

Living with Scents

Odors are perceived with every breath we take and immediately interpreted by the most ancestral parts of our brain. In recent years, researchers and practitioners, from the neurosciences to the humanities, have strived to gain a better understanding of the sense of smell, which deeply, yet often unknowingly, shapes the way we live: our eating habits, our social interactions, our emotions, memories, and even our well-being and safety. Albeit elusive and ephemeral in nature, scents may thus be purposefully used to improve many aspects of our lives. Furthermore, despite its long neglect in the West, smell can also carry cultural, aesthetic, and

practical values, as exemplified by a number of ancient and foreign cultures.

In the hands of contemporary designers, whose job it is to consider the interactions of minds, bodies, and things, scents are mediated in innovative ways to raise a form of new sensory awareness. This exhibition features about 40 of these designers and artists from all over the world whose work reflects and participates in the growing culturalization of all things olfactory. Working with and around the sense of smell, taking into account its neurobiological, historical, social, and aesthetic specificities, these practitioners attempt to change the way we relate to and interact with the world. Their informed efforts are an incentive to use our nose to observe objects from

a different point of view, and conversely to use objects to take advantage and make sense out of smell in novel ways, thus contributing to the advent of new odor literacies.

The phrase 'olfactory design' can refer to a variety of practices that encompass, *inter alia*, fragrance making, olfactory marketing, stage design, architecture and even urban planning. *Living with Scents* focuses on objects, not just scented products, but creative and artful interfaces to deliver scents with manifold design outcomes, from the hedonic to the functional. On display is an unprecedented collection of useful, meaningful, and beautiful olfactory objects to be discovered through both the eyes and the nose!

Participating artists and studios include Antonio Gardoni, Charline Ronzon-Jaricot, Nendo, Unfold studio, Ariane Shirvani, Sofia Caraza, JIA, José Bermúdez, Sara Ricciardi, Kaja Solgaard Dahl, studio Outofstock, Gilles Belley, Monica Förster design studio, atelier oi, Rui Pereira & Ryosuke Fukusada, Zanellato/Bortotto, Kin Objects, Noé Duchaufour Lawrance, Susana Soares, Lizzie Ostrom, Claudia Adiwijaya, Lena Saleh, Jody Kocken, Philipp Emrich, Daniele Bortotto, Julie de Mol, Ebram Investments, Zsofia Kollar, Liza Witte, Peter de Cupere, Lena Beigel, Virginia San Fratello and Ronald Rael, Patrick Palcic, OVR Technology, Karen Campa & Katie Dobberstein & Fabien Florek & Corinna Hartinger, Carla Bengtson, Ani Liu, tipstudio.

1. WAYS OF SENSING. OLFATORY CULTURE(S) AND CONTEMPLATION

Stop and smell the roses, they say. The truth is we seldom stop and smell anything, yet there is so much to feel and explore when volatile molecules come in contact with our olfactory receptors! In this section dedicated to the aesthetic and cultural value of scents, the objects on display invite us to discover what it's like to *really* smell, deliberately and thoughtfully. They prompt unusual gestures and behaviors, allow for a focused attention, a nuanced perception which highlights the remarkable capacities of our nose and olfactory brain. This kind of refined attention has long been part of some cultures with age-old beliefs and practices associated

with smell, either profane - such as the Japanese art of Kōdō which involves a form of olfactory contemplation - or eminently spiritual. Since ancient times most religions have indeed had a spiritual relation to perfume - from the latin *per fumum*, "through the smoke" - and it is still customary in numerous cultures to burn aromatic substances as part of religious rituals. Over the centuries, many objects of high mechanical and aesthetic value have been designed to this effect. Today, designers are referencing these cultures, reinventing traditions, reinterpreting legends, and repurposing ritual shapes to turn them into original smelling objects and forge a contemporary olfactory culture.

1. SIDE-NOTES

1. Learning to Smell

Did you know that nobody is born with a particularly acute sense of smell? Of course there are some differences in the way people smell. The way in which you perceive an odor depends on your genome, your culture, how much attention you pay to it, your psychological state, and on whether you previously encountered it or not. But unless you suffer from specific disorders or lesions, the more you pay attention to smell, the more you can smell. The human nose is believed to be able to discriminate between several millions of different smells, even at very low concentrations. Some people – notably perfumers – are even able to *imagine* smells, or

combinations of smells, much in the same way you can picture a color with your eyes closed. On a brain scan, their orbitofrontal cortex appears thicker than average: it's all about training!

2. Ancient Origins

Did you know that perfumery was born in the Bronze age in Egypt and Mesopotamia, along with the sacred dimension of perfumes, which would later be a part of many ancient civilizations? From the 8th century onwards, scents accompanied the settlement of the Greeks on the Mediterranean rim before being democratized in the Hellenistic period when new sources of raw materials opened thanks to the conquests of Alexander. The Roman peace then allowed a wide circulation of perfumes and an

increasingly rich range of techniques and products. Written sources and archaeological findings – vessels used as containers and dispensers, but also actual organic residues - provide important data on what ancient aromatic compositions were – resins, plants, spices, oils, animal secretions – and how they were used. Some were worn by men and women for cosmetic or therapeutic purposes, others were offered to the gods, burnt in cults, public ceremonies, and integrated in funeral rituals.

3. Scents in the Modern Age

Did you know that after centuries of Western philosophers undermining the sense of smell, a renewed interest in odorous matters emerged in 19th-century Europe? People started to concern

themselves with eradicating bad odors – or 'miamas' – from outdoor and indoor spaces on the one hand, and with creating the most beautiful and sophisticated scents ever smelled on the other. Perfumery was indeed entering the industrial era thanks to the discovery of synthetic chemistry. Researchers started to produce in-lab synthetic molecules, either molecules preexisting in nature or completely new ones, which cheapened production, made fragrant products available to a larger audience, but also widened creative possibilities for perfumers, turning their craft into an art. This new-found fascination for the sense of smell in modern life then transpired in literature, art, and entertainment.

4. Smelling the World

Did you know that in some parts of the world – especially in tropical regions, where odors are stronger and more diverse – smell have significant sociocultural and cosmological roles? In some societies, aromas are cultural signifiers, neither subjective nor arbitrary, but learned as shared social constructs. Researchers in sensory anthropology have uncovered many examples of people for whom odors play a major structural role, such as the Ongees of Little Andaman Island, the Batek Negritos of the Malaisian peninsula, or the Sereer Ndut in Senegal. In these foreign cosmologies, smells can determine religious, natural and political orders, enforce social structures, orient human sociability, participate in human-to-spirit communication, organize the physical and ideological space, embody concepts

such as time, life or death, and carry many other symbolic meanings. These people not only share world-views but also 'world-smells'!

1. OBJECT LABELS

Antonio Gardoni

Born in Brescia, Italy, 1972

Bogue MASK, 2015

Terracotta, wood

Architect, designer, and self-taught perfumer Antonio Gardoni founded his own brand of natural fragrances, Bogue Profumo, in 2012. *Bogue MASK* is a smelling tool he designed to experience and evaluate raw materials and fragrances. Scents expand and evolve inside a semi-enclosed 'breathing space' enveloping both the nasal and oral cavities, allowing for a private and focused olfactory

experience. The internal surface of the mask is made of naturally porous unglazed terracotta which absorb and then slowly release the layered aromas. Inspired by the shape of disposable filter masks and mounted like a Venetian carnival mask – which usually doesn't cover the bottom half of the face –, *Bogue MASK* subverts their principle, turning itself into an elegant and practical object which can be used and appreciated by perfumers, retailers, and consumers each in their own way. Available in a limited numbered edition, the masks are handcrafted by Italian ceramist Fausto Salvi (b. 1965).

