
NOTES · AND · NEW TECHNIQUES

CONTEMPORARY INTARSIA: THE MEDVEDEV APPROACH TO GEM INLAY

By James Elliott

Using precision inlay (intarsia) techniques, Russian emigré Nicolai Medvedev is creating masterpieces of lapidary work in boxes, candlesticks, clock cases, and jewelry. He uses high-quality lapis lazuli, opal, malachite, sugilite, azurite, tourmaline, and rhodochrosite, among other materials, to create these colorful and precisely constructed pieces. Some of his techniques are explained in a step-by-step procedure used to create the "Camellia" box.

One of the most difficult and labor-intensive forms of lapidary art is gemstone inlay, or intarsia. Very much like mosaic, small, usually flat pieces of gem materials are fitted together and then cemented to a base to form various designs. However, while mosaics are usually done as murals or large panels, intarsia commonly involves smaller surfaces and requires far greater accuracy and precision in fitting many pieces together to produce an intricate design with a smooth finish.

As an art form, intarsia using gem materials flourished throughout Western Europe from the late-17th to the mid-19th centuries. Boxes were one of the most common items produced. Snuffboxes of "hardstone" were made in France as early as 1736 (Cocks and Truman, 1984). The German court of Dresden welcomed goldsmiths and hardstone cutters to produce elaborate snuff and presentation boxes of wafer-thin agate, amethyst, or chalcedony, mounted in gold and often encrusted with gems. Moss agate was used by prominent goldsmith and jeweler James Cox in

some of the fancy boxes he manufactured around 1770. Already renowned for their mosaic work, the Italians proved particularly skilled and creative at hardstone intarsia. One of the most interesting pieces in the Gilbert collection of gold boxes is an 11.3-cm (4½ in.) long rectangular box inlaid with agate, chalcedony, lapis lazuli, aventurine, and malachite (von Habsburg-Lothringen, 1983). Gem materials were incorporated into other objects of art or furniture as well, often with precious metals used as attachments and for completion of design.

Today, the technique of intarsia with gem materials is used in many countries, including Germany, Italy, India, and China. Florence, Italy, is generally recognized as the modern center of intarsia work (Sinkankas, 1984). Because of the high cost of labor, however, most intarsia currently on the market lacks detail. In addition, the boxes made of various gem materials are generally plain and often crudely constructed for broad commercial distribution. It is, therefore, with great surprise that we find an artist in New Jersey producing some of the finest and most intricate intarsia ever

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seen. Nicolai Medvedev, an artist trained in Russia, has revived intarsia as an art form, developing new techniques and taking advantage of modern technology. The result is a number of beautifully designed and executed boxes as well as clocks, candlesticks, and intricate pieces for jewelry that have been carefully constructed from fine malachite, lapis lazuli, rhodochrosite, sugilite, and the like (figure 1). One of his most unusual pieces, a malachite box inlaid with sugilite and a tourmaline "flower," demonstrates the precision required in gem intarsia.

FROM ARTIST TO LAPIDARY

Born and raised in Ashkhabad, Turkmenia, USSR, a city near the Iran border, Nicolai Medvedev attended art school and Art College before he was admitted to the prestigious Art Institute in Moscow. In 1980, after five and a half years at the Art Institute, he emigrated to the United States with his American wife.

Once in the U.S., Medvedev began attending art shows. As he traveled, though, he would stop at various lapidary shops, hunting for colorful materials in stone from which he might create pieces of art. Using amateur equipment, he began to fashion boxes out of this material. The colors reminded him of nature's colors, and he was delighted to think that he could create three-dimensional art objects out of stone that would be durable enough to last for centuries. His work continued, and within a few years he had become an accomplished lapidary. To produce the best pieces, though, he knew that he had to find the best rough material. He concentrated on malachite with its varied patterns, the finest lapis from Russia and Afghanistan, gem-quality sugilite, and opal. He experimented with various combinations, trying to show off pattern and color to the best advantage.

In addition to his 12 years of intensive training in Soviet art schools, Medvedev considers the decorative and applied art of his native Turkmenia to be his major source of inspiration. As a child, he was surrounded by the colorfully patterned rugs, clothing, and jewelry of Middle Asia. He particularly loved 19th-century Turkmenian jewelry, and at one time owned one of the finest collections in Russia. Many of the designs and patterns of these ornaments can be seen in his work today. Medvedev has also been influenced by American Indian art, which captured his interest on his first trip to the United States.

