

That Smells!  
By Miri Gubler

In a college environment, roommates often add new meaning to the definition of an odor. Whether it is the stench of five different perfumes and colognes mixing together in the hallways, the dank haze wafting up from the basement, or the rotting pipes of a rental home...smelling comes with consequences. It affects our memory recollection, dictates our actions, and shapes our culture. The very act of opening the refrigerator can be traumatizing in such an environment. The balance of the precariously stacked Tupperware is a delicate web; the contents are a fuzzy gray from the growing colony of spores inside. One careless move could topple the delicate infrastructure, releasing the science projects within and turning the kitchen into the Bog of Eternal Stench.

Odorous encounters occur at every moment of every day. Just walking down a city block we are exposed to hundreds of different smells. Our brain catalogs each scent and turns those into perception, which influences our behavior and emotions in a variety of ways. Our nose works like a GPS, navigating us to the nearest coffee shop as we sniff out the beans for our next espresso fix. In the past, smell was used for survival and helped us find food, form social bonds, and sense danger. In a modern sense, smell still influences our social bonds but it has morphed into a billion dollar industry and has become an extensive area of research. Whole industries have been developed to market smells that employ PR guys and “smell scientists.” Smell can toy with our delicate emotions and can be used to manipulate our mood, bringing up memories and associations. Even our language has evolved to include hundreds of words to try and encompass the variety of smells we come across.

Smell has become a seemingly mindless sense compared with sight and sound. In recent years scientists have found it to be much more complex than was previously thought. The amazing sense of smell is the ability of our olfactory nerves, a bunch of neuron receptors in the nostrils, to pick up the molecular presence of odorants and transfer them through electric impulses to the brain. Then the brain interprets them and...viola! Sensation becomes perception and we are able to pin down a distinctive smell.

Humans are believed to be able to distinguish more than 10,000 different smells. This number is hotly debated for lacking evidence, but it is the most commonly agreed upon estimated number. Just as we have hundreds of olfactory senses, there are also hundreds of words in the English language that attempt to describe the range of delightful and putrid smells we perceive. The terms “fragrance,” “scent,” and “aroma” are primarily used by the food and cosmetic industry to describe a pleasant odor, like the *aroma* of fresh coffee. In contrast, “foul,” “stench,” “reek,” and “stink” are specifically used to describe strong and unpleasant odors, such as the Kraken’s *foul* breath that *reeks* of a thousand rotting corpses.

Since the nose is so closely related to the mouth in matters of proximity and their sensory powers being very cooperative with one another, the taste and nasal receptors work together to create a flavor. The human tongue can only distinguish among five distinct qualities of taste while the nose can distinguish hundreds. The face is an entire network of sensory irritation; the eyes, nose, mouth, and throat identify sensations like the sting of ammonia-laced cleaning products, the coolness of a menthol cigarette, the heat of the chili pepper flakes sprinkled on top of a pizza, or the “spiciness” of a stick of peppermint gum (the description is a courtesy of my four-year-old niece with a passion for gum.) This facial teamwork makes it easier for us to absorb each sensation and better formulate our perceptions into language.

Certain scents can create a bad smell by simply being overbearing. Such a phenomenon occurs in perfume shops where it is easy to become overwhelmed by the amount of spray-tester bottles. The glassy, lit-up counters are topped with a various array of vials of all colors and shapes. Like a chic witches den, the sweet, sensuous, and sultry labeled potions are a mixture of up to ten or more scents. Chanel’s iconic perfume, No. 5, consists of bergamot, lemon, neroli, ylang-ylang, heart of jasmine, rose, lily of the valley, iris, sandalwood, vanilla, amber and patchouli. In order to not succumb to olfactory fatigue, which would make a purchasing decision difficult for the consumer, coffee beans have been incorporated to clear the nasal “palate.” This was adopted after the way sorbets are used to cleanse the palate between courses in a dinner.

