

Abstracts

Jenő Bartos

Conservator Training at the University of Arts, Iași, Romania

The University of Arts (Universitatea de Arte) in Iași is the only university in Romania which teaches music, drama, and the visual arts. The section for the 'restoration and conservation of art works', which has operated independently since 1997, has two principal lines of direction: wall painting and icon painting. Its main guiding principle is the maintenance of an appropriate balance between scientific and artistic elements as well as between theory and practical work. Students of restoration study artistic drawing and painting (which many foreign universities omit), and join the training not by signing up, but by passing an entrance examination. As well as independent work by the students themselves, another educational method successfully employed by the training is the studying of historical monuments *in situ*. In this field, participation of students in the restoration work conducted between 1996 and 2001 in the church at Probota (Suceava county), which is under the protection of UNESCO, the Japan Trust Fund for Heritage, and the Romanian Ministry of Culture, has been most important. In the field of tempera painting, the first more significant task was the restoration, between 2002 and 2003, of the iconostasis in the monastery church at Putna (Suceava county). Currently, students are working, under the supervision of their teachers, on the restoration of wall paintings in the monastery church of Dragomirna, and on the restoration of the iconostasis in the 'Banu' church in Iași. The restoration specialisation is now already known on the national level, too, as a result of its many restorations of art works and historical monuments.

The section obtained permission for its continued operation at first degree (BA) level in 2007 and at the master's degree (MA) level in 2009. Two years later, in 2011, the teaching of paper and stone restoration began in the section. The teaching of the restoration of oil paintings, too, will soon be introduced.

The staff and students of the section take part regularly in the planning of university research and research relating to historical monument protection. They also take part in conferences connected with the field, as well as in the organising of scientific and artistic events at the local level and national level. Of these, the most significant has been the national conference entitled 'Restoration and Conservation at the University' staged in Iași in 2001 with the support of the CEEX Cultural Heritage Programme, the British Council, and the National Museum of Moldavia.

Within the framework of the annual 'University of Arts Days' events, scientific papers, inter-university symposiums, and exhibitions of art all take place. As a result of a study programme organised jointly with the University of Arts in Târgu Mureș (Marosvásárhely), a 'Section for Spectacle Planning' was set up at the last-mentioned institution in 2007. Within the framework of ties developed with the Restoration and Conservation Sciences Section of the Institute for Arts and Technology at Vienna's University of Applied Arts, many exhibitions connected with restoration and conservation have been held at the Romanian Cultural Centre in the Austrian capital. In 2002, joint work with Vienna's University of Applied Arts took place on the analysis of Coptic textiles kept at the last-mentioned institution, using techniques drawn from physics and chemistry.

Of the projects carried out with the help of CReART, which was set up in 2004 as the second scientific research centre belonging to the Faculty of Fine Arts, the most significant has been 'The Supervision of Historical Monuments in Romania Subject to Pluridisciplinary Research and Restoration', which took place within the framework of the programme 'CEMMO 2005–2008'. Another was the programme 'Cultural Heritage: Improvement practice in teaching and learning', which was organised jointly with the British Council's branch in Bucharest. This was followed by a further endeavour, the European-level 'Collaborative Project FP7-ENV-2010, 265132, MEMORI – Measurement, Effect Assessment and Mitigation of Pollutant Impact on Movable Cultural Assets. Innovative Research for Market Transfer'.

Prof. Dr. Jenő Bartos

Head of the Doctoral School
at the Faculty of Visual Arts
Universitatea de Arte
700450 Iași, str. Sărăriei, nr. 189.
Phone/Fax: 40-0232-225333
E-mail: jenobartos@gmail.com

Translation: Chris Sullivan

Hédy M-Kiss – András M-Kiss Conservator Training in Timișoara

Institutional fine arts training began in Timișoara in the autumn of 1933, when the Cluj School of Fine Arts moved there and for a short while carried on its teaching and educational work in the city.

After a forced break, the Pedagogical Institute was restarted in 1965. There, in a number of different sections for the arts, e.g. in the fine arts section, the training of teach-

ers continued right up until 1979, when it was brought to an end. This happened because of a reorganisation of the educational system, and for political reasons also.

In this institution, which built on the significant fine arts traditions of the interwar period, well-known artists of the time found their place. For generations, they nurtured in their students a vocation to create, a respect for the arts, and the desire to pass on the traditions of material culture.

The ending of the teaching did not mean the cessation of local fine arts activity; indeed, the withdrawal of trust on the part of the authorities led to more and more artistic endeavours. Some of the students became organisers and pioneering artists in the Timișoara avant garde, which was known internationally, too, in the 1960s and 1970s (see 'Grupul 111', 'Grupul Sigma').

Therefore, following the political changes in Romania in 1989, it was natural that fine arts teaching should again be organised in the city. This took place in 1990, within the framework of Timișoara's West University and partly on the pattern of the teaching at the Academy of Fine Arts in Nuremberg.

Today, the Faculty of Fine and Applied Arts operates in a separate complex of buildings. Its goals are threefold: the conducting and development of fine arts teaching, the organisation of research relating to the visual arts, and the presentation of careers in the arts as a function of choice of direction. Education in the fine, decorative, and applied arts operates according to the Bologna system. Not only is basic (first-degree) training offered, but also courses leading to a master's degree and doctoral degree (PhD).

With its suitable levels of equipment, its experienced teaching staff, its exhibition spaces, and its specialist library, the Timișoara institution today serves as a yardstick in the western half of Romania, as well as in the Danube–Körös–Maros–Tisza Euro-region.

Within the framework of the fine arts branch, there operates a section for theory and practice that teaches the conservation and restoration of wall paintings, icons, textiles, stone artefacts, and archaeological finds. The richness of the teaching material guarantees the thorough training of conservators, as well as opportunities to acquire key knowledge needed in connection with material culture and the long-term saving of art works.

