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van Haaften, C.C.; Stigter, S.

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The Training Program in the Conservation of Modern Art at the Stichting Restauratie Atelier Limburg
SRAL, Limburg Conservation Institute
Claartje C. van Haaften and Sanneke Stigter

Abstract
An impression of the training program in the Conservation of Modern Art at the Stichting Restauratie Atelier Limburg is presented. Examination and treatment of actual artworks are of central interest in the training program. Four case studies are presented to illustrate various conservation issues typically encountered during the conservation of modern art.

Keywords
training program; conservation of contemporary art; education; modern materials

Introduction
In September 1998 the training program in the Conservation of Modern Art was set up at the Stichting Restauratie Atelier Limburg (SRAL, Limburg Conservation Institute) in Maastricht. This is the first such training program, and therefore unique in the field of training conservators. The training program in the Conservation of Modern Art is partially based on recommendations presented by The Foundation of Conservation of Modern Art at the international symposium 'Modern Art Who Cares?' organized in Amsterdam in 1997. In 1995 two students started a pilot program in the Conservation of Modern Art, incorporated into the program for Paintings Conservation. The diversity of problems in the conservation of modern art and how it is dealt with in the training program is described. Four case studies are presented to illustrate various conservation issues commonly found in modern art conservation.

Stichting Restauratie Atelier Limburg
Stichting Restauratie Atelier Limburg is a conservation studio that provides a five year postgraduate training program in the Conservation of Paintings and Painted Objects. The Institute collaborates with the Netherlands Institute for Cultural Heritage. The program is divided into three disciplines:

Author to whom correspondence should be addressed
The training program in the Conservation of Modern Art

Stichting Restauratie Atelier Limburg is the only Dutch institute where people are officially trained in the conservation of paintings and painted objects. The training program started in September 1990 by Anne van Grevenstein, director of the Stichting Restauratie Atelier Limburg/Limburg Conservation Institute. René Hoppenbrouwers is head of the training department. The students in the Conservation of Modern Art are: Barbara de Jong, Claartje van Haften, Sanneke Stigter and Rebecca Timmermans.

Before being admitted to the course, students must have a Masters Degree in Art or Architectural History, Museology, Chemistry or similar. The full-time program consists of three years of training and practice at the studio in Maastricht. An important feature in the training program is the actual conservation treatment performed on various art objects from Dutch museum collections. About fifty percent of the course comprises practical work. The first three years in Maastricht are followed by two years of internships in the conservation departments of Dutch museums. An extensive research project results in a final thesis.

The training program in the Conservation of Modern Art

The conservator of modern art faces a wide scope of materials and techniques and often has to deal with unconventional ideas regarding conservation and restoration. Many artists abandoned traditional techniques and tended to develop individual techniques using literally all materials available. Materials applied in art works can be as diverse as paint, electrical equipment, waste material and even food. The materials used by the artists often perform a specific meaning in their work. The challenge is to decide what to do if these materials fail.

The training program for the conservation of modern art includes ten workshops concerning different materials. These can be related to both industrial and artistic applications. Some of the workshop subjects exist as separate conservation disciplines such as paper, photography, metal, textile, stone, glass and ceramics. Other workshop subjects include plastics and synthetic materials, modern wood, modern painting techniques, video and digital systems, neon light and electrical systems. Excursions on these topics are organised and specialists from both industry and conservation are consulted to discuss material properties. Artworks in the studio are referred to as case studies. In order to gain a better understanding of the materials used in art, the creative thought process and techniques employed by the artists, reconstructions are made of the original objects. These reconstructions can be used to test different treatment possibilities for conservation.

From the beginning of the course, modern art works are treated by the students. The restoration of modern and contemporary three-dimensional art objects is emphasised throughout the course. In the first year, eight workshops of the COBRA period were in the studio at the same time, which allowed us to study the art making process of COBRA objects and the use of materials in more detail. We were able to discuss and formulate possible treatments, in which conservation ethics played an important part.

Ideally, the treatment of an art work involves knowledge obtained from the above mentioned workshops in addition to traditional techniques. Therefore, theory and practical workshops are carried out with the traditional training program for the conservation of easel paintings and polychrome sculpture. Practical work like structural conservation treatments on paintings and sculptures, consolidation of paint layers, cleaning, filling and retouching, but also lectures on preventive conservation, research methods, chemistry, ethics and restoration history are included. Conservation treatments of modern art objects, however, often require unconventional restoration techniques depending on the specific qualities and properties of the used material. Furthermore, restoration of a modern art object demands extensive research on the meaning of the work and its context in art history. During examination, decision making and final treatment the 'Decision-making model' and 'Registration model' were used as developed by The Foundation for the Conservation of Modern Art (Hummelen 1999).

