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Conservation and restoration of still-life painting of the 20th century

Abstract: The relevance of the topic covered in this article is due to the importance of preserving cultural heritage in the modern world, since many objects of material cultural heritage are destroyed as a result of aggressive environment, improper handling and storage. And, therefore, in order to preserve them, it is necessary to create special conditions for the storage of art monuments, as well as to perform their conservation and restoration in a timely manner. The study subject was O.K. Tatevosian's still-life of 1958 that was made in the technique of oil painting. The study purpose was to preserve and restore the 1958 O.K. Tatevosyan's still-life. This article describes the conservation and restoration activities aimed at preserving the picturesque still-life of the 20th century by O.K. Tatevosyan. The complexity of these activities is due to the presence of a large number of surface contaminants, the main of which were dangerous and extremely difficult to remove fly deposits, as well as the thinness of the author's layer.

Keywords: conservation of still-life, restoration of still-life, insect spots, thin ground, Uzbekistan SSR, O.K. Tatevosyan.



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Консервация и реставрация натюрмортов XX века

Abstract: Актуальность темы, рассматриваемой в данной статье, обусловлена важностью сохранения культурного наследия в современном мире, поскольку многие объекты материального культурного наследия разрушаются в результате агрессивной окружающей среды, неправильного обращения и хранения. И, следовательно, необходимо создавать особые условия для хранения памятников искусства, а также своевременно проводить их консервацию и реставрацию. Предметом исследования стал натюрморт О.К. Татевосяна 1958 года, выполненный в технике масляной живописи. Целью исследования было сохранение и реставрация натюрморта О.К. Татевосяна 1958 года. В данной статье описываются консервационно-реставрационные мероприятия, направленные на сохранение живописного натюрморта XX века О.К. Татевосяна. Сложность этих мероприятий обусловлена наличием большого количества поверхностных загрязнений, основными из которых были опасные и чрезвычайно трудные для удаления отложений мух, а также тонкостью авторского слоя.

Keywords: консервация натюрморта, реставрация натюрморта, пятна от насекомых, тонкий грунт, Узбекская ССР, О.К. Татевосян.



Introduction

The relevance of the topic covered in this article is due to the importance of preserving cultural heritage in the modern world, since many objects of material cultural heritage are destroyed as a result of aggressive environment, improper handling and storage. And, therefore, in order to preserve them, it is necessary to create special conditions for the storage of art monuments, as well as to perform their conservation and restoration in a timely manner.

The main group of information sources is related to the study of methods of conservation and restoration of paintings.

The manual of Anatoly B. Aleshin, a famous artist-restorer and teacher and the author of *Restoration of Easel Oil Painting in Russia*, has big value. The author wrote this book for his students summarizing his vast pedagogical experience in teaching the profession of an artist-restorer. The book is written in a fairly simple and understandable language, contains a lot of useful consistent, practice-oriented information.

Works of Y.I. Grenberg are *Fundamentals of Museum Conservation and Research of Works of Easel Painting* and *Technology of Easel Painting. History and Research*. The first book covers in detail a wide range of issues related to the storage of easel paintings made with tempera and oil paint in museums, as well as their technical and technological research. A separate section is devoted to the control of biological pests. The second book can be called a fundamental study, where, based on the study of numerous sources, the author traces the evolution of technological principles for creating works of easel painting.

E.V. Kudryavtsev's book of *The Technique of Painting Restoration* is also of interest. It is an attempt to create a systematic guide that could contain information about all the main processes aimed at the conservation and restoration of oil paintings.

Publications of the State Hermitage Publisher are important for getting acquainted with the specific practical experience of restoration activities, for example, *Prolong Life... Restoration of Easel Paintings in the State Hermitage Museum*. Issue 3, and the State Russian Museum, for example, *Winning Time... Restoration in the Russian Museum*. Over time, the methods of restoration undergo some changes, just as the materials used change.

For the study of soils and materials of painting, the following works were used: S.A. Pisareva's *Method of Identification of Soil Materials and Pigments of Paintings*, which describes in sufficient detail the experience of studying the technological features of paintings of the past.

A valuable source of information is the M.K. Nikitin's work of *Chemistry in Restoration: Reference Guide*, which describes in detail the properties of various substances, recipes of compositions used for the conservation and restoration of architectural monuments, works of wood, stone, metals, glass, sculpture and painting.

The study subject was O.K. Tatevosian's still-life of 1958 that was made in the technique of oil painting.

