AGA Update

ACCREDITED GEMOLOGISTS ASSOCIATION

SUMMER 1988 ISSUE

WORLDWIDE PGM OUTLOOK

DR. G. FEICHTINGER, DR. A. LAMMER, AND M. REISS

Platinum, iridium, osmium, palladium, rhodium, and ruthenium, known as the platinum-group metals (PGM), are closely associated in nature and are chemically very similiar to each other. Unique properties, including catalytic activity, temperature and corrosion resistance, electrical conductivity and resistivity, and high purity, have promoted the use of PGM in a wide variety of applications in pollution control, aerospace and defense, fuel production, fertilizer production, glass and glass fiber production, energy generation, electronics, dentistry, and jewelry.

Platinum is considered the most popular metal of the group, and advances in science have largely failed to produce cost-effective substitutes for platinum. For example, platinum still is the only metal able to perform under conditions consisting of wide temperature variations and high gasoline-impurity levels found in automotive antipollution devices. New technologies are broadening the industrial base of platinum and its closest relatives. Only a few cost effective substitutes (members of the platinum-group metals) have emerged that possibly could match platimum's performance in many industrial applications.

Automotive use speeds up

Catalytic-converter technology in the automotive industry is increasingly focusing on platinum-rhodium, three-way catalysts, which are likely to remain at the forefront of most automakers' emission-control systems. Demand for platimum from automakers in the Western world exceeded 28-million g (1-million oz) in 1986, an increase of 15% over the previous year.

Three-way catalytic converters can handle three pollutants (carbon monoxide, hydrocarbons, and nitrogen oxides) in a single unit. The hydrocarbons and carbon monoxide are oxidized to carbon dioxide and water, while nitric oxide is reduced to nitrogen. Platinum is an effective oxidation catalyst for carbon monoxide and the complete oxidation of hydrocarbons. Palladuim also promotes the oxidation of carbon monoxide and hydrocarbons, but is more sensitive to poisoning in the exhaust enviroment than platinum.

The high cost of noble metals requires that catalysts are produced efficiently and provide maximum performance. Damage to catalysts can occur in several ways. Exposure to high temperatures causes sintering of noble-metal particles, which reduces the surface area available for catalytic reaction; low-temperature activity of the catalyst is impaired the most from sintering. High temperatures also can promote damaging interactions between the catalyst and catalyst support, as well as between the noble metals (alloy formation).

Catalyst poisoning by lead and phosphorus is also possible.

Since platinum is preferred for autocatalysts, pallidium consumption has declined. However, since platinum cost four times as much as palladium, U.S. automakers are trying to use more palladium where feasible, while still meeting emissions standards. Rhodium demand continues to increase, but its high cost is pushing automakers to reduce rhodium use without impairing autocatalyst performance and durability.

PGMs recharge for electronics

Demand for platimum has declined about 10% in the electrical/electronics sector. Consumption of platinum-rhodium thermocouples - the single most important product - has been affected by the steel, silicon-wafer processing, and glass industries. However, the semiconductor industry is expected to continue to recover in the U.S. and Japan.

Platinum also is used in thick-film and thin-film electronic devices. For hybrid microcircuits,

small quantities of platinum are added to silver, palladium, and gold thick-film pastes in different combinations to improve solderability, bond strength, and durability. Telecommunications, fuel-injection systems, and military applications are among the main markets for these pastes.

Thin films are deposited almost exclusively by sputtering, and the demand for platinum targets is gradually increasing. Platinized sensors are being used increasingly for temperature control and gas detection. Sputtered thin films have applications in electronics as contact surfaces on silicon wafers, and have added potential for use on gallium arsenide wafers.

Another potential growth area for PGM is electrode coatings for certain types of fuel cells. Advanced phosphoric-acid fuel cells (PAFC), in which platinum is the active electrod metal, are near commercialization in the U.S. and Japan.

A look at platinums relatives

The restoration of palladuim demand is due principally to the recovery of some electronics markets in Japan. Markets for components incorporating thick-film, palladium bearing pastes are expanding steadily. About 75% of total Japanese demand is due to multilayer ceramic capacitors (MLCC) and thick-film hybrid integrated circuits. Demand for palladium has been rather flat in the U.S., while south Korea, Taiwan and Singapore are expanding production of electronics equipment and components, which should have a corresponding increase in palladium demand.

