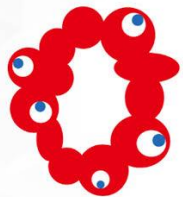


# Odeuropa:

Discovering  
Europe's Heritage & History  
through Smell

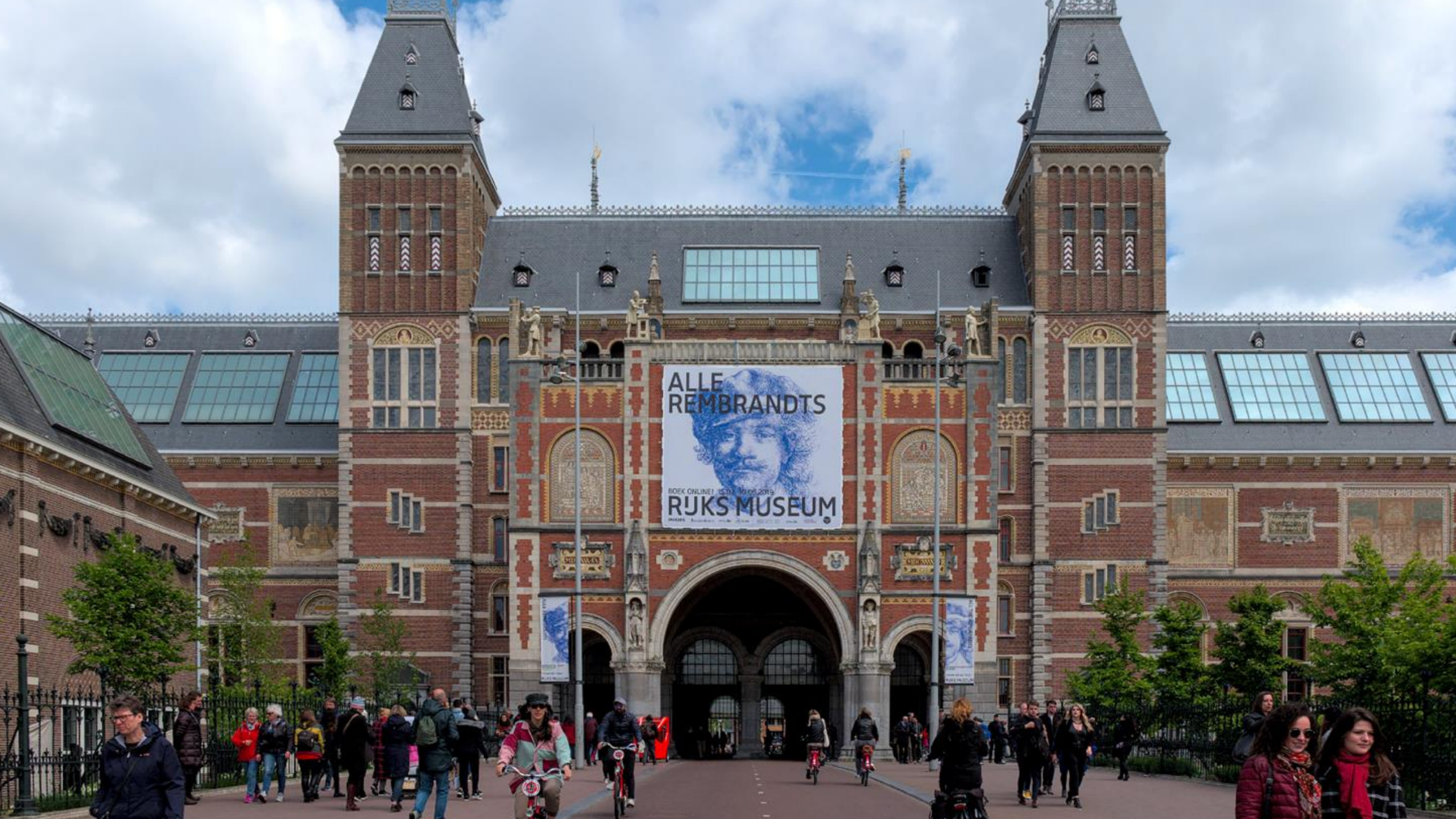
Prof Inger Leemans, KNAW  
Dr Raphaël Troncy, EURECOM  
Dr Cecilia Bembibre, UCL



OSAKA, KANSAI, JAPAN  
**EXPO2025**







ALLE  
REMBRANDTS

BOEK ONLINE! 1511 - 1100 2019

RIJKS MUSEUM







# Pomander

*pomme  
d'ambre*





## Pomander recipe

*Book of Secrets (16<sup>th</sup> century):*

- Nutmeg
- Rosemary
- Cloves
- Rose
- Lavender
- Lemon
- 'Schlag' (a balm made up of nutmeg, cinnamon, cloves, lavender, marjoram, rosemary, ambergris, musk, civet)

*Combine, in equal proportions*







Michiel Jansz. van Mierevelt: Anatomy Lesson of Dr. Willem van der Meer 1617. Mauritshuis The Hague





Michiel Jansz. van Mierevelt: Anatomy Lesson of Dr. Willem van der Meer 1617. Mauritshuis The Hague



Smell =

Cultural  
Heritage

### Citizen poll

Japan's 100 fragrant places (2001)



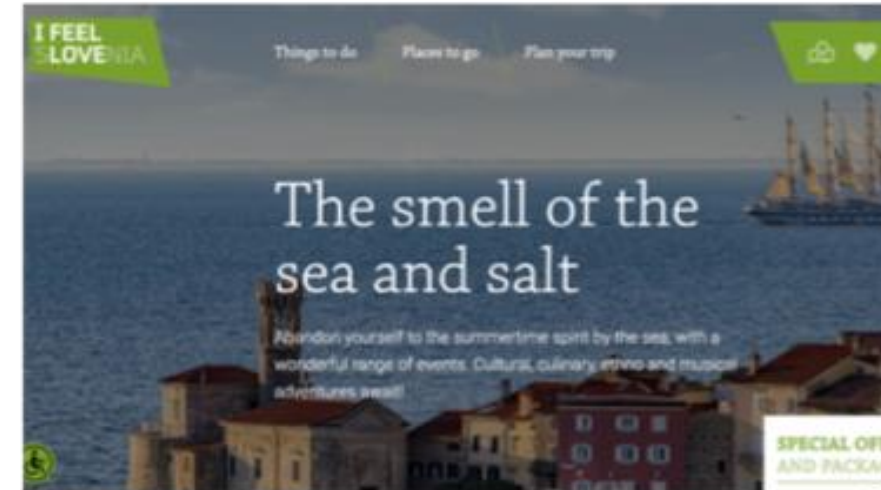
### Know-how

UNESCO inscription of Grasse (2018)



### Law

French sensory law (2021)



### Identity symbol

Feel Slovenia campaign (2021)



# Heritage smells: classification



**Olfactory objects such as  
perfumes** and other designed  
smells



# Heritage smells: classification



**Cultural practices with a notable olfactory component** (e.g. incense burning in churches, mosques and temples, or the use of olfaction in certain crafts and during festive events)



# Heritage smells: classification



**Materials and material objects with smell as a significant attribute (e.g. myrrh, frankincense, tobacco, gunpowder, books)**



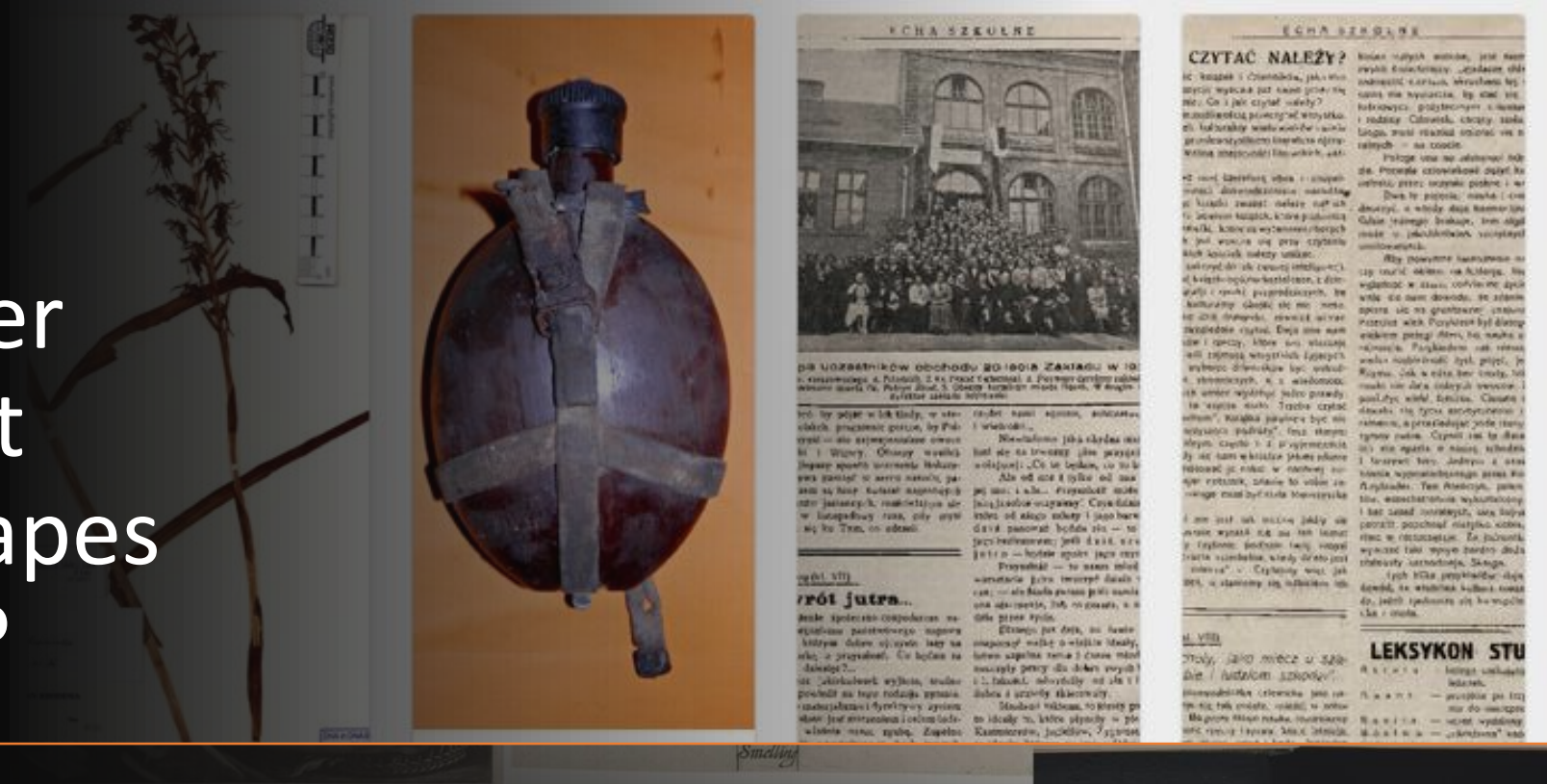
# Heritage smells: classification



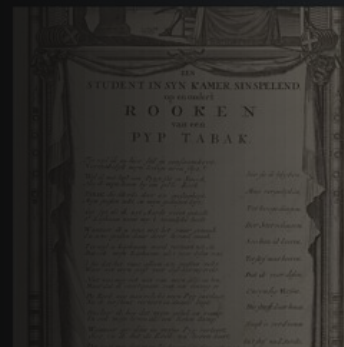
**Natural and cultural sites with 'smellscapes' integral to their 'sense of place'** (e.g. the smellscape of a library, cocoa factory, food market, botanical garden, mining site).



# How can we gather information about historical smellscapes and scent events?



VERZAMELINGEN (6)



SMELL

Inger



SMELL

Tal Atzmon Shaked



SMELLS

Belinda Biesmans





# ODEUROPA

## Negotiating Olfactory and Sensory Experiences in Cultural Heritage Practice and Research

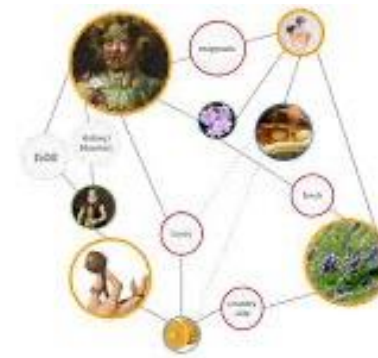
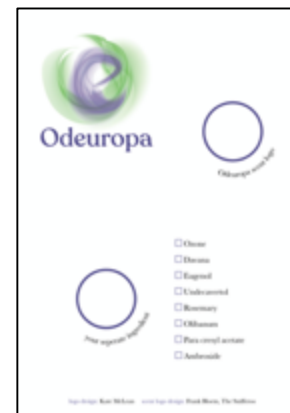


Partners:  
Period:

7 (6 countries)  
2021-2023

### Objectives:

- ❖ develop state-of-the-art **AI techniques** to **identify olfactory information in digital text and image collections**; to curate historical **olfactory narratives**
- ❖ recognize, safeguard, and promote **olfactory heritage**
- ❖ to show that critically engaging our sense of smell & olfactory heritage is viable means for **connecting and promoting Europe's tangible and intangible cultural heritage**



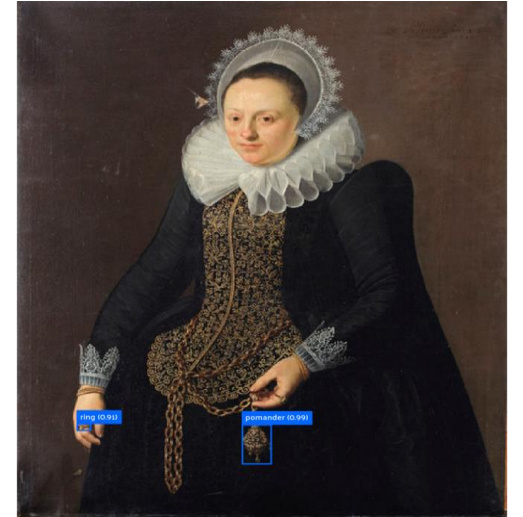
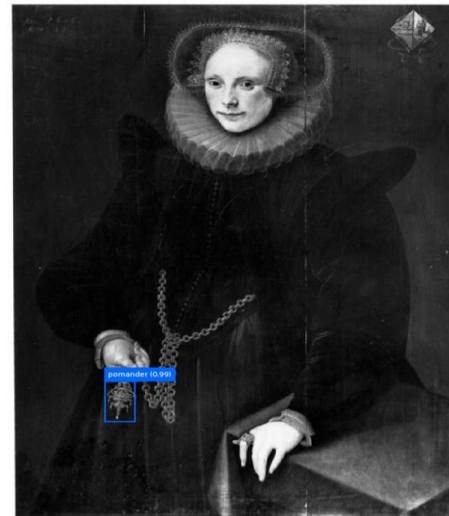


Can we see smells?  
Can we read smells?  
  
