Research Article,

# The Use of Scent Within the Changing Landscape of Theatre and Its Application to Long-Term Rehabilitation

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#### **Abstract:**

The intentional and unintentional use of scents have long been implemented in the arts. As an element of design, the use of fragrances may increase audience immersion by engaging the sense of smell through the olfactory receptors, in addition to becoming a tool for the performers. Since the COVID-19 pandemic began, most performing companies have been forced to shift the showcasing of work primarily online. Many of the subtle effects produced by both the cast and the design team that one may appreciate in-person are inevitably lost in virtual theatre, falling secondary to the screen. One potential solution for ensuring that digital productions can continue traditions of theatre while considering the safety of guests would be through the utilization of strategically crafted scents that support the performance's story and the overall direction of the production. In virtual performances, the use of scent can be useful to ground both the audience and performers within the same world by linking the play to old memories or creating new ones. The paper finally looks at ways that this linkage can be utilized in longterm care facilities for the betterment of patients.

#### **Introduction:**

The use of scents have long been implemented in the arts, dating to ancient Greek festivals, rituals, and performances saturated with potent fragrances carefully choreographed into the main production [1]. There is now a renewed interest of introducting fragrances into live performances [2]. Particularly, with increased discussion on the biological underpinnings of scent in the context of theatre, especially the ability to elicit or mediate emotions via the limbic system [3].

The sense of smell activates the limbic system, a part of that the brain integral in the interconnectivity of emotions, memory formation, storage, and retrieval. Odors can function as particularly powerful triggers of emotion, because

smell is conveyed directly to the limbic system rather than first being relayed by the thalamus [4-9]. Through simple activation of this particular neurological circuitry memories long faded are brought to the forefront [4-9]. Examples of this memory activation include the nostalgia that might come with the scent of gingerbread during the holiday season, or the smell of suntan lotion evoking memories of childhood beaches [5-9]. The use of fragrances may increase immersion by

The use of fragrances may increase immersion by engaging an additional sense, in addition to becoming a tool for the performers. For example, engulfing ambitious characters such as Tuzenbach, in *The Three Sisters*, with a bright aquatic scent, or chaps like Robert Ferrars, in *Sense and Sensibility*, with a romantic aroma may

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immerse actors more deeply into their characters, while simultaneously stimulating the audience. The same way in which the scene work of the rehearsal room comes alive at a first dress rehearsal in full costume, with the addition of all of the elements of design (scenery, sound, theatrical lighting, etc.) scent could serve as another support of the actor's portrayal.

Since the COVID-19 pandemic began, most performing companies work primarily online. Many of the subtle effects are inevitably lost in virtual theatre, falling secondary to the screen. One potential solution for ensuring that digital productions can continue traditions of theatre would be through the utilization of strategically crafted scents that support the performance's story and the overall direction of the production.

In virtual performances, the use of scent can ground both the audience and performers within the same world by linking the play to old memories or creating new ones. For instance, the intensity of encountering recurring symbolism or running themes may be heightened by memory triggered by smells, in line with the neurobiology of the limbic system and its relation with odors [4-9].

The pandemic has redfined the business structures of many industries. Using targeted fragrances designed for each performance may increase its emotional impact on a remote audience and provides an opportunity to further brand and market a theatre beyond the performance itself. The impact of scent on the limbic system makes it a powerful tool for establishing an emotional connection with the audience. This creates an elevated experience for the audience by transitioning them further into the world of the play and gives the design team another avenue to reach the audience.

#### <u>Use of Scent Outside of the Performance</u> Industry:

Scent has been successfully employed to increase the engagement of the customer experience. The following examples of scent's current uses in various industries can inspire ideas for scent's use as a storytelling device. Scent marketing is an advertising strategy where corporations deliberately employ a scents to entice consumers, or allow shoppers to sample fragrances manually. The financial implications of introducing a scent to a retail environment have been well investigated and the technique has scaled well

with time [10]. This practice extends to the hotel industry, where scent marketing also has significant amounts of evidence-based support [11]. Similarly to the desired outcome of performances, the focus of using scent marketing in the hotel industry is to deliberately trigger a desired emotional state within their client base [12].