Charline Ronzon-Jaricot

Born in Saint-Etienne, France, 1991

L'Ascentium, 2015

Glass, brass, ceramics, candle

More than just cosmetic products, fragrances can be considered complex volatile works of art, invisible and intangible architectures in movement. Yet we hardly contemplate them like we would a painting, noticing the composition of lines and shapes, the juxtaposition of colors, or the intensity of the brushstroke. An advocate for olfactory education and admirer of the work of French perfumer Edmond Roudnitska, who, in 1977, wrote an introductory essay about the aesthetics of smell, Charline Ronzon-Jaricot designed *L'Ascentium* to highlight the artistic and kinetic dimensions of perfumes by decomposing

their various 'building blocks'. When a drop of perfume is placed in the bottom of the vessel, redolent of the shapes of laboratory glassware, the head notes – composed of lighter molecules – are the first to ascend. When heated thanks to the double boiler, the heart notes then rise up, followed by the base notes, which are the heaviest.

Nendo

by **Oki Sato**

Born in Toronto, Canada, 1977

Scent, 2020

Glass, ceramics

Founded in Tokyo, Japan, in 2002, Oki Sato's company Nendo has since grown to open a second office in Milan, Italy, and has been the recipient of more than 25 awards in design and architecture. Their creations are included in many major museum collections worldwide. *Scent* is a collection of vases encased in glass spheres that resemble space helmets, designed to accentuate the perception of scent. The aroma of flowers placed within is gently confined and preserved, thus requiring to be enjoyed up close. In the frosted glass version, the content of the vase is partly obscured, intensifying the awareness of the sense of smell. By prompting a mindful approach of the smell, these vases act as a reminder that flowers are not just nice to look at: a

single rose can emit up to 400 different volatile molecules, which together make up its sweet-smelling aura.

Unfold Studio

by **Claire Warnier** and **Dries Verbruggen**

Born in Maastricht, Netherlands, 1978

Born in Brasschaat, Belgium, 1979

The Peddler, 2013

Oak, aluminum, 3D-printed ceramics

Together with French Perfumer Barnabé Fillion and Mexican ceramist Perla Valtierra, Unfold Studio – founded in 2002 by two graduates from the Design

Academy Eindhoven – imagined *The Peddler*, a set of objects crafted to allow new rituals of scent experience. The diffusers and receptacles, resembling alchemical tools, were produced using a ceramic 3D-printing process particularly suitable for creating intricate shapes. The set includes a carafe for distilled water, a smaller receptacle for alcohol, as well as a high-necked flask, pipette and funnel to dilute and mix the perfume which is then poured into the core of an unglazed diffuser – reminiscent of the inner structures of poppy capsules and fruit cut-throughs. The scent spreads through the multiple compartments, which create a greater surface area of absorption, and is released over a prolonged time. Once the prototype is functional, people shall be invited to spin the diffuser in a conscious gesture

emphasizing the ritualistic dimension of scent contemplation.

Ariane Shirvani

Born in Tehran, Iran, 1984

Aura, 2019

Porcelain

German-Iranian designer Ariane Shirvani's work focuses on sensory experiences and natural phenomena translated into physical objects. Her *Aura* vase was designed to hold scents, especially scents from flowers such as tagetes which you can smell here. The distinct opening at the top flows into

a narrow neck before expanding in a rounded base, which sends the smell wafting up the bottle. Its shape was inspired by Persian swan-neck glass bottles known as *Ashkdān*. While sublimating the beauty of natural scents, *Aura* thus also upholds traditional craft and age-old olfactory practices. Born in the 10th century, Persian doctor and chemist Ibn Sina (also known as Avicenna), was indeed the first to extract the essential oils of flowers from steam distillation. Whilst liquid perfumes used to be oil-based (*attar*), distillation allowed for alcohol-based scents and hydrolats such as rose water, which immediately became popular for its delicate scent as well as soothing properties, and was later commonly held in *Ashkdān* bottles.

Sofia Caraza

Born in Weslaco, United-States, 1996

Inhale Us, 2018

Repurposed wood, glass bottles, acrylic paint

Trained in industrial and innovation design, Sofia Caraza developed several projects concerned with the way we receive and speak about scents. This set of objects made of upcycled materials that are often discarded has been designed for a three-person contemporary olfactive ritual. The ceremonial objects – mixers, hand bowls, and smell tasting containers – represent water, air, and fire while the table (not on display) is the Earth, where the other elements unite.

Smell ingredients are used to create an individual mix interpreting the element allocated to each participant. The host blends both mixes in a central dish to be consumed for everyone to smell the unification of the elements through the aromatic smoke. The project partly references the 700-year-old Japanese art of *kōdō* which involves collectively "listening to incense" by heating fragments of aromatic woods. Following codified and minute gestures, *kōdō* can take the form of ritualized games called *kumi-kō*, sharpening smell perception and ascribing various cultural references to each scent.

JIA Inc.

by Spencer Hung

Born in Taipei, Taiwan, 1982

AROMA, Aureole Cold Air Diffuser, 2015

Marble, glass, brass-plated steel, electric air pump,
LED

Since the Qin dynasty (221-206 BC), the Chinese culture of fragrances have given rise to many types of artistic productions, up to this diffuser born out of traditions but infused with contemporary aesthetics and technology. Founded in Hong Kong in 2007, JIA Inc. brings together international designers to collaborate at the crossroads of Chinese and Western cultures. To create *AROMA*, design director Spencer

Hung was inspired by the tale of the goddess Nüwa who is said, in Cao Xueqin's *Dream of the Red Chamber*, one of China's Four Great Classical Novels, to have mended the pillars of heaven. The elegant vertical marble core recalls those mythical pillars and the association of stone and glass embodies the idea of complementarity between the elements. Moreover, the essential oil vapor rising up to the sky is reminiscent of Taoist beliefs according to which the extraction of a plant's aroma frees its soul: from the physical to the spiritual.

José Bermúdez

Born in Cuernavaca, Mexico, 1993

Fuji, 2020

Volcanic rock or black marble, foundry brass

Inspired by Japanese functionality and Scandinavian aesthetics, José Bermúdez's studio designs furniture and utilitarian objects with subtle forms and masterfully crafted materials. This incense tray references the conical form of active volcano Mount Fuji, one of Japan's Three Holy Mountains. The mineral base is made of volcanic rock or black marble and a hole punctures the centre of the round brass plate on top for the insertion of one incense stick. When lit, the billowing smoke resembles an erupting volcano, making Fuji a functional and aesthetic piece alluding to both Japanese scenery and olfactory culture. Indeed, the shape of the piece also evokes

kōdō ceremonies for which tiny fragments of fragrant wood are placed on a mica plate on top of a pile of ash carefully sculpted in a mountain-like shape and pierced by a narrow crater to access an incandescent piece of charcoal in the center: like a small aromatic Mount Fuji in a cup.

Sara Ricciardi

Born in Benevento, Italy, 1989

Templi, 2018

Borosilicate glass, rattan, brass

Sara Ricciardi creates products and unique pieces following a narrative approach in which shapes proceed from stories. Taking their cue from the architectural aesthetics of ancient Greek and Roman temples, the modular elements of *Templi* reproduce colonnades made of glass with brass capitals and rattan arches which diffuse the fragrances by capillary action. In such temples the sacred was breathed in. Incenses were burned on altars, perfumes applied to statues, flowers and wine offered in libations. Scents were both gifts to the gods and signs of an invisible link with the divine. According to Pliny the Elder, some temples even exuded aromas from their walls, built with plaster mixed with spices! By referencing these Ancient cultures from which we inherit the very

word “perfume,” the designer broadens our perspectives, allowing us to see beyond the limitations imposed on smell by our own epoch and culture, to reconnect with former, more meaningful uses and appreciations of scents.