How can AI help?



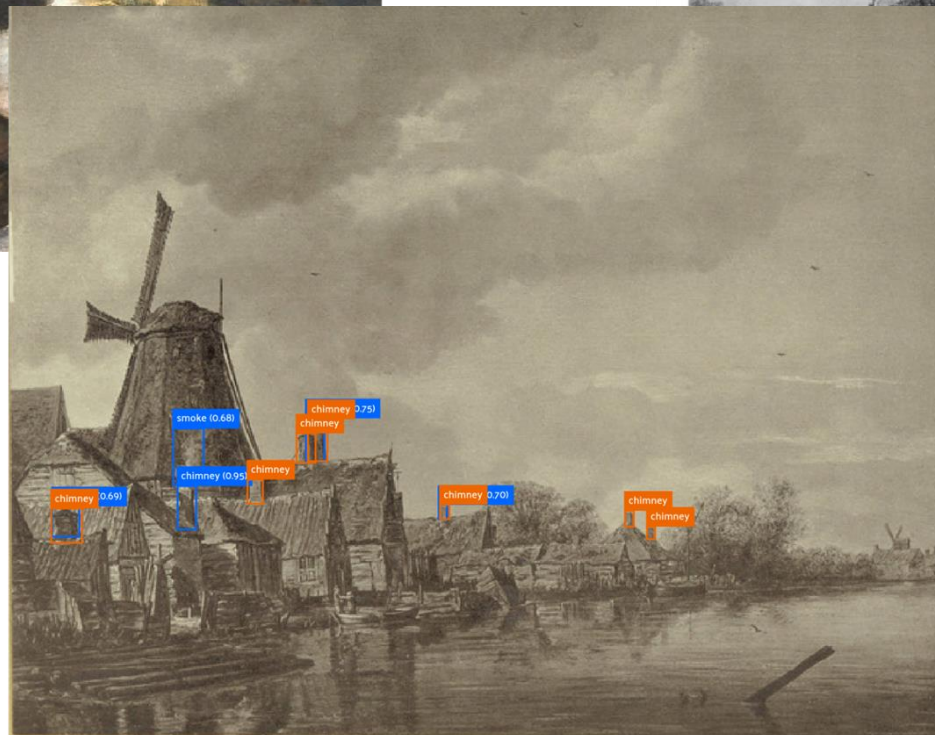
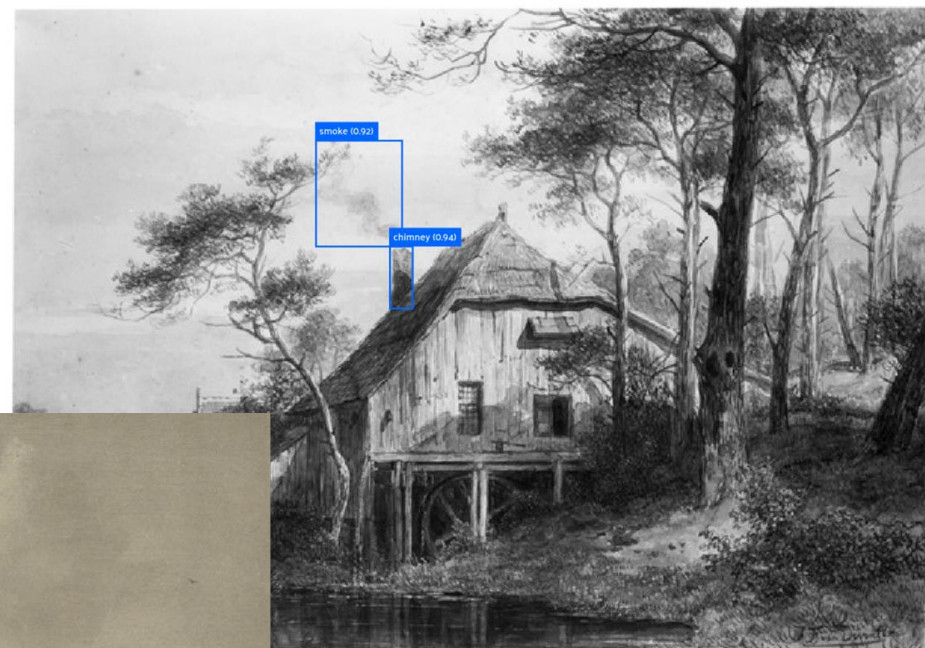
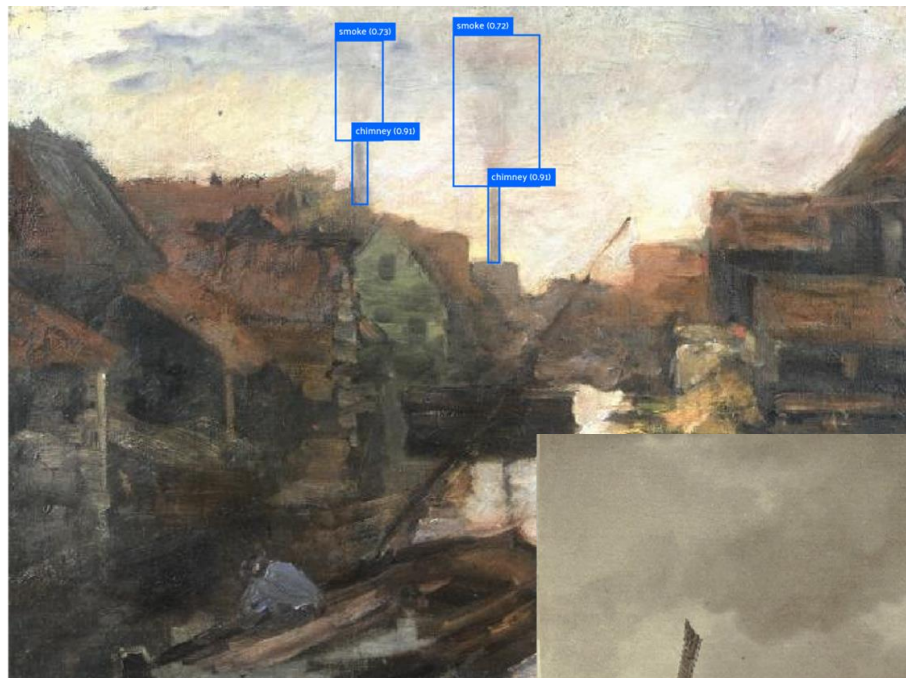








# Example Predictions: Smoke and Chimneys



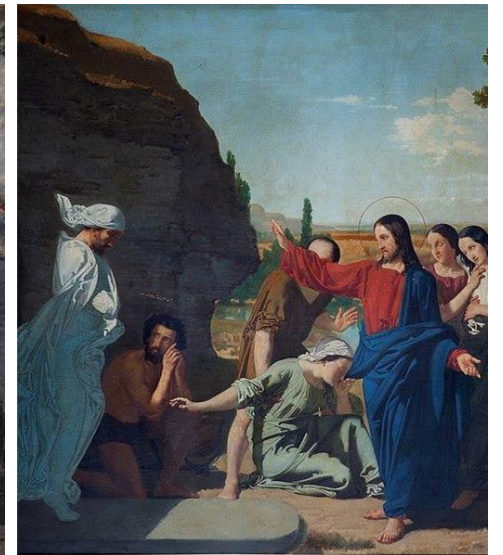
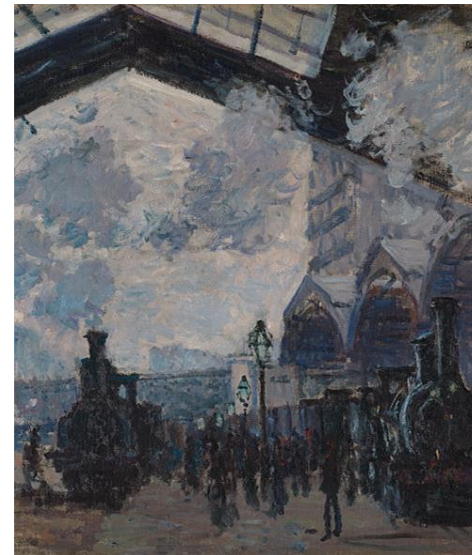
ODOR  
Dataset v3



# Extracting Smells From Artworks



- We search for references & cues instead of direct smell representations
- Four types of smell references:
  - Olfactory Objects
  - Smell Gestures
  - Fragrant Spaces
  - Olfactory Iconography
- We trained a neural network to detect 139 smell-related objects on ca. 90k artworks





# Demonstrator: Search for Olfactory Objects



<http://bit.ly/odeuropa-images>

Type Name Pick Category

Select Object

- pig
- pineapple
- pipe
- pipe tamper
- plum

Confidence 0.75

☒ Include Predictions

Search

Searching for ('pipe', 'smoke') with minimum confidence 0.75  
335 instances on 135 images found.

121

London Feb. 9. 1793 by J.W. Arne. D. Scudell. When may we had compleat sets of barometers on the French Revolution.

Why, you cold blooded dolt, can nothing move you?  
I say you shall be in a rage - I am in a rage. Dammé,  
you shall go to war; now what say you?

I say nothing - you have John Bull not intimidated you

tell him they will open the scheldt, and he shall fight Dam him

John Bull in a rage forcins Née frog to fight against his will.

Image Source: [http://data.europeana.eu/item/90402/RP\\_P\\_1905\\_6522](http://data.europeana.eu/item/90402/RP_P_1905_6522)





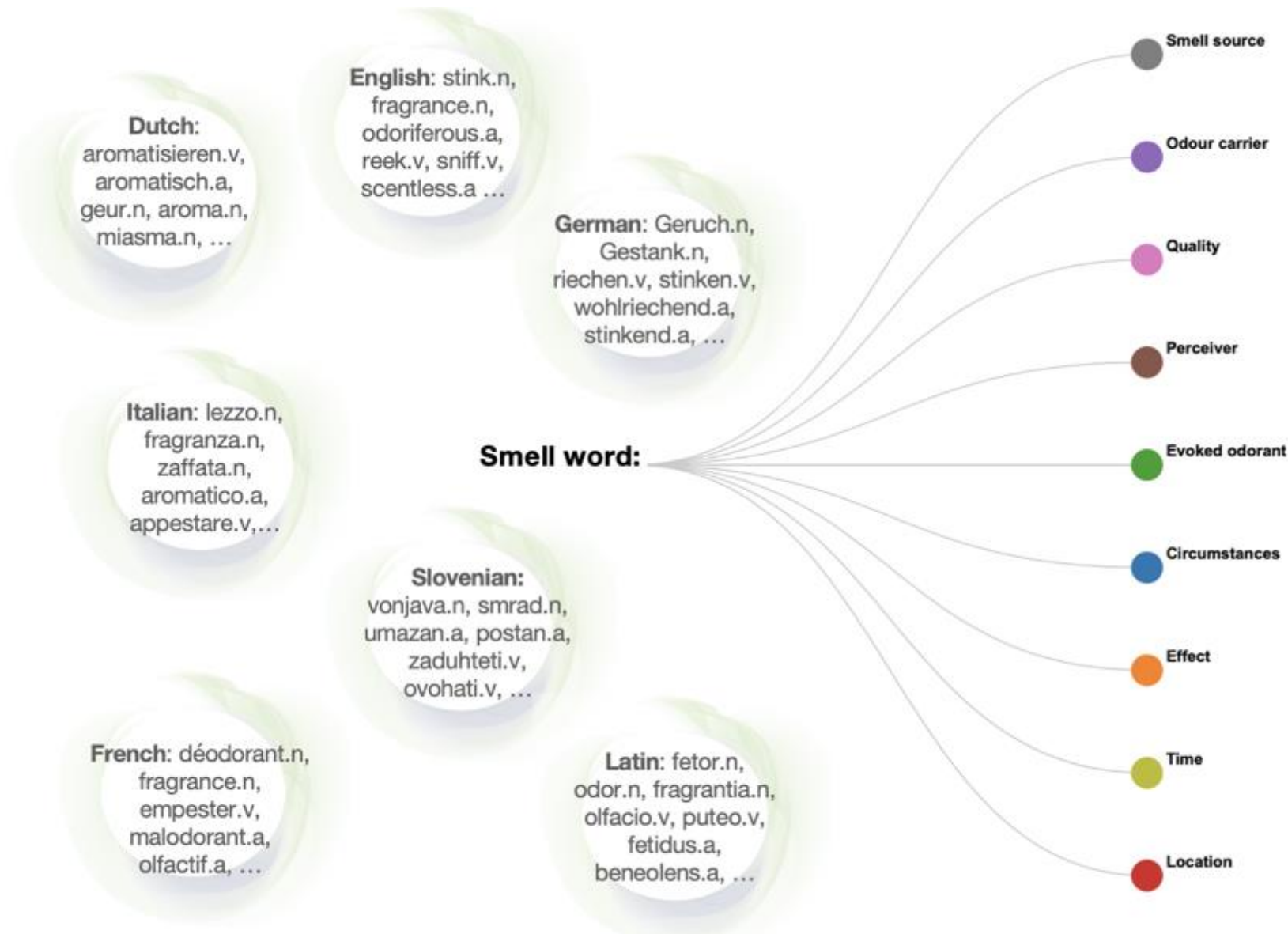
in plaly  
bluisceris  
nequo a  
me  
filia m  
corde meo  
tur nimie  
exaudi me  
nequando  
aluu ad

