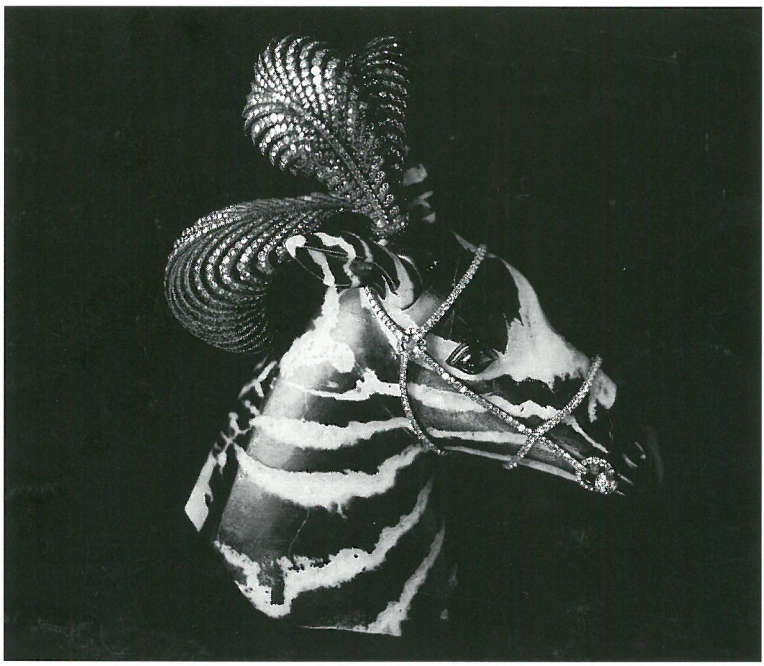
GEM & JEWELLERY News

Volume 12 Number 1
December 2002

The Jewels of JAR, Paris

To celebrate 25 years of creating jewellery, Joel Arthur Rosenthal (JAR) is showing 400 extraordinary pieces in this major exhibition being held at The Gilbert Collection, Somerset House. Joel Arthur Rosenthal is an American-born jewellery designer whose fantastical designs and exquisite craftsmanship have inspired connoisseurs to compare his work to that of Fabergé and Lalique. The works displayed have never before been exhibited, as JAR's by-appointment-only shop in Paris's Place Vendôme has remained the secret of jewellery collectors around the world.

The exhibition has been sponsored by Christie's with additional support from Elen Barkin and Ronald O. Perelman, and The Rosalinde and Arthur Gilbert Foundation in honour of Lord Rothschild.



François Curiel, Chairman of Christie's Europe and Head of Christie's Jewellery Department Worldwide, has described JAR's jewels as:

"Classicism with a twinkle. Creating unique jewels using natural pearls, Kashmir sapphires, Oriental rubies, rare diamonds and precious

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'Zebra' head 1987. A 'zebra' brooch, the animal's head sculpted in banded black and white agate, topped with diamond feathers. © JAR, Paris

In this Issue...

The Quarterly Bulletin of **The Gemmological Association and Gem Testing Laboratory of Great Britain** and **The Society of Jewellery Historians**

Years ago when talking to some of the doyens of our trade I used to think that it must have been great to have been around and involved in those days. Now when I talk to my children they say "Dad, that was then. Things have moved on." They are so right, things have moved. The last fifty years have seen many changes. In particular the manufacturing side of our trade is shrinking, we no longer train apprentices.

Merchandising. Volume sales. No need for 'sales' people, just servers! Knowledge not important? Yes, changes in the way we do business have happened. Retail has expanded – there are more jewellers in the high street than there were fifty years ago. However, along with all these changes we have world wide recession, sales down, margins down, tougher competition.

In the field of gemmology the development of diamond simulants such as synthetic moissanite, the lasering of diamond, the treatment of coloured gemstones to improve colour and clarity, HPHT diamonds, and gem-quality synthetic diamonds.

Our trade is moving into the 21st century with new vigour.

For a business to truly succeed it must have a reputation for absolute *integrity*. This should be the buzz word for our trade in the 21st century.

What about the future – particularly the future for the Gemmological Association, an association which has a world wide reputation for excellence and *integrity*.

Almost a year ago I accepted the role of CEO of the Gemmological Association and Gem Testing Laboratory of Great Britain. I found that I had a hard working, dedicated staff who believed that the Association must represent the best in education, membership, laboratory services, and gem testing instruments.

Together we produced a strategic plan.

We have a vision. To build on the history of the Association. To maintain and increase the Association's world pre-eminence in quality education and to be a leading gemmological laboratory in Europe with research facilities.

We gave ourselves a mission to provide the highest standards of gem-related education, gem-testing services, membership, publications and events, and to supply quality instruments and books.

So where are we now, two-thirds into our financial year? What have we achieved and what are we working on?

We are 15% up year on year. We have opened a branch of the Association in America – Gem-A USA. We have opened a branch in the South East of England. Plus education is launching a new foundation course in 2003 with its own certificate. We propose to launch in the New Year new diamond and gemstone reports.

Thanks to a grant of £50,000 from the Worshipful Company of Goldsmiths, we have invested in equipment to enhance our testing, research and teaching abilities.

The New Year will no doubt bring new challenges to our door, and opportunities to move the Association forward in the 21st century will continue. We have to work hard at maintaining our world standard of membership, education and laboratory services. And to do so we need our members' continued support. There are lots of things we want to achieve in 2003. New laboratory equipment and diamond exam sets are on our Christmas wish list along with an updated computer system and other requests from the team at Greville Street.

I look to the New Year with a sense of excitement and optimism, and with that spirit I wish you all a healthy and prosperous 2003.

Terry Davidson

Published by

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Harry Levy looks at current diamond issues that can affect the whole trade

There has been much activity in the diamond world in recent weeks culminating in the Kimberley Process, set up over two years ago to tackle the problem of conflict diamonds, and finally verified in Interlaken (Switzerland) on 5 November 2002.

Joint Congress

The World Federation of Diamond Bourses (WFDB) and International Diamond Manufacturers Association (IDMA) held their joint Congress in London at the end of October. The Congress had originally been planned to be held in Israel in May of this year. Due to the situation there and after several post-ponements the venue was switched to London. It turned out to be a most successful Congress despite the short notice in arranging the event. In the circumstances one must congratulate Freddy Hager, the President of the London Diamond Bourse and Club (LDBC) who, with the assistance of Maxine Phillips, arranged the whole event.

There were nearly 200 participants at the Congress, most representing affiliated bourses, but there was a strong presence of most of the GIA leaders, as well as the President of CIBJO – Dr Gaetano Cavalieri, and many other leaders of the diamond industry.

Two of the most important items were those of treatments of diamond and conflict diamonds.

Diamond treatments

On the former issue the diamond community is being confronted with the problems that have beset the coloured gemstone industry for many years now. They are beginning to understand the nuances of terms such as 'treated', 'enhanced' and 'processed', and they are learning to check for lasered and infilled stones. The competent handlers of diamond can now detect these treatments, but many are becoming more and more reliant on the gem laboratories.

The GIA gave a presentation on treatments including a relatively new technique of lasering diamonds. A pulsed laser beam is focused on a black inclusion near the surface of the stone. This induces a tension fracture around the inclusion. This fracture is extended to the surface of the stone by withdrawing the laser focus. Now acid can be introduced to bleach the black inclusion. A zigzag pattern within the fracture is present in some stones. Despite it being more difficult to identify than the more commonly known lasering process, it is still imperative that the treatment is declared at each level of the supply chain.

The most problematic treatment as far as the trade is concerned is the newly declared HPHT process which changes the colour of diamonds under high pressure and high temperature. For almost all diamond handlers this is a process they cannot detect which is also true for many laboratories. Most of the major laboratories claim that they now routinely screen all diamonds sent to them for grading for this treatment. With the HPHT treatment of diamonds it is impossible to identify the treatment without expensive laboratory equipment. At the Congress a number of suggestions were discussed on how to minimize the risk of unknowingly handling such treated diamonds.

At the Congress there were many suggestions as to how members who fail to disclose this treatment should be punished. It is a new treatment and eventually the diamond community will learn to live with such stones.