2. NOSE MEET THE EYE. THE POWER AND BEAUTY OF NATURE

This second section is an exploration of the aesthetics of uniquely designed scent diffusers in which there is more than meets the nose. Contrary to scent diffusion engineers, designers care about the look of things as much as about their technicality. They are thus challenged to create objects situated between beauty and efficiency, looks and functionality, while dealing with an invisible and intangible matter. Working with a range of low-tech diffusing techniques - capillary action, dispersion, vaporization, heating, etc - they are putting an emphasis on materials, shapes, textures, and motions inspired by natural resources, forms, and

phenomena. Additionally, as smells are kinetic by nature, some designers have created objects that facilitate both motion and its visualization, often by appealing to the power of the four elements. When are we more blissfully aware of smells than when a warm breeze carries a whiff to our nose? Than when the rain starts to fall, or when we crumple a leaf between our fingers? These are some of the sensations designers are striving to reproduce at a reduced scale while also capturing the timeless beauty of nature. Some of the diffusers presented here thus come to resemble ornamental, sculptural works of art, giving prominence to physicality and organicity over technology.

2. SIDE-NOTES

1. Crossmodal Perceptions

Did you know that congruent experiences between different types of stimuli can affect overall perception? For instance, it's been shown that the brain response of three-month-old infants to seeing faces is altered when maternal odors are simultaneously presented. Conversely, our experience of a smell is influenced by congruent touch, sound and visual stimuli, whether we realize it or not. The hedonic response to a similar smell will differ whether the person is presented with a picture of cheese or of dirty socks, and white wine surreptitiously colored with odorless red dye will almost always be described with red wine terms.

Research in the field of crossmodal perception have also shown that even non-synaesthetic individuals tend to associate smells with certain pitches, brightness, colors, tastes, and shapes. Citrus smells for instance tend to evoke angular, pointy shapes and high-pitched sounds. A better understanding of such crossmodal correspondences could lead to better-designed products, interfaces, environments, and improved non-verbal communication.

2. The Smell of the Rain

Did you know that the smell exhaled by the earth when it rains bears a poetic Greek name? The term Petrichor – from the Greek words *petra*, “rocks”, and *ichor*, “blood of the gods” – was coined by Australian researchers Isabel Bear and Dick Thomas in 1964.

This distinctive smell is made up of volatile oils exuded by certain plants during dry periods and absorbed by soils and rocks, and of geosmin, a metabolic by-product of certain bacteria found in soil that smells like beets. When raindrops hit a porous surface such as soil or rough concrete, they trap tiny bubbles which then shoot upward and burst, ejecting aerosols which release the odorous compounds, a phenomenon which can be an inspiration for artists and scientists alike. The human nose is extremely sensitive to the sedimentary, earthy scent of geosmin, even at very low concentrations, possibly because our ancestors relied on rainy weather for survival.

3. Inspired by Nature

Did you know that the art of perfumery itself finds its origin in the products of nature? Since the dawn of civilizations, mankind has found ways to extract the precious fragrances of flowers, trees, aromatic plants, roots, spices, and even animals. Techniques to obtain natural raw materials have evolved and multiplied over time, from maceration, enfleurage, and expression, to distillation, solvent extraction, and, most recently, supercritical CO₂ extraction. However, some fabulously fragrant blooms – such as lilies, carnations, peonies, honeysuckles and many others –, do not store their essential oils and consequently resist extraction.

Perfumers have thus found ways to imitate the scents of these elusive 'mute flowers' by associating other natural ingredients and synthetic molecules. Since the 1980s, headspace technology, gas chromatography and mass spectrometry can help perfumers by analyzing the composition of the VOCs emitted by plants and translating it into a graph that they can then interpret, each with their own sensibility.

2. OBJECT LABELS

Atelier Kaja Dahl

by Kaja Solgaard Dahl

Born in Oslo, Norway, 1984

Tapputi and the Sea – Cape Town Edition, 2016

Glass, natural sponge, solid perfume

Based in Oslo, Atelier Kaja Dahl was founded in 2016 and has since developed many sculptural scent diffusers inspired by shapes of materials coming from the earth – or the ocean. After having spent 40 days in Cape Town where she conducted research into scents while absorbing the glorious beauty of the landscape, designer Kaja Solgaard Dahl created this

limited edition of perfume vessels along with a scent developed in collaboration with perfumer Agata Karolina, founder of House of Gozdawa. A dyed natural sea sponge, embedded in a scented wax cone made of natural oils sourced from the African continent, is placed in a blown glass transparent holder that retains the aromas. This exquisite yet uncanny object thus combines organic and mineral materials coming from the sea and the shores alike, while notes of kelp, burnt wood, silver-bush everlasting flower, Namibian myrrh, jasmine and fennel also connect, within the scent, the marvels of the land and of the ocean.

Norwegian Notes, 2017-2018

Larkivite stone, porcelain

Clay, marble, or igneous rocks – here Larkivite stone – are among the many materials that inspire Kaja Solgaard Dahl to create diffusers inspired by local scenery and aiming to create meaningful scent experiences. The series *Norwegian Notes*, originally composed of four objects, can function both as sensory sculptures for domestic spaces and vessels for displaying fragrances in retail settings. Each piece, whose shape was inspired by geological structures such as columnar jointing – occurring in many types of igneous rocks –, was designed to hold a natural fragrant oil from Norway: Norwegian pine, Norwegian angelica root, juniper berry and tomato leaf. The visual beauty of minerals and the invisible charm of plants come together in these objects to

convey a sense of Norway's imposing natural landscapes.

Studio Outofstock

Founded in 2005

Aura Tropicale, 2015

Industrial ceramics

Studio Outofstock designs products, furniture, lighting and spaces for international clients. In 2015, they created a series of dip-dyed scent diffusers from

an extruded ceramic substrate usually used for filtering exhaust fumes in the catalytic converters of motor vehicles. Instead of absorbing and transforming noxious air, here the material is used to keep and disperse a pleasant smell. As the ceramic is not fully fired, the end product remains porous, soaking up aromatic oils and slowly releasing their fragrances. The rounded top of the diffuser, created by hand lathing short pieces of the material, helps the dispersion when air passes over it, while the repetitive pattern, made from a series of triangular channels, allows for a larger surface for absorbing the scent and is reminiscent of shapes and structures typically found in nature, such as honeycombs, moss tufts, the hearts of Asteraceae flowers, or even the eyes of flies.

Studio Forest & Whale

by Wendy Chua and Gustavo Maggio

Born in Singapore, Republic of Singapore, 1984

Born in Buenos Aires, Argentina, 1980

Aura I, 2020

Industrial ceramics, brass

Aura I was created in 2020 out in response to the quiet streets during the pandemic lockdowns when traffic grind to a halt and the skies cleared with lower air pollution. This led designers to question the need for so many vehicles but also to think about indoor air quality, as millions of people had to retreat into

their homes. While the ceramic filter used for *Aura Tropicale* is usually found in motorcycles, *Aura I* uses the filter from larger vehicles, such as trucks and lorries, sculpted from a larger extruded ceramic substrate. It reproduces the same kind of nature-inspired shapes and patterns but is propped on a brass stand in order to increase scent diffusion thanks to its tilted surface that allows for better airflow. The diffuser also gains a new aesthetic dimension as it starts to resemble a small standing mirror prompting us to reflect on our relationship with our environment.