Other brands have developed a signature scent to embody their company and communicate aspects of its history, customer base, and intended emotional response. For example, The Hollywood Roosevelt uses Maison Margiela's fragrance "Jazz Club" as their signature scent, which is a part of the REPLICA collection that was created to be a "reproduction of familiar scents and moments of varying locations and time periods" [13]. The Hollywood Roosevelt intertwines the scent within almost every aspect of their hotel experience, even within the toiletries and through air vents using an attachable diffuser connected to their HVAC system. Utilizing the impact of scent on the limbic system allows these companies to maximize the opportunities to create a return customer. While scent is utilized to make a profit based off of the emotional connection that it spurs, creating this connection with an audience during a virtual performances is critical for a director and design team. The emotional rapport encouraged by scent can deepen the impact of a performance.

One fragrance brand, "Imaginary Authors", interlaces literary elements into their scents. Imaginary Authors does this by creating written narratives that complement each scent. For example, "City on Fire", a pungent, smoky scent, is paired with a clandestine, dark vigilante book with noir undertones:

"NOTES: Cade oil, Spikenard, Cardamom, Clearwood, Dark Berries, Labdanum, Burnt Match

SYNOPSIS: A brilliantly dark graphic novel, "A City On Fire," is the story of two match-makers. Rupert literally fabricates matches in a factory on the waterfront while Frances writes a dating column for the city's newspaper. Both are recluses who haunt the night's shadows observing clandestine activities from afar but never partaking. That changes one fortuitous evening when they are both witness to the same high-profile murder and are forced to come together as

an unlikely vigilante pair in order to save their own names.

WHEN TO WEAR THIS FRAGRANCE: The refined smoke accord makes this an austere and luxurious scent for evenings on the town, whether with a special someone or alone and looking for trouble" [14].

The description that comes with the scent acts as a sandbox, prompting the imagination, granting autonomy to the interpretation of the story which bends to the life of the wearer. Therefore, the continuation and interpretation of the story is fluid, influenced by life experiences. The concept of weaving narratives and fragrances together is evocative of the potential use of fragrances in theatre, which both engage in storytelling and emotions.

These success of scent marketing is correlated with the neurobiological underpinnings of scent. Specifically, the distinct neural connection between the olfactory cranial nerve and limbic system enables the selective eliciting of positive emotions, such as making a shopper feel more pleasant and therefore better primed to make purchases [6]. While the purpose of scent deployment for marketing teams in retail is ultimately to make a profit, scent can be used by a production's design team according their desired emotional impact on their audience.

#### **Use of Scent Within Performance:**

Scent integration is far from a new concept in performance. Religious ceremonies have utilized scents of Frankincense, olibanum, Myrrh, and other resins to set the mood for the religious performances for thousands of years. In the Elizabethan era, performances of *Macbeth* would incorporate small firework explosions creating a sulfuric scent reminiscent of the supernatural. The original Broadway run of *Waitress*, used an oven offstage to give the audience the real scent of a diner making fresh pie:

In an unusual step, the producers of the new musical *Waitress*, which opened on Sunday night, have been trying to perfume the theater with the scent of baking by adding an olfactory component to the show's set, which replicates a small-town diner specializing in fresh pies. The show's title character, played by Jessie Mueller, dreams of using her pie-making talents to finance an escape from her abusive marriage. The score, by Sara

Bareilles, features an oft-sung refrain of ingredients (sugar, butter, flour), while the book, by Jessie Nelson, includes the frequent concoction of creatively named pies. "I wanted that aroma, and I wanted it desperately," said Barry Weissler, one of the show's lead producers, "It's a wonderful intense surround for the show." Finally, the production hit upon a solution by installing a convection oven in an entry passageway just outside the doors to the theater's orchestra seating. Before each performance, the show's consultant," Stacy Donnelly, delivers an uncooked nine-inch double-crust apple pie. 20 minutes before the doors open, a theater staffer puts it in the oven, allowing it to cook slowly throughout the show. The odor wafts into the back of the orchestra whenever the doors are ajar, particularly just before the first act and during intermission, and its intensity varies based on the air flow [15].