**D**edica me deus et discerne  
causam meam de gente non sancta:  
ab homine iniquo et doloso erue me  
**E**t tu es deus fortitudo mea quare  
me repulisti et quare tristis incedo:  
dum affligit me inimicus  
**E**mitte lucem tuam et veritatem  
tuam ipsa me deduxerunt et adduxe  
runt in montem sanctum tuum: et  
in tabernacula tua  
**E**t introibo ad altare dei: ad deum  
qui letificat iuventutem meam  
**C**onfitebor tibi in cythara deus  
deus meus quare tristis es anima





# Multilingual olfactory information extraction (7 languages, 1600-1920)



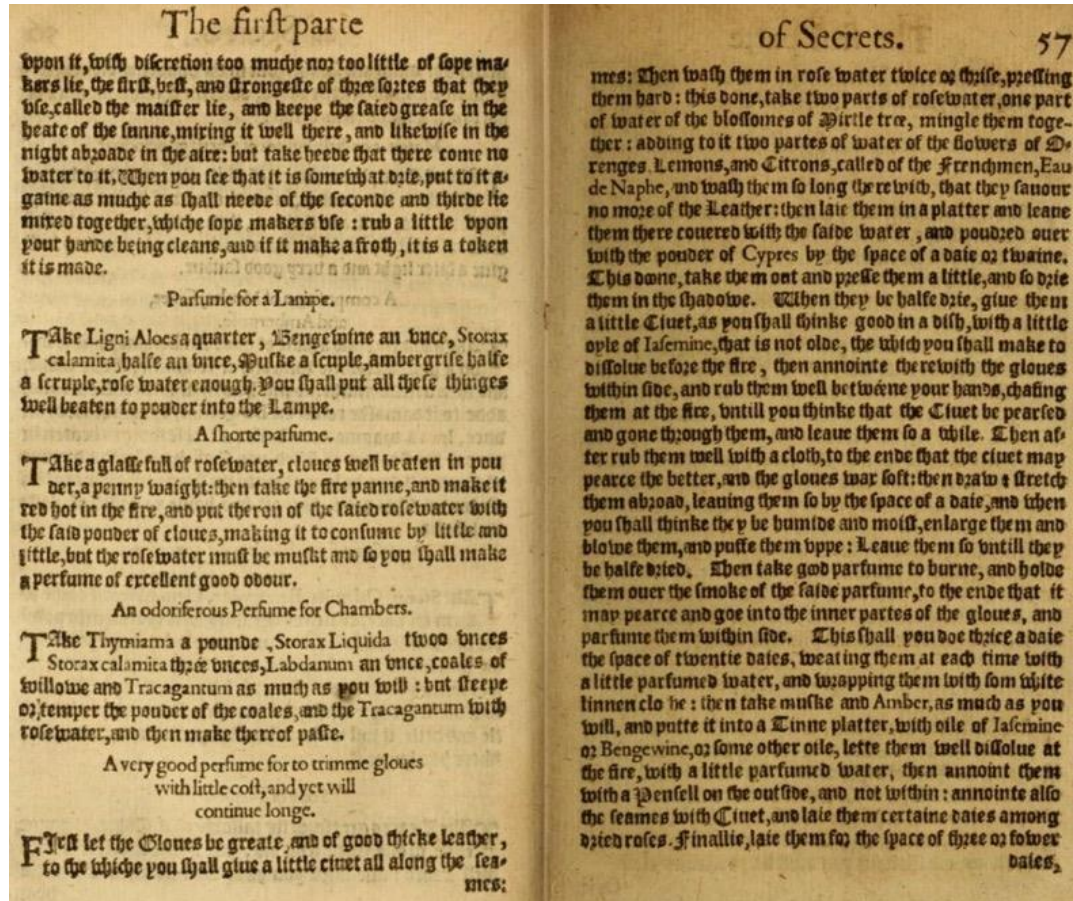


# Extracting Olfactory Events from Documents

- Identify text passages where a smell is described, usually triggered by words such as “smell”, “perfume”, “stink”, “fragrance”, etc.
- Each smell event is recognised together with typical participants in olfactory situations: Smell source, Quality, Effect, Time, Place, etc.
- Detection is carried out in seven languages: English, Dutch, French, German, Italian, Slovene and Latin



# Verie good perfume for to trimme gloues with litle cost, and yet will continue longe



## Ingredients:

rose water; myrtle blossom water; orange, lemon, and citron water; perfumed water; cypress powder; jasmine oil; ben oil; perfume (*probably incense*); dried roses; civet; musk; and ambergris.

Girolamo Ruscelli, *The Secrets of the Reuerende Maister Alexis of Piemount*, trans. Wylliam Warde (London, 1558)



First let the gloues bee greate, and of good thicke leather, to the which you shall gyue a little **Ciuēt** all alonge the seames: Than washe them in **rose water**, twise or thryse, pressing theym harde: this doen, take twoo partes of **rose water**, one parte of the **water of the blossoms of Mirtell** tree, mingle them together: addinge to it two partes of the **water of the flowres of Orenge, Lemons, & Citrons**, called of the Frēchmen, can de nafe, and washe them so long therwith, that they **sauour no moore of the leather** [...]

Than wil they bee **excellent**, as if it were to present an **emperour** withall.

*-- Girolamo Ruscelli. The Secrets of the Reuerende Maister Alexis of  
Piemont. 1558*





civet



rose water



dried rose



musk



amber



myrtle blossom  
water



orange flower  
water



Jasmine oil

od:L12 Smell  
Emission

od:L11  
Smell

od:L14 Smell  
Transformation

od:L11  
Smell

od:L13 Olfactory  
Experience

*hedonic*

*excellent*

crm:E13 Attribute  
Assignment



*Emperor*  
crm:E21 Person

od:F2 has  
source

od:F3 has carrier

od:F2 has  
source

crm:E29 Design  
or Procedure

od:F1 generated

crm:P140 assigned  
attribute to

od:F2 perceived

crm:P17 was motivated  
by

crm:P2 has type

crm:P141 assigned

crm: P14  
carried out by



# Demonstrator: Olfactory Information Extraction



## Smells Extraction



Insert a text:

Or... you might want to try these examples

[ENGLISH] It's 1787, you are newly arrived in London, and you are walking the short distan... ▼

Select the language of the text:

English ▼



# Demonstrator: Olfactory Information Extraction

[ ENGLISH ] It ' s 1787 , you are newly arrived in London , and you are walking the short distance from the Saracen ' s Head Inn to the nearby Newgate prison . As you pass | Circumstances the Old Bailey courthouse | Location you | Perceiver catch a terrible | Quality smell | Smell Word in the air | Odour Carrier . Uncertain of its origins , you ask a lawyer as they hurry past on their way to a trial . They tell you that the smell | Smell Word arose from the burning | Circumstances of a woman who had been found guilty of coining farthings | Smell Source . The public burning of women in England only ended in 1790 , Catherine Hayes being the last such individual to be thus punished . Up until 1789 | Time the scent | Smell Word of burnt flesh | Smell Source also appeared in the courtroom itself | Location , where some malefactors | Perceiver might be branded with a hot iron - " T " for theft , " F " for felon , or " M " for murder . The smell | Smell Word of burning | Smell Source was a warning to others | Effect . But smell | Smell Word could also feature as part of the humiliation of legal or , in some cases , extra - judicial punishment | Effect .









# The Odeuropa Smell Explorer

Explore the European Olfactory Heritage



SEARCH ANY SMELL

Try with "Tobacco"



OR  
BROWSE BY

SMELL SOURCES   ODOUR CARRIERS   FRAGRANT SPACES



<https://explorer.odeuropa.eu>



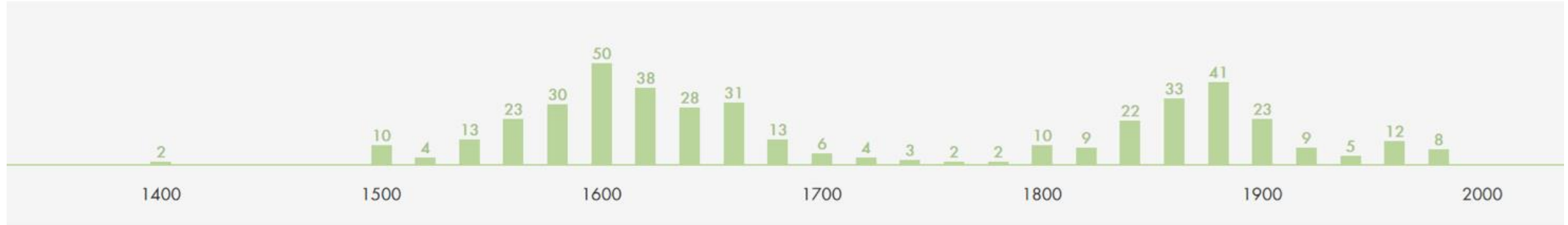
# The Odeuropa Smell Explorer



## Smell of Pomander



RELATED  
[Musk](#) · [Pouncet Box](#)



### Smell Quality

bad odoriferous faint scenting fragrant  
 most fragrant disagree excellent aromatiques mustily  
 other reeking perfumed highly scented  
 better scented odorantes stinking more fragrant  
 odorous scented

### Emotion

nostalgia guilt nervousness greed  
 gratitude curiosity envy pain caring  
 frustration disappointment pride calmness  
 desire excitement indifference faith relief  
 doubt

### Fragrant Space

vieux cimetière about their toilet - tables chambre à coucher lieu  
 sœur Nanon in Aires - lord , Hants Dans la chambre de sœur  
 chambres in the Woods Woods of Windsor

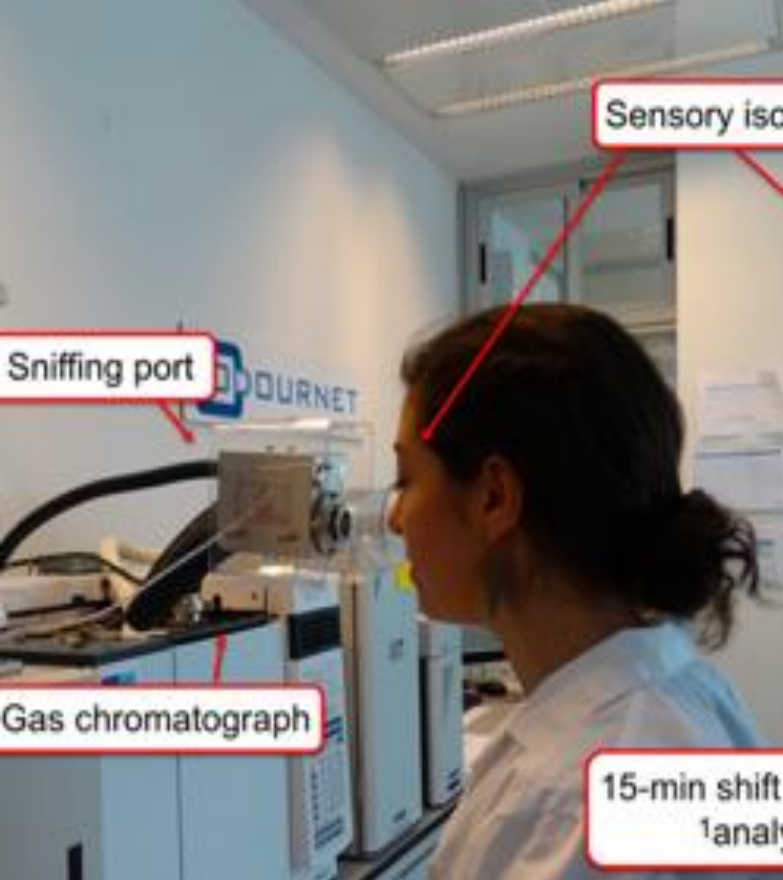


[SEARCH](#)[ENTRIES](#)[STORYLINES](#)[ABOUT](#)

Welcome to the Encyclopedia of Smell History and Heritage: an online reference tool that allows you to explore the significance of past smells and their continuing value in the present.