Dr. Hédy-M-Kiss

Textil artist and conservator
Muzeul Banatului Timișoara
Phone: +40-720-311-758
E-mail: andraskiss2000@yahoo.co.uk

Dr. András M-Kiss András

Biologist
Muzeul Banatului Timișoara
Phone: +40-723-610-636
E-mail: andraskiss2000@yahoo.co.uk

Translation: Chris Sullivan

Nicoleta Melniciuc-Puică

Preserving Christian Treasures at the Department of Ecclesiastical Art

The Department of Ecclesiastical Art, which operates within the Faculty of Orthodox Theology at the Alexandru Ioan Cuza University in Iași, was the first such body to be set up in Romania, and the first to receive full accreditation. Training in the conservation–restoration of icons and old books began there in the autumn of 1993. Six years later, in 1999, a new specialisation was established: ecclesiastical and church paintings. Since 2003, the faculty has offered training at postgraduate level, and, since 2005, two-year master's training under the title 'Cultural Heritage Research'. The Department continues to boast the only section in the country which trains specialists in the field of religious miniatures.

Successful completion of the six-semester undergraduate training leads to examinations conferring a licence to practice. The Department's 'Cultural Heritage' section offers master's training lasting four semesters and concluding with defence of a master's dissertation. The Department has trained varying numbers of students arriving from Moldavia's theological seminaries, trade schools, grammar schools, and, sometimes, art schools ever since the academic year 1993–1994. It has trained master's students, who so far have largely been graduates of the Department itself, since the academic year 2010–2011.

The Department's theory classes, seminars, and studio practicals are taught by academic staff of the Faculty of Orthodox Theology. Some subjects are taught by academics from other faculties at the university, as well as by those at Iași's George Enescu University of Arts and by conservation–restoration specialists at the National Museums Complex of Moldavia. The Department's teaching staff members participate in national and local research programmes and in drawing up the plans for these. Their numerous publications are brought out by publishers recognised by the CNCSIS (National Council of Scientific Research Conducted in Higher Education); some appear in specialist periodicals. Among the activities of teaching staff and students in the Faculty of Orthodox Theology, the staging of exhibitions enjoys a prominent place. In the last three years, the Department has organised 14 exhibitions of sacral fine arts artefacts. It has organised two international meetings and an international ecclesiastical painting workshop, with the participation of speakers teaching ecclesiastical art at European universities.

For its theory and practical work, the Department has 29 classrooms and seminar rooms, well-equipped laboratories and studios, a computer room, and a chapel. The Faculty of Theology's Studium Library holds 40,000 volumes and subscribes to the most significant national and foreign specialist periodicals. Students also have access to the Metropolitanate of Moldavia and Bukovina's Dumitru Stăniloae Ecumenical Library, where more than 120,000 titles are to be found.

Some of the Department's graduates work at the Resurrexio Conservation and Restoration Centre operated by the Metropolitanate of Moldavia and Bukovina, or at firms that are well known (e.g. the Panselinos painting studio). Some students who graduated before 2005 from the pedagogy module teach religious knowledge in schools, while some who graduated in subsequent years teach art in schools. Monks and nuns active in the museums of the monasteries belonging to the Metropolitanate of Moldavia and Bukovina (Golia, Cetățuia, Putna, Dragomirna, Sucevița, Dumbrăvele, Stavnice, etc.) are likewise graduates of the Department, the only one in Moldavia to offer training in these fields.

Prof. dr. Melniciuc-Puică Nicoleta
Facultatea de Teologie Ortodoxă
Universitatea Alexandru Ioan Cuza
Iași

Translation: Chris Sullivan

Gabriela Krist **Conservator Training at the University** **of Applied Arts, Vienna**

The Institute for Conservation–Restoration at the University of Applied Arts in Vienna is an internationally recognised centre of competence regarding conservation–restoration issues in the field of cultural heritage. The Institute has been headed by Prof. Dr. Gabriela Krist since 1999. Following agreement with Vienna's Academy of Fine Arts, which likewise offers conservator training, courses are available in four specialised fields of conservation–restoration: paintings, artefacts, stonework, and textiles. During their time at the Institute, students have the opportunity to specialise further, on the restoration of archaeological finds, contemporary art works, and new media. The training, which lasts five years, consists of two parts and leads to a master's degree.

Art history knowledge, current working and research methods, strategies for preventive and long-lasting preservation, management of collections and exhibitions, considered treatment with materials used for conservation, respect for ethical criteria, and interdisciplinary thinking are central themes in the conservation sciences teaching conducted at the Institute.

The Institute lays great emphasis on co-operation with – and participation in – domestic and international research and preservation/conservation projects. From the outset, students work on original artefacts. A laboratory used together with the university's Department of Archaeometry and Technical Chemistry affords students a scientific background for their practical work. Co-operation with the university's collections, with other institutions, and with the workshops of the Art and Technology Institute is an integral part of the study programme. The

involving of graduates in projects and opportunities for further training at postgraduate level help graduates to use their knowledge and to keep it up to date, and also to form a network.

Prof. Dr. Mag. Gabriela Krist
Universität für angewandte Kunst
Konservierung und Restaurierung
1010 Wien Salzgries 14
Phone: +43-1-71133-4810, Fax: +43-1-5321447-4819
E-mail: kons-rest@uni-ak.ac.at

Translation: Chris Sullivan

Gerdi Maierbacher-Legl **Conservator Training at the University of Applied** **Sciences and Arts (HAWK), Hildesheim, Germany**

For more than twenty years, conservators have been trained at the university's 'Cultural Heritage Preservation' section. As a result of the Bologna process, since 2003 a three-year BA course in 'Preventive Conservation' has been run, and a two-year master's course in 'Conservation–Restoration' that builds on this. Both courses lay emphasis on the practical teaching of the working out and use of scientific investigations and conservation and restoration techniques. The aim of the BA course is that students master – through original case-studies – the appreciation and interpretation of the frame conditions for the conservation of artistic and other cultural treasures (namely the appropriate art work environment); the procedures for the safe storage, transportation, and exhibiting of art works along with the use of these procedures; the detection and handling of disaster situations; and the methods for the preservation of materials. The master's course deepens the scientific demands in the field of analysis, the mechanisms of degradation processes, and historical connections. Project management devotes great attention to the responsible conducting of restoration projects. An essential distinguishing feature of the training is that it places at the centre not theory, but the historical cultural treasure itself. Practical work and projects are designed and carried out in co-operation with numerous museums, archives, and institutions dealing with the protection of historical monuments. Students spend one semester on compulsory practice in workshops at home or abroad. There, they begin to build up contacts and acquire new impressions.