Medvedev today has accumulated a large selection of fine rough, much of which has been purchased out of private collections. After carefully selecting the choicest pieces, he slabs each one. As patterns unfold, so too does his artistic eye. He takes great care to match the banded patterns in malachite, and delights in the powerful effect of its brilliant green combined with sugilite or opal. It is at this stage that he begins to see the combinations of pieces that may six months later form a box.

What makes Medvedev's work so extraordinary is not only his use of fine-quality gem materials but also his painstaking craftsmanship and his meticulous attention to detail. Medvedev begins all of his designs from the center. Focusing on a particularly inspiring gem, he then adds complimentary shapes and colors, one after another, to complete the design. Precision, skill, and inordinate patience are required to achieve good results.

One of the most complex pieces Medvedev has created thus far is the "Camellia" box. This six-sided malachite box is trimmed with sugilite inlay and incorporates a flower formed from Maine tourmaline on the lid (figure 2). Although the basic procedure for intarsia has been described by Sinkankas (1984) and others, the following description of the process by which Medvedev created the Camellia box provides some insight into the technical skills and artistry required for fine intarsia.

THE CREATION OF THE CAMELLIA BOX

The initial stage of the construction of this box revolved around design sketches and the accumulation of rough. Preliminary sketches (figure 3) eventually became a final color rendering, showing size, shape, angles, and organization of color to be translated into the gem rough. The leaves for the flower and the material for the greater part of the box were chosen from approximately 35 lbs. (16 kg) of malachite rough. After sawing, approximately 2¹/₄ lbs. of pieces were selected on the basis of their chatoyancy and distinct patterns. The centerpiece of the flower was to be in tourmaline, and an 86-ct gem Maine crystal was found. For the flower petals, a 140-gram crystal of watermelon tourmaline from Maine was chosen. All accent areas of the box were to be in sugilite; approximately one-half pound of pieces were chosen from the cutting of 30 lbs. of rough. Finally, six 10-pt. fine white diamonds were selected for incorporation into the