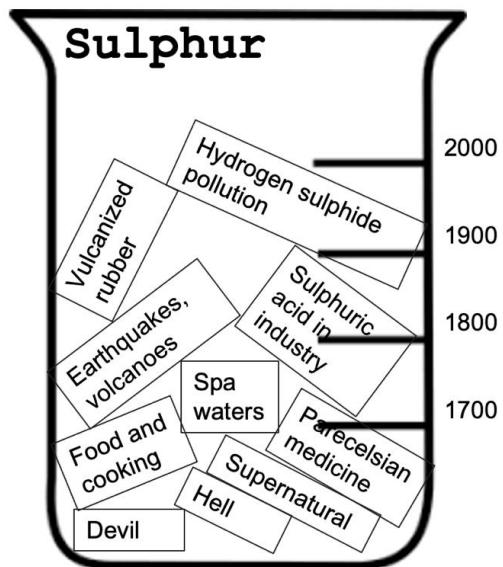
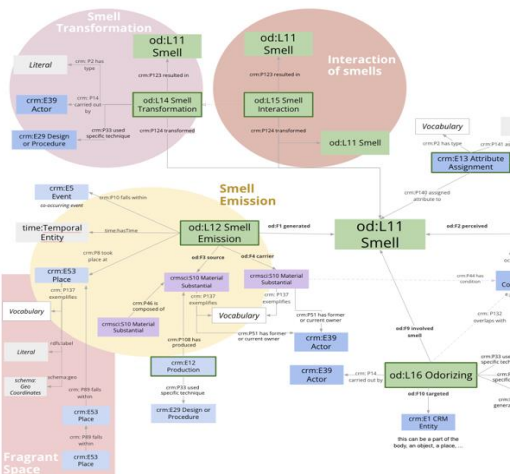
[Read more →](#)





Reconstructions of  
Olfactory Heritage





Sensory mining

Historical &  
Cultural  
Analysis

Smell  
Reconstructions

Museum  
Presentation



# Growing interest for Olfactory Storytelling in Museums

Odotheka project



Van Gogh Alive



Widnes: two centuries of stink



Bagh-e Hind:  
Scent Translations  
of Mughal & Rajput  
Garden Paintings



La esencia de un cuadro  
Prado Museum



Follow your nose  
Museum Ulm



Parfums d'Orient  
Institut du Monde Arabe



Scent of the Afterlife  
Moesgaard Museum



2021

2022

2023



Smell it!  
Bremen



Sensory Odyssey  
Natural History Museum



Fleeting - Scents in Colour  
Mauritshuis



Annicka Yi:  
In love with the world  
Tate Modern



Mondrian Studios  
Kunstmuseum



Olfactory tours  
Louvre Museum

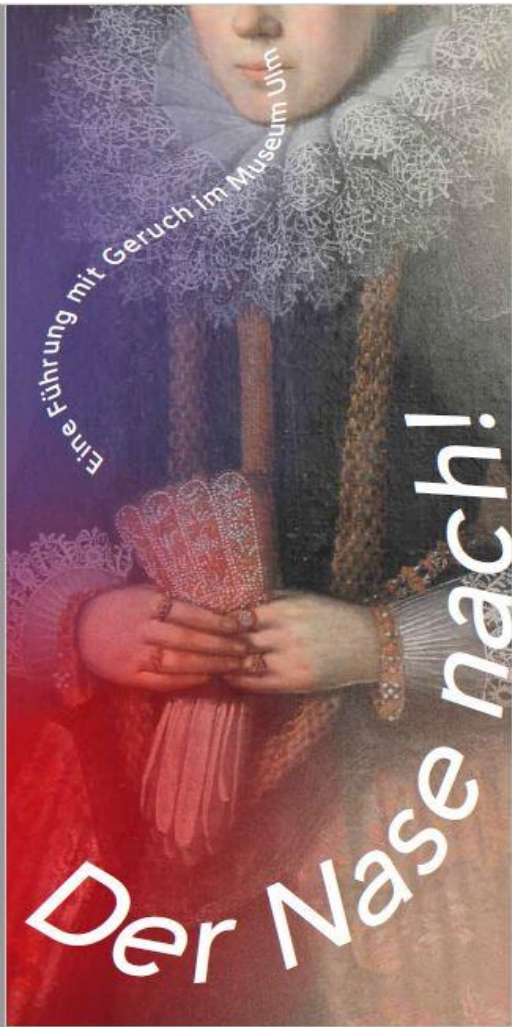


Guantes de ámbar  
Prado Museum

Odeuropa project starts



# Odeuropa Olfactory Events







# OLFACTORY STORYTELLING TOOLKIT

*A 'How-To' Guide for Working with Smells  
in Museums & Heritage Institutions*

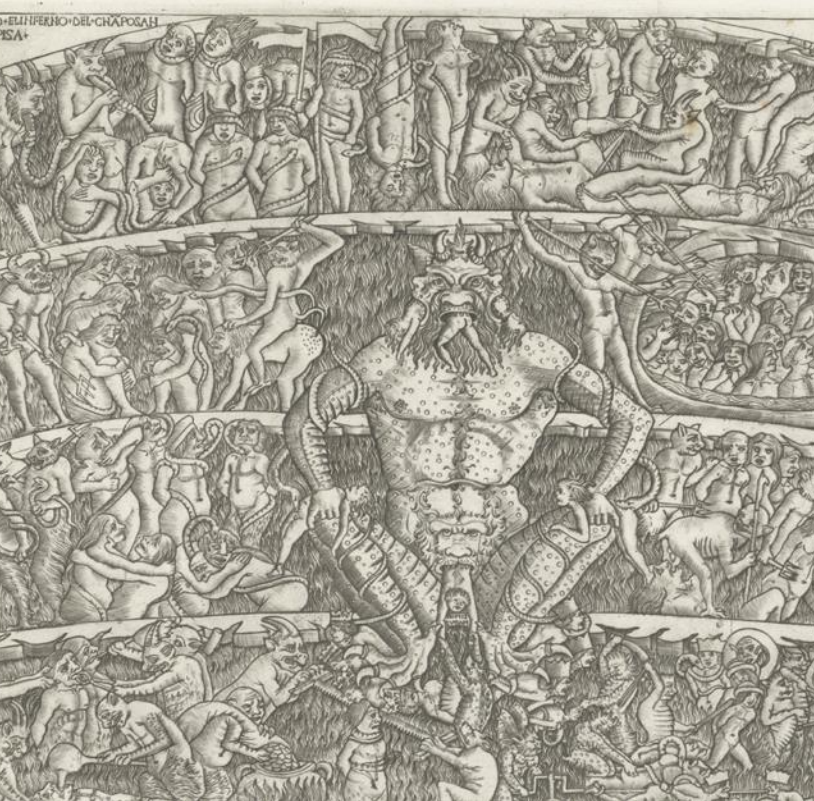






# Follow the Sulfur

The smell of hell (on and below earth). Fire & brimstone!



Ignatius of Loyola: “To smell the smoke, the brimstone, the corruption, and rottenness.”



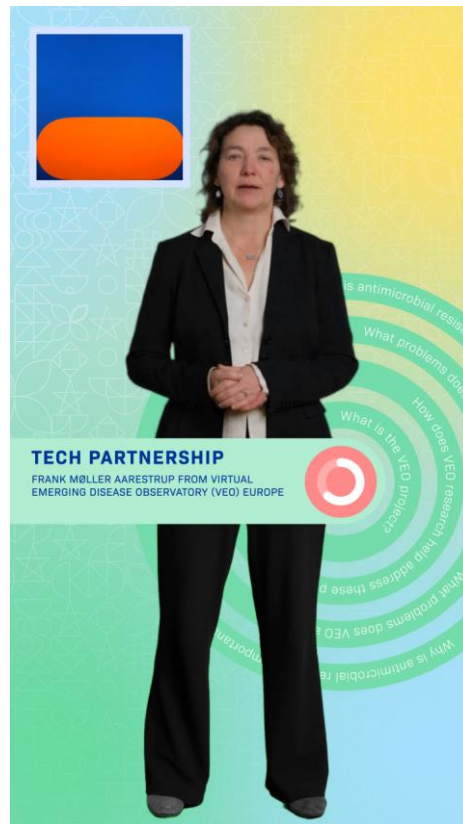
# Do you need more information?



28-29 APRIL 2025  
EU PAVILION, OSAKA

12:00-12:45  
and  
16:00-16:45

Follow your Nose! Smellwalk  
around the Expo with the  
Odeuropa Team (walk)



Smellwalk with us

Talk to the  
Odeuropa avatar



Home About People Results Community

## News and updates from Odeuropa (Spring, 2025)

14 March 2025 Arno Bosse

Dear friends of Odeuropa,

It seems incredible, but it has already been well over a year since we celebrated the successful conclusion of our EU project at the [Smell Culture Fair](#) in Amsterdam in December 2023. But while the project has formally ended, the Odeuropa team never stopped their work in olfactory heritage and sensory mining.

We've been involved in many activities during this time and as a result we have a lot of news we want to share with you. To start off, three special highlights:

### Odeuropa at the 2025 World Expo in Osaka, Japan

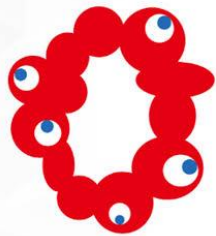
Odeuropa has been selected by the European Union to be featured in its pavilion at the [World Expo in Osaka 2025](#)! This is a great honour as we are one of only three research projects representing the EU in Osaka. Three members of the Odeuropa consortium (Raphael Troncy, Cecilia Bembibre, and Inger Leemans) will be travelling to Japan for one week in late April to participate in the Expo, present lectures, offer smellwalks, and visit several of the pioneering ["100 most significant cultural smellmarks of Japan"](#). But even after we return home, we will still be 'present' at the EU's exhibition until the Expo ends, in the form of a AI-powered ["visual avatar"](#) of our project lead which will interact with visitors to

Visit our Website:  
[www.odeuropa.eu](http://www.odeuropa.eu)





Thank you  
for  
smelling  
with us!



OSAKA, KANSAI, JAPAN  
**EXPO**2025





## Smellwalk schedule:

0.00 - 0.05 EU (S07): Start & Explain the walk **[Inger]**

0.05 - 0.10 Gloves **[Inger]**

0.10 – 0.20 Smellwalk **[All]** to Spain (C13)

0.20 - 0.27 Spain (C13) Cistus **[Cecilia]**

0.27 – 0.30 Walk to China Pavillion (P28)

0.30 - 0.45 China (P28) **[Yiwei]** Painting Dream of the Red Mountains

0.45 - 0.50 Netherlands (S13) Canal **[Inger]**

Possible:

USA (P11) Liberty Bell

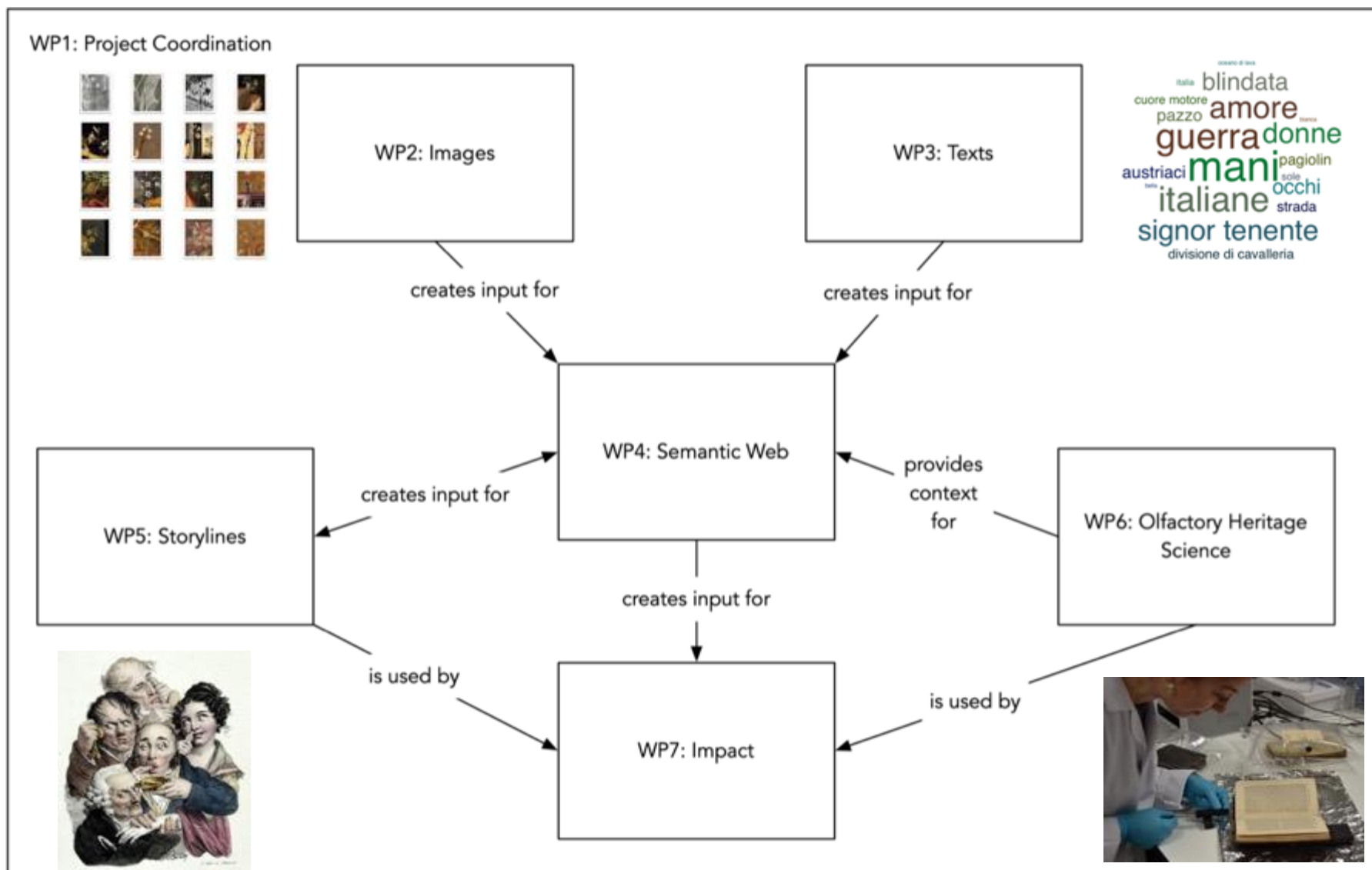
UK (s22): Car



Extra slides if we need them



# Project overview: transdisciplinary



**Ulm**  
Ulmer Museum



**NUK**  
NARODNA IN  
UNIVERZITETNA  
KNJIZNICA

**IFF**  
International Flavors & Fragrances

**olfasense** :::  
*Mediamatic*

  
United Nations  
Educational, Scientific and  
Cultural Organization  
**Slovenian  
National Commission  
for UNESCO**

DUTCH  
CENTRE FOR  
**INTANGIBLE  
CULTURAL HERITAGE**

  
**ICCROM**



# Investigating **olfactory objects** in GLAMs & **smellscapes** of heritage spaces (libraries, archives, museums)



Judith van Gent (Amsterdam Museum) sniffing an old bottle of Boldoot perfume, shaped like an orphan girl.