After a year spent preparing studies in a conservator studio known to the institution, students can choose from among five specialisations: restoration of written relics (books and graphic art), restoration of painted wood and paintings, restoration of wooden artefacts and furniture, restoration of stonework and ceramic,

and restoration of wall paintings and architectural surfaces.

Prof. Dr. Gerdi Maierbacher-Legl

Universität für angewandte Wissenschaft und Kunst

Fakultät Erhaltung von Kulturgut

31134 Hildesheim, Kaiserstraße 19.

Phone: +49 (0) 5121-881-378

E-mail: maierbacher-legl@hawk-hhg.de

Translation: Chris Sullivan

Gerdi Maierbacher-Legl
Carved Transylvanian Choir Stalls from 1537
with Intarsia
A research and restoration project of 2011

With the permission of the Lutheran (Evangelical) Church of Romania, we took a set of late Gothic choir stalls from the parish church at Dupus (Táblás, Tobsdorf) to the wood and furniture conservators' studio at the Department of Conservation at Hildesheim's University of Applied Sciences and Arts (HAWK), in order to investigate thoroughly its materials and condition, and also to restore it.

On the basis of the techniques used in its making, this piece of furniture belongs among the works of Johannes Reyhmut, a marker of intarsia and a sculptor of wood in Sighisoara (Segesvár, Schäßburg). Decorated with ribbon intarsia and flat carving, late Gothic sets of choir stalls of this type are common in the vicinities of Medias (Medgyes, Mediasch) and Sighisoara. The large set of choir stalls in Sighisoara's Church on the Hill belongs to this type; so, too, do the less-known sets of choir stalls at Biertan (Berethalom, BIRTHÄLM), Medias, and Prejmer (Prázsmár, Tartlau). However, apart from these, similarly decorated sets of choir stalls survive in a dozen small village churches. These unique examples of Transylvanian church furniture have not yet been accorded the scientific attention they deserve. It seems that such attention is all the more urgent since they are now endangered, because of a deterioration in their condition occasioned by their age, the materials from which they are made, and their circumstances, which are very often highly unfavourable. Hildesheim conservator students visited these sets of choir stalls during a two-week study tour, recording their data and documenting them photographically.

After having been stored in dismantled form at Cristian (Kereszténysziget, Großau), near Sibiu (Nagyszeben, Hermannstadt), since 2002, the set of choir stalls arrived at the conservator studio of our university in Hildesheim in very poor condition. Within the framework of a programme many years old, we prepared photographic documentation of it, and, with the help of a digital CAD drawing, analysed the techniques used in the making of it, later assembling the artefact in three dimensions and making it viewable interactively from all sides. Identification, with a microscope, of the types of wood used for the

framework, the covering, and the block intarsia – along with investigation of the pigments colouring the carvings and of the adhesive material employed – supplemented our survey of the production techniques. Laboratory investigations did not indicate microbiological infection, but because of active damage caused by insects, a six-week disinfection with nitrogen was necessary. By means of this disinfection, the conditions were created for the appropriate strengthening, with different solutions of acrylic resin, of the supporting elements much eaten by insects. We shall check the depth of penetration of the strengthening material and its extent using a computer tomograph borrowed from the health service. We experimented with a selection of augmentation and reconstruction procedures appropriate for the damaged parts of the piece of furniture ranging from wood-sculpting techniques to the laser-scanning used for CNC cutters in the woodworking industry. The making of an exact copy of the flat-carved, moulded gable and the reconstruction of the block-intarsia motifs have served to document the artistic techniques employed on this piece of furniture, and to acquaint students with the techniques used in its production.

Translation: Chris Sullivan

Katalin Görbe – Petronella Kovács
Conservator Training at the Hungarian University
of Fine Arts

Higher education of conservators began at the Hungarian University of Fine Arts in 1948. As at other academies of arts, the professional training there was built on fine arts foundations. This is the only institution in Hungary at which it is possible to graduate as a conservator artist. After restoration of paintings (on canvas, on panels, and on walls), restoration of sculpture began at the Conservator Section in 1970. This was followed by the establishment, in 1974, of the Applied Arts Conservator Specialisation, as a section running correspondence courses (the options available are wood and furniture; metalwork and jewellery; paper and leather; textiles and leather, and silicates). Applied arts conservator training is provided in co-operation with the Hungarian National Museum, with the majority of the classes being given at the National Conservator and Conservator Training Centre, where the practicals are held. For full-time and correspondence students alike, the training lasts a full five years. Since 1999, students have been able to obtain a doctoral degree (DLA) also. The training for this lasts three years.

Those applying for admission to the Hungarian University of Fine Arts have to sit a multi-part entrance examination. For those applying to the Painting Conservator Specialisation, drawing a head and a nude after a model is required, as is copying; for those applying for the Branch of Sculpture Conservator, the tasks are the modelling of a head, figural drawing, and the copying of a relief. For

the Branch of Applied Arts, the tasks include the making of a still-life drawing after a model, the copying of plant motifs from clay, and a test in inorganic and organic chemistry. In the last – four-day – stage, tasks characteristic of the specialisation chosen have to be performed.

Teaching is divided equally between theory and practice. Attending a large number of classes, students study special subjects: physics, chemistry, analytics, materials science, material investigation, preventive conservation, painting techniques, general art history, cultural history, monument protection, museum work, iconography, the history of restoration, and ethics. In the Applied Arts Specialisation, students familiarise themselves with production techniques and conservation methods for silicates in their first year, metal artefacts in their second year, and objects made of organic material in their third year, from the standpoints of theory and practice alike. In the last two years, theoretical and practical subjects serve the chosen specialisation. For its practical teaching, the Department borrows art works from significant state, ecclesiastical, and private collections. Each student performs restoration work as a degree task, which generally takes more than six months. The student therefore selects his or her restoration artefact in the early part of the ninth semester. In addition to his or her ongoing studies, the student begins historical research concerning the artefact and investigation of its material composition; he or she also draws up a restoration plan. As well as the performance of practical work in the studio, the writing of a dissertation, too, is an essential requirement for the obtaining of a degree. In all this, students are assisted by the Department's research laboratory equipped with microscopes; a specialist library consisting of more than 1500 volumes; a documentation, photograph, and video archive; study trips; and further training presentations in the field.

