

Gems & Jewellery

Spring 2021 / Volume 30 / No. 1

THE TRADE RESPONDS
TO COVID-19

GÜBELIN RATING
SYSTEM

DIRECTORY FOR
BLACK JEWELLERY
PROFESSIONALS

IMPERIAL RUSSIAN
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Gems & Jewellery

SPRING 2021

PIVOTING IN THE TIME OF COVID

We look at how the gem and jewellery industry has taken many successful steps to recover from the pandemic's negative economic impact.



THE LIST: BLACK JEWELLERY PROFESSIONALS

Until recently, there was no well-known cohesive networking tool for Black jewellery professionals. Lezlie Bailey FGA decided to do something about it.

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BEYOND FABERGÉ

Timothy Adams reviews this account of Imperial jewellery, a must-read for anyone with an interest in the Russian decorative arts.



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COVER PICTURE

Enji Studio Jewelry created both necklaces on our cover, with rutilated quartz from the Pyramid mine in Bahia, Brazil, and cut by Nature's Geometry. Photo courtesy of Enji Studio Jewelry.

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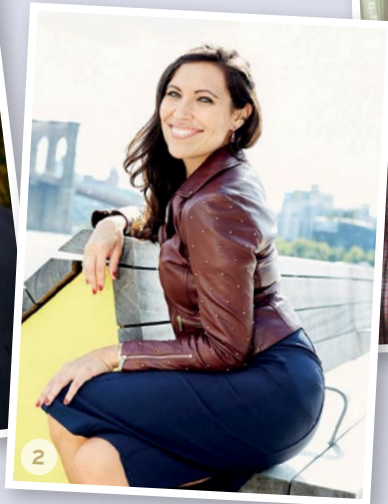
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Gems & Jewellery

Spring 2021 Edition Featured Contributors

1. TIMOTHY ADAMS

Timothy Adams is an independent art historian with an expertise in historical goldwork. His specialty is the work of Carl Fabergé, jeweller to the Russian Imperial Court. Mr Adams has an extensive 30-year background working in the fine-jewellery industry for companies such as Bailey Banks & Biddle and Tiffany & Co. He has worked with U.S. institutions such as The San Diego Museum of Art, The Bowers Museum and The Houston Museum of Natural History and Science for exhibitions such as *Fabergé: A Brilliant Vision*, *The Gems of the Medici* and *A Quest for Beauty: The Art of Van Cleef & Arpels*. He has also presented lectures for international symposiums at the Museum of Art and Science in Singapore, and the Fabergé Museum in St. Petersburg, Russia. Mr Adams is currently curating an exhibition for the Catalina Island Museum, USA, and Houston Museum of Natural History and Science called *Fabergé at Sea*.

2. OLGA GONZÁLEZ

The CEO of Pietra Communications, Olga González has over fifteen years of experience working within the field of gem and jewellery communications. A certified gemmologist (FGA DGA) and appraiser, she specialises in growing companies within the trade, empowering

through storytelling. Her clients are designers, manufacturers, trade associations, suppliers, stone dealers and diamond grading laboratories. Ms González currently serves as the president of the Women's Jewelry Association New York Metro Chapter Board and is a past president of the Public Relations Society of America New York Chapter. She also chaired the 15 Under 35 Awards. Ms González is a regular and award-winning contributor to trade and consumer publications on gem and jewellery-related topics.

3. EDWARD JOHNSON

Edward Johnson's career has focused on knowledge, ethics and integrity within the gem and jewellery industry, with a background working with high-profile non-profit organisations. Based in London since 2002, he established his own consultancy in January 2020 delivering projects to advance responsible practices and address issues of environmental, social and corporate governance (ESG) in the gem and jewellery supply chain. Most recently he was Business Development Director with the Responsible Jewellery Council (RJC). Prior to that he worked with the Gemological Institute of America (GIA) for 18 years, at first in Hong Kong and then establishing GIA's presence in the

United Kingdom from 2002 through 2017. He started his career as a trade journalist in Asia in 1992, and he has also acted as a gemmology consultant to a Hong Kong gem lab and an independent jewellery appraiser. Mr Johnson is a Graduate Gemologist from GIA, past president of GIA's Alumni Association Hong Kong Chapter, past director of the Gemmological Association of Hong Kong and a current Member of Gem-A.

4. AARON PALKE

Aaron Palke started his career in gemmology as a postdoctoral research associate at GIA after earning his PhD in geology from Stanford University. During this time, Dr Palke investigated the geological history of rubies and sapphires by studying minute inclusions in these precious gems. In his position as senior manager of research at GIA, he helps lead coloured stone research efforts in order to provide more reliable country-of-origin determinations and treatment identification for rubies, sapphire, emeralds and other coloured stones.

Thank you to Nathan Renfro, Brian Cook and Niki Grandics for their help in sourcing photographs for this issue.

Straight from the heart

Opinion and comment from CEO Alan Hart FGA DGA

Welcome to the Spring 2021 edition of *Gems&Jewellery* magazine. The last 12 months have certainly been a whirlwind; I hope you are safe, well and continuing to put your best foot forward in these strange and uncertain times.

In our modern world, the winds of change can often feel more like a hurricane than a light breeze. Fortunately, Gem-A is built on deep foundations, and our long history and decades-old commitment to rigorous scientific education and membership has served us well during the COVID-19 pandemic. In recent months we've strengthened our online education offering to allow more students to study in their own time, at their own pace and in the comfort of their own homes. Gem-A London has, along with many of our Accredited Teaching Centres (ATCs), taken bold steps towards blended learning models, whereby theory is taught online and only the most essential practical elements of gemmology education are done on-site and in-person. It was vital that in making this necessary transition, the quality and robustness of the courses we deliver to students didn't alter. I am proud to say that we have all, as a community of international educational providers, teachers and administrators, risen to this challenge. I would personally like to commend all our ATCs who have worked so hard to continue with the coronavirus crisis as an ever-present backdrop.

I would also like to give a round of applause to our students, who are applying themselves to their studies during these tough times and adapting their own practices to suit blended and distance learning. Now is the ideal time in many ways to look ahead and aspire to a different future, whether that means exploring a long-held passion for gemstones or plotting a career in one of the many interrelated disciplines that Gem-A qualifications are ideal for. I would like to welcome all our Graduates who are now part of the Gem-A global

community. Your presence is a jolt of optimism and inspiration for us all.

We had to make a few changes in 2020, including postponing and cancelling our annual exams, Gem-A Conference and Graduation Ceremony. As you can imagine, this wasn't a decision we took lightly, but the health and well-being of our students, Members and colleagues is always going to be our top priority. With the temporary closure of the London HQ and various lockdowns throughout last year, we invested time in improving our infrastructure and making plans for the future of our great Association. As a result of the pandemic, we are a smaller team; our goal now is to continue to deliver our courses, find ways to improve and, ultimately, bounce back so that we can keep adding value to the industry and subject matter we serve.

We are confident in our ability to develop and move forward, while giving back in terms of supporting the trade.

As I am sure many of our Members can appreciate, we spent a lot of time in 2020 discussing technology, including using it, leveraging it, investing in it, and understanding its potential. The results of this deep dive into tech are perhaps best seen in our educational offerings, but we are also using it to better engage with you, our Members. Even as we emerge from this pandemic — which has forced so many of us to stare at a computer screen — we still see the value of classroom-based learning and want to return to this as soon as it is safe to do so. Yet we are also excited about



the prospect of a Gem-A that embraces digital learning methods and reflects the contemporary, ever-changing, and technologically savvy facet of gemmology as a discipline. I look forward to updating you on the progress of our efforts throughout the year.

It's true that in times of crisis we can either sink or swim. I have been continually impressed by the actions of Gem-A's global community and the stories of individuals doing their small part to help. I have witnessed the value of Gem-A Membership first-hand in recent months, and have been the recipient of many kind emails, links to interesting features, Zoom conversations, webinars and words of encouragement. I also hope you have continued to enjoy our publications and have found articles to occupy your thoughts and inspire some further conversation or research into the topics we've covered.

All that's left to say is thank you to all our Members for your ongoing support, encouragement and commitment to Gem-A. We are confident in our ability to develop and move forward, while giving back in terms of supporting the trade. Let's hope that 2021 sees us beating this horrible virus and meeting in-person once again, united by a shared love of gemmology.

Best wishes

Alan Hart FGA DGA

Gem-A News

A round-up of the latest news from Gem-A

GEMSTONE HERITAGE

The family behind H.J. Johnson Jewellers in Devizes, Wiltshire, has recently celebrated a special milestone — three generations have now successfully secured the Gem-A Gemmology Diploma! Here, Rachel Nield PJ Dip FGA, a director of H.J. Johnson Jewellers and the most recent in this line of Gem-A Graduates, shares her story.



Three generations of Gem-A Graduates. From left, Ruth Blanshard FGA, Philip Blanshard FGA DGA and Rachel Nield FGA hold their Gem-A Gemmology Diplomas.

In 1928, my great-grandfather, John Blanshard, went into partnership in a wholesale jewellery business based in Hatton Garden called Tidy & Blanshard, mainly selling diamond rings. In 1952, his daughter — my grandfather's sister — and her husband joined the partnership and expanded into selling coloured gemstones. That is why they decided to take the Gemmology Diploma course at Gem-A.

My grandfather, Philip Blanshard, was 11 years younger than his sister. He couldn't wait to pass his exam and become an FGA Member too. He took the courses as

soon as he could, at the age of 19 in 1962. He then went on to pass the Diamond Diploma the following year. His love for gemstones went back to his school days; all his life he collected a vast range of beautiful gemstones and crystals. Tradesmen in Hatton Garden knew the stones he liked to collect — his favourites were tourmalines — so they would let him know when something unusual and of interest emerged. I am overjoyed that I will inherit his vast and beautiful collection for the shop.

In 1963, my great-grandfather took my



H.J. Jewellers, photographed many decades ago.

grandfather to Antwerp to see diamond sorting and grading. In 1966, my grandfather visited Kimberley, South Africa; the following year he travelled to Brazil to explore topaz mining and tourmalines. In 1972, my grandfather acquired a retail shop in Devizes that was struggling (H.J. Johnson). He asked my mother to help with this shop. She, along with my brother and I, moved in above H.J. Johnson. My mother started her gemmology coursework when she was 32 and passed her exam in 2002. Since then, she has worked hard to make the business as successful as it is today!

I joined the business as soon as I was old enough, at age 15, first starting on Saturdays only. After taking my JET 1 and 2 with the National Association of Jewellers,



The H.J. Johnson shopfront today.

I decided to start working towards my Gemmology Diploma, which I thoroughly enjoyed and passed in September 2020! The practical classes were amazing, and I cannot express enough how in-depth and necessary I think this qualification is to have in the industry. I have moved back to Wiltshire to become partners in H.J. Johnson Ltd with my mother. We plan to expand on the business in the coming years so we can develop, evolve and move with the developing jewellery industry.

GEM-A WEBINAR

Join us for what promises to be a highly absorbing webinar. For further details visit our Upcoming Events listings on page 39.

- *The Journal of Gemmology* with Brendan Laurs, Editor-in-Chief, and Gem-A's CEO Alan Hart, discussing the current issue, the history of the magazine and taking an in-depth look at some of the fascinating feature articles.

OBITUARIES

Don Ariyaratna

Gem-A is saddened to announce the passing of Don Ariyaratna, a long-standing and highly valued Member of the Association, on 21 January 2021. Don joined us in the 1980s, completing his Gemmology Diploma and becoming an FGA Member in 1982. The following year he completed his Diamond Diploma and secured DGA status. Don loved to share his knowledge, particularly of Sri Lankan gemstones; in this capacity he wrote the popular book *Gemstones of Sri Lanka*. Here Stuart Pool, of ethical gemstone specialist Nineteen48, shares why Don was such an inspiration to members of the industry.

“Some things in life are simply meant to happen, and I think meeting Don Ariyaratna was one of those things. I had not long before started a gemstone trading company (Nineteen48) with my business partner, Gary Seneviratne. Our plan was to sell gems from Sri Lanka.

I think it is fair to say that, at that stage, we had very little idea of what we were doing. A fortuitous meeting with Don at an event organised by the Sri Lankan High Commission in London gave us the mentor and gemmological guru that we most definitely needed.

To say that Don Ariyaratna was a critical figure in the development of Nineteen48 is a huge understatement. Without his expert tutelage in those early days, we would never have progressed so far so quickly. Gary and I spent many weekends at Don's house in London. He patiently imparted his decades of expertise and gave us precisely the knowledge we required, whilst his lovely wife, Nalini, fed us amazing Sri Lankan meals.

Don provided guidance and advice on countless occasions during the last decade. He was always ready to share his gemstone expertise over a cup of tea or even the occasional glass of wine.



Photo courtesy of the Ariyaratna family.

Without his support, I would not be where I am now, and I will greatly miss our regular chats.

Don was a devoted husband, father and grandfather. His family was always foremost in his mind. He was a devout Buddhist and supported many charitable activities, without any great fanfare or need for recognition. It was an honour to know such a kind and generous soul and I will never forget his customary farewell: ‘With the blessing of the Triple Gem, may you be well and happy’.”

Jose Hess

We must also acknowledge the passing of Jose Hess, on 9 February at age 87. A successful jewellery designer, advocate and teacher, Hess was also instrumental in the practice of designers selling under their own names and labels. He earned recognition for his own jewellery lines, while helping to create a sea change in how designers were seen by consumers.



Born Josef Hess to a German Jewish family in 1933, he immigrated to Colombia with his parents during the rise of the Third Reich. At this time his name was inadvertently changed to ‘Jose’, the name he kept throughout his life. At age 14 he began working for a Viennese goldsmith who had also fled from Nazi Germany. At first hired to sweep the

studio, Hess was eventually apprenticed to the goldsmith. He moved to the United States at 17, where he worked at other jewellery-related jobs and served four years in the U.S. Army. He received a degree from the Mechanics Institute of the General Society of Mechanics and Tradesmen of the City of New York. He then worked for American jewellery designer David Webb before striking out on his own in 1958.

While the clothing industry recognised the draw of designer names — a trend Hess had observed — the jewellery industry had not followed suit. Retailers were accustomed to selling generic collections from manufacturers. Hess bucked this trend; his first efforts included stamping his name on the back of his creations. He became a trailblazer in establishing name recognition, entering design competitions and taking out advertisements in trade and consumer magazines. In 1963, he won a De Beers Diamonds International Award

— his first win. His name recognition grew, and his jewellery was worn by celebrities such as Demi Moore, Cindy Crawford and Ariana Grande.

Hess became known as an advocate and mentor, sitting on multiple industry boards throughout his life. He co-founded both the American Jewelry Design Council and the Contemporary Jewelry Design Group; he also taught at the Fashion Institute of Technology. He was the first American elected president of CIBJO (1997–2000). Current CIBJO president Gaetano Cavalieri remembered Hess as “compassionate and generous, with a keen sense of humanity and community. In so many ways he embodied the cosmopolitan industry of which we are all part. He was also a brilliant jeweller, raising the level of our craft to a fine art.”

Jose Hess is survived by his wife, Magdalena (Maggie), four children and four grandchildren.

Jose Hess photo by Niels Ruddy Hansen.

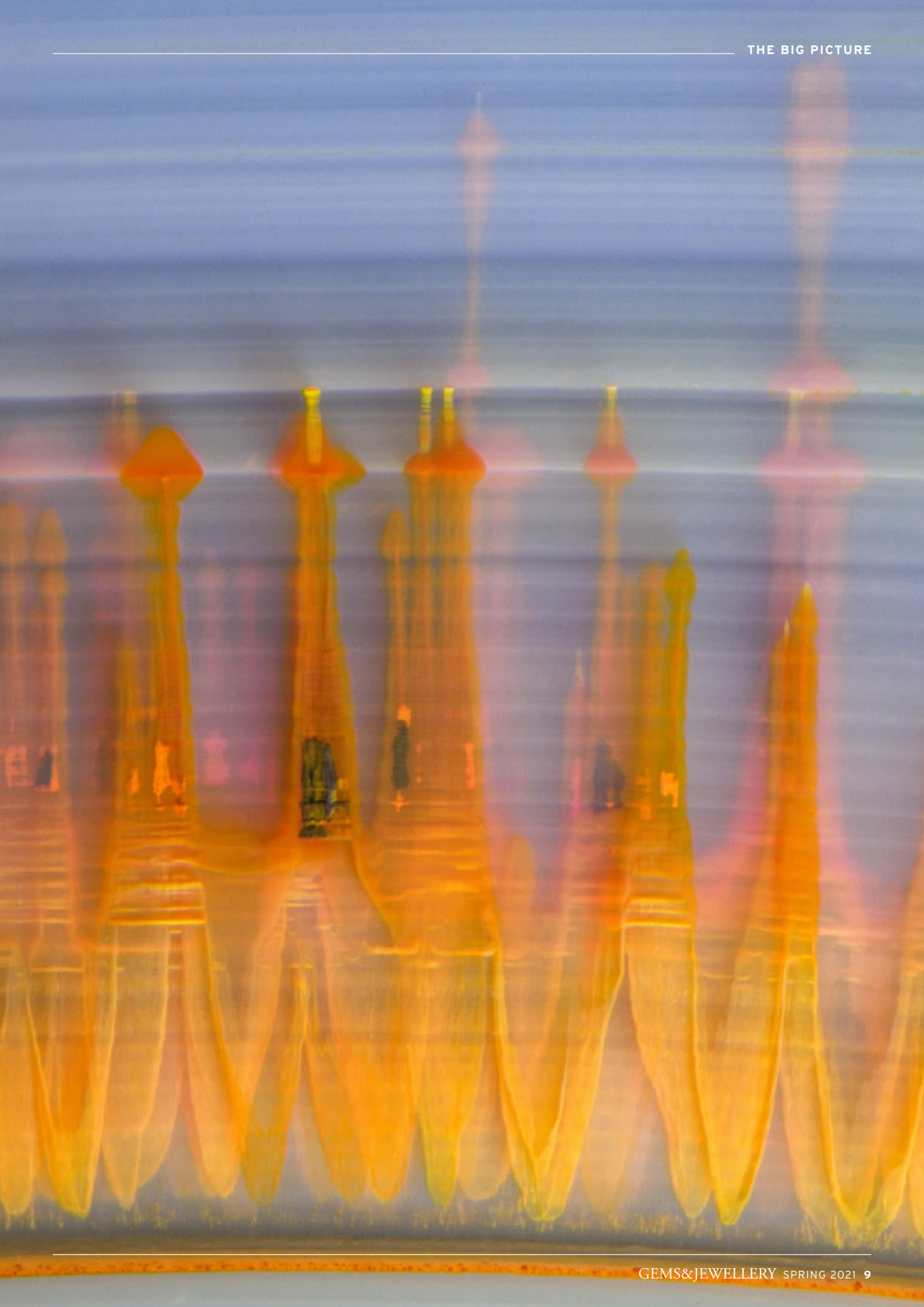
Cities Under the Microscope

GIA's manager of coloured stones and photomicrography expert Nathan Renfro FGA shares an in-depth look at the inner world of this Brazilian agate.