Gilles Belley

Born in Paris, France, 1974

*La fabrique végétale (The Organic Factory) /
Brindille, 2009*

Aromatic soluble agromaterials

*La fabrique végétale (The Organic Factory) /
Inflorescence, 2009*

Aromatic soluble agromaterials

The work of French designer Gilles Belley navigates between research projects, interior design, exhibition design, furniture and signage making. *The Organic Factory* is an ecological design project led in partnership with the Laboratory of Agro-industrial Chemistry of Toulouse (France) and commissioned by the art & Design Center La Cuisine in Negrepelisse. The idea was to create aesthetic and

eco-conscious objects made out of materials recycled from agricultural waste. *Brindille (Twig)* is a small branch-like shape landing on a plate and dissolving when it comes in contact with water, releasing aromatic compounds in the air. *Inflorescence* combines the geometry of flowers such as muscari and the aromatic profile and properties of cloves. Each bud can be separated from the whole and dissolved in a bath to perfume the water. Both diffusers are designed from organic materials and inspired by natural shapes. Both are also ephemeral and biodegradable, reproducing in the object the process of change and weathering that regulates life itself.

Leaf, 2015

Birch wood, porcelain

Created by Gilles Belley as part of a commission from Nature & Découvertes, a French brand dedicated to environmentally conscious lifestyle, travel and nature exploration, this scent diffuser combines a minimal, almost abstract look with the delicate aspect of leaf veins. A finely chiseled hemstitched birch leaf slides into a small porcelain base filled with fragrance. The smell is then drawn up into the wood by capillary action, which is the autonomous movement of a liquid within the micro-spaces of porous materials. As a result, the scent sort of follows the path of the ascending sap in plants and is spread when the air flows in between the apertures, like the wind sweeping through foliage.

Monica Förster Design Studio

by Monica Förster

Born in Stockholm, Sweden, 1966

Scentense, 2019

Maple wood

Born out of a collaboration between Swedish designer Monica Förster and Bosnian design brand

Zanat – which was built on the foundations of a four-generation family tradition of making heirloom quality hand-carved furniture –, *Scentainer* is a collection of hand-carved wooden containers holding left-over wood chips which can retain scents. The abstract carvings on the black-stained background of each individual container reveal the light flesh of the maple wood. Made using a technique inscribed onto the Unesco World Intangible Heritage list in 2017, they are reminiscent of organic shapes and elements such as rocks, clouds, water, or long grass. Three different fragrances have been specifically produced for the project by Swedish olfactory brand Muro scents Co., each pertaining to a specific memory of the designers, and in 2021, Zanat is releasing a new one,

to embody the brand's identity in all the depths of space.

atelier oï

by **Aurel Aebi, Armand Louis and Patrick Reymond**

Born in La Neuveville, Switzerland, 1966

Born in La Neuveville, Switzerland, 1966

Born in La Neuveville, Switzerland, 1962

Toki-oï, 2018

Ceramics

Founded in 1991, atelier oï – derived from the Russian word “troïka” – is guided in all things by a desire for harmony and closeness with nature. The team's dedication to creation, knowledge, and

manual know-how led them to bridge Japanese and Swiss cultures in *Toki-oi*, an olfactory product for the home composed of three parts forming a whole, all manufactured by Japanese ceramic tableware producer HOUSEN-GAMA, a small family-run company based in Toki City. Made with unique porous and marbled clay, *Toki-oi* uses the natural resources found in the Gifu region where sources of high-quality pottery clay abound and takes inspiration from *kōdō* ceremonies in which noble aromatic woods are heated for olfactory contemplation. Sold with a bottle of highly valued Hinoki essential oil – Japanese cypress – this intriguing conical object, whose marbled motifs recall the dark volute of polished thuja wood, artfully

binds the elements – from soil to trees – and the different states of matter – liquid, solid, and volatile.

Rui Pereira and Ryosuke Fukusada

Born in Figueira da Foz, Portugal, 1983

Born in Osaka, Japan, 1979

Chim Chim 1.0, 2016

Estremoz marble, brass, aluminum, red clay, Hinoki wood, hand painted porcelain

Rui Pereira and Ryosuke Fukusada collaborate on projects that tap into their respective cultures to engage users in unexpected experiences. The *Chim Chim* scent diffuser comes in six different materials

(marble, red clay, wood, porcelain, brass and aluminum) and offers the possibility of creating 36 aesthetic combinations while functioning as a box for the scent bottle. Poured on top, the fragrance is absorbed into the untreated materials, complementing it with their own natural and specific aromas. The designers were interested in exploring the ways in which different materials and production methods can affect the final product, not only in terms of how it looks, but also how it performs. Meant to be placed in a bathroom, *Chim Chim 1.0* relies on a natural phenomenon for scent diffusion: the warm steam created by showers enhances the aromas due to the rise of temperature and humidity. A 2.0 version is now commercially available through Danish brand HAY.

Zanellato/Bortotto

by **Giorgia Zanellato** and **Daniele Bortotto**

Born in Venice, Italy, 1987

Born in Pordenone, Italy, 1988

Murano, 2013

Blown glass, ceramic bisque, copper, fragrance by
Lorenzo Dante Ferro

For the Acqua Alta Collection of the Italian brand of luxury textile Rubelli, designers Giorgia Zanellato and Daniele Bortotto have drawn inspiration from the sights, smells and textures of Venice's high waters to create a collection of refined household objects. A

result from careful observation of the various movements and effects of the high tide, the *Murano* scent-diffuser is deeply inspired by the aquatic element, so essential to the Floating City's life and landscape: water as a means of transportation, water as a source of energy, of revenue and exchange, water as a complexity which deeply influences the lives of the Venetian people. Named after the island Murano, renowned for its traditional glass-blowing technique, the diffuser can contain liquid perfume in the blown glass vessel. It then rises by capillarity in the three ceramic sticks whose shape is directly drawn from the breakwaters made of large wooden posts in the Venetian Lagoon.

Kin Objects

by Bill Yen

Born in Taipei, Taiwan, 1976

Nelumbo Terrarium Backflow Incense Burner, 2020

Concrete, glass

The Japanese practice known as *shinrin-yoku* consists in 'bathing' in nature, a multi-sensorial experience of being surrounded by natural beauty to heal and detoxify, both physically and mentally. This modern terrarium-inspired incense burner offers a similar zen-like connection to nature, both in the visual and olfactory sense. A glass cylinder encloses each piece, allowing the backflow incense smoke to descend onto the concrete formation beneath,

uninterrupted by air. *Nelumbo* is the name of the plant genus that includes the Indian sacred Lotus and its many variations, which was the inspiration for this piece. The faceted geometric shape is an abstracted hybrid between a lotus bud and a pine cone. As the smoke plume spills down from the cone, it breaks into a multitude of tiny streams, winding around each geometric petal. Watching the exquisite motion of the light grey smoke reminds us that smells are always flowing through the air, as ethereal aromatic streams that pervade everything.

Made In Situ

by **Noé Duchaufour-Lawrance**

Born in Mende, France, 1974

Soenga, 2020

Black ceramic, granite

This diffuser was created following the ancient Portuguese technique known as *soenga* which creates black ceramics bearing distinct marks and a unique marbling effect on the pieces. When fired – piled on top of each other and buried in earth – they connect and fuse. They are then taken apart and the areas of contact between each objects become rough traces on their glistening dark surfaces, like lingering memories of their making. In collaboration with ceramicists Xana Monteiro and Carlos Lima, designer Noé Duchaufour-Lawrance created this *barro negro* ('black ceramic') perfume diffuser while

Firmenich perfumer Daphné Bugey created a fragrance to be used on the porous clay, containing the many stories of the object creation: the flames, the smoke, the earth, the trees, the mountain background, and the summer moonlit night... As a result, *Soenga* allows for a deeply sensual experience, not only of its materiality but also of human kind's age-old collaborations with nature to create visible, and invisible beauty.

