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TECHNOLOGICAL ASPECTS OF THE DESIGN EUROPEAN CAMEO GLASS

Abstract: Considered technological differences and features Roman Cameo Glass, English Cameo Glass second half of the XIX century and the French Cameo Glass last third of the XIX - early. The twentieth century. Analyzed and verified the hypothesis of creating Roman cameo Glass.

Key words Kameoglass, art glass, carved glass, etched in acid, Roman kameoglass, kameoglass English, French kameoglass.

Statement of the problem. Among all the techniques of art glass, cameo technique Glass is the most complex and mysterious. Still in textbooks on the history of art around the world write about that ancient Roman Glass is carved cameo glass. The same definition is officially fixed for the Islamic and Chinese Cameo Glass, English Cameo Glass second half of the XIX century and French Cameo Glass last third of the XIX - early. The twentieth century. Accumulated materials technology research and practical experience of this author engraving multilayer crystal clear technology allows the creation of ancient Roman cameo-glass, and at the same time and especially schools follow this technique.

Analysis of recent research and publications: The article discusses the creation of the Roman kameoglass hypothesis developed by Rosemary Lierke [4], based on numerous studies preserved artifacts and fragments thereof. Research Lierke are invaluable material for the reconstruction of the technology of the Roman kameoglass.

The wording of the purposes of Article - Analyze and refine the art technological features cameo Glass.

The main part. Works are known to us, in the technique Cameo Glass belong to different historical periods and cultural traditions. Portland Vase, which is in the British Museum, is the most famous example of Roman cameo Glass. She was also the inspiration of the masters of English cameo glass, the best of which managed to make copies of the famed Vasa. We need to consider what is technologically differ examples known to us cameo Glass, and what methods to achieve the effect kameynogo used masters at different historical stages.

On the technological side, an ancient Roman cameo Glass has traditionally been considered an example of superior craftsmanship of carved glass. Such official point of view on this technique was common in the literature on the history of art until the late twentieth century. Not surprisingly, the British masters of the second

half of the XIX century, believing that the Portland Vase was carved out of the glass preform used tool for modeling the final stage of his works [3, p.16]. They developed a complex, long and dangerous for health technology multilayer crystal engraving (Spanish sristal encamisado) by etching in hydrofluoric acid blank.

Multistage creation cameo glassmaking Glass British vessel began creating multilayer lead crystal. "In this case the product as manufactured in two stages. Initially master manufactures of colored glass funnel, ie, a hollow bubble with retracted inside bottom. Repulsed crater blowpipe, the master sets her cap down in a special holder (glass). Along with other funnel Master prepares bullet from colorless glass that is blown with force into the internal cavity of the funnel. When this parison and the walls of the funnel are welded to each other and constitute a single whole. Produced when this excess glass, not welded to the sides of the workpiece, watered, it cracks and falls off "[1, p.50]. This procedure was repeated many times, how many layers of colored glass planned to establish in accordance with the concept of the artist who designed the cameo decor. Typing the desired number of layers, glassblower blown multilayer preform in a split wooden form, completing the simulation of the glass vessel. The outer layer of the multilayer preform English Cameo Glass was white (opal). Opal glass imitated white layer in a cameo agate and white cameo relief works of Roman Glass. In the white glass layer, at first, applied in a pattern, which is then coated with an acid-resistant material and was etched in hydrofluoric acid until such time as the background portion of the image to the underlying layer grazed colored glass. The next step of the vessel was purified from the remnants of the protective layer, and then all the silhouettes in the foreground covered acid "mask", and then etching reopened. This procedure was repeated as many times as plans had the image, as well as many times as it was necessary to restore the "breaking away" edges "mask" at every stage of etching.

After acid etching step in the vessel had a cameo Glass silhouette images forms at different plans. To the completed form shallow parts, British engravers used triangular metal cutter on a wooden handle [3, p.16]. Etching process using manual cutter was even longer than that in the acid etching step. So, the famous English engraver John Northwood has been working on a copy of the Portland Vase for three years.

At the end of the twentieth century in Rosemary Lierke publications devoted to research antique cameo glasc called for an open mind to consider this technology, using common sense and logic. Lierke unable to inspect vessels 6, 2 plates and many fragments of ancient samples, spend a few studies in the British Museum. Based on research and evidence of her colleagues, Rosemary Lierke concluded that the works of ancient cameo Glass were not cut from the laminated glass and more: they have never touched cutter ..