Artefacts restored by students and submitted as degree projects can be viewed by the general public at the 'Rescued Art Treasures' exhibition staged at the Hungarian National Museum each year. Catalogues for these exhibitions – in Hungarian and in English – are published by the museum and the university jointly.

In 2003, the Applied Arts Specialisation organised an intensive project entitled 'Conservation of Transylvanian Saxon Furniture' for students at four universities: HAWK (Hildesheim, Germany), EVTEK (Helsinki), Universitatea Lucian Blaga (Sibiu [Nagyszeben], Romania), and the Hungarian University of Fine Arts. In the same year, we took part in Sighisoara (Segesvár) in a programme organised by HAWK directed at saving carpentered chests in the church at Brădeni (Hégen), Romania. From 2010 until 2013, we are members of the intensive project 'Documentation of Historical Techniques in Arts and Crafts' organised by Metropolia University (Helsinki), the third programme of which will take place in Hungary in 2013. Many members of our teaching staff give specialist courses – on the basis of invitation – at 'die Angewandten' in Vienna and at Metropolia University in Hel-

sinki. Since 2010, we have participated in the work of the Syrian-Hungarian Archaeological Mission in the archaeological excavations at Margat Castle. Some of the restoration practicals of the applied arts conservator students are organised in Transylvanian museums, thus contributing to the preservation of the material artefacts of the Hungarian people beyond Hungary's borders. The 4th International Conference of Students of Artefact Restoration in Europe will take in Budapest in 2014, organised jointly by the Hungarian National Museum and the Hungarian University of Fine Arts.

Prof. Katalin Görbe, DLA

Painting conservator artist
Head of Specialization for Painting Conservation
University of Fine Arts
1062 Budapest Andrásy út 69–71.
Phone: +36-1-3421-738
E-mail: katalin.gorbe@mke.hu

Petronella Kovács, DLA

Wood and furniture conservator artist
Head of Branch of Applied Arts Object Conservation
University of Fine Arts
Head of the National Centre
of Conservation and Conservation Training
Hungarian National Museum
1450 Budapest 9. Pf. 124
Phone: +36-1-323-1416/159
E-mail: kovacs.petronella@gmail.com
kovacs.petronella@hnm.hu

Translation: Chris Sullivan

Katalin Görbe

The Restoration of a Large Painting on Canvas as a Task in Conservator Training

Doing the academic year 2008–2009, the task of restoring a large canvas picture in extremely poor condition was assigned to fourth-year students at the Department of Restoration, Hungarian University of Fine Arts. With regard to the painting's origins, we knew merely that it had come from a cloister in the German state of North Rhine-Westphalia. The state of the surface, unclear to the point of being unidentifiable in some places, made analysis of the subject-matter extremely difficult, and also the decipherment of the Gothic-script German inscriptions below the various picture fields. In parallel with the restoration work, research took place into the age and history of the picture. As a result of this, it became clear that the painting showed four scenes of a miracle by St. James, and that, on the basis of stylistic features, the work could be dated to the 17th century. This last conclusion was supported by scientific analysis of the materials used.

The piece was in a critical condition: the upper left-hand quarter of the picture had been cut out at an unknown date and what remained had been rolled up tightly, with the consequence that it had deteriorated a great deal. Because of poor storage, the paint layer had started to flake strongly and the edges of the canvas had split away. Additionally, the canvas had shrunk because of damp and a significant part of the upper right-hand picture field was missing. Although intended to save the painting, earlier conservation work had in fact made the situation much worse: the separating of strips of canvas stuck together with adhesive that was too strong caused major problems. In comparison with the tasks of average difficulty, planning the schedule of the restoration and harmonising the materials and procedures to be used received even greater emphasis in this case. The result was that the work yielded significant lessons from many different points of view.

The painting was mounted on thick canvas, and a complete making good aesthetically also took place.

Prof. Katalin Görbe, DLA
Painting conservator
Conservation Department
University of Fine Arts
1062 Budapest, Andrásy út 69–71
Phone: +36-1-3421-738
E-mail: gorbe.katalin@mke.hu

Translation: Chris Sullivan

Márta Kissné Bendefy– Katalin Orosz **The Role of Model Experiments in Conservation Training**

Conservators have huge responsibility when they work with original art objects. This is especially the case when they wish to try out new materials or methods, or to employ known materials in a different way. In such situations, model experiments can be very useful. During the university-level training of conservators by the University of Fine Arts and the Hungarian National Museum jointly, it is considered important that students should be able to take part in the planning, execution, and evaluation of such experiments. The article introduces some experiments of this type in connection with leather and paper-based art objects, mainly artefacts assigned for degree project work. The case studies do not go into details regarding the work performed in the course of these projects. Instead, they emphasise only the planning, execution, and findings of the experiments, which related to one or two specific tasks.

During her degree project – the conservation of an eighteenth-century pair of boots which had deteriorated on account of high temperatures –, Róza Brenner had to repair a torn area where only very narrow overlapping of leather was possible. Here, a number of adhesives and adhesive mixtures were tested on leather

samples similar to the original, with attention to their pH value, flexibility, and strength, and to the durability of the bond.

Katalin Puskás wished to apply an organic aluminium compound developed experimentally by researchers at the Leather Conservation Centre (Northampton) on the leather binding of a nineteenth-century photograph album suffering from red rot. In this case, samples of nineteenth-century and new leather were used to compare the possible effects of different organic solvents, techniques for avoiding the products of such solvents on the surfaces of the album, and ways of strengthening the weak fibre structure of the leather.

Lívía Ruska's degree project was to conserve two heat- and water-damaged handwritten prayer books. Bound in gilded leather, these were decorated with painted-and-gilded lettering and featured aquarelle paintings. The aim of the conservation was to reinforce the materials and structure of the books, and to improve their aesthetic appearance by protecting the extremely brittle carbonised paper edges and writing. The model experiments were directed towards making the paper less brittle, and protecting the paint and pigment materials during treatment using dampness. The student conducted her experiments on special test paper painted with the original types of paint and then scorched.