Conflict diamonds

The other main issue raised at the Congress was that of conflict diamonds. The aim is to be able to trace the movement of a diamond down the chain of supply from a 'clean' source. The Congress was attended by Abbey Chikane from South Africa who is the Chairman of the Kimberley Process, as well as Ambassador James Bindenagel representing the United States government. There was a dignified protest demonstration by some Non-Governmental Organizations (NGOs) outside the Congress venue. They highlighted their protest with a Marilyn Monroe look-alike draped in 'diamonds'. The trade had promised through the World Diamond Council (WDC) to install a self-regulatory system to ensure that conflict diamonds did not get through to the end user.

Kimberley Process

The Kimberley Process was set up over two years ago to tackle the problem of conflict diamonds. It

Diamond grading standard

As predicted in the last issue (Around the Trade, *GJN* September 2002, p.64), the ISO Paper 1174 on diamond grading failed to be adopted as it did not gain sufficient votes from the qualifying countries. Some members felt that the final version did not make their method of commenting on the proportions of diamond mandatory.

It is difficult to predict how this issue will progress now. It will be interesting to see how ISO deals with the different opinions voiced. Many in the trade feel that we have managed all these years without an ISO standard so we can continue with the present status quo.

The World Federation of Diamond Bourses (WFDB)

The WFDB is an Association of many of the major diamond bourses and clubs that exist in centres where diamonds are traded. The numbers continue to increase. In recent years the Bourses of Moscow and Mumbai (Bombay) have been accepted, and representatives of organizations from Shanghai and Dubai were present as observers with the intention of becoming future members.

Historically the first International Federation of Diamond Bourses was formed in 1907, consisting of the two bourses in Antwerp and those of Amsterdam, Paris and Vienna. The First World War curtailed the activities of the organization, but it was revived in 1928, with the New York Club replacing the one from Vienna. These five clubs held annual congresses until the outbreak of the Second World War.

WFDB founded

On 5 July 1947 the World Federation of Diamond Bourses was founded and has continued to grow since then. The diversity of the bourses goes from those of the established cutting centres of Belgium, Israel and South Africa, to those such as Hong Kong, Singapore, Thailand and Japan. There is a full Congress held every other year with a meeting of the Presidents of the participating bourses in the intervening years.

The diamond industry in Europe was established in Amsterdam and Antwerp. The bulk of the business of cutters and traders moved to Antwerp in the 1930s, but the advent of the Second World War forced them to seek other homes. Not many know that the place they first thought of establishing a new European centre was in Cognac in France. The initial success of the German forces and the capitulation of France forced these merchants to flee from France and many came to London.

London Bourse

Our own London Diamond Bourse (LDB) first opened for business in 1940 in the Hatton Garden area (the district bounded by Farringdon Road, Holborn, Leather Lane and Clerkenwell Road). The Hatton Garden area has functioned as a diamond centre since 1620, when the East India Company established a sea route between the diamond-rich Indian subcontinent and the port of London. Today the area is the home of more than 1000 diamond, coloured gemstone and jewellery enterprises, the most famous of which is De Beers (now operating as the DTC).

The London bourse originally operated out of Mrs Cohen's café in Greville Street, a road intersecting Hatton Garden, emulating many other business institutions which had their origins in the coffee shops of the Strand in the 17th and 18th centuries.

London Club

In November 1940 the London Diamond Club (LDC) was established, first operating out of Ely Place just off Hatton Garden, then in 1943 moving to premises at 87 Hatton Garden, reputed to have been the home of Sir Moses Montefiore. Following the format of Antwerp, the LDB members traded mostly in polished diamonds and the LDC traded in rough stones. The numbers of these two associations increased after the end of the war as some survivors of the Nazi concentration camps came to England.

By the mid-1950s the old café was too cramped for diamond trading, and the LDB moved into the ground floor of 57 Hatton Garden and then into a recently erected building in the middle of the Garden. The 1960s and 1970s were good years for the Bourse and its membership grew to approx 700. By the end of 1980 the premises at 32 Hatton Garden were again proving to be too small and the Bourse started negotiations to move into a new complex to be built on the site of Gamages, a large department store.

Merger

As these talks progressed the diamond industry began to contract and talks were started between the LDB and LDC, at first to share these new premises and then to merge. Eventually agreement was reached and in 1994 the LDB and LDC merged into its current form named the London Diamond Bourse and Club (LDBC). At present it has a membership of about 350 traders.

The London bourse and club have played prominent roles in the history of the WFDB, with the Congress being held in London in 1949, 1953 and 1991, and Eddie Goldstein, the then president of the LDC, holding the presidency of the WFDB from 1986 to 1991. With the DTC being based in London where their Diamond Sights are held every five weeks, London continues to be an important centre of the diamond industry.

Harry Levy

Abstracted from WFDB Newsletter, October 2002

concentrated on the ways to control how rough diamonds were introduced into the trade. The problem of conflict diamonds has centred on the situations in certain African countries whose rough diamonds have been used to finance armed conflict. NGOs have done an excellent job of highlighting the problems.

The participants in the Process are drawn from the diamond trade, governments, NGOs, the United Nations and trades such as banking and insurance who are involved with

the diamond industry. What is not often understood is that the Kimberley Process deals only with rough diamonds. It has designed a system of warranties and certifications to ensure that conflict diamonds never get into the distribution chain. Thus miners and rough diamond dealers should export their stones through their own government organizations and then the diamonds will be sealed and certificated. The importers of such stones in the receiving countries will have to be able to account for all their diamonds through such a certification system. Smugglers of diamonds would find it hard to find buyers for their stones as the new controls would discourage dealers and cutters from handling these stones. The trade for its part would penalize and ostracize anyone caught handling conflict diamonds.

Tracking system

This system would cover the beginning of the distribution chain and the movement of rough diamonds, but what tracking will there be after the stones are polished? One method advocated was to give the origin of the stones. Unfortunately it is impossible scientifically to verify a diamond's country of origin.

The NGOs and government agencies want a tracking system for polished goods and ultimately jewellery containing diamonds. The trade has agreed to introduce a system of self regulation whereby sellers can give warranties that their purchases came from sources which guarantee that they do not handle conflict diamonds. Motions to this effect were passed at the congress by both IDMA and WFDB, who agreed to monitor their members vigorously to ensure that they trade only in non-conflict diamonds.

Harry Levy

Coloured stones

The coloured gemstone market continues to function despite the current oversupply of commercial stones available in all the cutting centres.

The problem of orange sapphires in which most of the colour is close to the surface has not yet been fully resolved. The producers claim that they have only applied heat processes to change the colour. Consuming countries claim that since the colour is only surface-related it must be regarded as a treatment.

One of our readers wrote to me regarding my puzzle about diffusion sapphires. He claimed that since the colour was only in the surface and not throughout the stone it should not be called a sapphire.

The reader is correct in that the stone should be described as a blue treated corundum. However, most of the public – and many in the trade – would not know that corundum is the mineral species to which ruby and sapphire belong. This confusion over mineral variety names is captured by someone who is marketing 'red sapphires'. Think about it!

Harry Levy

NAG Valuer of the Year award

Congratulations to Rosamond Clayton on her award as National Association of Goldsmiths' Valuer of the Year 2002.

Rosamond, a Fellow of the Gemmological Association and a member of the SJH, has over 25 years' experience within the gem and jewellery industry, including ten years in the Hong Kong gem trade as a valuer and diamond buyer, and studied gemmology with colleague Marcia Lanyon. She set up her own business Valuation Services Ltd in 1985 and returned to the UK two years later. Rosamond was one of the first members of the NAG Registered Valuer Scheme, and has contributed towards the Scheme's development. She said: "Continuing professional development is particularly important for valuers, and especially Registered Valuers, as we deal with such a vast array of gems and jewellery. Plus we have to ensure that our working practices are up-to-date and able to bear scrutiny." She applauded Brian Dunn, the newly elected chairman of the NAG Valuations Committee, for "his unswerving enthusiasm for professional education and for raising standards throughout the industry."

Philip Stocker, NAG Valuer of the Year 2001, was delighted that Rosamond has been recognized saying: "Rosamond is one of the premier valuers in the country and thoroughly deserves this award."

Historic Garrard opening at 24 Albemarle Street

By Corinna Pike

Following a sensational party at HM Tower of London, on Monday 16 September Garrard re-opened at its historic site at 24 Albemarle Street that it formerly occupied from 1911 until 1952.

This was the culmination of an enterprising and ambitious project to re-launch the company in a dynamic direction, whilst also maintaining the great heritage of the Garrard name. The main thrust of this transformation is the 'classic avant-garde' theme which is clearly represented in the new collections now on display in the magnificent plush showrooms.