Victoria-Anne Michel and Lizzie Marx smell walking in the National Library in Paris



# SCENTS & SMELLS OF THE CITY OF AMSTERDAM

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www.odeuropa.eu



## Swellwalks





Headspace





Gas-Chromatography









Jan Willem Pieneman De slag bij Waterloo 1824









## 5 WATERLOO

PIENEMAN

Fear and trepidation. Sweat pools up in the soldiers' clavicles, a cold awakened in the pit of their stomach. The horses are driven mad by the noise and the scent of gunpowder. They stomp the muddy ground soiled with the blood of their enemies, littered with mangled corpses. And a faint whiff, a whisper almost, crisp in the stormy air – it is Napoléon. He has left the battlefield, but his spirit lingers as a sweet breeze carries the scent of his Eau de Cologne down from the distant hills.

Jan Willem Pieneman's *The Battle of Waterloo* from 1824 depicts the art of war where the line between victory and defeat is imperceptibly blurred in a cacophony of sounds and of smells. Although the protagonists cheer, the context of the painting suggests a sensory tragedy. The dead and near-dying soldiers' fever, the frothed-lipped frenzy of the beasts, the sulphuric smoke rising from the cannons and from the burning farm. All reveal a pyrrhic victory snatched at the price of great death while there still hovers the evanescent smell of Napoleon's Eau de Cologne, which he bathed with abundantly and took into his last exile – a memory of his past glory and a symbol of his ruin.

The olfactory recreation opens with chaos. A detonation of IFF's Gunsmoke Living, amped up with smoky accents of Haitian vetiver LMR evokes fire and gunpowder clashing with the scents of the living - shrapnel tearing through human flesh. Cumin Essence blows its animalic and salty whiffs, reminiscing the sweat of terrorised soldiers while the Stallion Living conjures the warm breath of steeds neighing in the heat of the battle. Like thunder gathering above Waterloo, the electric energy of the sulphuric gunpowder strikes and alights the immaculate clarity of an Eau de Cologne accord built around a peppery petitgrain essence LMR and the floral-powdery tones of Tunisian neroli – as if Napoleon were still present, somewhere: retreated, with his pride kept high.

### The Victors

Gunpowder Living™; Vetiver essence LMR.

### The Shivering

Stallion Living™; Cumin essence.

### The Defeated

Petitgrain essence LMR; Neroli essence LMR.

5 Jan Willem Pieneman, *The Battle of Waterloo*, 1824, oil on canvas, h 567cm x w 823cm x l 822.7cm. Public Domain. Photo courtesy of the Rijksmuseum, Amsterdam, the Netherlands.





**003**  
Museum Ulm







Ulm patrician  
Helena Schermer  
at her wedding  
(1628)





**Follow your Nose**  
Olfactory guided tours  
*Museum Ulm*









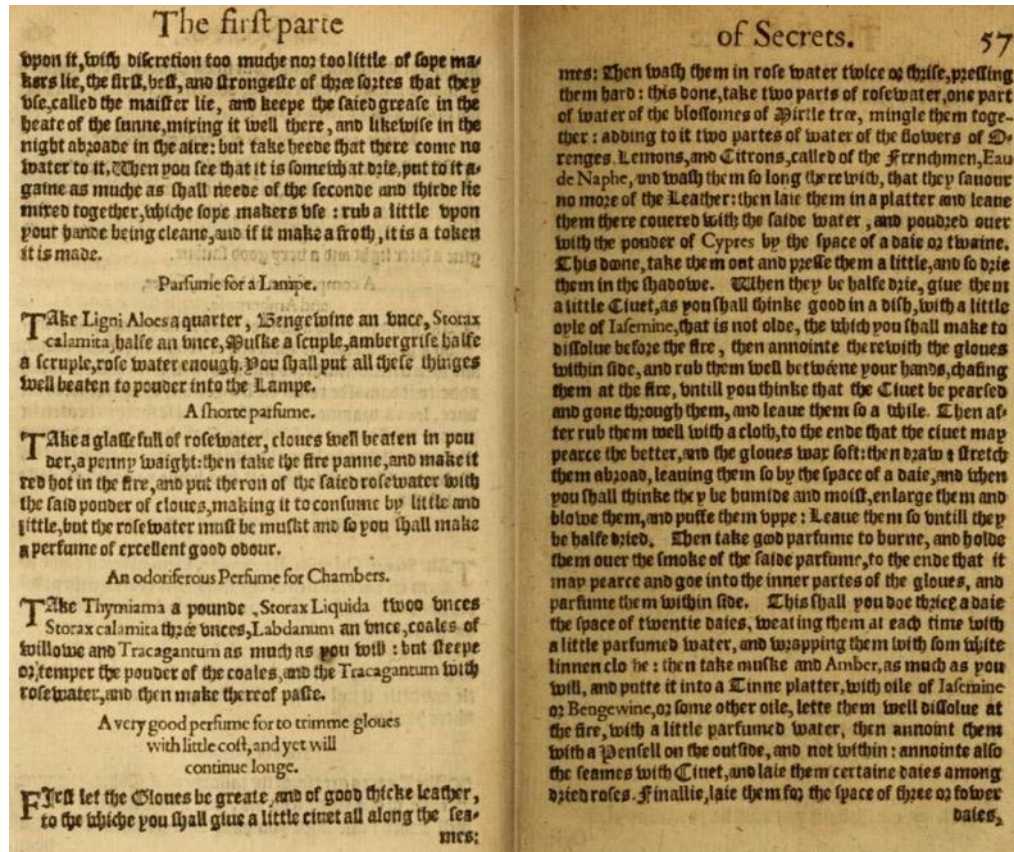
# Helena's Gloves







*Verie good perfume for to trimme gloues with litle cost, and yet will continue longe”*



rose water; myrtle blossom water; orange, lemon, and citron water; perfumed water; cypress powder; jasmine oil; ben oil; perfume (probably incense); dried roses; civet; musk; and ambergris.

Girolamo Ruscelli, *The Secrets of the Reuerende Maister Alexis of Piemount*, trans. Wylliam Warde (London, 1558)







## 10 HELENE'S GLOVES

ANDREAS SCHUCH

She entered the hall, her jewels gleaming as if they had caught all the stars of heaven, the layers of her dress falling around her to the ground. The noble Helena Schermer is ready for her portrait - perhaps the only one that will ever capture her likeness. She takes her place in front of Schuch, his canvas and paint pallet at the ready, when suddenly a fragrance fills his nostrils - rose, jasmine and ambergris. He looks to Schermer who stands before him, proudly clutching her intricate perfumed leather gloves.

This portrait of Helena Schermer serves as one half of a newlywed painting, the other half being a portrait of her husband, councillor Anton Schermer. At the time, the couple found themselves in the upper echelons of noble society in Ulm, Germany. Helena's portrait depicts her donning an intricate gown and ornate jewelry, indicative of conspicuous consumption. Contemporaries would have easily determined her high social status from these costly outfits and gemstones, for only patrician women had the legal privilege to wear such extravagant gold chains in Ulm. A central feature in the portrait are the scented gloves that Helena clutches, a standard attribute in wedding portraits of the time.

Imported from Italy and Spain, perfumed gloves quickly conquered European courts before being adopted by the upper strata of civil society. Increasingly more sumptuous materials, such as goldthread and the finest lace, were used in the fabrication of such gloves while the perfume added onto the gloves was meant to mask their pungent inherent odour due to the tanning of leather, resulting in the birth of glove makers and - subsequently - perfumers' guilds. Scented gloves became a symbol of gentility.

Helene's Gloves captures an archival sixteenth century recipe. A dew of myrtle dyed with notes of rose and neroli, uplifts a jasmine sambac absolute LMR whose animality conceals that of leather and infuses it with narcotic vapours of Andalusian orange blossom expanded by the butyric and creamy fullness of the African civet. A heady bouquet, it slinks to a base where Indonesian patchouli rubs against the humidity of oakmoss and the sugar of distant balsams: Siamese benzoin, American styrax and Indian sandalwood, all drenched in a regal blend of musk and ambergris, signalling Helena's own nobility.

### Europe

Myrtle essence; Rose essence; Neroli essence;  
Orange blossom absolute; Oakmoss absolute;  
Jasmine sambac absolute LMR.

### The New World

Patchouli essence; Jasmine sambac absolute LMR;  
Benzoin resinoid; Styrax essence; Sandalwood essence.

### The Nobility

Ambergris; Musk; Civet.







# Myrrh



CAN I USE THIS?  
Select whether you can use this

PROVIDING COUNTRY  
Select providing countries

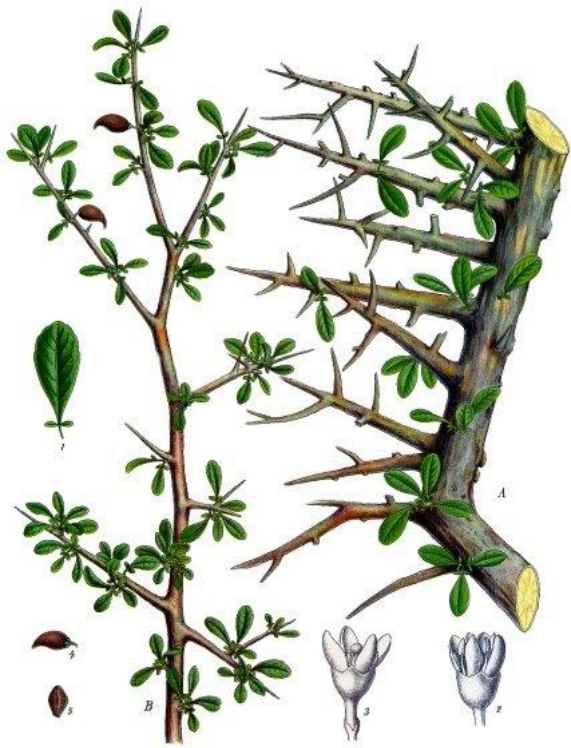
LANGUAGE  
Select languages

AGGREGATOR  
Select aggregators

INSTITUTION  
Select institutions

COLOUR  
Smell





## Mirre

*Commiphora* tree

Africa (Somalia, Ethiopia),  
Middle East



## Olibanum

*Boswellia* tree

Middle East (Libanon,  
'Arabia felix' Somalis



## Storax (Styrax)

*Styrax officinalis*

- *Liquidambar orientalis* =  
*Oosterse amberboom*  
Mediterranean / Middle East



## Benzoe Siam

- *Styrax tokinensis*  
- *Styrax benzoin*  
(Vietnam, Laos, Sumatra)

Heritage smells: resins



Jan van der Heyden,  
Oudezijds  
Voorburgwal in  
Amsterdam (1670)

Mauritshuis The  
Hague





# Amsterdam canals & the 'grand narrative' of deodorization & modernization







### 3 CANAL

'a beautiful virgin with a smelly breath' anonymous author on the city of Amsterdam, c.1730.

Tucked away between the Amstel and the sea, a miscellany of smells arises. The muggy summer fights the canals' overpowering stench in which the faeces of an entire city float. The sulphurous scent of silt mingles with that of distant seaweeds, mouldy stones, exhausted stallions, ammonia and manure clog up the alleyways and turn the toxic air into a blaze. You must wait for the breeze, the breeze that alleviates the foul and lightens the air, the breeze that carries the scent of summer-blooming linden trees, lining the canals by the thousands: a few seconds of fragrant air allowing you to breathe.

Canal encapsulates the olfactory identity of Amsterdam, Netherlands' iconic canals, each a testament to the city's evolving history, urban development, and human activities. Amsterdam stood out as one of the first European cities to plant trees along its main thoroughfares and, in the 17th century, linden trees, which were thought to freshen the air. Linden trees were extensively lined alongside the city's streets and canals to reduce the stagnant waters' unpleasant odour.

3 Jan van der Heyden, View of Oudezijds Voorburgwal with the Oude Kerk in Amsterdam, 1670. Public Domain. Photo courtesy of the Mauritshuis, The Hague.

As Amsterdam expanded in the 16th and 17th centuries, the state of its water was a subject of considerable anxiety as waste and sewage increasingly polluted the canals, killing fish and producing an offensive stench that concerned the city authorities. This issue persisted late into the 20th century as French author Albert Camus wrote of Amsterdam in 1956, "breath of stagnant waters, the smell of dead leaves soaking in the canal and the funeral scent arising from the barges loaded with flowers."

Horrendous. The harsh and toxic scent of a spore-laden and marine Oakmoss Absolute crushes a damp Norburnanol whose corrosive accents of camphor and of thyme vapourise like a cloud of choking gas. Waves of an animalic stench ebb and flow, IFF's Stallion Living manifests the pungency of working tanneries and of the manure pouring into the bubbly, tarry trenches of the city, the stagnant rivers of waste summoned by a faecal Skatole overdose. Yet, nestled in this foul morass, IFF's Linden Blossom

Headspace rustles a honeyed and limpid melody of rose and elderberry – the summer breeze has lifted its pollen in a rain of gold, as of a floral escape amid the foul city.

#### **The Canals**

Oakmoss absolute; Norburnanol.

#### **The City**

Skatole; Stallion Living™.

#### **The Trees**

Linden blossom.









## 1 POMANDER SCHAFFNER

Eitel Besserer, an Ulm councillor sits at prayer. His lips slightly open while his hands clasp a wooden rosary with a silver ball, or a pomander, which trails at the end of the rosary. The painter captures the status of his subject by including these details significant of his social status.