The substitution of silver for palladium is proceeding more gradually than expected because further miniaturization continues to favor the use of palladium from a technical standpoint.

Two of the more important palladium applications the electrical/electronics field are sputtered thin films used in integrated circuits and contact tapes for telecommunications and microswitches.

Ruthenium-containing thick-film pastes are used extensively to print resistive tracks in HIC, and in the production of a variety of discrete reisitors and resistor networks. Increased requirements for ruthenuim in the revived electronics sector were partly offset by a drop in demand from the chloroalkali industry, especially in the U.S. Demand has recently increased about 10%.

Iridium demand increased slighly in all sectors except the chloroalkali industry and chemical industry, where it is used in chemical-process catalysts.

PGMs react for chemicals

About 60 to 70% of platinum consumed in the chemical industry is in the production of nitric-acid to make synthetic fertilizers. Almost all nitric acid is make by osicizing ammonia at high temperatures over a catalyst of finely woven platinum-rhodium alloy gauze. A new process that requires less energy and reduces pollution uses platinum and active carbon in the hydrogenation of chlorinated aromatic amines. he amines form the basis for the porduction of pesticides, herbicides, synthetic dyes, and many pharmacuetical products.
The remaining platinum demand is split in about equal proportion for chemical-process catalysts to make organic chemicals and to remove contaminants from gas streams, and the manufacture of crucibles (for growing crystals) and research-laboratory apparatus.

The chloroalkali industry uses dimensionally stable (insoluble) anodes coated with ruthenium oxide for the electrolytic production of chlorine and caustic soda. This industry is the largest consumer of ruthenium in the Western world.

In the glass and glass-fiber industries, platinum-rhodium alloys are used in thermocouples and as bushings through which molten glass is drawn into fibers. Although platinum consumption has dropped, demand may increase as the market for glass-fiber reinforced plastics increases.

In Europe, platinum is finding some additional applications in equipment for making new types of tableware and TV glass. Production of special glasses for lenses and mirrors in areospace and military applications also is gradually expanding. The defense sector in the U.S. also has expanding requirements for lasers and electronic devices, providing additional platinum demand from manufacturers of glasses with highly specialized properties.

WILL PGM SUPPLY MEET DEMAND?

Platinum reserves are very unevenly distributed around the world; 92.7% of total reserves are located in in South Africa, giving this country nearly an absolute monopoly over the future supply of the strategic metal. Ranked second in platinum reserves is the Soviet Union with about 5%.

Relative only to free-world reserves, South Africa's position as the source of platinum is even more dominant. With 99% of the reserves, South Africa is virtually the only source of primary platinum in the Free world for the long term. South Africa not only has virtually sole reserves of platinum and the bulk of production in the Free world, but also has the only PGM deposits in the world in which platinum is the primary product, with nickel and copper as byproducts. The Soviet Union and Canada - the other significant producers presently - recover platinum as a byproduct from nickel-copper deposits. Thus, South Africa is the only country that can vary its platinum production upward or downward to keep in step with world demand, unhampered by nickel and copper-market conditions.
Looking at world production

An analysis of world output of platinum is based on the postulate that industrial conversion of a virgin resource to processed raw material progresses according to a Sigmoid (S) curve. This analysis can be applied to all raw materials, including strategic materials, processed from virgin resources.

A comparision of actual and computed platinum price trends with appreciation rates shows that although the price of platinum fluctuated notably in the past eight years - the appreciation of platinum seems to rise further in the long term. Consequently, progressive platinum-price increases are highly likely. This tendency is consistent with the growth in the size and range of platinum's critical industrial application on the one hand, and the monopolized, tight-supply position of primary platinum on the other.

As economic warfare against South Africa - the dominant supplier of primary platinum - is intensified by the major industrial consumer country (U.S.) of platinum, the present south African goverment will probably be forced, sooner of later, to retaliate by cutting off the supply of strategic metals most crucial to Western-world economy and defense. Such an act would cause platinum prices to soar and gold prices will automatically follow. Since gold provides the major source of South Africa's revenue, a government take-over would most probably accelerate and intensify these price increases.

Excerpt from: Advanced Materials and Processes, April 1988
International Forecasting Research Circle South Africa

APARTHEID! APARTHEID?
"DOUBLE STANDARDS"

Robert L.Rosenblatt,G.G.,F.G.A.,F.C.Gm.A.
Master Gemologist Appraiser, A.S.A.
President, A.G.A.