Case Studies

Between concept and material

The installation 'La natura è l'arte del numero' (1976) by Mario Merz was subject to an ethical discussion about the meaning and authenticity of the materials used. The artwork consists of glass, flagstones, metal, clay tablets, neon lights and bundles of sticks, fresh fruit and vegetables (Plate III/1). It is a conceptual artwork and was actually made by the assistants of Mario Merz, though under his supervision. The central questions raised included what the original artwork was, was it the concept or the material part and what exactly do we have to preserve.

Every time the work is installed it looks different because of the random way the fruit is installed and on the sort of fruit and vegetables the season has to offer (Plate III/2). During an exhibition the fruit has to be replaced from time to time, in order to keep the appearance of the artwork fresh and colourful. So in a sense, change seems to be part of the artwork. Probably because of this notion, the history of the object shows that more parts have been replaced than are necessary. Some neon tubes were broken and the clay tablets turned out to be missing.
A new problem occurred, one of the large flagstones had broken. In order to stop the continuous changing of the installation by replacing parts, it was decided to search for an alternative. The possibility of gluing the pieces of stone back together with a specialist in stone conservation during the workshop on stone, was discussed.

At the same time the workshop on neon, lights and electrical systems gave us a good insight in the conservation of neon lights in artworks. Restoring neon tubes without leaving traces of repair is almost impossible. The fact that one day a neon light will be literally burned out, might lead to the decision of using a display copy of the original tubes rather than the original ones as a preventive conservation measure. In this way, the original tubes will be preserved and at the same time they provide the one and only correct design for a display copy. Sadly however, in 'La natura è l'arte del numero' the original neon tubes had been thrown away. A new copy now replaces them, but one should be aware that continuous replacing of parts could eventually lead to large differences in the appearance of the original installation.

Photographic collage and manufacture technique

'Reubens Diptych III', made by Jan Dibbets (1993/94), consists of two large panels of laminated chipboard covered by paper. These are painted in a monochrome manner. On both panels a large colour photograph has been mounted (Plate III/3). The photograph shows the background of a painting by Rubens, now enlarged and incorporated in a painting by Dibbets. The work invites the viewer to play visual game about the role of the subject in the foreground in relation to the background in the painting. On one of the panels the photograph delaminated and developed a bubbling surface (Plate III/4). This interferes with the experience of the artwork as meant by the artist. The photograph has to be flattened so that the photographed subject can be experienced as real, otherwise the visual experience is disturbed and the art work is not functioning anymore as it was originally intended by the artist.

In order to investigate the cause of this failure, the artmaking process was examined. The artist's assistant was consulted, who explained in great detail how the work had been made. It turned out that the back of the photograph had been given a pressure sensitive adhesive by the photo laboratory. Data-sheets of the glue could be obtained from the industry and these revealed that the adhesive was an acrylic. Now that important information was gathered on the materials and techniques used by Dibbets, test dummies could be made. The photo laboratory provided photo material similar to the original, including the adhesive layer. Because of the thermoplastic properties of the adhesive, the possibility to regenerate the glue with heat, was tested. After a series of tests, the required heat was applied with hot sandbags. With this method the artwork could return to its original form without the use of any additions, such as adhesive or solvents. Reports of treatments can be consulted at the Limburg Conservation Institute in Maastricht.

Natural rubber as the weakest element

Karel Appel, one of the COBRA artists, composed one of his first painted sculptures 'Wild Fireman' (1947) from waste material. The sculpture is constructed around a piece of driftwood and typical hooks from Amsterdam warehouses are tied around it with electrical wires. Its legs are made of cast iron bars from a stairway. A tube from a vacuum cleaner serves as a fire hose, which has an original repair with a rubber patch. Appel painted the body red, the legs white and the fire hose, black (Plate IV/1).

Because of oxidation of the metal parts in this sculpture, the paint layer was damaged and needed consolidation. The rubber parts in the object seemed very fragile and were also examined.

Flaking paint on corroded metal is a notorious problem in the conservation of modern art objects. The workshop on metal provided insight into the chemical and physical properties of different metals. This knowledge facilitated communication with metal conservators on a scientific level. Possible treatments of metal corrosion could be discussed. However, the visual and ethical implications for an art object with a paint layer should be considered. It seems that most of the conventional treatments practiced by metal conservators are often unsuitable for modern works of art. This problem is now the subject of an extensive research project which will result in a final thesis at the Stichting Restauratie Atelier Limburg, in cooperation with the Netherlands Institute for Cultural Heritage and the Stedelijk Museum in Amsterdam. Research is carried out by Rebecca Timmermans. Thesis available July 2003.