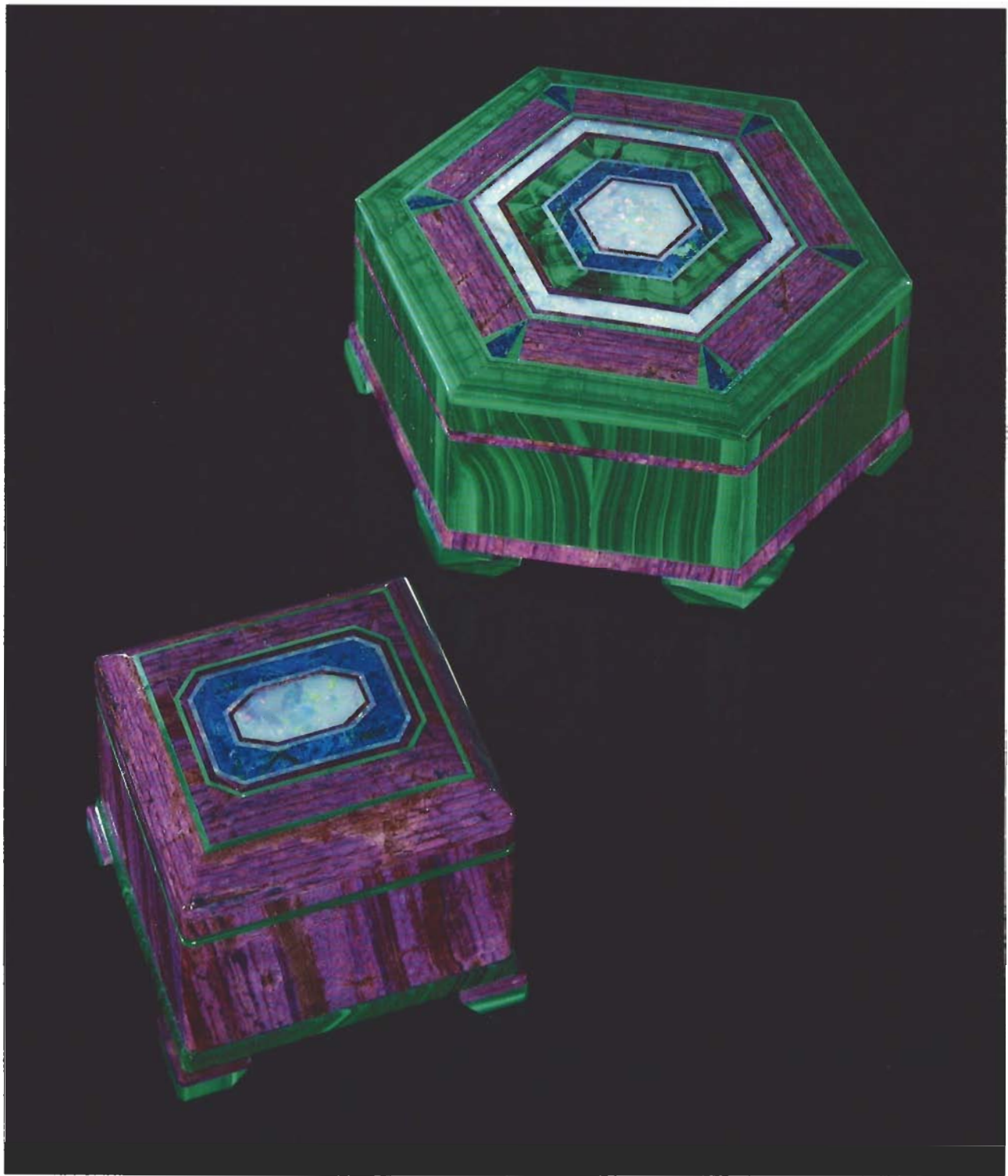


Figure 1. Nicolai Medvedev has carefully created a number of boxes, clocks, and pendants using select pieces of colorful gem materials. These two boxes—of sugilite, malachite, lapis lazuli, and opal—are particularly fine examples of this contemporary intarsia. Photo © Harold & Erica Van Pelt.

design. With these materials assembled, the technical fashioning began.

First, the tourmalines were cut. Since the box was to be a hexagon, it was decided that the center stone would be faceted in that shape. The 86-ct rough yielded a 23-ct flawless gem. The watermelon

crystal was cross-sectioned, and the sections were polished on both sides and then beveled on a 45° angle to intensify the color of the tourmaline.

Next, the 18K gold mounting needed to house the center stone and the sections was built by Dave Woods, a New Jersey jeweler, from Medvedev's



Figure 2. The Medvedev Camellia box (12.9 × 11.4 × 7.9 cm) consists of finely matched pieces of malachite and sugilite with a 23-ct faceted Maine tourmaline (removable for use as a pendant) in the center surrounded by six watermelon tourmaline sections. Photo © Harold & Erica Van Pelt.

design. The mounting for the center stone included a female locking mechanism to allow it to be removed from the box and worn as a pendant. Once completed, the gold base plate was anchored to the onyx body of the box lid by means of six gold pins.

The third stage consisted of cutting, trimming, and grinding the malachite and sugilite inlay (figure 4). Medvedev maintains five Raytech saws, each of which runs 24 hours a day. The trimming step alone can take up to a week to accomplish. First, six malachite leaves (each approximately 3 mm thick) were prepared by matching the patterns and then trimming the pieces into shape. Next, six background sections were cut and fit along with smaller pieces to form the sides of the lid. Last, the sugilite was cut and trimmed. The 88 separate pieces of malachite and sugilite that form the box lid and the 33 pieces that cover the

sides, bottom, and legs were finally assembled and attached to an onyx base using 330 Epoxy.

To soften the inlay angle from gold to onyx base, Medvedev first used Ray-Tel 260 grit diamond lap to grind away the hard edge and then Ray-Tel 325 grit Nu-Bond to even all edges, finishing off with Ray-Tel 600 Silicon Carbide to leave a gentle curve downward from the gold center to the edge of the lid.

The fourth stage was the polishing of the various surfaces. This was accomplished over 90% of the total box with Linde A compound. This stage alone took approximately one week to complete. A final wash of pure acetone was administered to render all surfaces perfectly clean.

The polishing stage can be particularly difficult and frustrating, and can account for up to 60% of the construction time required for any one piece (figure 5). Many months have been spent accu-

Figure 3. These preliminary pencil sketches, which show the original "camellia" concept as well as the placement of the faceted tourmalines and other components of the flower, marked the first stage in the construction of the Camellia box.

