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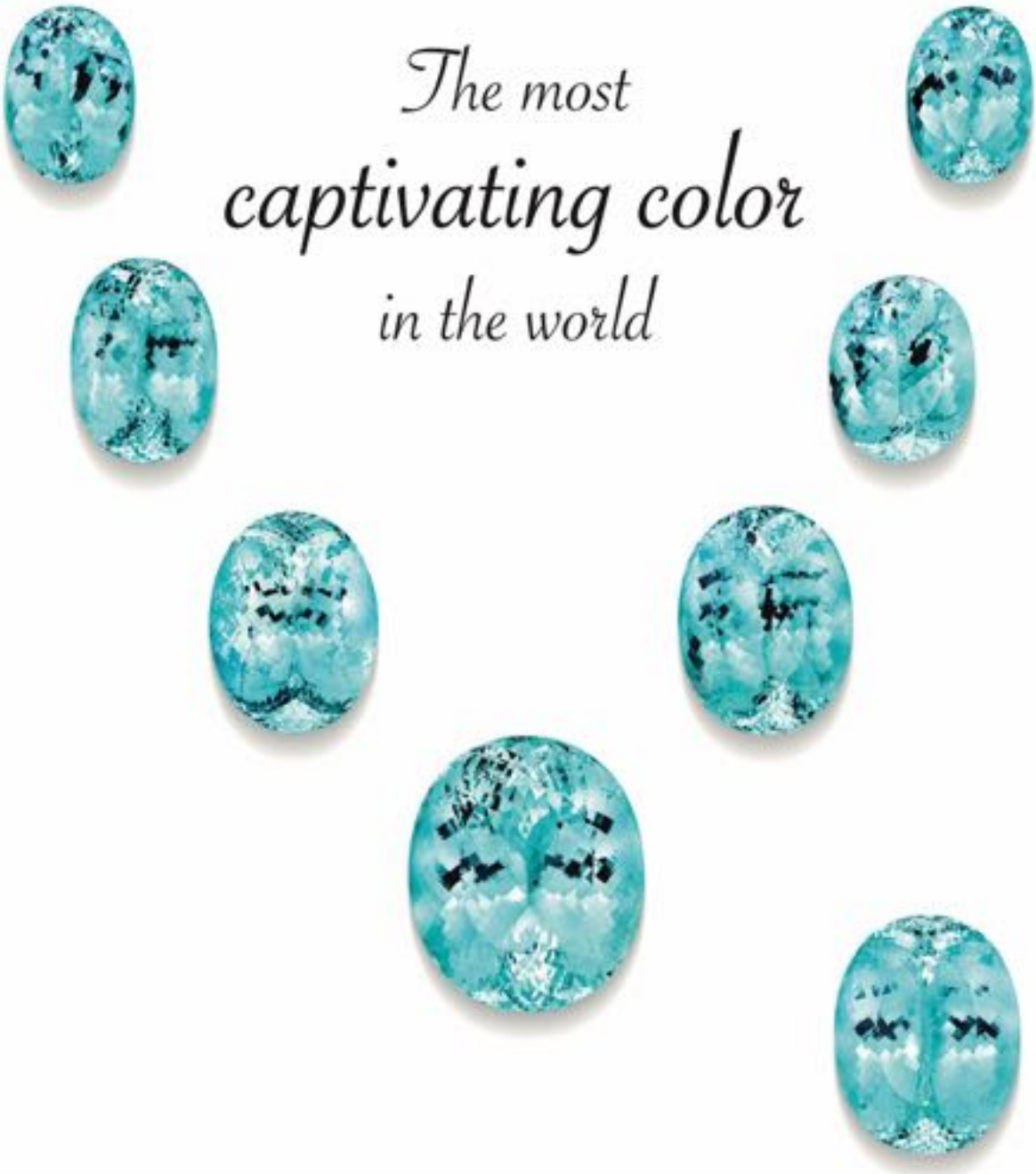

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CONTENTS

Gothic belt, Marie-Etienne Nitot period (c.1811)

Photo Bruno Ehrs. Courtesy Chaumet. GemGenève

EVENT

Brushed gold elphidium, Capucine H

Courtesy Mahenge Gems. GemGenève

THE ENCHANTMENT OF JEWELLERY

From 2 to 5 November 2023 at Palexpo, the seventh edition of GemGenève unveils its selection of rare stones, antique jewellery, and contemporary creations. A grand celebration brilliantly honouring the beauty of gems and the vitality of the jewellery industry.

In just a few years, this unique fair has established its trademark. A commercial platform highly regarded by buyers and traders, a venue for high-flying cultural exhibitions, a meeting point for jewellery professionals and collectors, a launchpad for young creators, and a convergence point for disappearing crafts… A "hub" bringing together the best of jewellery, as envisioned by its two founders Ronny Totah and Thomas Faerber, who wanted to launch a fair in 2018 designed "by exhibitors, for exhibitors". "GemGenève is an event where we place great importance on culture, youth, education, and the transmission of knowledge," says Ronny Totah. "However, our absolute priority is to share our passion for jewellery craftsmanship."

Bespoke

With the sustained pace of two editions per year, GemGenève takes great care of its exhibitors. The team of five employees in charge of the organisation pampers them, constantly listening. Thus, "We completely changed the layout of the stands for this seventh edition because last year, the exhibitors told us that the light coming from the large skylights of Hall 6 — which we found very pleasant — had the unexpected effect of dazzling the showcases and dimming the stones," recalls Mathieu Dekeukelaire, the director of GemGenève [see p.18]. Bespoke on the scale of the vast Hall 6 at Palexpo. This probably explains why they come and come back, despite the ups and downs of the profession and sometimes, current events. "We have roughly the same number of exhibitors as last year, with an average of around 175, even though unfortunately, the recent events in the Middle East have led some of our exhibitors to cancel their attendance at the last minute."

With 6,487 visitors and over 210 exhibitors, last May's edition had been a record. "Spring is often a favourable time, as in November, some traders prefer to focus on their commercial activities related to the holiday season. For others, it's not always easy to come to Geneva twice a year when they also participate in other fairs. Some are just back from the big fair in Hong Kong in September, they need time to replenish their stock. But anyway, new exhibitors participate and GemGenève regulars come in May and November. It's a bit of a cycle. Hence the principle of maintaining two annual editions to meet the professional needs of everyone." Not to mention that the month of November has another advantage: that of coinciding with the Luxury Week of the major auction houses that organise their jewellery sales in Geneva during this period [see box p.12]. "We attach as much importance to precious stones, jewellery creation and design as to promoting real solidarity within the international community of precious stone and antique jewellery dealers, designers, and jewellery enthusiasts," confirms Thomas Faerber, co-founder of GemGenève.

— Carine Claude

Florence's jewel box

Tajan in Paris is organising a jewellery auction on 6 December 2023. Coming from a private collection nicknamed for the occasion "Florence's jewel box", the 15 jewels up for auction have been crafted by JAR (Joël Arthur Rosenthal) and Cartier. "Our client, a stylish Parisian lady, closely collaborated with these two 'giants' of the jewellery world in creating her jewels, thereby adding a unique touch to some of them," shares Jean-Norbert Salit, a jewellery expert for Tajan house. The two exceptional pieces from JAR are a three-strand necklace of fine pearls with about 1,300 beads and a ruby clasp estimated between €400,000 and €500,000, and a *Hat* ring adorned with a pure white diamond (F-IF), estimated between €150,000 and €200,000. Among the 13 jewels created by Cartier's High Jewelry department include, among others, a large *Ostrich* brooch enhanced with jonquil diamonds (estimated between €150,000 and €200,000), a ring adorned with a very pure white cushion diamond of 8.25 carats (F-VVS1) (between €220,000 and €300,000), and a *Parrot* ring with Fancy pink diamonds and a 5-carat ruby (between €100,000 and €150,000). This auction will be part of the "Precious Auctions" events organised by the house on 5 and 6 December.

Geneva Luxury Week

In November, luxury weeks are in full swing at auction houses worldwide. In Geneva, Sotheby's is organising six sales, notably "Vienna 1900: an imperial and royal collection" on 6 and 7 November with pieces from several European royal houses, all tied to the Austrian Habsburg dynasty. On 8 November, the "Magnificent Jewels and Noble Jewels" sale gathers ancient and contemporary pieces signed by Cartier, Boucheron, Van Cleef & Arpels, and Bulgari, as well as rare historical jewels from the Savoy dynasty and the Maharaja of Nepal. These prestigious auctions are supplemented by watch sales on 5 November, bags and accessories sales on 9 November, and jewellery sales on 14 November.

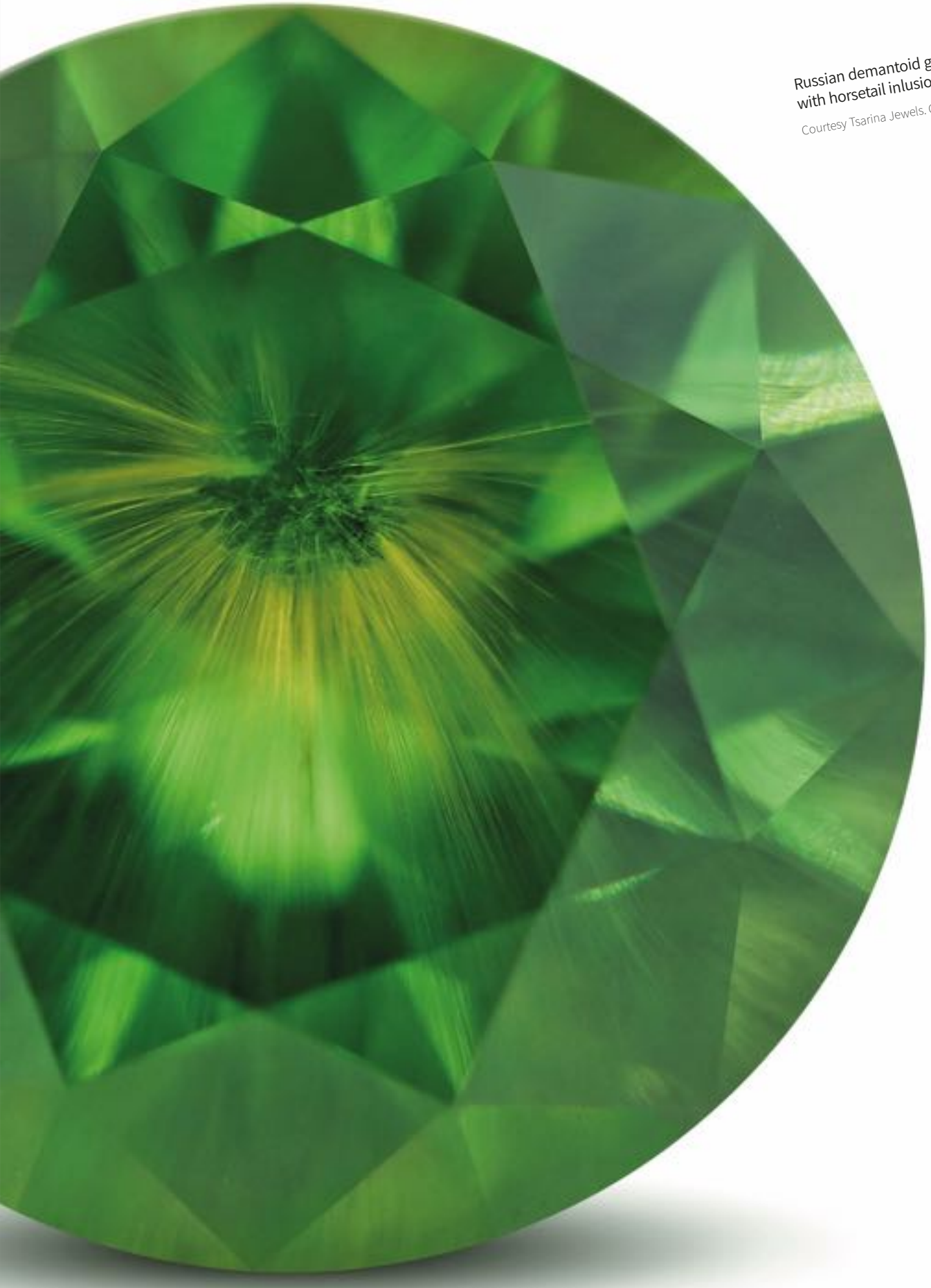
At Christie's, the luxury week in Geneva highlights watches and kicks off with the tenth edition of the charitable sale "Only Watch" on 5 November, followed the next day by "Rare Watches". Also on 6 November, "Passion for Time: An Important Private Collection of Watches and Timepieces" features as the centrepiece of this private collection from the Sultanate of Oman the Rolex GMT Master worn by Marlon Brando during the filming of *Apocalypse Now*, estimated between one and two million Swiss Francs. On 7 November, "Magnificent Jewels" will showcase the famous Royal Blue diamond, an impressive diamond of 17.61 carats of vivid blue colour, the largest of this type ever auctioned.