Webster defines apartheid as; "Racial segregation and discrimination against nonwhites in the Republic of South Africa, especially as supported by law as an instrument of government policy".

The point of the previous article on platinum not only serves to demonstrate how the U.S. protest to South African Apartheid could criple our countries strategic and industrial industries, but it allows a chance to reflect on the "DOUBLE STANDARDS" the jewelry industry faces from the anti-apartheid actions by our own government! Recently we have all heard and read of proposed possible bans on the importation of diamonds from South Africa as a measure of demonstrating our commitment to anti-apartheid movements. However, there seems to be a slight contradiction here; diamonds are to be put on the "no no" list of imports, but platinum is okay because we "NEED" it. This inconsistency belittles the ultraistic merit of anti-apartheid actions such as boycotting products of South Africa. The credibility of such action can only be forthright if it is complete. There is no allowance for need over righteousness; or is there? If South Africa retaliates against anti-apartheid measures by cutting platinum (and gold) supply to the free world, will our righteous movement fall to its knees? If we are to make an impact by banning products, perhaps we should stop using platinum and gold from South Africa. It should be easy to tell where the gold and platinum comes from; right? Not possible you say. Well then, maybe we will achieve a statement by selectively banning only products we don't "NEED", like diamonds. Sure! Narrow the action to the minority; only those whose loss or gain has little impact on world security or automobile production. After all, this should blow over sooner or later, and everyone knows; "diamonds are forever". So, what's to worry? Tough it out jewelers. It's a noble thing you do; going broke for your country and human rights.

It would seem rational to assume that apartheid is an all or nothing sort of thing; "either yer fer it or agin it". And if you decide to demonstrate anti-apartheid support by boycotting products

from South Africa, that to should be an all or nothing sort of action. I suggest that we move to stop legislation to ban importation of diamonds from South Africa unless it includes platinum and gold. Our recent "grass roots" support of defeating the proposed luxury tax on jewelry was very successful. We can have an impact on anti-apartheid legislation measures as well. Write your congressman. Tell them this "minority" should'nt be victims of apartheid either. And next time someone gives you a bad time for selling diamonds from South Africa, ask them if they're willing to turn in their car for the cause.

APPRAISAL STUDIES PROGRAM IN FINE & DECORATIVE ARTS

1988 JEWELRY CONFERENCE
AUGUST 3-6
NEW YORK UNIVERSITY SCHOOL OF CONTINUING EDUCATION

American or French? Art Noveau of Arts and Crafts? Mint condition or restored antique? Synthetic or genuine gemstones? Antique or reproduction timepiece? Whatever their interests, to succeed in today's volatile and competivive marketplace, appraisers and others in the field must make these evaluations accurately. This new conference is designed to cover it all: condition and quality, metals and techniques; country of origin and dates; antique and contemporary enameling and stone-cutting; cameos and watches; memorial jewelry and oriental jewelry; and more.

Each session is led by a distinguished practioner, including major auction house representatives, gemologists, members of the wholesale and retail communities, trade journalists, desingers, and manufacturers. The opening day program devoted to American jewelry highlights the conference.

THE PROGRAM

WEDNESDAY, AUGUST 3 - American Jewelry
Moderator: Barry Merritt

9 a.m. - 12 noon
American Jewelry - An Overview - Barry Merritt
American Victorian and Art Noveau Styles - Jay Weinstein
The American Arts and Crafts Movement - Gloria Lieberman
American Silver Jewelry: 19th Century to Today - Toni Lesser Wolf

1 - 5 p.m.
American Art Deco and 1940's Jewelry - Audrey Friedman
Contemporary American Jewelry - Edward Faber, Angela Kramer, Peter Linderman, Barry Merritt, Nancy Pier Sindt
Special Ineterest Sessions
Collectibles and Fashion Jewelry - Don Hobe
American Gemstones - C.R. "Cap" Beesley
Reception and private exhibition, Aaron Faber Gallery. Patricia and Edward Faber, hosts.