The study purpose was to preserve and restore the 1958 O.K. Tatevosyan's still-life.

Tasks, which were set during the study:

- perform attribution of a painting from the 1958's that was received for restoration;

- study methods of conservation and restoration of oil paintings made on canvas;
- conduct conservation and restoration of the 1958 still-life painting by O.K. Tatevosyan.

Attribution of the item received for restoration

A painting made with oil paints on canvas was received for restoration (*Figure 1*). The work came from a private person, there was very little information about the existence of the subject, it was only known that the picture had been purchased in a thrift store. However, based on the state of the picture, we could conclude that the necessary storage conditions were not met.

In the lower-left corner on the front of the picture there were the author's signature (*Figure 2*) and also an inscription on the back of the picture (*Figure 3*).

Based on this information, the author of the picture is O.K. Tatevosyan. The painting was painted in 1958. The name is missing, but the inscription on the back side contains the word of *Flowers*, so we can assume that the name was just that. Also, among the inscriptions there is the number 717, which can presumably be an ordinal number among the works created by the author.

The author of the work is Oganēs Karapetovich Tatevosyan (Ter-Tatevosyan), born in 1889 in Yerevan (Armenia). He died in Moscow in 1974. He lived for 85 years.

The artist's parents were born in Kars (Eastern Turkey), the capital of the Armenian Kingdom of Kars. At the age of eight, O.K. Tatevosyan was sent to study at the Yerevan teachers seminary (a secondary special educational institution whose purpose was to train primary school teachers).

In the autumn of 1904, at the age of 15, O.K. Tatevosyan was forced to leave his studies and go to work in Tiflis because of the family's difficult financial situation.

In 1908-1909, O.K. Tatevosyan studied at the Tiflis Art School. At this time, his teachers were M.I. Toidze (1871-1953), B.A. Vogel (1872-1961) and E.M. Tadevosyan (1870-1936). The last of the listed ones had the greatest influence on O.K. Tatevosian during his studies at the Tiflis Art School. E.M. Tadevosyan himself developed as an artist under the influence of the creativity and personality of V.D. Polenov (1844-1927). K.A. Korovin also studied under V.D. Polenov, who later also had a great influence on the creative development of O.K. Tatevosyan.

The training of O.K. Tatevosian under K.A. Korovin became possible thanks to one of the richest people of that time, the outstanding patron A.I. Mantashev (1842-1911), who supported the first successes of the artist. From the funds of A.I. Mantashev, he was granted a loan of thirty rubles until the end of his studies, which allowed the artist to go to Moscow in 1910, at the age of 21, to the School of Painting, Sculpture and Architecture. There O.K. Tatevosyan spent 7 years studying under K.A. Korovin, A.M. Vasnetsov, and N.A. Kasatkin.

It is believed that the birth of O.K. Tatevosyan as an original artist occurred at the age of 25 in 1914 as a result of student practice, which resulted in the cycle of the works of *Trebizond*.

In 1915, at the age of 26, the artist first went to the city of Samarkand – the heart of Central Asia. The motive for this was the admiring stories of K.A. Korovin, who visited Turkestan to create sketches for the design of the world exhibition in Paris. The magnificent ancient architecture, artisans' shops, and sprawling crowns of elm trees charmed O.K. Tatevosyan at first glance, which is immediately noticeable in his works created during this period.

By the time, as O.K. Tatevosyan was in Asia Minor, he had already experienced the influence

of the Russian avant-garde of the early 20th century. This influence, combined with the influence of Oriental miniatures seen by O.K. Tatevosyan during his stay in Asia Minor, largely determined the style and manner of the artist.

Most of the works of O.K. Tatevosyan can be attributed to the everyday genre. Most often, the artist depicted scenes from the life of ordinary ordinary people. Basically, the 'place of action', depicted in the paintings of O.K. Tatevosyan, is a street. People work and rest there (*Munz & Fakbretdinova, 1976*).

During his stay in Samarkand, O.K. Tatevosyan was engaged not only in creating paintings but also organized an art school in 1918-1919 and a Commission for the Protection of Ancient Monuments in 1919-1920.

The painting style of O.K. Tatevosyan during this period became clearer and more decorative. The artist continued to show interest in the peculiarities of the life of the local population not only at the domestic level but also at the religious level, which was reflected in his works.

In 1921, at the age of 32, O.K. Tatevosyan entered HATW (Higher Art and Technical Workshops, i.e., educational institutions established after the revolution of 1917) to the faculty of ceramics.

