

Gem & Jewellery News

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MERGER

At the beginning of December the London Diamond Club and the London Diamond Bourse merged to form a new company, the London Diamond Association.

When the two companies were originally formed in the early 1940s there was a need for two separate organizations, one for those dealing

in rough diamonds and another for those handling polished diamonds. Because of the decline in the rough diamond trade in London in recent years, there was no longer a need for two separate organizations. As the eighteenth-century building owned by the Club at 87 Hatton Garden was in need of extensive and expensive renovation, it was agreed that the merger should take place with the new company operating from the modern,

purpose-built, quarters that housed the Bourse at 100 Hatton Garden. It is hoped that 87 Hatton Garden will be sold to developers.

At an interview with Eddie Goldstein, he said that the Executive Committee of the new company is formed of those who were serving

on the committees of the Club and the Bourse - Eddie Goldstein, John Kessler, Paul Hirschfield, Harry Levy and Paul Koppelman for the Club and Freddie Hager, Norman Rokach, Henry Isaacs, Marcel Weinstock and Harold Karton for the Bourse. Subsequent committees will be elected on an annual basis.

The new association will continue to cater for a much larger group of the trade than just diamonds dealers. In fact

membership is open to all involved in the trade - dealers in coloured stones, manufacturers, dealers in second-hand and antique jewellery, and even



*Eddie Goldstein,
Chairman of the former London Diamond Club*

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insurance brokers and bankers.

This might now be a time for those who have not been a member of either association to apply for membership, but it should be noted that membership is open only to individuals and not companies.

The new company will form a strong basis for diamond dealing in London.

Gem & Jewellery News

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EDITORIAL

With this issue, I am taking over from Jack Ogden as the Society of Jewellery Historians' representative on the editorial team of *GJN*. I am acutely conscious of my lack of qualification for this task; my skills and talents do not begin to compare with those of my predecessor, who can discourse with equal authority on ancient Greek or Romano-Egyptian jewellery, X-ray fluorescence analysis, modern fakes and forgeries and a host of other jewellery- and gem-related subjects, as well as dreaming up entertaining competitions and perpetrating the most outrageous puns.

Readers may become aware of a definite bias towards the jewellery of the Roman period, since this is the only aspect of our interests that is really familiar to me, although many years on the committee of the Society of Jewellery Historians has gone some way towards educating me in the wider picture. Subscribers who come to feel that jewellery later than the fourth century AD is being given insufficient coverage have the remedy easily to hand: contribute your thoughts, insights, news flashes and other information to the magazine, and help to make it more fully representative of the membership's views. Everybody, I am sure, will wish to join me in thanking Jack Ogden for his informative and entertaining contributions to this publication in the past, and in looking forward to more of his notes and comments in the future, though on an occasional rather than regular basis.

Alan Jobbins has also stepped down from the Board and we would like to thank him for his interest and advice in the establishment of this newsletter. Being an influential member of the Association and the Society he was ideally placed to guide the initial steps in creating a publication which would inform and stimulate a wide range of readers.

C.J.

Appeal for Information

An Urgent Request. . .

**History
of Gemmology**

**Wrist
Watches**

The Education Office of the GAGTL will be pleased to hear from anyone who has pictures of gemmologists, gem classes or historical gems which can be used to augment our material on the history of British gemmology. Please contact Ian Mercer as soon as possible. All materials will be returned quickly.

An SJH Member is researching ladies' diamond-set wrist-watches up to 1939. Any information on their design, manufacture, advertising and distribution would be greatly appreciated. Please send any such information to the Society of Jewellery Historians, care of the Chairman, marking envelopes DW.

AROUND THE TRADE

In this column we endeavour to keep you informed of business matters affecting dealers from a trading perspective. We welcome views and questions from all readers handling gemstones and jewellery on a commercial basis.

TV Shopping: effects on the trade?

I was staggered to learn that the combined sales of the two American TV Shopping companies were \$2.27 billion in 1993*. Sales in 1994 have shown no abatement. All this in a time of continued recession in the jewellery trade worldwide, when many UK companies are struggling to stay alive due to falling sales. I do not think we can blame TV home shopping for the ails of our trade - they seem to have found a new market.

Those in the trade may have read that a large quantity of synthetic amethyst and citrine is appearing on the market; those who attended the GAGTL Annual Conference would have heard the Forum discuss the implications for the trade of gemstone treatments (see report on p.9 and some of you would also know that there was a meeting of CIBJO recognized Laboratories here in London discussing detection and disclosure of gemstone and diamond treatments. Do all these events have anything in common?

Colour

Success in one sector of the trade can create problems in another. These TV networks are not selling merely precious metal jewellery, but making colour in the gemstone-set jewellery the main selling factor. There is a Gems Galore show where colour is king and they have come a long way from selling 'Cubic Zirconia' and 'Pink Ice' (synthetics - how often have I seen and heard CZ described as

'Man-made diamond'). Coloured stones are promoted through shows such as 'Gem Fest', 'Shades of Red', 'Sapphire September Birthstone Show' or 'Emerald Anniversary Special'.

The show host warms the home audience with gemstone stories and the piece of jewellery is on sale only while it is on the screen, which adds pressure to buy instantly. On an average day the two American companies receive more than 300 000 calls (I bet their switchboard has more than one operator!). Such sales demand a large number of identical stones so, for example, an order will be put out for 10 000 pieces of 6 x 4mm tanzanites, eye-clean, of a certain colour. This is when the problems set in because the shows all operate a money-back guarantee on returns, and a major factor affecting returns is the presence of visible marks in the gemstones.

So here we get a demand for clean stones at affordable prices and, since nature does not always produce enough, man has to assist. I am not

suggesting that the networks knowingly sell, say, synthetic stones, but the trade alert referred to above warned of '....large quantities of twinned synthetic amethyst and citrine which cannot be identified by routine testing'.

Enhancement

Colour in corundum may be enhanced* by heating and coating (surface and deep diffusion). Purity and clarity is improved with filling, heating to eliminate silk, and laser ing in the case of diamonds.

The trade regards some of these treatments as acceptable, whilst others are not. Thus heating is now generally acceptable, but surface diffusion is not. The current ICA Gazette published articles 'Why epoxy resin is not the same as oil' and 'Tell all, and let the customers decide'.

*A much better word for the trade than 'treated', thanks to our American friends; 'treated' implies starting with something already good - and I recently came across the term 'Least best'!

Disclosure Protocol

A special meeting of representatives of CIBJO Sector III (Stone Dealers) and CIBJO Sector IV (Retailers) was held in London on 21 October to discuss a protocol for the disclosure of gemstone enhancements arising from the changes that were made to Article 5 of the CIBJO Gemstone Book that were made at the last CIBJO Congress in Basel.

The meeting agreed a form of wording for the general disclosure of gemstone treatments and a recommended procedure for the display and utilization of the agreed

wordings. CIBJO rules for specific disclosure and the disclosure of synthetic or artificial stones were reviewed and confirmed. These recommendations are now being circulated to all CIBJO members and will form the basis of recommendations that will be made to the CIBJO Congress in Athens in 1995.

CIBJO remains committed to the protocols outlined in the CIBJO Gemstone Diamond and Pearl Books which it will continue to promote worldwide.