One of the best career choices I've made was to pursue photomicrography. I started learning how to cut gems as a hobby when I was 18, and that took me down a path to where I ended up as a staff gemmologist at GIA in Carlsbad, working with John Koivula. He taught me a great deal about photomicrography and has always been a strong supporter of my work. His confidence in me and my own growing passion for finding inclusions led to me experimenting with light and colour. I enjoy finding quirky things under the microscope and sharing what I find with others.

This chalcedony from Minas Gerais, Brazil, is a perfect example of a fun find. Under the microscope I see the layers composed of limonite and goethite, but I also see them form several spires, as if they were a city landscape waiting to be discovered. It was particularly inspiring to discover this scene during a time of social distancing and limited contact and interaction. We may not be going out into cities or sightseeing at the moment, but we can still explore new worlds and enjoy the views from where we sit. ■

This agate from Minas Gerais, Brazil, shows layers of limonite and goethite reminiscent of an urban landscape. Photo by Nathan Renfro, field of view 9.00 mm.



The Jewellery Industry Pivots in the Time of COVID



1: This 1.05 ct Fancy purplish-red diamond (shown alongside two heart-shaped diamonds and set in a platinum ring by Graff) set a price-per-carat record in November 2020 when it sold for GBP 2.13 million (GBP 1.89 million/ct). Photo courtesy of Christie's.

In the immediate aftermath of the 2020 lockdown, many professionals voiced concern, even fear, about how they might proceed in a world where employment — both their own and potential clients — was precarious. Of particular note was that, prior to 2020, confidence in the trade was high. As early as 2014, a McKinsey and Company report anticipated that the 2020 jewellery industry would be “highly dynamic, truly globalized, and intensely competitive.” JCK had reported in mid-2019 that the Jewelry Industry Confidence Index was 86%, indicating considerable optimism in the trade's status, while the 2020 Tucson gem shows were quite promising for a number of people. The gem and jewellery industry has not been exempt from pandemic-related concerns about the economy; in October 2020 *Retail Insider* reported that sales dropped by as much as four-fifths the previous spring. However, a portion of the retail market had recovered by a significant percentage by the fall, with sales rising and several record-breaking jewellery auction sales made (1).

So how did the gem and jewellery trade manage to pivot? In part, it was because of customer behaviour; people who would have spent money on travel or other luxuries spent money on jewellery

Many industry professionals were concerned during the first lockdown in 2020, but the gem and jewellery industry has taken many successful steps to recover from the pandemic's negative economic impact.

instead. But those businesses that have been able to stay open and afloat have some qualities in common: they have been able to move to a social media platform or leverage an existing social media presence; they have adapted to online selling, outreach and education; and they have applied or reiterated the importance of sustainability and social responsibility to their clients. And perhaps most significantly, a great number of actors seem to have come together to provide support to others across the supply chain who may be struggling or need support or education to get through this uncertain time. These decisions have allowed jewellery professionals to switch gears during this unanticipated event, and make choices that may sustain them through the pandemic and beyond.

OUTREACH

For those members of the trade who invested in the optimism that preceded the worldwide coronavirus outbreak, the lockdowns in the first quarter of 2020 were quite a blow. Raymond Egbo of Egbo Collections (see p. 25) experienced such a jolt, and he was not alone. “Personally, COVID has greatly altered my outlook on execution, storytelling, networking and creativity when it comes to Egbo Collections. My brand was only established in early 2019 (e-commerce late 2019) and I had plans to progress the brand forward in 2020, until the pandemic hit and caused the worldwide lockdown. This happening completely upended any kind of plans I laid out for the year. After I was furloughed from my 9–5 job and, as now, facing days of isolation from the outside world, Egbo Collections was left at a place of limbo.”



2: This custom engagement ring, designed by Emily Phillippy, places a 2.41 ct Montana sapphire between two .40 ct pear-shaped diamonds in a 14 ct rose-gold setting. Photo courtesy of Emily Chelsea Jewelry.

Other designers and trade members mentioned leaving established jobs to set up shop in 2018 through early 2020, only to field similar shock.

Many in the industry turned to social media not only to stay in touch with people and to stay on top of the news, but to keep their own networks interested and up-to-date on how they are faring. Emily Phillippy of Emily Chelsea Jewelry (2) made such an effort. She remembers "I started posting constant gem and diamond videos, polls and quizzes. Then I started a series called 'Gemfessions', a series of Instagram live videos where I interviewed a friend from the industry and we talked about some of our embarrassing secrets, ones that have happened while working. It was purely for entertainment and it was received so well. I got so many messages from people thanking me as they looked forward to our posts every day. I really just took those two months to be my candid self with my followers and I think it paid off."

In a similar vein, gem education consultant Rui Galopim de Carvalho began hosting webinars for other members of the industry: "As all my traveling, lecturing and guided tours were canceled, I had extra time and decided to organize gemmological talks among gem friends, first among my Spanish group and then with Thai friends, all over Zoom. The objective was not educational, but rather to entertain and create a forum for us gem-loving people to get together, as voluntary work on a time of crisis and emotional sadness all over the world."

Galopim de Carvalho eventually began co-hosting the sessions with fellow industry consultant Edward Johnson; these evolved into the 'Jewellery Industry Voices' series with the support of the World Jewellery Confederation (CIBJO; see pp. 36–38). Other members of the industry, inspired by these initial seminars or simply adapting their web presence to another medium, also began webinars, podcasts and other ways of staying in touch with colleagues, peers and the public. Webinars are now easily found for a variety of topics; at the same time, more schools are making online learning even more accessible to students than it had been prior to COVID. Still, the initial informal contact with others in the trade may have made an isolating time easier for many people.



3: *The Vitoria pendant uses a 58 ct rutilated hematite that was ethically sourced from the Pyramid mine in Bahia, Brazil. It is set in a hand-fabricated recycled 14 ct-gold setting and accented with Australian black spinels. Photo courtesy of Enji Studio Jewelry.*

TECHNOLOGY

Much of this contact and outreach has, of course, been made possible with acceptance and use of technology. This was a tremendous leap for many established members of the industry, who had previously felt that jewellery purchases were part of a relationship that was not easily cultivated online. In a June 2019 article about the closing of brick-and-mortar stores and the greater market share of online retailers, Marty Hurwitz of MVI Marketing indicated that it was generally harder for small businesses to break into online platforms: "It's really hard if you're a small business now...Generally it's a relative running the social media, and they're not putting the effort into it. You have to be telling stories and you have to be telling them every day."

Yet adapting to platforms like Instagram and TikTok, and even upgrades of their own websites served many small jewellers well over the past year. London-based designer Alice Cicolini reported to the *New York Times* that she grew her business 300–400% since 2019, with most orders coming to her through email or Instagram. A number of

the younger business owners who sent their thoughts — including those under the spotlight for The List article (pp. 22–25) indicated that social media largely helped their businesses, not only through their own efforts. Raymond Egbo noted that the 'Black Lives Matter' protests in the spring and summer of 2020 resulted in people seeking out Black-owned businesses, which brought his work to a new clientele. Niki Grandics of Enji Studio Jewelry (3) began publishing articles facing members of the supply chain; her efforts to raise awareness brought her attention from interested parties. The ability to update the design and creation process in real time, as Jade Hibbert (Jwllry by Jade) does on Instagram, makes people invested in her work. These successes have caused business owners who have used more traditional methods in the past to take notice and adjust their own approaches to incorporate more updated means.

But social media is not the only method for connection; JCK hosted its first 'Virtual' event in August, combining education, networking, virtual appointments and more. The organisation plans to develop a post-pandemic 'hybrid' event that brings the best of in-person and online experiences together for attendees. The Ethical Gem Fair, first launched in 2019, was free, virtual and interactive this year, with presentations, 'booths' and its own networking opportunities. The ways the industry is adapting technology to using tools, some only quite recently available, is remarkable and in many ways responsible for its resilience. →

4: *Nineteen48 has directed their efforts towards helping Sri Lankan miners like this team leader, known as Mama (shown here near Ratnapura, holding a piece of recently mined quartz), navigate the COVID-19 pandemic. Photo courtesy of Nineteen48.*





5: These rough garnet varieties were purchased from TAWOMA miners at Market Day 1 in Tanga, Tanzania. From left: almandine, hessonite, spessartine, grossular and rhodolite. Photo courtesy of ANZA Gems for Moyo Gems.

PHILANTHROPY AND SOCIAL RESPONSIBILITY

A major part of the recovery we are seeing is due to the efforts made by industry members to help those along the supply chain that are in need of assistance. While gem mining is normally done in more remote, rural areas of the world, the people who perform this work are no less susceptible to illness and overtaxed health-care systems than their urban counterparts. However, their out-of-the-way locations have made it a bit harder for the miners and their families to contract the virus themselves. Gem cutter Roger Dery spoke about the pandemic and how it has affected Tanzania: "Their hospitals are crowded, but they are not turning people away. There are currently 58 million people in the country but only 4.5 million in the main city, Dar es Salaam. Well over 50 million people live in rural villages, where they seldom have contact with outsiders where infection could spread." Even so, this distance — and the inability to travel due to the pandemic itself — has led to dire situations where miners, cutters, runners and other actors have not been able to generate income for their work.

There was tremendous support for the work of Gem Legacy (pp. 14–15), in part because they had an active leadership council and advisory board, as well as an existing social media platform. But they were not the only people taking an interest in the supply chain. Stuart Pool (Nineteen48) has long been interested in

Jewellery professionals have transitioned to online media and "outside the box" methods to not only sustain their businesses, but to help their peers stay afloat.

ethical treatment of miners and cutters, so his thoughts did not dramatically change over the past year. "My focus has been mainly on Sri Lanka through our partner company, Crown Gems, run by my friend and colleague, Janaka Abayawickrama. We have allocated most of our time and resources to ensuring that our team was able to keep going and not be disadvantaged by the pandemic. That has meant working hard to find new customers and revenue streams, as well as using our reserve funds to support them when they were unable to work (4). At the same time, we have not cut any corners on the ways in which we do business and our core principles."

Pool is also affiliated with Moyo Gems

(5), as is Monica Stephenson of Anza Gems. The two companies, along with the NGO Pact, formed Moyo in 2017 in order to bring skills and value-based knowledge to women miners in Tanzania. Through 2019, Moyo Gems sponsored in-country Market Days at which the miners could sell their gems. When travel became prohibitive in 2020, Stephenson and her colleagues considered how they could support the Tanzanian miners if they could not visit the region; in response, Moyo was able to launch two well-received Remote Market Days. On p. 13, Stephenson shares the story of a miner who has had success at each Market Day, including the remote versions, that Moyo has organised.

These efforts at ethical, transparent behaviour — a quality sought out by many of the target customers, of the trade members who make the effort without prompting. The actions on behalf of all industry members may help sustain a healthy and sustainable supply chain through the pandemic and beyond.

CONCLUSION

Just as an influenza epidemic marked a decade a century ago, so will the 2020s be remembered, in no small part, as the time that coronavirus left people sick, grieving and unsure of the future. Recollection of the 1918 flu pandemic usually focuses on the loss of life and health; there are comparatively few reports on the effects on the economy. There are, however, indications that many fields took short-term hits that were difficult to navigate at the time.

If the businesses that survive the COVID-19 pandemic have anything in common, it will be their flexibility and adaptability. The gem and jewellery industries are no different in this regard. Success in the market often comes down to the personal touch that coincides with in-store visits and tactility, but jewellery professionals have transitioned to online media and 'outside the box' methods to not only sustain their businesses, but to help their peers stay afloat. From trade shows to education; from the designer's desk to the showroom floor; members of the trade have learned how to create and change expectations — most notably their own. ■

References for the article are available by contacting the editor (editor@gem-a.com)

Meet Bahati, a Woman Miner from Tanzania

Monica Stephenson (Anza Gems and Moyo Gems) travels to mining sites in order to provide ethical, traceable gems to the trade. She met Bahati, a member of the Tanzania Women Miners Association (TAWOMA), who participated in Moyo's Remote Market Days during the COVID-19 pandemic. Stephenson shares her thoughts on Bahati's work, along with Bahati's own experiences.

I first met Bahati in June 2018, when collaborators in Moyo Gems travelled to the Tanga region of Tanzania. Cristina Villegas and Norbert Massey (Pact), Stuart Pool (Nineteen48), an Everledger blockchain technology representative and I met with TAWOMA to discuss their challenges and their ideas for a market where they could sell their gemstones. This formed how we structured the Moyo Gems Market Days. Bahati was in attendance, and became Moyo Miner Number Four.

We were delighted to see Bahati again at Market Day 1 in May 2019. She brought her baby, Talha, with her. She had beautiful grossular garnets and rhodolite garnets. She negotiated — which we encourage, but is not something all the women know how to do — and walked away with a sale that represented more than she would get from local brokers.

Bahati attended all the Market Days

in 2019 and, once the pandemic hit, the Remote Market Days. We purchased from her at each event. We have watched Talha grow from an infant to an adorable toddler who makes everyone smile, and we have witnessed Bahati's progress as a gem professional: she is always prepared, washing and sorting her gems, with knowledge of what her gems are worth. Her gems, faceted by Beth Stier in the U.S., have sold well, allowing us to buy more of Bahati's gems. Her success is our success.

None of us could have imagined the effect of a pandemic on Tanzania. In response, Pact and TAWOMA helped organise Remote Market Days. We are grateful that miners such as Bahati overcame challenges like childcare and transportation to sell at these events. With a continued sustainable marketplace, Bahati and others like her can continue working in pursuit of their goals.

At Market Day 5 in 2019, Bahati told us the following:

My name is Bahati, I mine tourmaline, green garnet and rhodolite. I have been mining for 14 years now; I learned mining through my husband. We have four girls, from age 21 at university to the last one Talha, (2.5), born during the Moyo Market Days.

Before, we sold to brokers and received small amounts compared to what we get from Moyo. I am lucky that I have been able to sell in all the Market Days. Mining has allowed me to support my family and pay for our children's school fees. I am planning to ensure that our kids study in good schools — and Talha gets good education so that she knows more about our environment — and to have good housing in the future.

In-Person Giving in TANZANIA

When a five-week visit to Tanzania left Rachel Dery of Gem Legacy in-country for five months, she mobilised efforts to provide food and protective masks to mining communities — and these efforts are still going strong.



Rachel Dery, director of communications and outreach of nonprofit organisation Gem Legacy. During her five-plus months in Tanzania in 2020, Gem Legacy was able to coordinate almost 120,000 meals to over 900 families and 275 orphans.

1: A number of Tanzanian mining communities were imperiled by the COVID-19 pandemic, including communities that mine gem garnet.

"Most of us thought, 'Oh, we'll do this lockdown and everything will be fine and pass quickly.'" Rachel stayed in touch with her family about her plans and changing flights, but they soon realised that she could be there for the long haul. Her flight was changed six times before she was actually able to leave Tanzania in July 2020.

Of greater concern to Rachel than her itinerary though was the lack of gem buyers in the market towns and at the mines. As she put it, "I underestimated the layers of the supply chain that were hurting." By May the situation was dire, not just for miners, but for cutters, runners — the people who bring gems to cities to be sold and transfer money from the sales — and other members of the community that benefit from the sale of gems. Particularly hard hit were communities that mined sapphire, tanzanite, spinel, zircon and garnet (1). On behalf of Gem

Perhaps no one during the COVID-19 pandemic has exemplified the "when life hands you lemons, make lemonade" maxim than Rachel Dery, director of communication and outreach of U.S.-based non-profit organisation Gem Legacy. She arrived in Tanzania for a five-week visit in February 2020, only to find that her stay was extended indefinitely when the COVID-19 pandemic shut down international travel. With Rachel in-country for over five months, Gem Legacy was able to leverage their network alongside her on-the-ground input to provide help to those in great need. The result was the fundraising, coordination and delivery of nearly 120,000 meals — serving over 900 families and 275 orphans — as well as soap, masks and other equipment, to mining and gem-related communities in Tanzania and Kenya that have been devastated by the pandemic's economic impact.

Rachel arrived in Tanzania shortly after the Tucson gem shows in February 2020. While travel in the Western world was not greatly restricted, Asian buyers — who usually arrive in January — had not been able to travel to gem markets due to their early experiences with COVID-19. However, recently conducted business in Tucson had meant that members of the Tanzanian supply chain were not yet greatly concerned. Even in early March, when lockdowns began occurring across Europe, Rachel said,

By May the situation was dire, not just for miners, but for cutters, runners and other members of the community that benefit from the sale of gems.

Legacy, Rachel began to ask community members what they needed to sustain themselves. Given a list of food items, the organisation began to act. Through the efforts of their board members, the power of social media and the ability to transfer money from fundraising efforts with relative ease, Gem Legacy was able to raise enough money to for almost 120,000 meals at 53 mines in Tanzania and Kenya (2). Rachel was present at a great many of the Tanzanian distributions, with at least two trusted partners of the organisation taking care of deliveries at all sites in Tanzania and Kenya.

When asked which items would be of the greatest help, community members asked for non-perishable food items that could be made to last. Each package consisted of enough beans, rice, oil, sugar, tea and flour to last four people about a month. In an effort to provide protective



2: Food deliveries, such as the one shown here, took place on behalf of Gem Legacy at 53 mines in Kenya and Tanzania.



3: Children at group homes and orphanages in mining regions also received meals and food supplied by Gem Legacy.

equipment that also stimulated the economy, Gem Legacy was able to raise funds to hire local seamstresses who were employed to sew masks, and each family also received four masks. Soap and drain buckets were also distributed to mines to be kept on-site and shared by workers; amounts given vary by size of mine.

The non-profit's contributions have not stopped with mine workers and their families. While attending school, Tanzanian children receive daily hot breakfast and lunch. With schools closed, children living in group homes and orphanages are frequently doing without those meals. At the request of the mining communities, meals have been delivered to group homes to replace the meals the children are not getting at school.

Thoughtful giving seems to be a Dery family value. Rachel and her parents, award-winning gem cutter Roger Dery and colour consultant Ginger Dery, formed Gem Legacy in 2018 to support education, entrepreneurship and vocational training in East African gem communities. The organisation's leadership council (4) and advisory board are solicitous as well, comprising people from all aspects of the coloured

gemstone industry who believe in a bright and secure future for people all along the supply chain. They understand the impact that value-added activities can have on the vitality of a gem locality.

The non-profit's website has an assortment of initiatives and ideas to support education and beneficiation. Current efforts including fundraising for miner toolkits, support for primary schools and children's homes, gemmological and faceting education and, of course, COVID-19 assistance. There are a numbers of ways to give to communities, from straight giving to the area of greatest need to donations from jewellery sales to book and pyjama drives. And 100% of all proceeds are directed to the people the organisation is dedicated to serving.