The way of working was always the same: defining the aims of the conservation and of the model experiment; choosing the tests and planning the different steps; choosing and/or preparing the model materials; executing the tests and documenting them; performing control examinations; and evaluating the results and choosing the proper materials and methods for conservation. Although the above case studies showed very simple and easy experiments, their findings were able to reduce considerably the risk of using harmful treatments. Moreover, for the students it was very useful to gain experience of the behaviour of materials found in art objects and of materials used to treat them. This knowledge will hopefully make them more aware, and help make their future conservation work safer.

Márta Kissné Bendefy
Leather conservator
Centre of Conservation and Conservation Training
Hungarian National Museum
1450 Budapest 9. Pf. 124
Tel: +36-1-323-1416/173
E-mail: kissne.bendefy@gmail.com

Katalin Orosz, DLA
Paper and leather conservator
Centre of Conservation and Conservation Training
Hungarian National Museum
1450 Budapest 9. Pf. 124
Tel: +36-1-323-1416/173
E-mail: oroszkata.rest@gmail.com

Dániel Jakab

**The Restoration of a Two-Part Painted Dresser
from Homoródalmás (Merești), Romania**

The artefact was purchased in Transylvania for the Open-Air Ethnographical Museum at Szentendre, as part of the furniture and fittings of a house at Homoródalmás (Merești) whose reconstruction there was planned for later. The dresser, which bears the date 1861, was presumably painted by a member of Homoródalmás's Balázs family, who were painters of furniture.

The dresser, which consists of two parts, was found in the pantry of this house at Homoródalmás (Merești). The pantry had a beaten-earth floor inclined to dampness. The surfaces of the artefact were soiled; the lower element of it was covered with a bark-like layer of earth. The parts in contact with the floor were mouldy. The lower section of the body of the dresser, the bottom templets, and the base were completely decayed, on account of rot. There were many cracks in the dresser and bits of it were missing. One of the metal door-hinges was corroded and incomplete. On the bottom parts of the dresser, the paint had become sodden; in many places, the paintwork was very worn.

With the aim of reconstructing the base, the author conducted research. In the course of this, he managed to find in the museums of Hungary and Transylvania, as well as in private collections, 19 similar dressers from along the banks of the Homoród (Homorod) streams. Of these, nine served as analogies for the restoration of the piece of furniture. After examination of the structure of these dressers, the full height of the artefact could be determined, as could the technical solutions used in its making.

During investigations of the materials used, examination of the paint layers and pigments was performed using a polarising microscope and also EMA, XRF, and microchemical methods; investigation of the adhesives employed was by means of FTIR. In the paints employed, we detected calcium carbonate, ferric oxide, Prussian blue, cinnabar, and barium chromate. The green paint was probably a mixture of Prussian blue and barium chromate. For the sheen, cochineal was used. The adhesive employed was probably a mixture of animal glue and starch.

Two main lines of endeavour were decided on in the restoration plan: first, in the event of the suitable strengthening of the wooden surfaces damaged by mould, the dresser would be made good on the basis of analogies; and, second, if the outcome of the strengthening was not appropriate, only cleaning would be performed, after which the artefact would be put on show in a climate-controlled exhibition. In this second case, in place of the original we would make a reconstruction of the artefact for the Merești house so that the house's furniture and fittings would be complete.

The cleaning of the bare wood surfaces of the dresser was performed with the foam of a solution of Evanát (alkyl sulphate), while the surface soiling of the painted layers was removed using a 1:1 mixture of acetone and

water. The bark-like covering of earth could be removed after humidification through Sympatex semipermeable membrane wrapping using a solution of Selecton B2 in water. The surfaces were then neutralised using ammonium carbonate.

For the strengthening of the lower part, we chose, after a number of experiments with epoxy resin and acrylate (Embaleum LX Härtend and solutions in xylene of Epoxi-Holzverfestigung, Araldit 2020, Reckli Injektionsharz, Paraloid B72 in different concentrations), a 10% solution of Paraloid B72 in xylene. Strengthening was performed by dipping that parts that needed it in the solution. The majority of the parts thus strengthened proved suitable for augmentation; parts that remained soft were afterwards sprayed with a 15% solution of Paraloid B72 in xylene.

Reconstruction of the destroyed lower part took place on the basis of the analogies and the construction techniques apparent from the artefact itself. The height of the body, the base, and the bottom mouldings were all attended to in this way. In every case, the augmentations were made from larch, the wood used for the dresser, with profiles appropriate for the surface to which they would be added. The recording of shapes using a profile comb and the tracing of splits in the surfaces using carbon paper enabled us to preserve to the greatest possible extent the damaged, but already strengthened wood in the dresser. The painting of the reconstructed parts and the touching up of the paintwork were performed on the basis of the elements and motifs of the dresser and of the analogous furniture discovered. The pigment was mixed with 8% solution of Mowilith 20 polyvinyl acetate resin as binding media dissolved in three parts acetone to seven parts ethanol. To begin with, the touching up of the background and of the primary colours was performed; in many cases, this clarified motifs that were hitherto scarcely visible. In the case of the door, we managed, using photographs modified with help of digital technology regarding colour temperature, richness, contrast, and light level, to show motifs that were already almost invisible. On the basis of the digital pictures, these motifs were then reconstructed; and on the basis of the intact door-hinge, a copy was made to replace the incomplete one. Conservation of the metal surfaces was performed using tannic acid; a coat of WD 40 was then applied as a protective layer.

During the restoration of the two-part Homoródalmás (Merești) dresser dated 1861, we managed, thanks to the strengthening work and the finding of analogies, to implement a version of the restoration plan that seemed the best possible from the perspective of the preserving and exhibiting of the artefact.

Dániel Jakab

Wood and furniture conservator MA
Open-air Ethnographical Museum
2000 Szentendre Sztravodai út
Phone: +36-30-6707-850
E-mail: jakab.daniel@esense.hu

Translation: Chris Sullivan

Attila L. Tóth
EPMA for restorers
Part 4 Local analytical methods based
on X-ray emission
A comparative study

Analytical methods and instruments based on spectral detection of characteristic X-rays emitted from a $\mu\text{m}^3 - \text{cm}^3$ sized microvolume of the sample can reach the 0.1 – 1000 ppm sensitivity. It has to be emphasized, that – unfortunately – these excellent parameters belong to different instruments. The study compares these methods helping the restorer to choose the appropriate method – or methods.

The Fig.10. of the study summarizes the characteristic parameters of the methods.