The pomander is the keystone to understanding the fragrant history of Martin Schaffner's Portrait of Eitel Besserer. Varying in size and intricacy, fashioned from resins, spices and aromatics, pomanders provide an insight into the important role that smells played in Europe. Pomanders were intended to protect their wearers from miasmas, following the miasma theory which, up until the 18th century, claimed diseases originated from stale air. In that regard, foul smells might signify or even be disease. Pomanders, along other olfactory objects meant to ward off miasmas (e.g., nosegay, tussie-mussie and posies) could be tucked away in pockets or hung at arm's reach, creating a scented sphere of protection or, should a particularly deadly stink arise, be pulled directly to the nose.

Pomanders recipes could be found in household books used from the sixteenth to eighteenth centuries called Books of Secrets but were also engraved on the pomanders themselves - which is what this interpretation was based on. The scent's composition illustrates a crucial part of Europe's olfactory identity, the ingredients representing the prominence of trade, industrialisation, and colonialism. An aromatherapeutic grip of rosemary and lavender bristling with dusty spikes of nutmeg crosses the piquant heat of clove and the sweet energy of cinnamon. A botanical potion, it is tinged with a powdery essence of rose, before stretching out its garden-gleaned core into a base where mingles a plethora of animal ingredients - traces of civet, a flash of musk and the salty ting of ambergris - further signifying the wealth and status of this pomander's wearer.

### The Garden Herbs

Lavender essence LMR; Rosemary essence LMR;  
Rose essence LMR.

### The Faraway Aromatics

Cinnamon essence LMR; Clove bud essence LMR;  
Nutmeg essence LMR.

### The Precious Balsams

Ambergris reconstitution; Musk; Civet.





4

## 4 BEUNING ROOM

A vast and ornate room, wood-panelled from floor to ceiling. The honeyed scent of the waxen boards thickens the air, the hearth fumes with the acrid aroma of cold ashes and suave wisps of powdered resins. From the wide open window, streams the breeze of a summer morning carrying the faetid reek of the canal outside, of the filth piled up in the gutters and of the working horses yet, wedged between this complex web of intruding effluvia, floats the tune of linden flowers in full bloom.

Beuning Room is an olfactory transcription of a bourgeois, 18th century Amsterdam interior which now stands at the Rijksmuseum in the Netherlands. The composition highlights the contrast between the outside and inside worlds, the rich and the poor. Through the open windows, the stale smells of the street, remains of human industry, invade a place that seeks to deny them. To keep the stench of disease away, resins and spices from distant lands are thrown into the open fireplace protecting the room under a layer of pleasant incense.

A fight of the urban and the domestic. An avalanche of leathery-sweet Virginian cedarwood melts under scorching beams of bitter myrrh and cinnamic benzoin, their resinous depth coiling around mineral strands of nutmeg and the citrusy soapiness of frankincense. The riches of the affluent shine in plumes of amber and of gold, evoking the incense burnt to ward off the stale air of the city. Pristine, they cover pyrogenic pulses of birch tar and the ligneous tension of Haitian vetiver shaping the charred remains of a glowing fire but, for all their efforts, and despite honeyed hints of Linden Blossom swaying outside, the reek of the city stands undefeated as IFF's Stallion Living rams its sweaty notes into the curated scentscape.

### The Room

Cedarwood essence; Myrrh essence;  
Benzoin resinoid; Frankincense essence;  
Nutmeg essence.

### The Hearth

Vetiver essence; Birch tar essence.

### The Street

Linden blossom Living™; Stallion Living™.

4 Room from an Amsterdam canal house, anonymous, c. 1745 - c. 1748, mahogany (wood), h 460cm. Public Domain. Photo courtesy of the Rijksmuseum, Amsterdam, the Netherlands.

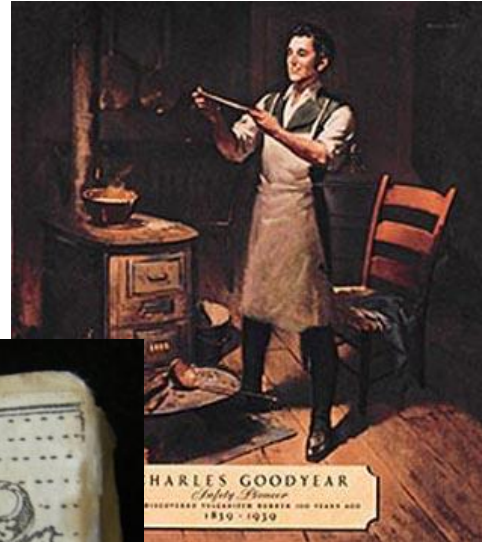




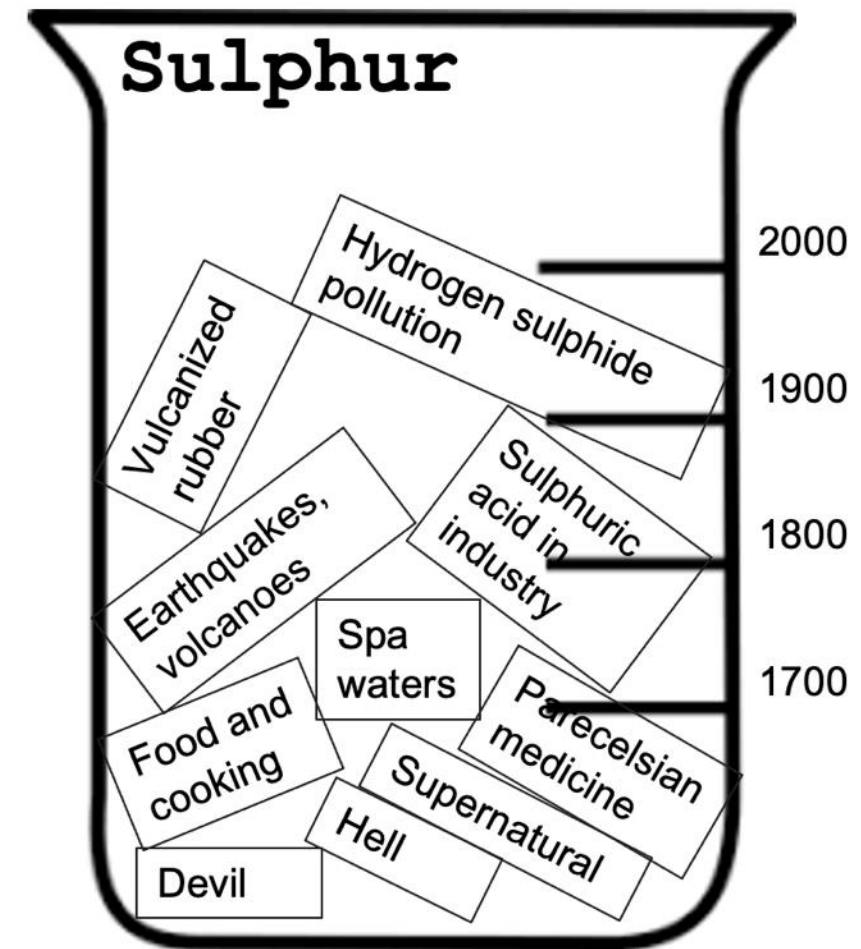
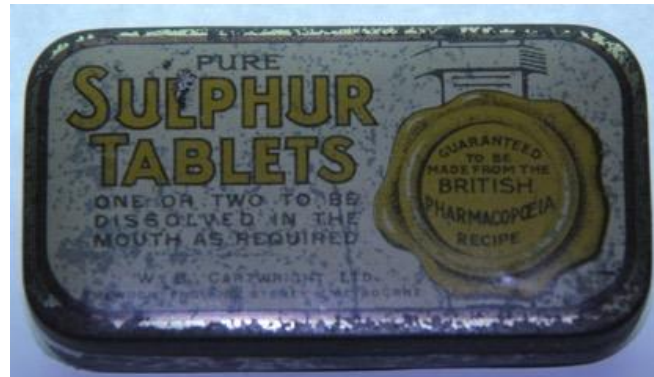
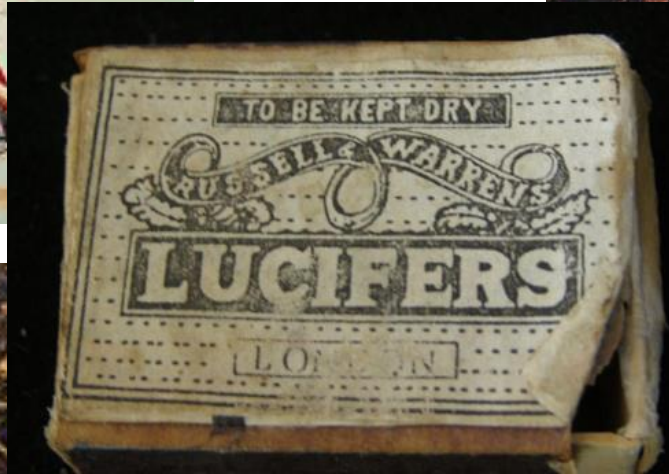
Lasciate ogni speranza  
voi ch'entrate



# Lucifer: scents echo through time



**19th-c: Dark satanic industries** “infernal regions, for the smell aids the eye. Large groups of chimneys and rickety flues emit sulphurous arsenical smoke”





# Ruihuis

## Sewer Museum Antwerp







## 6 HELL

SCHAFFNER

A hemisphere of absolute darkness. Iron melting, ashes smouldering, rotten flesh, putrescent limbs, crimsoned faces, bloated faces, pools of acid and the glacial grip of ancient sadness come to the fore, a violent mess of green and of pink, rivers of blood and faeces and swathes of organic matter dissolving – this is Hell, unrelenting.

Martin Schaffner's 1549 *Anastasis / Christ in Limbo* depicts Christ bringing salvation to all the souls who had been committed to Hell. Clothed in the red dress of martyrdom and bearing the Cross as his standard, Christ is seen breaking the gates of Hell as a sword-wielding dragon blows fire onto his face. The stark contrast between the bright blue skies and the Devil's lair from which escape greenish plumes of smoke highlights the role olfaction plays in the perception of sanctity and vice in Christianity. In early modern thought, the smell of Hell and evil was associated with the foul. Where Angels were believed to emanate the smell of sanctity, demons were thought to exude a repugnant stench. The Catholic theologian Saint Ignatius of Loyola (1491–1556) encouraged worshippers to reflect on Hell using all their senses. To him, it smelled of smoke, brimstone (akin to rotten eggs), corruption, and putrefaction.

6 Martin Schaffner, *Anastasis / Christ in Limbo*, 1549, oil on panel. Image courtesy of Museum Ulm, Germany.

To the faecal relents of skatole, indole lends its animalic impressions recalling the fungal exhalations of wilting flowers and exhausted bodies. An audacious play of overdoses conveys the notion of an imperious, unescapable torment: smoked cypriol and a metallic and pyrogenic cade Essence evoke the flames of an imperishable inferno, elsewhere, paracresol captures the unbearable stench of burnt flesh, the repulsive fattiness of caproic acid joins the suffocating and cheesy notes of civet in a dramatic depiction of cadavers in full putrefaction while the sulphuric methyl-thiobutyrate blows its shrill and devastating wafts as of pools of brimstone bubbling everlasting.

### The Wicked

Caproic acid; Civet; Skatole; Indole.

### The Fire

Cade essence; Cypriol essence; Paracresol.

### The Brimstone

Methyl thiobutyrate.





## 9 CIVET

JACOB HOOIJ'S APOTHECARY

There is a rumour among initiates of a sun-coloured butter, scenting of flowers and of skin, of apricots and fur, a remedy whose powers are praised, though in whispers. To find it, one must look to an apothecary from the past. There, between rows of flowers and spices, ointments and vinegars, somewhere under rose and rue, word has it that there is a treasure.

Fragrant ingredients found in apothecaries could be used for medical purposes, flavouring food, and perfuming people and households. Apothecaries also carried civet. Since the first imports of civet cats from Africa and Asia in the 15th century, the black and white felines fascinated Europeans. They were kept and displayed in royal menageries, including that of King Louis XIV of France, and were eventually bred in Europe as the scent they produced became very profitable. Similar to musk, secreted by musk deer's glands, and ambergris, from the sperm whale's digestive system, civet is an animalic fragrance derived from the creature's perineal glands, gathered from the animal every few days using a spoon. Though it gives off a faecal scent on its own, civet became prized in perfumery for the effect it imparts on floral notes while its long-lasting heavy molecular structure made it suitable for the formulas of scented gloves and pomanders.

9 Anselm Boëtius de Boodt, Civet cat (Viverra), 1596 - 1610, brush in watercolours and opaque paint, raised with opaque white, handwriting in pen in brown, single lines in pencil, h 155mm x w 240mm. Public Domain. Photo courtesy of the Rijksmuseum, Amsterdam, the Netherlands.

Despite being used in some of the most iconic perfumes in European history, the cruelty of its production prompted modern perfumers to favour the use of synthetic reconstitutions.

Butyric rasp, blue cheese mould, a faecal aura and uric spirit, balsamic overtones and resinous undertones, clean streaks, white efflorescences, peachy pulp and honeyed veil – natural civet alone turned a mere fragrance into a jewel, kaleidoscoping its formula, exploding its structure, lengthening its trail and completing its appeal. Its bouquet shimmers with its floral-animalic indole, its faecal scatole, the aggressive ammonia of its ethylamine and propylamine and, above all, the lewd-fur waxiness of its civetone. This scent is a mirror-image of the natural civet, a panache of skilfully chosen molecules, meticulously arranged to replicate the nuances of the rare, natural, unparalleled Civet.

### First Whiff

Blue cheese; Stone fruits; Urine.

### Second Whiff

Faeces; Honey; Indole.

### Third Whiff

Balsams; Fur; Saliva.