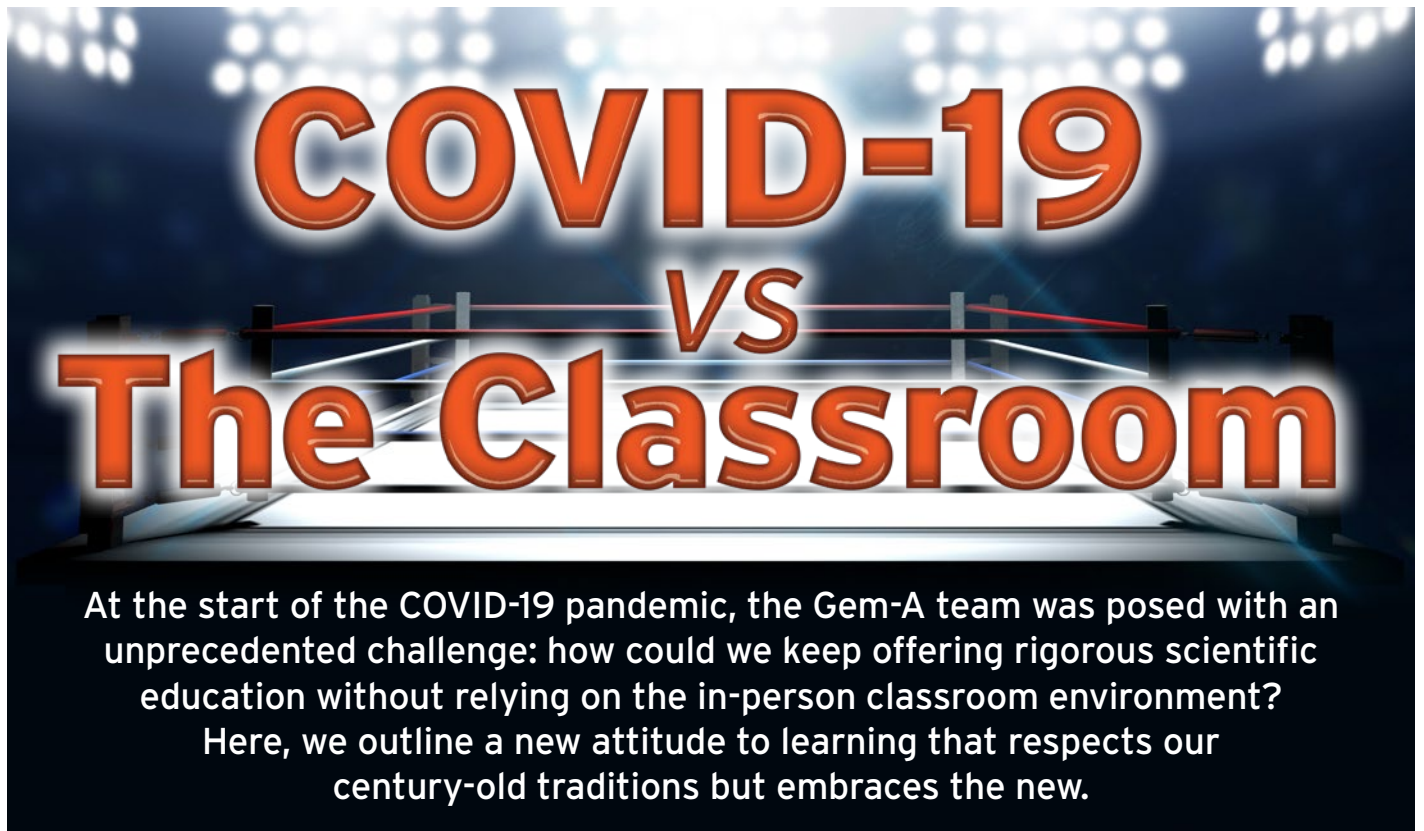
Gem Legacy's work was recognised by the industry when they became the recipient of a JCK Industry Fund 2021 Grant. These funds will benefit their programmes in Gem Faceting Scholarships and Equipment for the Arusha Gem Faceting School in Tanzania and their ongoing COVID-19 relief.

The people of Tanzania are grateful for the support, Rachel said. "People didn't believe their jobs mattered to other people in other parts of the world." Certainly they know what they mean to Gem Legacy. ■



4: Members of the Gem Legacy Leadership Council.

To learn more about Gem Legacy's initiatives and pandemic relief efforts, go to www.gemlegacy.org.



There's a reason why the humble classroom environment has been the reserve of teaching institutions for thousands of years. It captures the attention of students, directs individuals towards a common goal, provides opportunities for interaction and entertainment and allows a tutor's knowledge to be shared.

Sometimes, however, access to a classroom isn't always possible. To keep up with the demand for gemmology education from students far and wide, Gem-A introduced Online Distance Learning (ODL) some years ago, powered by the 'Internet Age' and



delivered with the caveat that practical aspects of learning and examinations must be completed in-person to ensure academic rigour.

In the spring of 2020, when the COVID-19 pandemic began to impact delivery of our Accredited Teaching Centres (ATCs) across the world, we were faced with a challenge: How could we continue to offer the same level of education when social distancing and lockdown restrictions made the classroom a no-go? With Gem-A HQ in London also temporarily closed and our team working from home, we began to critically assess our on-site offering, make improvements and continue delivery online via group video calling on our e-learning platform.

Of course, we already had some good 'habits' in place. Regardless of whether they choose to study online or in-person, Gem-A Students receive the tools they need to learn both theoretical and practical gemmology, such as the course notes, workbook, rough and cut-gemstone set, light source and portable gem kit given to all Gemmology Foundation students. Online courses are fantastic for their convenience and flexibility, but they also need to foster the competencies that make Gem-A Alumni

an asset to our global industry.

Our ODL approach is also bolstered by a small selection of language choices, notably English, Japanese and more recently, Traditional Chinese. We know that prospective students appreciate the rigour of our courses and the long history of academic excellence that Gem-A provides. By offering native-language education through ODL courses we are

Online learning, blended learning and traditional classroom learning are all viable options.

able to demonstrate our commitment to gemmology education internationally, all the while making learning more accessible and, ultimately, more enjoyable for students. In the future, we hope to introduce further language options for those wishing to study in their mother tongue.

As every country across the world has its own social distancing and lockdown measures in place, we must be flexible in supporting our students depending upon where they live. Many of the ATCs (including our London ATC and Gem-A HQ) have shifted to blended learning as a temporary measure, which allows students to learn the fundamental theory online and the essential practical identification and handling skills in a classroom environment (following the social distancing guidelines allowed in each ATC location).

The lessons of the past 12 months have taught our in-house team — and many of our ATCs — that online learning, blended learning and traditional classroom learning are all viable options for our students as they grapple with the demands of gemmology education. While we don't know exactly what the future holds or how COVID-19 will continue to impact our lives, we have all learnt some important lessons about adaptability, flexibility and the rise of online learning. Without the classroom environment, can Gem-A continue to foster the same community spirit that leads to the Gem-A Conference, for example? This question is now at the forefront of our minds. We will be working hard to ensure our current students and recent Graduates know they are part of an international network of gemmologists, especially if they choose to become Gem-A Members and secure their FGA and/or DGA status. ■

WHAT DO OUR STUDENTS SAY?

"Studying for my Gemmology Foundation via ODL is challenging but rewarding. I am a jeweller, gem dealer and gem cutter, and this will give me a solid foundation for all aspects of my work. Getting to know the wonders of the earth is a real perk!"

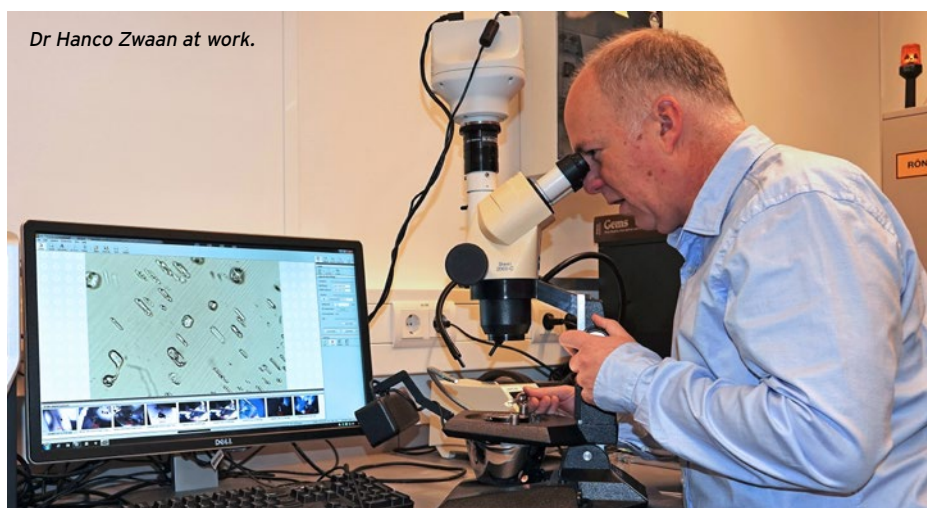
Tania McIntyre, Netherlands

"I chose to study with Gem-A as the ODL course allowed me to study while working full time. The online platform and textbooks are marvellous and getting assigned a tutor to look after you if you have any questions or concerns was definitely a bonus. I'd highly recommend studying through Gem-A no matter where you are in the world,"

Sarah Mae Beckett, Australia

"What a journey I've had so far on the ODL Gemmology Foundation! We've so far covered many of the aspects I was most curious about, ranging from geology to observation of inclusions and optical effects. The set of tools provided has allowed me to look at gems from new, fascinating angles. Kudos to my tutor for bearing with my endless questions and providing excellent advice."

Lisa Di Domenico, United Kingdom



Dr Hanco Zwaan at work.

WHAT DO OUR ATCs SAY?

"Since March 2020, COVID-19 has affected the normal face-to-face theory and practical classes at the Asian Gemmological Institute & Laboratory Limited (AGIL), Hong Kong. AGIL uses Zoom meeting software to teach theoretical classes online so that students can maintain their regular studies. As for practical classes, AGIL has extended its office days and is now open from Monday to Sunday. We have planned different periods throughout the day to allow for practical sessions for just two or three students. For those who are permitted to attend AGIL's practical classes, they must follow strict hygiene and social distancing measures. These include compulsory mask wearing at all times, temperature checks, compulsory health and travel declarations, spacious and well-ventilated classroom

areas, provision of hand sanitisers in all classrooms and public areas and no eating or drinking in the ATC."

**Dr Dominic Mok FGA DGA
Principal, AGIL**

"In March 2020, when we were confronted with the first lockdown in our country, we had to close education completely. During that lockdown period, we looked at what should be done to make education possible, with 1.5 m distance, disinfectant measures and use of gloves to handle the stones. We concluded that we should rearrange the classroom, which is actually in the laboratory. I started to organise video meetings, to at least give the students some theory and some input to keep them motivated and interested, and of course to give them the opportunity

to ask questions and express their concerns. In summer, we were able to complete our classes. However, when COVID-19 cases were rapidly increasing in September and October, we were confronted with a difficult situation. Our lab is situated in a larger laboratory building with others — such as a DNA lab close to us — and is part of Naturalis Biodiversity Center, which is a national museum of natural history. Only a limited number of people were allowed in the entire lab building. Management told me to postpone; this was a heavy blow. Now I hope to start our regular programming in September. I really want to give my students the best experience in our lab, to give them the sparkle and fascination gemmology deserves."

**Dr Hanco Zwaan FGA
Netherlands Gemmological Lab**

THE AMERICAN MUSEUM OF NATURAL HISTORY

As the New York museum prepares to open the long-awaited Mignone Halls of Gems and Minerals, Dr George Harlow looks back on the history of AMNH's collection and his time as its curator.

Stately and imposing, the American Museum of Natural History (AMNH, **1**), overlooks New York's Central Park and Upper West Side. The original building opened in 1877, with multiple additions over the next 140-odd years.

One major current renovation will add the Allison and Roberto Mignone Halls of Gems and Minerals (**2**) to the fold. The Mignone Halls — named after longtime volunteers and supporters of AMNH — will directly connect to the Richard Gilder Center for Science, Education, and Innovation. This expansion also allows for new exhibits, allowing a greater

number of the 115,000 specimens held by the museum to be shown. And the procurement of so many of these objects took place during the tenure of Dr George Harlow, who has been affiliated with the AMNH since 1976.

While AMNH has, unlike other museums (see page 21), been able to reopen during the COVID-19 pandemic on a staggered basis, the new Halls of Gems and Minerals are now scheduled to open in late spring 2021. While the world awaits the unveiling, Dr Harlow told us some history of the museum, his own experiences at AMNH, and what to expect when the Halls open.



Dr George Harlow has been affiliated with AMNH's Division of Physical Sciences since 1976; he is the curator of the Mignone Halls of Gems and Minerals.



1: The exterior of the AMNH, which opened at this location in 1877.



2: A sneak peek at the Mignone Halls of Gems and Minerals, including a view of the Singing Stone (centre), a 3,504 kg block of azurite-malachite ore from Bisbee, Arizona, USA that was first displayed at the 1893 World's Fair in Chicago.

The AMNH was founded in 1869, though it was housed in the Arsenal building in Central Park until the first building of the current complex was complete in 1877. When AMNH first opened, according to Dr Harlow the mineral collection was more like a “cabinet of curiosities”; while organised, there were scant descriptions of the items through the early part of the twentieth century.

This set-up changed in 1922, when a new hall, named after museum patron and mineral collector J. Pierpont Morgan, opened to the public. Morgan had given extensively to AMNH before the hall bearing his name was built; among his well-known earlier donations was a 563.35 ct star sapphire known as the Star of India (3). Morgan gave three collections of gems, organised by George Frederick Kunz of Tiffany & Co., to AMNH; these became known as the Tiffany-Morgan Collection of Gems. In 1901 Morgan purchased 13,000 mineral specimens from industrialist Clarence S. Bement for the museum; this donation required seven boxcars to transfer from Philadelphia to New York. The culmination of this beneficence was the dedication of the Morgan Memorial Hall of Minerals and Gems in 1922 under the curation of Louis Pope Gratacap.

From 1922 to 1976, gem and mineral

It opened up the space for a greater number of specimens and more detailed displays than had been traditionally on view.

specimens were mainly displayed with their names and a simple explanation of what they were. The building of the Harry Frank Guggenheim Hall of Minerals, completed in 1976, provided a dramatic update of the display of specimens and a greater amount of content, but mostly in terms of mineralogical terminology.

Hired in 1976, Dr Harlow recalls touring the museum before the Guggenheim Hall was open, at a time when the collection numbered under 40,000 objects. He had received his doctorate in geology from Princeton University that same year, but he was not a mineral collector; still, he took the leap to join the museum. At that point he took on what he called a

“major education”. He estimated that it took about 10-20 years for the study of gems in a geological context to gain an audience among scientists; the greater visibility of journals like Gem-A’s *Journal of Gemmology* was helpful in this regard. In the meantime, Dr Harlow found out that “working in a museum is one of the most interesting jobs in the world.”

As of 2021, the specimens at AMNH number about 115,000, up from the 40,000 that were on-site in 1976. While one large collection from Columbia University was purchased by AMNH two other university collections were donated to free up space. A substantial number of specimens were acquired by Dr Harlow himself between his trips to Tucson (every year since 1976, save two) and his travel to sources to collect material himself.

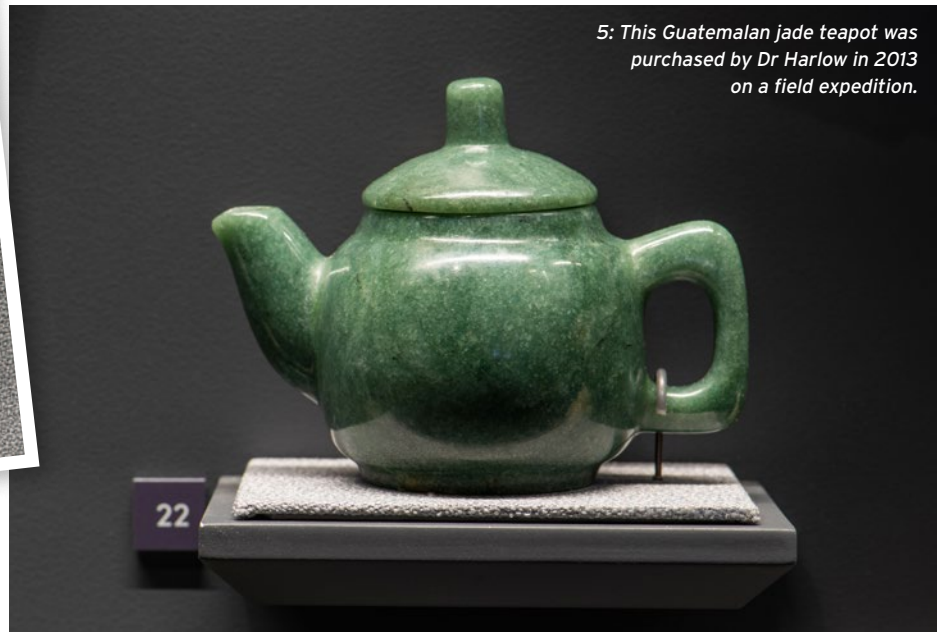
One acquisition of note was a set of five moonstones engraved with children’s faces (4). The set of intaglios was carved for a mother to cherish and eventually pass on to her children. After the children reached adulthood, she felt the moonstones should be kept together and donated to AMNH. One of the children actually walked into Dr Harlow’s office with the set. After the donation, Harlow loaned the collection back to the donor so each intaglio could be cast in gold and given to each child. There is also a jade teapot (5) acquired in Guatemala in 2013, which he so wanted to buy that he borrowed money from his fellow travellers so as not to miss out on the purchase by going to exchange his American dollars. Both the moonstone intaglios and the jade teapot will be on display in the Mignone Halls. →



3: The Star of India, known for its size and the asterism on both sides of the sapphire cabochon, was donated to the museum by J.P. Morgan in 1902.



4: A set of five moonstone intaglios. These were created for a mother and intended as keepsakes for her five sons and daughters when they reached adulthood. The set was donated to AMNH in the 1970s.



5: This Guatemalan jade teapot was purchased by Dr Harlow in 2013 on a field expedition.

And the Halls have been on Dr Harlow's mind for quite some time. After the renovation that ended in 1976, the space — which culminated in a cul-de-sac that Dr Harlow laughingly called “nanny central” for all the children that played there safely — had accumulated a fair bit of wear and tear. In 2014, the decision was made to move forward with a renovation. This plan not only updated the appearance, it opened up the space for a greater number of specimens and more detailed displays than had been traditionally on view. Since the primary focus of the museum is to educate, this enhanced space is cause for great excitement.

So, what to expect in the new Halls? Besides the previously mentioned objects, there will be a great deal of explanatory information with the brand-new displays.



6: The famous ‘Subway Garnet’, found underground in New York City in the late nineteenth century.

Dr Harlow discussed how there will be material that explores the role of minerals in the evolution of the universe, Earth and humanity itself. There will also be displays on the history and culture of minerals and gemstones; for instance, historic and current localities such as Bisbee, Arizona [home of the Singing Stone, shown in the centre of **2**]; Mogok, Myanmar; and the states of Maine and California, USA. Even New York gets a display, in which the ‘Subway Garnet’, found underground in Midtown Manhattan in 1885, gets its time in the spotlight (**6**).