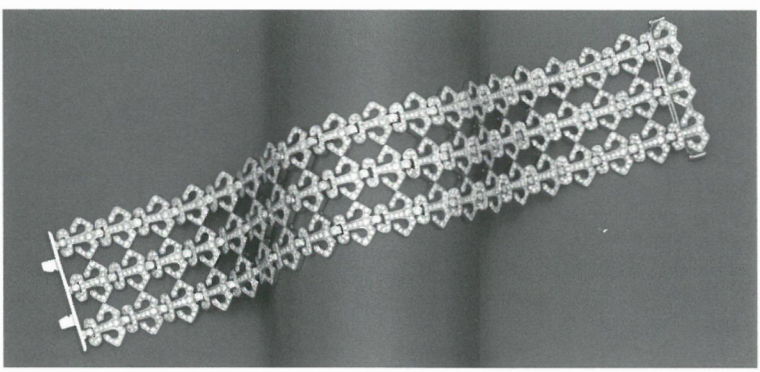
The restored site has very cleverly integrated contemporary elements alongside the original architectural features of the 1911 building. The juxtaposition of contrasting styles in this way is startling and inspirational, and brings a refreshing twist away from the predictable. Harnessing both traditional and modern aspects is well illustrated in the new 'Crown and G' logo, which has been devised taking reference from the Robert Garrard mark of 1822, and is to be seen as a regular accent in the new designs. In addition, Garrard has also introduced another hallmark 'G & Co' within a square format. The cheerful and stylish 'raspberry' colour now emerging from Garrard, is none other than an updated colour harking back to earlier years of the company.

Garrard, 24 Albemarle Street, London – September 2002.

History has a wonderful way of presenting remarkable coincidences. In 1911 the Garrard business 'moved house' from the Haymarket to 24 Albemarle Street at an extraordinarily busy time for the Crown Jewellers, on the crest of a wave during a year which saw the Coronation of King George V and Queen Mary as well as the Delhi Durbar. A further coincidence in timing for the Royal jewellers was when the company in 1952 moved to 112 Regent Street, the year when the Princess Elizabeth acceded to the throne followed by the Coronation the year after. So quite by chance in 2002 we are celebrating the 50-year homecoming of Garrard to 24 Albemarle Street in the year of Her Majesty The Queen's Golden Jubilee.

Garrard has been an integral part of British culture and remembered for its air of traditionalism, which was part of the territory connected to its responsibility as Crown Jewellers, but underpinning this serious side there has always been a re-inventive spirit. The post war era of Alex Styles when he was head of design for Garrard and his influence that spanned nearly half a century, so aptly demonstrated the contemporary approach of that time. How natural it seems for the company to now be on the cutting edge of a new challenge.

Diamond-set bracelet from the 'Crown' collection.



New Branch launched

The inaugural meeting of the newly formed Gem-A South East Branch was held on Sunday 8 December at Christie's South Kensington. The guest speaker was David Lancaster, a Director of Christie's and Head of Jewellery at Christie's South Kensington. In his lecture David talked about the popularity of gemstones at auction and compared modern gemstone treatments with those of the past. The talk was followed by a private viewing of a forthcoming Jewellery Sale.

Chasing rainbows

Ray Rimmer reports on a recent North West Branch meeting

All FGAs have been through it. The coveted Gemmology Diploma exam is well under way and the final conclusive test requires you to hunt for absorption bands or lines inside the tiny spectroscope viewfinder. It was really easy to do in the classes leading up to the exam but now the pressure was on and we had to do it for real. But, for some newcomers to gem testing, the myths and dread for such an instrument were about to change for the better.

On Wednesday 18 September, Scottish gemmologist John Harris presented a talk to the North West Branch simply entitled 'Chasing Rainbows'.

Historically, there was a strong belief that actually to capture a rainbow was an impossible feat to achieve until Sir Isaac Newton demonstrated light going through a prism to astounded onlookers in 1666. His simple experiment led the way to other pioneering scientists to expand this knowledge extensively into astronomy, optics, chemistry and, later of course, to gemmology.

During the talk we were shown some excellent slides of absorption spectra which John Harris had collated on disk for sale. Following the slide show the practical part began with a spectroscope which was once owned by Herbert Smith who used the instrument to record the many different spectra illustrated in the famous book *The Spectroscope and Gemmology* by the late Basil Anderson and James Payne.

We then split up into groups in order to see the rainbow colours with absorption patterns inside three assembled light boxes. After setting up the 45 degree angle tilt of the spectroscope to the specimen with the source at a similar angle, chromium, iron and rare earth spectra could all be observed. Students that were new to the instrument were given a crash course in spectroscopy – and it was a revelation to some!

More fun was had when John Harris then distributed numerous pairs of his aptly named 'funky glasses' for us to wear (as reported in 'A sparkling weekend in Perth', *GJN*, June 2002, p.52).

He demonstrated how we could separate a synthetic ruby (chromium) from an almandine garnet (iron) by looking at the spectra which had appeared through the lenses. Another startling demonstration was that of a didymium rare earth spectrum from a pink cubic zirconia. This was set up with a spectroscope in the draw tube of a microscope and was a perfect example of this technique. Space does not permit description of more than these few highlights from a collection of about 100 gems.

Branch Officers at Gem-A Conference

All UK Branches were well represented at the recent Gem-A Conference held at Kempton Park (see Conference p.10). Also attending were Anne Dale, Director of Gem-A USA, and Brigitte MacDonald and Luc Genot from the newly-formed Belgian group. Pictured above are (from the left, back row) Richard Slater (Chairman, South West), Deanna Brady (Chairman North West), David Larcher (President, Midlands), Ray Rimmer (Secretary, North West), Gillian O'Brien (Treasurer, Scottish), (front row) Gwyn Green (Chairman, Midlands), Doug Morgan (Midlands) and Catrionna McInnes (Secretary, Scottish).

Belgium

Gem-A members in Belgium met as a group for the first time on 12 October. The occasion was a visit to the 'Living Diamonds' exhibition held in Antwerp's new diamond museum. Located near Antwerp's Central Station, the site itself is of interest, as an elegant example of Art Nouveau architecture.

The exhibition, organized by the Diamond High Council, explores the themes of fauna and flora in diamond jewellery from the Renaissance until 1960, through 125 jewels. They have been brought to Antwerp from auction houses, private collections and museums worldwide. We were welcomed at the museum by Gem-A member Paule Nolens, who had contributed to the exhibition both as a project consultant and author cum contributing editor to the catalogue. it was a privilege to have her guidance for this visit.

Fauna and flora themes, though originally symbolic, tend to be nowadays purely decorative. They have been represented in a variety of styles which reflect not only changing tastes and artistic trends but also such factors as availability of gems and metals and technological developments. Details of the museum and the Living Diamonds exhibition can be found at www.diamantmuseum.be

John Edward Millard 1942-2002

A memorial by David Larcher

John Millard was a loyal member of the Gem-A Midlands Branch for many years. I first met John when he began to attend our monthly meetings some ten years ago and got to know him better when he joined our committee, where he provided valuable input.

John's interest in minerals and gemstones began over twenty years ago and, in time, he developed the ability to pick out interesting and unusual objects, particularly carvings in various minerals, ivory, bone and wood. He also collected rutilated quartz.

John was a cutter and had produced some well-cut specimens which he brought along to Branch meetings for comment. He will be greatly missed by all who knew him and we all sincerely regret that his life has ended so suddenly and tragically.

Gem and mineral enthusiast John Millard

Gemiscellany

Treated diamonds. Sourcing emeralds. Jack Ogden traces early references to today's gem problems

Consider the jewellery trade press report of a treatment to turn a diamond a permanent rose-red colour. A new worry for the trade?

No way, the report was in the 15th July 1875 edition of *Jeweller and Metalworker.* The treatment was a simple one that "... exposes a diamond to a very high temperature, in order to destroy its brownish colour". The whole process is discussed in terms that make it sound commonplace among Victorian diamond merchants, but it was intended to improve the colour of yellowish stones. A diamond turning red was a remarkable exception, hence a mention in the trade press. So, are many of the diamonds in antique jewellery actually 'heat treated' or would such treatment come under the heading of established trade practices and so not require specific disclosure? And just how red was that exception, or did it finally fade?