Moreover, 2023 marks a turning point for luxury sales in Geneva. Phillips house is organising its very first annual auction this year, bolstered by its good results in the jewellery sector in 2022 (+ 185%). The three inaugural auctions on 6 November, in partnership with Understanding Jewellery, will present rare Art Deco pieces from a large private collection. The competition promises to be fierce.

A springboard for young creation

Heavyweights of the jewellery industry and big names in trading are present. Moreover, the quality of the gems and pieces presented quickly built the fair's reputation in the international jewellery scene. But one of the features of GemGenève is to provide a springboard for young creation, by giving early-career designers the opportunity to meet reputable dealers, who help them get started. "Coming to GemGenève gives these young creators the opportunity to collaborate with stone or diamond dealers. It has even happened that some leave stones on consignment," shares Nadège Totah, co-organiser of the fair. With a keen eye, she selects each year creators and young brands that exhibit in the Designers' Village [see p.20]. "GemGenève gives them incredible visibility. For most of them, it's actually their first fair. In a way, our role is to give them a chance."

For this seventh edition, the Designers' Village welcomes five Emerging Talents and four New Designers. They showcase very different styles from each other, "but they all have one thing in common: their jewellery tells a story," says Nadège Totah. The Emerging Talents category, which brings together creators at the very beginning of their careers, includes this year Capucine H, who aims to raise public awareness about the fragility of our planet through her creations; Celeste Wu, whose works are a mix of abstract and geometric shapes, and poetic and harmonious compositions; Alice Villa, representing the fifth generation of the eponymous family jewellery business, plays on femininity and elegance; Youra Jewelry, a fine jewellery brand based in Riyadh, Saudi Arabia, with a name meaning



Russian demantoid garnet
with horsetail inlusion

Courtesy Tsarina Jewels. GemGenève

© Villa Milano. Courtesy GemGenève

Strong & Precious

It is now a regular at GemGenève. Established in April 2022 in response to the war in Ukraine, the Strong & Precious foundation created by Olga Oleksenko started with a clear premise: "What can we personally do to help Ukraine today?" Her answer was straightforward: through art and jewellery. The primary mission of Strong & Precious is to reveal the origins and age-old traditions of the Ukrainian school of jewellery, to show the world another facet beyond that of war. Operating project by project, the foundation had presented "How Precious UA" at GemGenève last May, linking the ancestral tradition of tapestry with contemporary inspirations. "Our goal was to take visitors on a journey that transcends time, unveiling the deep connections between the past and the present, and illuminating the beauty of Ukrainian culture. Each visitor felt the captivating allure of this exhibition and witnessed the talent of our designers," Olga Oleksenko said on this occasion. She returns in November with an entirely new project, to bring beauty into a ravaged world.

Discovering artisan crafts at GemGenève

For its seventh edition, GemGenève is emphasising craftsmanship with a series of meetings bringing together creators and high-flying master artisans. On 1st November, Sabine Gyger will introduce the craft of pearl threading, a delicate practice of successively and carefully threading pearls onto a string, following a specific pattern or design. On his part, Swiss-origin creator Matteo Stauffacher will unveil the secrets of *grand feu* enamel artistry, a true alchemist's work. On 2 November, Laurent Jolliet will reveal the craft of chain-making, shaping threads of gold, platinum, or silver, spirals or links, which he meticulously assembles. On 3 November, Rose Saneuil, an artist of fine marquetry, will present her work creating precious boxes and watch dials for the major watchmakers and jewellers of Place Vendôme. Meanwhile, Sara Bran will introduce an astonishing craft, that of gold lace-making. On 4 November, the craft of lapidary, central in the jewellery industry, is honoured with Fiona Maron. Finally, on 5 November, Béatrice Binétruy will talk about stained glass artisans, specialists in the creation and restoration of stained glass, who sometimes leave the monumental works of churches to focus on the delicate details of art objects and jewellery.

"to be seen". And finally Shavarsh Hakobian, a jewellery designer based in Yerevan, Armenia, who creates unisex pieces with precious materials mixed with wood, leather, fabric, or even butterfly wings. A big spotlight on the creators of tomorrow.

In this spirit — and also in the hope of inspiring vocations — the Villa des Arts Perdus is a showcase of the jewellery craftsmanship. Unheard-of and highly specialised skills. And often on the verge of disappearing. In reflection, meetings with professionals from these trades will punctuate the entire duration of the event [see box]. Launched in May 2023 with Herbert Horovitz, a Geneva jeweller and director of Gem Collectors Bookshop, the Villa will welcome students from the three technical partner schools of the fair, CFP Art Genève, ETVJ, and CPNE Pôle Arts Appliqués, who will be particularly involved in the project by working directly on their jewellery creations during the fair.

XXL cultural program

Its rich cultural program is another major asset of GemGenève. Major houses, museums, art schools, gemmology laboratories… The stakeholders of jewellery heritage and crafts converge here for a meeting with the public, a conference or an expert round table, but also to present their heritage in the context of exhibitions or book launches.

The conferences at GemGenève are indeed a goldmine for both professionals and enthusiasts. The Gemmologie & Francophonie Association organises professional sessions during each edition of the fair with experts and gemologists to discuss current topics — "Gemmology facing social, environmental, and scientific challenges"; "Color in gemmology: nature and culture"; "Between science and commerce", etc. The conference "The serpent in jewellery, a precious and sinuous symbol" by Gislain Aucremanne, Heritage Curator Director of Bulgari, will revisit this recurring motif in jewellery. A major interview will bring together Gabrielle de Montmorin and Jean-Marc Mansvelt, CEO of Maison Chaumet.

> GemGenève is a way for us to spread knowledge. We aim to educate and inform the public, whether they are experts or not, and encourage the new generations to learn and discover. We share our passion for the world of jewellery and precious stones. — *Ida Faerber*

Expert Amanda Triossi will give the floor to exhibitors to share their favourite post-war jewellery pieces during the "My favourite jewel of the 1940s" session [see p.60]. Laura Inghirami, founder of Donna Jewel, organises a panel with students on the theme "The young and the goldsmith's art". "The art of feather-making in jewellery", by Nelly Saunier, feather artist, and Jean-Bernard Forot, Heritage Manager of Maison Piaget, will revisit this delicate and lesser-known art [see p.36]. For this November edition, pearls are in the spotlight with two round tables, "Pearls of Truth" with Laurent Cartier, Pearl Expert from SSEF laboratory, Violaine Bigot, Heritage Manager of Maison Chaumet, and Kathia Pinckernelle, jewellery historian, as well as "Pearls: scene and contemporary issues". Two presentations, centred around the main event of this November edition: the exhibition "The Pearl Odyssey" [see p.28]. Thanks to exceptional loans from exhibitors, Maison Chaumet and the Flee Project collective, it offers visitors the chance to discover the magic of these treasures of nature in a 360° immersive space. More than just a fair, GemGenève, over its editions, becomes an essential stop to discover the wonders of the jewellery heritage, both ancient and forthcoming.

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Courtesy Herbert Stephan, GemGenève

© David Fraga. Courtesy GemGenève

INTERVIEW

“A MOMENTUM IS BUILDING AROUND GEMGENÈVE”

The director of GemGenève Mathieu Dekeukelaire sheds light on the backstage of organising this “niche fair”, which now shines well beyond the Swiss borders.

It’s a tour de force. At the steady pace of two editions per year in May and November, this young fair has managed to make a name in the big leagues in just five years. An achievement for the small team of five employees led by Mathieu Dekeukelaire alongside Nadège Totah, co-organiser of the event. Flexibility, agility, and dynamism are their creed. With each edition, the fair gains its patina. Its rich cultural program attracts more and more major houses. Its loyal exhibitors come or come back depending on the seasons. And young designers, who will shape the jewellery of tomorrow, find their springboard for the future here. A “hub” that is commercial, educational, and cultural at once, unique in the highly competitive world of jewellery.

You are one of the few fairs to offer two editions per year. How do you manage to keep up the pace?

We manage because we are very well surrounded! We have been working with the same teams and individuals for several editions now, the design agency, the surveillance teams, the management of safes and stands, etc. Everyone gains in experience and efficiency, which saves considerable time. Above all, we learn from our mistakes from one edition to another. We are constantly listening to our exhibitors, which allows us to make the necessary corrections.

Which ones?

In November 2022, we wanted to arrange large aisles, as we were in Hall 6 of Palexpo which is very spacious. However, exhibitors noticed that visitors only walked along one side! In short, it was a misguided idea. So we adapted the layout in May 2023 by reducing their width. Another example: some exhibitors could find themselves facing the lounge or the restaurant, some attractive places where there is a lot of traffic. Except that some had the impression that the fair was happening behind them. For November 2023, we integrated this feedback into the hall layout to ensure that all exhibitors are facing the centre of the fair.

Is young creation present at each edition?

We always put a particular emphasis on Emerging Talents and New Designers with the Designers Village. Nadège Totah is in charge of this selection [see box p.XX]. On the other hand, the Designer Vivarium by Viviane Becker is only held in May. She prefers to focus on one edition per year, as her curation requires a lot of research upfront.

How to incorporate major houses?

They interact in several ways within GemGenève. They are not exhibitors, as our fair was conceived by merchants, for merchants, with a buying-selling perspective, while major houses generally participate in this type of event to present their new collections. For them, it’s a matter of communication. Strategy-wise, we thus do not have the same objective.

— Carine Claude

However, they manifest at GemGenève in three different ways. First, as buyers, either of stones or pieces that could later enrich their heritage collections. Then, they integrate our cultural program through conferences. I am in regular contact with the heritage teams of these houses and it is interesting to note that for this 7th edition of GemGenève, the houses Piaget, Chaumet, and Van Cleef & Arpels will come with strong proposals. Finally, the third possibility is the loan of pieces for the exhibitions we organise, like Chaumet this year who agreed to present about ten exceptional pieces of jewellery from their collection for our "The Pearl Odyssey" exhibition [see p.28]. It's a beautiful acknowledgment.

This year's themes will delve into various facets…

Piaget is set to present the art of feather craftsmanship in high jewellery with Nelly Saunier, one of the few feather artists in this highly specialised realm, who has created absolutely incredible jewellery pieces for them using feathers and precious stones. Complementing the exhibition, Violaine Bigot, Heritage Manager at Chaumet, will participate in the discussion "Pearls of Truth", which will explore natural pearls from various historical, technical, and scientific perspectives. Additionally, Gislain Aucremanne, Heritage Director at Bulgari, will deliver a lecture on the motif of the serpent, a theme found in jewellery across all civilisations and eras.

From one edition to the next, your exhibitions seem to gain momentum.

We learn from our experience, especially from a logistical standpoint and on the organisation of exhibitions. And this experience allows us to push our proposals a bit further. This year, for example, we envisioned a circular room with a 360° projection to immerse visitors in the world of pearls. A central space will exhibit beautiful jewellery lent by major houses. In partnership with the SSEF laboratory, a third room will be dedicated to the scientific and historical analysis of natural pearls, to understand the distinction between fine pearls and cultured pearls with photographs from Chaumet. This is possible thanks to a trustful relationship built over time.

So, this is a source of pride for you…

These initiatives came from relationships we have been developing with the heritage teams of houses over several editions. Their presence proves that GemGenève's cultural program is gaining credibility thanks to the quality of interventions and exhibitions. Moreover, other exciting projects are already under discussion for 2024 with another major house and a museum in Geneva.

Your positioning is unique in the world of jewellery…

Indeed, as we function both as a commercial and cultural platform. That's what sets GemGenève apart. Initially, we didn't necessarily realise the impact of our conferences, but over the editions, the cultural program has built our DNA. We value exchanges and the human dimension above all. The fair is modest, elegant, all stands are the same size. The ambiance is very different from that of large commercial fairs, with ads, lights, and screens everywhere overwhelming the public and exhibitors.

What roles do innovation and high tech play at GemGenève?

These are topics also covered in conferences. We don't have

3 questions to… Nadège Totah

Nadège Totah is a board member and co-organiser of GemGenève.

Who are you showcasing at the Designers Village?

For Emerging Talents, I am not looking for perfection or finished pieces, quite the opposite. They are "*coup de cœur*". What interests me is the story these artists and their creations tell. They are often very small, discreet brands that fly under the market's radar. As for the "New Designers" category, it encompasses creators who already have some experience. They are often slightly more established young brands that have developed a network, visibility, and clientele. Hence, they have somewhat more resources.

How do you spot them?

Instagram is an inexhaustible well for discovering new talents. From a "*coup de cœur*", human relationships are formed. I love chatting with all these creators, understanding the whys and hows of their approach. There are real gems to be found. And then, of course, there's word of mouth… It's something very personal. I impose no selection criteria as it would be a shame to miss out on a talent. I have no guiding thread apart from my tastes. Moreover, all these designers are very different from each other.