*I must acknowledge my use of the article by Cheryl Kremkow of the ICA Gem Bureau on TV Shopping, from the October issue of the *ICA Gazette*.

At the CIBJO recognized laboratories' meeting, it was stressed that it is often difficult to distinguish between oil and an epoxy resin in an emerald without destructive tests on the stone. Immersing the emerald in acetone will remove oil, but simple reimmersion in oil may not restore the stone to its original appearance. So what does one tell?

Rubies have their colour improved by heating, but this is done in a coating of borax and commonly a glassy filling is left in any open fissures. I do not think that glassy fillings were originally intended to fill cracks - they were a by-product of heating. However, some cutters may now use this process to fill any cracks, and now that many small stones are routinely heated the appearance of filled rubies on the market is becoming much more common. Who is going to look at hundreds of 2mm rubies to distinguish those that now have glass fillings? So again, what do we tell the customer? Stones sent to the laboratories are often large, important stones and some laboratories admitted that they had not seen small rubies with glass fillings - probably because those in the trade did not suspect this feature in such small stones and had not considered sending them for reports.

Nomenclature

Garrards the Crown Jewellers have recently announced a strategy to deal with these nomenclature issues, making a broad distinction between those treatments that are permanent and those that are not.

At the Forum it was suggested that treatments of inexpensive stones should not have to be disclosed as these were often bought for their beauty and not their intrinsic value, but we did not discuss the problem of difficult-to-distinguish synthetics. This argument seems practical and pragmatic.

At the laboratories' meeting, one of the problems discussed was how to declare a sapphire which had been heat treated and should it be

distinguished from one that had not been so treated? Again the tests are not totally definitive. So should the report state 'sapphire', 'natural sapphire', 'sapphire with indications of heat treatment or enhancement' or 'Sapphire with no indication of heat treatment'? The latter should be declared as simply 'sapphire' for the purist, but 'natural' has crept in because so many difficult-to-distinguish synthetics are now on the market (a positive statement). And 'unheated' has become desirable because heat treatment does not have to be declared and unheated sapphires

are more desirable (a negative statement).

Honesty has been the cornerstone of our trade, especially concerning gemstones. But until the public is better educated, I seriously doubt if legislation can be imposed on a salesman in the retail sector to make him declare, as he is about to close a sale, a phrase such as 'Oh, your emerald has some plastic in it, but nobody knows how much'.

As a last shot we have just been informed that new synthetic opals from Russia and China are now on the market.

H.L.

GEMS

Synthetic Diamond

Large gem-quality synthetic diamond identified by Laboratory

Recently the GAGTL gem testing laboratory was requested by a member in the UK trade to determine the origin of colour of a loose 2.32ct brown-yellow pear-shape brilliant-cut diamond. On the basis of our observations the stone was identified as a gem quality synthetic diamond.

The diamond weighed 2.32ct, measured 10.72 x 7.95 x 4.32mm and was fashioned as a pear-shape brilliant-cut. The colour was an attractive brown-yellow. Several bright metallic inclusions of rounded and elongated shapes and angular boundaries defining growth zones of differing saturations of colour were observed at 10x magnification. Higher magnification revealed clouds of dark pin-points confined to particular growth zones.

No reaction to long-wave ultraviolet (365nm) radiation was observed. However, under short-wave ultraviolet (254nm) the growth zones were easily seen as varying intensities of yellow fluorescence. Under X-rays a similar reaction was noted. When exposed under vacuum to an electron beam, the growth zones appeared as green and yellow cathodoluminescent colours.

The Type Ib nature of the stone was indicated using our ultraviolet-visible spectrophotometer and confirmed with our infrared spectrometer. No aggregated forms of nitrogen were detected. Thus, no absorption lines were seen with a hand-held spectroscope. Nickel and, to a lesser degree, iron were detected with EDS-XRF (energy dispersive system X-ray fluorescence) suggesting the metallic inclusions seen at 10x may be composed of these elements.

Our observations outlined above indicated the stone to be a synthetic diamond. This example is the first stone to be identified circulating in the UK jewellery trade and the largest gem quality synthetic diamond the Laboratory has examined. A full description of our examination will appear in a future issue of the *Journal of Gemmology*.

E.C. Emms

Miscellany

Facetable **grossular garnet** is reported from Dionboko in Mali, Africa. The description can be found in the journal *Lapis* 19(10) for October 1994 and the coloured faceted stones a range of yellows and greens.

Some crystals of 'emerald from Madagascar' turn out to be cleverly coated rock crystal - the photograph in *Lapis* 19(9) shows the coloured coating quite clearly.

The mineral **ussingite** has not featured in gemmological literature up to now. The mineral is associated particularly with the famous nepheline syenite deposits of Mont St. Hilaire, Quebec, Canada, where most specimens have been found so far. The present faceted stone is said to have come from Russia so a report is awaited. Ussingite, described in the special Mont St. Hilaire issue of *Mineralogical Record* (1990 21(4)), is sodium aluminium silicate hydroxide. The present stone is pink translucent to transparent, with a very pleasant colour which strongly suggests the

presence of Mn and I thought I could just catch the characteristic Mn spectrum.

Attractively coloured **red spinel** is reported from Vietnam and I have seen a very pleasing faceted stone. It is of course not surprising that spinel should be found in similar geological conditions to ruby which is well-established as a Vietnam gemstone.

The mineral eudialyte, a sodium (calcium, iron, cerium, manganese) zirconium silicate with hydroxyl or chlorine is rarely seen as a faceted gemstone. I recently examined a beautiful transparent orange-red faceted stone, courtesy (as the spinel mentioned above) of Tony French. Most eudialyte comes from Mont St. Hilaire and has a hardness of 5.

A startlingly bright **blue apatite** seen as a faceted stone recently very closely resembled the bright blue copper-coloured Paraiba tourmaline. I have not seen so bright a blue in apatite before. A fine yellow transparent scapolite from Africa with a very strong yellowish-orange fluorescence was from the meionite end of the marialite-meionite series.

M.O'D.

An exceptionally large sphere of rock crystal measuring 217.68 mm in diameter and weighing just over 14.3 kg has just been cut and polished in London. Although not as large as the sphere in the Smithsonian Institution (325 mm) we are not aware of any other sphere on public display which is larger. It is pictured here next to a hen's egg (size 2)!



RECENT EVENTS

Hoxne Hoard

The SJH lecture held on 3 October at the British Museum was given by Catherine Johns and introduced members to the late-Roman treasure found at Hoxne, Suffolk, in November 1992.

The Hoxne treasure is one of several major hoards of the fourth and fifth centuries AD to have been found in Britain and other provinces of the Roman Empire. Its great importance lies in the fact that it is a very large, complete and closely dated archaeological assemblage. It consists of nearly 15 000 late-Roman gold and silver coins, silver tableware and other small silver items including over 75 spoons and gold jewellery. The two latest coins establish that the hoard was buried in or after AD 407-8.

Eric Lawes, the pensioner who found the treasure while using a metal-detector in a friend's field, behaved in an unusually responsible fashion and, instead of unearthing all the objects himself, alerted the authorities so that the greater part of the treasure was excavated by professional archaeologists from the Suffolk Archaeological Unit. We are therefore able to infer that the valuables were deposited in a wooden chest about 60 x 45 x 30cm, with smaller boxes and caskets within it. The size of the container accounts for the absence of the large late-Roman platters which are known from some hoards of this date, for instance the treasure from Mildenhall, also in Suffolk.