The diameter of the exciting radiation determines the minimal amount of material that can be analyzed. The electron probe micro-analyzer (EPMA) still uses the finest beam although the two accelerator based methods micro beam Synchrotron X-ray Fluorescence and microbeam Proton Induces X-ray Emission (μSRXRF and μPIXE respectively) can produce submicrometer beam diameters, too. The hand-held XRF excites a spot of several mm diameters.

The excitation depth is small for electrons (EPMA), larger (but still on μm scale) for protons (PIXE). The X-ray fluorescent methods (μSRXRF and hand-held XRF) excite deeply, so the analyzed mass is larger.

The calculation of depth distribution of the excitation is well known for particles (EPMA and PIXE), while problematic for X-rays (μSRXRF and hand-held XRF).

The detectability limit of the μSrXRF is outstanding (0.1 ppm). Here the EPMA is the worst (0.1 wt%), the μPIXE and the hand-held XR show quite good values.

The range of detected elements is $4 < Z < 92$ for EPMA, while $14 < Z < 92$ for the others (in air).

The sampling is the easiest for hand-held XRF as it can be taken to the object. In the case of μPIXE and μSRXRF the object has to be transferred to the laboratory. The most inconvenient is the EPMA, where the object has to be taken into the evacuated specimen chamber,

All of the methods – except the μSRXRF – are available in Hungary, but as the synchrotron centers offer measuring time for researchers, the choice of the appropriate method is free – please choose the best for your problem.

Attila L Tóth PhD, CSc
Senior res.fellow
Hungarian Academy of Sciences TTK MFA
H-1121 Budapest Konkoly-Thege u. 29–33.
Phone: +36-30-287-5290
E-mail: toth.attila.lajos@ttk.mta.hu

Translation: Attila L. Tóth

Miklós Szentkirályi
The Concept of Primacy: Saving Finds or Restoring
Them

The purpose of the study is to dispel erroneous beliefs increasingly influential today, namely those which place conservation at the forefront of artefact protection, and also to question the justification for even the most basic augmentations. It is our conviction that the conservation of an art work, namely its preservation in its existing state within any kind of addition, and the restoration of the aesthetic value of the work at a level that can be expected, should result not from current fashion, but from a considered decision.

According to the ballad, Rudolph, king of Germany, encountered a monk by the side of a stream, the bridge over which had been swept away by the water. The monk was hurrying with the Holy Sacrament to someone who was dying. Rudolf offered him his horse so that he could cross. This theme was painted by Johann Peter Krafft (1780–1856), in a magnificent composition with bold colours in the spirit of the Biedermeier genre.

The inexpert, albeit well-intentioned, rolling up of the painting at the time of the Second World War brought disastrous consequences: the paint layer, lifted and detached from the canvas as a result of compression, had disintegrated in many different places. The disrupted surface and the brown coating of varnish obscured the rich details almost completely. The original canvas had been doubled twice, firstly in the second half of the nineteenth century and secondly in the early twentieth century.

After the re-attachment of the paint layers that had come off, we protected the painted surface with japan paper, subsequently removing the two layers of old doubling canvas and performing conservation of the original canvas. We ironed the two-layer, wide pulling edge, which we soaked with Mowilith synthetic resin, placing into this edge metal eyelets at intervals of 10 centimetres. In this way, we obtained reusable attachment points and could fix the painting to a stretching frame with screws instead of the traditional tacks. The significance of this derived from the size of the art work, because a painting as large as this can be transported only in dismantled form and on an appropriate cylinder.

By means of the above procedures, we saved the painting and preserved the original canvas without doubling. However, the highly fragmentary condition of the work raised the need for augmentation. A decision had to be made regarding the possibilities for the display of the large canvas (336.5 x 230 cm), and on the extent of aesthetic restoration of it. Jointly with art historians at the Budapest Museum of Fine Arts, we decided on a full aesthetic restoration. The issue of augmentability is much debated in the case of damaged art works, since conservation and preservation in an unchanged state are placed in the forefront more and more. But without augmentation, an incomplete or damaged painting can be very perturbing, and in some

cases its original message cannot be sensed at all. Cultural products are not just artefacts and authentic documents for different fields of research, but are bearers of aesthetic values also. In our opinion, activity confining itself merely to conservation does not lead to a good outcome, because an artistic creation should not be broken down to historical document and effective art work. If we do this, the unity of the work breaks apart and becomes confused; consequently, its usefulness and therefore its preservability can be called into question.

A substantial part of our work was deciding on the method of restoration and the extent of the retouching to be done, since approximately 20 per cent of the painting was missing. A significant number of missing parts broke up the entire surface of the picture horizontally, on account of the rolling up. In the course of the work, we sensed that the methodology of restoration provided us with many degrees and paths, from conservation in the strict sense of the term to total augmentation. Following many discussions, we finally decided in favour of interventions that could be stepped up; in addition to the descriptive character of the painting's theme, the reason was that the defective parts did not affect essential elements. Only in a few places was the making good of defective parts debateable. We made the augmentations by degrees and always one tone lighter, since in this way we could check whether we were modifying the original colours of the work. We regarded the original parts that had survived as the direction givers, adjusting the touching up to these. A help in the augmentation work was a copper engraving made from the painting in 1827 by Franz Kolbe.

Dr. habil Miklós Szentkirályi, DLA
Painting conservator
Head of the Conservation Department
Museum of Fine Arts
1068 Budapest Szondi u. 77.
Phone: +36-30-740-1873
E-mail: miklos.szentkiralyi@szepmuveszeti.hu

Translation: Chris Sullivan

Éva Benedek
The Restoration of a Charter Issued to the Town of Csíkszereda by Mihály Apafi, Prince of Transylvania

Its charter issued by Mihály Apafi, prince of Transylvania, in 1670 is one of Csíkszereda's most important and significant documents. Especially valuable, the document, which is in Latin, was written on parchment, probably using ferro-gallic ink.