Other displays show rough crystals next to cut samples, and properties such as refraction, chatoyancy and pleochroism. There is also an area that shows large specimens from around the world, including two giant amethyst geodes from Uruguay (**7**). Dr Harlow is mindful that people need to be able to move around in order to see the specimens to their best advantage, and the Mignone Halls allow that freedom. There's also the ability to present temporary cases, such as the jewellery exhibition that will be on display after opening. Permanent offerings include a wall which is placed under long- and short-wave ultraviolet light, then shut off to demonstrate the persistent luminescence in the minerals present. And, of course, there is the ‘Temple of Fluorescence’, featuring a massive panel of fluorescent rock outcrop from the Sterling Hill Mining Museum in Ogdensburg, New Jersey, USA, that

glows in shades of orange and green under ultraviolet light.

Dr Harlow said that the AMNH gem and mineral collection is his legacy. He is grateful for the opportunity he's had to spend his life as its caretaker, for the time he spent travelling and collecting specimens and for the people he met along the way. And the investment he made in curating these specimens has allowed this expansion to become a reality. The Mignone Halls, once they open, will be the culmination of many years of hard work, increased scientific understanding and investment in the future of gemmology. ■



7: One of the two giant geodes on display; this one measures 2.74 m tall.

Beauty in a Time of Isolation

New York's American Museum of Natural History has adapted their operations in the face of the COVID-19 pandemic through timed tickets and social distancing. Other museums around the globe have also modified activity through responsible and inventive practices.

EUROPE

The jewellery collection of the **Victoria and Albert Museum** (London) numbers some 3,000 pieces, from antiquity to the modern day, from ancient amulets to Queen Victoria's sapphire and diamond coronet. Online visitors can virtually get up close and personal with these pieces through the stunning photographs. Videos show jewellery techniques while designers discuss their choices. One fun writeup: a nineteenth-century guide suggesting gifts for bridesmaids.

London's own **Natural History Museum** has incorporated a vast array of ways to continue interacting with the natural world. Use any of their numerous apps to identify trees, bees and 'minibeasts'; or discover their virtual museum and take part in discussions with scientists — there is even a late-night trivia show. If you are looking for something a bit more sedimentary, many of their minerals and gemstones — rough and cut — are catalogued online.

To call the gemmological catalogue of the **National Museum of Scotland** 'expansive' would be an understatement. Though the Edinburgh-based museum is closed, some exhibitions may have information available on the museum's website; one such exhibition — with multimedia assets — is the unearthed Viking-era Galloway Hoard. Take a look at the incredible digital jewellery collection, spanning from the Fettercairn Jewel to pieces belonging to Sir Duleep Singh, last maharajah of the Sikh Empire. For those interested, NMS also hosts podcasts, films and galleries.

The **Musée de Minéralogie** (Paris) has transformed their temporary exhibit *An Iron Constitution!* created by the students of the School of Mines, into a virtual exhibition on Instagram.

Originally in French, it has been translated into English in this reworking. They have created an assortment of online tours, all viewable on YouTube, while also publishing a number of webinars and live streams. They also host a weekly online show called 'Mineral Talks LIVE'.

The **Museum für Naturkunde** (Germany) — Berlin's own museum of natural history — is closed, but they are offering a variety of podcasts (even one geared towards children) and live talks to connect with the public through these tough times.

NORTH AMERICA

The **National Museum of Natural History** in Washington DC, USA has installed a permanent array of virtual tours. Explore their rich digital collection of gems and minerals — including the Hope diamond and the Carmen Lúcia ruby — from the leisure of your own home. Alternatively, tune in for any of their free webinars.

Unlike USNM, Chicago's **Field Museum** (USA) reopened in January 2021; however, 'highly interactive' exhibitions remain closed. The Grainger Hall of Gems, whose origins can be attributed to a substantial donation by Harlow Higinbotham, is open. To remain safe, they have incorporated floor markers for one-way paths and require all patrons to wear masks.

SOUTH AMERICA

Museo Tumbas Reales de Sipán (Museum of the Royal Tombs of Sipán) of Lambayeque, Peru, requires all patrons to observe social distancing and other precautions. The museum holds the contents of royal tombs from the Moche civilization (100–700 AD), much of it lost to looters. A number

of pieces remain, including elaborate silver-, gold- and beadwork applied to headdresses, ear and nose ornaments, and other objects and adornments. They offer a 3D virtual tour of the entire museum through a link on their Facebook page.

AFRICA

The **Cape Town Diamond Museum** (South Africa) is closed due to the COVID-19 pandemic, but the information on the website is thorough. The staff not only recount the development of diamond mining and cutting in South Africa, they dedicate time to famous diamonds and people; they even provide a quiz for visitors to check their own knowledge. Like many of the other museums featured here, the Diamond Museum also engages with the public on several social media platforms.

ASIA

Tokyo's **National Museum of Nature and Science** (Japan) is partially closed, but the gemstone hall is open to the public. Like the Museum of the Royal Tombs in Peru, the Tokyo museum has integrated a very impressive 3D virtual tour — and it can even be accessed with VR equipment.

AUSTRALIA

The **Brisbane Opal Museum** (Australia) is dedicated to all forms of the silica gemstone. The information provided varies from the most basic to the highly scientific. The history of opal mining is covered in reports on the site, and still photos are accompanied by video to show play-of-colour in black and white opal. While the museum is open, the restrictions other countries have around travel make the opal museum's website a fun resource. ■

Gem-A Graduate creates Global Directory for

Black

Jewellery Professionals

Until recently, there was no well-known cohesive networking tool for Black jewellery professionals. Lezlie Bailey FGA decided to do something about it.



Lezlie Bailey, gemmologist and creator of the global network for Black jewellery professionals known as The List, examines some of her own work.

“I didn't know what I was getting into,” Lezlie Bailey laughed. An understatement, to be sure. Ms Bailey, a 2019 Graduate of Gem-A, is a gem sorter in London. But much of her time and passion is spent on The List, a global networking tool for Black professionals in the jewellery industry. Since its official inception during the summer of 2020, Bailey has added over 250 jewellery professionals to The List.

Born in Baltimore, Maryland, USA, and raised in Bermuda until she was 14, Bailey's plan was always to attend Gem-A. She started her courses just a few short months after she graduated from University College London with a degree in geology in 2016, which she has found



to be the best basis for understanding gemmology. She passed her Gemmology Diploma and became an FGA in 2019, the same year the idea of The List was brewing in her mind. She originally imagined it as a blog that would, in part, promote her own gem photography, since she had numerous gem photos from her time as a student.

In her first job post-graduation, Bailey was stunned to see a lack of diversity among the people she saw every day in Hatton Garden. It inspired her to seek out other Black jewellers, but she was stymied every time she did an Internet search, coming up with the same few names no matter how she searched. She could not even find statistics for the percentage of Black people in the jewellery trade. She knew that there had to be other Black jewellery professionals out there looking to make connections, just as she was. But how to find them?

Bailey's original idea of hosting a blog where she could show her gem photos and talk about members of the industry took a sharp turn as 2020 unfolded. The first COVID-19 lockdown in London, followed by the death of George Floyd in Minneapolis, USA, and the subsequent outcry and 'Black Lives Matter' protests, gave her the impetus to create a way for Black jewellers and other professionals to create a community. And thus The List was born.

Bailey wants as many people to know about the list as possible, so that people know that Black jewellers are an active part of the industry.

Many of the contacts Bailey made were through social media, such as Instagram, though she admits it was a challenge to get people to respond to her. The largest percentage of people come from the United Kingdom, the United States and Nigeria, but she knows there are other people out there that she is not reaching. She is creating a format as she cultivates the content. Therefore The List currently uses a basic setup — providing name, website, Instagram and other social media accounts, and a short blurb about the professional.

About 90% of the people on The List

are jewellery designers — creating all manner of items, from beaded jewellery to fine items — but there is room for all Black professionals, as long as they are involved in the trade. Bailey pointed out that “there are a lot of areas where we aren’t being counted at all”, and she’s determined to rectify that situation. She’s eager to add more cutters, setters, gemmologists, and even marketers, editors and writers. Her long-term goals include setting up a Black supply chain for jewellery that is transparent and ethical, and that recognises the commitment and contribution of African communities that produce the materials that are used in jewellery.

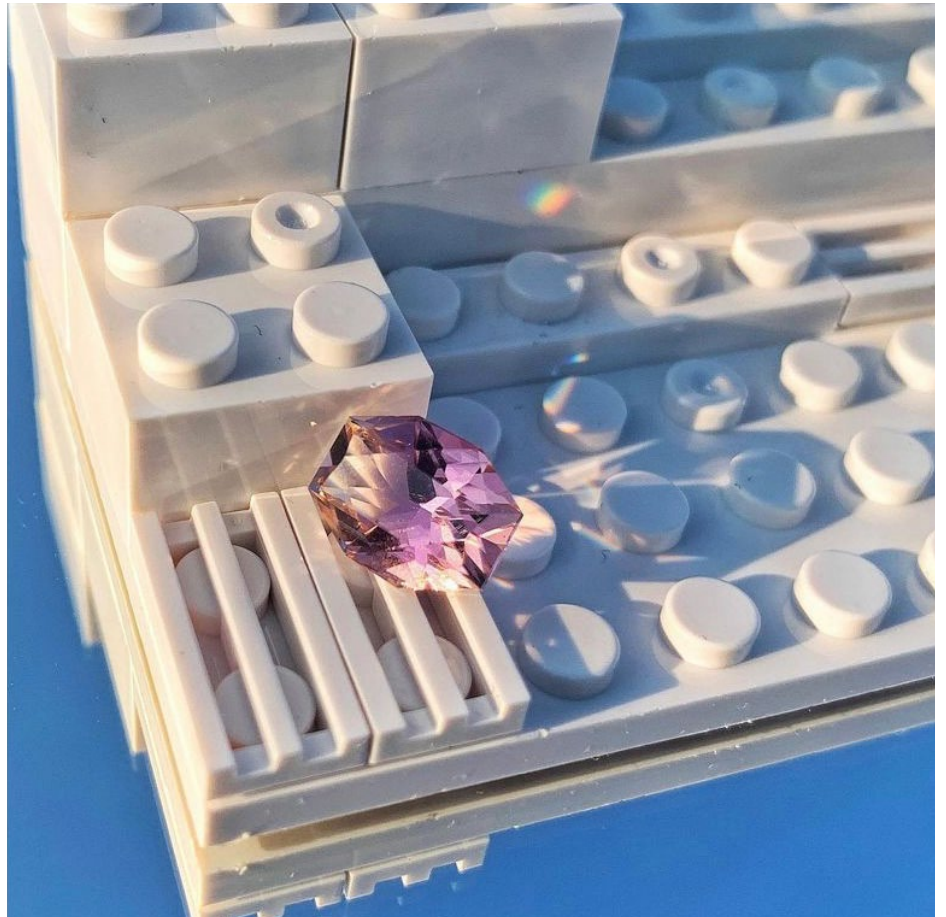
Bailey wants as many people to know about The List as possible, so that people know that Black jewellers are an active part of the trade. She wants to rectify the lack of diversity she sees when she is at industry events and seeking out suppliers. The List isn’t just about acquiring customers, although that is definitely important. As Bailey noted, “People shouldn’t underestimate the buying power of Black people.”

But to meet Bailey’s vision, The List must facilitate education as well. She’d like other young Black people to know what paths are available to them. She feels that young Black people entering the industry have limited access to information about certain materials and admitted that ‘it’s such a struggle to get people to see that you are in their corner.’ Fostering that understanding is so essential to her dream of creating a global community where it is easy to find a Black goldsmith, a Black gem cutter or a Black designer; where there is recognition that so many of the precious materials used in jewellery come from Africa; and that reinvestment in communities there must be part of the supply chain. And where young Black people realise that a career in the jewellery trade can be fulfilling on many different levels.

After all, Bailey said with a smile, “you shouldn’t have to be lucky to find a career you love.” ■

The List is available at
<https://thetentimes.com/the-list>

Product photos depict Nigerian gemstones sourced by Bailey for her own work, as posted on Instagram. Photos courtesy of Lezlie Bailey.



Spotlight on Members of The List

Lezlie Bailey has cultivated a directory of talented Black professionals from around the globe. Here are three members of The List who are making their mark on the modern jewellery industry.

AURELIA & PIERRE Fine jewellery aureliaandpierre.com

Founded in 2017, Aurelia & Pierre is dedicated to the design and creation of fine jewellery for today's woman. Each piece is handmade by artisans using 18 ct gold and natural gemstones. The colours used in the various collections are informed by the heritage of the founder, Nigerian-born Amokeye Adede, who was raised and educated in England from the age of 10. Adede creates jewellery that she herself loves

to wear, and she encourages the look of combining diamonds with coloured gemstones. She believes that "Jewellery is an art through which you can express yourself — your mood, your style, your individuality." Many of her collections are given names with connections to Africa. For instance, the Irawo line, which sets pear-cut coloured sapphire, ruby and emerald with diamonds in 18 ct gold, draws its name from the Yoruba word for 'star'. Based in London, Aurelia & Pierre has an established social media presence; their pieces have been featured in *Condé Nast Traveller*, *British Vogue* and *Tatler*.



This 18 ct gold bangle bracelet (below, photo by Kalory Photo & Video), set with orange sapphires and pavé diamonds, is the vision of Amokeye Adede (right, photo by Bekky Calver). The bangle is part of Aurelia & Pierre's Irawo collection; 'irawo' translates to 'star' in Yoruba. All jewellery worn by Ms Adede is by Aurelia & Pierre. Photos courtesy of Aurelia & Pierre.



EGBO COLLECTIONS

Men's demi-fine jewellery
egbocollections.com

Egbo Collections is the brainchild of Raymond Egbo, a New Yorker with family connections to different cultures of Nigeria. His long-term goal is to create a jewellery line that is representative of 'One Africa', expressing the qualities of unity, appreciation, consideration



and acceptance. Through this work, Egbo aims to become "the bridge that connects the African diaspora to the world." Egbo works with gold, silver and a variety of gemstones to create rings, bracelets and other jewellery for men. Ordering through the website allows the client the ability to customise some pieces with their own choices for gold type and gemstone selection. While his company has only been open since 2019, he has been drawing and designing for most of his life, a passion that is reflected in each piece. Egbo Collections is cultivating a social media following, and the founder continues to engage followers even in the face of COVID-19.



Raymond Egbo (above, photo by Rick @im.Rick) is the genius behind Egbo Collections. The Ankara ring (left, photo by Wolf of @littlewolfcollective) comes in sterling silver and 18 ct gold (rose, yellow and gold). Options for the face include gold, carnelian, onyx and malachite. Shown here is the gold band with the gold face. Photos courtesy of Egbo Collections.

JWLLRY BY JADE

Bespoke jewellery
jwllrybyjade.com

Self-taught in the art of jewellery design, Jade Hibbert worked to create a brand known for made-to-order and bespoke jewellery that is both mindful and practical. Her pieces have been described as 'minimalist', 'modern' and 'versatile'. She works primarily with recycled precious metals and is seeking



Jwllry by Jade prides itself on its efforts to use sustainable materials. The coloured gemstones shown in this ring (above) are amethyst, pink sapphire, tourmaline and morganite, alongside the customers own white sapphires. The three large centre stones are synthetic moissanite. Jade Hibbert (left), set the gemstones in recycled rose gold she obtained and then mixed with rose gold from a ring belonging to the client's grandmother. Photos courtesy of Jwllry by Jade.

out new ways to foster sustainability in her practices. Hibbert has worked in several bespoke workshops and teaches wedding ring workshops herself. She often shares unedited images from her bench, inviting others to witness her process. This transparency has earned her 2,300 Instagram followers as of February 2021. Hibbert also engages members of the

trade — along with potential clients — by writing a blog covering topics such as personalising bespoke pieces, how and why to recycle jewellery and how to support the trade during COVID-19. Jwllry by Jade has been featured in *Glamour*, *Retail Jeweller* and *The Jewellery Cut*, and has been showcased in pop-up stores and events around London.

Get to know: Gembridge

Trading gemstones online can be a risky business, which is why the team behind digital marketplace, Gembridge, is determined to make a difference. We asked Gembridge's chairman, Tony Brooke, to explain how the platform works and why it's the safer way to buy and sell.

There are many risks associated with the international trading of coloured gemstones with people outside our small groups of trusted associates", according to Tony Brooke, chairman of Gembridge. This emerging digital marketplace is 'de-risking' trade online by ensuring every transaction is secure, verified and insured.

He continued, "We noticed a global shift towards much stronger regulation and accountability. These challenges need a more comprehensive solution than what is available, underpinned by trust."

Gembridge is a sophisticated sales solution, with e-commerce and virtual shopfronts supported by frameworks that manage counterparty risk, extensive regulation and industry collaboration. "Gembridge is regulated by Singapore's Precious Stones and Precious Metals Act 2019 and enforced by the Ministry of Law, in cooperation with the Financial Action Task Force (FATF), which is leading regulation reform in over 200 countries", said Brooke.

Gembridge is the first, and so far only, online trading platform to be a member of the Responsible Jewellery Council.

Gembridge is also active through other online channels. Brooke noted, "Communicating via social media is certainly convenient, but convenience must be anchored in trust. Gembridge provides prospective buyers and sellers with a reliable way to verify each other, with counterparty risks managed and a channel to complete transactions with trust."

From outside the trade, the coloured-gemstone sector may appear to be well organised, ensuring the best stones travel along a logical and tight supply chain before ending up in fine- and high-jewellery collections. In reality the industry is broad and varied, with lots of independent traders looking to make their mark in a competitive and 'noisy' environment. "Gembridge helps gemstone traders get online with speed and confidence, offering a full e-commerce solution, including platform, listings and customer management,

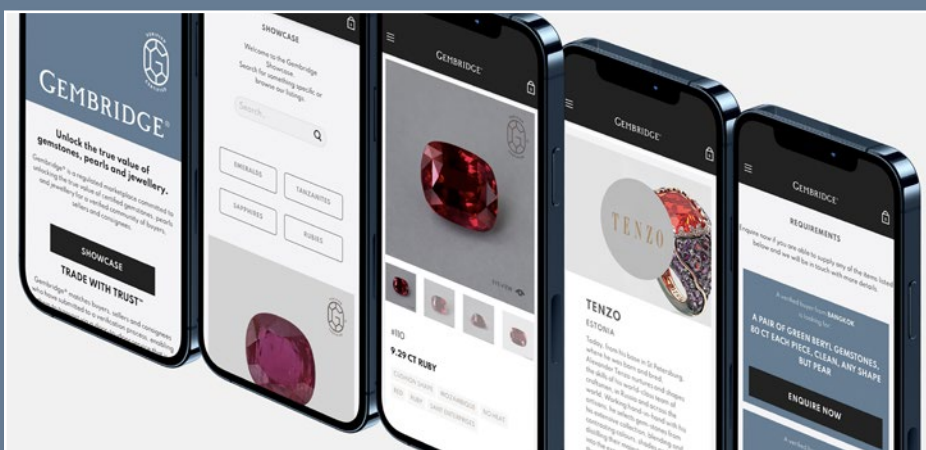
gemstones that Gembridge knows only too well. Its platform has invested heavily to "capture a gemstone's 'true nature' for its community", including physical attributes, provenance, history and a range of visual resources and chat functions to aid purchasing decisions.

