The Quarterly Bulletin of The Gemmological Association and Gem Testing Laboratory of Great Britain and The Society of Jewellery Historians
VOLUME 7 NUMBER 3 JUNE 1998

Gem & Jewellery News

Hatton Garden: regeneration programme to go ahead

by Judy Head of the Hatton Garden Association

One of the lessons we had to learn when we accepted the challenge of developing a regeneration programme for Hatton Garden was patience.

The wheels of government turn very slowly compared to those of industry. Our second attempt to win £1.5 million government funding through the Single Regeneration Challenge Fund, was dedicated to improved lighting, security and the streetscape of Hatton Garden and the surrounding area. It was submitted as part of a larger bid by the City of London under a scheme known as the City Fringe Partnership.

Due to the change of government in May 1997, the guidelines for entrants were delivered late, and the results were therefore delayed. And then when the news did arrive, it was not by the traditional method of letter, phone or fax. We had to search for it on the internet!

But it was worth the wait. Surfing the net revealed that the City Fringe Partnership had been awarded a total of £8 million – and that this grant included funds for training purposes. Details about the administration of the award and how we can all take advantage of the training grant have not yet been prepared. It has taken two and a half years just to reach the beginning of a project that we hope will reinforce Hatton Garden as a major centre of jewellery in London.

In the meantime, we can look forward to brand new lights in 'the Garden'. Our favourite engineer at Camden Town Hall – a keen supporter of Hatton Garden and its traditional industries – submitted a plan for new cast iron lights to be installed with double lanterns. The lights look spectacular with their black and gold livery, but their primary function is security. Without vastly improved lighting we could not proceed with our plans to instal CCTV and monitoring in Hatton Garden and the surrounding streets – a major element in our regeneration project.

The grants will also enable us to implement some traffic control in the area, and Camden Council have already instructed their traffic division to begin the long, slow process of surveying traffic and pedestrian flow, researching public opinion, and examining the options. I am also assured that new signs will be installed so that visitors unfamiliar to the area will know how to find us and, more to the point, will know when they have arrived!

Cont. on p. 43

The old and the new: an old lamppost (right) alongside the much improved new style.

Contents

Gem & Jewellery News

Editorial Board

Roger Harding

Catherine Johns

Harry Levy

Michael O'Donoghue

Corinna Pike

Production Manager

Mary Burland

Published by

Gemmological Association and Gem Testing Laboratory of Great Britain

27 Greville Street

London EC1N 8SU

Telephone: 0171 404 3334

Fax: 0171 404 8843

email: gagtl@btinternet.com

Internet: www.gagtl.ac.uk/gagtl

and

Society of Jewellery Historians

c/o The Department of Prehistoric and Romano-British Antiquities

The British Museum

London WC1B 3DG

ISSN: 0964-6736

Editorial

While students of gemmology have quite a lot in common – a love of beautiful stones, crystals and jewellery – student backgrounds have changed a lot in the nearly 30 years I have been teaching at London Guildhall University. The enthusiasm is still there and they are all delightful in hundreds of ways.

Looking recently at a group photograph taken at the gemmology class held at Chelsea before the last war, I was struck by a number of details about which I had only dimly been aware before. All the students were men, all wore decent dark suits and none seemed quite so young as students usually are today. Allowing for some degree of staging, the class participants were all apparently engaged in gem testing with minimal supervision from the instructors. Anyone coming into a gemmology class today would see pretty much the same, except that the students are almost all young and classes are mixed. In London, at least, something like half the class are from overseas.

Inside the students, if I may put it that way, things are very different. The early students of gemmology had got into the classes the hard way since without jewellery trade employment they wouldn't even have heard about the classes; employment was by no means easy to obtain in the 1930s. Having reached the classes a large number went on to make their mark in gemmological studies; for fear of accidental omissions I shall not review their names but we all know who they are!

I should like to know if similarly energetic figures will appear from today's student body and why, if they don't, what the reason could be. Without intending the least criticism, I have noticed that many students have indifferent general knowledge and little idea of putting together reasoned and thoughtful answers to examination questions. Yet many are well able to discuss gemmological problems with considerable skill and obvious knowledge. It is the reporting that is at fault and from the continuing examiners' notes it is clear that others are finding the same thing.

Could this have something to do with lack of practice in schools and colleges? Though there is a lot to be said for project-based learning, there is a sense in which it can be used to give a feeling of 'say something at least, and you'll be credited somehow'. Such an approach makes unequivocal statements of fact unfashionable (never underestimate this!) and it may be in this way that students hesitate to attempt the succinct and unambiguous language that taxonomy requires. There certainly is a problem; I have encountered it too often now to be wrong. Does the examination and gemmology course take this new aspect of students into account? Or do we still retain a picture of the men in suits studying constants with tongue-jutting concentration?

Michael O'Donoghue

Members of the GAGTL wishing to raise issues concerning GAGTL activities are reminded that they may contact the Chairman of the Members' Council, Mr Colin Winter, c/o the GAGTL, 27 Greville Street, London EC1N 8SU.

Branded diamonds

In former years when a group or organization came across a problem this would be solved in-house by those who discovered the problem and who would then have to work with the solution. In more recent years this has changed – outside experts are brought in to solve the problem.

They usually do solve the problem, but because they are not fully conversant with the context in which the solution has to apply, they invariably create other problems. Or, they solve the problem, but their solution is that to another problem which they had not been briefed to solve.

An example of the former case is when outsiders are brought in to solve a traffic problem. They are given the brief to speed up the flow of traffic through the London suburbs and they do this by the creation of no-stopping roads with the use of red lines. After their introduction traffic does flow through much faster, but they kill the reason for the need for motorists to stop in these roads in the first place, i.e. shops and other facilities. After a while these shops all close through lack of business, and no one would then want to stop at these places ever again. The local residents lose their convenient facilities and the local councils revenue from rates, a brief that the planners were never given to produce.

Examples of the second kind come from the space programmes. Non-stick frying pans were not an objective the designers were given, but this came about through their research into other problems. So you may well ask what has all this to do with the price of diamonds?

I believe the original brief that the De Beers' researchers were given was not to brand diamonds but to develop methods to distinguish natural diamonds from synthetic ones.

Talk of synthetic diamonds has been taboo in the trade for many years. The conservative element argue that it is not a problem; if it was it would go away of its own accord if left alone, and any premature talk of the subject would confuse the public and harm the sales of diamonds. Unfortunately it is a problem; it will not go away, and organizations such as De Beers are tackling it now so that they and the trade will be ready when they eventually arrive on the market.

'The price of natural diamonds could go up, or the price of production of their synthesis could come down to make them viable with their natural counterparts.'

Synthetic diamonds have been with us for a number of years now – De Beers distributes many carats annually – but they are all of an industrial nature. They do not have the aesthetic properties of diamonds, but only all the physical characteristics. So many of the industrial uses that natural diamonds have (mainly the use of their hardness) can now be substituted by synthetic, laboratory grown, stones.

One of the main arguments used by the school of thought that the problem will solve itself, if and when it arrives, is that the trade has in the past always solved the problems of synthetic stones cheaply and easily and this will happen in the case of diamonds.

