish a big part of nostalgia?

I also debated with myself whether or not I should have a solid product as the result of this research. Several ideas had come to mind such as an odor floor plan of the school building, scented signage and furniture, or an internet blog for discussion and information regarding odor. But I think at this point, any form-giving would distract the main message of this project. However, several suggestions have been proposed in the previous discussion section.

I had also contacted several fragrance companies hoping to engage a collaboration of establishing a signature scent for HDK. Demeter Fragrance Library is the only one interested in working with me, but since developing a fragrance is a rather lengthy process, it has become an ongoing idea exchanging conversation. Another challenge for me was the lack of knowledge in chemistry, which plays an important role when dealing with extracting scents. At one point I even questioned myself whether or not I was still doing a design project. I was able to overcome this obstacle after a lot of research and great help from the Chemistry Department of Gothenburg University, but I couldn’t help wonder if I have drift too far away from design or if the gap between science and design are too distant.

1. J. Douglas Porteous, ‘Smellscape’, in Jim Drobnick (ed.), *The Smell Culture Reader*, Berg, Oxford, 2006, p. 104.



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Appendix 1

Early Stage

At the start of this project, I knew that I wanted to create an experience that will evoke our imagination, and I wanted the experience to focus on our senses other than eyesight. There are countless ways to approach this topic, and I chose to get inspirations from literature. I wanted to use a well-known fictional story so I decided to read *Alice's Adventure in Wonderland*. The story is still very exciting after first read it many years ago. What interests me the most is the chapter where the Cheshire cat appears and disappears at will. At the end of the conversation with Alice, the Cheshire cat gradually disappears and leaving only the grin on the tree. I still remember my math teacher used the Cheshire cat's grin as a symbol describing the limit of a mathematical function. Somehow the thoughts of a faceless grin left a strong impression in my mind; the grin is the essence of the Cheshire cat. So I set myself out to search for the essence of everyday life.



Appendix 2

Smell experiment

In order to understand more about how other people perceive scent, I cast a number of items in plaster, so that the items are unidentified by form. A total of 49 casts were made, and 28 different items were used, some items are cast more than once in various concentration or temperature. They all have similar shapes and looked rather boring and unattractive. I asked people to smell these casts and tell me what do they have in mind as they sniff them. They were free to either describe the smell such as good, bad, oriental, familiar, and etc., or try to identify the smell such as lemon, coffee, vanilla, and etc. People's reactions are listed on the following page.

The responses were surprising to me because a lot of the time people really have trouble identified what's in the cast and that really bothers them when they knew that it is something they had smelled before but can't remember exactly what it is. Also culture background plays an important role in how people response to the smells. For instance, the smell of anise reminds Swedish people of holiday mainly because it's often used as an ingredient in holiday cooking and baking, but the very same spice is used in a common dish in Asian cuisine that usually sold by street vendors, though to both ethnicity it reminds of pleasant memories but in very different context.

Another interesting fact is that the smells progressed during the course of time. This observation helped me understand the concept different notes in perfume such as the top notes, middle notes, and the base notes, each stage reveals different scents as time passes. This is due to the fact that different molecules evaporate at different rate and therefore give off different scents. The smell of dry basil is quite pungent at the beginning and most people can recognize it as some kind of spice. After about three weeks, the scent became sweet and syrupy, almost smells like honey. Banana smells refreshing and aromatic at the beginning, but very soon it became a very yeasty smell, and by the time of 2 weeks it smell like a humid and moldy basement, not very pleasant.

Oxidation is another fascinating observation in this experiment. When something oxidizes, it usually turns into brownish color. The surface exposed longer in the air would oxidize more, and resulted a darker color, but it seems that the oxidation process stops after a certain length of time and the color doesn't get darker anymore. Fresh garlic, vanilla bean, and pear-flavored drink turned from white to beige color, while coffee beans and dry basil turn into grayish brown, and both Taiwanese and Japanese teas turn into rusty orange color. These oxidation colors are the only traces left proofing the smell that were once here.