The most unusual and attractive silver items are a small statuette of a leaping tigress with stripes inlaid in black niello and a hollow bust of a late-Roman Empress, her clothing and elaborate coiffure enhanced with gilding. The tigress formed one handle of a large two-handed silver



Six of the gold bracelets of the Hoxne Hoard. The diameter of the largest is 10cm. Photo by courtesy of the British Museum

base. Many of the spoons and other small silver utensils in the hoard bear inscriptions, both personal names and Christian phrases and symbols. One name, Aurelius Ursicinus, occurs on each one of a set of ten spoons - he may have been the owner of the whole treasure.

The jewellery is a remarkable collection of high-quality gold ornaments of the late-Roman period, comprising six necklace chains, three finger-rings, one elaborate body-chain and no fewer than 19 bracelets. This selection of objects is rather different from the gold jewellery in another fourth-century hoard from East Anglia, the Thetford treasure, found in 1979. Thetford produced a total of 22 finger-rings, just four bracelets and necklace pendants as well as chains.

The Hoxne body-chain is a double diagonal harness formed of loop-in-loop gold straps, joined on the chest and back with decorative clasps, one mounted with a gold coin of Gratian (AD 367-83) and the other set with stones - a central amethyst, four garnets and four empty settings which probably contained pearls. Such body-chains are best known from images of women - human and divine - in Hellenistic and Roman art: the actual pieces of jewellery are extraordinarily rare. The Hoxne example is small and would have

fitted a very slender woman or an adolescent girl.

The three rings, which are of well-known late-Roman types with filigree decoration, had had their settings removed before burial, probably for re-use in new items of jewellery. Good engraved gems were frequently recycled in this way in the late-Roman world.

Many of the bracelets are of types which have not formerly been found in Roman Britain, in particular several in the so-called *opus intarsile* technique, very fine lace-like pierced work forming geometric or foliate decoration. Probably the most remarkable of these is a bangle which incorporates a good-luck wish to the owner in its intricate pierced ornamentation: it reads *utere felix domina iuliane* - 'use [this] happily, Lady Juliana'.

A find like the Hoxne treasure demonstrates the presence in late-Roman Britain, at the very end of the period of Roman rule, of people of great wealth and high social status, people who probably owned property in many different provinces of the Empire. Jewellery fashions at this level show no regional variations, but express a kind of international style of the period. Work on the Hoxne treasure is still at an early stage but, even after the full scholarly publication has been produced, the

fact that the hoard was fully recovered and recorded means that it will continue to provide new information in the future.

'The Art of the Greek Goldsmith' Colloquium

This colloquium took place at the British Museum on 4 to 6 October, and was organized jointly by the Society of Jewellery Historians and the Museum's Department of Greek and Roman Antiquities.

For three days, participants from 17 countries enjoyed a series of over twenty scholarly papers focused on the art of the ancient Greek goldsmith and took part in lively discussion sessions arising from the lectures. The subjects ranged from studies of regional decorative styles to the working methods of the ancient craftworker and the approach of the modern scientist, museum curator and conservator in researching masterpieces of Classical jewellery.

The event illustrated vividly how valuable it is to combine technical, scientific and practical studies with the skills of the archaeologist and art historian in order to reach a full appreciation of the achievements of a period of outstanding brilliance in the design and execution of work in precious metals. Photographs of images seen via scanning electron microscopes and projected onto a large screen enabled us to see details which the goldsmiths of nearly 2500 years ago could not have seen; they served only to deepen our admiration for the skills of these great artists of antiquity.

The splendid exhibition on the same subject closed at the British Museum on 23 October and is now on view at its second venue, the Metropolitan Museum of Art in New York. There will be differences of detail at each of the three centres for the exhibition - London, New York and St. Petersburg - so anybody who is fortunate enough to be able to visit all three versions of the display should not hesitate to do so.

C.J.

Cartier looks to the future

At the Annual Luncheon (popularly known as the Lab Lunch) held recently by the GAGTL an audience of over eighty members and guests were addressed by M. Arnaud Bamberger, Managing Director of Cartier, London. M. Bamberger outlined the Cartier philosophy in today's high-quality gem market and a resumé of the main points of his speech is given below.

'Founded in 1847 by Louis François Cartier in Paris, the company has grown for 147 years - first in Paris then in London from 1902 and in New York from 1907.

'Cartier was a genius and was jeweller to virtually all the Royal courts, being awarded a great number of Royal appointments (the last one was from HRH the Prince of Wales, granted in 1993).

'In 1918, Louis Cartier introduced a new metal for jewellery use, platinum, and the flexible, quasi invisible settings made from platinum had incredible strength. In 1920 he created the famous three gold rolling rings, establishing a Cartier style which is timeless and beyond fashion. In 1921 Cartier created transformable jewellery (i.e. from brooches to earrings, from pendants into clips, etc.), and in 1923 he introduced articulated and flexible mobile jewellery which led to the famous panther collection. In 1930 the clip-on brooch was introduced, and in 1931 Cartier was the first to set baguette-shaped stones in brooches and rings.

'The story of the famous Cartier wrist watches started in 1904 when, at the special request of his friend the Brazilian pioneer aviator Alberto Santos-Dumont, Louis solved the problem posed by Santos-Dumont: how to readily keep track of time while at the controls of his airship (La Demoiselle), without having to fumble for his pocket watch by the strapping of a timepiece to his wrist.

'In 1910 Louis Cartier invented the famous mystery clock. From inside the transparent face of rock crystal, citrine, topaz or aquamarine, the hands seem magically to rotate without visible mechanical connections by means of an ingenious optical device. And that year he also designed the famous deployant buckle, a folding clasp. In 1917 he created the first thin wristwatch, the Tank, as a tribute to the American Tank Corps who helped in the defence of France during World War I. This classic watch has become the most famous watch in the world, a universal symbol of good taste. Some years later in 1932 Cartier created the



M. Arnaud Bamberger

first water-resistant watch as a special commission for the Pasha of Marrakech.

'In the 147 years of its history, Cartier has seen many changes including 16 recessions, 20 recoveries, 25 declines, 30 rises, 7 wars, 8 booms, 2 depressions and in between a few normal years! We know, historically, the economy runs through cycles and that, apparently, we are at the end of the present one. What is not completely obvious is that there are cultural changes, together with these recessions and that those

changes may not be temporary and might not disappear.

'Many of the problems that the British jewellers have encountered during the past four years, that were only attributed to "the economy", may very well be in fact attributed to these cultural changes. For example, during the golden years of the 80s many consumers would associate happiness and status by spending wildly! In the 90s a lot of people think that happiness and well being implies security, classicism, good taste, tradition and a kind of simplicity. Therefore their approach, in terms of consumer habits, is more value-for-money orientated and as a result their buying pattern is more selective.

'What proportion of our sales is linked to the economic environment and what is linked to current change in values rising both in Britain and the rest of the world? The distinction is crucial, since the behaviour of our clientele, now that the recession is almost over, will be changed not only by the economic factors but also by these cultural changes. As we have seen throughout the 50s, 60s, 70s and 80s, the impact of cultural change is far clearer in our memory than the economic situations in each of these decades. We have no choice but to find and develop new ways forward for our industry in this changing environment.