Thus the introduction of synthetic corundum and spinel at the turn of the century and the flux-grown and hydrothermal emeralds of more recent years have caused no problems, even though some may look better than mediocre-quality natural stones. This is one reason why they have not caused such problems.

But the main reason that they have not caused much confusion is the distinctiveness of their optical features. We have been taught for many years that good gemmologists can identify most stones with the use of a loupe and a good source of light, usually daylight. Synthetics are identified by the pattern of variation of colour, for example curved lines in synthetic corundums, or by the identification of the inclusions.

In gem-quality colourless and clean synthetic diamonds these two diagnostic methods will not be effective. In a colourless stone there will be no colour zones and the aim in producing good synthetic diamonds is to make them inclusion-free. So your loupe will not help and so far there is nothing cheap and easy to use, which you could slip into your pocket, to distinguish the natural from the synthetic diamond.

Another argument put forward ▶

Gemstone Plaza at Earls Court Fair

Following its success in 1997, the Gemstone Plaza will again be a feature of the International Jewellery London fair to be held from 6 to 9 September at Earls Court Two.

The Plaza, sponsored by the GAGTL, provides a focus for gemstones, beads and minerals. As well as displays and demonstrations within the Plaza, the GAGTL will be running daily one-hour seminars at the Fair, looking at synthetics and simulants, and gemstone treatments and their long-term effects.

If you are interested in booking stand space in the 1998 Gemstone Plaza please contact Samantha Harrison on 0181 910 7963.

◀ is that we cannot synthesize good gem-quality diamonds and even if we could they would be too expensive. The answer to the former is that we have, but the latter argument still applies. They seem to be too expensive to produce in comparison with those that come out of the ground. But this situation could change. The price of natural diamonds could go up, or the price of production of their synthesis could come down to make them viable with their natural counterparts. In the natural course of events one or both of these situations would eventually prevail.

'... De Beers have been the benevolent dictators to our trade through their single channel distribution of rough diamonds.'

It was this eventual possibility that has made De Beers spend much money and time in research in coming up with a solution to distinguish natural diamonds from synthetic ones. They have announced the invention of instruments to do this and undoubtedly these could be used in normal retail premises, but they could be difficult to fit into the style of a travelling trader or dealer. The thought must have come about that, since they control the distribution of the majority of rough diamonds, De Beers know for certain which are the natural ones, and therefore they should mark them in some way, i.e. brand them, before they pass out of their hands. But this would be difficult to do as the stones leave their control in the rough stage. Branding means putting a mark on the product itself and attaching a label would not do the trick: to most in the trade branding would mean etching something on the stone. This is already done and is offered by some laboratories in the form of lasering information on the girdle of the stone. But again this would not solve the problem for De Beers as any such lasering marks could be easily imitated or tampered with, and because of the smallness of their sizes it would be difficult for traders to distinguish forged marks from the real ones.

But I believe this is where the second part of my introduction fits into my analysis. In setting out to solve one problem they came out with a solution to another, namely to distinguish *their* diamonds, i.e. ones that had passed through *their* distribution chain, from others that had not passed through their hands. Now why would they want to do this? To understand this we must look at another aspect of the diamond trade.

For many years now De Beers have been the benevolent dictators to our trade through their single channel distribution of rough diamonds. They have achieved something which very few governments, with all their financial boffins, have been able to do, and that is to achieve stability and they have achieved steady growth for their products. They have avoided price instability by linking it to only one respected currency, the US dollar, and by steady growth in price by controlling the quantity of rough that comes on the market. They do this by buying the bulk of the rough from sources which are not directly under their control, and thus avoid a surplus of rough on the market. Too much rough will reduce the price, while too little will cause the price to rise and bring in outsiders to sell to the sight holders.

Until the recent past this system has worked in that the major producers of rough diamonds have been persuaded to channel their stones through De Beers. This has been the case with the Russians and the Argyle mines in Australia. But now the Russians, possibly through internal pressure, are becoming more and more difficult to negotiate with and agreements signed are for shorter and shorter periods. The link up with Argyle finally broke when they were producing too much near-gem-quality rough in the smaller sizes for De Beers to be able to absorb and market.

'... diamonds will no longer just have to be forever, but also the real thing.'

To say that De Beers are benevolent dictators and Godfathers to the trade may be to use pejorative and emotive terms. But if they were not there to play their appointed part there would be chaos and anarchy in the diamond trade. We are seeing this in the production of the cheap, near-gem-quality, smaller stones. There is too much rough on the market and prices have tumbled. This part of the diamond trade no longer has a lasting investment value aspect to it, but has become a purely consumer commodity. De Beers are trying to maintain their control in the larger, better quality goods. They have so far been able to contain the mavericks that periodically appear on the markets. For example when the Angolan authorities lost control, much gem quality rough appeared on the world market, but De Beers offered to buy this at prices which maintained their price structure and not at the lowest price possible, as this would have reduced prices. But with ultimately limited funds, no organization can continue to make such interventions indefinitely. With the instability in Russia and possible emergence of other new sources such as Canada, they must plan for the future, when they may not have such a control of the market.

As I have written in the past, De Beers have a unique method of advertising. They do not appeal to their customers directly, but to their customers' customers. They advertise to the general public, but the public cannot buy from them. If a member of the public approaches them for stones they would be directed to their own customers, who are a limited group of sight holders. Thus the demand for their products comes from the public, through retail shops, and is ultimately met by the sight holders who use a distribution channel of cutters, wholesalers and dealers.

We can now see a picture of how the second apart of my introduction fits in to this story. By branding their diamonds, and with diamonds being almost synonymous with the name of De Beers in the public's mind, as the advent of synthetic diamonds becomes a reality, the public will demand the 'real thing', i.e. De Beers' diamonds from their jewellers. So diamonds will no longer just have to be forever, but also the real thing.

No matter what happens on the international markets of rough diamonds, there will be a demand for those stones that come from De Beers, as their mark will be the brand of authenticity. This could force those who wanted to pull away from the central marketing system of De Beers to think again; they would get better prices for their products staying within the cartel, as there could now be a premium on stones with the De Beers' brand. It could be difficult, without massive advertising, to convince sections of the public that diamonds without the De Beers' mark could be just as real.

I have read and seen much comment in the trade on this aspect already. Much of it is nonsense. The brand will not be a brand of quality, but only a brand of authenticity that the stone is a natural diamond. It will be done on the surface of polished stones, so there will be an economic factor in determining which stones will be so branded, which will be dependent on size, quality and value. Depending how this is all presented, there could be a cry from the public for every diamond they buy, no matter how small, to bear this brand of authenticity and it could cause much consternation to retailers, who will have to explain that not every natural diamond, even from De Beers, would have their brand mark.

Overheard between two window-shoppers looking at some rings in Hatton Garden:
'I know where we can buy the same thing retail.'

In an effort to distinguish synthetic diamond from natural, De Beers seem to have solved their problem of maintaining a large niche of the market. They will keep their sight holders by offering to brand their stones after polishing, and keep them happy by giving them a unique advertising tool and an edge over other diamond manufacturers.