3. THE SCENT OF CARE. HEALTH AND WELLBEING

Perfumes used to be deeply associated with pharmacopoeia. Since ancient times until the 19th century, they have been used, more or less adequately, to prevent and treat a vast array of disorders. Despite the boom of modern medicine and pharmaceuticals, the sense of smell is still diversely employed to improve health. While it can be a powerful diagnosis tool, capable of detecting volatile compounds that indicate illness, its loss can also signal infections, neurodegenerative diseases, or even depression. Furthermore, because volatile molecules penetrate bodies through the nose where olfactory neurons are in direct contact with the outer-world, they can influence both our physiological and

psychological state. But scents need interfaces to be properly used within this realm. One might think of the peculiar masks worn by plague doctors in the late Middle Ages in Europe, designed with long beaks to hold protective aromatic plants. The designers presented in this section have created objects that allow scents and fragrances to interact with and act on the body in beneficial ways, either for olfactory diagnosis, or in more performative ways inspired by aromatherapy and aromacology. These objects are designed to mediate smells so as to positively affect mental health, well-being, and day to day life, from emotional regulation, sleep management, or accommodation training, to elderly care. Some are even intended to help patients cope with other pathologies such as sensory impairment or allergies,

widening the horizons for olfactory design within the realm of healthcare.

3. SIDE-NOTES

1. In Utero Olfaction

Did you know that the sense of smell is one of the first senses to be fully functional in the fetus? **The nose starts to form early in the first trimester and from the 6th or 7th month of pregnancy we start learning smells through the amniotic fluid.** Our mother's diet thus influences our olfactory and gustatory preferences before even being born – but also after, through breastfeeding. Olfactory responsiveness was for example assessed in neonates born to mothers who had or had not consumed anise flavor during their pregnancy. Both groups of infants were then followed-up for behavioral markers of attraction and aversion when exposed to anise odor and infants

born to anise-consuming mothers showed a stable preference for anise odor in the first few days of their lives. Newborn babies are also able to recognize their mother by the smell of their skin and breast milk way before they can fully recognize their face.

2. Why Mammals Smell

Did you know that the mammals sense of smell dictates many of their most important behaviors? It plays an essential role in alimentation (finding food, identifying what's edible, regulating the appetite), in sociability (recognizing kins, sensing emotional states, finding mates), in avoiding dangers (detecting toxic substances, fires or predators), as well as in orientation (to follow a track, identify a territory or a migratory route). Olfactory information travels

particularly fast in the brain because the sense of smell is designed to trigger quick responses. Which also explains why the most immediate reaction to a smell is to classify it as good or bad: immediate attraction or rejection is an evolutionary necessity for survival. When confronted to a smell judged disgusting, the insular cortex can even trigger involuntary defense mechanisms, such as frowning the nose, coughing, sneezing or vomiting. Olfactory judgements are made all the time without us always realizing it and guide our everyday behaviors just as they guide animals.

3. Life Without Smell

Did you know that before Covid-19 the loss of the sense of smell was a rare and rather unknown

condition? When it does not result from a birth defect, anosmia is often caused by damage to the olfactory nerve which can occur after a head trauma, a viral infection, certain allergies and upper respiratory tract infections, or as a consequence of chronic inflammatory diseases and neurological disorders. Although the sense of smell may return after a while, in some situations it may also never return. The consequences of such loss are not to be treated lightly. They encompass loss of appetite and of sexual drive, anxiety, depression, and a strong feeling of isolation, confusion, and frustration. Living without smell can also turn out to be dangerous because of an inability to detect smoke or gas leaks. Since the beginning of the Covid-19 pandemic, smell training protocols have flourished to help people

regain their sense of smell and, with it, their sense of being fully alive.

4. Perfume as Medicine

Did you know that since its origins, perfume has been used for its therapeutic virtues? Many fragrant materials were used as antiseptics – such as myrrh, lavender or rosemary – or for their healing effects – such as benzoin. From the Middle Ages to the 19th century, numerous perfumes became renowned for their medical properties, like Carmelite Water and the Queen of Hungary's Water in the 14th century, the Four thieves vinegar supposed to protect against the plague, and even the famous *Eau de Cologne*, invented in the 17th century by Jean-Paul Féminis and long-considered a true panacea. Many objects have

been designed through the ages to cleverly carry and use these miraculous scents, such as plague doctors' beak masks in which aromatic plants filtered and purified the air breathed in. For protection, people from the upper class also carried *vinaigrettes*, small boxes to keep sponges soaked in scented vinegar, as well as *pomanders*, hollowed chiseled jewels filled with aromatic materials.

3. OBJECT LABELS

Susana Soares

Born in Lisbon, Portugal, 1977

Bee's, 2007

Blown glass

More than 3 000 volatile organic compounds emanate from our bodies, 1488 from the breath alone! In the past, doctors used their nose to detect certain illnesses by smelling their patients. Now, engineers are working on electronic noses as efficient, non-invasive, and rapid diagnosis tools. Dogs have also been trained to identify diseases, from cancers to Covid-19. *Bee's* is a set of interactive

objects that can help perform another animal-human collaboration as they facilitate bees' detection of a wide range of chemicals in human breath. Bees can be trained within minutes using Pavlov's reflex to accurately target the biomarkers associated with various diseases, such as diabetes, tuberculosis, lung and skin cancers. These objects have two enclosures. Bees are kept in the bigger chamber for the short period of time necessary for them to determine the general health of the subject. People exhale into the smaller one and the insects rush into it if they detect an odor that they were trained to target.

Lizzie Ostrom

Born in London, Great Britain, 1982

Ode, 2011

Mixed materials, electronics

Producer, consultant, and author, Lizzie Ostrom strives to encourage people to switch onto their sense of smell. Designed in partnership with Rodd Design, *ode* is an electronic clock which gently invites people with dementia to eat by stimulating their appetite. Alzheimer's and dementia can indeed turn eating into a challenge: patients often lose interest in food, sometimes because of problems associated with chewing, swallowing or digesting, sometimes because of loss of taste, appetite, or just thinking they have already eaten. *Ode* can be programmed to release bespoke food fragrances at different times

during the day. The scents – easily inserted by a caretaker into the device and lasting three months – are released in waves by heating up the fragrance, then activating a fan that blows it out into the air. The designers created three “menus,” of three scents each, including traditional English comfort foods like cherry tart and braised beef casserole.

Claudia Adiwijaya

Born in Jakarta, Indonesia, 1996

Essentia, 2011

3D-printed plastic, glass, lithium battery, electronics

Designer and curator Claudia Adiwijaya's practice revolves around social change and speculative design. She imagined *Essentia* to bridge the gap between technology, our often numbed olfactory sense, and our psychological well-being. This wearable jewelry, inspired by Bauhaus philosophy and designed from simple, accessible materials, monitors heart rate and releases soothing aromas when it rises above 110 BPM. The necklace thus listens to what the body says about the wearer's state of mind, and works in partnership with it to help cope with negative emotions such as anxiety, panic, or anger. Users can choose according to their personal preferences from a collection of twenty different scents specifically designed to affect one's well being, improve the mood, and encourage more

positive behaviors. At the end of day, *Essentia* can be simply recharged thanks to an elegant pod and a USB cord.

Lena Saleh

Born in Charlotte, United-States, 1988

Future Sleep Kit, 2020

Jesmonite, anodized brass, glass, oak wood

Technology has caused the loss of healthy bed-time rituals, which is alarming considering more than a third of adults in the United-States are sleep-deprived. A survey conducted by designer Lena Saleh showed that over 85 percent of people look at

their phones right before going to bed, which has proven to alter sleep quality. An exploration of the ways we could use technology to promote more positive habits, *Future Sleep Kit* is designed to create smart contemporary rituals, promoting better sleep hygiene through intuitive technology. The *Breath Lux Light* guides the user through a pranayama based breathing exercise via a sedative pulsing amber light that alternatively shines blue in the morning as a stimulant. The *Roma Olfacto* diffuser is connected to a contactless radar within the *Breath Lux light* measuring movements and heart rate. It emits herbal scents to optimize the quality of sleep when the radar determines it is needed. A set of hand-blown glass vials contains these natural scents.