In 1927, at the age of 38, O.K. Tatevosyan returned to Samarkand, where he organized the ARIZO Studio, or AFAW (Association of Fine Art Workers), and the Izofabrika (Experimental Production Workshops of Spatial Arts) in 1930.

In 1932, at the age of 43, O.K. Tatevosyan moved to Tashkent, where he lived until 1964 (75 years). There, the artist continued his creative career and also worked as a curator of the funds of the Museum of art.

In 1937, at the age of 48, O.K. Tatevosyan became the chief artist of the pavilion of Uzbekistan at VDNH in Moscow.

In 1941-1948, the artist worked on a series of paintings dedicated to the Great Patriotic War. He also took part in painting the halls of the Academic Opera and Ballet Theater by Alisher Navoi in Tashkent.

In 1944, at the age of 55, O.K. Tatevosyan was awarded the high title of People's artist of Uzbekistan.

During his lifetime, O.K. Tatevosyan held 4 personal exhibitions: in 1912 (Yerevan), 1929 (Samarkand), 1949 and 1964 (both in Tashkent).

In 1966 (after the earthquake), the artist moved to Moscow. O.K. Tatevosyan died in 1974.

The artist's life coincided with a whole epoch in the life of a huge country. Most of O.K. Tatevosyan's works are based on images of ordinary people, genre scenes from the life of Samarkand streets, teahouses, bazaars, and caravanserais.

Most of his works can be attributed to the everyday genre. There are also quite a lot of portraits, in which he managed to deeply study and show the essence of man, to convey the images of his contemporaries – ordinary people of labour.

O.K. Tatevosyan himself gave special preference to landscapes, in which he conveyed with amazing accuracy all the states of nature that charmed him.

There are not so many still-lives among the works of O.K. Tatevosyan, therefore, which once again emphasizes the uniqueness of the object of restoration and the importance of its

preservation.

The painting, received for restoration, showed flowers in a vase (*Figure 1*). The glass Vase had a fairly simple shape. Flowers were peonies, light shades, with the addition of pink. In general, in this picture, the author used quite rich colours, mainly green shades.

The style of the work was very similar to impressionism. Flowers were depicted quite mobile, which gave the feeling of transmitting some fleeting impression of the artist. You could see broad, confident strokes that helped to achieve the effect of the presence of the object, rather than drawing details. The simple subject matter of the image and the ease of composition also allowed us to attribute the style of writing to impressionism.

There was no doubt about the authenticity of the authorship, as a comparative analysis with other works of O.K. Tatevosyan showed that the style of writing, his unique pictorial language and the author's signature coincided. As an example of this, we can give the picture of *Sunny Day* (*Figure 4*), namely the fragment – the lower-right corner, where the signature is located (*Figure 5*).

In the still-life, which was received in the restoration, you could see the influence of K.A. Korovin on the creative development of O.K. Tatevosyan. It is K.A. Korovin that researchers refer to the impressionist line of development of still-life in the mid-20th century. In his works, as in the still-life that was received for restoration, you can see the fullness of light and air, the ease of strokes, the transfer of the artist's impression, which corresponds to the definition of impressionism.

The creative path of O.K. Tatevosyan was quite rich and interesting. Despite the fact that the genre of still-life was not the main one in his works, the work received for restoration clearly showed the author's handwriting of the artist, once again showing the viewer his talent.

The artist began to turn to such genres as portrait, landscape and still-life when he was already a mature artist. However, no matter what object became the object of the artist's attention, everywhere he tried to convey his attitude to the image.

In present days, the works of O.K. Tatevosyan adorn the expositions of many museums: the Samarkand Museum and Reservation, the State Museum of Arts of Uzbekistan, the Gallery of Fine Arts of Uzbekistan, and are also stored in the funds of the Directorate of Art Exhibitions at the Academy of Arts of Uzbekistan and in other museums and private collections.

Description of the state of the restoration item at the time of receipt

The restoration received a painting made with oil paints on canvas (*Figure 1*). The painting was stored at home, with violations of the conditions required for preservation and temperature and humidity conditions.

Before starting any conservation and restoration work, a visual study of the state of preservation of the monument received for restoration was made. The condition of the base, the ground, the paint layer and the top coat was examined sequentially (in this case, the latter is missing).

All information obtained in the course of visual observation was entered in the *Passport of Restoration of the Monument of History and Culture* in the section of *State of the Monument Received for Restoration*.