Fading rose or not, describing the colour of gems is tricky, but again this is not a new observation. Hannibal Ganon in his *Gouldsmythes Storehowse* published in 1604 dwells at length on gemstones, but does note, "Their Coullors cannot be so plainelye described as Discerned by Sighte."

Ganon also throws some light on the history of gem trading – imitations as well as real.

Provenance of emeralds

Sorting through some box files the other day, I came across the press releases from a couple of years ago when a French research institute used analysis of oxygen isotopes to provenance emeralds. In some circles surprise was expressed that the results proved that Colombian emeralds were being traded in India several centuries ago.

But in the 1580s (just forty years after the Spanish first got their hands on the Colombian emerald mines), a Dutch merchant called Jan Huygen van Linschoten set off on his first voyage to the Orient. According to his accounts of these voyages (published in 1596), merchants from Venice were by then importing Colombian emeralds into Burma and swapping them for the rubies that the Burmese had less of a liking for.

We find the same thing repeated, almost word for word by Hannibal Ganon in 1604. He makes no specific reference to a South American source for the emeralds, but he does add the snippet that many of the emeralds the Venetians foisted on the Burmese were imitations.

Seed pearls

Of course, a gem trade around the Indian Ocean can be traced back many millennia, but is often overlooked in considering Victorian rather than more ancient jewellery. If we switch centuries and gem materials, most jewellers are familiar with the seed pearl jewellery characteristic of late Georgian and Early Victorian times – hundreds of little seed pearls sewn onto pierced mother-of-pearl backings with horse hair (and the bane of jewellery repairers and restorers ever since).

The standard books on antique jewellery tell us that these little pearls came from China and Madras in India. China maybe. After all, the period saw a huge growth in British trade with China (even forgetting the shameful opium trade that established Britain as the greatest drug-dealing conglomerate of all time) and the Chinese themselves liked pearl jewellery in the 19th century. Though we should note that these little pearls from China, with finer piercings than the Indian ones, were probably all, or almost all, fresh-water pearls from mussels.

But what about the frequently mentioned Indian source for Victorian seed pearls? Does that tally? In recent centuries India has not been a great source of pearls. So, again, consider the trade around the region. In the 19th century Madras was the major marketing centre for pearls from Ceylon. And Ceylon was the world's prime provider of true seed pearls. Assuming the source for seed pearls was Ceylon, we have a possible explanation for their sudden popularity in late Georgian and Early Victorian jewellery. Ceylon pearls were erratically and often minimally exploited until Ceylon passed into British control in 1796.

1796 was also the year that the first study of the combustion of diamond was undertaken, by Smithson Tennant. I doubt he produced any rose coloured diamonds by accident while he was destroying them, because he surely would have told us. He observed colours. He was the discoverer of the platinum metals 'osmium' and 'iridium', the latter he named from the Greek 'iris' meaning rainbow, 'from the striking variety of colours which it gives while dissolving in marine acid'.

Jack Ogden, a former executive secretary of CIBJO, is a director of Osmiridium Ltd, a jewellery consultancy company (www.osmiridium.com)

Awards ceremony at Goldsmiths' Hall

Students who had qualified in Gem-A's Gemmology and Gem Diamond Examinations in 2002 gather at Goldsmiths' Hall on 4 November to collect their awards.

Among those present were students from as far away as Canada, China, Hong Kong, India, Japan, Korea and the USA, as well as those from the UK and Europe.

Noel Deeks, a Vice-President of the Association presented the awards (front left in the photograph). The ceremony was chaired by President Professor Alan Collins and the vote of thanks was given by Vivian Watson (front right).

A full report of the event will be published in the January 2003 issue of *The Journal of Gemmology*.

Was it the new format, the new location, the panel of distinguished speakers or a combination of all three that attracted a record attendance at this year's Gem-A Conference? Held for the first time at Kempton Park Racecourse during the late Autumn Rock 'n' Gem Show, delegates had the opportunity to browse and buy at the Show during the lunch break. Scottish Branch member, Adrian Smith, commented "The day was interesting, motivating and fun – what a great combination".

The morning session was opened by President Professor Alan Collins who welcomed delegates and introduced the speakers Professor Andy Rankin and Dr Bob Symes. Terry Davidson, CEO of Gem-A, chaired the afternoon session. Terry gave a brief address, stressing the support needed for Gem-A expansion in the coming years, before introducing Keynote Speaker Professor Dr Edward Gübelin and Stephen Webster. Reports on the lectures are given below.

A programme of events had been arranged for the delegates for the days following the Conference, including a private viewing of the Crown Jewels with the Crown Jeweller David Thomas, a curatorial tour of the newly opened Jewels of JAR, Paris, exhibition at Somerset House (see report on p1) and visits to the DTC's Diamond Promotion Office. Gem-A is very grateful to the DTC for donating the proceeds from the visit to the Association's funds.

Mary Burland

Inclusion and chemical fingerprints for sapphires and rubies

The first lecture of the day was given by Professor Andy Rankin from the School of Earth Sciences and Geography at Kingston University who commenced by proposing that fingerprinting gemstones might help us answer the following questions: Are they real? Have they been treated? Where do they come from? How are they formed? The physical analytical method of the Laser Raman Microprobe was first considered. The Raman Effect was first reported by C V Raman and K S Krishnan in 1928. The principle is based on light scattering. Most incident light on a material is scattered with no change in frequency, which is referred to as Rayleigh scattering, whereas the proportion of incident light that suffers Raman scattering is only 100 millionth (10^{-8}), and this undergoes a change in frequency with either a negative or positive shift. The major advance in Raman microprobe analyses was the development of the notch filter, which allowed the Raman scattered light to be sensitively detected. The applications of Raman spectroscopy in gemmology are in gem species identification, establishing the nature of solid or fluid inclusions, detection of films or crowns on a gemstone, and determining the composition of fracture fillers. Brief examples were given of the technique being able to detect silver in pearls stained black with silver nitrate, to differentiate diamond from moissanite, and to help identify the high pressure/high temperature treatment of diamonds. The power of the instrument was highlighted by presenting the detailed analyses that can be accomplished on two and three phase inclusions, i.e. of gas, liquid and solid phases. The Raman microprobe technique had been used in researching rubies from Chimwadzulu in Malawi and Bo Ploi in Thailand. Crystal inclusions of amphibole and zircon were identified in Chimwadzulu rubies. The alteration of diaspore inclusions as a result of heat treatment was also demonstrated.

The thermal decomposition of a zircon crystal inclusion was deduced by means of the physical analytical method of the Scanning Electron Microscope (SEM) with an energy dispersive detector. The last advanced technique considered was Laser Inductively Coupled Plasma Mass Spectroscopy (Laser ICP-MS). The method entails 'burning' a small channel in a stone, ionising the small amount of material removed in order for it to be processed by the mass spectrometer. Unfortunately it is an expensive instrument and is destructive to a minor degree. The concept of providing a small inscription at the same time as removing a sample was suggested. Selected element ratios obtained from the instrument for iron/chromium and chromium/gallium ratios were used to provide discriminant plots as to country of origin of rubies. The trace element analyses for Malawi rubies indicate an incompatibility with, for example, marble-type Myanmar rubies.

For gem work, Professor Rankin considered Laser Raman to have the advantage over Laser ICP-MS in terms of cost, available databases, and being non-destructive.

Professor Andy Rankin – fingerprints for sapphires and rubies.

Some sites of precious minerals in England and Wales

The following lecture by Bob Symes focused on localities in England and Wales that had produced outstanding mineral specimens - many renowned internationally. He started in the English Lake District with Cumbrian hematite, and outlined how some of the massive iron ore deposits had formed along faults and stratification planes in the carboniferous limestones of the Egremont area. In the mines the hematite was relatively pure with low levels of phosphorus, sulphur and silica and this made it one of the best iron ores from the 17th century onwards. Bob illustrated the two main habits of hematite – the red 'kidney ore' and the black specular variety – and commented on their identical chemical composition. Currently the Florence mine is the only one working and some output destined for the jewellery trade goes to Idar-Oberstein for cutting and polishing.

In parts of the deposit where limestone has not been completely replaced by hematite, there are 'holes' in the ore and this feature is known as 'loughy' ground by the miners. These patches are the sites however for some exceptional crystals of quartz, calcite and baryte of such perfection that examples can be found on show in museums as far away as USA and Australia. In Germany too there were advertisements depicting Egremont calcite on the Munich transport system in the 1990s.