THURSDAY, AUGUST 4 - The Appraisers
Moderator: Ettagale Blauer

9 a.m. - 12 noon
The Industry: An Overview - Ettagale Blauer
Ethics and Guidlines for Appraisers - Harold Jaffe
Special Interest Sessions
Antique Jewelry - Joyce Jones
Jewelry at Auction - Francois Curiel

1 - 5 p.m.
Special Interest Sessions
Gem Equipment and Systhetic Stone Dating - Robert Crowningshield
Criteria For Gemstone Valuations - Donald A. Palmieri

Reception and private arcade jewelry sale exhibition, SOTHEBY'S. John Block, senior vice president and director, Jewelry Department, host.

FRIDAY, AUGUST 5 - The Appraisers
Moderator: Ettagale Blauer

9 a.m. - 12 noon
Buying and Selling Estate Jewelry on 47th Street - Billy Ford
Buying and Selling Precious Stones on 47th Street - Elliot Friman
The Antiquarian Jewelry Retailer: Criteria in Judging Quality - Raizel Ares Halpin
The Role of the Trade Magazine - S. Lynn Diamond

1 - 4 p.m.
Special Interest Sessions
Cameos and Memorial Jewelry - Patricia V. Goldstein
Timepieces - Stewart Unger, Leopold Woolf

Oriental Jewelry of the 19th and 20th Centruies - Sandra Andacht
Gem-cutting Techniques in Antique Jewelry - Benjamin Zucker

SATURDAY, AUGUST 6 - The Appraisers
Moderator: Joyce Jones

9 a.m. - 12 noon
Indentifying Hallmarks - Christopher Hartop
Antique and Contemporary Enameling Techniques - Toni Lesser Wolf
Antique Jewelry Restoration - Leopold Woolf
Closing Reception. New York University, host.

THE FACULTY

Joyce Jonas, Director, Jewelry Appraisal Conference, Former head, Jewelry Departments, and antique jewelry specialist, Philips Auction Gallery.

Barbara M. Berk, conference assistant.

Sandra Andacht, editor and publisher, Orientalia Journal; author, Oriental Antiques and Art.

C.R. "Cap" Beesley, G.G., A.S.A. Master Gemologist Appraiser. President, American Gemological Laboratories, New York.

Ettagale Blauer, former New York editor, Jeweler's Circular-Keystone; contributing editor, Ornament and Art & Auction.

Robert Crowningshield, C.G., G.G. Vice president, Gemological Institute of America Gem Trade LAboratory.

Francois Curiel, executive vice president and director, Christie's, New York Jewelry Department.

S. Lynn Diamond, editor-in-cheir and associate publisher, National Jeweler.

Edward Faber, co-owner with Patricia Faber, Aaron Faber Gallery.

Billy Ford, president, S.W. Ford, Inc., New York.

Audrey Friedman, president, Primavera Gallery, New York.

Elliot Friman, vice president, Friman & Stein.

Patricia V. Goldstien, president, Small & Perfect, antique and estate jewelry wholesale company.

Raizel Ares Halpin, proprietor, Ares Rate Jewelry, Inc.

Christopher Hartop, vice president and auctioneer, Christie's, New York.

Done S. Hobe, A.A.A. President, Hobe Cie Ltd.

Harold Jaffe, A.S.A. Adjunct assistant professor of arts and consultant to NYU appraisal Studies Program.

Angela Kramer, fine jewelry designer; recent debut collection commissioned by Fred Leighton, New York.

Gloria Lieberman, head, jewelry department, and auctioneer, Skinner Galleries, Boston.

Peter Linderman, president, Peter Linderman, Inc. American designer and manufacturer of fine and innovative jewelry.

Barry Merrit, leading American jewelry designer commissioned by President Ronald Reagan and others, owner, Barry S. Merritt Gallery, Inc.

Donald A. Palmieri, G.G., A.S.A. Master Gemologist Appraiser. President, Gem Appraisal Association; publisher Market Monitors, Fair Market Value Monitor, and G.A.A. Appraisal Manuel.

Nancy Pier Sindt, fashion editor and writer, National Jeweler Magazine.

Stewart Unger president, Time Will Tell.

Jay Weinstein, vice president and director, Judaic Works of Art Department, Sotheby's.

Toni Lesser Wolf, curator, "Masterworks of Contemporary American Jewelry: Sources and Concepts," Victoria & Albert Museum, London.

Leopold Woolf, G.G., A.A.A. Owner and director, Gem Appraisers laboratory, New York.

Benjamin Zucher, C.G. President, Precious Stones, Co., New York.