The work was received for restoration without a stretcher. No traces of previous restoration were found.

The size of the base was uneven ranging from 102.6 to 103.2 cm in length and from 74.5 to 76.5 cm in width.

The author's canvas was quite strong and elastic (*Figure 6*).

The base material was presumably linen and had a yellowish colour. Flax was widely used in the 1950s and 1960s as the basis for painting, due to the properties that it had: strength and resistance to the influence of atmospheric moisture, temperature fluctuations. Flax fiber was less capable of structural changes caused by external physical and mechanical influences than others. This allowed linen fabrics to retain their original texture (grain), which was of great importance for painting. Netting of the base was straight linen, medium-mesh (on the base/weft 8 on 8 by 1 sq. cm). The edges of the canvas were uneven, there was a branching of threads.

The edges were uneven, their width varies from 0.3 to 4.0 cm (the lower edge – 0.3-2.0 cm, the upper – 0.5-2.0 cm, the right – 1.8-4.0 cm, the left – 2.0-2.5 cm), which was not enough for subsequent stretching on the stretcher.

There were bends, creases, looseness of the edges (mainly at the corners and at the bottom edge).

Along the entire perimeter of the base there were 57 punctures, presumably from nail holes when stretched on the stretcher (15 on the lower and left sides, 14 on the upper side, 13 on the right).

There was general dust contamination on the entire surface of the canvas (the perimeter is lighter than in the central part).

In the upper middle part of the base there was V-shaped through hole measuring 4 on 3 cm.

In the right part, as well as on the left edge in the middle part, there were white spots, presumably emulsion soil.

Around the perimeter, mainly on the right edge, there were dark spots, presumably traces of glue.

Around the perimeter there were also fragments of wood, presumably from the stretcher.

The canvas deformations were most pronounced in the middle part vertically, as well as in the middle part horizontally and in the right part vertically. We could assume that the picture had been folded on the floors two times (one vertically and one horizontally). Hence there was the cross-shaped deformity, which was most pronounced in the middle part of the canvas. Deformations were accompanied by fractures.

The ground was available, it was viewed in places where the paint layer had been lost. The author's, presumably emulsion, uneven ground was viewed in places, with a leak on the edges, white. There were fractures and cracks. The loss of soil corresponded to the loss of framework.

Additionally, the study of the picture was performed using an electronic portable USB-microscope *EL-Micro-2*. This made it possible to study the thickness of the soil more carefully and see the differences in the pigments in the paint layer. Several pictures were taken in the supposed places of loss of the paint layer to the ground and to the base. In the photo (*Figure 7*), which was made in the central part of the picture in the place of the crease, you could see the loss of the paint layer to the base, but the edges of this loss were visible inclusions of white colour – the ground.

A similar situation can be observed in another image (*Figure 8*), which was taken at the point

where the paint layer was shedding in the middle-left part of the picture. The photo taken with an electronic portable USB-microscope also showed the loss of the paint layer to the base (canvas) and white inclusions (soil) where fragments of the paint layer remained.

Thus, visual examination of the paint layer under a microscope confirmed the presence of soil and made it possible to get an idea of its thickness.

The paint layer was oily, thick, impasto painting with a large pronounced brush stroke. There was the texture of the load over the entire surface. The relationship between the layers of the pictorial structure was satisfactory.

There were losses of the paint layer, the main of which was located in the left middle part and represented the crumbling of the paint layer to the ground of a complex configuration. There were scuffs all over the surface of the painting.

Also, there were small dark spots all over the surface, presumably insect spots.

Around the perimeter of the paint layer there were contamination of golden (bronze) colour.

Also, visual observations revealed numerous scratches from the existence of the object (mainly the upper right and lower left parts).

There was the author's signature in the lower left part (*Figure 2*):

“O. Tatevosyan

1958

717”.

A visual examination of the cover layer was performed in the light of visible ultraviolet luminescence (*Figure 9*).

This study showed that the characteristic glow of the varnish is absent, it was concluded that the coating layer was absent.

Conservation and restoration O.K. Tatevosyan's still-life of 1958, which made in the technique of oil painting

Based on the research performed, the task for restoration was drawn up:

1. Strengthen the paint layer and ground over the entire surface of the painting, eliminate the deformation of the base;
2. Pull the picture on the working stretcher;
3. Remove surface dirt from the back side;
4. Seal the ground breaks;
5. Duplicate new restoration edges;
6. Pull the picture on a new exhibition stretcher;
7. Remove fly burrs and surface dirt from the front of the painting;
8. Make up for the loss of the author's soil;
9. Wipe the entire surface of the painting with varnish, a weak composition;
10. Make up for the loss of the author's paint layer;
11. Cover the entire surface of the painting with varnish.