Brooke said that "Gembridge has pioneered a proprietary imaging technique that presents coloured gemstones in the best way possible to support digital transactions. Imagery featured in our listings include the Eye-view, a natural view of what the naked eye would see, and a 360° video that provides a clear, rotating view of the article's dimensions and proportions. Many listings include a Review video, to provide an expert opinion of what cannot be seen or truly appreciated remotely. Our proprietary imaging service is complimentary and provided under the protection of a Jewellers' Block insurance policy."

With so much of the trade in gemstones conducted among old acquaintances, friends, long-time colleagues and trusted partners, is a digital marketplace such as Gembridge able to transform such a traditional industry? Perhaps its next wave of customers will be tempted by its stringent anti-risk measures, which include a partnership with Brink's to remove physical risks when an order is in transit.

Brooke concluded, "Gembridge will continue to develop innovations and tools to facilitate 'Trade with Trust,' providing a more personalised experience that helps buyers and sellers discover what is really important to them, whether they are a wholesaler, retailer or individual with a passion for a particular type of jewellery. There is a strong focus on our community, a more engaging, intuitive and trusted remote purchasing experience, and compliance with regulatory bodies." ■

Discover more about Gembridge via [gembridge.com](https://www.gembridge.com).



To support this level of security and regulation is no easy task. All buyers and sellers on Gembridge must be peer reviewed and verified. A new standard of lab report has been created to ensure stones traded on Gembridge match their certificates prior to final delivery. And

as well as a payment gateway, security, maintenance and global connectivity."

Of course, all this talk of regulation, security, door-to-door service, insurance and counterparty risks isn't what closes a sale for private customers. There's an emotional element to buying coloured

How does a FIELD GEMMOLOGIST work during LOCKDOWN?

What happens when travel is not an option and it is not possible to buy gemstones from the source? Field gemmologist Vincent Pardieu discussed how he is moving forward.

For a field gemmologist, adaptation is part of the job description. We are used to the unexpected. Actually I embrace it, as my semi-official motto is “expect the unexpected”. Since travel is not currently an option, I focus on other things and try to adapt my business model. I had a discussion with my customer, Greenland Ruby, because I could not visit Greenland every two months as expected to train their team — accustomed to mining iron for weight — to become ruby miners seeking high-quality material. We agreed on a revised deal, allowing more time to work on my reference collection and to help friends with projects.

I’m assisting geologist Gaston Giuliani with several chapters about emeralds from Zambia, Madagascar, Pakistan and China for his upcoming book, and working on a few ruby and lab-related projects. And in May 2020 I started working on a series of webinars, with my friend Justin K. Prim, where we interview my field contacts. We wanted to give them an opportunity to speak about their countries and gemstones. At the same time, we are providing people who are interested in gem mining and trading with some up-to-date information from local professionals. Our 27th webinar releases at the end of March; all are available on my YouTube channel. Thanks to technology and social media, not a day goes by without a discussion with a friend in the field. As before COVID-19, I am consistently in contact with people in the field, even if we cannot travel.

I last went to Madagascar (December 2019) and Greenland (February 2020) for fieldwork. People in Greenland were aware of the virus, but at that point it was a

distant thing that had not impacted mining. Greenland was able to protect itself from the virus, mainly by stopping people from visiting the island. There have been outbreaks at other deposits, and sadly several of my friends in Pakistan and Afghanistan died of coronavirus. In other places it has been less serious than what many expected, probably because miners are often young and strong.

The artisanal mining situation differs by country. In Madagascar or East Africa many operations stopped, as they were mainly financed by foreign buyers who left these areas. Reportedly, many small-scale miners moved to activities such as farming, logging and gold mining.

**I am consistently
in contact with people
in the field, even if
we cannot travel.**

The fascinating thing about coloured-gem miners moving to gold mining is that new gem deposits are often found this way. Since COVID-19 started I heard about two possible discoveries in Madagascar and others in Afghanistan. The Madagascar discoveries were short-lived; this may have been because of the absence of buyers and because stones were quite small. But it’s difficult to confirm anything as of course I could not travel there. In places where buyers are mainly locals, such as Pakistan and Afghanistan, gem mining seems to continue as before, because traders are still able to ship stones to places like Thailand.



Vincent Pardieu (right) with Danish geologist Jascha Wille at Greenland’s Aappaluttoq ruby mine in 2019. Photo courtesy of Vincent Pardieu.

While mine production is dropping, the supply of second-hand stones seems to be increasing. We must remember that gemstones are durable. And the global supply of fine gems over 3 ct seems now more than ever to be coming from second-hand stones. Joanna Hardy, who worked in an auction house, told me that gemstones are taken to auction based on four factors, which she calls the “4Ds of auction houses”: Death, Divorce, Debt and Disaster. With COVID we know that all four Ds are extremely high; those who still have the money to buy are likely to have many purchasing opportunities.

I hope to resume field expeditions next summer, but it is complicated to finance them (in part due to potential quarantines and higher flight costs). Realistically, field activities might not be possible before summer 2022, so it is important to have different options for 2021 and maybe 2022. Recently I was contacted about a software that may be useful in continuing traceability for my samples. It could help other people, so we might partner to develop a gem-specific version. I’m also considering work on a PhD using my reference collection.

But again, who knows? I will find a way to adapt to whatever comes next. More than ever we have to “expect the unexpected.” ■

Follow Vincent Pardieu via his YouTube channel at <https://www.youtube.com/c/VincentPardieuFieldGemology>.



Opsydia CEO Andrew Rimmer spoke to us about Opsydia's technology and the path ahead.

FLAWLESS PRECISION

Tackling issues of non-disclosure, fraudulent behaviour and security in the diamond industry are ongoing challenges. Companies like Opsydia, based in Oxford, United Kingdom, are offering cutting-edge technology to give manufacturers in the diamond supply chain a credible tool in their arsenal. *Gems&Jewellery* catches up with Opsydia CEO Andrew Rimmer for an update.



1: This Loupe ID feature can be seen with a standard 10x loupe.

The last time this magazine spoke to University of Oxford spin-out Opsydia, the business was still in its infancy and its technology sounded almost too good to be true: the power to 'write' permanent and immutable alphanumeric sequences, brand logos and coded features beneath the surface of a diamond without affecting its surface polish.

Today, Opsydia is forging its own path as an innovator in diamond security. Its subsurface laser technology offers a tamper-proof way to confirm the identity of a diamond by creating a physical link between a stone and its grading report, blockchain record or branded jewellery origins. Think QR codes or grading report numbers inside stones, not simply inscribed on the girdle, but within a diamond itself. Trying to remove one of these 'identifiers' would mean an uneconomical recutting process as opposed to repolishing a stone's surface.

Opsydia has found itself in the news in recent months for its latest innovation — the Nano ID. This type of identifier, classified by its visibility level, does not affect the clarity grade of diamonds, even for internally flawless diamonds, and is not detectable with a standard grading microscope. Opsydia has had this assertion reviewed by two leading grading houses, including the Swiss Gemmological Institute (SSEF). Nano ID features can be placed up to 0.18 mm (180 microns) beneath the surface of a stone and must be read at greater than 100× magnification or with an Opsydia ID Viewer — a device capable of reading identifiers that is currently in the development phase.

At the other end of the visibility spectrum is the Loupe ID (1); this, as its name suggests, is visible using a standard 10× loupe. This type of identifier, placed at depths of up to 0.25 mm (250 microns), is larger and can be used in strategic places to allow valuers, grading houses and consumers to quickly distinguish laboratory-grown or branded items from natural diamonds. Lightbox Jewelry, a De Beers group brand, currently uses this type of identifier to distinguish its laboratory-grown diamonds.

Neither Loupe ID or Nano ID identifiers affect the surface polish of a diamond, meaning security features can be



2: The Opsydia logo beneath the surface of a diamond, specifically the table facet.

This is such an exciting development for the entire Opsydia team and is really testament to the skill of our engineers.

placed beneath the surface without compromising its finish or value. We spoke to Opsydia CEO, Andrew Rimmer, to find out more.

For background, can you explain how the Opsydia System works?

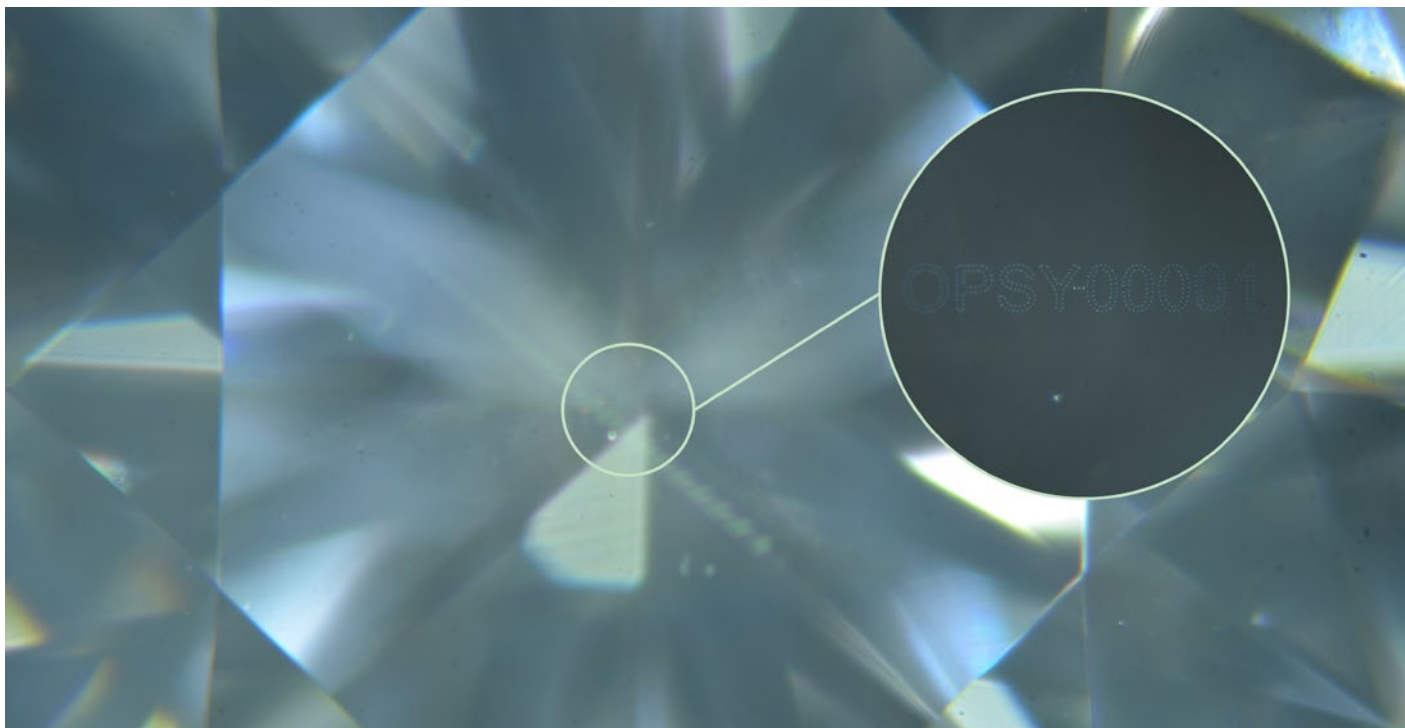
The Opsydia System uses a high-precision, ultra-fast laser to place logos, alphanumeric sequences or coded shapes (known as identifiers) beneath the surface of a diamond. This laser is tightly focused only once it passes the surface of a diamond, therefore only creating the identifier at a selected depth without affecting the surface condition or polish. It can be applied beneath the surface of a

diamond in a range of locations, such as the table or a specific facet (2).

The Opsydia System is approximately 1.5 m wide and standard doorway accessible. It is based on cutting-edge laser technology developed at the University of Oxford. It can place unique identity features in diamonds, and is capable of processing 50,000 to 100,000 stones per year in an industrial environment. Encryption techniques ensure that each Opsydia System can only write authorised logos or identifiers preventing counterfeiting and protecting brand integrity.

You have recently introduced a new classification of identifier — the Nano ID. What can you tell us about this?

This is such an exciting development for the entire Opsydia team and is really testament to the skill of our engineers and the versatility of our laser technology. A Nano ID is, in its simplest form, our smallest and faintest identifier to date. These features fall within a size range but are grouped by their visibility; a Nano ID must be viewed at greater than 40× magnification (3). The fact that they are virtually invisible means they cannot be detected with a standard grading microscope and therefore have no impact on the clarity grade of diamonds, even for internally flawless stones. →



3: This alphanumeric Nano ID security feature is less than 50 µm tall and is not visible at 40× magnification.

With this new technology, the natural diamond trade has the freedom to include secure identifiers within its diamond supply without compromising the factors that ensure rarity and market value. We are introducing the natural-diamond sector to a unique methodology for addressing its core challenges, such as enhancing stone security, establishing traceability initiatives and protecting against fraud, non-disclosure and other counterfeiting concerns.

How suitable is Opsydia technology for the volume market?

Arguably, it is the volume market that is most 'at risk' from issues including non-disclosure, substitution and fraudulent stones with falsified grading report numbers. It was important for the whole Opsydia team that our technology could be used for a complete spectrum of diamonds, from the smallest melee right up to the most significant cut and polished stones. In recent months, we have perfected placing high-resolution identifiers inside diamonds as small as 0.5 mm in diameter.

While we don't expect manufacturers of melee stones to place identifiers within their entire inventory of diamonds, there are some interesting opportunities

presented by Opsydia technology. For example, luxury-jewellery brands ready to fight back against counterfeiting may wish to include an identifier in a specific pavé diamond to assure their customers that only pieces with this nano-scale identity feature are legitimate.

We have recently collaborated with the Natural Diamond Council on a special project, which wouldn't have been possible without the advances we've made in processing melee stones. We look forward to sharing more details about this in due course.

What do you think are the biggest challenges in the diamond industry right now?

Natural diamonds, laboratory-grown diamonds and diamond simulants all have a place in today's busy jewellery marketplace, but the challenge comes in ensuring they are clearly delineated and disclosed. For luxury brands especially, securing the integrity of their designs, deterring counterfeiting and reassuring their customers is of the utmost importance. There are also the interlinked issues of transparency and traceability, which are being increasingly demanded by the end consumer. Even if manufacturers and luxury brands have the procedures in place to trace

diamonds back to their sources, proving this to the consumer and allowing them to become part of a stone's authentic 'story' is going to be the real challenge.

At Opsydia, our focus is on securing the identity of diamonds and placing unique, immutable identifiers beneath the surfaces of stones to confirm something about them, whether it's their grading report number, branded origin, geographic mining origin or blockchain record. It is my belief that this type of clear identification will be in high demand as the market becomes more saturated and more complex.

What does the future hold for Opsydia and what are your ambitions for the business?

We are in an exciting phase of our development, with leading grading houses and industry associations beginning to experience first-hand the nature of our technology and its practical and commercial advantages. Looking ahead to the next 12 months, we will continue to define the parameters of our Nano ID features and focus on the next classification of identifiers on our radar — Code IDs — such as QR codes and encrypted shapes beneath the surface of diamonds. We look forward to introducing this to you. ■

Gübelin Gem Lab's New Rating System

Responding to a long-standing need in the trade, Gübelin Gem Lab has created a standard for the grading of important coloured gemstones.

Olga González FGA DGA explains the three factors that the lab uses in its assessments.

While diamonds have the 4Cs and the precious metals in fine jewellery use a hallmarking system, coloured gemstones have long needed a consumer-friendly rating system. Gübelin Gem Lab (GGL) has stepped in to fill the gap.

Inspired by the Parker Wine Rating used for scoring wines — which is itself based on the American standardised grading system — the laboratory developed the Gübelin Gemstone Rating. Converting quality, rarity and allure into a numerical value, Gübelin Points rate the desirability of important gemstones on a scale between 75–100. According to Dr Daniel Nyfeler, managing director of GGL, “In a more digital world a [numerical] rating makes it easier to select the right stone and allow a better comparison, even without having the gem in hand.” Nyfeler indicated that the system empowers consumers by giving orientation and direction. “With the Rating, we intend to quantitatively assess some of the key characteristics of this space and reduce the complexity by concentrating to a single figure.”

The Gübelin Gemstone Rating is based on the following three factors, in descending order:

- With a focus on the visual, **Quality** is assessed using the gemstone's colour, clarity, transparency, cut and brilliance.
- The variety type, the availability of a given gemstone variety on the market, as well as its size, all impact the **Rarity**. Treatments, such as 'classic' heat treatment (exclusive of lead-glass and diffusion treatment) and clarity enhancement with oil or resin are also considered in this ranking.
- The most subjective of the three factors, **Salience**, is best described

by the lab: “Addresses the extent of exceptionality and attractiveness of a gemstone beyond the objective characteristics of the quality category. It is best seen as the gemstone's capability to stick out of the crowd.”

The Points comprise several ranges. They find that 75–79.9 is 'fair', 80–84.9 is 'good', 85–89.9 is 'fine', 90–92.4 is 'superior', 92.5–94.9 is 'excellent', 95–97.4 is 'outstanding', and 97.7–100 is 'exceptional'.

Dr Nyfeler notes, “Standardisation, formalisation and virtualisation are the response to changing expectations and habits of consumers. The current limitations to travel have only accelerated this trend. Our rating system follows and supports this trend, and helps communication within the trade, and with the final customer.”

The end consumer benefits from an easy-to-read value that sets a gemstone within the lexicon of distinction.

As with diamond grading, the Gübelin Gemstone Rating is discerned by trained experts following a set of developed standards, but the final number remains subjective and can therefore lead to shifting grading results.

By removing client names from the stone before grading and by providing supplemental software and tools, GGL has developed a system that minimalises



The Gübelin Gemstone Rating is a tool that helps gem dealers communicate about a stone and gives customers an easy-to-read value of their purchase.

risk of personal preference throughout the grading process. For criteria such as rarity, the lab recognises that supply and demand can fluctuate. Select parameters for grading will need to be reviewed and could potentially adjust over time.

Even with their subjective aspects, for GGL the namesake rating system is an ingenious marketing tool. It promotes their laboratory services and offers something extra that gemstone dealers and designers can use when speaking about a specific gemstone to a client. The end consumer benefits from an easy-to-read value that sets a gemstone within the lexicon of distinction while engaging industry trust.

“Our Gemstone Rating attempts to give direction by reducing complexity. It does not tell the full story of a gemstone or exhaustively explain its beauty, appeal and rarity. It is best seen as complementing and enriching the storytelling, rather than substituting it,” said Dr Nyfeler.

At this time, only natural, non-synthetic gemstones that are faceted or polished may receive a Gübelin Gemstone Rating. The gemstones that can be rated are ruby; emerald; sapphire (including fancy colours); padparadscha; Paraíba tourmaline; rubellite; red-pink spinel; alexandrite and chrysoberyl; aquamarine, morganite, and heliodor; demantoid, tsavorite and mandarin garnets; tanzanite; and Imperial, red-pink topaz. The rating does not consider origin. ■

GGL will offer complimentary Gemstone Rating Requests with their Gemmological Reports until the end of 2021. For more information, visit gubelingemlab.com/en/.