'Part of our responsibility today, in addition to selling our products, is to ensure that in the future our industry will inherit, as we have, a tradition synonymous with prestige, integrity and status.

'For me, when the story of Cartier is written in the next century, as it surely will be, I do not want my generation of managers to be described as the generation who took something very precious and ruined it. Together with my team, I am therefore a manager and a protector. To manage and develop a luxury company in the 90s poses a different challenge to that faced in the 80s, and today Cartier operates within a more limited distribution network than

many of its competitors. This allows Cartier to maximize sales by authorized agents and maintain its reputation for prestige.

'Today we face many challenges from counterfeiting and aggressive competition attempting to copy our strategies (Tank, Santos, rolling ring, Panther, etc.). We have to protect our name and above all our image. Image is, of course, the product. In the 80s, selling the product was enough, but in

the 90s this is not enough - the product must be linked to service. Service has become the buzzword in many commercial fields, but executing it is a different thing altogether. Successful service management is much more than "putting someone in charge of service", coming up with a flash new "service slogan", putting customers on the cover of the annual report, asking the employees to "do whatever they can" for the customer. Today, service

is not only to be there and to smile, it is to anticipate the clients' needs, meet the clients' needs and follow the clients' needs.

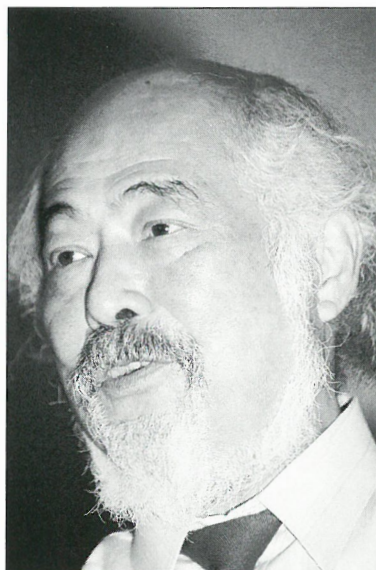
'We operate in a creative industry which frequently comes up with exciting and new ideas. We will very soon witness the new century. Today it is being conceived. It is our responsibility to ensure that the birth, unlike the delivery of this speech, is a painless experience!'

Annual Conference

The 1994 GAGTL Annual Conference was held at the Great Western Royal Hotel, Paddington, London, on Sunday 23 October. As in previous years, the conference proved to be truly international with delegates attending from 22 countries, representing all five continents.

The theme for the morning lectures was Diamonds and, after welcoming those present, Dr Roger Harding introduced the keynote speaker, Professor I. Sunagawa from Japan, who gave a most informative talk on *The distinction of natural from synthetic diamonds*. Professor Sunagawa described the different growth environment for natural and synthetic diamonds, and why these differences led to different morphologies of diamond crystals. Inclusions, growth banding, growth sectors, element distribution, dislocations and heterogeneity were all described and detection methods including polarization microscopy, X-ray topography, laser beam tomography and cathodoluminescence were discussed. It was Professor Sunagawa's belief that with greater knowledge of crystal growth mechanisms, gemmologists should easily be able to detect any synthetic diamonds that come onto the gem market.

Dr Alan Collins of King's College, London, then gave a masterly lecture on the *Colour in diamonds*. He began by describing the way in which the



Keynote Speaker, Professor I. Sunagawa

eye perceives colour and how absorption and transmission of light through a diamond are measured. He went on to explain the causes of colour in diamond, explaining the effects of the nitrogen and boron impurities in natural and synthetic crystals, and the ways in which radiation damage can change the colour.

Eric Emms of the GAGTL gave the final lecture of the morning entitled *Diamonds in China*. He entertained delegates with an account of his recent trip to establish the Gem Diamond Diploma Course in China. As well as spending time at Wuhan University setting up the Course, Eric

had the opportunity to visit diamond mines and view the methods of extraction and sorting, some of which proved to be in the early stages of development. He also described his visits to diamond cutting factories.

During the lunch break delegates were able to examine various specimens through the microscope with the help and guidance of laboratory staff. Following the theme of the conference, these included synthetic, fracture-filled and laser-drilled diamonds, as well as emerald filled with epoxy resin, rubies filled with glass and heat-treated sapphire showing heat-affected inclusions. There was also a collection of Geuda material of different qualities including rough specimens before and after heat treatment and polished heat-treated material. There was also the opportunity to experiment with the latest update of the Gemdata programme - a database for the identification of gemstones.

Terry Davidson of Cartier's opened the afternoon session by introducing David Callaghan of Hancocks & Co., London W1, who gave a fascinating and well-illustrated talk on the supporting role of diamonds in nineteenth- and early twentieth-century jewellery. During the nineteenth century diamonds were used as a sign of prosperity and also to enhance other gemstones or the design of a piece of jewellery. David

explained that in the earlier period jewellers were restricted to setting the diamonds in silver or gold, but it was the growing use of platinum in the early twentieth-century which really brought diamonds to the fore.

Professor Sunagawa then gave his second lecture of the day entitled *The effects of different conditions on the growth and shape of corundum crystals*. In this talk Professor Sunagawa contrasted the corundum crystals grown in melt conditions from those grown in solution or vapour conditions. Crystal growth rates are controlled by dislocations and step heights on crystal faces and the rates at which these advance. These in turn depend on supersaturation, the energy content of the system and impurities. Platy habit in corundum arises when ambient phases are diluted and supersaturation is low; prismatic or barrel habit arises when supersaturation is higher and impurities are significant. On this basis the growth patterns in natural corundums can be distinguished from those grown in the laboratory.

A new Brewster angle refractometer prototype was then described by Peter Read. After outlining the theory behind this method of gem identification, Peter briefly described earlier versions of equipment built to measure refractive index by means of the Brewster angle and went on to discuss the construction of the new prototype. The miniaturization and lower cost of modern lasers have enabled assembly of an instrument resembling a standard refractometer, and some advantages and limitations compared with the standard instrument were described.

It was also interesting to discover that the angle (and hence the measured RI) at which polarization in the reflected light was a maximum was not adversely affected by grease and scratches (as happens with the reflectance meter). In other words, a poor surface simply increases the minimum intensity of the reflected light. A badly scratched faceted fluorite test stone gave a low reading



Forum Panel at the Annual Conference:
from left, Harry Levy, David Callaghan, Adrian Klein, Rosamond Clayton and Richard Peplow

on a reflectance meter but read correctly on the Brewster angle refractometer.

Peter's talk was followed by tea, when delegates were able to see a range of earlier versions of his Brewster angle refractometers and to try out the new instrument for themselves.

The final session of the day was a forum, the theme of which was *Implications for the trade of gemstone treatments*. The session was chaired by Adrian Klein and the panellists, representing the different facets of the trade, were retailers David Callaghan and Richard Peplow, NAG Registered Valuer Rosamond Clayton and precious stone dealer Harry Levy. Adrian opened the debate by explaining the recommendations of CIBJO on the subject of disclosure of treatments as set out in the CIBJO *Blue Book*. The panellists put forward their own views and a lively debate then ensued.