Cornwall has always been a rich source of minerals and Bob concentrated on the copper and tin lodes that produce cuttable cassiterite. Some delightful small honey brown and amber stones have been produced – too soft for everyday wear in rings but very suitable for pendants. Not gemmy, but of world class, Bob also showed slides of the remarkable secondary minerals such as green clinoclase and blue specimens of liroconite – both copper secondary minerals.

(From left) Terry Davidson and Professor Alan Collins who chaired the Conference, with Dr Bob Symes.

Then followed a survey of agates from the Cheviot Hills and the Mendip Hills. The best-known locality for agates in the Mendips is Dulcote where the 'potato stones' have been recovered from the Triassic rocks for many years. Slides of the range of orange-red and white banded stones were shown and their origin was discussed with reference to the present-day sabkha deposits in the Persian Gulf which are evaporites with the main product being anhydrite. The Dulcote 'potato stones' seem to have formed in a similar way but were transformed to agate by later silicification.

The next topic to be covered by Bob Symes was Welsh gold. This has a niche market in the British jewellery scene and the sporadic nature of the deposit will probably keep it that way. Graphic slides of the occurrence of gold in a mine adit glistening with falling groundwater bring home the difficulties of extracting the ore. Bob pointed out that the occurrence of the ore generally is close to greenstone or microdiorite intrusions – they seem to signal the conditions for the precipitation of gold with quartz and chlorite from the mineralizing fluids.

After a look at the outstanding gold specimens from Hope's Nose, Devon, and news of possibly extending the conservation area containing gold in 2004, attention then turned to fluorite. The most famous British fluorite is Blue John – a name whose origin is still debated – and some of the vases and carvings made for large country houses were shown. For a long time the only source of Blue John was Derbyshire, but now rather similar material is being extracted from China. However, the experts can still distinguish the true Blue John and there does seem to be a difference in the hardness with the Chinese fluorite being slightly harder – a fact brought out in questions from the floor.

Gem-quality fluorite in a range of yellows, greens, pinks and purple has been cut and polished and slides of some of the larger stones were shown. The Rogerley mine is currently producing green fluorite both as mineral specimens and material for cutting, and during questions Prof. Howie drew attention to the blue fluorite found at the Egremont mine in Cumbria.

Bob Symes concluded the lecture with two fascinating slides of 'spar towers' – the sculptures assembled by miners of the more attractive crystals and mineral fragments they had found during their routine mining operations.

After the lecture and questions, the 'practical', in the form of the many mineral stands in the Rock 'n' Gem Show on the floors below beckoned!

KEYNOTE LECTURE The Significance of Inclusions in Garnets

Professor Dr Edward Gübelin provided the keynote lecture after lunch. He firstly introduced the garnet family, its isomorphous replacement relationships, and the influence of parent rocks on their formation and on the inclusions to be found within them. The inclusions themselves and their distribution may characterize a particular garnet variety more precisely than they do in many other gemstones. Each variety was discussed and illustrated. The pyralspite series was first discussed:

Pyrope garnet forms in ultramafic (magnesium bearing magmatic) rocks. The best-known pyrope garnets are from Bohemia and although generally devoid of inclusions do contain some apatite and zircon but not quartz as ultramafic rocks are poor in silica. On the other hand, pyropes from Arizona contain Mg-bearing chromite, chrome diopside, chrome enstatite, forsterite and some apatite, but no zircon.

Keynote speaker Professor Dr Edward Gübelin.

Rhodolite garnet is a link between the end members of pyrope and almandine, which is also reflected in its inclusions of apatite, graphite, hematite, monazite, and zircon. The presence of the almandine molecule brings rutile needles as inclusions.

Almandine garnet results from various rock forming events with its inclusions not being specific to any one type. Almandine is very hospitable to a good many alien minerals such as apatite, biotite, ilmenite, monazite, quartz, rutile and zircon.

Spessartine is the commonest garnet in granitic pegmatites and also occurs in some skarns and in Mg-rich assemblages. Albite and apatite are the only occasional inclusions so far identified. Spessartine is marked by healed fissures with striking patterns by which they can be recognized. The Mandarin spessartine garnet is an exception where instead the fibrous tirodite inclusion, a magnesium-manganese-amphibole, reflects its formation in a lepidolite-bearing pegmatite. If the fibres are profuse and parallel a cat's-eye may be fashioned.

Umbalite garnets (often misnamed 'Malaya garnet') are originally from the Umba Valley in Tanzania but have recently also been found at Tranoroa on Madagascar. The mixed crystals of pyrope, spessartine and molecules of almandine have grown in metamorphic rocks embedded in large serpentinite bodies, which are traversed with pegmatite veins and vermiculite mica. Umbalite is typified by combinations of various mineral inclusions, of which several are always present. Many tiny, sometimes larger, crystals of apatite occur from which straight rutile needles dart out in two or three directions. Coarser prismatic rutile crystals are often accompanied by monazite, pyrite, quartz and zircon. This all provides for a typical internal appearance.

Dr Gübelin then turned his attention to the Ugrandite series of garnets.

Ordinary grossular garnet is a transparent yellow to brownish-yellow. Grossular garnet is especially characteristic of both thermally and regionally metamorphosed, impure, calcium-rich silicate rocks at Jeffrey, Quebec (Canada) and Lelatema (Tanzania). It mostly captures apatite, scapolite, and quartz as inclusions. A more saturated colour variety from Orissa in India occurs along the contact of amphibolite and garnetiferous gneiss, which explains the prominent orthoclase feldspar and apatite inclusions. The apatite sometimes acts as nucleation points for sheaves of acicular rutile. These Orissa garnets are the first and only garnets in which three-phase inclusions have ever been observed.

The grossular garnet hessonite also emanates from impure calcareous silicate rocks and skarns, which have undergone metamorphic, contact metamorphic or metasomatic alteration of rocks rich in calcium, alumina, and silica. Contrary to ordinary grossular garnets, hessonite consists of an aggregation of tiny grossular grains, which gives a mosaic structure or granular appearance. Within this roiled or treacly interior apatite and calcite crystals of more or less corroded outlines accumulate, sometime in very dense masses. In a newly found yellow hessonite from Sri Lanka these grains are wrapped by thin calcite foils which under the microscope appear like confused tangles of white threads.

The green grossular garnet tsavolite forms in graphite-bearing metamorphic rocks – usually gneisses, embedded in limestone marble. The inclusions, which normally populate the inside of wavy fractures, consist of white angular fragments of calcite and grains or flakes of black graphite - these being minerals incorporated into the tsavolite from the host rocks. The inclusion scene is diagnostic whether the tsavolite is from the Tsavo Park in Kenya, from the Tunduru area in Tanzania, or from Ilakaka in Madagascar.

Demantoid garnet is the most highly prized of all garnets. It

crystallised mainly in serpentinite rocks and chlorite schists at Bobrowka near Ekaterinburg in the Ural Mountains, at Sciumagallé, Eritrea (Ethiopia), in the Haramosh Valley in Pakistan and in Val Malenco in Italy. All the demantoids found in these deposits contain fibres of chrysotile (variety of serpentine) - not byssolite as has been claimed previously. A recently discovered occurrence of demantoid is situated in Damaraland in Namibia, where demantoid grew in a metamorphic limestone, a so-called calcrete. Contrary to all other demantoids it does not have chrysotile fibres but instead extremely small grains of calcite which cover the walls of undulating, partially-healed breaks randomly traversing the gem. These are often accompanied by fluid inclusions, of which demantoids from other deposits are devoid.

Dr Gübelin finished by emphasising the inclusion suites that could be taken as being typical of certain varieties.

Women's self purchase and the coloured stone

Resuming after the break, we were treated to something completely different by Stephen Webster who turned the focus on attitudes to buying certain kinds of jewellery. In particular he described the growing influence of women purchasing their own gems. This was one element in a jewellery world that was developing quickly.

Traditionally the rings, necklaces and earrings were 'safe' - bought by men for women to mark events – there was an air of permanence in the structure of this sequence. But now with the growing awareness of brands, more jewellery is becoming iconic. New people are coming in and creating images, and Stephen Webster drew parallels with the Burberry check and the Jimmy Choo heel!

Diamonds are still important, but more designers are bringing in coloured stones, and Chanel, Christian Dior and Boucheron are all using them.