For the most part, the pieces you have selected are cheerful and colourful…

Because we need it! We need colour and lightness in this often dull and oppressive world. Plus, it's very fashionable. There are so many stones to play with, like garnets… Costume jewellery is in vogue. The bigger and more colourful, the better. One can envision oneself by the beach in the middle of summer with big bracelets or large earrings. It's not a diamond set where you wonder "when will I have the occasion to wear it?" The mix of materials is also trendy. For instance, Armenian designer Shavarsh Hakobian makes very interesting unisex jewellery where he uses wood or rope combined with metals and gemstones. It takes daring to do it, but it's not low-end, quite the opposite. We always remain in the realm of high jewellery.

Mathieu Dekeukelaire

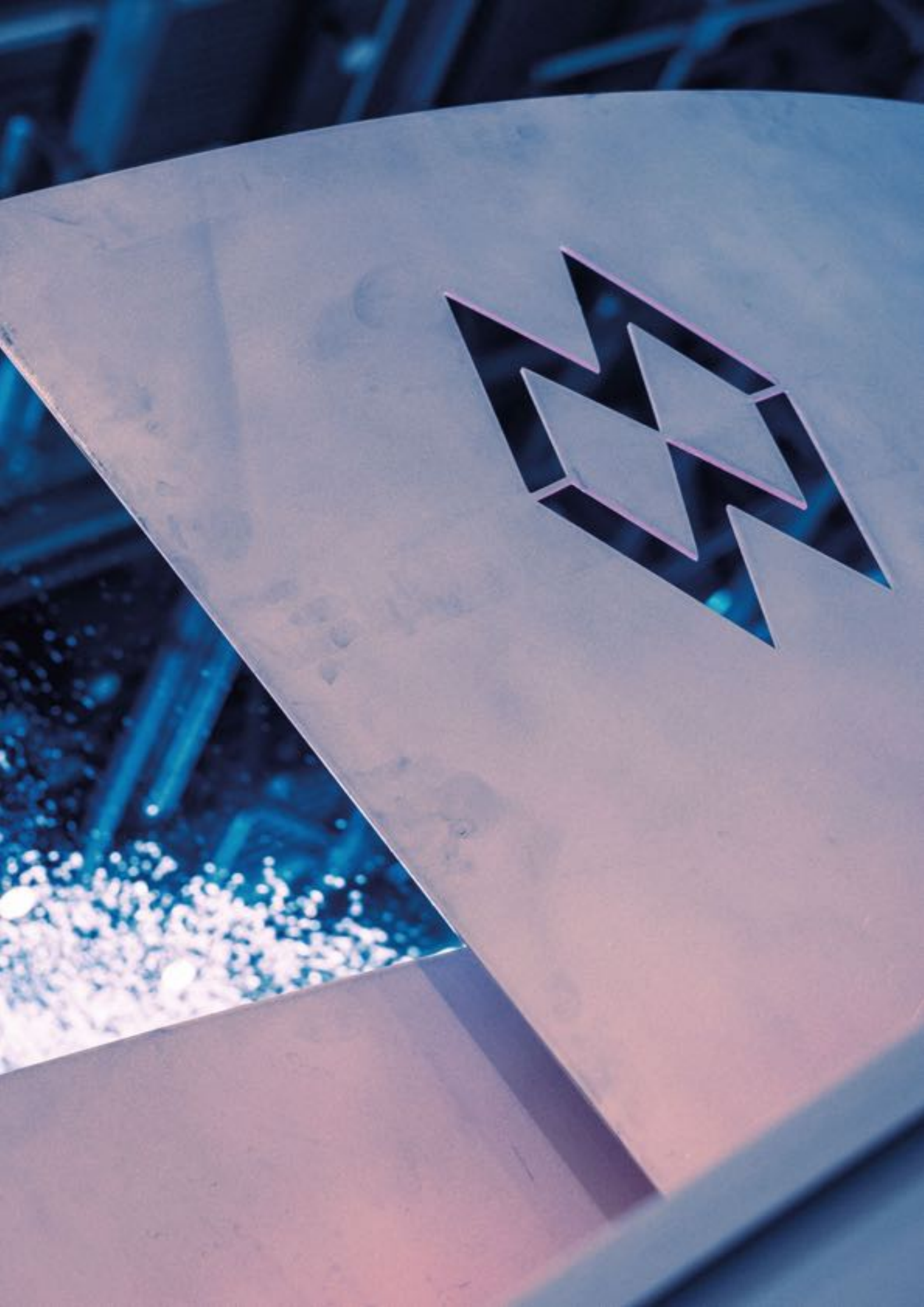

© David Fraga. Courtesy GemGenève

a space dedicated per se to high-tech projects, but, for instance, this year we will discuss the use of artificial intelligence for stone analysis in gemmology laboratories during two roundtables [see box p.44]. Another discussion will address the uses of social media in the jewellery universe. Which ones will persist? Which ones will fade away? Things evolve fast in this environment. Some influencers, who gained notable recognition through social media and their blogs, now wish to revert to print. It's somewhat like art or fashion: we operate in a very visual universe. The valorisation of beautiful stones and beautiful jewellery also goes through publishing. Bernard Letu Bookstore and the Gem Collectors Shop sell these magnificent books, which are valuable items in themselves.

A jewellery ecosystem around GemGenève seems to be taking shape…

It has been building upon an already existing small ecosystem of auction sales, with entities like Christie's, Sotheby's, and Hôtel des Ventes Piguet having their sales in May and November. It was logical to organise the fair during these periods, as the exhibitors at GemGenève are also auction buyers, and their presence at the fair facilitated viewing auction houses' offerings before the auction sessions. Phillips is set to organise its first jewellery auction in Geneva this November, indicating a growing momentum. Informal contacts are maintained with all these actors to anticipate and coordinate in terms of scheduling and offerings, even though formal partnerships are yet to be established. The idea of a Geneva Luxury Week in May and November is gaining traction. This emerging concept might evolve towards something akin to a Fashion Week, although it hasn't reached that point yet.

Ring, Shavarsh Hakobian



EXHIBITION

Silver brooch with Moor's head

Courtesy Horovitz & Totah. GemGenève

THE PEARL ODYSSEY

Regarded as miracles of nature and living jewels, pearls have been accompanying humanity since time immemorial. GemGenève pays a beautiful tribute to them through a unique exhibition and associated lectures.

They are the oldest jewels in the world. Revered and surrounded by myths and legends, pearls are shrouded in mysteries. The foremost among them: the magic surrounding their birth. It all begins with an accident when a shell coats a tiny intruder with nacre. The pearl, forming layer by layer, reveals an infinity of colours ranging from intense white to deep black, encompassing grey, blue, violet, and green. "Natural pearls are fascinating," says Ronny Totah, co-founder of GemGenève. "Their unique beauty and rarity have captivated humans for thousands of years. Their formation takes decades, making them invaluable natural treasures." This avid aficionado and natural pearl specialist continues: "The perfection of natural pearls lies in their very imperfection. Each pearl is unique, with its own size, shape, colour, and lustre. They can be round, oval, baroque or even teardrop-shaped. Their colour varies from pure white to deep black, with a wide range of shades like pink, champagne, and iridescent blue-green, reminiscent of dragonfly wings."

Another mystery of the pearl lies in its harvest, when traditional fishermen venture into the depths, often risking their lives. They brought glory and fortune to the Persian Gulf. From Japan to South America, from Australia to Ceylon, and through the Mozambique Channel, all the world's oceans have been, at one time or another, indispensable fishing sites.

Once upon a time…

The oldest pearl harvested by humans, over 8,500 years ago, was found in Mexico. "Humanity has a very special relationship with pearls," explains Laurent Cartier, pearl expert at the Swiss Gemmological Institute (SSEF), a reputable laboratory in Basel. "It is probably the oldest precious material used by humans. Some have been dated to over 8,000 years old. In comparison, the oldest diamonds are 3,000 years old, as are rubies and sapphires." The oldest pearl jewellery, a three-strand necklace comprising 216 pearls, was discovered in Iran in 1901. It belonged to a Persian princess who lived over 2,500 years ago. In ancient China, pearls were offerings to gods and emperors. The Romans saw them as symbols of wealth and social standing. A golden age for this jewel, a favourite among the elite. The second golden age blossomed during the Renaissance. Embroidered on costumes, worn as jewellery, earrings, and crowns, pearls were omnipresent among nobility. In France and Europe, the 19th century was the era of imperial and bourgeois extravagance, with *sautoirs* of three, five, or even seven strands, before major houses like Chaumet, Cartier, or Vever reimagined the art of pearl jewellery in the early 20th century.

— Carine Claude

> In the end, it is nature that decides, for fine, wild pearls, as well as for cultured pearls. Will it be round? Will it have imperfections? What will be its colour? Humans work in harmony with nature without really knowing the result in advance. Out of 100,000 pearl oysters, only a small quantity of perfectly quality pearls will come out. It's always a surprise, even for the best pearl cultivator in the world."
>
> — *Laurent Cartier*

"There has always been an incredible enthusiasm for fine pearls due to their rarity, with of course more or less marked periods," specifies expert Laurent Cartier. "Recently, for example, during the years 2010-2018, wild pearls were particularly sought after. But it must be understood that for fine pearls, there are almost no new productions. Jewellers work on old stocks. The material has such value that people take care of it like works of art. There are few collectors, few dealers, but some are very specialised. It is a unique know-how and a niche market with extremely high prices."

The science of pearls

For its rarity almost led to the extinction of wild pearls. To meet the booming demand, overfishing was a systematic practice at the end of the 19th and the beginning of the 20th centuries. "In a way, the discovery of cultured pearls saved this industry, as it would have been impossible to continue extracting so many pearl oysters," explains Laurent Cartier. The birth of the cultured pearl is generally associated with Japan in the late 19th century. In 1893, the Japanese Kokichi Mikimoto created this specimen by deliberately introducing a parasite called a nucleus inside an oyster shell. The mollusc, thanks to its innate defence mechanism, secretes nacre and a pearl then forms. It was truly from 1905 that the process was developed to obtain the first perfectly spherical cultured pearls. "Mikimoto revolutionised pearl cultivation and was also a marketing genius. Fine pearls were inaccessible to many and he managed to democratise this product," explains Laurent Cartier. This discovery marks the beginnings of pearl cultivation. An activity initially tainted with distrust, as fine pearls were the Holy Grail of creation. But cultured pearls allowed major jewellers to explore new paths and new aesthetics for pearl jewellery. "Even today, Kobe in Japan is one of the most important places in the world. All the most beautiful cultured pearls in the world transit through here. The Japanese know-how is unique," notes the pearl expert.

Treasures of ingenuity

Even before the development of cultivation techniques, people have always sought to imitate wild pearls. A phenomenon as ancient as the passion they evoke. Since antiquity, there have been attempts to replicate these treasures of nature, so coveted yet so hard to obtain. "The Romans already made imitations. Leonardo da Vinci even created a recipe for pearls! Imitation has always existed," says Laurent Cartier. "The real, the fake, the perception of luxury or value existed since antiquity. There's a degree of ingenuity in some imitations. We can't dismiss everything and say it is bad.

"The Pearl Odyssey"

All the magic of pearls in a single exhibition. Bringing together more than thirty pieces of jewellery and exceptional items, "The Pearl Odyssey" tells the story of these treasures of nature, from antiquity to the cutting-edge techniques used in today's laboratories. Specially concocted for GemGenève, this unique project brings together the house of Chaumet, the Flee Project collective, as well as several partner exhibitors, who have agreed to display some of their most beautiful pieces for the occasion.

The journey begins with an immersive space recreating the atmosphere of pearl fishermen from the Persian Gulf and beyond. The central space, on the other hand, provides a showcase for major jewellers: jewellery of imperial provenance, exceptional pearls, exclusive and historic pieces from the most prestigious private collections… Here one can admire the iconic pearl and ruby brooch of Empress Eugenie or the astonishing dog's tooth pearl flower brooch made by the house of Vever in 1900, testifying to the plurality of styles and fashions that have succeeded each other over the ages.

The exhibition concludes with a scientific insight provided by the Swiss Gemmological Institute (SSEF). Taking the question of differentiation between fine pearls and cultured pearls as the guiding thread, this last area is dedicated to the study and analysis of pearls, from the early experiments of Joseph Chaumet to current laboratory techniques. A complete panorama on expertise methods to evaluate the quality and origin of all the pearls in the world.

Bow brooch, Joseph Chaumet period (c.1922)

Photo Nils Herrmann. Courtesy Chaumet. GemGenève

The end consumer needs to know what they are buying, but there's also a form of art in it. Imitation is part of the heritage and history of pearls. It's one of the topics that will be discussed at the 'Pearls of Truth' roundtable." [see box]

Sentinels of the oceans

Another crucial point to be addressed during the second roundtable "Pearls: Contemporary Scene and Challenges" will be the issue of sustainability. Pearl oysters, like other molluscs, are extremely sensitive to climate change. The carbon dioxide from the atmosphere is absorbed by the oceans, which are becoming increasingly acidic. Result: shells struggle more and more to form. "In the long term, this phenomenon may impact production," explains Laurent Cartier. "Another major aspect is that oysters are sensitive to temperature fluctuations and pollution, to algae, etc. They are very good barometers of the health of our oceans and waterways, especially in China which cultivates freshwater pearls. To continue producing quality cultured pearls, pearl farmers must take this into account."