GENERAL INFORMATION

To Register

By Mail: Return the attached coupon, with your check or money order payable to New York University, to: SCE Registration Office, New York University, P.O. Box 1206, Stuyvesant Station, New York, NY 10009.

Or, you may charge to Amercian Express, Visa or Mastercard by filling in the card number, expriation date, and signature lines on the registration coupon.

Mail registration must be postmarked no later than Friday, July 1.

You can call by Telephone if you hold American Express, Visa, or Mastercard at (212) 998-7171.

Fee - The $425 conference fee includes all scheduled events, including the receptions.

Withdrawels and Refunds - Notice of withdrawel must be made in writing to: Registration Office, NYU School of Continuing Education, 127 Shimkin Hall, New York, NY 10003.

The conference is held at New York University's Washington Square campus in the heart of Greenwich Village.

Housing and Meals - Out-of-town participants may wish to make their own housing and meal arrangements, or they may prefer to reserve space in NYU dormitories in the Washington Square area. For information, write NYU Appraisal Studies Jewelry Conference, 332 Shimkin Hall, New York, NY 10003. Early application is essential, as space is limited.

NYU's School of Continuing Education offers a wide range of apprais al courses in fall, spring, and summer, such as Art History and Art Appreciation, as well as a Certificate Program in Appraisal Studies in Fine And Decorative Arts. For information, write: Appraisal Studies Program, NYU School of continuing Education, 332 Shimkin Hall, New York, NY 10003, or for a free bulliten describing all our summer courses, call us at (212) 998-7080.

TUCSON '88 VIDEOS NOW AVAILABLE

Enclosed is your order form for the Tucson '88 conference tapes. The production fell three months behind schedule when Robert Rosenblatt ruptured his disk and had to have back surgery. Robert has recovered and the tapes are ready to roll. Order yours today. They are the next best thing to being there.

BYTEING BACK

'BUG BUSTERS' DEVISE ELECTRONIC VACCINES FOR COMPUTER VIRUSES

'DATA PHYSICIAN,' 'DR-PANDA' DETECT THE TRAPS AND GET REVENGE ON THE NERDS
A MOBILE LAB TAKES SAMPLES

BY ASRA Q. NOMANI

Maneater won't leave Ross Greenberg alone.

For the third time in one day, the dastardly hacker is trying to sneak a deadly bug onto an electronic bulletin board Mr. Greenbury operates out of his Manhattan apartment. It's a simple little tick-tack-toe game, but if it gets on the board, any computer users who take if off, through their phone, and play it will find all the files in their computers destroyed. Maneater is spreading a computer virus.

But this time, he won't infect anybody. Before Mr. Greenberg adds the tick-tack-toe game to his bulletin board for all the world to use, he runs it on a computer programmed to spot foreign invaders. Detected, the virus is rendered harmless. Mr. Greenberg's computer has been vaccinated. Just as with real viruses and real diseases, experts are scrambling to devise preventives against the computer variety. Inevitably, their defenses are being called vaccines. They are computer program codes that in their simplest form detect the presence of an invader, and at their most advanced automatically disarm it. They come with names like Data Physician, Virald, Dr-Panda, Bomb Squad. And they're being sold to customers ranging from rec-room techies to IBM and the Internal Revenue Service.

More Than Sniffles

The viruses they're aimed at are invading the land, like some electronic mutant of the Shanghai flu. Sometimes they even have names like diseases. This spring some users were hit by what is called the Pakistani virus, spread by two young software producers in Lahore. Other viruses have infected machines at NASA, the College of Alameda in California and the newsroom of the Providence, R.I., Journal-Bulletin.

Once inside, they suspend the computer's operation momentarily and then take over the operation. Taking advantage of the computer's penchant for simply following instruction, they make it print out a message, draw a picture on the screen - or worse. A game called "rck. video" innocently entertains the user with an animation of Madonna before surrepitiously erasing all the computer's files. Then it gloats, "You're stupid to download a video about rock stars." Sometimes the damage isn't evident for a long time. A virus may transpose, say, two digits in every seventh line in a computer's memory of corporate or government data. Or it may act like an electronic time-bomb, programmed not to take effect until a month or a year in the future. It can spread from one computer to another unknowingly.