Women shop in pairs and benefit from the mutual feedback – this behaviour also helps spread that elusive quality of being in the 'know'. Access to them must be by advertisement of some kind – an expensive option and a major difficulty for a small manufacturer.

Stephen Webster himself employs 28 staff and manufactures some remarkable jewellery for sale both in Europe and the USA. A key element in his jewellery strategy is knowledge of colours on which next season's fashions will be based. Recently turquoise was an 'in' colour and so much of Stephen's jewellery reflected this in his range of rings and bracelets. Gothic style has also been a winner and a gothic style bracelet was illustrated with rubies set with black stingray skin effect materials and looked stunning.

Stephen Webster: following the fashions

He also considered in some detail the ideas about pricepoints and the necessity to retain the concept of the 'preciousness' of precious stones even though black sapphires don't cost as much as the blues from Kashmir, Sri Lanka or Burma. The same concept governed his placing blue goldstone in 18ct gold set with small high quality (G, VVS) diamonds!

Finally he described his approach to customizing jewellery. With a half finished piece, he would then discuss with the customer a number of options. Involvement and excitement would contribute significantly to the life of the piece and to that of the customer – who would then be wearing a symbol of those feelings.

Stephen's highly amusing presentation stimulated a number of questions such as: when would coloured stones reach the high street – large companies were becoming aware of colour, what was next year's colour – burgundy, and led to an interesting description of selling jewellery to celebrities through their stylists.

Roger Harding and Stephen Kennedy

Redeeming Birmingham: the work of T. & J. Bragg

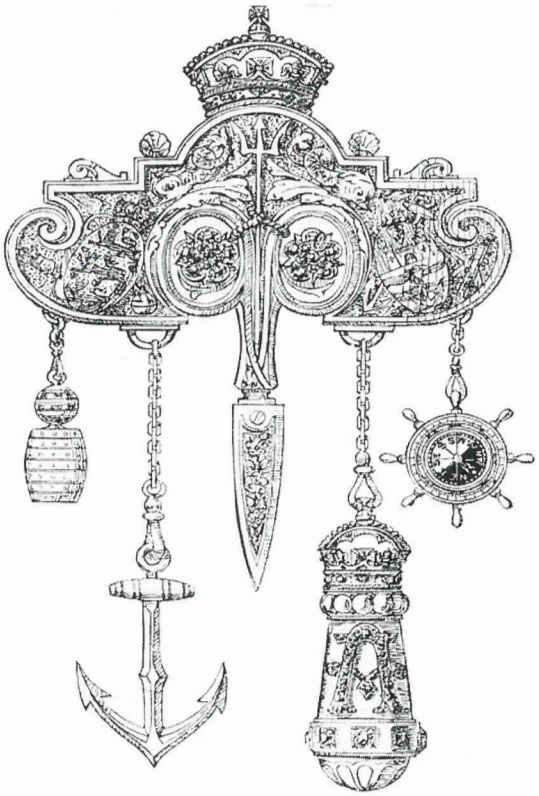
Lecture given by Shena Mason to the SJH on 2 July

T & J. Bragg was probably the most influential firm in the Birmingham jewellery trade by the second half of the 19th century, and in some ways its pattern of development mirrors that of the trade as a whole.

Like so many of the Birmingham jewellers, its origins lie in the 18th-century buckle trade. When that trade began to decline, buckle-maker John Bragg emigrated to New York in 1793 in search of new opportunities. He died there of yellow fever two years later, and in 1796 his widow Mary and her three surviving children came back home to the Jewellery Quarter. The youngest of the children, Thomas Perry Bragg, became a jeweller.

In turn, two of Thomas's sons, Thomas and John, took over the business which then became styled T. & J. Bragg. Neither had had a lengthy formal education – John finished his 'boy learning' at the age of 12 and because of his aptitude for drawing went to work initially for an 'art dealer' who specialized in copies of paintings by well-known masters. The boy was from a deeply religious background and, appalled by his master's foul language, stuck the job for only a week. Subsequently he became apprenticed to a cooper (a barrel maker), and only entered the family jewellery business when his father became ill and his brother needed help running it.

The little business prospered and its reputation grew, thanks to the brothers' insistence on good design and workmanship, John said he thought he was the first jeweller in Birmingham who could draw, before a customer's eyes, exactly what he seemed to want made. In 1862 John Bragg persuaded a group of Birmingham jewellers to stage a joint exhibit of their work in the International Exhibition in London, finally demonstrating to the doubters that something good could come out of Birmingham. By the 1890s the Braggs had made mayoral chains and other regalia for numerous towns and cities in Britain and abroad, as well as masonic and other jewels, items for the royal family and high-quality general jewellery. Their name, and that of their designer J. William Tonks (himself appointed a member of the international jury at the Universal Exhibition in Paris in 1889), were by-words for quality.



T. & J. Bragg's chatelaine for the Princess of Wales.

The Bragg brothers emerge as remarkable characters with wide-ranging interests beyond jewellery and business, especially in the arts. Largely self-educated, they seem to embody many of the personal qualities advocated in the self-help ethos of the period. John in particular travelled widely, seeking to broaden his knowledge and his taste.

The Bragg family is linked by marriage with a number of well known families both within the jewellery trade and outside it. The family's cultural interests continued into the next generation: John's son Charles Bayley Bragg, who set up his own jewellery manufacturing business, was, with his brother-in-law and fellow jeweller Charles Hope Johnstone, largely responsible for commissioning Edward Elgar to compose *The Dream of Gerontius*, and their signatures appear along with Elgar's on the original score.

Hair Jewellery

Lecture given by Ann Louise Luthi to the SJH on 24 September

There is one part of the human body which does not normally deteriorate after death and is a poignant and lasting reminder of the person who has died. Hair has great sentimental value. It was an obvious choice for memorial jewellery which was made to commemorate the death of individuals rather than to warn of mortality in general.

The use of hair in jewellery in England has been recorded as early as the 17th century when a lock of hair was suspended from an earring or worn as a bracelet. It was used as a woven background under faceted rock crystal for rings, slides and pendants. In the 18th century the hair arrangements became more elaborate and can be found in love tokens as well as mourning jewellery. Lover's knots, sheaves of wheat and neo-classical urns were all popular motifs. By the end of the century so called 'dissolved hair' was used extensively in marquise set memorial miniatures and on the back of portrait medallions.

By the 19th century, hair arrangements were even more ambitious and often far removed from the original association with mourning. Prince of Wales feathers, flower bouquets in baskets and cornucopias were favourite subjects. Landscapes with trees, fronds and tendrils, birds and butterflies were created from strands of hair. Hair was flattened and glued and then cut out in the shape of pansies or forget-me-nots. Jewellers displayed a selection of decorative hair arrangements from which customers could choose. The work was done by highly skilled woman outworkers and the intricacy of the arrangements is quite astonishing.

It was in the early 19th century that jewellers started using human hair as a material in its own right. It was woven and plaited with bobbins in a manner very similar to lace making and was then mounted with gold or gilt fittings. Bracelets, guard chains, earrings, necklaces, rings and watchchains were all made of hair. It was plaited into flat bands or braided into hollow tubes. It was shaped and crimped and coloured. Hair became the height of fashion and much of it was aimed at the expensive end of the market. Antoni Forrer was hairworker by appointment to Queen Victoria and Lemmonier et Cie of Paris both won Prize medals at the Great Exhibition of 1851. Lemmonier prided himself on the quality of his work which he embellished with turquoises, pearls and other gems.

Manuals in England and America were published which gave do-it-yourself instructions in hairworking. It was advocated as ideal employment for the fingers. Needless to say, the authors of these books sold all the equipment needed as well as supplying the gold fittings.

As well as human hair, horsehair was also used in jewellery but is harder to work and so the designs are more limited.

There are no longer hairworkers in England and France and today it would be impossible to reproduce the work of the finest French and English hairworkers of the 19th century. And there I thought the history of hair jewellery had ended. But there is still a tradition of hairworking in rural Sweden. Nina Sparr of Vamhus in the county of Darecarlia is the fifth generation of her family to work with hair. She works with bobbins on a table using the old patterns handed down in her family but in Sweden it has been the occupation of peasants, far removed from the work of Forrer and Lemmonier and the patronage of royalty.