It was agreed that customers should be advised of treatments in a positive manner and many references were made to the way in which disclosure is handled in the USA. It was also agreed that CIBJO guidelines should be followed and there was discussion on their application particularly in connection with the retail trade. In summing up, Adrian admitted that the implications of treatment were a problem for the trade with no easy solution.

'All we can do,' he said, 'is to be vigilant by encouraging members of the trade from suppliers to retailers to have a policy which is positive and

honest and to explain in as delicate a way as possible that stones are treated.' He was of the opinion that members of the public should be aware of any treatment so that they could decide whether they should buy a treated stone or pay a higher price for one that had not been treated. 'As long as they go into it with their eyes open,' he said, 'there should be no problem, but this will take time, education and patience.'

The Conference was followed by a dinner which completed what was considered to be one of the most interesting and enjoyable occasions organized by the Association.

NAG Centenary

To celebrate their Centenary Year the National Association of Goldsmiths held a reception in the House of Lords on 19 October. Lord Oxfuird, deputy Speaker of the House of Lords, welcomed the guests to the House with a humorous perception of some aspects of the activities of the NAG.

Kevin Coleman, Chairman of the NAG, welcomed the guests with a quite different but very amusing account of the NAG and then a vote of thanks was proposed by the President, Richard Cope. The President also took the opportunity to thank Jonathan Brown, recently retired from the position of Chief Executive of the NAG, and Alan Jobbins for his contributions to NAG activities.

THE MEMBERS' COUNCIL OF GAGTL

On the inside front cover of the *Journal of Gemmology* are listed the Officers of the GAGTL, the holders of honorary positions, the Councils and the Examiners. In general the titles are self-explanatory, but readers might like to know a little more about the Members' Council and its function.

On the merger of the Gemmological Association of Great Britain and the Gem Testing Laboratory of Great Britain in 1990, the Members' Council was created and established to monitor progress of the Council of Management and the staff of the GAGTL in carrying out the purposes expressed in the constitution of the company. It was envisaged that the Members' Council should function in a way similar to that of a House of Commons Select Committee which can be called upon to investigate a problem that has not been resolved using normal channels. Twice a year the Members' Council meets to receive reports from GAGTL staff about the activities and future plans of the Association in education, gem testing, diamond grading, members' meetings and conferences, publications and so on.

The members of the Council come

from a wide spectrum of activities in gemmology and the gem trade, and are elected for a three-year term of office at the Annual General Meeting. The Council elects its own officers and at its most recent meeting in September Colin Winter FGA DGA and Peter Dwyer-Hickey FGA DGA were elected to fill the positions of Chairman and Vice-Chairman respectively.

Many aspects of GAGTL activities were summarized and discussed at the last meeting, including different ways of presenting financial information, future prospects for GAGTL publications and the role of the Council itself. As a result of the latter discussion, Council suggested that members be made aware of their availability to consider matters of interest to the membership and to the wellbeing of the Association. So if members would like a topic or issue discussed by the Members' Council, contact should be made with the Chairman, Colin Winter FGA DGA, of Genesis, 21 West Street, Epsom, Surrey, UK, any other member of the Council or with Roger Harding at the GAGTL office.

R.R.H.

SALEROOM NOTES

A record £2.6m was paid at Christie's Swire jewellery sale in Hong Kong on 31 October for an exceptional jadeite bead necklace. With 27 very large beads of brilliant colour and excellent translucency and with a clasp containing rubies and diamonds, the necklace brought in a price more than double that paid for it in a previous Christie's Geneva sale in 1988. The Mdivani necklace as it has come to be called from its association with the estate of Princess Nina Mdivani, was at one time the property of Woolworth heiress Barbara Hutton. This world record price for a jadeite artefact was paid by Trio Pearls of Hong Kong.

At Sotheby's sale of fine jewels and jewels for the collector, held in London on 13 October £45,500 was paid for an interesting fancy coloured diamond ring. The largest diamond was a cushion-shaped fancy light green of 1.16ct and was accompanied by an intense greenish-yellow diamond of 0.65ct, a fancy light pink stone of 0.67ct, a fancy intense yellow stone weighing 0.30ct and a brown-tinted stone of 0.48ct. All the diamonds were stated to be of natural colour.

At Sotheby's New York sale on 18 October a new auction record was achieved for a blue diamond. \$9,902,500 was paid for a 20.17ct emerald-cut fancy blue stone, certified natural colour and VS2 clarity. The stone was set in a ring and flanked by triangular-shaped diamonds, mounted in platinum. I have not yet had a price for the Anniversary Diamond, a pear-shaped stone weighing 63.95ct, graded K, faint brown colour and VS2 clarity. The name was given to the stone to commemorate the 75th anniversary of Baumgold Brothers of New York who cut the stone in 1951. The stone was cut from a rough crystal of more than 200ct, found at the Jagersfontein mine, South Africa.

M.O'D.

UK Facet Cutters' Guild formed

As a result of initial publicity through this newsletter and through the British Lapidary and Mineral Dealers Association (BLMDA), Jim Gemmell and his colleagues received over fifty responses to their call for UK faceters to make contact. In August this year a meeting of ten faceters was held at the Harrogate Gem and Mineral Show and at a subsequent meeting on 2 October a temporary committee was established. Discussion also included outlining the objectives of the guild, its official name (UK Facet Cutters' Guild, UKFCG), establishment of a newsletter to be named *Stonechat* and prospects for competitions.

Competitions are a great stimulus in the development of technical expertise (and imagination) and in 1992 two UK faceters entered the international competition started by Australia and the USA in September 1984. The Individual Faceting Challenge is open to any interested faceter. A special trophy is awarded to the highest scoring entrant from countries other than Australia and the USA, the 1994 trophy being awarded to P. Kuivala of Finland. Any country that has five entries is automatically entered in the team competition.

As a result of the interest now being generated in the competition, it is possible that the UK will be entering the team challenge for the first time in 1996. For further information contact Jim Gemmell, 187 Woodlawn Crescent, Kelloe, Durham DH6 4NA, UK, or Rupert Pickrell, 1A Spurgin Street, Wahroonga, NSW, Australia 2076.

EDUCATION

Board of Examiners

New Chairman

At the meeting of the GAGTL Board of Examiners on 29 September Dr G. Harrison Jones was elected Chairman and Miss C. M. Woodward Vice-Chairman. This followed the recent resignation of Mr E. A. Jobbins who had held the position since 1984 when he succeeded Mr B. W. Anderson. During this period new members were coopted to the Board and it has now grown to its present strength of sixteen.

Travelling Tutorial

Ireland

The Education Office at the GAGTL is continuing to develop its travelling tutorial services and in October Doug Garrod crossed the sea to Ireland to visit gem and jewellery trade enthusiasts in Kilkenny and Cork.

In conjunction with the Crafts Council of Ireland in Kilkenny, Doug gave two one-day courses for the jewellery trade followed by a special one-day workshop for the Crafts Council's own jewellery students.

Each day (and well into the evening!) many aspects of current trade were discussed, with natural, treated, synthetic and imitation stones being handled. Participants came from both the retail and manufacturing sectors of the trade. Doug then travelled to Cork to give an evening training session to 20 members of the management and staff from Keanes the Jewellers.