This use of practical effects is an example of how productions have utilized scent to work in tandem with performance. The use of scent as a design element within a creative team's toolkit can give the audience a more immersive experience.

Another production that utilized scent was *Ghost* Stories by Jeremy Dyson and Andy Nymon which delved into paranormal experiences. "Another story concerns a poltergeist that throws books and sends nappies skidding across the set (likely by using clear wire and light to trick the eyes). There's also a strange smell of bleach, which reflects the weird odors often found in haunted places. The classic scent is tobacco smoke, but I led a ghost hunt recently where we smelled sulfur; on other hunts, I've smelled baby sick" [16]. Though people have unique stories of paranormal accounts, using the universally unnatural scent of bleach allowed for the entire audience to connect that scene with their own associations with bleach. By blending personal memory stimulants with live performance, the audience was intimately engaged with the new stories in a way that built upon existing experiences.

There are clear ways where the use of scent can further benefit already established productions. *Romeo and Juliet* could utilize a fragrance composition of Bulgarian rose that represents innocence and passion within the love story. Accented by notes of spice and rounded out by an earthy patchouli note, it gains the ability to call home the inevitable tragedy and human aspects of the play. A show like *A Midsummer Night's* 

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Dream could utilize a more fresh and electric scent composition, based in citrus fruits such as bergamot and yuzu, to convey the electricity and fast movement of the show. This could be accented with a mix of grounding woodsy notes such as cyprus and papyrus, which represent the forest in which the play is set. Intertwining story points with tangible fragrance notes can highlight certain elements of the script to convey importance to the audience. Having an uplifting and playful scent could prepare an audience for a more energetic and humorous show, while a drama could be aided by the use of a refined, grounding scent.

Anton Chekhov's The Three Sisters is split into four acts, providing the opportunity to see four different scent compositions based on things like each act's tone and setting. Each act works as another season in the life of the Prozorov sisters. In the third act, which is commonly analyzed as being symbolic of "The Fall of Man," a fire sweeps through the city and leads each character to revelations about themselves and their future in the town. This act could be underscored with the smell of burnt wood, a strong, fearful scent that can both reflect the scene's literal reality and highlight its dynamic, untamed nature. For Act One, which is representative of the spring of their lives, we witness a birthday party that could be underscored by fresh seasonal florals, sugary sweets like birthday cake, and a sparkling champagne to top it all off.

The scents could also provide metaphorical meanings. Having a sweet scent during a murder scene or utilizing scent to convey literary elements such as foreshadowing can have a profound impact on interpretation of the story. Imagine the impact of the metallic scent of blood during early happy scenes of a show that ends in a surprise murder. Or the overpowering smell of lilies (a floral scent associated with funerals) as a character makes a choice that lead to their demise. Scent need not be employed literally, but could be used to confuse or even distract the audience. The possibilities are endless, just as the more familiar design elements of light, set design, sound, media, costuming, dialect, and props provide infinite possibility.

#### **Scholarly Analysis:**

As theatre adjusts to an online platform, the expectations do not change as quickly. Virtual performances create new barriers between

performance and audience for an artistic team to overcome. In a time that is so emotionally and physically draining, it is easy for an audience to become disconnected with the entertainment they choose to consume.