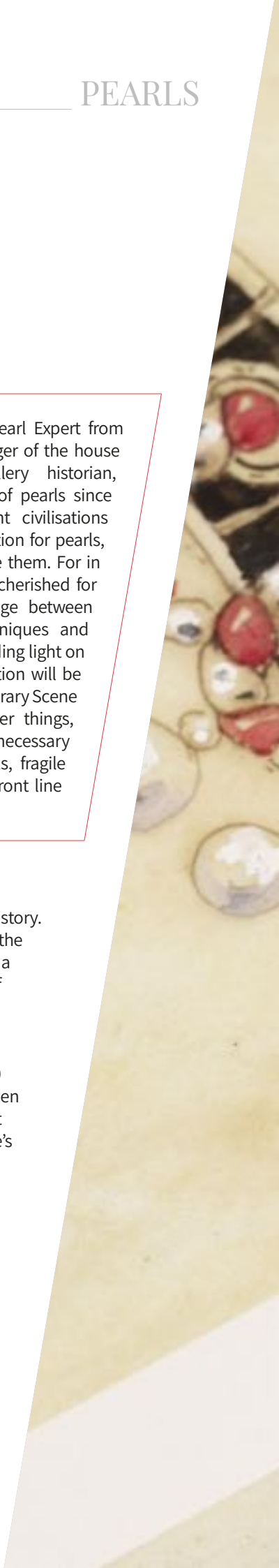
Stars

Fine or cultured, pearls continue to attract stars and crowds. In 2014, the "Pearls" exhibition at the Victoria & Albert Museum in London was a huge success. Among the 200 pieces of jewellery displayed were a white pearl worn by Charles I, tiaras of European aristocracy, the Akoya pearl necklace given by baseball player Joe DiMaggio to his wife Marilyn Monroe, and Elizabeth Taylor's earrings. The latter, a great lover of pearls, also owned the Peregrina, a legendary pearl both for its beauty and its history. It was supposedly discovered in 1579 by a black slave in the Gulf of Panama, who bought his freedom with it. Sold to a Portuguese merchant, it was then acquired by Philip II of Spain. It found its way onto the neck of his wife, Queen Mary Tudor, and many queens after her. Napoleon I seized it. Napoleon III sold it to the Duke of Abercorn. Then it disappeared… Richard Burton won it for $37,000 at Sotheby's in 1969 and gave it to his wife, Liz Taylor. When it was auctioned again after the actress's death in 2011, it fetched an astronomical sum of $11.84 million at Christie's in New York to an anonymous bidder. Perhaps it will reappear one day… The legend continues.

It is in order to celebrate pearls and the legends surrounding them that GemGenève decided for its seventh edition to pay tribute to these treasures of nature with "The Pearl Odyssey" [see box p.30], an immersive exhibition featuring more than thirty pieces of exceptional jewellery from the house of Chaumet, the Flee Project collective, and exhibitors of the fair. "We made the decision to pay tribute to them by dedicating an exhibition to reveal their hidden beauty to visitors," adds Ronny Totah. A beautiful declaration of love for this millennial gem.

Pearls of truth

Gathering around the table are Laurent Cartier, Pearl Expert from the SSEF laboratory, Violaine Bigot, Heritage Manager of the house of Chaumet, and Kathia Pinckernelle, jewellery historian, this conversation will delve into the rich history of pearls since antiquity. Power, purity, prestige… From ancient civilisations to modern luxury, it will unveil the timeless fascination for pearls, which led humans to harvest, imitate, and cultivate them. For in every culture around the world, pearls have been cherished for their symbolism, beauty, and rarity. This exchange between historians and experts will also cover the techniques and methods used to test and authenticate pearls, shedding light on the art and science of identification. This conversation will be complemented by the roundtable "Pearls: Contemporary Scene and Challenges", which will address, among other things, the fundamental question of sustainability, and the necessary adaptation of practices and production. For pearls, fragile sentinels of watercourses and oceans, are on the front line of climate changes.



Transformable bracelet, Jules Fossin period (c.1840)

Photo Pauline Guyon. Courtesy Chaumet. GemGenève

Nahma: diving into an illuminated polyphony

Courtesy FLEE Project. GemGenève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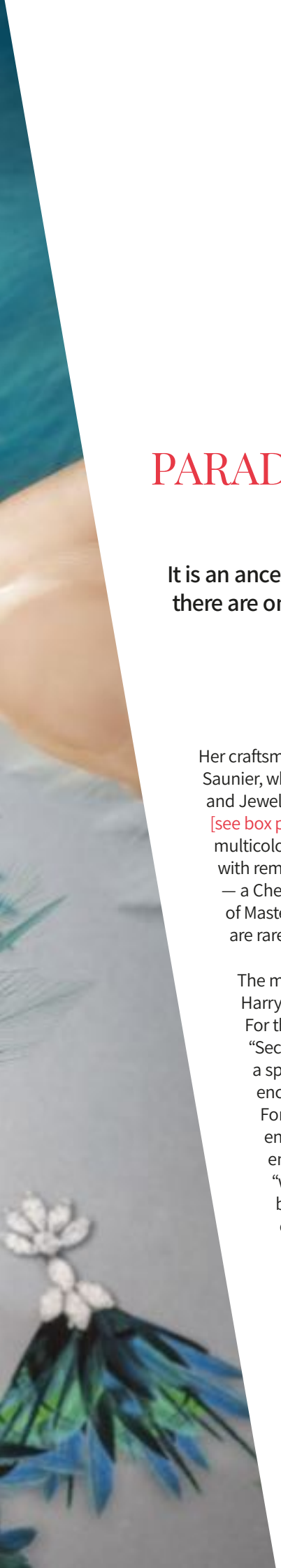

PARADISE JEWELS

It is an ancestral art that almost vanished. In high jewellery, there are only a handful of feather artists left today.

Her craftsmanship is unique in the world. Feather artist Nelly Saunier, who will be speaking at the round table "Feather and Jewellery, the enchantment of colour" on 4 November [see box p.38], creates enchanting jewellery composed of multicoloured feathers intertwined with precious materials with remarkable and noticed dexterity and a sense of poetry — a Chevalier of arts and letters, she was awarded the title of Master of Art in 2008. Because while feather artists are rare, high jewellery feather artists are even rarer.

The most famous Maisons are all vying for her. Harry Winston, Chopard, and Piaget seek her talents. For the latter, Nelly Saunier created a signature cuff "Secrets & Lights" adorned with a bird-flower in 2015, a spectacular feather marquetry where an emerald encrusted with sapphires and diamonds presides. For the "Sunlight Escape" collection in 2018, she envisioned four pieces in goose and pelican feathers enhanced with 24-carat gold leaves, earrings and cuffs, "which evoke a snow-covered landscape illuminated by a radiant sun, the coolness of a glacier, the softness of snow reinterpreted in geometric shapes." In 2021, for their tropical-inspired collection "Wings of Light", she crafted the spectacular asymmetrical necklace "Majestic Plumage" adorned with a rare 7.49-carat Paraìba tourmaline from Mozambique, from which a magnificent multicoloured Ara takes flight in a whirlwind of blue sapphires and tourmalines. A mimicry with nature quite astonishing. About 620 hours of work were needed to achieve this feat.

Passing on knowledge

Patience, dexterity, and meticulousness are at the forefront of the qualities required for this high-precision profession. These are not the only ones. However, very few training programs exist to acquire these skills which require long apprenticeship. Nelly Saunier herself, after teaching her trade for about twenty years at Octave-Feuillet high school, now passes on her passion to her collaborators in her workshop. The decline in feather trades explains the rarity of schools still teaching it. In Paris, the number of feather artists went from about 7,000 in 1890 to 425 in 1919, then 88 in 1939 and… only 5 in 1980. Traditional houses were then swept away by Asian competition. Today, the profession endures through a few rare professionals in haute couture, entertainment, or creation — in 2002, Chanel had taken over the feather art company Lemarié to preserve its know-how.

In France, the only initial diploma-granting training is offered as part of a two-year CAP (Certificate of

— Carine Claude

> Softness, lightness, finesse, beauty are the sources of my emotion. Raw material, living material, richness, and nuances are the ingredients of my creations. To divert the feather, transcend the technique, reinterpret the materials to obtain unexpected plastic effects.
> — *Nelly Saunier*

Professional Aptitude) for feather artistry and artificial flower making at the Octave Feuillet high school. The training includes practical workshops to learn how to clean, dye, prepare, cut, glue, and curl feathers. Feather artistry techniques teach gluing, assembling, and mounting different types of feathers on various supports. Art history, drawing, and applied arts complement the technical instruction. There are also some short-term professional training courses available to try one's hand at feather artistry, like the "Plumes" initiation at GRETA (Group of Institutions for Technical Education) of creation, design, and crafts in Paris, which provides the essential technical foundations for working with feathers in fashion, millinery, and costuming. In total, about fifty feather artists would be practicing in France, with even fewer in high jewellery.

Ethics of feather artistry

In the sector of finely crafted costume jewellery, a few feather artists also defend their craft. Lucia Fiore creates geometric feather mosaics that she blends with precious metals or less conventional materials like wood. "In my Strasbourg workshop, I practice a profession at the crossroads of craftsmanship and plastic arts, combining the ancient techniques of feather artistry with a desire for exploration and formal research," she shares. "My creations take the form of small series of jewellery, paintings, and sculptures, in which the feather is not reduced to ornament, but becomes the central subject. The visual qualities of this material, the richness of its colours and reflections, are expressed through compositions inspired by nature, traditional arts, and geometric minimalism." Lucia Fiore sources her feathers from pigeon fanciers for Modena or Cravat breed pigeons, or from specialised farms for poultry bird feathers, such as peacock or pheasant. As for parrot and parakeet feathers, they come from their natural moulting, which she patiently collects from private aviaries.

For feather artistry carries a heavy burden in its heritage. It nearly led to the extinction of certain Amazonian birds. In Europe, the feather excesses of the late 19th and early 20th centuries depopulated migratory bird populations. In 1910, 1,470 kg of feathers were sold in the London market, representing the hunting of… 290,000 egrets. Since the implementation of the Washington Convention, no bird is supposed to be killed for its feathers. Feather artists thus source from farms or old stocks for exceptional pieces, provided they can ensure traceability. The future of this rare profession will be shaped by ethics and transmission.

The snake in every detail

Animal inspiration is omnipresent in the history of jewellery, particularly the motif of the snake. On 3 November, Gislain Aucremanne, Heritage Curator Director at Bulgari, will give a lecture titled "The snake in jewellery, a precious and sinuous symbol". From ancient jewellery to Victorian era reptiles, from extra-European talismans to the famous jewellery icon of the Bulgari house in Rome, the lecture will address the figure of the snake as a symbol of rebirth and transformation, a motif that has traversed all civilisations. Fascinating, sensual, exotic… It's no surprise that the snake has become one of the most represented animals in the history of jewellery.

"Feather and jewellery, the enchantment of colour"

It's the emotion of colour that brings together the art of feathers and jewellery. During the round table "Feather and jewellery, the enchantment of colour" on 4 November, the speakers will explore the register of colour in the realm of ornithology, in the art of feathers, and discuss its importance in jewellery creation under the aegis of Jean-Bernard Forot, Head of Heritage at Maison Piaget. In the first part, Jaques Cuisin, delegate for conservation at the National Museum of Natural History in Paris, will explain the influence and function of bird plumage colour, from seduction to display. Nelly Saunier will share her passion for feathers, her art to enhance them, and how she plays with their hues for her artistic creations. Lastly, Stéphanie Sivrière, Creative Director at Piaget, will unveil how she was inspired by colour to marry feathers with precious stones and create unique and unprecedented pieces of jewellery. A continuous dialogue between nature and culture, creation and artistic interpretation, feathers and gems.


© Lucia Fiore

NOTEBOOK

Cabochon pendant
in Indian Paint Rock

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UNCONVENTIONAL MATERIALS IN HIGH JEWELLERY

In the realm of high jewellery, there are diamonds, precious stones, and ornamental stones. But occasionally, unconventional materials come into play. Jewellery houses sometimes employ these to unveil their beauty or to stamp their unique creative identity.

An "unconventional" material in jewellery is defined by several aspects: either it's found in small quantities, or it's simply not valued. It might also be characterised by its difficulty to be worked and shaped, as is the case for some rocks that are too brittle. Others face challenges in sourcing, and some are restricted by regulations prohibiting their use — elephant ivory for instance, which is scarcely replaced by warthog ivory for sculpted pieces. Here's a non-exhaustive list guided by the research of jewellery lecturer and consultant Marie Chabrol.