Sales to Spooks

As that threat grows, the effort to create vaccines gathers force. Self-defense drives it, obviously, but so too does the profit motive. There is money to be made serving a need as great as this. Vaccines sell for as much as $199 per copy, the price charged by Digital Dispatch for its Data Physician. "It was amusing when we started," says Eric Hansen, a vice president of the Minneapolis software developer, "but it's a really frightening topic." Digital Dispatch's customers, besides IBM and the IRS, include the National Computer Security Center, a branch of the U.S. National Security Agency.

And, as with all things computer, there is the sheer challenge, the joy in figuring out a new trick. Some of the same hackers who have created viruses - the Pakistanis are an example - now are trying to figure out ways to outsmart them.

The vaccines usually are designed to detect a specific kind of computer virus. Let's say a mishievous hacker calls up a program from one of the numerous electronic bulletin boards and copies it - inserting a malign command to flash the message "Gotcha!" on future users' screens. A vaccine might detect it by checking the

number of characters in the program. Any more than normal, and it obviously has been tampered with.

Game of Wits

But there are different ways to insert viruses, and no vaccine can catch all of them. Once thwarted, virus writers naturally feel challenged to outwit the vaccine writer. It's a devilish game that the most imaginative - or persistent - is likely to win.
The result is that many different vaccines are needed: Disk Watcher, Protec, Viralarm and numerous others. One called Vaccinate was developed by a software executive who formed an anti-virus coalition called the Computer Center for Desease Control. Vaccine prices range up to $200, for which a buyer usually gets a floppy disk and an instruction booklet.

Techies around the country experiment with program codes and computer virology, exchanging an endless stream of messages daily about virus effects, vaccine strategies and gossip.

Fred Cohen is a University of Cincinnati professor who has been credited with inventing the first computer virus in a controlled graduate-school experiment. Now he studies viruses on two computers housed in his living room. They have no contact with outside computers.

Mr. McAfee of Santa Clara, who heads a software company called InterPath Corp., offers something few medical doctors do anymore: house calls. He turned a used motor home into a mobile "Bugbuster" lab. He uses the motor home to visit victims and examines viruses in a safe, self-contained enviroment.

On the road, Mr. McAffe stores his viruses on diskettes under constant surveilance. About 30 virus victims contact him daily, he says. The Bugbuster has just returned from a mission to the College of Alameda near San Francisco, where he delivered a custom-designed "virus net" to electronically catch a virus that recently invaded the school's computers, slowing down their operation.

By the time he arrives, the damage is usually done. But, like a roving insectologist, he collects samples of the computer viruses to bring back and try to create vaccines against.

Besides buying vaccine products and using them religiously, the measure an individual user can take against computer viruses are pretty scanty.

Some experts advise always making copies of disks, in case one gets ruined. David Buerger directs the personal-computer center at Santa Clara University in California, with 850 PCs, and he can't take chances. Before allowing a program to be used, Mr. Buerger runs four different vaccine programs to detect any invader. He dissects the program line by line and runs it repeatedly on an isolated computer. Then, because a virus might be programmed to take effect sometime in the future, he pushes the date up a year and operates the program many more times. Finally he sets the date forward a decade and does the same. "We're talking a major waste of time," Mr. Buerger says.

But the stakes are high. The viruses are sending chills through corporate and government data-processing departments, which see the potential of the computer equivalent of biological warfare. Though some experts play down the danger, others speak of frightening possibilities: Suppose a hacker learned how to confuse the computers manufacturers use to set specifications, or those used by national intelligence agencies, military systems -or air-traffic controllers.

Any such tampering is highly illegal, of course, but prosecutions are rare because perpetrators usually can't be tracked down.

At the moment, federal penalities range up to a $250,000 fine or five years in prison. There's reason to think the U.S. Sentencing Commission, which sets guidelines, might be sympathetic to stiffer terms, though: It got hit with a virus itself last spring.

The viral threat goes to the heart of computers and their promise: freer communications. Instead of taking any program they want off electonic bulliten boards, computer users now are being advised against "promiscuous downloading." Networking - linking computers - is the rage in computers these days, but the contagiousness of viruses grows in direct proportion to the degree to which computers are connected.