For the purposes of this argument, we will "virtual theatre" to mean consider performance the audience accesses via the internet that is performed and/or composited live, as opposed to performance that undergoes a postproduction editing process prior to being showed to an audience. Virtual theatre during a pandemic takes all kind of hits when it comes to design. Virtual theatre does have two obvious sense stimulation tools connected to it by proxy: sight and sound. But what were the live sounds of an orchestra is reduced to digital sound. The set is limited to what fits in the actors' separate zoom boxes. Props and Costumes become what one has in their home or what producers can ship to them. Lighting can be manipulated by one's positioning relative to a window or lamp, but not much else without renting equipment. In these circumstances and given what was discussed above about the impact of scent on the limbic system, introducing scent as a design and storytelling element into virtual performances can be an exciting and effective dimension to add. Creative teams may decide where and when to use scent within a virtual production, and could be used specifically to make up for any perceived hindrances that may be caused due to the nature of an online viewing platform. While corporations continuously use scent as a hidden marketing tool, why is the world of theatre letting these researched and vetted mechanisms, when the use of scent marketing technology opens a door to aroma-therapeutic qualities within performance?

An initial major hindrance of virtual performance is how to connect the audience. Scent marketing as an element of design can be utilized by theatre professionals to create a stronger relationship with an audience, both emotionally and creatively. This strategy fosters a relationship between theatre and audience. The positive variety of stimulation, three dimensional sensory intake, and live performance are key components that set theatre apart from film. There are many rituals of physically attending the theatre: Wearing your favorite outfit, grooming, prepping for the event, standing in line for tickets, squeezing into a seat with no knee room, gossiping with the strangers around you about the swing going on that evening, seeing set construction or a giant ensemble of performers, all while being engulfed in music and orchestration. It is impossible to replicate these elements within the comfort of our own homes. Scent can complement virtual performanes and open a whole new world that has never been fully exploited.

## <u>Authorial Creative Intervention and Application:</u>

One of the authorial team's creative interventions, *Talk of Graves*, had many iterations across its two-year life span. Beginning as a one-man show titled, *As the Frog Crept*, it was created as an introspective look through the life and mental health journey of a character named Mr. Saldivar. This creative piece magnified moments of fear that personally impacted members of the authorial team. However, the piece had a feeling that was inorganic, as members of the team were trying without success to create cohesion between their personal experiences and their writing. Coupled with the mental toll that the pandemic had taken, this seemed to be proving more difficult once faced with the reality of a one-man show.

Inspiration came by way of Halloween-themed media, specifically to the series, The Haunting of Bly Manor, which is a modern retelling of Henry James' horror novella, Turn of the Screw. The show echoed a sentiment growing in me at the time, that Ghost Stories were not just stories of death and sorrow, but also stories of life, love, and compassion. The show, along with personal connections to supernatural and paranormal memories within the authorial team, inspired the writing of stories that spanned from the authors' childhoods to their most recent days. With specific memories already being tied to scents in the minds of the authors, scent was at the foundation of how the stories were arranged and how tones ebbed and flowed from one scene to another.

While the goal was to try to remain as close to reality as possible, a bit of creative liberty was utilized on the following stories to allow them to reach a more widespread audience. Music, written by creative partner Gwenny Govea, was added to immerse the audience into *Talk of Graves*. As the production continued, more creative power was given to music as a driving force to showcase certain feelings where words fell short. However, it was also around this time that it was decided

that *Talk of Graves* would have to be done remotely as a short film style of performance.

This setback was highlighted by the loss of the intimacy between the audience and performer, which is one of the major aspects of a one-man show. The team was forced to think of new ways to implement that feeling of connection into a virtual platform. Upon reflection, it was realized that each story had a unique feel, that were then organized by colors, sounds, shot composition, and overall tone. This helped the team process these stories by associating them with aromas that were already ingrained into the memories of the team.