Before starting the conservation work, the object was made stationary by placing the painting on a flat, solid surface.

The work began with a general strengthening of the paint layer and the ground over the entire surface of the painting, for which the method of closed steaming was chosen as the most

effective taking into account the damage in this particular case, as well as the relative strength of the structure. The general reinforcement was designed to ensure the plasticity and strength of the glued elements of the painting, as well as to protect the painting from unwanted damage during other processes, such as fixing the painting on a working stretcher.

Pieces of tissue paper and a 5% aqueous solution of rabbit glue with honey (1:1), as well as a warm iron ($t = 50-600^{\circ}\text{C}$) *Milinox* film and filter paper were prepared for preventive gluing. Preventive strengthening was performed in small sections starting from the lower left edge of the picture.

Using a soft brush, a warm glue, by which a sheet of paper placed on top was also impregnated, was applied to the area previously treated with pinene. After placing the paper on the canvas, if it was necessary, a cotton swab was used to distribute the gluing evenly, without air bubbles. Next, the site was heated with a warm iron through a *Milinox* film. And then, drying the area through filter paper was done. A press was placed on the fortified area through filter paper, which was changed as needed. Similarly, preventive gluing was performed over the entire surface of the painting. Finally, the filter paper was replaced with a dry one, and the picture was pressed completely for 24 hours (*Aleshin, 2013*).

Further, the edges were cleaned mechanically with a scalpel from dust contamination, stains, glue and traces of wood (chips). After that, they were leveled by wetting with water at room temperature (using gauze) and smoothing with a warm iron ($t = 50-60^{\circ}\text{C}$) through a *Milinox* film. Next, the edges were strengthened using pre-prepared strips of tissue paper (cut in length and width) to 5% rabbit-honey glue (1:1) drying with a warm iron at a temperature of $50-60^{\circ}\text{C}$ through filter paper. It was pressed for a day (*Grenberg, 1987*).

To fix the picture on the working stretcher, the Kraft strips of necessary size taking into account the features of shrinkage (cut into shares) were prepared. For better adhesion, the smaller side of the Kraft strips were sanded with sandpaper. Next, using 8% Mezdra glue with honey, in a ratio of 1:1 on the reinforced edges, Kraft strips were fixed on top of the tissue paper: the required amount of glue was applied to the Kraft, then after reaching the moment of 'sticking', the Kraft strip was pressed to the edge. After fixing all the strips (first the opposite sides, then the other 2), the picture was left under pressure for 24 hours (*Social specialized resource of information assistance, 2015*).

Then there was the process of picture's stretching on a working stretcher: the picture was placed on the lining boards, on top of the prepared in advance working stretcher. The craft fields were moistened with water using a sponge. Polyvinyl acetate joiner's glue was applied to the outside of the stretcher. Kraft strips were stretched simultaneously on opposite sides and fixed on the glued side of the stretcher, and then ironed with a hot iron (*Aleshin, 2013*).

Then there was work on the back of the canvas. First, the general dust contamination and stains were removed mechanically using an eraser and a scalpel (*Figure 10*). At the same time, the inscription on the back side was not affected (*Grenberg, 1987*).

Then, with the help of oches, i.e., threads of identical canvas and *PVB* glue (polyvinylbutyral copolymer), the gusts and losses of the canvas were sealed using the 'butt' method. The edges of the break were cleaned with a scalpel and fluffed. Then they were smeared with 5% alcohol solution of *PVB* glue and waiting for the moment of 'detaching', the canvas threads remaining on the edge of the breakout were laid out in the necessary way, or the oches was distributed. A

little more glue was added on top and pressed down with a fluoroplast trowel. Then all breakouts after sealing were left under pressure through the *Milnex* film for 24 hours (*Aleshin, 2013*).

The V-shaped break in the upper middle part (Fig. 11) was also sealed with 5% alcohol solution of *PVB* glue using the “butt” method. Then several layers of *PVB* were applied alternately with a width of 1.0-0.5-1.0 cm, each of which was dried. Additionally, the V-shaped break in the upper middle part, as well as two horizontal breakouts in the upper left corner, were reinforced with *BEVA371* adhesive and an organza patch. First, “patches” of organza were prepared: the fabric was stretched, then a very thin layer of *BEVA371* adhesive was applied to it (*Fedoseeva, 1989*). After drying, pieces of the required size and shape were cut out, and they were fixed to the places of breakouts with the help of an electric spatula. In the end, these sections were also pressed for 24 hours (*Figure 12*).