Against these threats, the vaccine effort so far is meager. "It's like putting a Bandaid on an elephant with a buckshot wound," argues Peter Neumann, a computer-security consultant at SRI International in Menlo Park, Calif. Mr. Neumann, who moderades a lively town-hall-like bulliten board on viruses, says computers are too interlinked for the remedies to work, and offer too many backdoors for clever hackers.
In fact, even vaccines aren't completely immune

to viruses. Mr. Greenberg, Maneater's target, wrote and distributed three vaccines on bulletin boards called Flu-shot1, 2, and 3. a particularly astute hacker posted a "Flu-shot4" that was actually a virus in disguise.
In this case, Mr. Greenberg had the last laugh. He countered with another vaccine, Flu-shot+, that directly challenges his enemy. It includes this message to the virus writer: "Go shead, you good-for-nothing slime bucket. Make my day."
Excerpt from: Wall Street Journal

AGANET IS DISEASE FREE.

We have taken every measure to insure that programs available for download on AGANET have been checked for viruses. If you plan to upload a file to AGANET, please make every effort to check for viruses. If you find a download on AGANET that behaves in a suspecious manner please notify us immediately. In any event, always isolate downloads from any bulletin board from the rest of your programs and files until you PERSONALLY inspect them for disease.

AGA SANDIEGO GEMOLOGICAL CONFERENCE

Thanks to our regional governor, Thom Underwood, in San Diego we have been able to plan a fantastic mid-year gemological conference in San Diego. On August 27th and 28th at the San Diego Marriot (right on the water and absolutely beautiful!), we are holding a conference on diamonds. Saturday the 27th, a hands on workshop will be instructed by Tom Tashey of EGL. Space will be limited to 16 people and the class will cover all those difficult situations such as mounted stones, special tips on color grading, shortcuts to weight estimation, clarity grading, pricing and much much more! Tom , a former AGA officer, has vast experience in all phases of gemology and probably grades more diamonds in his lab than anyone else , except maybe the folks from GIA. All equipment will be provided and the class will run from about 9:00 am to about 5:00 pm with a generous lunch (the hotel is right next to Seaport Village, a great shopping and sightseeing area and only blocks away from downtown. Sunday will feature Martin Rappaport, presenting a special presentation on the diamond market. Martin comes directly to the conference after a n extensive tour of world diamond markets, including; Singapore, Bankock, Hong Kong, Tokoyo and of course New York. Did you wonder what the X@*! is going on in the diamond market lately? This is the perfect opportunity to find out, and just in time for your holiday buying season. Martin intends to produce a major professional video on diamonds and crews will be on hand to capture every moment of his charged and powerful presentation. The day will start about 9:00 am and end about 5:00 pm with a sit down lunch included in the event. Prices will be :

Saturday the 27th: $60 members and $75 non members (lunch not included).

Sunday the 28th: $50 members and $65 non members (lunch included).

If you sign up for both days the price is $100 members and $125 non-members.

Shortly you will receive a registration packet. Remember, space is limited so don't delay.

ELECTIONS ARE AT HAND

Well, it's time to start our process of selecting new officers for AGA. Enclosed with this publication, you will find a form for submitting names of people you would like to nominate for office. The positions open are:

President
1st Vice President
2nd Vice President
Secretary
Treasurer
Four regional governors
(see the enclosed map to check regions).

The board has determined that, because of the small size of AGA (versus large organizations such as ASA), the past policy of screening candidates and listing only one name on the ballot should be changed. Instead, the committee will review all nominations, and list primary candidates (determined by counting the number of nominations received) at the top of the ballot, but also everyone who received a nomination will be listed, ranked in order of the number of nominations received at the bottom. This will give you a chance vote for a wider variety if you choose.

PLEASE read the rules on the form and follow them carefully. Get involved, and please VOTE!

OFFICIAL AGA ORDER FORM
TUCSON "88 CONFERENCE VIDEO TAPES

Video cassettes of the Tucson 1988 conference are now available. These tapes are not Hollywood production quality, but have been computer titled, color balanced, enhanced with stereo narrative and are available in Dolby stereo or HiFi VCR format. Production is in VHS fromat but BETA is available on special request. Tapes are copied upon receipt of order with payment and take about 3 to 4 weeks for delivery. AGA members pay $25.00 per tape. Non members pay $35.00 per tape. If you order the entire conference collection (twelve tapes), you receive a 10% discount or; members $270.00, non members $378.00 total. Postage is included in the prices. REMEMBER WE ACCEPT VISA OR MASTER CARD.