Thankfully olfactory fatigue isn’t permanent but others aren’t so lucky. There is a range of olfaction disorders, ranging from a constant perception of feces to a complete

lack of smell. *Hyperosmia* is an abnormally acute sense of smell. My mother's *hyperosmia* is well known within the family and it wasn't until adulthood that I became aware of the behavioral consequences that were shaped by my mother's bloodhound nose. Growing up, she could smell someone's breath from across the room and it would often turn into a game as she'd try and guess what you had eaten that day with great accuracy. Her bathroom shelf was covered with perfume bottles that could rival a perfume counter in a department store. Febreze was a staple in each bathroom of the house and the top plug of each outlet was always designated for an air freshener. The depiction of my parents' house is the epitome of our cultures obsession with smell and the attempts to banish any indication of our more primal smells and functions.

On the opposite side of the smell disorder spectrum is *anosmia*, the complete lack of odor perception. This is the most common disorder and the most studied. A minor and fleeting sense of *anosmia* occurs with a common cold. The inability to smell and taste is often a frustration of a cold and can result in the loss of weight because a lot of our hunger is generated by smell. *Cacosmia* is the unfortunate disorder of everything smelling like feces. *Phantosmia* is the "hallucinated smell," which is the perception of a smell in the absence of any physical stimulus and will haunt you with unpleasant smelly phantoms. Everyone's sense of smell naturally begins to decline with age but head injuries, hormonal disturbances, mental disorders, and drug abuse can also be attributed to a change or loss of smell. They can also be caused by prolonged exposure to certain chemicals like insecticides and by some medicines. Smoking is the most concentrated form of pollution that most people are exposed to that affects their ability to smell.

Although my olfactory system borders along *phantosmia* in concern to my breath, I have a regular olfactory system. However, my experiences and perceptions can be much different from others. Our sensory feelings and perceptions are often the base for other definitions that we can't verbally explain, by defining an object or idea by its smell and linking it to some recurring memory or schedule. For example, the effects over the years on my pillow from laziness and lack of regularly washings have infused a particularly pleasant and soothing smell resulting from a combination of slobber, oil, hair conditioner, and goose down. This smell has defined my perception of the smell of "sleep" and my body's attuned reaction to fall asleep is instantaneous from the moment

my head hits the pillow and I get a good whiff. Others are completely lost on that concept because they wash their pillows regularly like normal people.

Smell, more so than any other sense, is intimately linked to the parts of the brain that process emotion and memory. The olfactory bulb in the brain, which sorts sensation into perception, is part of the limbic system - the system that determines our behavior, mood, and memory. This phenomenon varies from person to person. The smell of stale cigarettes may remind me of sleepless nights of anxiety-ridden writers blocks while it reminds my best friend of her ex-boyfriend who smoked Turkish Royals. In other cases a physical response can be elicited. The smell of Tupperware triggers my gag reflex thanks to several factors. The first is due to my mother fashioning a Tupperware bowl as a vomit receptacle when I was bedridden with the stomach flu. The second is the toxic smell of moldy food left abandoned in the refrigerator. However, some people have a different reaction to the smell of Tupperware; some are brought back to a time when they helped their mothers in the kitchen baking cookies.

Recurring scents have motivated research studies because of the way we subconsciously register certain scents and how they get deeply implanted in our memory. Andy Warhol was an advocate of "scrapbooking" certain smells to be used to recall memories that he claimed was more effective than photographs. So, instead of selling my half empty perfume bottles on eBay, I have kept them to occasionally spritz on my wrists if I want to have a nostalgic moment. My Halle Berry endorsed perfume, *Halle*, or what it should be called - *SUU Freshman Semester* - brings to mind the exact organization of my dorm room, along with the faces of all my roommates. This is almost impossible for me to recall without the help of this perfume.

Subconscious perception was a phenomenon explored by a group of German researchers who conducted a study that explored the idea of one's emotional dream state while exposed to particular odors. Noxious odors, such as rotten eggs, would usually provoke a nightmare, while pretty scents, such as roses, triggered happy dreams. This idea attempts to prove that smell subconsciously manipulates individual moods and surroundings. Pamela Dalton, an expert on odor perception and a sensory psychologist at the Monell Chemical Senses Center in Philadelphia said, "We are aware at some level of our odorous ambient environment at all times, and I don't think we appreciate that. At

some level, our brains are always aware. If this study shows that we can alter the emotional content of dreams, think about what an odor can do to your mood without you even being aware." This idea delves into the connection we have between hospitals and that "sterile smell" or thrift stores and that "old people smell." Dalton explores how the smells associated with emotionally disturbing places shapes our perceptions and if, by changing certain smells, we can find a way to alter people's attitudes about these places.