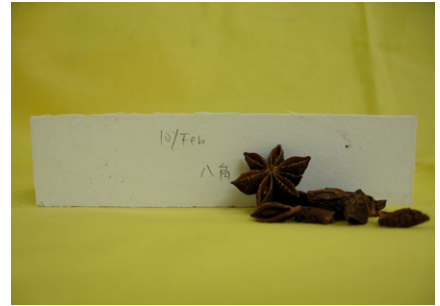
Item	Description/ reaction
Amber incense	Don't know, temple/ Asia
Anise	Cinnamon, toothpaste, mint, holiday, winter, Swedish, beef stew
Banana	Bread, yeast, something bad, wheat, half baked
Cinnamon powder	Play dough, cinnamon, Christmas
Coconut milk	Vanilla, exotic, yogurt, peas
Coffee beans	Coffee, espresso, not so good
Coke	Sweet, candy
Cumin	Cinnamon, clove, holiday, family gathering, don't know
Dish soap	Soap, cleaning product
Dry basil	Asian, honey, spice, pizza
Fennel	Cinnamon, spice, stew
Fresh garlic	Garlic, don't know, good
Garlic powder	Garlic, spice, bad, good
Ginger oil	Cedar, mint, don't know
Green tea incense	Perfume, soap, don't know
Instant coffee	Coffee, bad, good
Indian incense	Perfume, don't know
Instant noodle spice pack	Bad, strange, pepper
Japanese roast tea	Hay, wheat, don't know, not good
Laundry detergent	Fresh, spring, perfume
Lavender incense	Flower, shampoo, don't know
Lemon oil	Lemon, candy, pine
Pear-flavored drink	Rubber eraser, candy, sugar
Sandals incense	Don't know, nice
Soy sauce	Salty, soy sauce, bad
Taiwanese tea	Don't know, ocean, earthy
Vanilla bean	Vanilla, comfortable, relax, cozy, warm
Vanilla sugar	Candy, vanilla, chocolate, rose, girly



Taiwanese tea



Dry basil



Anise



Coffee Beans



Cinnamon powder



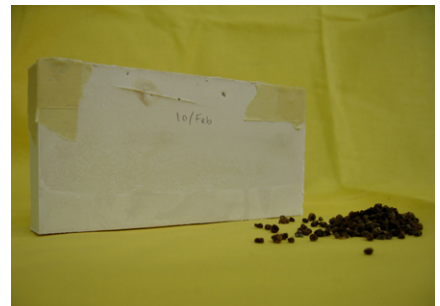
Vanilla sugar



Garlic



Banana



Cumin



Japanese tea



Vanilla pod



Lavender powder

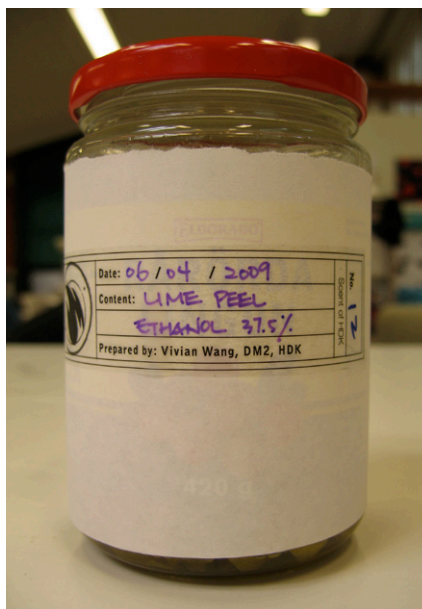
Appendix 3

Extraction

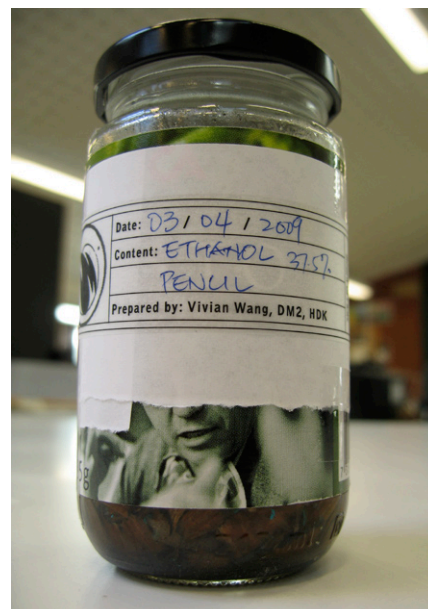
The maceration method was used in order to extract the scents of different objects. These objects are submerged in ethanol for the period of several days up to weeks. Few items were macerated in ether and hexane. When objects are soaked in solvent, molecules were dissolved into the solvent (in most cases it's ethanol), and very often the source of the scents are within these molecules. A total of 19 materials were being macerated.