Another vulnerable material in this sculpture is rubber, present on the fire hose (Plate IV/2). Natural rubber is very susceptible to degradation, making this part of the sculpture the most vulnerable to natural ageing. What are possible solutions for this problem? The only way to delay the process of natural decay is to exclude oxygen from rubber. This can be achieved by a coating that prevents oxygen from penetrating. But in this case an extra coating on the painted rubber would not be acceptable because it would implicate a severe visual change of the surface. Another option is an oxygen-free showcase filled with nitrogen. However, placing the object in a closed display case would alter the perception of the work. But as a preventive conservation measure the object should be kept in such a case, at least during storage.

Two firm antennae made out of chipboard

Another early painted sculpture by Karel Appel is 'The Spider' (1950). The figure is composed of many wooden parts, with two long antennae on its head. They are made from chipboard, which in the 1950s, was a relatively weak wood product. Using a few nails they are connected to the head on a relatively small surface. Due to the weight of the antennae and
the poor construction, one of the antennae was broken and had been unsuccessfully repaired with adhesive and an additional nail. The main problem was how to return the antenna on the spider’s head. Because of the damage, many wood fibres were lost and the chipboard showed severe cracks. Consequently, the contact area between the head and the antenna had become extremely weak.

In order to develop a conservation treatment, the behaviour of the chipboard antenna was evaluated in relation to its weight and position on the spider’s head. In addition, a physicist and conservation scientist were consulted to investigate this further. Several reconstructions were made for the purpose of simulation tests. Internal and external forces on the material were considered during test series in order to find both a suitable reinforcement of the chipboard as well as an appropriate way to reattach the antenna. After a series of tests, a synthetic adhesive was chosen in combination with an interior reinforcement. First the cracks in the chipboard were treated and then the antenna was held in place with a thin metal pin. In addition to the metal pin, two small wooden pins secured the position of the antenna (Figs. 1, 2). Finally structural treatment of the wooden parts was followed by a treatment of the damaged paint layer.

The sculpture is now recognisable again as a spider with both its antennae firmly on its head.

Fig. 1 (top). Karel Appel, The Spider, 1950, Stedelijk Museum, Amsterdam 1997.2.479 S&B\BK. 105 x 75 x 71 cm. Wood, chipboard, nails, paint. During conservation treatment, September 1999.

Fig. 2 (bottom). Detail of the head of the spider during conservation treatment, September 1999. Photos: Sanneke Stigter/SRAL.

Conclusion
The use of unconventional and modern materials plays an important role in modern art, thus the modern art conservator has to become acquainted with a wide range of materials and techniques and with specialists in different fields. An interdisciplinary approach is needed for conservation treatments as performed by the students in Conservation of Modern Art at the Stichting Restauratie Atelier Limburg in Maastricht.

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Stichting Restauratie Atelier Limburg (SRAL)/Limburg Conservation Institute, Daemsloot 1c, 6221 KZ Maastricht, The Netherlands, Tel.: +31 (0)43 321 84 44, Fax.: +31 (0)43 325 75 68, e-mail: SRAL@wxs.nl

Authors’ addresses
Drs. Claartje C. van Haaften
Kerkweg 3
7448 AC Haarle, The Netherlands
Email: Claartje_@hotmail.com

Drs. Sanneke Stigter
Palmstraat 80-hs
7015 HT Amsterdam, The Netherlands
Email: Sanneke.Stigter@zonnet.nl
II/1 (left). Maria Merz, La natura è l'arte del numero, 1976, Bonnefantenmuseum, Maastricht, 04046. Installation of a metal frame, glass, flagstones, clay tablets, neon tubes, bundles of sticks, fresh fruit and vegetables. Installation of 1995 (photo: Van Sloun/Ramaekers, Maastricht).

II/2 (right). Maria Merz, La natura è l'arte del numero, 1976, Bonnefantenmuseum, Maastricht, 04046. Installation of similar materials as above. Installation of May 1999, photos: Sanneke Stigter/SRAL. See p. 47.


IV/2. Detail of the 'fire hose' with rubber patches. Photos: Rebecca Timmermans/SRAL. See p. 49.

Tubing from the Liquid Garment was discoloured and covered with fine crystals of phthalic acid. The tube was 5 mm in diameter. p. 72.