To begin with, parchment documents were generally kept in scroll form; later, they were preserved folded up. Stored thus, the present document, too, survived the centuries. Before beginning the restoration work, we carefully opened out the parchment, which was rectan-

gular and which consisted of two parts, in order to give a detailed description of the document and an analysis of the techniques used in the making of it. In this way, it could be seen that in the middle a little booklet slipped through with green, twisted string had been made. The manuscript was plain: the only ornamentation was the copper alloy (resembling gold) used to highlight the initial letters. Since documents are not generally protected by a binding, negative environmental effects impact them more. On our charter, mechanical damage, creasing, and stretching had all occurred, mainly along the folds; some small parts were missing along its edges. Having lost some of its moisture, the parchment had become rather dry.

In the interests of making the above-mentioned Latin document more understandable, a Hungarian translation of it was made in 1895 and written out on machine-made paper, probably using ferro-gallic ink. On the brown-coloured acidic paper, which probably contains lignin, some small parts were missing and there were abrasions on some of the sheets. Taking account of the ethical principles of restoration, we conducted investigations into the material, as far as we were able. Then, having surveyed the damage, we compiled documentation. The parchment document we first opened out and cleaned in its dry state. Then, after a test, we made it more supple using an ultrasound humidifier, with the necessary amount of water vapour. Appropriately smoothed out after careful pressing, the parchment document was re-sewn with the twisted string, which had been cleaned damp, and its missing parts were made good using Japanese paper.

The Hungarian-language document written on paper was cleaned in a dry state. The acidity of the paper was measured using pH paper, and, in the interests of neutralising possible further acidification, a de-acidifying spray was used. Its restoration concluded with the making good of the pieces that were missing.

The interventions performed on the parchment and the paper alike made these art works finer aesthetically and more stable. The two documents were placed on blotting paper mounted on acid-free cardboard. For their storage, we recommend a temperature of 18–20° C, humidity (RH) of 45–55 %, and lighting of 50 lux maximum.

Éva Benedek
Paper and leather conservator MA
Muzeul Secuiesc al Ciucului,
530110 Miercurea-Ciuc, str. Cetatii. 2.
E-mail: benedekeva54@gmail.com

Translation: Chris Sullivan

Éva Mester

Restoration of Glass Paintings in the Ipolyi Collection

Arnold Ipolyi – bishop of Oradea (Nagyvárad), knowledgeable art collector, and generous art patron – amassed approximately 1700 art works and bequeathed them to posterity. They form the basis of Hungary’s largest ecclesiastical collection, the Christian Museum in Esztergom. To this day, researchers are indebted to his notes in connection with these art works. In relation to Hungary, and with regard to continual losses caused by destruction during wars, the collection can claim to be unique, on account of its high number of centuries-old glass paintings. With the uncovering and publishing of archival sources, light may be shone on the history and provenance of these cabinet glass paintings and coats of arms painted on glass, which have already cropped on inventories in a number of places. An outline inventory made in 1918–1919 of the bequest, whose history has been eventful, may give starting points for the identification and researching of the thirteen art works whose restoration took place in the years 2011–2012 with the support of the National Cultural Foundation, i.e. for the establishing of their origins with regard to time and place.

Expert transportation and storage explain the extraordinary way in which these fragile glass artefacts have borne their many changes of location. They may be divided into two groups. One part is pre-nineteenth century and may go back up to 500 years. Most of these pieces are small paintings of coats of arms on leaded glass. The other part, in which there are likewise coats of arms, already consists of larger often figural works, mainly in the historicist style of the nineteenth century, and displays German influence. These assumptions need to be confirmed or denied by researchers. Of the art objects restored in the framework of the work publicised, on just one – a coat of arms painted on glass – is the year of production given: ‘Anno Domini 1536’. In the absence of written sources, the colour of the glass ground, its composition, and its working (e.g. thin *überfang* glass sheeting), as well as specifics of the painting techniques employed (painting with different stains, damask painting) may point to the time these creations were made.

As the dedication in the Corpus Vitrearum puts it, the leaded fields along with everything belonging to them – including the lead strips even – should be preserved for posterity, in the interests of authenticity and the findings of later researchers. The restoration of every art work took place according to a restoration plan made in a manner appropriate for its condition. The most difficult tasks were in connection with glass scarcely more than 1 mm in thickness: the straightening out and the putting back of squeezed and crushed lead strips, the sticking of splinters of broken glass (with Araldit 2020 epoxy resin), and augmentation with suitable glass where necessary. Similar difficulty attended the removal of soiling thickly deposited on surfaces: limescale and other harmful materials.

In the interests of the long-term, damage-free display of art works and the safe storage of them, every glass painting was after preservation of its original but weak lead strips – placed in an additional all-round lead setting; in this, small eyelets for fixing were made, according to the solution for hanging used initially. At present, the restored glass paintings currently make up part of the permanent exhibition at the Christian Museum of Esztergom.

Éva Mester, DLA

Glass artist, conservator

1082 Budapest Nap utca 37.

Mobile: +36-70-211-3297

Translation: Chris Sullivan

**Piroska Almássy – Zoltán Horváth – Tibor Kolozsi –
Benjámín Nagy – Vilmos Osgyányi – András Peltán
– Gábor Séd**

**The conservation of the monument of King Matthias
at Cluj-Napoca**

The majestic memorial of King Matthias – the most famous masterpiece of the sculptor Janos Fadrusz – was unveiled in 1902. It became one of the main symbols of Kolozsvár (Cluj-Napoca, Transylvania, Romania). The triangle-shaped sculpture is standing on the main square of the county capital, at the side of the Saint Michael’s Church. The main figure is the king sitting on a horse on the top of a bastion. The four leaders of the feared regiment called „Black Army” are around him. The top of the triangle is the ruler’s head with a laurel wreath on it. The plaster model of the sculptural group – among hundreds of statues – won the Grand Prix at the Exposition Universelle of 1900 in Paris.

The tender for the conservation of the monument was announced by the major’s office in Cluj-Napoca in 2007. It based on the surveys of a local company the Utilitas Built Heritage Conservation Research and Design and the Part of Art Foundation. The plan was to strengthen the stone pedestal by injecting cement into it and to make only aesthetical restoration of the ashlar. The method of the restoration of the bronze statues would have been decided after they had been opened. After the winner of the tender, the SC Concefa SA from Sibiu took over the working area, they had serious doubts about the feasibility of the conservation plans. The cover of the stone pedestal under the horse figure – made of metal sheets – was found opened, allowing the water to seep into the stone. Concefa started to cooperate with Techno-Wato Merchant Construction Ltd. and other Hungarian specialized experts – Dr. Zoltán Horváth, Gábor Séd and Vilmos Osgyányi – in August 2009. The experts ascertained that there was not enough information about the stability of the stone supporting structure.