The distance that is caused from virtual theatre could be surpassed in part by special attention to the sense that can be affected. It was easy to manufacture, cheap to pay for and, could be distributed safely. Dividing up each story into specific instances where scent would be used allowed for each scent to act as a separate chapter with a different feel. Coupled with a specific color scheme and filming style, these elements helped differentiate each story. Scents were utilized in tandem with different tones, lighting, and camera angles in an attempt to make each piece stand alone in the story it was telling:

The Ghost of La Casa Verde (discovery) (Filmed in the style of Buzzfeed **Unsolved**) (smells of Jasmine and spice) The Black Tie (acceptance) (filmed in the style of a horror movie) (smells of cinnamon and leather) The Furby and I (fear) (filmed in the style of a psychological mystery) (burnt match, Ash, wood) I'm Still Here (remembrance) (filmed in the style of a love story) (smells of rose and soap)

After designing the scent composition, discussion shifted to logistics, and methods of delivery of the Α few iterations were discussed scents. considering safety and cost effectiveness. Essential oils were considered, but quickly disregarded due to safety and cost concerns. While candles were far safer, they were expensive to produce. The use of scented wax seemed to satisfy all the parameters, was most importantly affordable, required minimal packing, was user friendly, and therefore was implemented as the scent factor in the consumption of this project.

Small batches of each scent were placed into a set of four colored pouches correlating to each ghost story. Each pouch was filled solid fragrance wax shapes that could be smelled during the performance, and then used as room fresheners afterward. For audience members that elected to participate, these pouches were mailed or safely picked up utilizing social distancing, disinfection, and timing windows. They were labeled with the title of their corresponding story, the correct time to open each bag, and were color coordinated to the performance title. By using story clues similar to those of *The Imaginary Authors*, the provided aromas act as vessels to help the audience to stay grounded in the world of each ghost story.

Physically transporting a third method of sensory stimulation into the world of our audience both directly manifests in a more interactive experience and gives a physical relic of the performance. Through this connection, a deeper and more rooted relationship can grow between the audience and the performance. From this also comes a larger pivot towards theatres viewing their audience in a longer-term invested relationship, rather than solely trying to fill their seats for one night of a performance.

#### **Application in Long-Term Rehabilitation:**

Because of the nature of the long-term rehabilitation centers and the need for care for those affected by injury or illness, many patient suffer from what is colloquially known as mushroomization. In this case, those patients suffer from feeling as though they are "kept in the dark and fed garbage". Through the utilization of

the sense of smell as a method to induce the idea of placing the patient's within the world of the theatre it is the hope that these patients might be able to find some form of relief or benefit. In a thesis published in 2020, the author provides how sound can be utilized as a means of healing for those both in the theatre space and those who hear those sounds [17]. Through leverage of the sense of smell and the activation of the limbic lobe, it is the hoped outcome that the patients receive some of the benefit demonstrated in the 2006 pilot study where their perception of increased quality of life helped with the transition and care in elder care facilities [18]. Finally, as demonstrated numerous times in the Occupational therapy literature, while most of medicine focuses on the quantity of days that a patient is able to live, those afflicted by diseases that necessitate long-term care in facilities do better physically, emotionally, and mentally when their quality of life has been targeted to ensure that these days are considered by the patient to be "good days" [19-21].

#### **Conclusion:**

As virtual performances become the norm, it forces productions to find new ways to connect with audiences. Scent is one avenue by which we can create a more inviting and experiential virtual performance. By sweetening extending the intimacy and sensual experience, theatre stays grounded in its importance of stimulation and spectacle. The ability emotionally connect with an audience can assist design teams as they attempt to convey the spectacle of live performance through a screen. This can be utilized in a number of ways but one key avenue is that of long-term care for those struggling with the need for nursing care facilities or longterm rehabilitation.