Jody Kocken

Born in Oss, Netherlands, 1988

Perfume Tools, 2012

Brass, marble, glass, oak wood

An estimated 1 to 4 percent of the population shows a form of allergy or sensitivity when in contact with some perfume ingredients. The most common symptom is contact dermatitis but others can occur depending on the person. Herself suffering from such an allergy, Jody Kocken imagined a way to wear fragrance that would avoid direct contact with the skin. *Perfume Tools* is a series of industrial jewelry pieces which can be attached to the opening of a

perfume bottle. Once in place, the jewelry absorbs the scent, then when worn, works as a small wearable fragrance diffuser activated by the warmth of the skin. The bracelet, earpiece, necklace, and brooch, allow one to choose from which part of the body the scent will emanate, just like one chooses to spray perfume on the neck, the hair, the wrist, or the chest. These protective wearables are reminiscent of *pomanders*, pieces of scented jewelry popularized in Europe in the late Middle Ages.

Philipp Emrich

Born in Wiesbaden, Germany, 1992

Scent Vase, 2018

Ceramic

Prior to designing *Scent Vase*, German designer Philipp Emrich participated in a ten-week research project on olfactory design along with other designers, therapists, and medical students from The Netherlands, Ireland, and Romania. The insights gained about the connections between smells and emotions inspired him to put to good use Pieter Desmet's idea of "designing emotions" to create a product that would improve well-being by addressing multiple senses. Instead of containing plants and displaying visual beauty, this handmade ceramic vase is itself inspired by the anatomy of flowers, as well as by their capacity to distill pleasant and relaxing scents. Filled with essential oils naturally

retained by its conical body, the vase invites users to pick it up during their day, take a replenishing breath, and enjoy a different kind of aesthetic experience. It is thus not only designed for display, but for an easy, beneficial, and sensual interaction with the mind and body.

Zanellato/Bortotto

by **Giorgia Zanellato** and **Daniele Bortotto**

Born in Venice, Italy, 1987

Born in Pordenone, Italy, 1988

Silicon Diffusers, 2012

Silicon, fragrances by Lorenzo Dante Ferro

Each of these three objects is made for a specific situation, combining colors, shapes, and specific scents – directly imprinted into the silicon in the molding process – to influence the mood of users in different contexts. *Eau d'Orange* is designed to keep the mind fresh and ready. Its bright red color makes it stimulating to look at while its citrus scent proves particularly useful to get an energy boost at work as it can increase concentration and enjoyment. Smaller, *Pillow no. 5* can be kept on a nightstand to improve sleep. It contains notes of chamomile and lavender, flowers known for their calming properties. Finally, with its large green disc, *Air de Provence* is meant for people living in big polluted cities. To be

reminded of the air from the countryside one just has to open their window and put the dispenser in front of it: the air passing through the dispenser will bring the smell of fresh-cut grass in the room.

4. A SCENTED ART OF LIVING. A NEW SENSE OF PRESENCE AND PLEASURE (10 objects)

Whether naturally emanating from construction materials and objects, or deliberately added to the atmospheres, scents contribute to building an atmosphere and a sense of place. They ground us in specific spaces, shape the way we feel in them, and anchor them in our mind. After three centuries of a western deodorizing crusade which yearned for olfactory-silent spaces, ambient scenting has become a common hedonistic practice in homes, offices, stores, and other communal spaces. At home especially, people now seek a distinct, familiar, pleasurable scent. The designers in this section have found innovative ways of introducing smells in our

day to day environment to create a form of scented art of living. Some of them have created practical and decorative objects designed to perfume the domestic sphere in an atypical manner, moving away from the traditional room spray, incense holder, or scented candle. Others challenge the way we perceive and interact with mundane objects by giving them an unexpected redolent dimension. By doing so, they also challenge the way we consider and accomplish daily actions and routines such as eating, drinking, showering, telling the time, or even playing. Altogether, what all of these designers have at heart, is to physically ground us in space and time, and, through smells, excite a new sense of engagement, presence and pleasure.

4. SIDE-NOTES

1. Taste is Smell

Do you know that about 80% of what we deem as taste is actually smell, both categorized as forms of chemoreception? The gustatory receptors, or taste buds, located on the tongue and palate can only detect basic flavors: sweet, salty, sour, bitter, umami (or savory), and, debatably, fat. Concurrently, the volatile molecules emanating from what we are eating or sipping activate our sense of smell by traveling from our mouth to our olfactory receptors. Odors are indeed perceived through two main pathways: orthonasal (the nostrils) and retronasal (the back of our mouth). It's the combination of information from the tongue, the nose, but also from

other sensory cells such as the trigeminal nerve (responsible for sensations of spiciness, cooling, and astringency), that allows us to perceive the qualities of food and drinks as one sensation that we commonly call "taste".

2. A Sense of Time

Do you know that humans can tell time through their sense of smell? Odors can indeed provide temporal landmarks: for example, the calendar of the Onge people from the Andaman Islands in India is based on the scent cycles of a flower while that of the Dassanetch people of South-West Ethiopia is based on the characteristic aromas of seasons. In China, incense clocks appeared in the Song dynasty and were used to tell the time by burning aromatic

materials, a tradition which eventually spread to nearby countries such as Japan. The clocks were designed to hold incense sticks or powdered incense made and calibrated to a known rate of combustion to measure time in minutes, hours, or days. Another way, more subjective, to estimate the time thanks to incense, consisted in sniffing the evolution of the smell hanging in the air, and to, quite literally, breathe in the passing of time.

4. OBJECT LABELS

Julie de Mol

Born in Paris, France, 1991

Raw Essence I, 2014

Cedar wood, hay, leather

Raw Essence II, 2014

Pine wood, beeswax, gold brass, lavender

Harnessing the natural scents of hay, pine, and beeswax, designer Julie de Mol created a series of three olfactory objects for at home use. The two sculptural pieces presented here are designed to be aromatic eye-catchers while a third one – not on display – uses the qualities of its raw material to

absorb smells from the air, for instance in the kitchen. The overall project is rooted in the architectural tradition of using natural materials in a raw form to create cosy and comforting atmospheres. The aspect of the objects and the scents that emanate from them both recall the richness of nature and the intimacy of home – with warm notes of woods and wax –, while the ornamental quality of the pieces is undeniable. *Raw Essence* thus draws attention to the importance of well-balanced, natural indoor olfactory ambiances to *ornate* spaces and feel well at home.

Nota Nota Holding

Founded in Riyadh, Saudi Arabia, 2016

Nota Nota, 2018

Electronics, social network, scents

The idea of wearing a custom fragrance is one that seduces many people who feel like their perfume should reflect their personality, their mood, the occasion, or even their outfit. *Nota Nota* is a new device that invents a new way of blending scents that can be part of a daily routine, without having to collect expensive perfume bottles, and without any prior knowledge in perfume making. Controlled by a smartphone app, the machine allows the user to create their own perfume from a collection of 23 synthetic accords organized in families and named TOLAs. The machine mixes them in the chosen proportions and produces a test blend that can be

adjusted to create the final scent, dispensed in a 5ml bottle. The app also connects users in the *Nota Nota* social network where they can share their perfume recipes: a way of daily renewing the scents in our lives while communicating our preferences, moods, and memories with the world.