The author’s edges were previously cleaned with a scalpel.

The next stage of work was the summing up of the restoration edges. A canvas corresponding to the density and weaving of the author was picked up. The edges were prepared from a canvas identical to the author’s: strips of 80 mm wide and the required length were cut. Five warp threads were removed from the inner edge of the edges.

The author’s edges were previously cleaned with a scalpel.

The edges were duplicated using *Lascaux Acrylleber 498-20-X* glue and smoothed with effort with a fluoroplast spatula. Then the press was put on for 24 hours.

Lascaux 498-20 acrylic glue is a water-soluble acrylic adhesive. *Lascaux 498-20* is a highly viscous aqueous dispersion based on a copolymer of butylacrylate and methyl methacrylate. Ph = 8-9. Acrylic glue *Lascaux 498 HV-20* is diluted with water, it is not soluble in water and white spirit after drying. It is permanently soluble in acetone, ethyl alcohol, toluene, and xylene (*Nikitin, 2018*). *Lascaux 498 HV-20* acrylic glue is recommended for duplicating edges, textile restoration, semi-rigid bonding of paper, cardboard, wood, pasting canvas on cardboard, wood, plaster and cement. It dries quickly and has a good initial stickiness (*Extended life, 2018*).

The next step was to remove the preventive sealing.

The painting, stretched out on a work stretcher, was placed face up on the table. At the bottom, the lining boards were placed level with the level of the working stretcher (so that the surface of the picture did not hang out but lay on these lining boards). Further, the preventive glues were gradually removed from the entire surface of the painting with warm water (t = 50-600°C) using a Greek sponge. First, a small area was wetted with water (starting from the lower-left corner of the picture), then the swollen gluing was removed with light circular movements with a pressed sponge, with a slight pressure. Then, after making sure that there was no paper left on the site, the surface was wiped dry with gauze (*Aleshin, 2013*).

Also, the Kraft strips around the edges of the picture (with the help of which it was fixed on the working stretcher) were removed. To do this, they were ironed with a hot iron through wet gauze and *Milnex* film. The strips of paper thus steamed were easily removed.

At the end, the painting was stretched on an exhibition stretcher prepared in advance (*Figure 13*).

Since the painting was received for restoration without a stretcher. A new one was made in accordance with the size of the painting and all the necessary requirements (modular (collapsible) stretcher, the presence of blades, and chamfers). The subframe was previously measured

diagonally for the absence of distortions and fixed with a furniture stapler at the corners.

The picture was stretched using tongs to stretch the canvas with a furniture stapler. First, the picture was fixed in the center on each side, so that the angles of the image exactly match the angles of the subframe. Then, moving from the center to the corners, and from one opposite side to the other, using tongs to stretch the canvas and a furniture stapler, the picture was stretched on an exhibition stretcher.

When the edges were fixed on the side (end) of the subframe, it was necessary to fix the edges on its back side. The order of fixing the edges was the same as when stretching: from the center to the corners moving from one opposite side to the other and using a furniture stapler (*Kudryantsev, 2002*).

After completion of the stretching process, the blades were inserted into the corresponding slots of the stretcher from the back side, in which holes were previously made, and fixed with threads in pairs.

After fixing the picture on the exhibition stretcher, surface contamination was removed from the front side (*Figure 14; Figure 15*).

On the entire surface of the painting there were a large number of small dark spots – insect spots, and along the perimeter there were spots of golden (bronze) colour, presumably traces of paint applied later and not corresponded to the author's idea).

Solubility tests were performed to remove the existing contamination. To remove the insect spots, a sample was first performed with a soap solution, but this did not give a result. Next, the sample was made using pinene, it gave a positive result. Solubility tests were also performed to remove paint stains. The test using pinene did not give a result. Next, the sample was made with an emulsion of pinene: alcohol in a concentration of 10:1, which also showed a negative reaction. Then the ratio of alcohol to pinene was gradually increased in this emulsion, and a positive result was obtained in the ratio of pinene: alcohol 2:1.