My analysis may be fiction but the perceived result is another marketing first to De Beers. There is a Hebrew expression 'Kol Hakavod', which does not have an exact connotational equivalent in English, but roughly means 'well done'.

The next few months will show if De Beers have developed the technology to economically brand some of the more expensive stones and to convince the public to ask for 'De Beers' diamonds'.

Harry Levy

Disclosure:

A debate between the trade and the laboratories

I will briefly fill you in on what happened in Tucson when the trade met the laboratories. The aim of the meeting was to try to get the laboratories to comment on their reports on treatments and enhancements of gemstones in a language that would not hinder the sale of the stones. For example, it is felt that referring to an emerald as having its fissures filled with oil is more acceptable than to say they have been filled with a resin. Even in a laboratory with advanced instrumentation it may not be possible to identify the nature of a filler.

The problem however is in the trade, in that the seller wants the report to state only the minimum about the stone, i.e. its dimensions and weight, and that it is natural. The buyer wants the maximum, i.e. all the processes the stone has undergone including the treatments, and to use this to reduce the price.

It is this question of value that is at the root of many of the problems on 'disclosure'. I will comment on this much more fully again and report on the next CIBJO meting which will take place in June in Vicenza, Italy.

Harry Levy

Radioactive cat's-eyes

Over the past months, radioactive cat's-eyes have received media coverage with sufficient frequency to cause some disquiet in the jewellery trade. However, none of these stones, so far as we know, have found their way onto the British market. It is a tantalizing situation for the jewellers – for what procedure should they adopt if they do encounter such stones?

Although it is a scare word in today's world, radiation is all around us and all through us, forming an integral part of the rhythms and wave motions of life. Its uses are legion in the medical field but these activities add only a few per cent to the atmosphere of natural background radiation which comes from cosmic rays and fallout (from the sky), gamma rays and radon gas (from the ground), from air we breathe and from food and drink.

Excellent articles on the topic of radioactivity in gemstones already exist in the literature and for those wishing to delve into the complexities, they should first consult the article by C. E. Ashbaugh in *Gems and Gemology*, winter 1988 issue, and the relevant passages in *Gemstone enhancement* by K. Nassau, 2nd edition, published in 1994. The former was published by GIA now at Carlsbad, California, fax +760 603 4256, and the latter is available from bookshops, including Gemmological Instruments Ltd., fax + 44 (0) 171 404 8843.

What are the safe levels? In the UK and Europe there are as yet no legally established or agreed values. As a general principle, any increase of radiation above the natural and unavoidable background is to be discouraged unless there are clear benefits (usually medical) to be gained. The idea that people should deliberately create an extra degree of potential harm in a voluntary luxury item must strike some as particularly pointless – especially when so ▶

many alternative and relatively safe gems exist.

But members of human society persisting in a voluntary activity despite health warnings and mounting evidence of its role in disease is a scenario already applicable to smoking. Smoking survives because of the strength of belief in freedom of choice for the individual and for similar reasons there remains a possibility that we may encounter radioactive gems. Some guidance about their assessment should therefore be available.

At present the most practical way for a jeweller to deal with the possibility of gems being radioactive is to obtain a Geiger counter, measure the background level on the premises, measure a range of gems kept in stock including perhaps a few zircons and blue topaz and keep them as reference stones.

Most Geiger counters accumulate counts and produce audible clicks to indicate the level of activity. The number of clicks per minute to be expected as background levels in the UK varies in different parts of the country, so the first step is to take background counts at different points on the premises and find an average figure. If any stones are significantly radioactive they will then cause an increased count rate above this background.

To test a stone, it should be placed 1 cm from the detector and the counts should be totalled over 1 minute. Then if there is any increase over background count rate, reference should be made to the count rates expected for the gem species being tested. To give some idea of the differences in levels for different stones which are considered acceptable in the USA, Ashbaugh gave examples of natural zircon where count rates 10–15x background are tolerated and of irradiated blue topaz where count rates up to 2 or 3x background are acceptable.

Why are there such differences in count rates which the Americans consider acceptable? The answer lies in the individuality of the gems and nature of their trace elements. In zircon, the active traces are the naturally occurring uranium and thorium, while in topaz, they could be the artificially produced radionuclides of scandium or tantalum.

Returning to the concern over what to do about checking any cat's-eyes, the establishment of proper safety levels for these stones must await identification of the active trace element. But for guidance at present, one can say that it is highly unlikely that any chrysoberyl showing a count rate less than 2x background can be considered a cause for alarm. In other words, if a cat's-eye registers a count rate more than twice the background level on your premises, wrap it in some lead foil and contact the NRPB or GAGTL laboratory.

Should a jeweller without a Geiger counter have any suspicion that a stone – of any species – might have been irradiated and then released prematurely, then advice should be sought either from GAGTL or from the NRPB whose contact details are: Northern Centre, Hospital Lane, Cookridge, Leeds LS16 6RW (Tel. 0113 267 9041; fax 0113 261 3190).

Roger Harding

Saleroom Notes

Spring jadeite sales

The Hong Kong jadeite jewellery season opened with Christie's sale on 28 April followed by a Sotheby's sale on 29 April. Both sales had very large and attractive catalogues; in the Christie's sale the 'estimate on request' items (the most expensive) included a magnificent 58 cm single-strand bead necklace with 30 glassy green and brilliant green stones (the term 'Imperial' is now never used in these auction houses, for obvious reasons, as I have mentioned before) with a twin diamond clasp, which sold for US$955,500. A black jadeite bead necklace carried the upper estimate of US$500,000 and sold for US$159,900; the beads are black – a rare colour in jadeite – with some splashes of green. A particularly fine jadeite and diamond ring with a cabochon of very fine-textured vivid emerald-green is also in the unpublished estimate category.

The Sotheby's catalogue, not to be outdone, included several examples of lavender jadeite, some set with green jadeite and diamonds. One particularly arresting item consisted of lavender jadeite set with diamonds to form a butterfly pendant/brooch and earrings; this was designed by Edward Chiu, a celebrated Hong Kong jewellery designer and a member of a family which has been active in the jadeite industry for 50 years. The pieces sold for HK$250,000. No Hong Kong jadeite sale catalogue would be complete without the unpublished estimate jadeite necklace – Sotheby's were offering a double strand necklace of 130 translucent beads of brilliant emerald-green colour (largest bead 9.5 mm) with a diamond and sapphire set platinum art deco clasp. The piece which is by Cartier and dates from 1925 sold for US$1,280,080.

Padparadschah 'finest of its kind'

Christie's Los Angeles obtained US$354,000 for a padparadschah sapphire of 24.44 ct at their sale in March. Appearing to be a mixture of pink and orange in the photograph, the stone is believed to be the finest of its kind ever to be sold at auction. The price works out at US$14,484 a carat.

Diamonds

US$38,736 per carat was paid at the Christie's St Moritz sale in February for a pear-shaped diamond of 14.56 ct, D-colour, VVS1, by Van Cleef and Arpels. The total price was US$564,000. The Eternal Light diamond, pear-shaped, D-colour and internally flawless, weighing 85.91 ct, sold for US$9,130,000 at Sotheby's New York sale held in April. This is recorded as the fifth most expensive diamond ever to be sold at auction.