Zsofia Kollar

Born in Miskolc, Hungary, 1991

Scent objects, 2016

Brass, human hair

Dedicated to presenting materials in sustainable and intriguing new ways, Amsterdam-based designer

Zsofia Kollar has used human hair to create a series of scented objects, which includes tapestries woven with strands of blonde hair, cylindrical brass vases, and jewelry filled with hair perfumed with natural oils. A globally available, organic, and lipophilic material, human hair repels water but actively absorbs oils. This characteristic thus allows these pieces to gradually perfume the room they are displayed in, acting as both decor and diffuser, and challenging the cultural and irrational repulsion towards human hair. Designed for personal use, the wearable pieces of the collection are made of hollow hair-filled brass tubes that have been left open, allowing the jewelry to perfume its owner. Uncanny and yet beautiful, these objects actively question the mutual

relationship that can exist between bodily space and actual space.

Liza Witte

Born in Frankfurt, Germany, 1965

Silhouette Collection, 2010

Scented soap, lacquer, silk thread, glass

Artist, perfumer and product designer Liza Witte designed these five finely handcrafted perfume bottles carved in black soap: the form is the content. Every bottle wears a handmade seal of black lacquer on a silk cord and carries its own characteristic scent exclusively composed with an exceptional

concentration of high-quality materials: fig, thyme, and cedar wood; rose, cardamom and eucalyptus; narcissus, amber, and rose; orange blossom and clove; basil, rose, and green tea. Each *Silhouette* can serve either as soap or as home fragrance. Exposed together, all their scents blend harmoniously into a new fragrance experience. Between sculpture, room fragrance, and body care, the *Silhouette Collection* composes a transitory landscape of solid scents. The perfect bottles look like their traditional glass counterparts, made for eternity, yet as beautiful as they are, these soap bottles remain ephemeral like perfume itself, as they might slowly melt away, fading with time and use.

Lena Beigel

Born in Bad Windsheim, Germany, 1989

VAll, 2019

Glass, silver-galvanized brass, paper, walnut wood

Lena Beigel designs products for fine dining, home accessories, and furniture by combining a variety of materials, methods and technologies. Her process tends to give familiar objects a novel and exciting expression. *Vaii* is a set of olfactory tableware imagined to bring a new form of enjoyment to the everyday act of eating. As a central element of relish, scent is here thought of as more than a small part of the meal: it can be fully part of the menu, served as an aperitif or even a side course in these specially

designed vessels. Applied on the paper or in the metal elements, the scents are kept enclosed by the glass and wooden lids until they are open to enable the act of smelling. *Vaii* invites people to smell together, in the same way they would gather around a drink or a meal, to share, converse, and experience the pleasures available to us through our chemical senses.

Emerging Objects

by Virginia San Fratello and Ronal Rael

Born in Savannah, United-States, 1971

Born in La Florida, Unites-States, 1971

Coffee Pot and Coffee Cups, 2018

3D-printed coffee

Teapot and Tea Cups from Utah Tea Set, 2015

3D-printed tea and sweetener

Virginia San Fratello and Ronald Rael are the alchemists and architects behind the Oakland based make-tank Emerging Objects, where they develop new recipes for 3D printing which allow them to create forms and objects with unconventional materials and unique tactile qualities. Invented at MIT, "binder jetting" consists of a liquid material being sprayed onto a thin layer of powder hundreds or thousands of times until a hardened object emerges. These vessels are thus directly printed from coffee grounds and tea leaves, carrying at their very core the characteristic scents of the drinks they are

meant to serve. No more wondering which pot is for tea and which one is for coffee, your nose will know! Shape-wise, the designers have paid a tribute to The Utah Teapot, also known as the Newell Teapot, which was one of the first digital 3D models in the world, in 1975.

Patrick Palčić

Born in Stuttgart, Germany, 1984

Scent Clock, 2021

Glass, brass, essential oils

Berlin-based product and olfactory designer Patrick Palčić has dedicated a lot of his work to finding

inventive new ways for people to interact with the rich, yet invisible realm of odors. His *Scent Clock* reinvents an age-old Eastern tradition of experiencing and measuring the passage of time through scents. Instead of the time being read, as with other timepieces, it hangs in the air and asks to be inhaled. Soberly displayed side by side on a wall, twelve elegant glass vials embedded in brass, each activated by a small fan, hourly dispense a small quantity of essence. Each vial and scent is assigned to an hour – 10am is coffee, 12am is sage, 3pm, roasted chestnuts, 6pm, old leaves, etc – and the users are thus gently exhorted to learn and practice this novel form of semiosis to give a new impalpable and pleasurable rhythm to their days and nights.

OVR Technology

Founded in Burlington, United-States, 2017

ION Scent Device, 2019

Plastic, electronics

Since the late 19th century, when visual attractions started to include an olfactory dimension to increase the sense of presence and reality, entertainment technologies have increasingly strived to include smells, which allow for a more life-like engagement as they convey a true sense of place. To harness the power of scent in the virtual space, OVR Technology created algorithms based on how we perceive smells given our surroundings and intentions. Their

Architecture of Scent® platform—a combination of Software, Scentware, and Hardware—can replicate realistic olfactory experiences for the digital world in ways that transform cognition, emotion, and behavioral responses. Their patented technology translates VR movements and inputs into real-time scent output thanks to nine scents actuators with interchangeable cartridges. It allows for .1 millisecond bursts of scent and can change between scents in 20 milliseconds. Compatible with almost all VR headsets, the ION Scent device is the most accurate on mask scent device available and can be used for diverse purposes.

5. SPRAY IT DON'T SAY IT. COMMUNICATION, EMOTION, AND MEMORY (10 objects)

Sometimes scents speak louder than words. This section explores alternative and speculative modalities of communication and remembering through olfaction. From an evolutionary standpoint, the sense of smell shapes our social behaviors. But when the first humans started to walk on two legs, their nose got farther from their fellow humans: sight, hearing, and, to a lesser extent, touch, then became the main modalities of interpersonal communication. Smell however, kept a more or less unconscious yet important role in our relationships, attractions and rejections. Designers in this section have tried to imagine how we could create meaningful interactions

by deliberately communicating and engaging with one another – but also with non-humans - through this innate sense. In many ways, olfaction is a way to get in touch with others, to revive closeness and abolish distances. Who hasn't felt suddenly deeply connected to a loved one upon smelling their perfume, whether they were really close or extremely far away? Because of its proximity with the limbic system, smell perception have a strong affective component and constitutes the most potent and poignant way of creating and reactivating memories. Some objects and wearables in this section enable us to capture the present moment, to revive the past, and reconnect to distant times, people or places. Both memory and souvenir, a smell, mediated through these designs, can act as an emotional

photograph. They say an image is worth a thousand words. Might a scent be worth a thousand images?

5. SIDE-NOTES

1. *La Madeleine de Proust*

Do you know why smells can recall such vivid memories? Olfactory information has a special relationship with the limbic system of the brain where it simultaneously goes through the piriform cortex, the amygdala – in charge of emotions –, and the hippocampus – working as a library of memories. We thus memorize a smell according to the emotional context in which we smelled it for the first time. When we encounter it again, it activates the same parts of the brain and revives, unblemished, the emotions and memories. In psychology, this phenomenon of powerful yet involuntary recollection is sometimes called “Proustian memory,” in reference to French

novelist Marcel Proust's masterpiece, *In Search of Lost Time*. In one famous passage, the narrator is suddenly brought back to his childhood by the flavor of a madeleine dipped in tea: "when from a long distant past nothing subsists, [...] still, alone, more fragile, but with more vitality, [...] the smell and taste of things remain poised a long time, like souls, ready to remind us, waiting and hoping for their moment, amid the ruins of all the rest;"

3. Volatile Communication

Did you know that, even more so than animals, plants communicate through volatile organic compounds, including smells? There are tens of thousands of VOC's synthesized by plants: they are the words by which the vegetal world communicates. Through

them, plants beckon pollinators, fend off herbivores and micro-organisms such as pathogens, summon helpful insect predators, and alert other plants to the presence of danger. Plants that are damaged by herbivores emit complex blends of volatile compounds that can cause neighboring branches to induce resistance. The smell of fresh-cut grass for instance is actually a cry of warning sent by the damaged blades to their congeners. Because, yes, plants can indeed “smell” using odor receptors functioning on a molecular level, although the process happens much slower than in animals. If plants and other mammals can do it, why couldn't humans learn to communicate with smells just as well?