The Future of PINK DIAMONDS



When the time comes to write their final Diploma projects, many of our students tackle topical issues that are affecting the trade. To secure his Diamond Diploma, Jack Cherry DGA opted to discuss the closure of the Argyle diamond mine and its impact on the long-term availability of pink diamonds.

The Argyle Pink Diamonds Signature Tender 2020 Hero Collection.

Pink diamonds are treasured as one of the world's rarest gems due to the unique natural circumstances that allow them to form. Consequently, we have seen exponential growth in demand — and prices reaching record high levels — as the reality of their diminishing supply sets in with the closure of Australia's Argyle diamond mine.

This project aims to discuss the current and future availability of pink diamonds by analysing market and production trends, and using that data to forecast future supply and prices post-Argyle closure. It will also discuss the possibility and consequences of new deposits as well as pink synthetic diamonds available to consumers.

ARGYLE DIAMOND MINE

Situated in the East Kimberley region of North West Australia, Argyle is the world's fourth largest diamond mine, accounting for 90% of current supply (Ballentine, 2019). It is famous for producing blue, violet and the highly coveted Argyle pink and red diamonds. Rio Tinto began commercial production in 1983. Since then, they have uncovered 865 million carats from the AK1 pipe (Rio Tinto, 2020), which consists of cross-cutting olivine lamproite, quartz-sand tuff and non-sandy tuff (Boxer, Lorenz and Smith, 1986).

Once reserves began to deplete, a new 30 km block-cave mine was opened in 2013 at a cost of \$2.2 billion, generating

12–15 million carats per year and extending Argyle's lifetime until 2020 (*Engineering & Mining Journal*, 2013). Closure is in fact scheduled for the end of 2020, as the mine is no longer economically viable. Jaques (1998) argues this is because the diatreme is highly elongated and thin, rendering the south of the pipe difficult to reach.

PINK DIAMONDS

Argyle diamonds formed under the North Australian Craton, which houses multiple lamproite pipes (Jaques, 1998). According to Erlich and Hausel (2002), diamond formation within AK1 took 400 million years. This is rapid, considering that diamond age varies between 990 million years to 3,300 million years, based on radiometric-decay analysis of inclusions such as garnet, pyroxene and olivine.

This rapid growth period explains why Argyle diamonds are typically low quality, small, brown, distorted and structurally stressed. The majority of Argyle diamonds have been subject to plastic deformation or sheer directional pressure, which explains why 5% of production is gem quality; of that gem-grade material, 72% is brown (Shigley, Chapman, and Ellison, 2001). The lattice



The Argyle Pink Diamonds Tender 2020 Heroes.

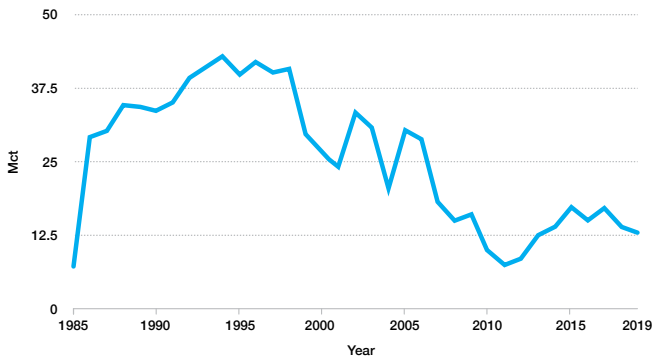


Figure 1: Argyle rough diamond production from 1989-2019 (Global Data 2019).

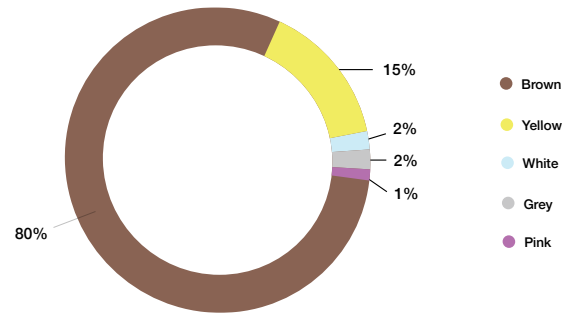


Figure 2: Percentage of gem-quality colours produced by Argyle (Shigley et al., 2001).

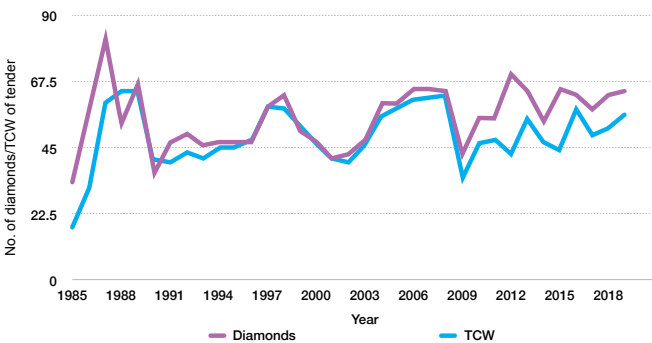


Figure 3: Argyle tender values from 1985-2009 (King et al., 2002).

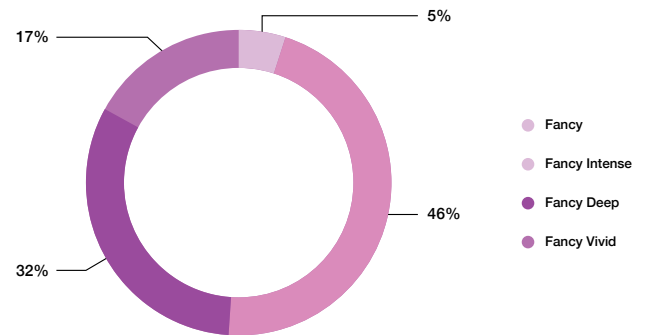


Figure 4: Colour grades of tenders from 1995-2014 (King et al., 2002).

defects caused by plastic deformation create colour centres seen along parallel slip planes, resulting in brown-pink colouration showing absorption at 550 nm (Eaton-Magaña *et al.*, 2018).

Additionally, pinks share characteristics with their brown counterparts, such as graining, cleavages or laths, which contribute to generally lower clarity grades in polished stones. This supports King *et al.*'s (2002) observation that 49% of fancy pink diamonds sold at tender are graded SI or lower.

ARGYLE PRODUCTION

As shown in **Figure 1**, Argyle peaked with production with 42.8 million carats in 1994, 10 years after opening, but soon

declined to a low in 2011 of 7.4 million carats. The decline can mostly be attributed to the increasing difficulty mining the deep and narrow pipe, as less ore is extracted at a higher cost. A brief recovery — up to 17.4 million carats — in 2015 can be attributed to the opening of the underground mine in 2013.

To put the likelihood of finding a gem-quality pink diamond in perspective, **Figure 2** shows the percentage yield of coloured diamonds. By taking 2019's rough production of 13 million carats, you can estimate 650,000 carats is of gem quality with 6,500 carats being pink.

Additionally, Shigley, Chapman and Ellison (2001) state the average size of rough is less than 0.10 ct. King *et al.*

(2002) agrees and further explains that less than 10% of rough weighs over 0.20 ct, further emphasising the rarity of producing a polished fancy pink above 0.50 ct.

An average of 55 exceptional pinks are auctioned at an annual tender. **Figure 3** shows the relationship between the two and indicating an average carat weight of approximately 1 ct per stone. From 2009, there was a positive uptick in both diamond numbers and total carat weight, but there was also the largest divergence in history, indicating increasing yield but at a weight below 1 ct on average. **Figure 4** is also a useful guide to the colour grade of pink diamonds entered into Argyle tenders across a nearly 20-year period. →



The Argyle Zenith lot is a collection of rare blue, red and pink diamonds from the Petite Suites Collection.



The Argyle Pink Diamonds Signature Tender 2020 Collection.

SUPPLY AND DEMAND

Demand for diamonds is expected to grow by 1-5% in China, India and the U.S. due to middle-class expansion, long-term GDP growth and technological advancements (Bain, 2019). Combining this with a 90% production reduction, exponential price appreciation is expected.

Conversely, geopolitical turmoil and the coronavirus pandemic have caused polished diamond prices to fall 3% (Bain, 2019). If travel is prohibited for an extended period, demand could drop further, especially as 70% of Chinese consumers are based on the mainland (Shor, 2020).

With regard to supply and demand, Chappelow (2019) states that in a competitive market, increasing or consistent demand accompanied by a reduction in supply causes price to increase to reflect that change. Thus, at the global level pinks will become more valuable and tender diamond value will

increase exponentially. Some theorise that coronavirus will lead to a decrease in consumer and investor demand, resulting in lower prices. However, **Figure 5** shows a steep increase in price starting in 2009 during the last economic recession, indicating an increase in demand during a time of uncertainty. Chen (2020) characterises this as a flight-to-quality asset, viewed as a store of value similar to precious metals because of their uncorrelated nature, hedging properties and inability to be infinitely created like stocks and fiat currency.

Hard assets can be valued by calculating their stock-to-flow value by dividing current supply by annual production. In relation to gold, current stock is 190,000 tonnes and production is 2,900 tonnes, resulting in a value of 66, which Sainsbury (2019) states is extremely high and how gold retains value. Additionally, hard

assets are usually held for decades as investments or romantic gifts, further decreasing liquidity.

Using past performance derived from pinks appreciating 116% in 10 years (Roden, 2020), and tender diamonds appreciating 600% in 20 years, **Figure 6** predicts prices within the next decade. Conversely, it is important to note a new discovery has potential to slow appreciation. However, according to Robyn Ellison, communications manager for Rio Tinto Diamonds, the likelihood of discovering another pink diamond deposit like Argyle is extremely slim. "There has been no new pink diamond source in the 41 years since the discovery of Argyle. Even if a source was discovered today, it would take another decade to bring on stream."

With no new deposits on the horizon, it is plausible that pinks could become unavailable altogether.

ALTERNATIVE SOURCES

Alternative producers of pink diamonds include India, Russia, South Africa and Canada, but pink production from these sources is inconsistent and not of equal quality to Argyle. (Eaton-Magaña *et al.*, 2018). The most notable recent discovery was Russia's 14.83 ct vivid purple-pink internally flawless stone found at Yakutia

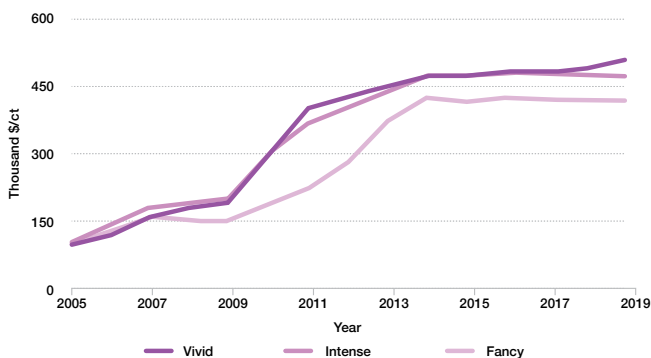


Figure 5: Price per carat from 2005-2019. (Diamond Portfolio 2020).

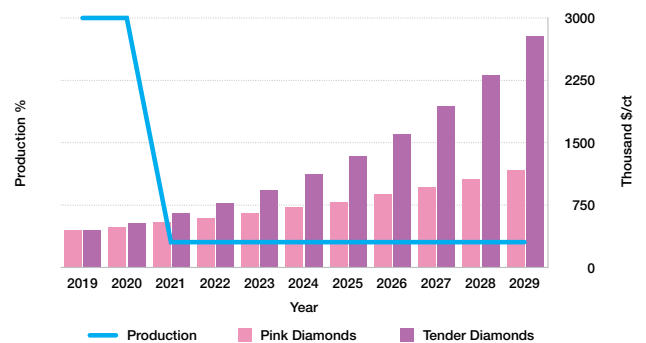


Figure 6: Predicted price per carat 2019-2029. These theoretical figures are the author's predictions based on previous trends (see fig. 5).



The Argyle Sakura, a 1.84 ct pear-shaped fancy vivid purplish pink diamond from the 2020 APD Tender.

(Fedorinova and Biesheuvel, 2019). Regardless, these sources are unable to fill the void Argyle is leaving, plus with no new deposits on the horizon it is plausible that pinks could become unavailable altogether.

Pink synthetic diamonds are the only alternative to owning one of these gems, which can be created via three methods: irradiating and heating to 600-1000°C, growing a specimen by chemical vapor deposition (CVD) with spectral bands at 520 nm, or adding high amounts of silicon during the CVD process (Shor, 2019). These technical advancements allow consumers to own a pink synthetic diamond at a fraction of the cost of an Argyle stone. Consequently, synthetics pose a threat to natural demand if marketed to be luxury items rather than cheaper alternatives for fashion jewellery (Jamasmie, 2018). Yet Marquardt (cited in Danziger, 2017) states that 89% of people seek authenticity when purchasing luxury items, highlighting that a majority of jewellery customers would choose natural diamonds. As a result, demand for naturals will continue regardless of synthetics, which is paramount to the supply and demand dynamic.

As natural diamonds have a capped supply, demand is organic, whereas synthetics can be manufactured infinitely. Additionally, Rapaport (2019) argues a competitive synthetic market will inevitably result in the value of synthetics reaching close parity with manufacturing costs. Technological advancements will allow production costs to decrease along with the ability to manufacture larger higher-quality diamonds, decreasing the value of existing synthetics.

Long term, this phase may be the catalyst to reinstate the rarity of and spark higher demand for natural pink diamonds. Conclusively, the threat of synthetics on natural demand is small, as the majority of natural pink diamonds

are purchased for investment. Synthetics, however, are used to imitate the aesthetic of naturals; they are completely different use cases. Ballentine (2019) supports this by explaining value is not derived by appearance but by rarity, dismissing the possibility synthetics could retain long-term value. Yet, Rahul Kadakia, head of jewellery at Christie's, explains that as pink diamonds are among the rarest produced, Argyle's closure will strengthen the gemstones' appeal to investors and collectors.

CONCLUSION

To conclude, 2020 witnessed a 90% reduction in supply of pink diamonds, rendering it increasingly difficult to own one of the earth's finest treasures. Based on the supply and demand principles discussed, positive price appreciation will likely continue.

Concurrently, the COVID-19 pandemic will likely fuel flight-to-quality assets, similar to the financial crisis of 2008. As synthetic production and quality increases, there is a small risk of long-term damage to natural pink demand. Evolving consumer habits may also ignite demand as increasing numbers seek authenticity and value when purchasing goods.

Nevertheless, an increasing number of pink synthetic diamonds in jewellery as technology advances is inevitable, but there is a high degree of certainty their value will decline over time. Finally, investors have a limited time to take advantage of the optimal purchasing conditions before the price of these ever-appreciating assets become totally out of reach. ■

All diamond images courtesy of Rio Tinto. Please note that this project was written prior to Argyle's closure on 3 November 2020, and some details may have changed over time.

A list of references is available upon a request to the editor.

Jack Cherry on the benefits of Gem-A qualifications

Having now completed his Gem-A Diamond Diploma, Jack shares how his qualifications are supporting his career.

"I chose to study with Gem-A as it's well respected and recognised in the industry. As somebody who loves jewellery and gemstones, I knew that a qualification from Gem-A would help me get where I want to be in the future. My current director at Queensmith Master Jewellers in Hatton Garden was also kind enough to invest in me and pay for my tuition, for which I am grateful. Now that I have graduated, the course has helped me gain a deeper understanding of the subject areas, such as the history and chemistry of diamonds, rather than just understanding the 4Cs. I am now better able to articulate factors such as colour and clarity to clients so they can make a more educated choice when trying to find the perfect diamond for their partner at Queensmith."





Whatever topic was discussed during CIBJO's popular *Jewellery Industry Voices* webinars, writes Edward Johnson, the conversations always converged on two big shifts that the jewellery industry needs to embrace: the use of technology and the need for social responsibility.

Don't go dark." This was the advice of Ben Smithee, founder of New York-based digital marketing agency, The Smithee Group, back in the uncertain early days of the global pandemic. His webinar on 20 March 2020, 'Responding to Coronavirus as a Business', was one of seven online webinars or Zoom meetings I attended that day.

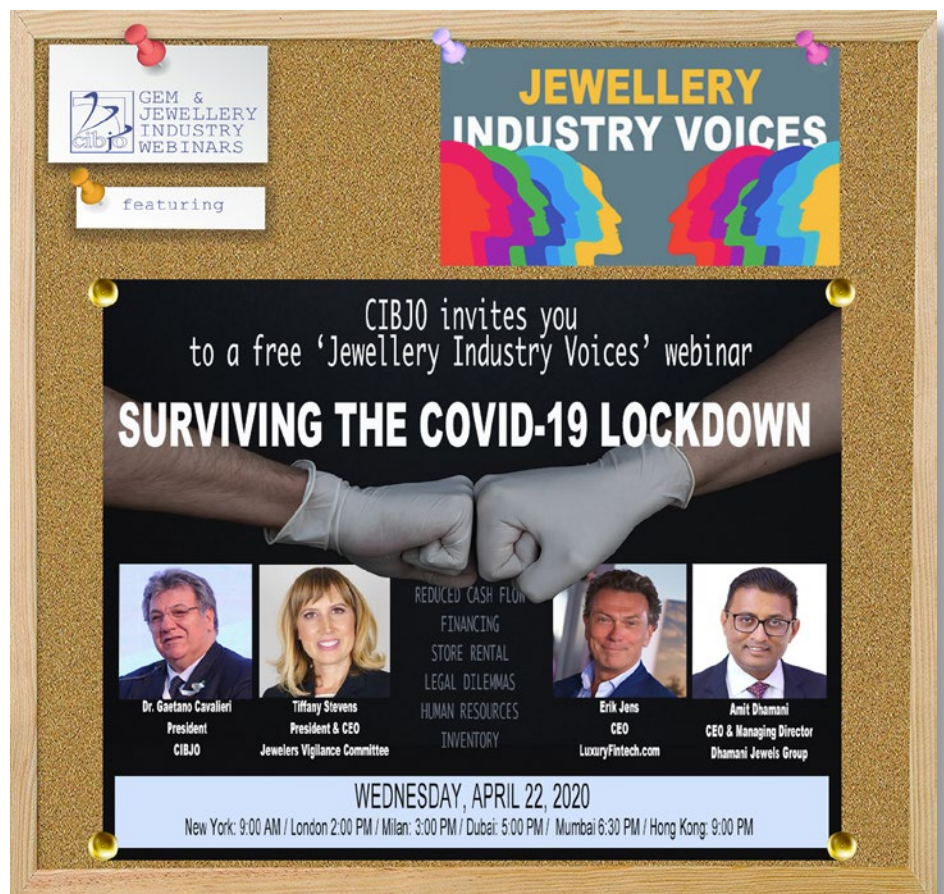
Another session from that day was gem educator Rui Galopim de Carvalho's 'Home Gemmology' webinar. Here, Rui was putting Ben's advice into practice. That very week, Rui had started a gemmology webinar series (see p. 11) that quickly went viral, one that many people name as a positive development that came out of the personal and professional trauma we all endured in 2020.