# The Embalming Scent of William van Orange

*Caro Verbeek, Inger Leemans  
& Jorg Hempenius*



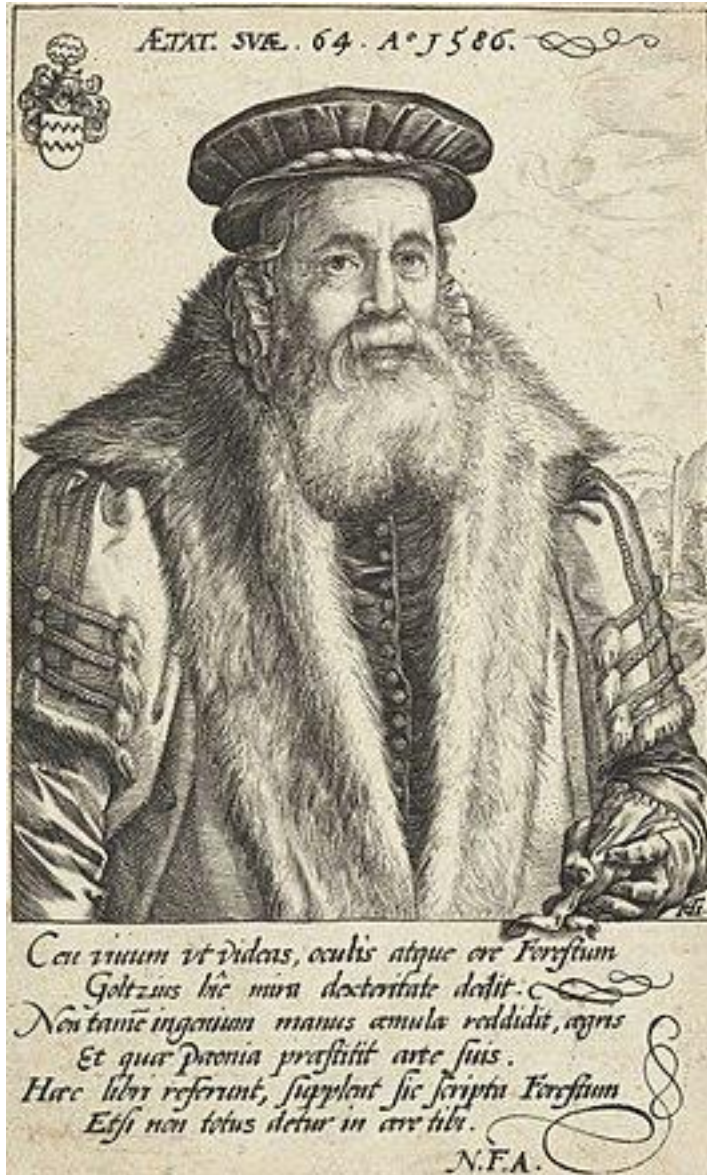
The murder of William of Orange by Balthasar Gerards (1584).  
William of Orange died instantly



Print: Adolf van der Laan, after Jan Luyken, after Romeyn de Hooghe, 1694, Rijksmuseum Amsterdam



# Pieter van Foreest (1521 – 1597)



## PETRI FORESTI ALCMARIANI OBSERVATIONVM ET CVRATIONVM MEDICINALIVM

Liber vigesimus-nonus,  
*De Arthritide & aliis affectibus  
partium externarum.*



EX OFFICINA PLANTINIANA,  
RAPHELENGII,  
M. D. CIII.

### OBSERVAT. LIBER XXIX.

239

fortissimo in lib. xij. vi vi. lib. remaneant, colatura  
addendo alum. lib. j. salis communis ℥ vi. leuiter rur-  
sus ebulliant ad dissolutionem salis & aluminis, & vsus  
reseruetur, pro lotionis interioris corporis cum spongiis:  
℞ olei lauendula lib. j. therebinthina lib. ℥. liquefiant  
simul pro linitione corporis exterioris, postquam rursus  
acu omnia confusa fuerint: ℞ cera, myrrha, storacis  
calamita, terebinth. ladani, ana ℥ iij. paretur inde ce-  
ratum, & applicetur suture narium & aurium: ℞  
aqua vita lib. viij. ℞ spongiæ duas magnas ponderan-  
tes ℥ iij. ℞ bombacis lib. vi. Et fiat sparadrapum, in  
quo totum corpus inuolui possit, ex cera & terebinthina  
ana q. s. Aliud exemplum. ℞ cymini lib. iij. pul. aloës  
℥ vi. pul. myrrha ℥ iij. salis communis lib. iij. aceti  
boni quart. q. spongiæ magnæ num. ij. Caterum ca-  
dauer condiendum hoc pacto præparabis: Primò ven-  
trem longitudinaliter incidito, hinc latitudinaliter, ita  
tamen ut umbilicus adhærescens (ut quidam admo-  
nent) integer alteri parti relinquatur. Deinde intestina  
eximito, vna cum stomacho, renibus, hepate, ac splene.  
Post hæc pectus aut per medium aut vtrumque, vbi car-  
tilagiosa sunt partes, diuidito. Omnia membra spi-  
ritualia, cor, pulmonem, œsophagum ad radicem lin-  
gua abscondito & auferto. His ablatis, corpus aqua fri-  
gida bene ac diligenter lauato, & spongiis abstergito.  
Deinde reiterato cum aceto. Vltimò cum aqua vita eo-  
dem modo. His ordine completis, pulueres inspergito.  
Carnem perfricato non secus ac si carnem suillam sale  
condires. Postea ex stuppis aqua vita intinctis, expres-  
sisq; palmis, carnem vndique vestito, implendo ven-  
trem cum pulueribus & stuppis: hinc ventrem consuito  
simul, omnibus partibus inanibus ventris tum pectoris  
repletis.

Aliud ex-  
emplum.



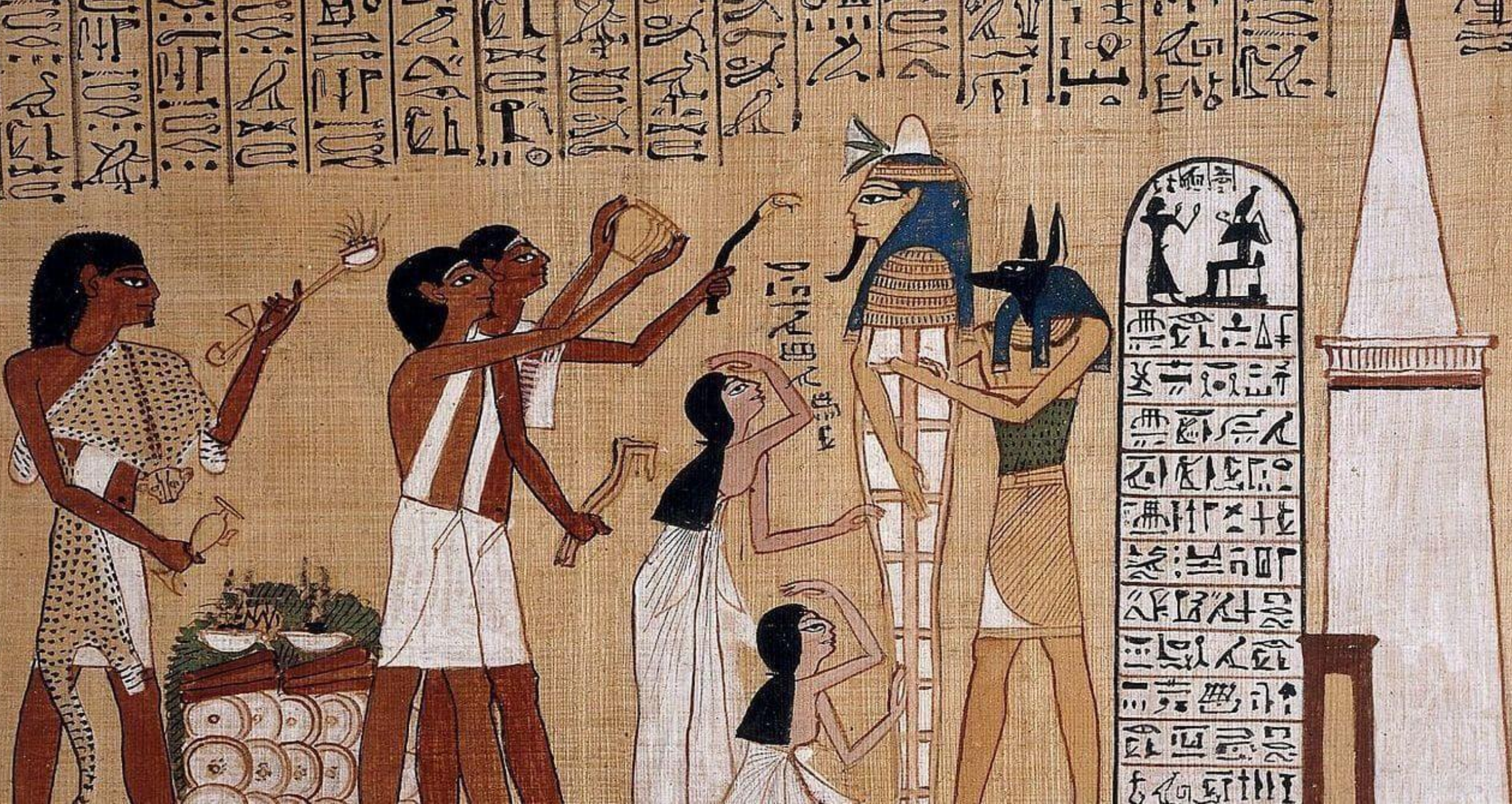
# Embalming stages & instruments



- ❖ Dissection (cutting the stomach around the belly button)
- ❖ Taking out the organs (lungs and heart were called 'spiritual organs')
- ❖ **Acetum:** Washing the inside of the body with vinegar and essential oils (Laurel, Mint, Thyme, Rosemary, Roses, Marjoran, Lavender, cooked in vinegar, aluin and salt).
- ❖ **Embalming powder:** Filling and rubbing the body with a dry powder (composition: see recipe hereafter)
- ❖ **Work:** filling up the holes in the body with sponges and cotton cloth drenched in brandy
- **Ceratum:** closing body openings with a plaster of bee wax mixed with essential oils (Myrrh, Styrax, Labdanum)
- Close the body with needle & thread
- **Oil:** Ointment of lavender oil and turpentine
- **Sparadrap:** wrapping the body in cloth drenched in wax and turpentine











**Johannes 19:39:** “En Nicodemus kwam ook die des nachts tot Jezus eerst gekomen was, brengende een mengsel van mirre en aloe; omtrent honderd ponden”.



# Recipe - Recreation



Aloes succotrinae	lib. ijb
-------------------	----------

Myrrhae	lib. Jb
---------	---------

Absinthii	exsic.
-----------	--------

Rorismarini	
-------------	--

Balsami vel Menthae	
---------------------	--

Graecae	
---------	--

Menthae	
---------	--

Menthastri	
------------	--

Salviae	
---------	--

Lavendulae	
------------	--

Maioranae	
-----------	--

Thymi	
-------	--

Origani	ana m.ij
---------	----------

Sem. cumini	lib. b
-------------	--------

Caryophil.	
------------	--

Nucis muscatae	ana ʒ b
----------------	---------

Storacis calamitae	ʒ ij
--------------------	------

Benzoini	ʒi
----------	----

Trochis Aliptae moscatae	3b
--------------------------	----

Ireos	ʒ iij
-------	-------

Calami arom	3 vj
-------------	------

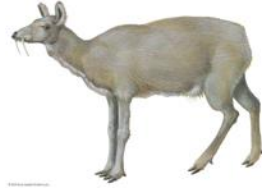
*Cotundantur & fiat pul. subtilissimus*

*Grind these ingredients into a powder*



# Resins

myrrh, benzoe, styrax, labdanum



# Animal

Musk, amber



# Herbs

Rosemary, lavender, thyme,  
mint, oregano, sage, marjoram



# Spices

Nutmeg, cinnamon, clove



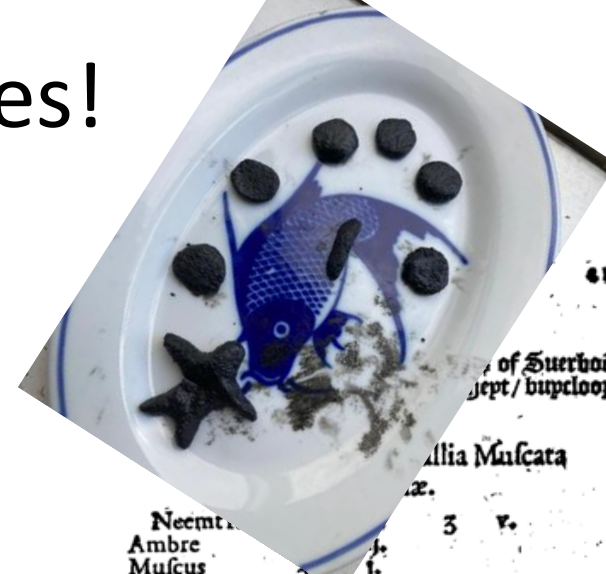
# Flowers

Red rose, iris





# Alipta Muscata: Fragrant cookies!



Neemt  
Ambre  
Muscus  
Vette slymicheydt van Gomme Dragant met Roosse water ghemaect, soo vele als van noode is.  
Maect daer af cleyn Trochiscen.  
Dese Trochiscen verstercken de herffenen en therte, se stoppen het oberghen en den bucke loop/ende maken een goeden aessen/ende een goede reucke van tgeheel lichaem.