Smell is much more than a fad and will continue to develop and expand as researchers, perfumers, scientists, and even government agencies delve into our rudimentary, yet tantalizing and superhero-esque sense of smell. Its ability to evoke abandoned memories, aid in tasting, shape our social relationships, inflict a constant poo-smelling environment for some, and contribute to a huge industry just demonstrates its power in our culture and strengthens our connection, and uniqueness, as human beings.

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## Science Essay Critique

This essay melted my brain. It was really hard to take a subject with seemingly unlimited articles on the different aspects of smell in both humans and animals. It was painstaking to organize each thought into something readable with a clear focus. And then of course there were the commas... I hate them so much. This was by far one of the hardest essays I've written because the sheer amount of research required. I really wished I could have just wrote about why animals have whiskers or the science behind Seth MacFarlane's vocal abilities. Seriously, every time I sat down to write my mind would reject the idea.

With the future in mind, I've signed up for a workshop with the writing center, which I plan on utilizing more in later semesters. I wrote this with a general audience in mind in order to make a more complex subject more accessible and relatable. Keeping it more conversational was a big help because then I was able to reference in more of my own personal experiences and lead into a more scientific discussion (kind of.) I realize some of my paragraphs lack a clear purpose and seem to wander easily and don't flow as well between paragraphs. I hope to keep working on this essay in the future because I do find it absolutely fascinating.

I originally chose this topic because of the exhibit at the Museum of Natural History that has those buttons that will emit a type of perfume so we can know what the old prehistoric plants smells like. It then reminded me of my mother's sense of smell and how that's impacted my socializing skills. Another reason was because of my extensive perfume collection and my inability to wear things after a certain amount of time because of the intense memories I get. Yet I can't throw them away because sometimes I like to indulge and take myself back to a distant part of my life that I've blocked out completely. Memories that come this way are so much more vivid than journal entries, songs, or pictures. I can remember every detail if the smell is strong enough. I also couldn't sleep for months after my mom sneakily washed my pillow because it smelled like flowery detergent instead of 'sleep.'

I realize it's not my best-edited essay and I feel like I sometimes change tenses that make it confusing for others to read. I also feel like my comma placement is a complete wreck and I know I mixed up some of the "effects" and "affects" again. I am proud that I got it to this point though and that I am able to turn something in. Thanks again.

Intro 1 – use this one

Walking down the street we expose ourselves to hundreds of different smells. It's become a slightly mindless sense compared with sight even though our brain catalogs each smell as we pass down the street from the wafting cured meats of a deli or the urine soaked corner from abandoned shop entrances. It works as a GPS, navigating us to the closest coffee shop, as we sniff out the beans for our next espresso fix. The olfactory sensations we experience daily are much more complex than we recognize and can trace back to forgotten memories, trigger our gag reflex, choosing sexual partners and friends, and of course help us to differentiate between savory, sweet, and salty.

Intro 2 \*2<sup>nd</sup> fav

As I reached adulthood I became aware of the behavioral consequences that were shaped by my mother's bloodhound nose. Growing up, she could smell someone's breath from across the room and it would often turn into a game as she'd try and guess what you had eaten that day with great accuracy and judgment. Her bathroom shelf was a maze of perfume bottles (more imagery here) that could rival a perfume counter in a department store. Febreeze was a staple in each bathroom of the house and the top plug of each outlet was always designated for an air freshener. The depiction of my parents' house is the epitome of our cultures obsession with smell and the attempts to banish any indication of our more primal selves and functions.

Intro 3 \*fav ☺

In a college environment, roommates often add new meaning to the definition of an "odor." Whether it is the stench of five different perfumes and colognes mixing together in the hallways, or the repercussions of a communal Mexican food night in the bathroom we all share, or the rotting pipes of a rental home. Smelling comes with consequences that affect our recollection of memory, dictate our actions, and have shaped our culture. The very act of opening the refrigerator can be traumatizing in such an environment. The balance of the precariously stacked Tupperware is a delicate chain, and most of the containers are hazy from the spores that have been growing inside for months. One wrong move could topple the delicate infrastructure, releasing the science projects within and turning the kitchen into the Bog of Eternal Stench.