#### **References**

- [1] Spence, C. (2021). "Scent in the Context of Live Performance" in *i-Perception*. 10.1177/2041669520985537
- [2] "Aroma-turgy: What's Smell Got to Do With It?" (2016). https://www.americantheatre.org/2016/02/2 4/aroma-turgy-whats-smell-got-to-do-with-it/ (Accessed on 16 January 2022)
- [3] Spence, C. (2021). "Musical Scents: On the Surprising Absence of Scented

- Musical/Auditory Events, Entertainments, and Experiences" in *i-Perception*. 10.1177/20416695211038747
- [4] Sullivan R.M., Wilson D.A., Ravel N., Mouly A-M. (2015) "Olfactory memory networks: from emotional learning to social behaviors" in *Frontiers in Behavioral Neuroscience*. 9:36-36. 10.3389/fnbeh.2015.00036

### Nicholas Saldivar.et.al. /The Use of Scent within the Changing Landscape of Theatre and its Application to Long-Term Rehabilitation

- [5] Varkey T. (2021). "'Watch Your Language': A Literature Review on the Use of Dirty words in Improving Memory for Adult Learners" in *Proclins Psychiatry*. http://proclins.com/article/Psychiatry-1-1001.pdf
- [6] Catani M., Dell'Acqua F., & De Schotten M. T. (2013). "A revised limbic system model for memory, emotion and behaviour" in *Neuroscience & Biobehavioral Reviews*, 37(8), 1724-1737.
- [7] Trivedi, B. (2006). "The Hard Smell" in *New Scientist*, 192(2582), 36-39.
- [8] Rajmohan V., & Mohandas E. (2007). "The Limbic System" in *Indian Journal of Psychiatry*, 49(2), 132.
- Mega M. S., Cummings J. L., Salloway S., [9] & Malloy P. (1997). "The limbic system: an anatomic, phylogenetic, and clinical perspective" in The Journal of *Neuropsychiatry* Clinical and Neurosciences.
- [10] Roschk H., Hosseinpour M. (2019). "Pleasant Ambient Scents: A Meta-Analysis of Customer Responses and Situational Contingencies" in *Journal of Marketing*. 84:002224291988113. 10.1177/0022242919881137
- [11] Anguera-Torrell O., Alvarez Leon I., Cappai A., Antolín G. (2021). "Do ambient scents in hotel guest rooms affect customers' emotions?" in *European Journal of Tourism Research*, 27:1-16.
- [12] Denizci Guillet B., Kozak M., Kucukusta D. (2019). "It's in the air: Aroma marketing and affective response in the hotel world" in *International Journal of Hospitality & Tourism Administration*, 20:1-14. 10.1080/15256480.2017.1359727

- [13] "REPLICA Jazz Club" (2022). https://www.maisonmargiela-fragrances.us/en/product/612614/replica-jazz-club (Accessed on 16 January 2022).
- [14] "A CITY ON FIRE" (2022). https://imaginaryauthors.com/products/a-city-on-fire (Accessed on 17 January 2022).
- [15] "Fresh-Baked Pie Has Aromatic Role in 'Waitress' Musical" (2016). www.nytimes.com/2016/04/27/theater/fresh -baked-pie-has-aromaticrole-in-waitress-musical.html (Accessed on 17 January 2022).
- [16] "Another view on Ghost Stories" (2010). https://www.theguardian.com/culture/2010/mar/16/theatre (Accessed on 17 January 2022).
- [17] Ross, M. (2020). *The Healing Power of Sound in Theatre*. University of California, San Diego.
- [18] Harper, E. A. (2006). New activity programs In long term care: theatre and eudaemonics.
- [19] Pálsdóttir, A. M., Gudmundsson, M., & Grahn, P. (2020). Equine-Assisted Intervention to improve perceived value of everyday occupations and quality of life in people with lifelong neurological disorders: a prospective controlled study. *International journal of environmental research and public health*, 17(7), 2431.
- [20] Law, M. (2002). Participation in the occupations of everyday life. *The American journal of occupational therapy*, 56(6), 640-649.
- [21] Fuller, K., Ganir, J., Greathouse, K., Larsen, K., & Rohde, L. (2012). The effects of yoga intervention on quality of life for breast cancer patients: A critical appraisal of the topic.