____ A SYNTHETIC EMERALD UPDATE Robert Crowningshield Gemological Institute of America

____ DETECTION OF HEAT TREATMENT Al Molina Jewels by Olson

____ ETHICS IN THE INDUSTRY Sallie Morton Morton Jewelers, Jewelers Vigilance Committee

____ ROUGH TO POLISHED, A DIAMONDS JOURNEY Tom Groman J.C. Keppie Co.

____ PERIOD JEWELRY Michelle Hallier Jewels by Olson

____ G I A GEM TRADE LABORATORY DISCLOSURE POLICY Robert Crowningshield Gemological Institute of America

____ CHEMICAL VAPOR DEPOSITION DIAMOND Laurie Conner Crystallume of Palo Alto, CA

____ SEPERATION OF NATURAL FROM SYNTHETIC GEM-QUALITY DIAMOND James Shigley, PhD. Stanford University: Director of Research Gemological Institute of America

____ COUNTRY OF ORIGIN C.R. "Cap" Beesley American Gemological Laboratory

____ THE TERM "CULTURED" IN SYNTHETICS Virginia L. Carter J.O. Crystal Company

____ AN IN DEPTH LOOK AT JADE Betty Parker Simpson ("The Jade Lady") The Jade Collector

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____ PANEL DISCUSSION ON HEAT TREATMENT Dr. Kurt Nassau, Ted Themelis, C.R. "Cap" Beesley, Donald Palmieri, David Federman
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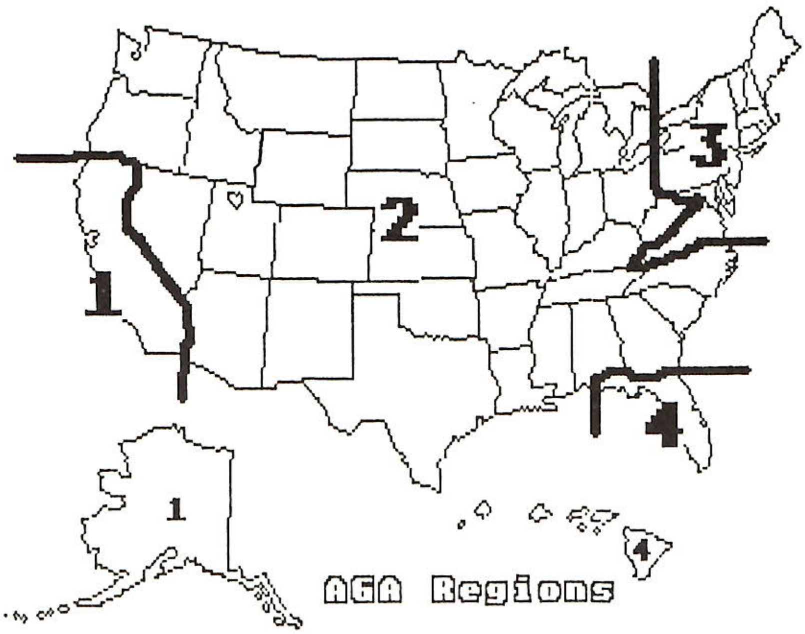
OFFICIAL AGA FORM FOR NOMINATION OF OFFICERS FOR THE TERM 1989 TO 1990



The most important event, election of officers, is upon us. Past president Neil Cohen is the chairman of the nomination committee. This year we have an especially critical task in selecting officers. The very life blood of AGA flows from the membership, but without good leadership, AGA would soon shrivel and die. Every office is important and requires dedication and work. The rewards are many but there is no financial remuneration. Please be very careful when you nominate someone. In fact, we insist that you make personal contact with the person you nominate and get ther express permission to send in their name. Likewise we will also verify that each nominee is aware they have been selected to run and that they have a full understanding of just what the job involves. If you want a job description for information, please let us know. Positions open for office are:

President
1st Vice President
2nd Vice President
Secretary
Treasurer
Four Regional Governors (see map above for description of regions - a nominee for regional governor must reside in that region at the time of the election).

Only full members in good standing are eligible to run. Review your membership list in the most recent CORNERSTONE for possible candidates. Fill in the form below and return it in the post paid envelope enclosed. Nominations must be received by no later than September 1, 1988. The cutoff date is firm! You MUST sign this form for it to be valid.

- -

I would like to submit the following name(s) to be candidates for the upcoming election of officers. I have contacted the person(s) to obtain their permission prior to submitting this form. *Please indicate what office you are nominating the person(s) for.

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____

____

Your Signature ______________________ Date ____________