Thus, the optimal compositions to work with pollution were selected. Next, using a cuttings and cotton wool, circular movements of the dirt on the entire surface were removed. Pre-sampling of the remaining contamination was performed mechanically using a scalpel, having previously moistened the surface with pinene.

In places where the paint layer was lost, a restoration primer was applied consisting of 6% rabbit glue with honey ratio 1:1, mixed with flourey chalk. To prepare such a soil, the glue composition was heated in a steam bath to 500°C. Next, a small portion of chalk was poured on the palm, to which hot glue was added. Then, using a scalpel, they were mixed to a creamy state. The heat of the palm allowed the mass to maintain plasticity for about 10 minutes. The soil was applied exactly within the losses, after drying (24 hours), the sanding was performed using a cork in the so-called 'wet' way. The cork was slightly moistened with distilled water, then the mass gently rubbed in a circular motion in the places of loss. Thus, the top layer of soil was ground and leveled, filling the voids. When the mastic was summed up in the necessary way, a cotton swab wound on a thin wooden stick was removed the remnants of the composition that fell on the picturesque surface. Also, in places of relief painting, the necessary form was created with the help of restoration layer (*Aleshin, 2013*).

Before making up for the loss of the paint layer, an intermediate layer of the emulsion was applied dammar varnish: pinene in a ratio of 1:4. This is necessary not only because of the

protective function but also because the varnish coating betrays the spatiality and depth of the image. Also, this varnish layer creates an insulating layer between the author's painting and subsequent restoration tinting. This is important, it makes it possible to remove the restoration tinting without damage without affecting the underlying layers. The presence of this layer also makes it possible to detect late layers under the influence of visible UV-luminescence rays (*Ivanova & Posternak, 2005*).

Then the places where the paint layer was lost were filled in. Restoration tinting was made in the style and manner of the author's painting. Making up for the loss of the paint layer began with the application of a thin layer of watercolour paint.

However, watercolours have an increased sensitivity to humidity, as well as weak light resistance and the inability to imitate the texture (*Nikitin, 2018*). That is why after the first layer applied with watercolours and coating it with varnish, the second layer was made using pressed oil paint. Since modern factory oil paints contain a large amount of oil binder, which can lead to yellowing or darkening, there is a need to reduce it. To do this, the paint from the tubes is squeezed out on filter paper or cardboard and pressed on top with blotting paper. Then the thickened mass can be used for tinting, if it is necessary, we can use a solvent (pinene, turpentine) or varnish (dammar, mastic). Restoration tinting is usually done in layers, so each of the layers must be dried before applying the next one. To make up for the loss of the paint layer, watercolours of *Nevskaya Palitra (Leningrad)* and oil paints of *Master Class* were used. The colour and tone of the restoration tinting was close to the author's (slightly lighter).

At the end, dammar varnish of necessary concentration was prepared (pinene 1:1), and the entire surface of the painting was covered with varnish with the help of a flute.

Before applying the paint film, the painting was prepared: the tension of the painting on the stretcher was checked, then the dust was removed from the surface of the painting. There was also prepared lighting (directional light source), in which all the irregularities of the surface are clearly visible. After dipping the brush in a solution of varnish in a circular motion, the varnish was applied (as if rubbing) on the surface of the picture making sure that there were no gaps. After the entire painting was covered with varnish, fleitz was wiped with blotting paper and then the varnish film was leveled. Quickly and with a certain effort, the picture was passed first in the horizontal direction, then in the vertical direction. The final pass was performed by the flier almost on the weight, in order to remove air bubbles that could be formed when pressing the brush bristles on the varnish. The direction of the brush movement during the last pass should be along (vertically) the image. The speed and uniform pressure on the brush allow you to milk a thin uniform varnish film over the entire surface of the painting (*Aleshin, 2013*).

As a result of the conservation and restoration measures, the painting was restored to its original form (*Figure 16*).

Conclusion

Within the framework of this research, various aspects of conservation and restoration of still-life paintings of the 20th century were studied on a theoretical and practical level. It was in the mid-20th century that the genre of still-life gained equality among others, and it became one of the leading genres of painting by 1950-1960.

The still-life, which was received for restoration, belongs to O.K. Tatevosyan and occupies

a rather unique place among all the works of the author, since the artist rarely turned to the genre of still-life. Also, this subject is of great interest from the point of view of conservation and restoration measures, despite the fact that it is made in compliance with all technical and technological features. The only deviation was the absence of a coating layer (varnish film). All existing damage was the result of violation of the necessary storage conditions.