Michael O'Donoghue

Hair jewellery

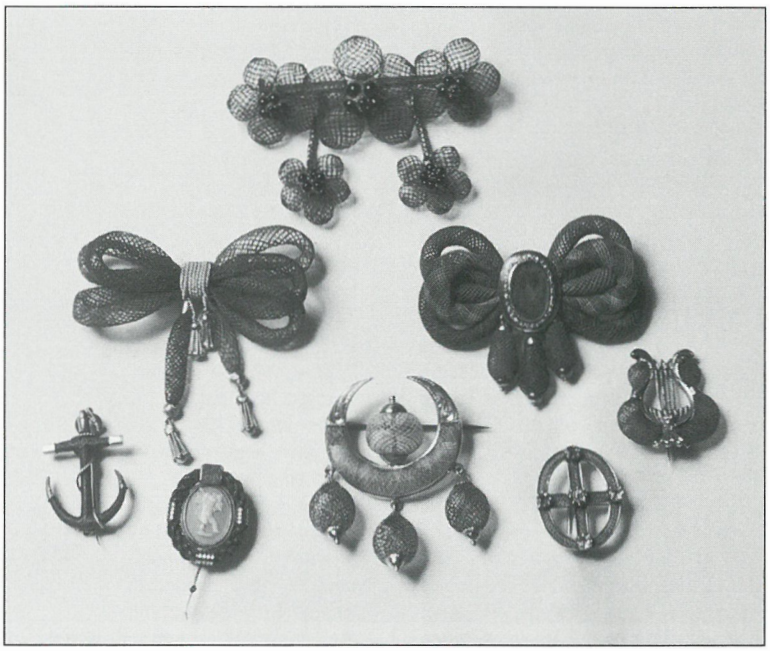
by Ann Louise Luthi

One of the most unusual materials ever used in jewellery was human hair. Of little intrinsic value, easily damaged, difficult to work with and almost impossible to repair, hair would seem to be a curious choice. But hair is about the only part of a human body which does not deteriorate after death and is thus a poignant and lasting reminder of the loved one. So it is not surprising that it was first used in memorial jewellery.

In the second half of the seventeenth century the custom began of distributing rings to friends and family in memory of the dead. The rapid growth of this practice is generally attributed to the execution of King Charles I in 1649, a crime that inspired his loyal royalist followers to wear jewellery in his memory. His miniature was set in the bezels of rings (sometimes worn secretly) and locks of his hair were much treasured. Stuart memorial rings, lockets and slides often had backgrounds of plaited or woven hair overlaid with standard motifs of mortality. Heavily faceted rock crystal fronts obscured the hair, skulls and skeletons and thus ensured a welcome privacy.

Not all hair jewels, however, commemorated the dead; some were set with the hair of living friends and lovers. These might have a Cupid or a heart as a motif and were worn for sentimental reasons. Hair bracelets were also frequently given as tokens of love by both men and women.

Hair continued in use throughout the eighteenth century, worn as bracelets or under glass in many pieces of sentimental jewellery. Sentiment was now expressed in a more romantic, allegorical style imported from France. In mourning jewellery, skulls gave way to urns. Neoclassical miniatures painted in sepia on ivory showed forlorn widows by a tomb under a weeping willow. Sometimes hair was used directly for the fronds of the willow and little snippets of hair were incorporated into the paint.



A selection of fashionable hair brooches (photograph by Alice Fowler).

By the early nineteenth century jewellers had started using hair as a material in its own right. It was woven and plaited in a manner very similar to lacemaking and was then mounted with gold or gilt fittings. Bracelets, guard chains, earrings, brooches, necklaces, rings and watch chains were all made of hair. Antoni Forrer, hairworker by appointment to Queen Victoria, and Lemmonier et Cie of Paris were the most fashionable of the many makers of hair jewellery. They both won Prize Medals at the Great Exhibition. Lemmonier prided himself on the fine quality of his work and embellished his work with turquoises and other gems. He used the white hair of the elderly for snowdrops and lilies and made fashionable pictures out of elegant curls of hair.

Hair arrangements under glass continued to be popular and became increasingly elaborate. Prince of Wales feathers, flower bouquets and cornucopias were favourite subjects. This work was done by highly skilled women outworkers. There was, however, always a suspicion that unscrupulous jewellers substituted the hair of strangers for that of the beloved. An enterprising lady called Alexanna Speight produced a book for amateurs called *The Lock of Hair*, which gave detailed do-it-yourself instructions in the making of hair devices.

By the end of the nineteenth century hair jewellery was out of favour. It is still regarded with distaste. Much has survived, though the hair is frequently damaged. Today there is only one professional hairworker left; she lives in a small village in Sweden where she teaches her craft to local girls.

Ann Louise Luthi's book *Sentimental jewellery* was published by Shire Books in Spring 1998, price £3.95. A review is given on p. 46.

A wet and windy weekend in Whitby

The GAGTL jet trip took place in wet and windy weather during the weekend of 6 to 8 March this year.

Our first visit was made to the Victorian Jet Works, which included a lecture and tour of a genuine workshop. This had been discovered boarded up in the attic of an old cottage due to be renovated, and transported and painstakingly reinstated complete even to the gaffer's coat hanging behind the door! It had been a prosperous establishment, lit by gaslights. The grinding and polishing wheels and tins of lubricants and waxes show clear evidence of the manner of jet working. Many young apprentices aged about 18 were buried in the Churchyard (of Dracula fame), killed by exploding sandstone grit wheels used for chopping the rough jet into suitable sizes and shapes. The pieces of jet were then passed to craftsmen for cutting, carving, engraving, inlaying and polishing. Final polishing of the jet on a rouge wheel using a mixture of jewellers' rouge and oil gave the workers, as well as the article, a reddish hue, earning them the nickname of the 'Red Devils'. Later on this mixture was replaced by one of lamp black, paraffin and linseed oil which brought out the deep velvety lustre of the jet.

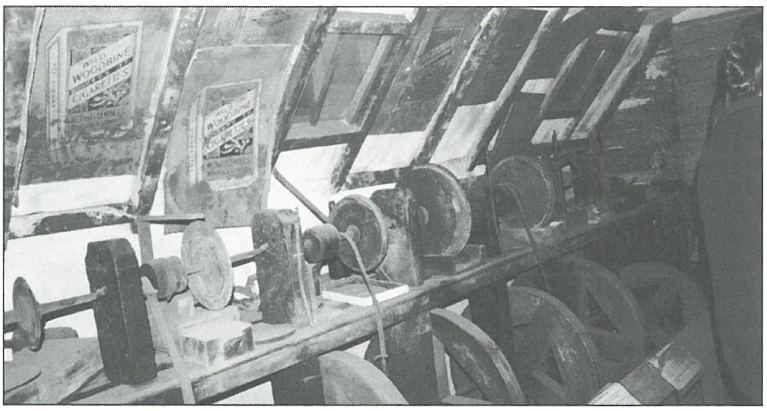
Jet has been used in jewellery and as a talisman in Britain since the Bronze Age, 4500 years ago. The centre of the jet industry in this country is Whitby and the industry reached its peak in the 1870s when 1500 men, women and children were employed.