Aimed at entertaining and educating gemmologists and other members of the global jewellery community, Rui's webinars, held four times a week, reached audiences of up to 600 people. Their focus on the lighter side of gemmology allowed people to 'let their hair down' while learning something within a community of like-minded industry professionals, many of whom had been furloughed and were uncertain of what the future held.

But what about businesses? What were industry leaders thinking? I suggested to Rui that we engage these leaders, to begin talking about how the jewellery business was reacting to this pandemic. We needed to lean in, I felt; we needed to gather online and give industry leaders a

platform to talk about the issues that we were all facing and how, collectively, we could deal with them and recover. I brought this idea to Gaetano Cavalieri, president of The World Jewellery Confederation (CIBJO), the industry's oldest international trade association. As luck would have it, Steve Benson, CIBJO's director of communications, had been working on a similar concept, so we joined forces.

And so was born the 'Jewellery Industry Voices' series, which debuted on 22 April and ran weekly through the spring and summer with an average audience of more than 550 viewers per webinar. Since September 2020 CIBJO has aired the series monthly. We now have a list of 75 industry leaders who have joined as panellists, lending their voices to the conversation. Initially covering how



to survive COVID, we developed topics including gemstone traceability, pearl sustainability, the shift to e-commerce, the future of trade shows, the role of social media and brand marketing. The webinars are free to attend and open to all, with recordings uploaded to CIBJO's YouTube channel.

As I prepared to lead these discussions, I learnt that, whatever the overall topic or starting point, we always converged on two big shifts that the jewellery industry needs to embrace: the use of technology and the need for social responsibility.

TECHNOLOGY

It became obvious that jewellery businesses all along the supply chain need to develop an online presence. We learnt that overall, the industry needs to adopt more 'digital first' strategies — that is, to prepare omni-channel approaches to selling jewellery. This is especially important for retailers, who should take a two-pronged approach when embracing technology. The first is enabling customers to view their offerings online more efficiently, not just for direct sales, but to draw them into the physical stores. The second involves analysing those online interactions and using the data collected from them to serve customers better.

By now, we are all familiar with the concept of our data being used by big-name firms with large tech resources. These companies tailor advertisements to our needs based on who we are, what we search for and view online, and what attracts us as individuals. "If you're not paying for it, you're the product" is the established maxim online. Using the keystrokes and landing points of customers on their online platforms, retailers should learn about their customers and thus tailor products and services to them.

One challenge that some start-ups are addressing is how to trade in gemstones and jewellery online, where a customer does not have the ability to handle or touch the product. Social distancing and travel restrictions mean the traditional mainstay of the coloured gemstone — selling face-to-face at trade shows or retail outlets — has been almost totally curtailed. Technological solutions must allow coloured gemstones, which lack an internationally accepted communication system such as the 4Cs for diamond, to

GEM & JEWELLERY INDUSTRY WEBINARS
JEWELLERY INDUSTRY VOICES

Where are we headed?

THE VIEW OF THE INDUSTRY PRESS

ROB BATES
News Director
JCK

AVI KRAWITZ
Senior Analyst
Rapaport

SAMIT BHATTA
Publisher
The Retail Jeweller

RACHAEL TAYLOR
Freelance Jewellery
Journalist

THURSDAY, JULY 23, 2020
New York: 9:00 AM / London: 2:00 PM / Milan: 3:00 PM / Dubai: 5:00 PM / Mumbai: 6:30 PM / Hong Kong: 9:00 PM

"If you're not paying for it, you're the product" is the established maxim online. Using the keystrokes and landing points of customers on their online platforms, retailers should learn about their customers and thus tailor products and services to them.

be effectively viewed and traded online.

Technology certainly cannot replace the skills and techniques that a professional gemmologist or jeweller develops over years. It also cannot replace the sensual experience derived from seeing, touching and trying on a piece of jewellery. But a balance needs to be achieved to allow for ease of quality assessment and trading online. This balance between the physical and digital, or 'phygital,' as noted by Swiss watch industry expert Thomas Baillod

in the May 2020 webinar, is crucial for the jewellery trade to explore. During our January 2021 panel, Andrew Siegel of Hamilton Jewelers (New Jersey and Florida, both USA) explained that his retail outlets were aiming to be "high tech while remaining high touch."

We also learnt from David Block at Sarine how artificial intelligence (AI) can support more efficient diamond grading; from Charles Bonas of the Bonas Group how augmented reality (AR) gives companies the ability to show customers what a →

GEM & JEWELLERY INDUSTRY WEBINARS
JEWELLERY INDUSTRY VOICES

POSITIONING THE PEARL AS THE SUSTAINABLE GEM

Peter Bracher
Executive Director
Paspaley Pearling

Jacques Christophe Branellec
Exec. VP and Deputy CEO
Jewelmer

Dr. Laurent E. Cartier
Co-founder
Sustainable Pearls Project

Jeremy Shepherd
CEO
PearParadise.com

THURSDAY, JULY 9, 2020
New York: 9:00 AM / London: 2:00 PM / Milan: 3:00 PM / Dubai: 5:00 PM / Mumbai: 6:30 PM / Hong Kong: 9:00 PM

piece of jewellery on the screen would look like on the customer who is viewing from home; and how using cloud-based software allows process optimisation and improved efficiency from Veronica Favoroso (The Gem Cloud, London, and Bangkok, Thailand).

RESPONSIBILITY

One of the main themes that came up in each session was the role that jewellery plays in society, especially in a time of crisis. It was clear in the early days of the pandemic that buying jewellery was not a major concern for most consumers. Toilet paper, pasta and electronic gadgets to stay connected were deemed far more important. But John Carter (Jack Lewis Jewelers, Bloomington, Illinois, USA) reminded us that "Love isn't quarantined."

During this international crisis, many people realised the true importance of their loved ones and the need for human connection. The need to celebrate those people and those connections was strong. Jewellery, so frequently given to celebrate special moments, is often

loaded with meaning for the givers AND the recipients. Birthdays, anniversaries, graduations and engagements were all still happening. New reasons to buy significant pieces, such as celebrating simply being together, also arose. Jewellers need to be ready to serve those needs.

But we in the industry also need to be aware that consumers have changed. Melanie Grant, editor of *1843 Magazine*, said that younger customers themselves now want to know "who you are and what you stand for as a brand." They increasingly expect any brand to speak to their core values, and these often include an awareness of environmental and social issues. Jewellery is susceptible to negative impacts along its supply chain, since the low-volume, high-value raw materials are often mined and processed in countries where the incomes earned are crucial for families to avoid poverty.

The ways that jewellery benefits countries in need of economic growth, particularly those where artisanal miners and cutters live in poverty, are stories that jewellers need to focus on to create

a connection between the customer and the piece. Verifiable stories of how jewellery has been responsibly produced, by people following internationally accepted standards, can help satisfy consumer expectations. At the same time, consumers can learn how the businesses they buy from can play a role in healing some of society's deepest problems, such as inequality (racial, gender and financial), climate change, poverty and conflict. Focusing only on product quality, price or service is not as attractive to the modern consumer as demonstrating the value your jewellery brings to society.

It is clear to me now, one year into this pandemic, just how resilient the global jewellery industry is. It has weathered so many economic downturns, but it

GEM & JEWELLERY INDUSTRY WEBINARS
JEWELLERY INDUSTRY VOICES

GEMSTONE TRACEABILITY

VIABLE OBJECTIVE OR UNREALISTIC CHALLENGE

Clement Sabbagh
President
International Colored Gemstone Association (ICA)
Brazil

Hayley Henning
Chief Commercial Officer
Greenland Ruby
Greenland USA

Cristina Maria Villagas
Director, Sales to Market
Fac
USA

Daniel Nyfeiler
Managing Director
Gubelin Gem Lab
Switzerland

THURSDAY, JUNE 18, 2020
New York: 9:00 AM / London: 2:00 PM / Milan: 3:00 PM / Dubai: 5:00 PM / Mumbai: 6:30 PM / Hong Kong: 9:00 PM

has consistently recovered, because people do not buy jewellery merely based on the financial value of an item or as an investment. They buy to celebrate special moments and to cement human connections. They buy to adorn themselves and express their individuality through symbolic meaning in the pieces and jewellers they choose. And they buy from people — creative people they trust and admire and who serve them with knowledge and integrity.

Jewellery companies need to serve their clients not only with quality products, but with the technology of the times, while respecting the dignity of people all along the supply chain. ■

Younger customers...increasingly expect any brand to speak to their core values, and these often include an awareness of environmental and social issues.

Upcoming Events

GEM-A WEBINARS



The Journal of Gemmology Webinar

15 April 2021

Go behind the scenes at *The Journal of Gemmology* by tuning in to our ongoing webinar series with editor-in-chief Brendan Laurs FGA on 15 April 2021 at 17:00 GMT. Join us as we hear Brendan discuss the current issue of *The Journal* with Gem-A's CEO Alan Hart FGA DGA, explaining how the issue was developed and focusing in greater detail on some of the fascinating feature articles and Gem Notes.

To register, head to <https://linktr.ee/gemaofgb>



WEB-BASED/VIRTUAL

American Craft Council

Baltimore Craft Week

Interactive Online Marketplace

12-18 April 2021

Canadian Gemmological Association

Webinars with Duncan Parker

- 'Simulated Gems and Jewels'
14 April 2021
- 'How to Identify Modifications, Repairs, and Alterations in Jewellery'
26 May 2021

American Gem Society

Guilds Council Meeting

'5-Pronged Approach to Greater Customer Loyalty'

by Phillip Bosen

19 April 2021

The Society of Jewellery Historians

'Chinese Jade Jewellery and Ornaments from the Neolithic to the Present'

by Carole Michaelson

27 April 2021

IN-PERSON EVENTS

(subject to postponement or cancellation)

Gem-A London In-Person Workshops

Shirley Mitchell FGA DGA FJVA

- 'Understanding Valuations'
22 April 2021, 10:30–16:30 GMT
- 'Assessing and Testing Mounted Gemstones'
23 April 2021, 10:30–16:30 GMT

International Colored Gemstone Association

Jewellery & Gem ASIA Hong Kong 2021

Wan Chai, Hong Kong

24-27 June 2021

Hong Kong Trade Development Council

Hong Kong International Diamond,

Gem & Pearl Show *and* Hong Kong

International Jewellery Show

(shows to run concurrently)

AsiaWorld-Expo, Chek Lap Kok,

Hong Kong

2-6 July 2021

JCK

JCK Las Vegas

27-30 August 2021

The National Association of Jewellers NAJ Summit

Staverton Park Estate,

East Midlands, UK

11-13 September 2021

International Precious Metals Institute

IPMI 45th Annual Conference

Reno, Nevada, USA

6-9 October 2021

American Gem Trade Association

AGTA GemFair

Tucson, Arizona, USA

1-6 February 2022

International Colored Gemstone Association

Inhorgenta-Munich 2021

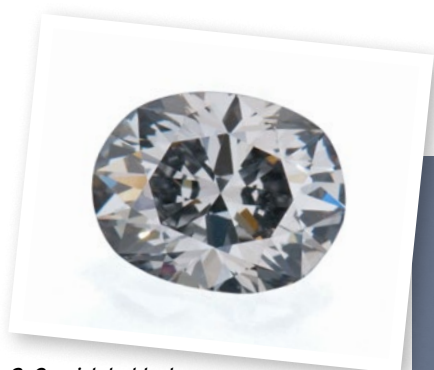
Munich, Germany

11-14 February 2022

GREY GETS ITS TIME TO SHINE

As Pantone takes the unusual step of announcing two 'Colors of the Year', including Ultimate Grey, Dr Aaron Palke looks at the recent success of grey spinel in the gem market, and discusses the factors that combine to create this rare colouration.

Each year, the gemmological community waits for the announcement of Pantone's 'Color of the Year'. The colour chosen is meant to reflect current trends in many industries — including the gem and jewellery trade — where the aesthetics are essential to business. Presumably, Pantone figured nothing could surprise us anymore after the roller-coaster ride of 2020, so for the second time in their 21-year history, they threw the world a curveball by



2: Greyish to black colouration in diamonds can be caused by either the delicate balance of colour-causing atomic defects found in the 1.20 ct specimen on the left, or by the presence of minute inclusions, as in the 9.49 ct rough on the right. Photos by Robert Weldon © GIA, courtesy of the Sir Oppenheimer Student Collection (right).

announcing not one, but two, choices for 2021. Even more unusual is the fact that the most distinguishing feature of one is, well, the absence of colour itself. We are speaking of Pantone 17-5104, Ultimate Grey (1), whose neutral and contemplative shade serves as a complement to the more optimistic yellow hue of Pantone 13-0647, Illuminating (1). Pantone tells us that "Ultimate Grey quietly assures, encouraging feelings of composure, steadiness and resilience."

This descriptor does seem to fit our needs in a pandemic-hit world, but Pantone's choice also captures evolving trends in coloured stones. Traditionally, customers have been drawn to gemstones

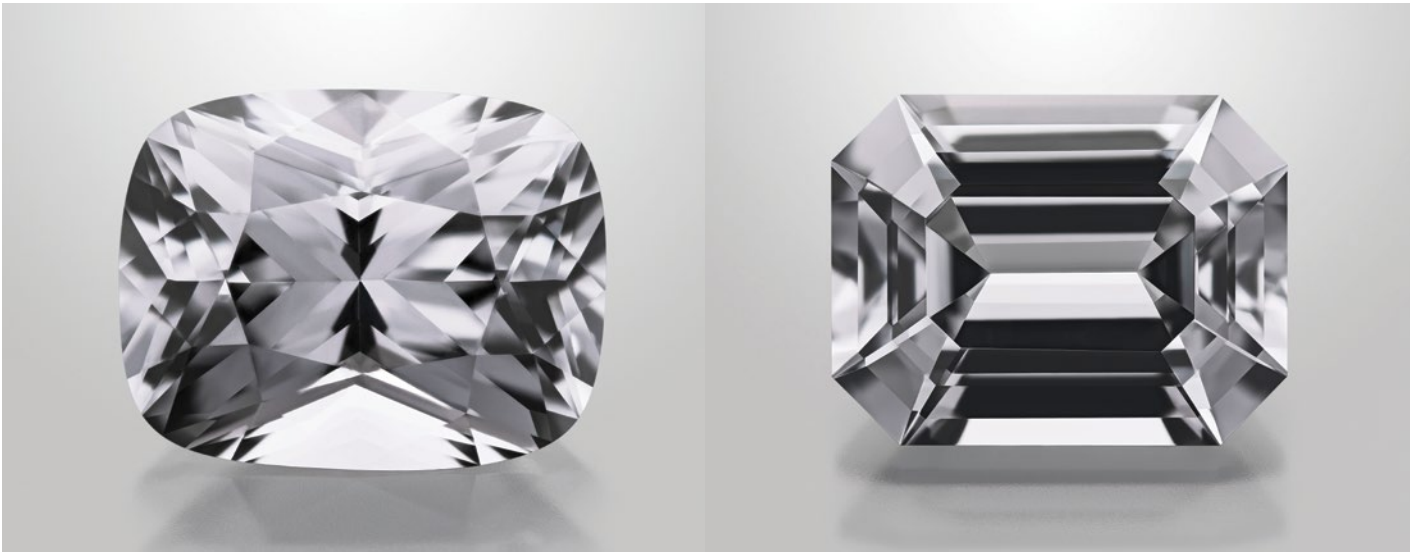


1: Colour swatches representing 2021's Pantone 'Colors of the Year', reproduced from RGB values given at <https://www.pantone.com/color-finder/17-5104-TCX> and <https://www.pantone.com/color-finder/13-0647-TCX>.

by the vividness, intensity and saturation of fine rubies, sapphires and emeralds; buyers have sought to fill that need.

But as of late the industry has become appreciative of less-saturated gems with lighter tones. Stones that would have been difficult to sell 20 years ago have become wildly popular. These include pastel pink-to-purple pyrope garnets from Africa, unheated Montana sapphires in shades of light blue, green, and mauve to pink, as well as spinel in all its often subtle but multihued brilliance. The most recent apex of this trend was seen during the 2019 Tucson season, when grey spinel became the hottest (and most unexpected) trend. Grey spinel was prominently featured by many dealers at the AGTA and GJX shows, and was easy to find at a number of the satellite shows as well.

Getting consumers to go crazy for a stone with no colour is a significant accomplishment, and the success of grey spinel is, in part, a marvellous story about the power of marketing. But there is more to grey gemstones than simply good PR. As it turns out, pure neutral grey is not commonly found in a gems. 'Grey' is most often a modifier indicating that a stone has only a low saturation of its dominant hue. There are some cases of nearly pure-grey colouration in other



3: This 0.99 ct pinkish grey sapphire comes from Rock Creek, Montana, USA. Photo by Robert Weldon © GIA, courtesy of Jeffrey Hapeman, Earth's Treasury.

Ultimate Grey quietly assures, encouraging feelings of composure, steadiness and resilience.

stones, such as some tourmalines or some diamonds (2), but these cases are quite rare. Typically, the grey will have overtones of another pure-hued colour, such as the pink that comes through in the Montana sapphire in (3).

At the shows, the more valuable specimens were those with deeper, darker tones; these gemstones were able to maintain an overall neutral grey. Their colour was sometimes deep enough to match Pantone's Ultimate Grey, although most of these spinels have an overall lighter tone.

Building up this specific grey is no simple feat from a crystal-chemical point of view. In spinel, the standard colour-producing agents — called chromophores — include chromium (red), cobalt (blue), vanadium (orange), and iron (pink/lavender or green, depending on the valence state). If we consider the entire gamut of colour space using the RGB

model, we end up with neutral grey when we have *equal colour sensation* from red, green and blue (roughly corresponding to the peak sensitivities of the three colour-sensing cone cells in our eyes).

Iron in spinel is quite common except in the purest marble-hosted red stones; it can produce either pink/lavender hues or green depending on its valence state and

4: When the balance of chromophores is exactly right, spinel can exhibit a nearly pure neutral-grey colour. Stones (5.62 ct, left, and 5.13 ct, right) courtesy of Dror Zacharia, Zaki Gems. Photos by Arjuna Irsutti.

the crystallographic site it occupies in the stone. Couple this with trace amounts of cobalt — needed only at the level of a few parts per million to impart subtle blue colouration — and you have the perfect recipe for a pure, neutral grey. Spinel just happens to occupy this 'Goldilocks zone' where its common chromophores exist in just the right proportions to create the oh-so-sweet neutral grey we see in the gemstones at the top of this page (4). However, this is a delicate balance, and much of the grey spinel found on the market still has noticeable overtones of either blue or pink (5).

Whatever trend the gem trade embraces next, it seems certain that grey spinel is here to stay. With growing acceptance among consumers of non-traditional colours, we're sure to see growing popularity of many more unusual stones in the future. ■



5: The 0.75 ct spinels shown here have a deeper grey colour, but also exhibit the pink and blue undertones that are often present in such material. Photo by Emily Lane/© GIA, courtesy of Judy Colbert.