The work was received for restoration without a stretcher with numerous deformations of the base and crumbs of the paint layer. No traces of previous restoration were found.

In the course of the study, the optimal method of restoration work, which meets all the features of the object that was received for restoration, was selected. The main difficulties were the removal of insect spots from the front of the picture. They are difficult to remove and quite dangerous type of pollution, as the components contained in them have a destructive effect on the paint layer. When working with this type of contamination, it is very important to choose the optimal composition for their removal.

Others quite a daunting process turned out to be a summing up of the restoration of the soil. As a result of research done with a microscope, it was found that the soil is present, but lies in a very thin layer. The picture had quite a lot of losses of the paint layer and the ground to the base, scree and scuffs, and it was necessary to bring the restoration soil very, very thin layer. Therefore, the loss of the author's soil by restoration one consisting of 6% rabbit glue with honey 1:1, mixed with floury chalk, were filled in layers. The soil was applied exactly within the losses, and after drying, it was sanded with a cork also within the losses.

As a result of the conservation and restoration activities, the painting was restored to its original appearance.



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Appendix



Figure 1. O.K. Tatevosyan. Flowers, 1958. Front side before restoration in side lighting



Figure 2. O.K. Tatevosyan. Flowers, 1958. Fragment of the front side

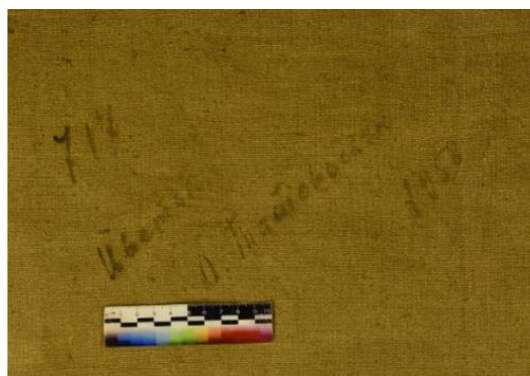


Figure 3. O.K. Tatevosyan. Flowers, 1958. Fragment of the back side



Figure 4. O.K. Tatevosyan. Sunny Day, 1970

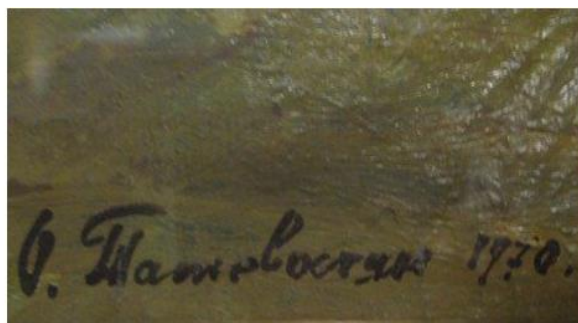


Figure 5. O.K. Tatevosyan. Sunny Day, 1970. Fragment



Figure 6. O.K. Tatevosyan. Flowers, 1958. The rear side in the side light to the restoration



Figures 7-8. Photo before restoration using an electronic portable USB-microscope EL-Micro-2



Figure 9. O.K. Tatevosyan. Flowers, 1958. The front side in the UV luminescence



Figure 10. O.K. Tatevosyan. Flowers, 1958. Removing dirt from the back of the painting



Figure 11. O.K. Tatevosyan. Flowers, 1958. Fragment before restoration



Figure 12. O.K. Tatevosyan. Flowers, 1958. Fragment after restoration



Figure 13. O.K. Tatevosyan. Flowers, 1958. The painting is fixed on an exhibition stretcher



Figure 14. O.K. Tatevosyan. Flowers, 1958. Fragment before restoration

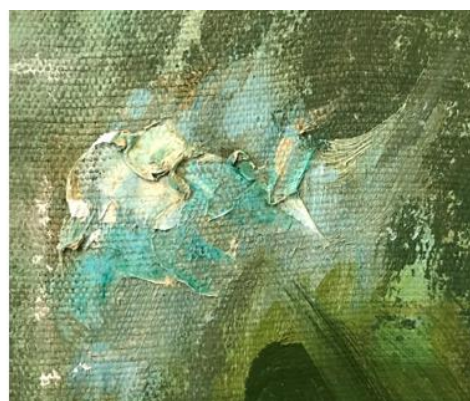


Figure 15. O.K. Tatevosyan. Flowers, 1958. Fragment after restoration



Figure 16. O.K. Tatevosyan. Flowers, 1958. The front side after the restoration of direct sunlight