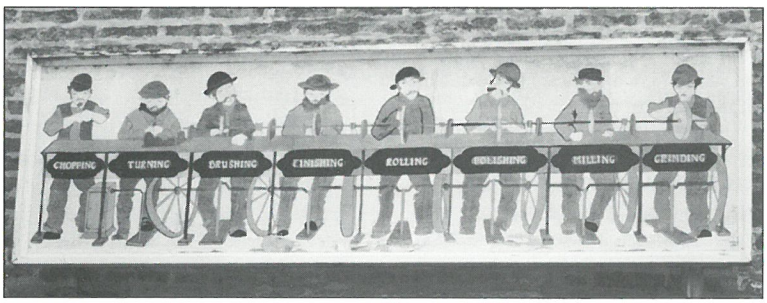
Jet is found throughout the world, formed by anaerobic decomposition of the araucaria tree, under pressure and the chemical action of water. In Britain it occurs principally in Yorkshire in the Upper Lias deposits, outcropping round the coast from Ravenscar to Skinnington. It can be found washed up on the shore or as a result of cliff falls after a storm. One morning our intrepid party got up at 6 a.m. to scour the sands at low tide for pieces of jet with some success! But also some lovely fossil ammonites were found. Ammonites were often incorporated into jet jewellery and artefacts. In the Whitby museum we saw an impressive display of jet. Two beautiful ornately carved chessboards made from jet had the 'black' squares of polished jet and the 'white' squares of jet inlaid with tiny polished ammonites. Whitby museum is rather old-fashioned in style and crammed with fascinating objects, many relating to ships as befits a tough Yorkshire fishing town – ships in bottles, models of sea battles, Captain Cook memorabilia, and the longest (alas broken at the tip) narwhal horn ever found.

Whitby is a town built on the very steep sides of a river valley with a maze of cobbled streets, antique and jet shops and pubs down by the harbour to explore – perhaps on another trip?

Rosemary Ross

An example of jet jewellery made in Roman Britain. The carved necklace-pendant depicts two Cupids working as potters. It was found at Colchester and was made between the 2nd and 4th centuries AD. Length 5.5 cm. Photo courtesy of the British Museum.





The workshop at the Victorian Jet Works (above) and (below) the sign over the door.

Idar-Oberstein tour is bigger and better

The fourth GAGTL annual trip to this pleasant area of Germany has left us rather stunned. This year, by popular demand, we added an extra day, and the trip ran from Sunday 19 to Saturday 25 April.

Red-carpet treatment on our many visits, banquet atmosphere for evening dinner, excellent guidance through the geode mine workings, a 'touchable museum' of fabulous gems and carvings to browse and buy in a famous showroom, a detailed look inside the German Gemmological Association, a cabinet full of gem-quality laser crystals with more growing before our eyes and visits to two of the most fascinating gem museums in the world. We also had our own private workshop and were able to see high-quality hand cutting of gems, agate polishing by water power, cameo carving in a top studio, and (new this year) jewellery making in action. Also introduced for 1998 was our own bus service for our exclusive use on our one free day. After-images in my mind include the remarkable flame-like markings in a shapely agate bowl, a pair of young white quartz ducks ready to waddle along, a huge deep blue aquamarine crystal I could hold in my hands, the rare sight of a rich Kashmir sapphire and (my favourite) a dark green nephrite bear watching her next salmon meal!

Gerhard Becker (left) and Professor Hermann Bank presenting the GA group with a signed copy of the Edelstein Museum guide.

Agate cameo engraving at Erwin Pauly near Idar.

Two questions: why did we come home and how did we see so much in a short time without going crazy? Maybe some of us had to return to work and save up for next time (make a note now for 11–17 April 1999)! Detailed, efficient programming enabled us to cope with the splendours; Sarah Kimber and Susanna van Rose combined their efforts in attending to every last detail.

Very special thanks go to Professor Bank and Gerhard Becker in Idar for their great hospitality. This year they exceeded even their past efforts and afforded us a royal treatment which we shall never forget.

Ian Mercer

Diamond jewellery repair: precautions related to fracture-filled stones

Report by Samantha Quinn of the DTC Research Centre, Maidenhead

For several years now, a significant number of diamonds have been fracture-filled to reduce the visibility of fissures within the stones. Although we believe that the companies carrying out these processes are scrupulous in declaring their stones as treated, it is regrettable that this policy is not always maintained through to the final retailer. One assumes that there may be some consumers who now unwittingly own fracture-filled diamonds.

A number of gemmological publications (e.g. Kammerling *et al.* (1994) *Gems & Gemology*, 30(3) pp. 142-177) have pointed out that the filler materials are not stable at high temperature. There is, therefore, a potential danger in carrying out repairs to jewellery set with fracture-filled diamonds if the repair process, such as re-sizing or re-tipping, involves applying heat to the jewellery. Any jeweller who takes in jewellery for repair needs to be aware of this problem as a filled diamond after the repair could appear to be of substantially lower quality than when taken in.

In earlier experiments at the DTC Research Centre, fracture-filled diamonds from different treaters were examined under a microscope whilst being heated in a microscope hot stage (Lincam 1500). Filler material started to soften and flow out of fractures at temperatures between 300 and 350°C, and boiled away by about 600°C. In order to determine quantitatively the temperatures encountered by set diamonds during a typical re-tipping operation, we at the De Beers DTC Research Centre sought the assistance of the jewellery workshop at Garrard & Co. Ltd.

The experiment involved the use of a fracture-filled stone weighing about 0.20 ct. The stone, of particularly low quality, was laser-grooved in order to locate a thermocouple (chromel/alumel, type K) actually within the diamond. During the repair work, the thermocouple was connected to a computer to log the temperatures that the diamond was being exposed to. Readings were taken every two seconds.

For the sake of the experiment, the diamond was left mounted for the repairs to be carried out. To protect the diamond from the extreme heat conditions either borax (in water) or 'Argotec' (in methylated spirits) was applied to the surface of the stone. The solder being used in the experiment was 18 carat 'easywhite' gold (50 per cent gold, which melts at 690–710°C) from Johnson Matthey.

A number of claws were repaired on the ring with the heat being applied either directly to the solder or to the claw itself. As this heat was being applied, the temperature was logged until the procedure was complete. These results were then plotted showing the temperature profile of the re-tipping procedure and the maximum temperatures that the diamond was subjected to.

The profile showed that temperatures achieved were typically between 500 and 600°C, with the maximum being 753°C. From the above experiment it can be concluded that heating a stone of this sort to these temperatures would be extremely dangerous and it is almost inevitable that the filler would be expelled from the crack. It is therefore important that any jeweller taking in diamond jewellery for repair is aware of this potential problem and checks for the presence of filler material by looking for the so-called 'flash-effect' (again, see Kammerling et al., 1994) or alternatively, if possible, removes the diamond before repair takes place.

Acknowledgements: Thanks to Corinna Pike, William Foreman and the jewellery workshop, Garrard & Co. Ltd., for their help and expertise in the re-tipping procedure.