3. An Olfactory Heritage

Did you know that there is such thing as an olfactory heritage? Based in Versailles, France, stands the Osmothèque, the only perfume conservatory in the world. Much more than a simple database of formulas, it is a repository of perfumes, whether still on store shelves or long gone. There, they are preserved for posterity, fragments of a collective history and identity, as much as of personal ones. But olfactory heritage has also been embraced in other ways. Many researchers and artists are working to identify, preserve, and recreate culturally and historically significant smells, sensory remnants and meaningful constituents of human civilizations. In 2001, Japan listed and labeled 100 *olfactory landscapes* worth being preserved. In 2016, the Koç

University's Research Center for Anatolian Civilization in Istanbul exhibited scents having had a particular significance in Anatolia. Most recently, the Odeuropa project started to assemble a database of what one could have smelled in Europe between 1500 and 1900. Albeit fleeting, scents definitely leave their mark on the world.

5. OBJECT LABELS

Karen Campa, Katie Dobberstein, Fabien Florek,
Corinna Hartinger

Born in Sonora, Mexico, 1989

Born in Greenbrae, United-States, 1993

Born in Frýdek-Místek, Czech Republic, 1993

Born in Linz, Austria, 1995

Olfact, 2017

Alloy steel, PVC, glass

Olfact is a speculative design project that aims at rendering possible alternate forms of human communication through olfaction to put forth a new dimension in social relationships, rituals, and

customs. While body odors have been repressed in the West, they however remain important indicators of one's identity, health condition, emotional state, and still play a large part in attraction. Learning to interpret them would thus expand our abilities to read and understand each other. This wearable device proposes self-manifestation in the form of the extension of one's bodily odor and enables a new-found intimacy. Scent replication should be made possible through a population of bacteria stored in a glass vial in an inactivated spore-form but with the capabilities to detect and reproduce various compounds to preserve a specific scent. Between jewelry and bio-technological communication device, *Olfact* offers a new interface to mediate deeper human to human relations.

Peter de Cupere

Born in Leuven, Belgium, 1970

Olfabet, 2021

3D-printed resin and plastic, scented polymers

A prolific olfactory artist, Peter de Cupere dedicated his entire work to experimenting with smells and inventing new possibilities for them in the realm of design, visual and performing arts. After designing a *Blind Smell Stick*, he developed this olfactory alphabet in collaboration with blind and visually impaired persons to allow them to read with their nose instead of their hands. Each piece of the

Olfabet has been finely 3D-printed bearing a braille letter with tiny holes through which is dispensed a scent molecule. Modules can be assembled in plinths and words are formed from the accord of several smells which, in time, can be instantly recognized as a word without having to smell and identify each individual letter. Once this Olfalanguage is learned, the Olfareader device shall allow to scan a written text and translate it into scents. Based on the often-forgotten outstanding discerning capabilities of the human sense of smell, *Olfabet* invents a new way to link language to the body and to produce meaning.

Carla Bengtson

Born in Charleston, United-States, 1953

Every Word Was Once an Animal / Euglossa, 2016

Every Word Was Once an Animal / Sceloporus, 2018

Hand-blown glass, metal, cloth, alcohol, scents

Interested in creating situations on the verge of the impossible, artist Carla Bengtson has imagined ways to mediate interspecies relations. For her interdisciplinary – partly speculative – projects, she not only collaborates with biologists but also with non-humans. As most animals, just like plants, exchange information through chemical cues, this project explores and strives to recreate the olfactory communication strategies of reptiles and insects. *Euglossa* is a scent based on the compounds used by male *Euglossa* orchid bees to attract mates. It's a

honeyed, floral and earthy scent, including pollen, spices and woody notes, with a trace of petroleum and pesticides. *Sceloporus* is based on the pheromones *Sceloporus* lizards use to communicate across time and space. It's a fresh, yet animalic fragrance that includes pyrazines and jasmonates and blends with the skin to create a more-than-human presence. The vessels evoke traditional perfume bottles and organic shapes, welding together both human and non-human scent rituals.

Ani Liu

Born in New York City, United-States, 1986

Olfactory Time Capsule for Earthly Memories, 2017

Glass, aluminum, 3D-printed plastic, polymers, scents

At the intersection of art and science, this necklace was designed for astronauts and other future space travelers. It contains the scent of three memories of Earth, specifically chosen for the wearer: that of a loved one, that of a home, and that of a natural resource. The fragrances are encapsulated in a polymer devised to release them over a long period of time. Through a dial, the wearer can choose which scent they want to smell and through it retrieve a form of closeness with themselves as well as an immaterial bond with the people they left behind. It allows the user to remember what it means to be human, an embodied, earthbound individual. Akin in

some ways to the Voyager Golden Record, this emotional time capsule, tested in zero gravity by the artist herself, investigates alternative biological and perceptual modalities of communication and memory through olfaction, beyond the digital.

Charline Ronzon-Jaricot

Born in Saint-Etienne, France, 1991

Évanescence, 2014

Hand blown glass, metal, machined high density foam, plaster

This delicate decorative device enables you to anchor specific moments in your memory.

Anticipating an occasion you'll want to remember with great intensity, you can choose a scent flask – whose shape is evocative of the upper half of an hourglass – according to the color that most inspires you. The idea of time passing yet worth preserving and revived by scent was most famously expressed by Marcel Proust in his 1913 *In Search of Lost Time* :
“The smell and taste of things remain much longer, like souls, remembering, waiting [...] and bear unfaltering, the immense edifice of memory”.
Breaking the tips of the flask will allow the perfume to start slowly dripping, suffusing the ambient atmosphere while being absorbed by the plaster pebble to be safeguarded. Then, when the moment is over, you'll be left with a powerful souvenir to hold

on to, one which will allow you to revive the place,
the setting, the people, and above all, the emotions.

Tipstudio

by Imma Matera and Tommaso Lucarini

Born in Matera, Italy, 1990

Born in Pietrasanta, Italy, 1995

Cumula Murgia / Essence of Thyme, 2017

Cumula Bucato / Essence of Ancient Laundry, 2017

Cumula Braciere / Essence of Brazier , 2017

Glazed ceramic, beech wood

Founded in Florence in 2018, poetically rooted in its native land, Tipstudio operates in various design fields with an experimental approach, transforming

ideas into stories and emotional products. Inspired by the typical architectural shapes of chimney pots in the city of Matera, the *Cumula* series is born from a territorial investigation. Crafted by local Italian artisans out of glazed ceramic and lathe-worked wood, each piece contains aromas from the area, telling the story of a place and of its people. Together, they recreate a fragmented cityscape in which the perfumes become souvenirs and narratives guiding the smeller through a colorful sensory journey, from an old laundry place to the green valley of Murgia. To be used, each *Cumula* requires a bodily operation: blowing inside the spout releases the aroma from the upper impregnated stick. An interactive tool for remembrance and transmission of local material and immaterial heritage.