Ornamental stones. **The great Come back**

Opals, rhodochrosites, chrysoprases, agates, malachites, rhodonites, sugilites, lapis lazulis… Very colourful, opaque, and often unfaceted, these ornamental stones are often seen as less "precious" than rubies, sapphires, and other emeralds. Trendy in the 1970s, they had been forgotten for several years. It was not until 2016 that major jewellery houses reintroduced them through their collections, from Van Cleef & Arpels to Chaumet, including Fred, Cartier or Boucheron. Today, independent designers also use them, for a graphical, colourful rendering, and new ways of channeling their creativity.

Quartz with inclusions. **Remarkable transparency**

Quartz has long been used in jewellery and actually encompasses stones with quite different aspects, whether opaque or transparent, such as rose quartz, citrine, amethyst, agate, or even jasper. Quartz with inclusions, on the other hand, encases various materials that can be solid, liquid, or gaseous, and is preferred perfectly colourless with crystals enclosed. Here, Marie Chabrol specifies: "These stones are found in quantity, but it's a matter of finding enough of good quality so they can be used in high jewellery." The unique aspect of the inclusions can also pose problems when marketing the stones in series and therefore in searching for sufficiently uniform characteristics…

Maligano jasper. **Recent discovery**

Brecciated jasper is a red stone possessing brown and black inclusions. Maligano jasper, discovered in 2011 in Indonesia on the island of Sulawesi, is a variety of brecciated jasper composed of different types of jaspers formed in ancient volcanic hot springs. Grey agate veins fill the breaches for a very singular rendering, unique to each stone, composed of a multitude of inclusions. Much like quartz with inclusions, its unique aspect makes Maligano jasper a difficult stone to use for the jewellery industry. It is thus still very little present on the market, but could well offer great creative possibilities to jewellers who would seize it.

— Diotima Schuck

Pine cone. **Petrified wood**

In Patagonia, the Cerro Cuadrado Petrified Forest was buried under volcanic ashes about 160 million years ago. Transformed into rock, the ash partially preserved its ecosystem, including now fossilised Araucaria nuts. During their silicification, rhodochrosite grafted onto them, giving a pink hue to the pine cones. Maison Cartier presented a necklace adorned with a pine cone selected with care a few years ago. But the random dimension of these successive transformations can pose difficulties in exploiting these woods transformed into rock: it is necessary to find beautiful fossilised subjects, which should display a clear mix between silica and rhodochrosite. Some rather limiting factors, despite the exceptional character of these objects.

Pebbles. **Shingle**

Marketed as "pebbles", river pebbles are sometimes used in high jewellery, their dark grey, very opaque and thick aspect contrasting with the delicacy of other precious stones or the refinement of the jewellery design. Maison Adler notably created the Pebbles collection, associated with pastel coloured sapphires, evoking the raw object, but without directly employing it in the creation of its pieces. In 2020 however, Paolo Spalla, an Italian jeweller, proposed a ring set with a diamond, placed side by side with a pebble mounted on the ring. Taffin Jewellery also sometimes crafts its jewellery with this material. But the use of pebbles remains quite rare among jewellers, who more willingly work with nobler and softer materials.

Peanut obsidian. **Speckled**

While the use of obsidian, a volcanic rock that is sometimes grey, dark green, red or black, is not rare in high jewellery, that of so-called "peanut" obsidian is much less frequent. Named after the small red or brown spots resembling peanuts that appear on its surface, this stone can be found in Mexico, the United States, Italy, or Greece. Yet, it is very rarely worked by jewellery houses.

Insects. **Natural objects**

Gilbert Albert, Swiss jeweller born in 1930 and passed away in 2019, is the go-to craftsman for unconventional and organic materials. His jewellery is adorned with sea urchin skeletons, shark teeth, or feathers, but also beetles or seashells. However, his preservation technique for exoskeletons remains unknown, and the use of such elements is difficult to develop and apply in series for jewellers — beyond obvious ethical considerations. High jewellery will prefer to use more traditional materials to represent nature — insects, flowers, or butterflies — in more durable and easily preserved materials.

Indian paint rock. **Drying up**

Coming from Death Valley in California, the Indian paint rock mine is a sedimentary rock, formed by the accumulation of sediments deposited by water or air. Its black and ochre colours display patterns created by traces of iron and manganese, sucked into the rock through tiny cracks. With a satin rather than shiny polish, the stone offers a spectacular aesthetic aspect. The source of this material has however dried up and is no longer exploitable today.

Bubble magnesite. **Fragile**

Bubble magnesite is a stone rarely used in high jewellery. As its name suggests, it has spots on its dark surface, like so many little orange bubbles. Like its cousin, the Wild Horse magnesite, white and traversed by small brown or grey lines, its cut is made difficult by its fragility. It is little used in large quantities, as it first needs to be stabilised — usually with a resin. It however sometimes appears in costume jewellery, or in cabochon form.

AI in the service of research

Holding a major role in the world of jewellery, gemmology laboratories allow merchants, auction houses, and jewellery brands to authenticate their stones, determine their purity, origin, and thus set their value.

Employed for these analyses, artificial intelligence is an increasingly used tool: "The project began in 2020. We trained our software for two and a half years and have been applying it concretely for six months," explains Daniel Nyfeler, General Manager of Gübelin Gem Lab. "Artificial intelligence does not allow us to improve our research per se, but the consistency of the results. A data set will not be interpreted the same way by several different experts, while AI will always provide the same interpretation," he clarifies.

For Laurent Cartier, attached to the Swiss Foundation for Stone Research, it is also a means to better organise and visualise the thousands of chemical and spectroscopic data present in the stones to "better identify them, and understand how they form."

A round table is thus organised on the occasion of GemGenève to present the challenges, advancements, and potential for research in gemmology.

Black and white bubble magnesite cabochon earrings

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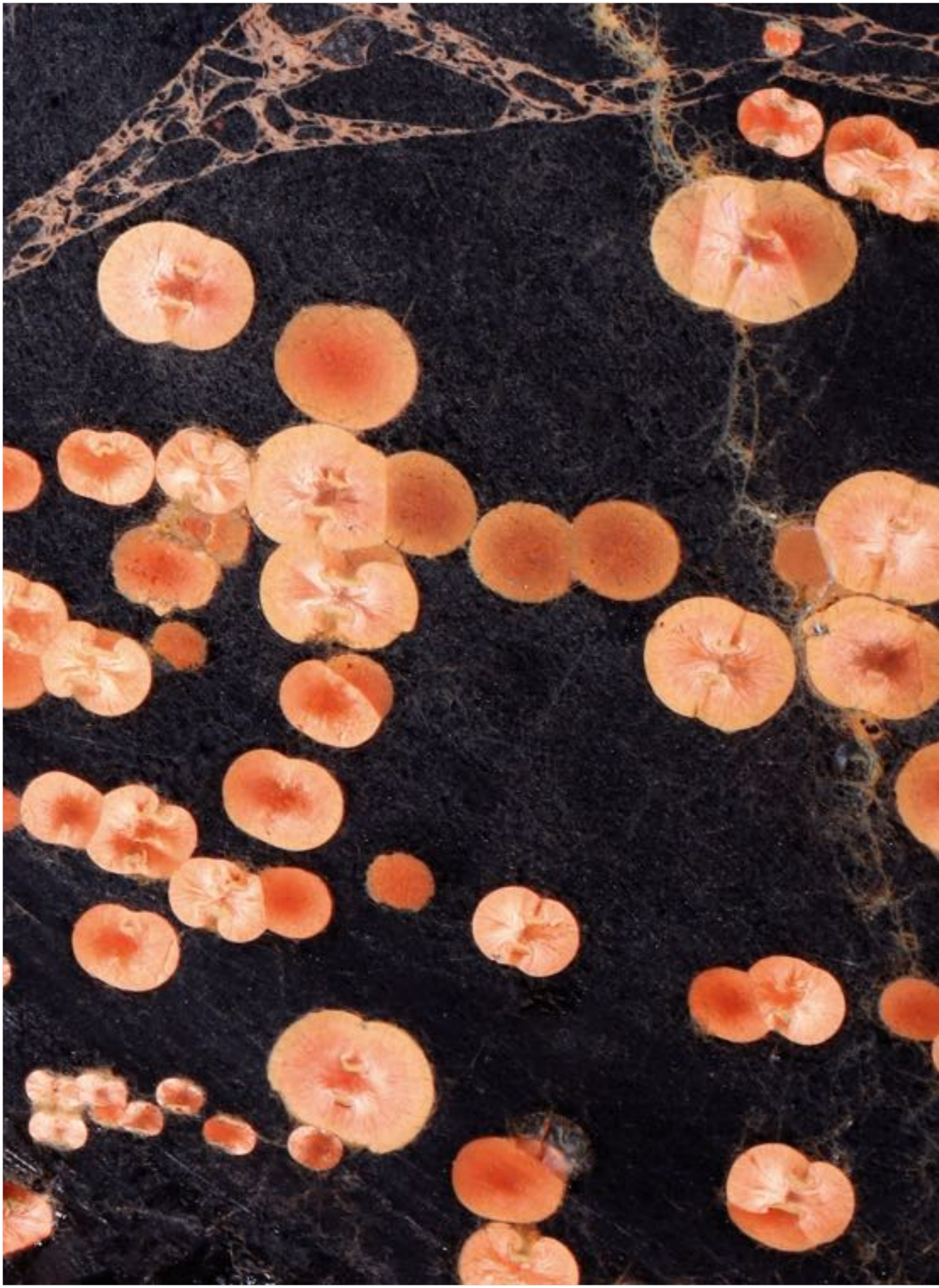