Gems

New synthetics and simulants

The main news is the advent of moissanite [silicon carbide, SiC], hard, near-colourless, birefringent, highly dispersive diamond simulant, for which an advertising campaign has been mounted in the United States. It is already being called synthetic moissanite as a natural silicon carbide exists, though it has no conceivable ornamental use. There has been some anxiety over the similar thermal conductivity between moissanite and diamond, and we shall keep up with developments in this area. As always with small, highly dispersive stones, melée will be a significant problem and a parcel of faceted moissanites viewed under tungsten spotlights may deceive the unwary. So far I have seen only small specimens but no doubt larger ones (and coloured ones) can and will be manufactured. Perhaps they will be used in composites if a satisfactory method of manufacture can be found; it would be interesting to see colourless moissanite used as a base with synthetic corundum or spinel on top. Years ago small faceted stones of silicon carbide appeared but were never, as far as I know, placed on the commercial market. I remember dull green specimens, the green somewhat resembling that of green diamond.

More or less at the same time as

the appearance and publication in the trade press of moissanite came the news and presence of yellow faceted synthetic diamond. Specimens I have now been able to examine were manufactured in Russia but placed on sale in the United States; the colour is a quite attractive dark gold. Some have been shown to respond to a magnet and metallic inclusions have been seen in most specimens examined. More news on these beautiful stones in due course.

I have been able to examine a sawn crystal section of the highly pleochroic yttrium silicate which has been given the trade name minkovite. Both pleochroic colours are a most attractive blue, one shade being perceptibly darker than the other. Faceted stones would, I imagine, be very fine. The material is manufactured in Russia and the piece I saw was purchased in the United States. The material has no natural counterpart.

Coloured diamonds

Coloured natural diamonds feature in the book *Collecting and classifying coloured diamonds* by Stephen C. Hofer, published in the past few weeks by Ashland Press of New York. It is in fact a celebration of the Aurora Collection of coloured diamonds which is currently on display at the American Museum of Natural History in New York City; the text passes from that of a catalogue to an investigation of the cause of colour in diamonds with copious notes on how colours can be precisely described and coloured diamonds graded. This very large and most beautiful book is priced at £197 but is still worth buying if you have a serious gemmological library.

Michael O'Donoghue

Hatton Garden

cont. from p.33

Finally, our Chairman Stephen Berman, one of the founder members of the Hatton Garden Association, with whom we worked so closely for three years to breathe some life back into 'the Garden', has resigned. His place has been taken by David Lee of Backes & Strauss. We are delighted to welcome such an experienced professional in the diamond industry to the post of Chairman, from a company with a very long historical connection with Hatton Garden. We are also delighted to announce that David George has agreed to join us as a consultant to HGA to assist with developing the association and project management. David is well known for his work with the British Jewellers Association and as one of the founders of Emagold.

Natural Stone Show

The third Natural Stone Show was held at Wembley Conference Centre on 10–12 March 1998. This was a display of the growing number of varieties of natural stone used in the construction industry and for sculptures and memorial stones, and on the last day many (small) samples were free.

Most stones are imported as rough blocks, sawn materials and finished products from countries such as Italy, Brazil, Portugal, Spain, Germany and China, to name but a few.

Inside the Conference Centre a feast of natural stones included a Chinese red granite cut showing the typical speckled appearance across the slab while down its length (50 cm) the material appeared straight grained and striped in red and black. There were new blue veined and spotted marbles from Brazil and Portugal, and free-flowing pictures were etched in grey and white on a black marble from China. England provided soft coloured sandstone building blocks and spectacular oolitic limestone slabs. There was a display of mosaic materials in wonderfully vivid colours veneered on to marble for decorative tiles, etc., by a firm from Germany. Small world globes veneered in lapis lazuli with the countries inlaid in many different decorative materials were on sale for use as earrings and pendants and larger ones could be used as ornaments. Necklaces of beads either composed of all different materials or of materials from 64 different localities were shown. A large sphere of mahogany-coloured granite floating and rotating on a jet of water in a granite base was breathtaking. The term 'granite' in the construction industry has a somewhat broader interpretation than would be acceptable to a petrologist. Another floating sphere was a world globe made of polished black granite, the continents engraved, the whole set on a white base. How spectacular it would be to have one of these in the hall of the new Earth Galleries of the Natural History Museum in London.

Machinery for sawing granite and other building materials was shown and the combined use of diamond wire and blasting techniques for extraction of these materials was explained. There were immense blades for sawing slabs of stone and a whole range of equipment down to the tiny intricate tools for the more delicate cuts. And talking of delicate cuts, I did not see any jade or serpentine! Nevertheless, it was a stimulating show visually for the colours and textures, and also to see the developments in engineering.

Rosemary Ross

Limerick Corner

My emeralds are treated with oil
But not with intention to foil
Or get a good price
But to make them look nice
And keep all my customers loyal!

A.D. Morgan, FGA
Birmingham

New! – Stone Library

With the new academic year fast approaching, the GAGTL will be launching its stone library service for UK based home study students working towards their Gemmology Diploma. Covering various aspects of both the Preliminary and Diploma syllabuses, this collection has been put together in order to give students a solid background in the practical aspects of gemmology.

So far we have 70 sets, comprising between 10 and 20 stones in each, with easy-to-follow instruction and information sheets. These sets cover a wide variety of topics from observation and the use of the 10x loupe, crystals, use of the polariscope, dichroscope and spectroscope, to family groups such as corundum, quartz and spinel, as well as sets comparing stones of similar colour. The sets include a variety of rough and cut material – natural, treated, artificial and composite.

The library is based on standard testing procedures and is designed to suit students with only basic hand-held equipment as well as those with a fully equipped mini lab. Each set has a check list for the student to follow with diagrams, tips and hints in order to get the most from each stone. This invaluable hands-on guide to the practical side of the course should not only increase a student's confidence with testing stones but also enhance the theory aspects of the course, with visual reminders of topics covered within the notes.

All UK-resident correspondence course students studying Preliminary or Diploma courses in gemmology will be sent application forms for these library stones in the near future. In addition to our three- and four-day Student Workshops we are hoping that this will provide a wider opportunity for practical experience to a greater range of our students.

We must thank the members and trade friends from around the world who have made kind donations, notably Luella Dykhuis, Ronald L. Ferrell, John R. Führbach, Sonja Glaser, David Kent, Marcia Lanyon and Pierre Vuillet à Ciles. Also a particular vote of thanks must go to Amanda Good the instigator of this programme and upon whose stones the library sets are based. In order to extend this stone library service further we still need help, so please do keep the donations coming in.

For any queries on this Stone Library or any workshops held at the Gem Tutorial Centre please contact Lorne Stather on 0171 404 3334.