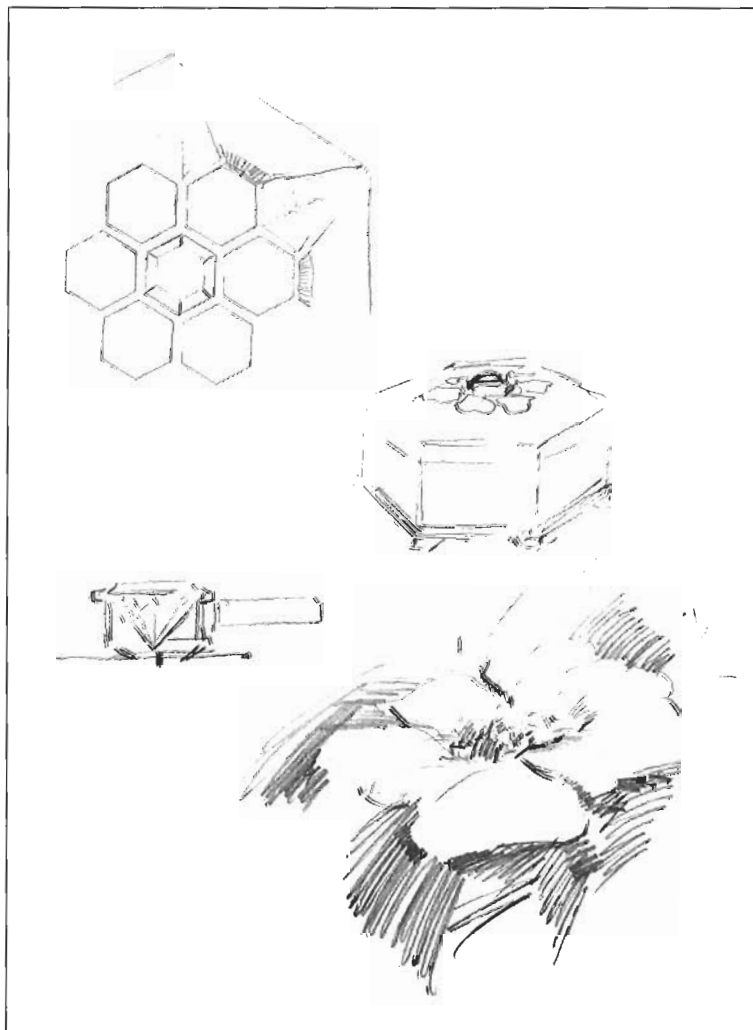




Figure 4. Once the slabs of malachite and sugilite were selected from several pounds of material, Medvedev proceeded to cut and trim the malachite to carefully fit the design of the box.

mulating the finest gem materials and arranging them in a detailed, unique design. Thus Medvedev exercises great care when polishing his slabs, lest he accidentally break any one of the crucial components of his design.

The fifth stage was the working of wood veneers into the box interior. Walnut, pecan, cherry, and mahogany were chosen. Each piece was hand sanded, moving from a coarse to fine grit, and then polished with beeswax to protect the wood from moisture and to preserve the original color. The pieces were then cut and trimmed before they were layered into the box and secured, again with

330 Epoxy. The outer layer of the body is 3½ mm lower than the inner layer to provide a lip with which to secure the lid of the box.

The final stage was the mounting of slices, gemstones, and diamonds. In order not to damage the sections, 22K pins were fitted to the mounting as a prong-type mechanism. The center stone was fitted with a diamond at the end of each point as accent and protection. The center pendant was then locked into position and the Camellia box completed.

The final box, which measures 12.9 × 11.4 × 7.9 cm deep (5 × 4½ × 3 in.), required more than



Figure 5. Polishing is the most time consuming—and potentially most hazardous—stage in the construction of fine intarsia. Should any one of the carefully chosen and matched pieces of banded malachite or patterned sugilite break, it could mean starting over almost completely on the project.



Figure 6. These pendants illustrate another variation of Medvedev's intarsia work. The pendants, which average 4–5 cm (1½–2 in.) long, represent different combinations of fine rhodochrosite, lapis lazuli, malachite, sugilite, and opal. Photo © Harold & Erica Van Pelt.

six months to complete. The materials used were selected from over 65 lbs. of rough malachite and sugilite and 786 ct of tourmaline. Unlike the Renaissance boxes of hardstone intarsia, which required many artisans to complete, the Camellia box was designed and executed almost totally by Nicolai Medvedev.

SOME NOTES ON OTHER MEDVEDEV PIECES

Medvedev has been able to complete a small collection of boxes, pendants, and other objects of art each year. The pendants are particularly interesting (figure 6). Special pieces of opal, or cross-sections of azurite-malachite stalactites, are surrounded by other complementary materials. The

opals are backed with obsidian to produce a doublet effect, and then the entire piece is backed with whatever gem material was used as the final framing on the front. The pendants average 4–5 cm (1½–2 in.) long and seldom exceed 3 mm in thickness.

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