If you would like more information on bringing a travelling tutorial to your area or to arrange a staff training session in conjunction with GAGTL, please contact Doug Garrod in the Education Office on 0171-404 3334.

Wednesday Nights at GAGTL

The Study Group, affectionately known as the Playgroup, is held in the new fourth floor rooms at GAGTL every Wednesday evening, come rain or shine or even rail-strikes. Under the guidance of Michael O'Donoghue a group of enthusiasts meet to work on various areas of gemmology.

The classes are informal, with the kettle in the kitchen kept near boiling point for a constant supply of tea or coffee. We can always tell when there has been a day-time course, for not only are the desks in neat rows and ready equipped with lamps, microscopes and so forth, but there are also biscuits in the tin! The relaxed atmosphere ensures that each individual works at his or her own pace, at whichever project they wish, either one of their own choice, or one suggested by Michael or Ian Mercer, Director of Education at the GAGTL.

At present one of the group is studying emeralds - simulants, synthetics and natural from various locations - in order to gain a more thorough knowledge of them for her work. Another member has been testing the new Hanneman Hodgkinson filters and we all had a go with the new Chinese refractometers.

As a jewellery photographer I have been working on anomalous reflectance, which manifests itself as the incorrect rendition of certain colours on film, a well-known

example being some emeralds. This is a subject close to my heart, as I often have to explain to customers that they can only get the right colour of a beautiful gemstone by retouching the photographs, and that it is not actually my fault. Working with the problem in the studio, I am able to take my

results along to the Playgroup and discuss them with other members of the group, taking advantage of their knowledge and expertise and exchanging ideas on the matter, all valuable help in my project.

A group of people is also at work helping to curate some of the GAGTL's collection of gemstones, and sorting them into different categories. Although most of the stones being sorted are well labelled and obvious, a few weird and wonderful items have come to light. When we have all studied them and are still totally baffled, we turn to Michael who always seems to know the answer.

To gain experience, inspiration and support in the quest for more knowledge about gemmology, or just to brush up on your existing knowledge, the GAGTL Study Group is the place to be. All in all, and speaking as a chocoholic, I must say that an evening spent with the Playgroup is better than an evening in a chocolate factory.

Maggie Campbell Pedersen



Michael O'Donoghue and Vicky Packard with Anne Bailey in the background

Troy Wait

Members of the Society of Jewellery Historians will remember with pleasure Dr Donald Easton's lecture to the Society last June on Priam's gold: a straightforward story of a controversial treasure. In this lecture Dr Easton meticulously pieced together the evidence for what happened to Schliemann's treasure from Troy after it 'disappeared' from Berlin at the end of the Second World War. The trail ended at the Pushkin Museum of Art, Moscow, who, after years of rumours, finally admitted that they had it. Or at least they probably had it - because, as Dr Easton explained, there were records of the Pushkin being provided with a set of electroform copies of the treasure earlier this century.

Then, this November, Dr Easton was the British representative of a small international group of scholars who were invited to Moscow to see for themselves. When I talked to Dr Easton the day after his return to Britain he was delighted to be able to say that he was confident that the objects in Moscow were indeed the original treasure. Various aspects including the surface corrosion, earlier twentieth century restoration and, last but by no means least, the old Berlin Museum numbers still present on old labels, or written directly on the objects, left little room for doubt. This was also confirmed by the weights of the objects, old records of which exist.

Now that the past has been cleared up plans have to be made for the future. Dr Michail Treister at the Pushkin and his colleagues are hoping that it will be possible to hold an exhibition and conference around the Troy Treasure in January 1996. After that there is talk of a possible international committee to decide on the best way forward with regard to the study, publication and conservation of the treasure. Of course, the ultimate permanent home will be largely up to the politicians to decide.

Asked for his personal reactions to finally seeing the Troy material, Dr Easton recalled his amazement at the sheer weight of the solid gold vessel - Schliemann's so-called 'gold sauce boat'. He was aware of the recorded weight of 600g, but not prepared for what this would actually feel like in his hands. The colour and brightness of the gold suggested higher purity than most of the jewellery - indeed Carlo Giuliano who originally tested it for Schliemann noted that it was 23 carat, while jewellery of this period tends to be more debased. Dr Easton was also surprised to find that some bronze objects from Troy were actually at the Hermitage Museum in St. Petersburg, including the large bronze cauldron that played a supporting role in his story of the Treasure's original departure from Turkey. Just how some Troy material reached St. Petersburg is unclear, but that is, perhaps, another story. J.M.O.

The Institute of Professional Goldsmiths

The Institute of Professional Goldsmiths is a relatively new organization. It was founded in 1983 by a group of people in the jewellery and silversmithing trades and in teaching. They realized that there was a need for an institute to encourage, promote and support the highest standards of craftsmanship within the trade.

The IPG now has 125 members, most of whom are Fellows of the Institute. Their skills cover a wide range of expertise in 13 separate categories. In order to join the Institute a craftsperson must submit their work to be closely scrutinized by a small panel of existing Fellows, two of whom are experts in the applicant's field. They are accepted only if it is considered that the work shows a high standard of craftsmanship. Members are accepted after their training but Fellows must have worked in the trade for ten years full time. To be able to claim the initials FIPG after your name is a great achievement.

For the last three years the Institute has taken a stand at the International Jewellery Fair at Earls Court. This enables members to exhibit at an affordable price. The stand also promotes the IPG to the Jewellery and Silversmithing trades. As approximately 80 per cent of the membership are self-employed the Institute has become a useful pool of highly skilled people who can be approached when needed. Kathy McGree, the secretary, knows most of the Fellows and Members so she is in a good position to recommend the right craftsperson for the job.

This is a steadily growing organization. Its members are involved and committed people who want to see the British jewellery and silver industries thrive. If you would like to know more, please contact Kathy McGree on 0171-486 0531.

Suggestion for DIY Christmas Presents?

Take of natural crystal, four ounces; of red-lead, four ounces; verdegrease, forty-eight grains; crocus martis, prepared with vinegar, eight grains; let the whole be finely pulverized and sifted; put this into a crucible, leaving one inch empty; lute it well, and put it into a potter's furnace, and let it stand as long as they do their pots. When cold, break the crucible, and you will find a matter of a fine emerald colour, which, after it is cut and set in gold, will surpass in beauty an oriental emerald.

Encyclopaedia Britannica, first edition (1768-71), Emerald.

N.B. Israel

N.B. Neither SJH nor GAGTL accepts any responsibility for this recipe.