GAGTL Gem Tutorial Centre

Short Courses and Workshops

16 July — **The natural history of gems**
Where, when and why do gems forms? A different look at this planet's geology and dynamic nature.
Price £42.55 + VAT (£50.00) – includes sandwich lunch

20 to 25 July — **Five-day practical diamond grading course**
This intensive diamond grading course will look at the practical aspects of diamond grading including colour, clarity and cut. Detection of treatment such as glass infilling and lasering will also be covered as well as diamond simulants (including synthetic moissanite).
£500 + VAT (£587.50) – including all course notes

7 October — **Diamonds today**
A valuable and concentrated look at all aspects of diamonds: rough and cut stones, treated (laser drilled and filled), synthetic and imitation materials.
Price £104 + VAT (£122.20) – includes a sandwich lunch

21 October — **Preliminary workshop**
A day of practical tuition for anyone who needs a start with instruments, stones and crystals. Learn to use the 10x lens at maximum efficiency and observe the effects and results from the main gem testing instruments.
Price £44 + VAT (£51.70) – includes a sandwich lunch
GAGTL student price £32 + VAT (£37.60)

For further details contact the GAGTL Education Department:

Tel: 0171 404 3334
Fax: 0171 404 8843
e-mail: gagtl@btinternet.com
Internet: www.gagtl.ac.uk/gagtl

200th GAGTL Playgroup

The Gemmological Association's Wednesday evening members' group – otherwise known as the Playgroup – continues to flourish and recently celebrated its 200th meeting.

Under Michael O'Donoghue's guidance the participants continue their studies, examining the excellent collection of gemstones or following their own special gem interest.

Vicki Packard, Tim Lodge and David Whipp celebrating the 200th meeting

Rare gemstones

In our four years we have been able to look at a very wide range of specimens, including some of the rarer faceted colourless species – sellaite, scolecite, sinhalite, natrolite, chrysoberyl, yugawaralite, zektzerite, ulexite, pollucite, phosgenite, mesolite, hackmanite, colemanite, cerussite, catapleite, beryllonite, benitoite, baryte, augelite, apophyllite, anglesite and analcime.

Alan Rowlands from Canada visits the Playgroup

New synthetics and simulants

More recently we have examined a faceted golden-yellow Russian synthetic gem diamond, the new diamond simulant moissanite, rare faceted forms of garnet-red chondrodite, lilac-creedite, orange serandite, rough and cut golden clinohumite, a large collection of rough and cut, heated and untreated Montana sapphires of different colours, fine golden-green iridescent andradite, orange celestine, fine dark red garnet-colour Oregon sunstone (Ponderosa mine), green Mali grossular and orange spessartine from Namibia – the list goes on and on!

Currently the group concentrates on testing unknowns: this is the choice of the present members but any developments, outside speakers, change of emphasis, are possible and welcome. The evenings provide the extra bonus of being able to share knowledge and experience amongst a wide group of people.

Maggie Campbell Pedersen

Who said that?

During my many years with the London Gem Testing Laboratory I was fortunate to meet and sometimes converse with gemmologists and scientists from widely scattered parts of the world. It was a wide ranging education.

Basil Anderson was much given to word play, puns and doggerel versifying which accompanied his brilliance as an investigative gemmologist. In one of many interesting lectures to his Post-Diploma class, he dealt with 'Luminescence in gemstones and minerals', starting with the luminescence of living organisms, such as fireflies and the phosphorescence of decaying fish, as examples of bio- and chemi-luminescence. He followed this with old tales of carbuncles which glowed in the dark and then mentioned Benvenuto Cellini the famous Italian goldsmith and fertile story teller who told of a white sapphire he saw in a merchant's shop at Ragusa. It sparkled internally so brightly that it illuminated a dark room. Anderson added sotto voce, 'These tales cannot be taken seriously'. He then proceeded in more serious vein to describe the first definite cause of phosphorescence circa 1600 having relaxed from his researches for the lecture to pen a little burlesque describing Cellini's reaction to the phenomenon: ▶

◀ There was an old man of Ragusa
Whose sapphire was such a producer
Of light, that at sight
Benvenuto took fright
And dashed out in search of a boozer.

On a different occasion, at a gemmological conference at which only a few European heads of laboratories were present, Ove Dragsted of Copenhagen reported the discussion on nomenclature. The question arose, 'Just what exactly *is* a gemstone?' Georges Gobel of the Paris laboratory replied, 'A stone is a violin on which the light rays are playing'.

From that same Gallic source came Dina Level who was made an Honorary Fellow of the Gemmological Association on Sunday 4 October 1981 at the Geological Survey Museum. In what must have been a memorable programme on French television, Dina Level described how on commencing the examination of a gemstone under the microscope she would talk to it, saying, 'Pierre tu vas me dire quelquechose'. Speaking of diamond towards the end of her programme she said, 'I would like to talk of something which has the same crystal system as diamond, that is gold'.

Diamond is hard and allows no other stone to cut it. Gold is soft, ductile, docile and easily hammered and allows itself to be worked with less noble metals than itself. She continued; 'What would our fine gems, our precious stones do if they hadn't this metal that the Egyptians likened to the sun? If the Chinese have said that, "Gems are flowers that do not fade in the autumn", then Gold is a sun without darkness.' For me her descriptions of gemstones have a poetic quality divorced from the more prosaic descriptions of other workers.

In his book, *A key to precious stones*, Dr L.J. Spencer, Keeper of Minerals at the British Museum from 1927 to 1935, dealt with the subject of pearls in just over two pages. These included the pithy statement that, 'The tomb of a parasitic worm is not really a pleasant object with which to bedeck a fair neck.' Contrast the statement of Professor Raphael Dubois writing in 1901 in Comptes rendus de l'Académie des Sciences that, 'The most beautiful pearl is only the brilliant sarcophagus of a worm'.

There is a similar quality of poetry in Basil Anderson's opening lines in his book, *Gemstones for everyman* which are not specifically aimed at the gemmologist:

'The world is full of a vast variety of beautiful things, but most of them are ephemeral. The dewdrop and the daffodil, the rainbow and the butterfly, last for a few moments or a few days and are gone; preserved only in memory or in lines written by a great poet. Precious stones, more than any other thing which are lovely to the eye, endure, in terms of human measurement, eternally.'

A.E. Farn

Books new and old

An old friend in new clothes

The spectroscope and gemmology by Basil Anderson and James Payne, edited and with additional material by R. Keith Mitchell, has just been published jointly by GemStone Press of Woodstock, Vermont, USA and NAG Press [imprint of Robert Hale] of London. The ISBN is 0 943763 18 5, there are 269 pages and many drawings in black-and-white.

It must be said from the outset that the absence of colour makes very little difference and the drawings of absorption spectra, some taken from the original plates but the majority re-drawn by the editor, are really first-class. In some cases colour is actually a distraction and it is far easier to depict a thin, faint line against a neutral background. Since many of the existing colour reproductions of absorption spectra in other books are idealized, the black-and-white ones here provide probably the best picture of what the observer really sees.

The aim of the book is to reproduce, comment upon and add to the series of drawings and comments made by Anderson and Payne in a series of articles published between 1954 and 1957 in the journal *The Gemmologist*, which ceased publication in 1962. *The Gemmologist* is a genuine rarity though odd issues come on to the market from time to time, so that the reappearance of this material is most welcome. If you don't have *The Gemmologist*, this book supplies all the absorption spectra information that was published in its columns. Material is arranged quite simply: after a section describing the history and development of spectroscopy, the absorption of gem materials is described in something like colour order, with ruby and red spinel first, then through the major gem species, including synthetics, to the final section in which fluorescence spectra and the operation of the laser are briefly discussed. As in all writings of these authors and of Anderson in particular, the lucidity of the text would be hard to beat and Keith Mitchell has achieved the same standard in his comments and additions. At £30 it is excellent value; I have already found several things that I did not know.