Abbeyhorn of Lakeland

Organics specialist, Maggie Campbell Pedersen, visits the one remaining horn factory

There are a few small horn workshops around the British Isles, but only one horn factory remains. Abbeyhorn of Lakeland was first established in 1749 by the Humpherson family. Since then it has changed name and location a few times, and is now to be found in an industrial estate in the Lake District, a little south of Kendal in Cumbria.

It is an industrial estate with a difference. The buildings are of grey stone, several hundred years old, steeped in history, and the estate lies in beautiful surroundings.

There is no conveyor belt at this factory. Everything is made by hand, each piece given individual attention. On my recent visit to the place, I was shown around by the production manager, Graham Bowles. He told me that if a horn worker from several hundred years ago were to visit the factory, he would recognize all the processes used today as being basically unchanged from his own time.

As British cattle are nowadays bred to be hornless, most of the horn used in the factory is ox horn imported from Nigeria. It is from domestic cattle and has to pass rigorous health and safety checks before being allowed into this country. Each horn is up to 80 cm long and is hollow for most of its length. The colours vary from pale cream through browns to almost black, usually being paler at the base and dark at the tip.

Horn is made up predominantly of keratin, the same material as hair,

fingernails, claws, hoofs, baleen and so forth. It forms in laminated layers and is thermoplastic so it can be heated and moulded and retain its new shape upon cooling. The heating process is very sensitive, however, as too much heat turns the horn brittle, and too little will allow it to lose its new shape and revert to its original one.

Each horn is sliced into appropriately sized pieces to be worked into different items: a section for spoons, a shoe horn, and so forth. The pieces are then held over a flame to soften the material before being put into an iron press that is heated top and bottom by fire. After this the resulting flat piece of horn is filed into the shape required or punched into spoon blanks.

Before further pressing, the horn is sanded to smooth it and to remove singed edges, then dipped into cooking oil to prevent it from drying out completely – in times past tallow was used. It is then put into a mould to give it the required shape. Finally it is polished. Ox horn takes a very high polish and it is not until this stage that the true colours of the piece show to their full extent.

Heating the horn to soften it.

At Abbeyhorn they also make cane and crook handles, some of them from rams' horn gathered locally or sent to them from Scotland. This horn is not flattened as it is very curved, ridged and uneven in structure. Instead it is heated over a flame and compressed into a flatter shape that is no longer hollow, before being polished. The resulting horn is a silky, pale honey colour.

On occasion the factory is asked to make lanthorn, the clear material that once was used in lanterns. For this they use the palest ox horn and soak it for several weeks in water, then boil it in water before finally pressing it in a heated press. The wet process releases chemicals in the horn and clarifies it. The resulting 'green horn' is a pale golden colour and almost transparent with only slight evidence of the original fibrous striations of the raw material.

Alongside the horn production, a small amount of red deer antler from Scotland is cut and polished. This is used almost entirely to make handles, sometimes combined with horn.

Visits to the factory can be made by prior arrangement and there is a small shop on the premises. Most of their production goes for export to countries such as Japan and USA, or to some well-known London shops. When I was there they were engraving onto the backs of shoehorns the name of a famous old store in Piccadilly, known for its food department.

Cutting the horn.

An exhibition of Roman Jewellery in Tongeren, Belgium

Schone Schijn: Romeinse Juweelkunst In West-europa. Gallo Romeins Museum, Tongeren (Belgium), 26 October 2002 – 16 March 2003

Belgium is close at hand, and boasts a number of attractions: fine medieval buildings and Roman sites, first-class art galleries, good beer, delicious chocolate and patisserie. If none of those tempts you, there is something extra. Until March, the Gallo-Roman Museum in Tongeren is featuring a truly exceptional exhibition on Roman jewellery.

The skilled curatorial team of the Tongeren museum has worked with Dr Kathy Sas, an authority on Roman provincial jewellery in Belgium, to create a display that is both beautiful to look at and immensely informative. Loans from many leading museums in Belgium, France, Holland, Germany and Britain, as well as a most important contribution from the Content Family Collection of Ancient Cameos, have been carefully combined to build up a picture of the craftsmanship, taste and cultural complexity that is revealed in the jewellery of the first to fourth centuries AD in northern Europe. The story includes the native traditions of the pre-Roman Iron Age tribes, the Empire-wide fashions based on the aesthetics of Greece and Rome, the influence of Germanic incomers in the late Roman period, and the rise of Christianity. The arts of the jeweller and gem cutter are also described and explained, and the exhibition concludes with a succinct study of the continuing influence of Classical jewellery and gems in the medieval and modern period. From December 2002, there is also to be a small exhibition of work by contemporary Belgian jewellers who have been commissioned to create pieces inspired by the exhibition.

Earrings in gold, emerald, pearl and garnet, from the Lyon-Lazarites treasure. 3rd century AD. © Musée de la Civilisation Gallo-Romain, Lyon.

Gold brooch with onyx cameo and three pearl pendants, probably from Syria or Lebanon. 3rd century AD. © Content Family Collection of Ancient Cameos.

Some key objects include several items from the Thetford late-Roman treasure, loaned by the British Museum and seen here for the first time outside London and Norwich; glorious examples of emerald and garnet jewellery from two famous French treasures in the collections of the Musée de la Civilisation Gallo-Romain in Lyon; and sets of superb Romano-British jet jewellery, loaned by the Yorkshire Museum and the University Museum in Newcastle-upon-Tyne.

The catalogue* of the exhibition includes colour images and full descriptions of all the exhibits and in-depth articles by an international team of scholars on the themes explored in the display. Like the labelling in the exhibition itself, it is in two languages, Dutch and French, and it is to be hoped that an English edition may eventually be prepared, as it is destined to become a standard work of reference on this fascinating subject.

So, even if you are unmoved by the thought of good beer and chocolate, do visit Tongeren to see some outstanding ancient jewellery, elegantly and intelligently displayed.

Catherine Johns

* *Kathy Sas and Hugo Thoen (eds),* Schone Schijn: romeinse juweelkunst in West Europa / Brilliance et Prestige: la joaillerie romaine en Europe occidentale. *Leuven 2002, price 32 €.*

Jewellery Sales

Winter 2003 sale dates from the auction houses

Bonhams, London

Montpelier Street, London SW7 1HH

Jewellery: 2 January, 12 February, 5 and 16 March, and 16 April

101 New Bond Street, London W1S 1SR

Fine Jewellery 10 April

Tel. Montpelier Street 020 7393 3970; New Bond Street 020 7468 8282

Christie's South Kensington

Rings: 25 March

Pawnbrokers Unredeemed Pledges: 28 February

20th Century Jewellery: 29 April

Jewellery: 28 January, 25 February, 11 March, 8 April

Tel. 020 7581 7611 (www.christies.com)

Fellows & Sons, Birmingham

Antique and Second-hand Jewellery and Watches (by Direction of Pawnbrokers Nationwide): 9 and 23 January; 6 and 20 February, 6 and 20 March

Antique and Modern Jewellery and Watches: 30 January, 13 March

Tel. 0121 212 2131 (www.fellows.co.uk)

Gardiner Houlgate, The Bath Auction Rooms, Bath

Jewellery: 3, 15 and 29 January; 12 and 26 February; 12 and 26 March

Tel. 01225 812912 e-mail: auctions@gardiner-houlgate.co.uk

Dates correct at time of going to press but may be subject to alteration.

Gem and Mineral Shows

Rock 'n' Gem Shows

The Hop Farm	18-19 January
Chepstow Racecourse, Chepstow, Monmouthshire	25/26 January
Hatfield House, Hatfield, Herts	1/2 February
York Racecourse, York, North Yorks	22/23 February
Kempton Park, Sunbury-on-Thames, Middx	8/9 March
Brighton Racecourse, Freshfield Road, Brighton	29/30 March
Cheltenham Racecourse, Prestbury Park, Cheltenham	12/13 April

All shows open 10 a.m. to 5 p.m. Enquiries to The Exhibition Team Ltd.
Tel: 01628 621697 (e-mail: Rockngems@aol.com)

Gem-A at Tucson 2003

Visiting the Tucson Show in February 2003? Gem-A will be exhibiting in the AGTA Show from 5 to 10 February. During the Show Gem-A presentations will be given by Doug Garrod and Stephen Kennedy on inclusions and pearls respectively.