Electrical resistance measurements and micro-seismic- and radar testings (by the Eötvös Loránd Geophysi-

cal Institute of Hungary (ELGI) and test drillings (by András Peltán) were made. The investigations showed the same result. The stone pedestal of the statue of King Matthias was saturated with water, reducing the solidity and the carrying capacity of the structure. The iron elements, fastening the equestrian statue were probably heavily corroded. It was necessary to replan the conservation process. The lifting of the bronze statue was inevitable for the unburdening of the weakened base. The deposition of the bronze sculptures and the disassembly of the stone elements increased the expected costs. There was a heated working area built around the monument, where the bronze equestrian statue hung on a steel structure above the stone pedestal. This made it possible for the stone- and metal conservators to work separately on site. The Romanian and the Hungarian Governments equally shared the costs of the conservation of the monument, which re-inauguration was on the 2nd of April in 2011.

This work draws attention again to the importance of the art historical and scientific investigations before planning a conservation.

Piroska Almássy

Construction engineer, managing expert
Techno-Wato Kft.
1113 Budapest, Rőf utca 9–13.
Phone: +36-1-209-2490
Fax: +36-1-209-2489
E-mail: posta@technowato.hu

Dr. Zoltán Horváth

Geologist
Lithoconsult Kft
1031 Budapest, Silvanus sétány 49.
Phone: +36-30-914-2738
E-mail: hzageolog@gmail.com

Tibor Kolozsi

Sculptor
Phone: +40-740-038-352
Email: tkolozsi@gmail.com

Benjámín Nagy

Sculptor
Phone: +40-745-358-689
E-mail: arsbeni@gmail.com

Vilmos Osgyányi

Stone sculpture conservator artist
Reston Kőrestaurátor Kft
2051 Biatorbágy, Szent István utca 19.
Phone: +36-20-339-3408
E-mail: vilmos@reston.hu

András Peltán

Civil engineer
Voluta Build Kft
Phone: +40-744-820-321
E-mail: apeltan@yahoo.com

Gábor Séd

Object conservator artist
Séd-Vigh Művészeti Kft.
1034 Budapest, Zápor u. 5/a.
Phone/Fax: 388–8596, 368–5015
Mobil. 00–36/30-914-0353
E-mail: sed@freemail.hu, sedvigh@gmail.com

Translation: Eszter Szatmáriné Bakonyi

Zita Károlyi

An Further Training Conference for Transylvanian Hungarian Conservators – A Backward Glance Ten Years On

In Romania prior to 1989, the only way to become a conservator was to qualify as such at the University of Fine Arts in Bucharest. Those who had graduated in fine arts – as painters or as sculptors – could – after another three years of training – be awarded an university-level degree in conservator studies. Intermediate-level conservator training was provided by the Specialist Further Training Centre, which was linked to a government ministry. Those completing this training successfully were qualified to perform restoration and conservation work in museums. There was, however, no provision for professional development. For financial reasons, conservators in Transylvania whose mother-tongue was Hungarian could only rarely participate in conferences in Hungary, and were unable to access the Hungarian-language specialist literature. Romanian-language publications connected with restoration were published in small number only. Specialist literature in foreign languages – English, French, and German – was accessible, albeit with difficulty, but was not commonly read, on account of a lack of familiarity with the specialist vocabulary. Because of all this, and because of the work performed in Transylvania's museums by teaching staff and students at the Hungarian University of Fine Arts, it was suggested that further training be organised in Transylvania for Hungarian-speaking conservators. Mária Lukács, at that time the director of the museum at Gheorgheni (Gyergyószentmiklós), organised the first conference (which was linked to an exhibition) for the conservators of Harghita (Hargita) county. There it was decided that every year a meeting should be held to exchange experiences and to publicise new procedures and materials not yet used by the majority of colleagues in Transylvania. Székelyudvarhely's Rezső Haáz Museum and Rezső Haáz Foundation undertook to organise the conference annually. The teaching staff of the Hungarian

University of Fine Arts welcomed our initiative with enthusiasm, and undertook to share their knowledge without asking anything in return. With powerful help from Petronella Kovács, conservator of wood and furniture and head of the Hungarian National Museum's restoration and conservation training department, the first meeting took place in October 2000 in Székelyudvarhely. Staged every year since then at the Rezső Haáz Museum, the conference provides, in the Hungarian language, further training for conservators working in museums in Romania, along with professional development and the chance to establish and foster contacts. In the last ten years, besides speakers from Hungary and other foreign countries, more and more conservators from Transylvania have displayed their work; also, final-year students on conservator courses in Romania have regularly been given the opportunity to show practical work performed as degree projects. High expectations have stimulated them to produce quality work. As a professor from Sibiu (Nagyszeben) put it, 'They've displayed very good work, the blessing of the conferences can clearly be seen in it.'

After the first meeting, participants asked for the publication in written form of the presentations they had heard. In this way, the ISIS series *Erdélyi Magyar Restaurátor Füzetek* ('Transylvanian Hungarian Conservator Booklets') was born. Featuring papers in Hungarian along with summaries in English and, since 2008, full translations

of these papers in Romanian instead of the summaries in Romanian included earlier, this is the only conservation specialist periodical in Romania that is published regularly. It can be accessed digitally also, on the website of Hungary's National Széchenyi Library (www.epa.oszk.hu/isis).

Another goal of the Further Training Conference of Transylvanian Hungarian Conservators is to acquaint participants with Romania's museums and historical monuments. We have therefore organised study tours linking in with the conferences. In the first years, we visited museums, and also traditional buildings that were characteristic of their respective districts. In connection with the restoration work starting up in Transylvania, we have opened up to historical monument restoration, with the result that opportunities have developed for the publicising of Transylvania's cultural heritage and the showing of its condition.

Zita Károlyi

Ceramics conservator

Haáz Rezső Museum

535600 Odorheiu Secuiesc

Srt. Kossuth, nr. 29.

Phone: +40-266-210-019

E-mail: zita.karolyi@gmail.com

Translation: Chris Sullivan