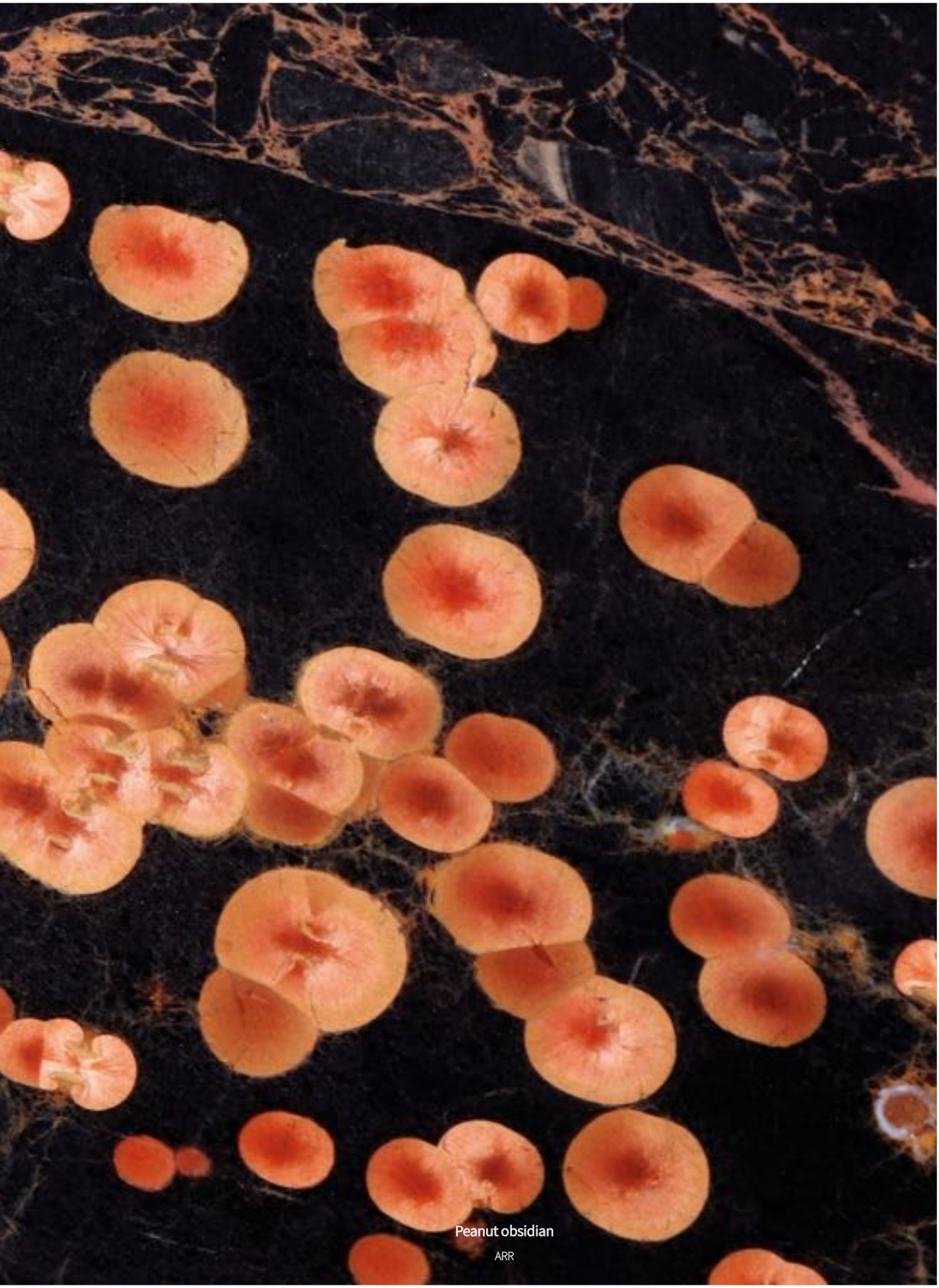

Peanut obsidian

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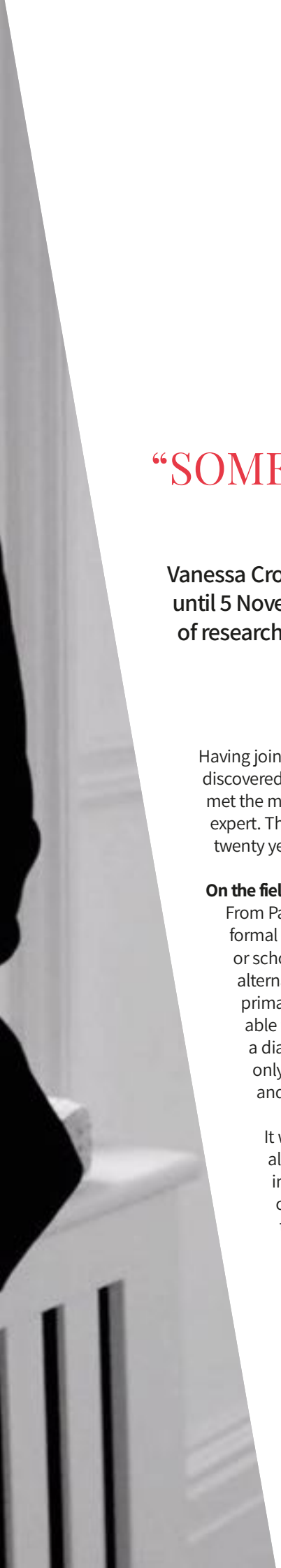
PORTRAIT

Vanessa Cron

Courtesy Vanessa Cron



“SOME JEWELS TELL STORIES”

Vanessa Cron is the curator of the “A golden age” exhibition by Maison Chaumet running until 5 November, and a jewellery historian. Her expertise has been honed over many years of research, fuelled by her love for jewellery, discovered through a chance encounter.

Having joined Christie’s in 2000 as a graphic designer, Vanessa Cron discovered the jewellery department within the auction house and met the man who would become her husband, himself a jewellery expert. This marked the birth of a passion, cultivated for over twenty years through research, teaching, and exhibition curating.

On the field

From Paris, Vanessa Cron moved to Geneva in 2005. With no formal training in jewellery history, absent from university or school curricula, she learned to look at the object through alternative means. While gemmology diplomas exist, primarily enabling the identification of stones or being able to “tell the difference between a piece of glass and a diamond,” to learn more about the jewellery itself, the only way is “to study auction catalogs, go see the pieces, and observe them one by one,” explains the historian.

It was thus under the tutelage of dealer Thomas Faerber, also co-founder of GemGenève, that Vanessa Cron delved into jewellery, particularly antique jewellery: “I had the chance to come into contact with very important pieces that I had to authenticate, with the help of experts, and that I had to describe,” she recounts. “My training came from looking, asking questions, being curious, and wanting to learn more about the jewels.”

Returning to Christie’s in 2009, to the jewellery department this time, Vanessa Cron specialised in the jewellery of the 19th and 20th centuries through both reading books and the precise examination of numerous items. There, she built personal experience and understanding of periods, styles, and countries producing jewellery. A knowledge acquired through diligent, rigorous research, which she soon began to share.

The joy of sharing

In 2012, the historian began teaching jewellery history at HEAD — the Geneva School of Art and Design — to young designers. She structured the courses based on her knowledge and her desire to impart. She shares: “Courses are given by freelancers, historians who create them, so they depend on the teachers and the audience they are intended for. I tailored my courses to what I found interesting and adapted them to different configurations.”

From classrooms to conferences, Vanessa Cron decided to devote herself to teaching. In December 2016, she left Christie’s to become independent and to give masterclasses in New York, Hong Kong, Shanghai, or London. Through Christie’s Education, the house’s teaching institute, she catered more to jewellery professionals, collectors, or enthusiasts.

— Diotima Schuck

> It's always interesting to unveil the lesser-known or less studied part of a Maison's history. This is where the work of an exhibition curator is interesting, as it allows to rediscover an era.
> — *Vanessa Cron*

It was also at the request of her students that she eventually created her Instagram, Jewels and the gang. "At the end of the semester, my students wanted to continue learning. One of them advised me to open an account, and everything started from there. The idea was to post jewels that I like or that I find interesting, associating them with anecdotes and sometimes a little educational aspect," she explains.

From Palais de Tokyo to Chaumet

In 2020, Vanessa Cron was approached to work on the very first retrospective of Maison Fred at the Palais de Tokyo, inaugurated in September 2022. A major exhibition, prepared with Vincent Meylan, journalist, historian, and high jewellery specialist, for which she was tasked with narrating the house's history.

Soon after, she was contacted by Chaumet, where the historian began working on the Maison's heritage collection thanks to her skills and expertise: "Having worked with dealers and collectors, I can possibly identify pieces, I know where they can be found to be repatriated and integrated into the heritage collection," she confides.

> I developed my training by working. I am a jewellery historian, but I don't have a diploma to signify it since it doesn't exist: there are art history courses, but no specific training in jewellery history.
> — *Vanessa Cron*

3 questions to... Laura Inghirami

Laura Inghirami is a jewellery influencer and the creator of Donna Jewel.

What does "excellence" mean to you in the world of jewellery?

It's a way of life that leads me to always try to do my best, never cease to learn and work towards innovation, authenticity, beauty, and originality. As an entrepreneur, excellence has become my way of working, continuously seeking perfection.

How do you view the missions of an "opinion leader"?

It's a responsibility and a vocation. It means believing in and sharing values such as respect, inclusivity, openness, precision, and excellence. My mission is also to engage with the youth, as businesses need them, and particularly specialised artisans. That's why I also participate in many activities aimed at sponsoring, promoting, and encouraging students and emerging talents.

Can you tell me about current trends in jewellery?

My work allows me to closely follow their evolution. The appeal for vintage jewellery is growing stronger, as it aligns with sustainable development concerns. In contemporary jewellery, the use of ancient techniques or historical motifs is very common, and the value placed on craftsmanship is ever-increasing. Colour has also always been a key element to reflect the zeitgeist; today, blue is in vogue. Lastly, jewellery today is fluid: it's no longer tied to aesthetic or gender codes, but is gradually becoming the pure expression of the personality of the person wearing it, without any restrictions.

Meanwhile, the historian rediscovered forgotten pieces thanks to the Maison's archives and proposed the theme for the ongoing exhibition, "A golden age: 1965-1985". "Things came quite naturally with this desire to create an exhibition around a theme that had not yet been addressed," Vanessa Cron recounts. "It's interesting because within the Maison itself, some people were surprised by the rediscovered pieces."

From this rediscovery, driven by the historian's perspective, emanates a fundamental passion for the object, and the desire to continue discovering and learning.

A love for jewellery

From her work with an art dealer and an auction house, her role as an archivist or historian, from teaching to exhibition curating, Vanessa Cron's activities are manifold. All, however, are directed towards the same object:

jewellery. Long gone are the days when, as a graphic designer, she was not interested in these creations. These objects now “speak” to her, “tell stories”. “What matters is the emotion they evoke,” explains the specialist.

For Vanessa Cron, regardless of the jewel, its spectacular aspect fades behind the sentimental value, which is essential. “Someone’s favourite jewellery pieces are usually those that mean something,” comments the historian. Similarly, among the own jewels, her preference goes to a gold bracelet by Ernesto Pierret, devoid of precious stones, a “sentimental piece” she specifies.

And if the desire to know who made the object, what composes it, what inspired it arises quickly, Vanessa Cron doesn’t hesitate to speak of “magic” when referring to an exceptional piece: a combination of things, from design to manufacturing, through the stones used. She confides: “Experts don’t always agree, but there’s a real convergence of opinions when it comes to the excellence of high jewellery.”

Today, Vanessa Cron has left Geneva and Europe for the Caribbean. From a small boat, she sails between the islands, continues her research work for Chaumet, and plans new courses in her free time. “I might do some lectures next year at GemGenève. But I’m coming this year to see everyone, there are a lot of people I like a lot. And then, it’s the perfect opportunity to discover fabulous jewellery.”

View from the “A golden age: 1965-1985” exhibition

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ZOOM

Diadem convertible into a brooch, Jules Fossin period (c.1840).

Courtesy Chaumet. GemGenève

EMERALD ENCHANTMENT

It's said to be twenty times rarer than diamond. Fascinating, hypnotic, emerald has turned many heads throughout centuries — not just those of royalty.

It's the stone of all mysteries. This green beryl with complex, alchemical symbolism, is associated with life and wisdom in most civilisations that have utilised it — virtually all. Prophylactic virtues, protective power, birth and rebirth… From ancient Egypt to pre-Columbian America, from India to the Roman Empire, from the thrones of old Europe to Hollywood sets, none escape its strange allure. Its green colour is due to minute quantities of chromium and sometimes vanadium. Emeralds are rare, as their formation requires complex geochemical conditions within several layers of the earth's crust. In Brazil, some are even said to have formed two billion years ago…

Egypt, Afghanistan, South India. It's hard to trace with precision the origin of the first ancient emeralds, emerging from what are called "old mines". In 2000, a team from IRD-CNRS in Nancy used an ionic probe, a non-destructive method, to analyse the sources of some ancient gems and cross-reference their data with ancient texts and archaeological studies. What's certain is that emeralds were travellers, right from antiquity. In the West, the first objects adorned with emeralds appear in the 4th century BC, during the reign of Alexander the Great, whose empire extended to Bactria, perhaps the origin of some of the oldest emeralds. It's notable that in pharaonic Egypt, the symbolism of green, associated with the growth of vegetation and by extension, the rebirth of the deceased and eternal life, is omnipresent in rituals and funerary objects. Hence the omnipresence of emeralds. Ptolemy, Alexander's general, founder of the eponymous Egyptian dynasty, further developed the exploitation of emerald mines by the Red Sea.

The deposits of Djebel Zabarah and Wadi Sikait, improperly called King Solomon's mines, then Cleopatra's mines, were still exploited after the Arab conquest until the 13th century, before being forgotten and resumed in the 19th century under Mehmet Ali and later by the British. However, it was under the Roman Empire that the emerald experienced its first golden age, attributed to Vesta and Venus, symbol of love, as evidenced by the numerous emerald-adorned jewellery found in Pompeii and Herculaneum. Herodotus and Pliny the Elder are inexhaustible on its qualities. Newly conquered, Egypt provided the Romans with emeralds aplenty and they refined their polishing techniques — the cutting would come later — which would be later utilised under the Byzantine Empire. The deposit of Habachtal in Austria, perhaps exploited as early as the Middle Ages — or even earlier by the Celts —, was one of the main sources of emeralds in Europe. On the Indian side, the Mughal art foreshadows the maharajas' madness for the precious green gems, sometimes finely engraved with verses from the Quran.

— Carine Claude

Don't mix them up!

Peridot is one of the other rare gemstones that exhibit a green colour. Sometimes called olivine, it possesses a characteristic hue due to the presence of iron, a more yellowish green than that of the emerald, ranging from light green to olive green. Known since antiquity, it notably adorns Greek jewellery. Its main deposits are in Arizona in the United States, Egypt, Myanmar, Pakistan, and Brazil, but also in Norway or Russia. However, the one from Zabargad or S^{t} John's Island in the Red Sea, likely exploited since the Pharaonic era, is the most renowned. A finely engraved peridot intaglio with the portrait of Cleopatra II was even discovered and is now preserved in the Baltimore Museum. Indeed, the colour green and the Pharaohs have a long history together.

Stone of conquest

A tipping point in history, the discovery of the American continent at the end of the 15th century also revolutionised emerald exploitation. Valued by all pre-Columbian civilisations — Incas, Toltecs, Mayas, Aztecs — the emeralds were largely plundered by the Conquistadors: Spanish Gonzalo Jiminez de Quesada reportedly brought back nearly 7,000 from his expedition to Colombia in 1537 when he founded Bogota. "Isabella", one of the largest faceted emeralds in the world with an estimated weight of 964 carats, illustrates the magnificence of pre-Columbian emeralds that mesmerised the Spanish. Owned by Hernán Cortés, who received it as a gift from the last Aztec emperor Moctezuma before their relations deteriorated, the emerald was found in 1993 in the wreckage of a ship sunk in 1757. Sunk alongside, a treasure of 75,000 carats of rough and cut emeralds of Aztec and Mayan origin. Two decades after the Conquest, intensive exploitation of Central and Latin American mines led to a massive influx of stones into royal treasuries. A true emerald frenzy that pervaded the goldsmithing and jewellery of the Renaissance in Spain and Portugal.