Old book



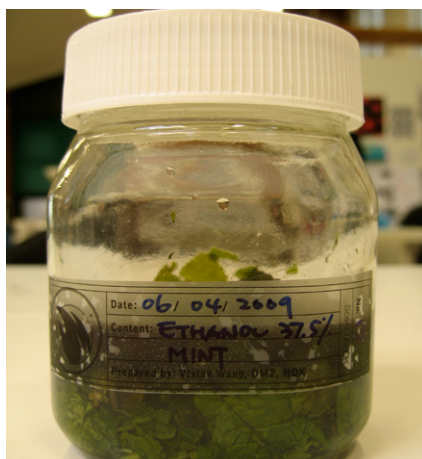
Lime peels



Pencil shavings



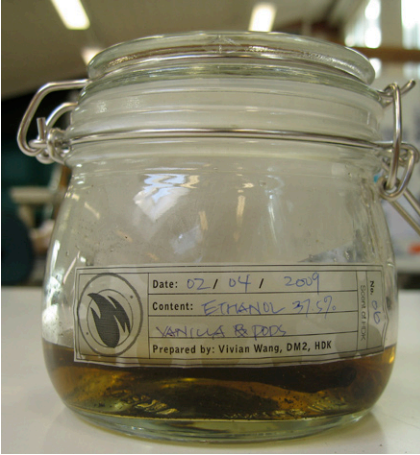
Anise



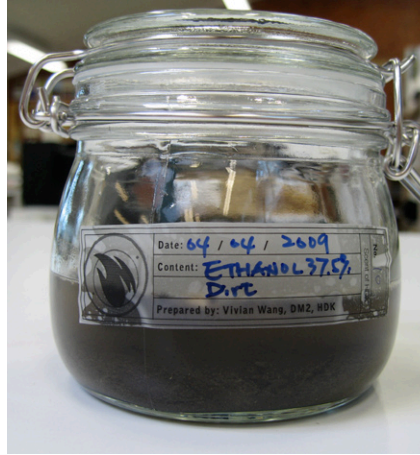
Mint



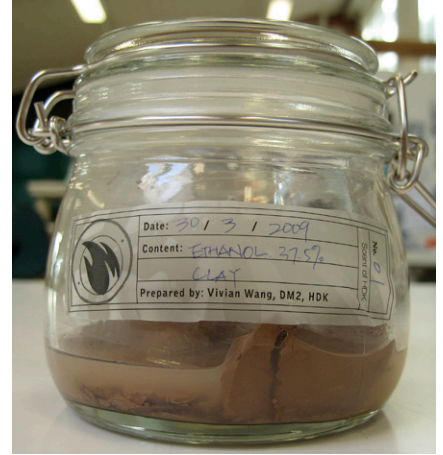
Mixed wood



Vanilla pod



Soil



Clay



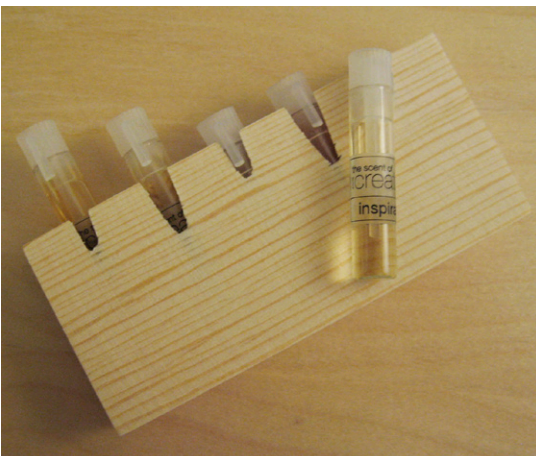
Grass



Cloth with paint



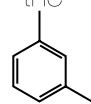
Mixed metal scraps



Scent sample kit



Final extraction

the

end