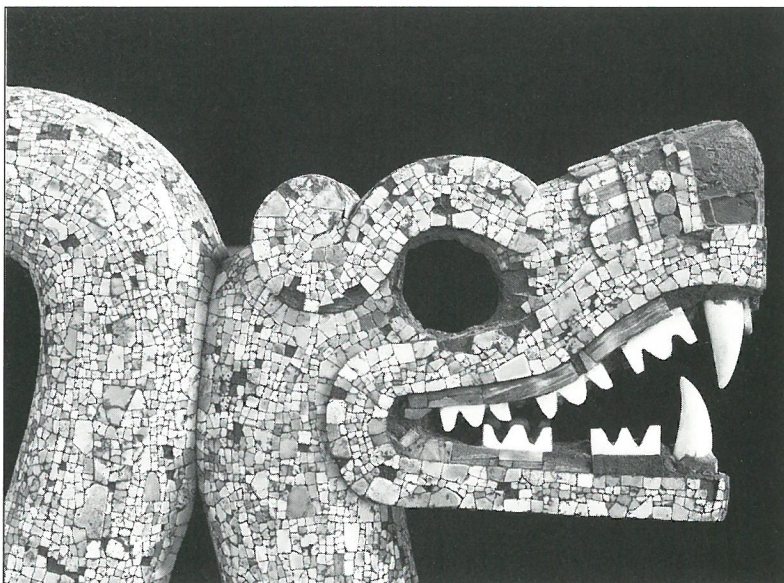
MUSEUM NEWS

New Mexican Gallery at the British Museum

A new permanent gallery, created to display the Museum's fine collection of prehispanic art was opened on 5 November. The exciting new gallery, conceived by the Mexican architect Teodoro González de León, is supported by the Consejo Nacional para la Cultura y las Artes (CNCA) and the Instituto Nacional de Antropología e Historia (INAH), with funds from the private sector in Mexico.

Amongst the superb pieces on display are Olmec ceremonial jades, ritual vessels from the Isla de Sacrificios off Mexico's Gulf Coast, a group of large Huastec stone sculptures representing the female deity Tlazolteotl, a series of intricately sculpted architectural lintels and the justly famous Mixtec and Aztec turquoise mosaics. These include masks of Quetzalcoatl, a fabulous double-headed serpent, and a flint-bladed sacrificial knife with mosaic handle.

Of particular interest, perhaps, to readers of this publication is the small



Detail of turquoise mosaic of double-headed serpent. Mixtec-Aztec, AD 1400-1521.
Photo courtesy of British Museum.

Aztec animal head (possibly a monkey) on which appear original tesserae of turquoise and malachite. In addition, this object is encrusted with various gemstones including garnets, emeralds and other stones. The 'eyebrows' of the figure are formed from seed pearls, set into a waxy substance. The date of application of these precious stones is not certain and it has been suggested that they may

postdate the Aztec period. The transfer of the mosaics from the Museum's main ethnographic collections at the Museum of Mankind (near Piccadilly) to the new Mexico Gallery at Bloomsbury has provided the opportunity to examine them in some detail. These observations are being collated and prepared for publication.

Andrew Middleton

The Hoxne Treasure at Ipswich

Earlier this year the British Museum acquired the important hoard of late-Roman coins, silver plate and jewellery which was found in November 1992 at Hoxne, Suffolk. From 8 October 1994, part of the treasure (including all the gold jewellery and the most important silver items) will be loaned to Ipswich Museum for three months.

The colour booklet *The Hoxne Treasure*, an illustrated introduction by Roger Bland and Catherine Johns, is available at £4.95 from British Museum Publications.

New society in The Netherlands

At a meeting held on 8 November about 60 Dutch gemmologists established their own Gemmologisch Gilde Nederland. Dr C.E.S. Arps, manager of the Department of Mineralogy at the Museum of Natural History, Leiden, outlined the benefits of jewellers, gem traders, gemmologists and scientists working together. He said that although gemmologists formed only a small group among earth scientists, they have a considerable economic impact with responsibilities also in the broader field of ecology and conservation. As examples of this he described the current situation with regard to pallasite meteorites and the iridescent gem ammonites in Alberta. Leading figures in the establishment of the new society include Mrs T. Bevoort-Alwicher FGA, Mr H. van Lamoën FGA and Mr R. de Winter FGA. Any enquiries should be directed to the first-named at:

St Annastraat 44
NL 6524 GE Nijmegen
The Netherlands

LETTERS TO THE EDITORS

Adequate Descriptions

Sirs

Why is it that one often sees in catalogues of jewellery exhibitions or auction house sales items such as 'Gold brooch, gem-set' or '18ct gold pendant, set with precious stones,' leaving the identity of the gemstones unspecified? Is it:

1. ignorance;
2. fear of the Trade Descriptions Act (might get it wrong);
3. laziness (can't be bothered to get them identified);
4. parsimony (won't spend money to get them identified);
5. apathy (just not interested - doesn't matter); or
6. arrogance (only the precious metal matters)?

Two examples will suffice to illustrate this fact:

- (a) in the *Goldsmiths' Review* 1992/93, p.21, the description of a Macao (macaw) brooch runs '18ct gold, precious and semi-precious stones,' where the latter are of large size and brilliant colours and the gold is merely the vehicle for displaying them - it is barely visible;
- (b) in the Designer Jewellers Group Exhibition (held at Goldsmiths' Hall in May and June 1994) nos 17 and 20, 31 and 22, are described simply as 'Silver, precious metal and stones' or 'Silver, enamel and stones,' and nos 189 and 190, as 'Earrings: silver, precious metal decoration and precious stones' and 'Brooch: silver, precious metal decoration and precious stones' and no 214 'Ring: 18ct gold and various stones'.

Admittedly in the last few instances the 'precious metal' is not specified, but there are, after all, only three - gold, silver and platinum - and as such are frequently only the vehicle

for displaying the so-called 'precious stone,' why is the latter's identity not regarded as of any importance? It is as if a gemmologist-jeweller described his product as a 'Ruby and emerald brooch, set in metal'. Whilst money is paid for hallmarking the metal(s) and the gold content is usually specified, why are no details given of the stone(s)? It almost seems to indicate a certain contempt for stones.

Surely the organizers of exhibitions or auctioneers selling gem-set jewellery could insist the stones' identities should be specified? In this way perhaps some of the general public's ignorance of gemstones other than diamond, ruby, emerald and sapphire could also be dispelled!

Yours etc.

Patricia B Lapworth BA FGS FGAA
Guildford, Surrey.

26 October 1994

Fool's Gold

Sirs

J.M.O. is too optimistic in his article 'Lining up gold' (*GJN* 1994, 3,4, pp 52-3) when he writes 'Showing that two gold or silver alloys are near enough identical in both major and trace elements is often a good guide that they share a similar origin ...'. Analysis alone can never prove that two objects were made at the same time as the chances of similarities in results are too high and we have no control data to show what variation can be expected among objects which may be assumed to have been made at the same time, such as individual pieces from belt fittings. Analysis can only prove that objects were not made from the same crucible of metal; it can never prove that they were.

Objects can only be related together by a combination of analysis and other factors, such as the use of

the same tools or pieces being stylistically identical. But even then, tools would be used repeatedly and if the source of gold was, for instance, coinage, then very similar analyses may result over a long period of time.

One other question which must be taken into account is the error factor in the analyses - especially where the trace elements are concerned. The accuracy of analytical measurements is often not quoted, but may be a significant proportion of the actual result for trace elements.

Yours etc.

W.A. Oddy

Keeper of Conservation, Bristol Museum, Bristol

I agree totally with what Andrew Oddy says both regarding the problems inherent in analysis and the need for a combination of approaches - I thought I had made these points in my note. I was careful to suggest that in limited situations similar or related alloys could be a 'good indication, though by no means proof, a common origin'. If there is, say, some question as to whether bezel and hoop of a ring belong together, then showing that they have near enough identical compositions is, in my view, evidence in favour of them belonging together (though the opposite is by no means true). If two objects from different sites have the same composition, then I would never assume that this means a common origin - but if style, workmanship, tool marks, etc., also agree, then their similar composition is, again, one further argument for a common origin.