Michael O'Donoghue

Sentimental Jewellery

Sentimental Jewellery – Antique jewels of love and sorrow by Anne Louise Luthi, (published by Shire Books, 1998, ISBN 0747803633) is a small colourfully illustrated book. There are four sections giving descriptions of mourning and sentimental jewellery from various periods. The chronological content is from approximately 1649 to 1901. The text examines the reason for wearing such jewels and how they were worn. A great number of sentimental jewellery items have survived to the present day mainly because this type of jewellery was often set with hair, enamel, pearls, turquoise and paste, so pieces would not be subject to restyling and remounting as is the case with their more precious counterparts.

This book is an interesting and well produced addition to the Shires series. It will be of interest to enthusiastic collectors and is very good value at £3.95.

Mo Cerrone

A major exhibition of gemstones at The Natural History Museum

as Museum completes its new Earth Galleries

Four major exhibitions open at The Natural History Museum, South Kensington, on 16 July 1998: *Earth's treasury, From the beginning, Earth lab and Earth today and tomorrow.*

One is *Earth's treasury* which includes gems, minerals and crystals, incorporating many of the superb specimens previously displayed in The Natural History Museum and the former Geological Museum; many regular visitors to the Museum will be delighted to welcome back these 'old friends'. One area will be devoted to the 'big four' – diamond, emerald, ruby and sapphire – with a long display case devoted to other gemstone groups.

In addition, three collections will be exhibited that have not been on display for years; the Pain collection of faceted stones and crystals from Myanmar, the Mathews' collection of cut gemstones, and the finger rings of Sir Arthur Herbert Church which has not been displayed for over fifty years. *From the beginning, Earth today and tomorrow* and *Earth lab* tell the story of the history of the Earth from its beginnings to the present day, and looking into the future.

Further details of these new exhibitions may be obtained from The Natural History Museum on 0171 938 9123.

Cally Hall

Changes at the British Museum

Regular visitors to the British Museum will know that the Great Court Scheme, a Millennium project, is now well under way.

The aim is to make use of the round Reading Room and the inner courtyard of the building, now vacated by the British Library, to improve and increase the space and facilities available to museum visitors. The plans include much-needed space for schoolchildren and family groups and up-to-date provision for conferences and lectures. In addition, the British Museum Study Centre will be set up in an existing building nearby, housing the offices and study collections of the Ethnography and Prehistoric and Romano-British Departments, and offering the public new access and insights into archaeological, ethnographic and curatorial work.

When these plans reach fruition, the British Museum should have even more to offer its visitors than in the past. In the meantime, however, there are considerable difficulties both for staff and the public; building work simply cannot be done without disturbance. Gallery closures, frequent overcrowding, changing routes within the building, and the presence of the contractors' offices and a huge red tower crane in the forecourt, must all be tolerated, and staff who are displaced and working in temporary accommodation without proper access to their collections and libraries cannot always provide the same level of service that enquirers have come to expect.

We hope that the Museum's friends and supporters will be patient, and will ultimately find the results worth the present disruption.

New permanent galleries

The Cyclades in the Bronze Age and the Arthur I. Fleischman Gallery of the Greek Bronze Age (Rooms 1 and 2) are two new galleries now open in the British Museum. The Greek Bronze Age, which lasted from about 3200 BC to 1100 BC, included the cultures of Mycenae and Minoan Crete, and those interested in the very early history of fine goldworking and gem-engraving will find some beautiful examples on display.

Catherine Johns

Competition

Where on earth? – Part II

The answer to Where on Earth Part I (*GJN*, March 1998) is to note that the South Pole is a point. As one moves north from this point, and moving in any direction will be North initially, wherever one stops there will be a parallel of latitude through that point. These are all circles parallel to the equator.

One of these parallels, near the South Pole, will be of circumference of exactly one mile. Let us call this parallel of latitude P. Now if we travel one mile due north of this parallel we will come to another parallel of latitude. Let us call this S.

If we start from any point on S and travel due south, we will come to latitude P. If we now walk one mile due west, because this circle is one mile in circumference, we will come back to our starting point on P, and one mile due north now will bring us back to our original starting point on S.

I received one written solution from Pete Nancarrow, who tried to give the actual distances. I had not asked for this. Unfortunately his calculations were based on plain geometry, but we have to use spherical geometry, as we are walking on the surface of a sphere, so full marks to him only for locating the place!

This answer remained as the solution for a time within the mathematical community until someone spotted another solution. No, it is not another point on S!

So for Part II – is there anywhere else on the Earth that we can walk one mile due south, then one mile due west and finally one mile due north and end up at our original starting point?

Harry Levy

Gemmological Association and Gem Testing Laboratory of Great Britain

London Branch

Meetings will be held at the GAGTL Gem Tutorial Centre, 2nd floor, 27 Greville Street (Saffron Hill entrance), London EC1N 8SU. Entry will be by ticket only at £3.50 for a member (£5.00 for a non-member) unless otherwise stated, available from the GAGTL.

29 June. AGM (GAGTL members only) followed by the Reunion of Members and a Bring and Buy Sale. Free of charge.

8 July. The evolution of Georgian and Victorian Jewellery. JOHN BENJAMIN

For details of short courses and workshops see p.44.

Midlands Branch

For details of meetings contact Gwyn Green on 0121 445 5359.

Annual Events

GAGTL Conference

Gems in Jewellery

The 1998 Conference is to be held on Sunday 1 November at the prestigious Barbican Conference Centre, London. A full programme of lectures, demonstrations and displays is being planned and full details will be published in the September issue of *Gem and Jewellery News*.

Museum Visits

The Conference will be followed on Monday 2 November by organized tours to two London museums.

Trade Dinner

Geoffrey C. Munn, FSA, Managing Director of Wartski, is to be the guest speaker at the Trade Dinner to be held at the Café Royal on the evening of Saturday 3 October. Geoffrey is a regular contributor to the immensely popular BBC programme 'The Antiques Roadshow'. He has been responsible for a number of exhibitions of fine jewellery between writing books and a stream of articles and contributions to antiques magazines and exhibition catalogues.

For full details and a booking form contact the GAGTL on 0171 404 3334

North West Branch

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

16 September. Gem collection with anecdotes. *JOHN PYKE SNR*

21 October. Silversmith of Williamsburg 1780. *MARTIN CONNARD*

18 November. AGM.

Scottish Branch

For details of Scottish Branch meetings contact Joanna Thomson on 01721 722936.

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.

22 June. *DR GERTRUD PLATZ,* Antikensammlung, Berlin.
Etruscan goldwork and its imitations in the 19th century

28 September. *MICHAEL SPINK,* Director of South East Asia Department, Spink & Son Ltd., *Islamic jewellery*

2 November. *KATHERINE PURCELL,* Wartski, London.
Falize: a restless imagination

7 December. *DR JEFFREY SPIER.*
Late antique magical amulets

The copy date for contributions for the September issue of *Gem and Jewellery News* is 16 July