Gem-A USA will be hosting a reception on 6 February to which all Gem-A members are invited. The Guest Speaker at the event will be Gabi Tolkowsky. For further details contact Ann Dale, Gem-A USA Director, at 12 Saint Ann Drive, Mandeville, Louisiana 70471, USA. t: 001 985 778 6246 e: annedalejeweller@aol.com

Jewels of JAR, Paris

Continued from p 1

stones, JAR has, in less than 25 years, made an indelible mark in the world of jewellery."

Craftsmanship and exuberant colours are the hallmarks of JAR. Highlights of the exhibition include an astonishing range of subjects, materials and colours: a bouquet of violets in multi-coloured sapphires and pink and white diamonds; a parrot tulip of rubies, emeralds, diamonds and enamel; a collection of grey pearls, perhaps the greatest in the world, set into a pair of brooches; trembling, life-sized lilacs; and a diamond-thread ring spelling out 'éternité'.

The exhibition rooms are near dark, the jewels seemingly suspended in their cases, dazzingly lit up by the torches which are handed to visitors at the entrance to the show.

Do not miss the opportunity to visit this spectacular exhibition.

The exhibition is being shown at The Gilbert Collection, Somerset House, London WC2R 1LA until 26 January 2003. Open daily from 10 am to 6 pm.

Bridal Style – 1890s, 1920s, 1960s and now

A Goldsmiths' Company exhibition planned for May 2003.

The Company wishes to borrow silver and jewellery that were commissioned or purchased as wedding presents, or to be worn by the Bride and/or the Groom on their wedding day. Items with interesting stories would be particularly welcome.

If you have any suitable pieces, or know of any, please contact Paul Dyson at Goldsmiths' Hall, Foster Lane, London, EC2V 6BN. Tel: 020-7606-7010, Fax: 020 7606-1511, e-mail: paul.dyson@ thegoldsmiths.co.uk

SJH Winter Events

Details of times, venues and prices are given on p.20

28 January

Organics in Ornamentation

E. ALAN JOBBINS

Alan Jobbins was Curator of Minerals and Gemstones at the former Geological Survey and Museum in London for some 30 years. Apart from normal in-house curatorial duties he undertook a series of overseas appointments in Burma, Brazil, Sri Lanka, India and Cambodia. For many years he was an Examiner for the Gemmological Association and he served an eight-year stint as the Editor of *The Journal of Gemmology*. In recent times he has travelled extensively on lecture tours. He is also holder of the Tully Medal.

25 February

Amulets across the Middle East, Central Asia and North Africa

SARAH POSEY

Sarah Posey is an anthropologist by training (University of Cambridge 1982-85), she joined the British Museum's Department of Ethnography in 1988 and since 1992 has been Curator for the collections from Europe and Central Asia, and latterly, the Middle East. Since 1994 she has been carrying out fieldwork in Moldavia and is currently writing this up to submit for a PhD. She has also published *Yemeni Pottery: the Littlewood Collection* in 1994 (London: British Museum Press).

29 April

The Schmuckmuseum Pforzheim, its history, development and objectives

DR FRITZ FALK

Fritz Falk is the long-standing director of the Schmuckmuseum Pforzheim, the only museum in the world which is devoted entirely to jewellery, with a collection which ranges from Roman to contemporary. Dr Falk has curated many pioneering exhibitions at the museum and has ensured that the work of all major jewellers is represented in its collections. His talk will focus on the formation of this unique collection and its history.

Competitions

This month's puzzle was submitted by Richard Cartier from Toronto, Canada. Once you understand the puzzle it is not too difficult and you need some elementary applied mathematics. I am sure Richard would not mind me giving a clue in saying that it is based on a puzzle of two boats setting out from opposite ends of a river and meeting each other on the outward journey and again on the return.

A group of extraterrestrials park their flying saucer on a gemmologist's work-bench and announce they are seeking a prized birefringent material they call phleght, for which they are prepared to pay handsomely. The testing method used by their advanced technology allows them to precisely locate the spot inside a material where electromagnetic waves travelling in opposite directions meet. They explain that they have a sample of phleght with parallel surfaces in the optic plane that are polished and half-silvered. Through these surfaces they introduce plane polarized light vibrating in the principal directions of the crystal.

Vertical vibrations enter one side at the same moment horizontal vibrations enter the other side. The light from each side travels straight through the thickness, reflects, and travels back again. The polarized rays first meet 700 gloink from one surface, proceed to the opposite surface and reflect, then meet again 300 gloink from the other surface.

How thick is their sample of phlegt, and is it a material known to us that we can supply?

Answer to the puzzle in the last issue:

The last puzzle produced a ream of solutions with all arriving at the correct solution. In each match there is one winner so one diamond is awarded. The problem reduces to working out how many matches there are in the knock-out competition. The pedantic way is to realize that there are 64 matches in the first round, 32 in the second and so on. The lateral way is to consider the losers rather than the winners in each match. In the competition each player can only lose one match, as he is then eliminated. There is one final winner who wins all his matches. So there are 127 losers, i.e. 127 matches in which a diamond is awarded. Several of our readers came up with this solution. *Harry Levy*

Gem-A Photo Competition

All Shapes and Sizes

Interesting crystal shapes, unusual inclusions, unusual cuts or carvings, the scope for this year's competition knows no bounds! All entries will be judged for originality, beauty and gemmological interest.

PRIZES
First prize: £100.00
Second Prize: £75.00
Third Prize: £50.00

To enter, send prints or slides of pictures taken by yourself together with the entry form to reach Gem-A by not later than 30 April 2003. Open to all Gem-A members.

Gemmological Association and Gem Testing Laboratory of Great Britain

Trips and tours

The Ultimate Tour of Idar-Oberstein
23 to 29 March
Visits to gem museums, cutting and carving workshops, mine tour, and much more.

East African Gem Safari 2003
23 July to 6 August
The tour will include visits to gem mines, game reserves, the Ngorongoro Crater, the Olduvai Gorge Archeological site and a Maasai village. Full details will be published in the January 2003 issue of *The Journal of Gemmology*.

Midlands Branch

Friday meetings will be held at The Earth Sciences Building, University of Birmingham, Edgbaston at 6.30 for 7.00 p.m. Admission £2 for a member For further information call 0121 445 5359. Gem Club is held from 3 to 6 p.m.

31 January. Annual Quiz and Bring and Buy Sale

28 February. MICHAEL HOUGHTON
Pearls of wisdom

28 March. STEPHEN WHITTAKER
An auctioneer's lot is not a happy one.

25 April. Branch AGM followed by
JOHN WRIGHT
The interface of gem and jewel

18 May. Gem Club
BRIAN DUNN
Edwardian Britain: the politics, lifestyle and jewellery: a golden age

North West Branch

Meetings will be held at Church House, Hanover Street, Liverpool 1. For further details contact Deanna Brady on 0151 648 4266.

26 March. RICHARD SLATER
Jewellery at auction

21 May. IAN MERCER
A jade tour

Scottish Branch

For further details of Scottish Branch meetings contact Catriona McInnes on 0131 667 2199.

15 January. COLIN TOWLER
Diamonds at Finsch – Bullets in Angola

26 February. DOUG MORGAN
Some gemmological and lapidary diversions

25 March. ALAN HODGKINSON
Tucson surprises

Scottish Branch Annual Conference
2 to 5 May
Queen's Hotel, Perth

Speakers will include David Callaghan, Prof. Dr Henry Hänni, Alan Hodgkinson, Dorothy Hogg, Stephen Kennedy and Dr Hanco Zwaan. Workshop sessions and social events.

South East Branch

Contact Colin Winter on 01372 360290.

South West Branch

Contact Bronwen Harman on 01225 482188.

Society of Jewellery Historians

Unless otherwise stated, all Society of Jewellery Historians' lectures are held at the Society of Antiquaries, Burlington House, London W1 and start at 6.00 p.m. sharp. Lectures are followed by an informal reception with wine. Meetings are open only to SJH members and their guests. A nominal charge is made for wine to comply with our charity status. Further details of winter meetings are given on p. 19

28 January. Annual General Meeting followed by
E. ALAN JOBBINS
Organics in ornamentation

25 February. SARAH POSEY
Amulets across the Middle East, Central Asia and North Africa

29 April. DR FRITZ FALK
The Schmuckmuseum Pforzheim, its history, development and objectives

27 May. FRITZ MAIERHOFER
Speaking about his life and work

Copy date for the March issue of *Gem and Jewellery News* is 20 January