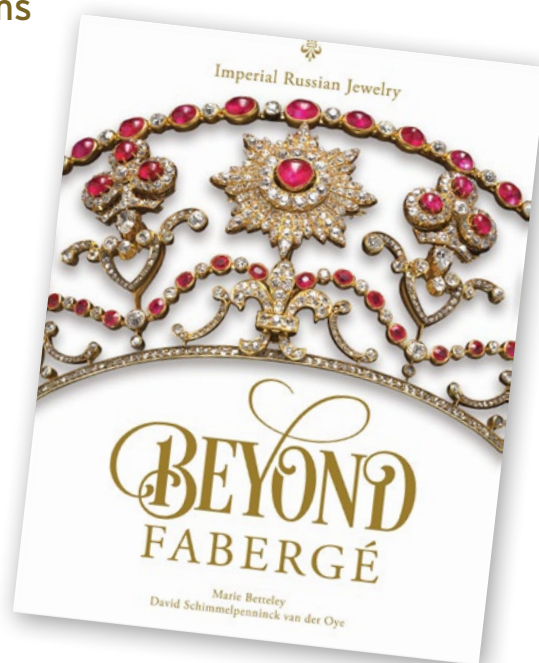
Beyond Fabergé: Imperial Russian Jewelry

Reviewed by Timothy Adams

For decades, the name Fabergé has dominated the jewellery landscape in Russian history. Promoted and romanticised by dealers and auction houses, Fabergé has become the one Russian jeweller that the West knows. But there are so many other equally talented and successful jewellery houses within the country. In *Beyond Fabergé*, authors Marie Betteley and David Schimmelpenninck van der Oye weave a rich tapestry comprising Russia's many talented jewellers and their legacy. This intriguing volume opens the door onto a whole world of jewellers who worked in the Imperial cities of St. Petersburg and Moscow. It sheds light on Russia's cultural history of

goldwork, dating back to the Scythian and Byzantine empires, as well as its indigenous artistic traditions.

This story of Russian jewellery begins with a brief introduction to Kievan Rus' and its powerful ruler Vladimir the Great (c. 958-1015). His diplomatic relations with Byzantium brought Christianity to Rus, along with religious icons and Byzantine goldwork. The authors then take the reader to sixteenth century Muscovy and the Imperial court of Ivan the Great, writing of the Russian love of coloured gems and pearls with their mysterious magical powers. For example, sapphire was believed to clear eyesight and strengthen muscles, while ruby was thought to clarify the blood.



**Beyond Fabergé:
Imperial Russian Jewelry**

By Marie Betteley and David Schimmelpenninck van der Oye, hardcover, 384 pp., illus, publ. by Schiffer Publishing, Atglen, Pennsylvania, USA, 2020, **£71.99.**

In the eighteenth century the window to the Western world opened wide, and gemstones – along with the jewellers who worked with them – were drawn to the powerful and wealthy rulers of Russia like a magnet. They created snuff boxes, tiaras, crowns and royal regalia. Swiss jeweller Jérémie Pauzié moved to St. Petersburg and subsequently created pieces that were unparalleled by his contemporaries.

An elegant gold snuff box set with a very large sapphire cabochon and diamonds from the Hermitage Collection is one such example of Pauzié's talent, as is an incredible bouquet of gem-set flowers belonging to Empress Elizabeth Petrovna. The Imperial Crown of Russia, designed by Pauzié for the coronation of Catherine the Great in 1762, and used

1: The coronation crown of Catherine II by Jérémie Pauzié and Georg Eckhardt. Photo by Nikolai Rakhmanov. Used with permission from Schiffer Publishing.





2: The diamond and pearl Bolin Kokoshnik tiara worn by Empress Alexandra Fedorovna in 1906. A.E Fersman, *Russia's Treasury of Diamonds and Precious Stones* (Moscow: People's Commissariat of Finances, 1925), plate 12. Courtesy of GIA. Used with permission by Schiffer Publishing.

for every coronation until 1917, features 5,000 diamonds and 398 tcw spinel (1). The crown is considered Pauzié's masterpiece. Still, Pauzié faced hardship in St. Petersburg; the authors give a complete account of his life, including the difficulties he faced in trying to collect debts from Russian aristocrats, who rarely paid for commissions.

By the nineteenth century, St. Petersburg was teeming with talented jewellers, and the Romanovs took notice. According to the authors, at least 40 held Imperial Warrants by the turn of the twentieth century. Betteley and Schimmelpenninck van der Oye introduce the reader to the work of some twenty of the leading jewellers who competed for royal commissions. They were an international group,

coming from countries such as Sweden, Germany, Finland and Austria, as well as Russia. All were highly skilled in the jewellery arts, and each launched a successful business.

One firm that dominated the Russian market in the 1800s was the House of Bolin, which served five emperors. Bolin was the largest jewellery house for most of the nineteenth century, and continues today as a family business in Sweden. It is one of the few Imperial suppliers who, along with Tillander (now in Finland), survived the 1917 Russian Revolution. Yet its glorious past is little known outside of Sweden.

The authors show the works of genius that Bolin was known for, especially the Kokoshnik diamond and pearl tiara made for Alexandra Fedorovna

for the opening of the 1906 Duma (2). Photographs of the tiara, and the empress wearing it, demonstrate the piece's beauty and elegance. Also illustrated in vivid colour is the ruby and diamond *parure*, or suite of jewellery, Bolin made for the 1874 wedding of Grand Duchess Maria to Alfred, Duke of Edinburgh. Bolin specialised in creating these *parure*, which led to their popularity in the 1800s.

Another important court jeweller was Carl Hahn, who was chosen to make the coronation crown of Empress Alexandra Fedorovna, as well as diamond-studded Imperial Orders. Hahn also created maid-of-honour insignia pins, worn by ladies-in-waiting to the empresses. A diamond and sapphire pin, creating the initials of both Empress Alexandra and her mother-in-law, the Dowager Empress, is attributed to Hahn (3).



3: Russian imperial diamond maid-of-honour insignia by Carl Hahn. This cipher had the conjoined initials M.A. for both Dowager Empress Maria Fedorovna and Empress Alexandra. Although it is unsigned, designs from the archives indicate that Hahn made it between 1896 and 1911. Photo courtesy of Roger Bester.

In the eighteenth century the window to the Western world opened wide, and gemstones – along with the jewellers who worked with them – were drawn to the powerful and wealthy rulers of Russia like a magnet.

Hahn also created enamelled cigarette cases and exquisite Imperial presentation snuff boxes, which were considered equal to those of Fabergé. When a snuff box needed to have its value enhanced for an important recipient, the court sent it to Hahn. He added large diamonds to boxes sent to the Imperial court from all →



4: Left: The Hahn nephrite box given by the Russian emperor to the French minister of foreign affairs. Courtesy of Sotheby's. Right: This enamelled cigar box by Fedor Rückert, 'Warrior at the Crossroads', based on a painting by Victor Vasnetov, was retailed by Marshak. Courtesy of Walters Art Museum, Baltimore. Both photos used with permission by Schiffer Publishing.

firms, including Fabergé; such diamonds can be seen on the snuff box given by Nicholas II for the French minister of foreign affairs, Théophile Delcasse (4).

These are just two of the exemplary jewellers working in St. Petersburg at the turn of the century that Betteley and Schimmelpenninck van der Oye discuss. They highlight the trend towards

traditional Russian enamelled pieces sought by the Moscow market, and the silver- and goldsmiths that excelled in this style, such as Ivan Khlebnikov, Feodor Rückert and Pavel Ovchinnikov. High-resolution photos of boxes and tea sets enamelled with colourful Pan-Slavic style *cloisonné* enhance the stories told in this publication (5).

The second half of the book looks at the marketing of Russian jewellery, and the international exhibitions which exposed the West to Russian craftsmanship. The auctions of Russian treasures that came after the Revolution made the world aware of the beauty of Imperial jewellery and *objets d'art*. The global interest in Russian silver-



5: Silver and enamel box by Pavel Ovchinnikov, late nineteenth century. © 1998 Christie's Images, Ltd.

Beyond Fabergé is a must for anyone interested in the Russian decorative arts, particularly jewellery.

and goldwork extended as far as the United States, where Tiffany & Co. sold Russian silver goods in their stores.

The chapter on the fate of the Russian crown jewels stands alone after the marketing section. It is augmented by sumptuous full-page photos of pieces from the Kremlin's Armoury Museum. They include the Imperial Crown of Russia by Pauzié, as well as his diamond-encrusted clasp that fastened the Imperial mantle. Among the other treasures are the sceptre set with the Orlov diamond and accompanying orb, as well as diamond pins by Louis David Duval. The chapter is a feast for the eyes (6-8).



6: Gold Imperial orb by Georg Eckhardt and sceptre by Leopold Pfisterer. Photo by Nikolai Rakhmanov. Used with permission from Schiffer Publishing.

7: Diamond mantle clasp by Jérémie Pauzié. Photo courtesy of Nikolai Rakhmanov.

A stunning example of a Kokoshnik-style tiara is also found in this section. The crown, which features a 13 ct pink diamond, dates to the era of Emperor Paul (r. 1796–1801). This tiara was included in a black-and-white photo taken in 1922 of the Imperial regalia, gathered by the Bolsheviks in an effort to market the pieces to the West. However, the major pieces comprising

the Russian crown jewels were not sold, and today are kept in the Kremlin as part of the collection known as the Diamond Fund.

The glossary of Russian jewellers and metalsmiths, from the eighteenth century to 1917, will be of great help to researchers. Each jeweller and workmaster is recorded with a brief biography and a list of their hallmarks, which is useful for anyone

interested in deciphering a mark on a piece of Russian silver or gold. Appraisers, historians and other researchers will appreciate this resource, which helps to navigate this complex topic. It opens a whole new world outside the House of Fabergé. The reader will find the text is illustrated with stunning full-page colour photographs, bringing to life these historic jewels from the vaults of Russian museums and private collectors.

The personal stories and anecdotes of the authors — Betteley is a jewellery dealer and gemmologist, and Schimmelpenninck van der Oye is a professor of Russian history — give the narrative a personal touch and an insider's view of the Russian art field. *Beyond Fabergé* is a must for anyone interested in the Russian decorative arts, particularly jewellery. It takes the reader into this world of fascinating and diverse characters, expanding our understanding and appreciation of Imperial Russia and its great jewellery houses. Fabergé was one of the greatest jewellery firms of all time, and its reputation is well established, but this book allows other outstanding jewellers to be recognised for their contributions to the epoch of Russian Imperial jewellery. ■

8: Russian diamond tiara in the form of a Kokoshnik, set with a 13 ct pink diamond, from the era of Emperor Paul. Photo courtesy of Nikolai Rakhmanov.



RETROSPECTIVE

Thirty years of *Gems&Jewellery*

The first issue of *Gems&Jewellery* – then known as *Gem & Jewellery News* – was published in 1991, meaning that our Spring issue marks the magazine's thirtieth year of publication.

A joint effort between Gem-A and the Society for Jewellery Historians (SJH), *Gem & Jewellery News* was intended to deliver news in between the quarterly publication dates of Gem-A's *Journal of Gemmology* and *Jewellery Studies* (the peer-reviewed journal of SJH); it became the sole province of Gem-A with the Spring 2008 issue. The first editor, Michael O'Donoghue, explained that the new publication would feature not only news such as new gem deposits, but

articles of historical interest, retail topics, book and museum reviews, and other information that would be of interest to people across the gem trade. Gem-A Members would continue to receive the *Journal of Gemmology* as well, therefore receiving a constant flow of trade-related information in their mailboxes throughout the year.

While *Gems&Jewellery* was originally delivered to Members as a newsletter,

Gem & Jewellery News

VOLUME 1 NUMBER 1

DECEMBER 1991

MEDIEVAL JEWEL TO STAY IN BRITAIN

The photograph shows the so-called Middleham Jewel, a magnificent late 15th century English gold pendant set with a sapphire that was found near Middleham Castle in Yorkshire in 1985.

The front of the pendant is engraved with a depiction of the Holy Trinity, the back with the nativity.

Following a successful appeal for the £2.5 million needed to keep this exceptional jewel in the country, the pendant can now be seen in the Yorkshire Museum.

York Members of the Society of Jewellery Historians will be treated to a lecture about the jewel on 6 April 1992 given by John Cherry of the British Museum.

This highly important English Gothic pendant was found near Middleham Castle in North Yorkshire in September 1985, near a footpath that linked Jerusalem and Coverham Abbeys. However, the private chapel of Middleham Castle is also a possible location for its original owner. The pendant was exhibited at Boves Museum, Barnard Castle in 1986

and was then offered for sale in Sotheby's auction of Important Medieval Works of Art in London in December the same year.

The diamond shaped pendant is actually a container, 2 1/2 inches high. The front of the pendant has a finely engraved depiction of the Holy Trinity below a large blue sapphire and within a frame with an inscription taken largely from the Latin liturgy.

The reverse of the pendant is engraved with a nativity scene bordered by the representation of fifteen saints. The back panel opens to reveal a cavity which might well have been intended to hold a communion wafer. The use of the sapphire – a symbol of a pure soul – might also point to a sacramental function. The pendant probably also had an amuletic function as suggested by part of the inscription which includes a term that is believed to have been a charm against epilepsy or the falling sickness.

The quality of workmanship is exceptional with finely detailed engraving which bears traces of original blue enamel. The large sapphire is flattered by the simple setting bordered by a spring-like coil of gold wire giving a beaded effect. The British Museum Research Laboratory has carried out a study of the gold and details of the remarkable deliberate use of gold coloration will be explained by John Cherry in his lecture to the Society of Jewellery Historians next April.

Photograph courtesy of The Yorkshire Museums, York.

QUARTERLY BULLETIN OF THE GEMMOLOGICAL ASSOCIATION AND GEM TESTING LABORATORY OF GREAT BRITAIN AND OF THE SOCIETY OF JEWELLERY HISTORIANS

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it evolved over the past 30 years to the more traditional magazine format we know today, with dedicated sections, cover photos and full-colour images throughout the magazine. ■



THEMES OF THE TIME

The inaugural issue announced that the fifteenth-century pendant known as the Middleham Jewel (pictured), which was discovered near Yorkshire's Middleham Castle in 1985, would stay in England after a fundraising appeal that raised £2.5 million. The diamond-shaped gold pendant is set with a large sapphire, which during the medieval period was considered to be symbolic of a pure soul. The engraving on the front depicts the Holy Trinity with some words from the Latin liturgy, while the back shows a nativity scene with representations of 15 saints on the border. The back opens upon a cavity in which a Communion wafer might be stored. This function, along with the sapphire, led to the theory that the pendant may have been sacramental in nature.

Since 1992, the Middleham Jewel has been on display at the Yorkshire Museum.

Other history-related content included a discussion of 'recipes' for imitation gem materials, as well as detecting doublets and counterfeit specimens, from the September 1792 issue of *The Conjuror's Magazine*; and a look at jewellery-related patents that pertained to precious metals. Notes on gemstones included news from a new emerald deposit in Nigeria (the first to be discovered); rare faceted uvarovite from Outukumpu, Finland; and warnings that so-called 'deep' diffusion-treated sapphires and Russian-produced red and pink synthetic spinel might be misidentified as differently treated and natural specimens, respectively.

The gold and sapphire pendant known as the Middleham Jewel dates to the late fifteenth century and was found in Yorkshire in 1985. Images courtesy of York Museums Trust.



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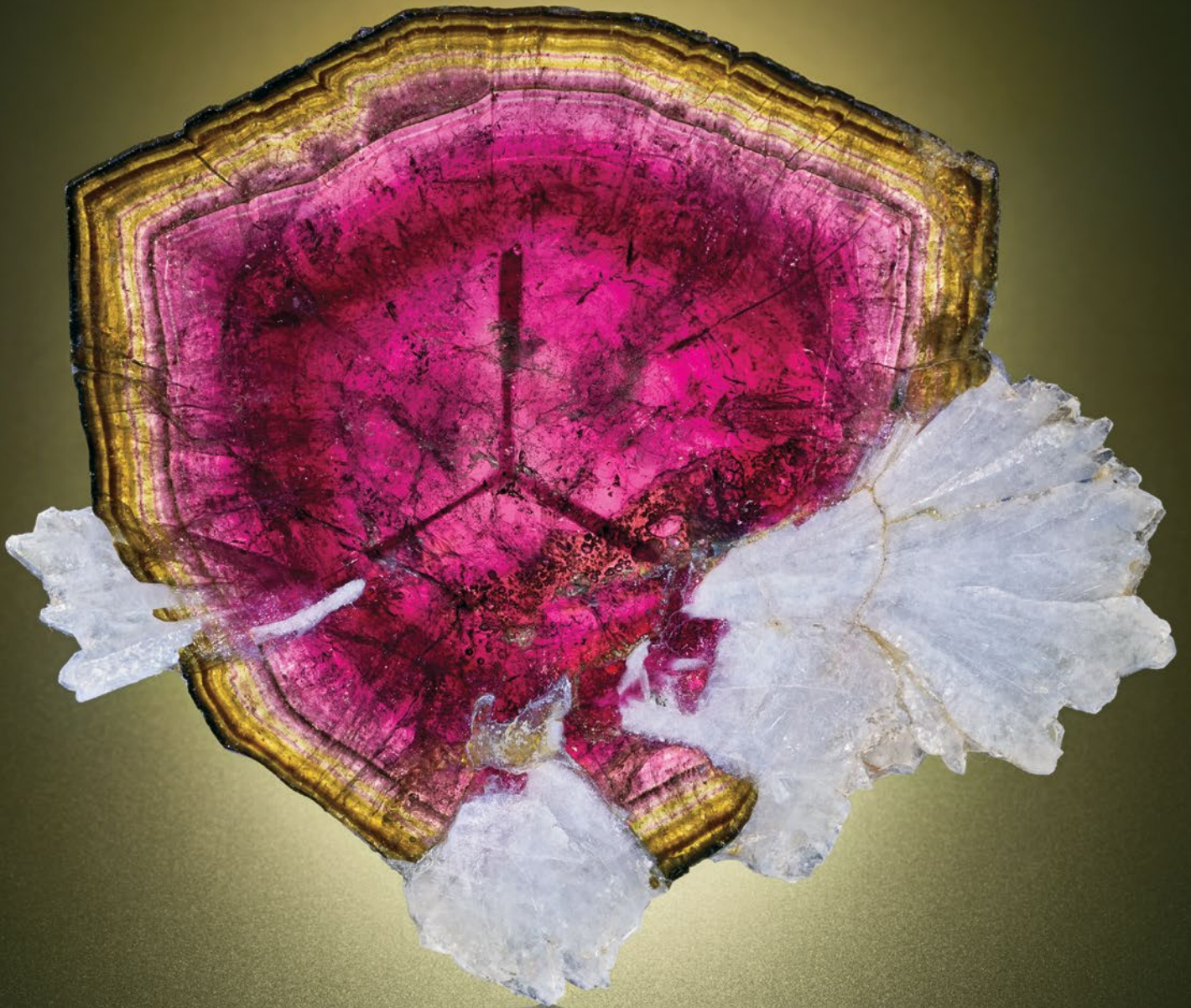
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