## Trochiscen van Alipta Moschata D. Nicolai.

Neemt vanden suyversten Ladanum 3 iij.  
Syrax Calamita 3 i. s.  
Root Syrax 3 i.  
Aloeshout 3 i.  
Ambre 3 i. s.  
Camphora 3 i. s.  
Muscus 3 i. s.  
Roosse water, soo vele als ghenoech is.  
Maect daer af Trochiscen nae de conste.

## Annotatie van Val. Cordus.

Root Syrax/ en bediet hier niet de Thymfama/ die dorre ende swarte schoofse/ maer het herst van  
4



ghe/ ende worden oock gheboecht in seer costelucke medicynen.

## Trochiscen van Agaricus D. Mesuz, cap. vanden Agaricus upt Haly.

Neemt uytghelesen Agaricus 3 iij.  
Sal gemme 3 i.  
Syrupus acetosus simplex, so vele als van noode is.  
Laet daer af Trochiscen maken/ ende bewaren op een warme drooghe plaetse.  
Dese Trochiscen suyveren de grobe water-achtighe vochticheden die met cholerpeke gemengt sijn/ upt die herffenen ende hoofde: ende brenghen/ besonder upt de borst/ de grobe/ rotte ende lymachtighe vochticheden.

## Agaricus Trochiscatus D. Mesuz. Cap. vanden Agaricus/ upt Galenus.

Neemt uytghelesen Agaricus 3 iij.  
Wijn van infusie van Geynber, so veel als van noode is.  
Laet daer af maken Trochiscen.

## Trochiscen van Emmer of Charabe D. Mesuz.

Neemt Emmer, tghewichte van ses croonen  
Ghebrandt Hertthoren  
Gherooft Gomme van Arabica  
Ghebrandt root Coral  
Gomme Dragant

Digitized by Google

Acetia

Recipe for Alipta muscata ('Alypta Moschata'). Valerius Cordus, *Den Leydts-Man en Onderwyijser der Medicynen* (1662), 215.



# Aromatherapy



## P R E F A T I E,

ofte Voor-reden des Autheurs.

Van de vindinghe, ende excellentie der Medicijnen, ende der Chirurgien.

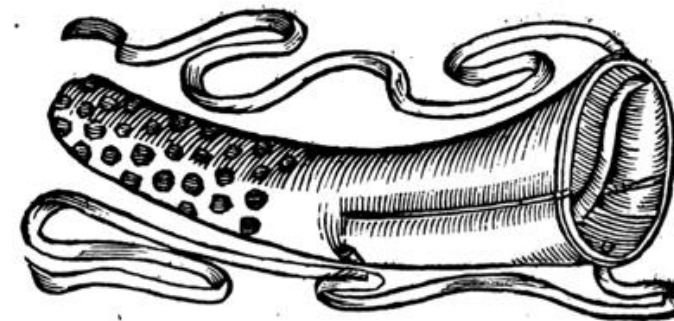
De afteyckeninge  
der afteyckeninge



Alle de oude ende nieuwe Schrybenten der Medicijnen / zijn van meeninghe dat de Medicijne haren oorspronck uyt den hemel gekreeghen heeft. Ende ten eersten / alle die ghene die alderbest van de scheppinghe der Werelt geboelt hebben / die hebben geschreeven dat naer de scheppinghe der Elementen (al eer de mensche gheschapen was) de krupden/ ende de planten van diverse grootte / van diverse kolenre/ van diverse reucke/ smaech/ ende figure/ oock van diverse onbegrijpelicke krachten / uyt der aerden ghesproten zijn: Welcker krachten den mensche onmoghelic waren gheweest te binden / ofte te kennen / ten ware dat hem sulcks (voor eersten) Godt den Heere selbe en hadde gheopenbaert / ende gewesen. Want soo haest als desen Schepper aller dinghen/ onser aller Vader Adam gheschapen hadde/ ende in hem geblasen het licht des levens / soo heeft hy hem met eenen overvloed in't generale / alle de krachten van alle 't ofene dat den Aertheden hoort

Van de Generatie.

Een Pessarie om den hals der lijfmoeder te openen.



De afteyckeninghe van eenen Pot, om de roockinghe in den hals der lijfmoeder te ontfanghen.







## GLOSSARY

### ABSOLUTE

After obtaining from the vegetal, the concrete\*, a solid product insoluble in alcohol, it must be transformed so that perfumers can use it. It is heated in a bain-marie before being mixed with alcohol. The mixture is then cooled to 0°C and filtered to eliminate waxes. The alcohol is evaporated and what remains is a concentrate containing only the active ingredients responsible for the smell (waxes and alcohol having been removed): this is the absolute, which owes its name to the fact that is an absolute concentrate of the original product. For one kilogram of rose absolute, one ton of rose petals is needed.

### ESSENCE

Natural perfumery ingredients are transformed through two main processes: distillation and solvent extraction\*. In the case of distillation, the natural product is placed in a still which is then filled with water. The water is heated, either directly or through a jacket containing the still into which steam is introduced. The "water + flowers" mixture, heated to approximately 100°C, produces steam, which carries aromatic compounds out of the plant. The steam then passes through a "condenser" which liquefies it. The liquid containing the aromatic compounds becomes an oil and water mixture. A process called the "Florentine flask", based on the difference in density of water and oil, is used to separate them. Since it is lighter than water, oil rises in the flask. It is collected: this is the essence. Four hundred and fifty kilograms of rose petals are required to obtain one kilogram of rose essence.

### IFF

IFF is a leading global creator of flavors and fragrances used in a wide variety of consumer products. IFF perfumers create, often in the shadows, perfumes for the biggest brands around the world. Artists, creators, these men and women of talent and passion invent the scents of our daily lives. While their art is invisible, their creations are often our signature, our trail, our identity. IFF is present in 31 countries throughout the world. For more information, please visit [www.iff.com](http://www.iff.com) or Instagram @iffinc

### LIVING™

Living Flower Technology™ is a process developed by IFF\* and inspired by the «Head Space» technique, which consists in capturing a scent, vegetal or otherwise, in situ, without altering its source. How does it work? Not unlike digital photography, which captures an image and recreates it using millions of pixels: thanks to the Living technology, it is possible to capture an odor, for example on a growing plant, and decode all of its components to recreate them later. The prospects are endless: one can capture the fragrance of a plant, an environment, a person...

### LMR

IFF's in-house naturals facility, Laboratoire Monique Rémy (LMR), was founded in Grasse in 1983. LMR has total control of the process from field to extraction to distillation, ensuring incomparable purity and quality, as well as respecting the producer and the environment. LMR is widely acknowledged as an exception and a model, setting the industry standard for quality natural materials.  
[www.lmrnaturals.iff.com](http://www.lmrnaturals.iff.com)

### SUPERCritical CO<sub>2</sub> (EXTRACTION BY)

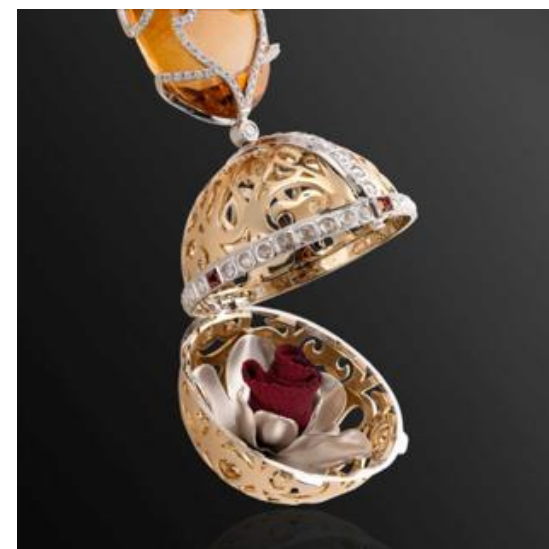
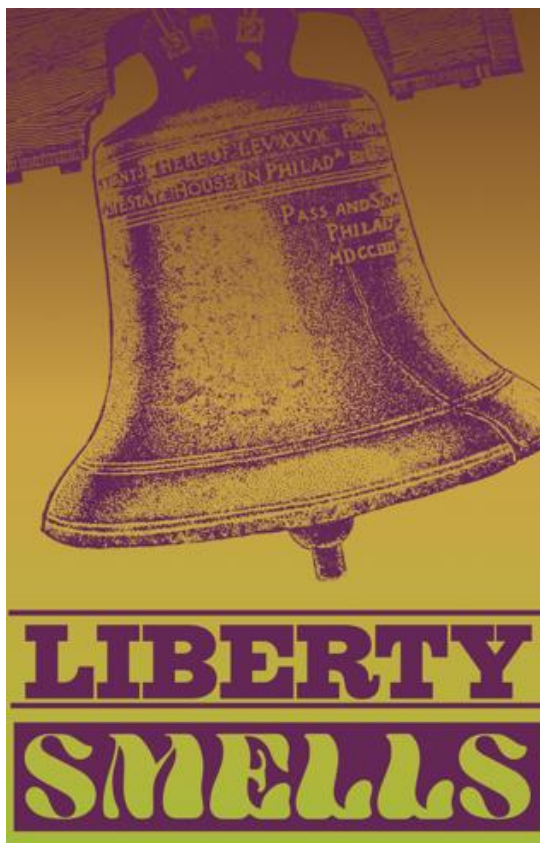
With CO<sub>2</sub> extraction\*, it is possible to obtain natural products that are very true to the plant's original smell. When subjected to very high pressure, CO<sub>2</sub> liquefies and behaves like the solvents used to obtain concretes\*. It separates the aromatic compounds of a given natural material (either the concrete or the plant material itself in the case of seeds, for instance). When these aromatic compounds have been washed off, pressure is lowered; the CO<sub>2</sub> resumes its gaseous state and evaporates. The result is a very pure product, close to the original smell of the plant.





ODEUROPA

## HERITAGE SMELL LIBRARY





Scent marketing

eau de  
tompouce



HEMA ♥ parfumado





CONSTANTIJN  
HUYGENS

EEN LEVEN IN BRIEVEN

## SAMENSTELLING

*Ineke Huysman en Ad Leerintveld*



Apunt (si Sup. placuit) jam  
 ibi. Placuit. Videtur factum. quia p[ro]p[ri]e  
 in probationibus imp[ro]p[ri]e citantur. Vale.  
 R. 22. 2. D. Sordant. CID DC XVI.



Type 1. hand roll.  
 - mixed with de Blommers  $\frac{1}{2}$  hand roll.  
 Original type 2. hand roll.  
 Lower 4.

HUYGENS

Edwards.

Bougie Parfumée  
Eau Parfumée pour My Mother  
Perfumed candle  
Eau de Parfum - To My Mother  
Geurkaart  
Geurwater voor My Mother

HUYGENS













# Fine Grained Emotion Detection



An anonymous depiction of the sense of smell, circa 1680. (Rijksmuseum Amsterdam )

- 38 Emotions
- Specific for Odeuropa datasets
- Multilingual approach
- Multilabel classifier

## List of Emotions

admiration	disapproval	indifference
amusement	disgust	joy
anger	doubt	love
annoyance	embarrassment	nervousness
approval	envy	nostalgia
boredom	excitement	optimism
calmness	faith	pain
caring	fear	pride
courage	frustration	relief
curiosity	gratitude	sadness
desire	greed	surprise
despair	grief	trust
disappointment	guilt	

## Links to Models:

<https://huggingface.co/lrei/roberta-large-emolit> (Large)

<https://huggingface.co/lrei/roberta-base-emolit> (Base)

<https://huggingface.co/lrei/xlm-roberta-base-emolit-multilingual>  
(Multilingual)





# Qualities attached to Emotions Over Time

## NOSTALGIA

1600-1699	1700-1799	1800-1899	1900-1930
brere, <b>smelling</b> , <b>sweet</b> <b>smelling</b>	<b>fragrant</b> , aromatic, blue, delicate, faint, fresh, garden, giving, rich, sad	<b>fragrant</b> , scented, <b>sweet</b> , odorous, perfumed, aromatic, <b>smelling</b> , faint, rich, delicious	<b>fragrant</b> , scented, <b>sweet</b> , <b>smelling</b> , faint, odorous, perfumed, aromatic, fetid, heavy

## FEAR

1600-1699	1700-1799	1800-1899	1900-1930
<b>blacke</b> <b>stinking</b> , noxious, <b>stinking</b> , such a detestable	<b>stinking</b> , biting	scented, reeking, foul, sickening, fetid, horrible, smelling, sweet, fragrant, noxious	fragrant, fetid, faint, smelling, reeking, scented, scenting, horrible, foul, <b>stinking</b>



# Smell Sources attached to Emotions Over Time

## NOSTALGIA

1600-1699    1700-1799    1800-1899    1900-1930

brimstone,  
eglantine,  
garlands of  
**roses**,  
of sin,  
pink  
epitheton,  
pollution,  
sops - in -  
wine

garden,  
**a bank of  
violets**,  
a country full  
of new -  
mown hay,  
banks of  
blueberries,  
blossoms  
**blossoms**,  
boeotian,  
cold,  
fountains,  
greens,  
hay

**flowers**,  
**roses**,  
**blossoms**,  
clover,  
tea,  
shrubs,  
**violets**,  
air,  
**herbs**,  
incense

**flowers**,  
**of roses**,  
incense,  
pine,  
**blossoms**,  
of her hair,  
of lavender,  
of the sea,  
**of violets**,  
**of orange  
blossoms**

## FEAR

1600-1699    1700-1799    1800-1899    1900-1930

creatures,  
fishes,  
flowers,  
fruits,  
gums,  
plants,  
seeds,  
serpents

fluid,  
**of blood and  
a rat**,  
**gun -  
powder**,  
oil

**of blood**,  
**a rat**,  
danger,  
of smoke,  
of sulphur,  
fire,  
of  
**gunpowder**,  
of musk,  
aromatics,  
brimstone

**a rat**,  
trouble,  
**blood**,  
danger,  
of smoke,  
salts,  
of brimstone,  
death  
flowers,  
flying