Treasures of Colombia

Even today, Colombian emeralds, with an exceptional green colour, almost limpid with sometimes characteristic inclusions — the "gardens" — are reputed to be the most beautiful. They are often named after the mine they come from: Muzo, Chivor, or Coscuez. Colossal deposits already exploited at the time of the Conquistadors. They would produce more than half of the world's emeralds today. For, rare in gemstone production, Colombia produces both quantity and top quality. Zambia is another significant producer of high-quality emeralds. Zambian emeralds usually have a bright green colour and are appreciated for their transparency and brilliance. Brazilian emeralds, especially those from Minas Gerais and Bahia, are known for their variety of green shades, ranging from classic emerald green to bluish-green. Afghanistan, the Ural, and recently Ethiopia also produce good quality emeralds. "What makes the quality of an emerald rests on a set of criteria, but colour is crucial," explains gemologist Marie Chabrol, co-founder of the Gemmology and Francophonie Association. "From my point of view, it should be warm, that is, a green tinged with a hint of yellow. But one may prefer them colder, with a hint of blue. It should be as clean as possible, but I like to find some inclusions. A beautiful emerald is excellent cutting, warm and homogeneous colour, minimal inclusions that do not hinder the appreciation of the stone. And finally, it should be natural."

Regarding cutting, the most significant centre is in Jaipur, India, where it is said that over 100,000 emerald lapidaries are at work! Similar to Brazil, cutting is practiced with minimal loss in mind, while Colombian and European cuts favour quality over yield. Notably, Israel also has a reputable centre in Ramat Gan.

Legends

Much like grand diamonds, certain emeralds have made history. Particularly coveted by European royal families, these green gems quickly joined national and dynastic treasures. Often, their history is strewn with legends as much as fortuitous disappearances and reappearances. One of the oldest, the Emerald of Saint Louis, is part of the Crown Jewels of France and is now preserved at the Museum of Natural History in Paris. Extracted from the Habachtal mines, the 51.6 carat emerald adorned the central fleur-de-lis of the crown of Saint Louis, which was destroyed during the French Revolution. The emerald was then safeguarded by Louis Daubenton in 1796, director of the Museum. For its part, the British Crown Emerald, known as "Colombian No. 3" and cut to 75.47 carats, is believed to be pre-Columbian. One of the most famous, the "Duke of Devonshire" emerald, was gifted to the Duke in 1831 by Pedro I, then Emperor of Brazil, a staggering 1,384-carat stone from Muzo in Colombia.

> Colombia remains a provider of magnificent stones. But there are ancient sources that have produced sublime stones. Personally, I have a weakness for emeralds from Sandawana, Zimbabwe...
>
> — *Marie Chabrol*

Rough emerald crystals from Panjshir Valley in Afghanistan

ARR

> There is no colour more pleasing to the eye; for, although one's gaze eagerly rests upon the green of grass and foliage, infinitely more pleasure is derived from contemplating emeralds, no shade of green being truly green when compared to this gem. Flat emeralds reflect images much like mirrors [...]. Emperor Nero used to watch gladiator fights through an emerald.
>
> — *Pliny the Elder*

"Emeralds have been valued for a long time and have never really left the hearts of jewellers," notes Marie Chabrol. "The 19th century showcased them spectacularly on numerous pieces of jewellery. For instance, we can cite the Tiara of Marie-Thérèse, Duchess of Angoulême, preserved at the Louvre. Or the one that belonged to Queen Victoria and was crafted in 1845. The 20th century also saw emeralds on the jewellery of the maharajas who provided almost legendary orders to the great French jewellery houses. It's impossible to forget the pieces set with emeralds for the Maharaja of Patiala…"

Comprising 40 emeralds and 1,031 diamonds, the tiara of the Duchess of Angoulême is indeed a masterpiece of Restoration jewellery crafted in 1819 by Christophe-Frédéric Bapst and Jacques-Evrard Bapst. It enriches the collection of Crown Jewels dispersed in 1887 and since patiently reassembled by the Department of Decorative Arts of the Louvre Museum — this tiara was repurchased in 2002 during a public sale organised by the Counts of Durham. Daughter of Louis XVI and niece of Louis XVIII, the Duchess received this tiara and its *parure* from her uncle. Under the Second Empire, the tiara was also worn by Empress Eugénie who particularly appreciated emeralds. In 1988, the Louvre Museum acquired the crown of the same Empress Eugénie, composed of 2,490 diamonds and 56 emeralds mounted on gold, crafted in 1855 by jeweller Alexandre-Gabriel Lemonnier. Another remarkable piece from the early 19th century: the necklace of emeralds and diamonds gifted in 1806 by Emperor Napoleon to Hortense de Beauharnais, future Queen Hortense and daughter of Empress Josephine, is another striking example of early 19th-century imperial jewellery. Preserved at the Victoria & Albert Museum in London, it was created by Nitot & Sons, Napoleon's principal jewellers. As for the eccentric Maharaja of Patiala, he commissioned 149 *parures* from the house of Boucheron in 1927, including an extravagant ceremonial emerald plastron.

Emeralds indeed love to adorn themselves with legends… *Emerald*, a collective work co-authored in 2013 by expert Joanna Hardy, delves into the history of these mythical jewels. She compiled a selection of 200 exceptional pieces, mostly from royal lineages or commissioned by the 19th-century maharajas and the great heiresses of the 20th. But also from a few stars. "I had the chance to discover one of these masterpieces in 2011 when Christie's auctioned an emerald pendant brooch crafted by Bulgari," Joanna Hardy shared on CNN at the time of her book's release. "Richard Burton originally bought this brooch for Elizabeth Taylor during the filming of *Cleopatra* in the 1960s. I tried it on at a pre-auction event and still remember its brilliance. The stones resembled the iridescent wings of an Egyptian scarab and enveloped me in a wonderful green glow. It was later sold for $6.5 million, smashing the initial estimate of $500,000 to $700,000." In this beautiful book, part of a trilogy with ruby and sapphire, historical creations rub shoulders with pieces from Cartier, Boucheron, and Bulgari, and contemporary designers: Hemmerle, Leo de Vroomen, and Sevan Biçacki. Unflappable, the emerald traverses time and trends with the same constancy.

VIDEAN

Tank ring with diamonds (c.1940)

Courtesy Sotheby's Art Digital Studio

THE 1940S: GOLD AND VOLUME

Jewellery historian and Bulgari specialist Amanda Triossi is perceiving a revival of the 1940s style. An era with a distinctive aesthetics, which celebrated gold and bold cuts.

While the 1920s jewellery was very colourful, adorned with diamonds set on platinum, the 1930s favoured graphic, geometric lines. Slowly shifting to new trends, jewellery then became heavier and extremely precious, encrusted with numerous stones, signing the end of the Art Deco style towards the end of the 1930s to give way to the Retro period (1935-1950).

With World War II however, trade routes were closed between the West and gemstone extracting countries. Diamonds from South Africa and precious stones from Asia were no longer able to reach the jewellers' workshops. High jewellery was forced to innovate to keep on creating the best quality items.

From platinum to gold

Noble white-coloured metal, platinum offers resistance to abrasion and aging, characteristics that made it a preferred material by pre-war jewellery. Requisitioned by the armament industry, it became scarce and jewellery makers had to compensate the gap with new metals and alloys. The use of palladium, usually very rare, became more frequent during those years. Silver in colour, it is however much lighter and less resistant than platinum.

Still available, it is gold that then offered the most advantages for the manufacturing of solid and quality jewellery; it rapidly became the most used metal during the 1940s. To be made sufficiently hard, gold was alloyed with other metals, allowing control over its use and stocks preservation. "Its colour can be altered, explains Amanda Triossi. Rose gold contains more copper; green gold more silver. Yellow gold is a balance of both and other metals like zinc or nickel, depending on the periods." Through these alloys, jewellery could present changing shades that craftsmen mastered to achieve the desired result.

This change of metal operated by the jewellery industry is, according to Amanda Triossi, not only due to the war: "I think there's a kind of pendulum movement in the history of jewellery: we go from white metal to yellow metal, then white comes back. And the war contributed to this change, but it's also because gold was slowly coming back into fashion."

A new aesthetic

Before war, coloured stones were associated with diamonds. Then, assembling coloured stones together became the norm. The shades were vibrant, the shapes, voluminous. Rings bulge, bracelets got wider and thicker. The geometric designs in vogue in the 1930s were replaced by a more naturalistic style, with a "clean" design with a bulky appearance. Gold jewellery surfaces were flat: there were few engraved ornaments or chiseling.

— Diotima Schuck

With the scarcity of precious stone resources and the impossibility for Houses to import them, jewellery craftsmen turned to other raw materials. Synthetic stones or imitations — such as fake pearls — were mainly used. Ornamental stones — or "semi-precious" — made a big comeback: citrine, amethyst, aquamarine, topaz…

"Jewellers used large stones, their size somehow compensating for their lack of value," notes the jewellery historian. When they had the opportunity to work with precious stones, these were generally small in size and distributed on the jewellery in *pavé* or invisible set — a technique patented by Van Cleef & Arpels in 1933.

Also, the use of old cut stones was typical of the 1940s: "People wanted to have fashionable, modern jewellery. They brought their old pieces to be melted down, providing the precious stones and metal themselves. It is thus not uncommon to find, at this period, old cut diamonds, whose shape would have been set in a 19th-century jewellery," explains the historian.

Houses in wartime

Despite the war, high jewellery houses pursued their work, their creativity intact. And soon appeared jewellery inspired by the events of the time, such as the tank bracelet, a must-have piece of the Retro period that recalls the wheels pattern of tanks.

Jewellery, at times, also became a symbol of resistance. In 1942, Jeanne Toussaint, the artistic director of Cartier from 1933 to 1970, designed a brooch depicting a bird in a cage, as an echo to the German occupation in France. Later, the house responded to the liberation of the country with a new bird, this time freed, with the cage door wide open. In the same way, Mauboussin celebrated the end of the war in 1945 by creating a stylised yellow gold and platinum corsage clip, depicting an American jeep and a French flag adorned with sapphires, diamonds, and rubies.

"In wartime, one would tend to think that there is less jewellery whereas they can be a means, as in times of high inflation, to invest money, in gold," notes Amanda Triossi. Moreover, some families enriched themselves through the war and amassed exceptional jewellery collections, allowing the Houses to continue to offer very high-quality, precious items, "still incredibly fine", specifies the historian.

The end of the war marked the return of stones, which began to be transported and used again from 1946… with new stylistic evolutions and renewed possibilities for creators.

Pendulum effect

When Amanda Triossi entered the world of jewellery at the end of the 1980s, she perceived a taste for Retro fashion: "At that time, jewellery from the 1940s was very in vogue. Everyone wanted to buy it because it was trendy to wear yellow gold. In the 1980s, everything had to be voluminous and bold and in a way, Retro jewellery fits into this spirit since they themselves are in yellow gold and quite substantial."

The following decade, like in this pendulum movement described by the historian, fashion switched back to silver shades, preferring white and diamonds. Consequently, on the secondary market, auction houses offered more silvery jewellery as well.

Today, Amanda Triossi observes a craze for 1940s jewellery on the market. "There is certainly much more interest in these pieces than there was ten or twenty years ago. They are increasingly present today." To this progressive return, Houses such as Hemmerle or Bulgari seem to respond with clean and sculptural designs.

With unique design and gold colour, the 1940s truly embody this "vintage" spirit towards which jewellers and buyers are turning today. Redefining contemporary fashion, they are brought up to date by today's creators. GemGenève is also an opportunity for secondary market dealers to offer their most beautiful period pieces.

> "It is obvious that movements don't start and end on a precise date. They appear gradually: there's a peak, then a progressive end and a new trend slowly emerges. Thus, we could already see Houses using gold from the 1930s. — *Amanda Triossi*

My favourite jewel of the 1940s

This conversation organised by GemGenève and Amanda Triossi honours jewellery from the 1940s… and dealers who have so carefully selected them.

Exhibitors had the opportunity to present their favourite jewel and the stories that led them to select this or that piece. The discussion is animated by the historian as well as by Dominik Biehler from Maison Ernst Faerber, Lindsey Miller from ProVockative Gems, and Celeste Wu from the Emerging Talents section.

The event is a moment of sharing and an occasion to exchange around a common passion, jewellery and stones. As the historian underlines, "behind every jewel and every stone presented stands an exceptional person."