J.M.O

Hot Air Competition

Sirs

I believe that there is yet another set of answers to the 'Hot Air' Competition (*GJN* 3,3, p.47). This is based on the fact that all the time zones come together at the north and south poles. Therefore any time difference required can be found as close to poles as one wishes!

Yours etc.

Kurt Nassau
Lebanon, NJ 0883, USA.
6 October 1994

COMPETITIONS

Christmas Competition

An incredibly wealthy Calif made it known around his realm that he wished to purchase a necklet of 100 perfect pearls. Every pearl was to be perfectly spherical and of the same weight and size. Of course, such a range of pearls would be fantastically expensive, and almost impossible to find.

The local jewellers and other folk were thrown into fits of frustration and soon gave up the task. Apart, that is, from one bright but devious young jeweller called Ali Baba Black Sheep. After considerable effort he managed to acquire 100 fine, spherical pearls of slightly varying size and weight. These he pierced, strung together and brought them to the Calif.

'Wow,' said the Calif, 'are you sure they are all the same size?' (His

eyesight wasn't too good.)

'Of course, your majesty,' replied the apprentice. And, so saying, he cut the pearls off their thread and with his callipers demonstrated to the Calif that that was indeed so.

'Are you sure they are all the same weight?' asked the amazed Calif.

'Yes Sire,' replied the apprentice and then proceeded to weigh each pearl in turn on his scales.

As the Calif could see for himself, they all weighed the same.

'Wonderful!' enthused the Calif. 'I will pay your high price and give you a 1000 camels as a bonus.'

How had the jeweller done it? Assuming he hadn't done anything terrible like shaving or peeling the pearls or filling them with lead or such-like.

Jack Ogden

Answer to the competition in the last issue

The clearest solution to the puzzle of the demise of the spider Webster was provided by Nigel Israel and he writes:

The SG is a straight division of the reading when Webster is on the bottom of the beaker by the reading when suspended in the water.

If you have any doubts about this, then consider the traditional two pan balance method where the weight in water is obtained by immersing the object in a beaker of water standing on an isolated bridge.

The weight obtained of the object in water (B) is less than the weight in air (A). The difference (A-B) is accounted for by the upthrust on the object in the water, and is equal to the weight of a volume of water equivalent to the volume of the object. If Newton's Third Law of Mechanics (every force has an equal and opposite force) is applied, then it is clear that the upthrust on the object must be equalled by a downthrust on the base of the beaker (and thus on the bridge). It follows, therefore, that if the bridge is replaced by an isolated single pan balance, then that balance will register the downthrust of A-B. If the beaker of water has been tared (zeroed) prior to immersion of the object, then A-B will be the actual reading.

Photo Competition

Calendar

The standard of entries for the 1994 GAGTL Photo Competition was outstandingly high and as a result it was decided to incorporate a selection of them in a calendar to be circulated to members of the Association free of charge. Entries were also used to illustrate a range of greetings cards, supplied individually or in packs of six.

The cards and additional copies of the calendar may be purchased from Gemmological Instruments Ltd, 27 Greville Street, London EC1N 8SU. Call 0171-404 3334 or fax 0171-404 8843 for further details.

1995 Competition

This year the theme of the Photo Competition is **The spectrum of gemstones**. The subject can be any form of gem material, rough or cut, exterior or interior, which illustrates in some way the concept of the Jack Ogden spectrum in gemmology.

The theme allows infinite scope for the imagination. A literal interpretation involving spectra displayed by gems through a spectroscope could be the subject, or wider aspects such as interference effects, the colour range shown by a particular gem species, exceptional colour zoning in a cut gem or crystal, or any other means by which colours are manifested in gem materials. All entries will be judged for beauty and gemmological interest.

The following prizes will be awarded:

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

For a copy of the Rules of Entry and an Entry Form contact Doug Garrod at GAGTL, 27 Greville Street, London EC1N 8SU.

What's on

Gemmological Association and Gem Testing Laboratory of Great Britain

London

Meetings are held in the GAGTL Gem Tutorial Centre, 2nd Floor, 27 Greville Street, London EC1N 8SU (entrance in Saffron Hill). The charge for a member is £3.50. Entry will be by ticket only, obtainable from GAGTL.

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| 16 January | Miniature treasures and wearable works of art Stefany Tomalin |
| 20 March | Jewellery at Sotheby's Alexandra Rhodes |
| 12 June | Annual General Meeting |
| 16 October | Recent developments in the diamond industry Howard Vaughan |

GAGTL tour of Idar-Oberstein

27-31 March 1995

Visits to incomparable mineral and gem museums, historic and modern gem cutting workshops, and a mine with agate and amethyst in the rock walls.

Travel by luxury coach on Monday and Friday with three full days in Idar-Oberstein.

Price £350.00 per person

to include travel from London and half-board accommodation at the well-appointed Gethmann's Hotel.

For further details and a booking form contact GAGTL Education Office on 0171-404 3334 (fax 0171-404 8843).

Midlands Branch

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| 22 January | Gem Club - Amber |
| 27 January | The treatment of diamonds Eric Emms |
| 19 February | Gem Club - Composite gems |
| 24 February | Inclusions in silica gems Clive Burch |
| 19 March | Gem Club |
| 31 March | Jewellery through the ages Nigel Dunn |

Meetings will be held at Dr Johnson House, Bull Street, Birmingham. Further details from Mandy MacKinnon on 0121-444 7337.

North West Branch

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| 31 March | A taste of Scottish gemmology Alan Hodgkinson |
| 17 May | Diamonds in the Laboratory Eric Emms |

Meetings will be held at Church House, Hanover Street, Liverpool 1. Further details from Joe Azzopardi on 01270 628251.

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 only open to SJH members and their guests. A nominal charge is made for wine to comply with our charity status.

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| Monday 23 January | Geoffrey Munn of Wartski will give us a view of New Aspects of Fabergé .
The Society's AGM preceding the lecture will be open to members only. Guests, upon application and as space permits, to be invited into the lecture after the AGM. |
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| Monday 27 February | Dr Elizabeth Goring FSA, of the of History Applied Art, National Museums of Scotland, will speak on Suffragette Jewellery . |
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| Monday 3 April | Dr Yvonne Hackenbroch will give a lecture about Early Renaissance Hat Badges , to coincide with the publication of a book on that subject. |
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| Monday 15 May | Susan Stronge of the Indian Department of the Victoria and Albert Museum will give a lecture on Imperial Mughal spinels . |
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| Monday 19 June | Dr Graham Dry will speak about Twentieth Century Pforzheim jewellery, title to be announced. |
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| Monday 25 September | Dr Jack Ogden FSA FGA will give a lecture entitled The Golden Crescent: the origins and chronology of early Islamic Jewellery . |
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| Monday 6 November | Hugh Tait FSA, past President of the Society, will give a lecture entitled Problematic Renaissance Jewellery before and after Vasters . |
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| Monday 11 December | Jane Short, Instructor at Central School St Martins, will speak about enamelling. Title to be announced. |
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