Amanda Triossi

Photo Antonio Barrella. Courtesy Dorotheum

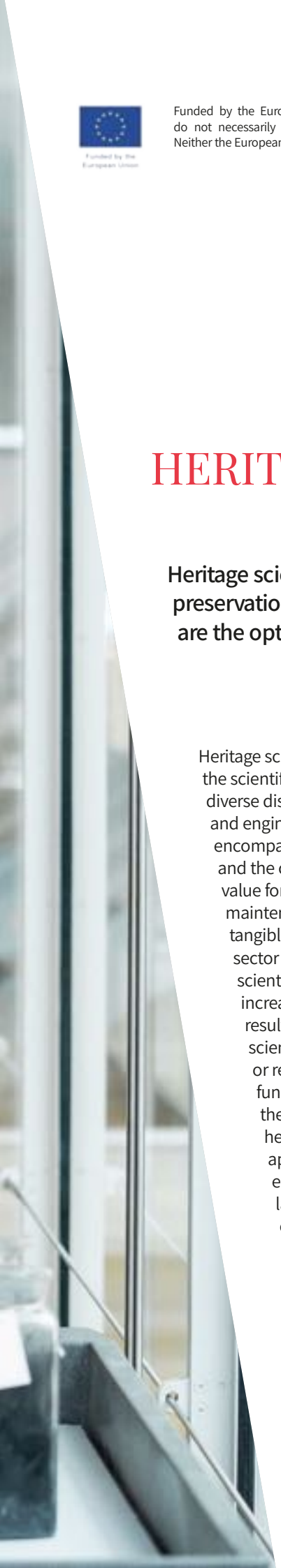
Ring (c.1940), Maison Riondet

ARR

ECOLOGY

Photo Caitlin Cunningham. Courtesy Harvard Art Museums

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.



HERITAGE, SCIENCE AND TECHNOLOGY

Heritage sciences are also facing new ecological challenges. Knowledge transfer, preservation of cultural objects, technological equipment, energy consumption. What are the options within the scientific community? Here are some avenues for reflection.

Heritage sciences constitute an interdisciplinary research field for the scientific study of cultural and natural heritage. Drawing from diverse disciplines of humanities, sciences, digital technology, and engineering, "heritage sciences" is a generic term that encompasses all forms of scientific research on human creations, and the combined works of nature and humans, which hold value for individuals. They aim to enhance the understanding, maintenance, sustainable use, and management of both tangible and intangible heritage. The heritage sciences sector has rapidly evolved over recent years. The number of scientific publications produced each year has significantly increased over the last twenty years, with over a third resulting from international collaborations. Heritage scientists predominantly work in heritage, academic, or research institutions, and their work ranges from fundamental research to more applied studies with the ambition to improve the understanding of cultural heritage and develop new ways to ensure its preservation, appreciation, and transmission, while aligning with the eco-responsibility perspective since December 2019 (the launch date of the European Green Deal). Like everyone else, they consume energy and resources, generate pollution, and produce waste. But what is the environmental impact of their work and how can they act to become eco-responsible?

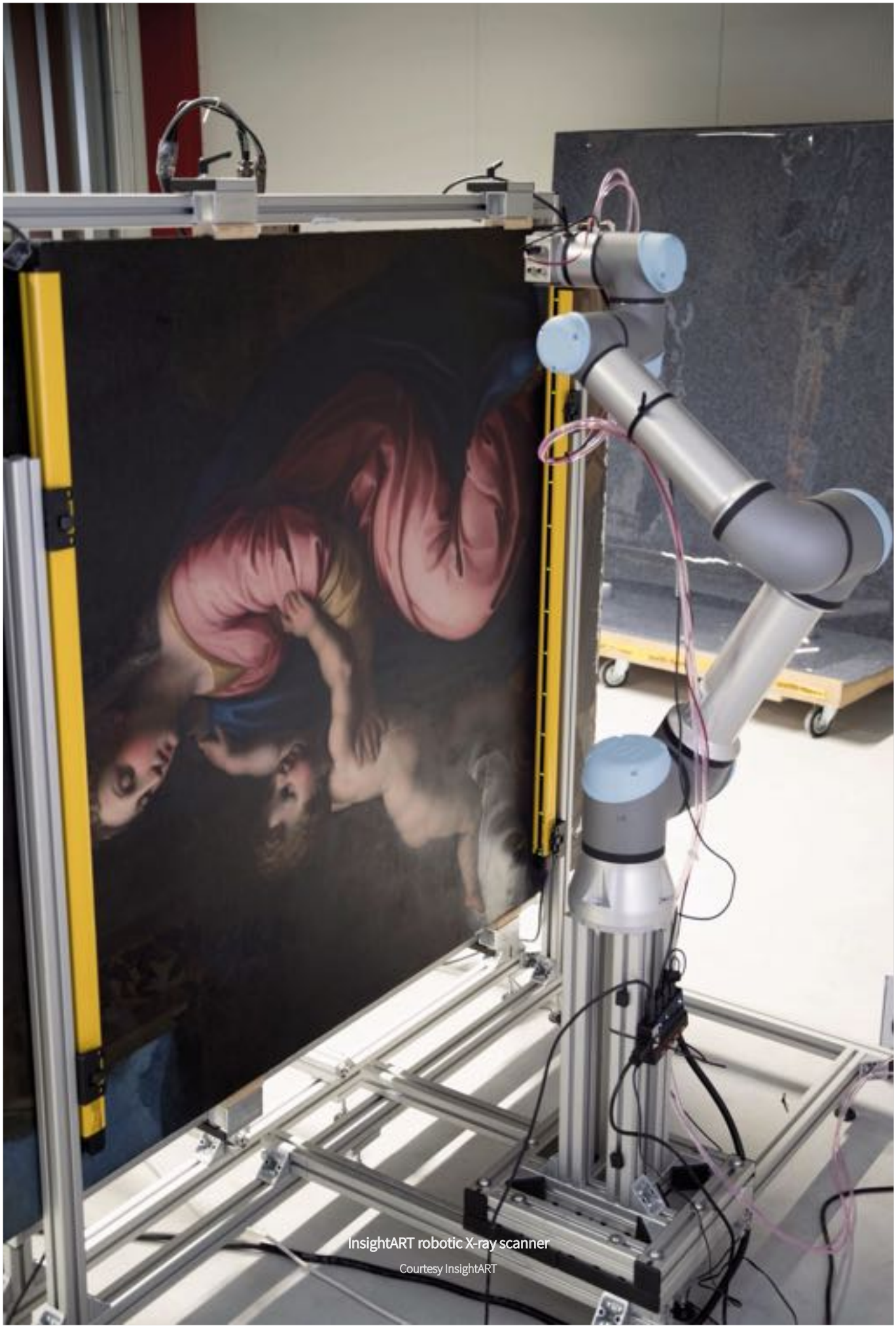
Open access

Open science is a broad topic covering various issues. In July 2018, the French Ministry of Higher Education, Research, and Innovation published the National Plan for "open access to scientific research results, without barriers, delay, or payment". This principle of openness is gradually being adopted by all institutions. It allows the author of a scientific paper to publish it in open access, so that the entire text is freely accessible to any reader. The APCs ("Article Processing Charges" or publication fees) are financially covered by the author or, more often, by their affiliated institution. The economic model is thus that of the "author-payer". The establishment of open-access text repositories has indeed caused the number of research studies on the internet to skyrocket. Internet users are rarely aware, but their wanderings in the virtual world have a real energy cost. According to Alex Wissner-Gross, a physicist at Harvard University, two Google searches would consume as much carbon as a hot cup of tea and generate 14 grams of carbon emissions, almost the footprint of an electric kettle (15 g).

Invasive, non-invasive, fixed or portable

The artworks that have reached us are precious and must be studied with the utmost caution. This is why the use of chemical methods requiring samples is becoming

— *Antonio Mirabile*



InsightART robotic X-ray scanner

Courtesy InsightART

increasingly rare: removing material, even in very small quantities, is no longer acceptable on heritage objects. Moreover, the sample is not always representative of the complete work, as it is often localised on the edges or in already damaged areas, around gaps. Hence, numerous new non-invasive analysis methods have been developed over the past twenty years. But it is primarily the new portable instruments designed for in situ analysis that offer the most advantages for research on artistic productions. Fixed analysis instrumentation requires the relocation of the artwork; it is the museum that is going to the lab! Beyond the carbon footprint associated with the manufacturing of a crate used only once with all the plastic cushioning systems inside and an air or other transport, heritage objects are subjected, during their transport, to conditions that promote various types of deterioration and damage. The most common dangers include handling effects, shocks, vibrations, and variations in relative humidity and temperature. It should not be forgotten that some deteriorations occur gradually and are not necessarily detectable immediately.

Instrumentation and obsolescence

The term "obsolescence", stemming from the Latin *obsolescere* meaning to lose value, was used by the Romans to denote an object that wouldn't be useful for long. Obsolescence is typically defined as a set of mechanisms encouraging consumers to frequently renew their purchasing act. Planned obsolescence, characterised by manufacturers' intent to shorten product lifespan, is one of the most controversial forms of obsolescence due to the perceived manipulation of consumers to meet companies' growing sales objectives. Regardless of its form, obsolescence is problematic from a sustainable development perspective. It leads to accelerated acquisition and disposal cycles of goods, whose primary consequence is a skyrocketing growth of waste. The obsolescence phenomenon is particularly evident in the electrical and electronic sector, where users tend to frequently change devices to keep up with rapid innovations. Each year, 20 to 50 million tons of electrical and electronic equipment waste is generated. It's essential to know that in all sectors and among all scientific instrumentation manufacturers, factories only provide spare parts for about ten years following the last marketing.

However, it's worth noting that these cutting-edge instruments like mass spectrometers or scanning electron microscopes demand a lot of effort to acquire and are often very costly (hundreds of thousands or even several million euros). Grant applications allowing the acquisition of these instruments are often lengthy, thus, support personnel put a lot of effort into keeping them operational as long as possible. Smaller common instruments like pH meters or balances with shorter lifespans are recycled with small electronic equipment. But just like a well-maintained car, scientific instruments can be useful for about ten years. In some cases, the instrument simply isn't performant enough for research needs anymore.

In rapidly evolving scientific fields, equipment transitions from a development phase to a routine operation stage. The obsolescence rate of knowledge is high, and the evolution of instrumentation towards rapid commercial exploitation is notable. It then becomes essential to think about organising research laboratories in a reactive, flexible, and networked manner.

Scientific imaging

The last category of common analysis methods concerns imaging applied to works. This can be used either to preserve a record of the work's state at a given moment or within an investigative framework. When talking about recording, photography comes to mind. However, other two-dimensional (2D) full-field imaging techniques besides photography exist. Staying within a domain close to visible radiation, UV photographs allow imaging of restored areas, while infrared ones provide a different distinction between closely coloured pigments. Infrared reflectography enables visualisation of underlying drawings made with carbon. Moving further in frequency, X-rays allow the object's transmission radiography, accounting for its density differences. These imaging techniques can be modified to render the three-dimensional (3D) structure of the object, like with X-ray tomography. It's also worth noting that several presented techniques can also be used to image objects, with the final image realisation in a "point by point" mode. The complexity of heritage materials is such that simultaneous recourse to various aforementioned techniques is often necessary to correlate results and extract sought-after information. Likewise, the development of multispectral cameras is encouraged to analyse works simultaneously across a large portion of the electromagnetic spectrum (especially UV, visible, and infrared). But, what will remain of these digitally born images in twenty years? What fraction of this work will be transmitted in the future? Probably quite little. As recently shown by a joint report from the Academy of Sciences and Technologies, the spontaneous aging of supports leads to constant migrations for digital information conservation (copying from an old to a new support). The operation is costly due to necessary handling and equipment; storing information on hard disks running day and night entails a real environmental impact (electrical consumption and air conditioning).

Energy consumption

The energy crisis, currently impacting the world and having strong effects on all of society (individuals, companies, research, administration…), does not spare SOLEIL, which had to renew its electricity supply contract for 2023 in 2022. SOLEIL, a particle accelerator (electrons) produces synchrotron radiation, an extremely bright light allowing the exploration of inert or living matter. In consultation with its supervisory bodies CEA (Atomic Energy Commission) and CNRS (National Center for Scientific Research), it had to take the very difficult decision to cease operating the accelerators and the 29 light lines during the so-called Run 1 period, from 18 January to 27 February 2023. This choice also aligns with the need to participate in the national effort to reduce electricity consumption during the winter period, which could prove critical for electricity supply.

Scientific research and eco-responsibility

Scientific research has always been subject to strategic orientations, being influenced by policies and subsidies from various government levels and societal evolution. For several years, certain scientific circles have been advocating for research to contribute more to establishing a genuinely sustainable society. However, many researchers work on topics that, they believe, have no connection with eco-responsibility themes, even though this concerns us all. Through their knowledge, scientists have a privileged position to implement sustainable and effective solutions. They have an exceptional ability to innovate within their research work. There's no doubt they will be capable of integrating the challenges. The shift towards a viable society thus necessitates a renewal of how we view scientific research, a more globalising vision, which includes long-term, interconnected, and transdisciplinary solutions-focused approaches.

Courtesy National Galleries of Scotland

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