Lierke offers his hypothesis of the production process of antique cameo Glass, according to which the glass drop stamped in a plaster mold having Counter-Relief on the inner side, a pre-filled glass of white powder. After pressing the glass in the

form of a mushroom plaster element secured to the rod, according Lierke master turned the mold upside down, forming the neck around the web. Under the mushroom element Lierke plaster has in mind some easily perishable core of the future of the glass vessel, easily retrievable after its creation.

Rosemary Lierke writes that one of the most important results of years of research had knowledge of the fact that the early Roman cameo Glass were not cut from the workpiece with two different color layers of glass. Instead, they are likely formed thermoformed using a glass powder kameodekora. Process associated with the manufacture of Terra Sigillata - easy to use one-time-perishable used instead of plaster form of reusable ceramic molds. Hot Stamping cameo glass contrary opinion, preferring consideration cameo-glass vessels as "masterpieces of glass cutting all time." In this situation, the definition is not a matter of trust or distrust, it is a question of quality-controlled evaluation of the facts.

Value and the progressiveness of this research is primarily in their impartiality. Using facts and logic, the researcher was able to prove that ancient cameo Glass was not carved.Progressive is also a conclusion about the formation kameodekora "thermoformed".

Considering the hypothesis forming, you will notice the similarity "easily destructible one-time-use" forms of ancient Egyptian technology "sand" in the six intended for wrapping glass thread. Easily destructible and one-time-used form of ancient Egyptian technology of hollow glass vessel was designed for wrapping or dipping the glass into the glass, but not the pressure inevitable when punching. Theory stamping also does not take into account features of gypsum as a brittle material, is not capable of withstanding the pressure required for punching. In the manufacturing process, the proposed Lierke, gypsum can not be neither the shape nor the element is pressed glass. Should take into account the fact that the glass - material is sufficiently viscous and his expression requires some effort. If we recall kameodekore of glass powder, the question arises whether the white powder to melt and turn into relief in the stamping process or it must doplavlyat in the oven along with the form? Lierke writes that "decor (white glass) has a lower melting point than the underlying layer of dark glass - as it happens, as a rule, with all the cameo vessels, including the Portland Vase." This is important in the study of technology Cameo Glass suggests that the reliefs of white glass were formed from the glass powder, located in the recesses form. The lower melting point enabled the white powdered glass melt and alloy with a wall blown into the shape of the vessel. In this case, given the cameo-relief decoration, it is obvious that the conventional method of injecting into a mold to be used could not, so can only assume that it was "quiet blowing" - a technique which assumes no rotation of the workpiece.

Study Lierke different layers of colored glass, white (top layer), and blue (underlying layer) showed interpenetration of layers in the border zone, which clearly indicates that the receptacles Glass cameo with the decor were made thermoformed

"bilayer exaggerated carved billet always shows a clear separation between the two layers. Dark glass will never invade any bulge white glass. "

Air bubbles are detected in the white-glass cameo decor are of circular shape, while the blue glass bubbles vertically elongated vessel, which indicates the different conditions of their formation. Obviously, the container is blown in a mold having the negative relief filled pounded white glass. Alloys with kameodekorom, glass vessel was freed from the form, and then formed the neck and handles: "At the lower end, the handle was attached with a small amount of hot glass to the existing decor. This decor was not cut. "

In order to obtain relief on a convex glass vessel glassmakers had to use a combination of techniques such as «pasta de vidrio» and «soplado libre». Appliances «pasta de vidrio» used in ancient Egypt, imitating semi-precious stones and creating with the help of relief images scarabs and other items of jewelry. Products made in the technique of "glass paste" different opacity and matte shine. For their manufacturing to create a form that was filled with powdered glass and then fired in a kiln. During firing, glass chips melted, turning into a homogeneous mass of translucent, allowing to simulate semi-precious stones that were used for the majority of cameos.

Researchers antique cameo glass surprised by the scarcity of pieces created by ancient masters in the art. This is explained by the fact that the technology was complex and little known. The problem was that the creation of a wax model, which requires high skill of the artist and time-consuming, was a one-off, as well as the form itself, and, in case of error glassblower irretrievably lost. This exclusive work required special orders and conditions, which may not be in time of peace, and after the fall of Rome secrets stored by individual craftsmen were lost. In the II-III centuries BC. e. Romans began to use vessels blowing in curly relief forms (bottle of Sidon, blow in the form of the head of Medusa)."Obviously blowing round vessels (bodies of revolution) forms used them much earlier - this can be seen in the profile definition of some vessels" [2, p.17].

Roman Glass cameo vessels could also be made by the "rolling." "... For a more or less correct picture using special metal, ceramic or plaster templates. Templates are a flat plate with recesses into which poured baby. Laminating jar pattern, geometric pattern master receives or vegetable nature "[1, C.50].

Technological secrets of Roman cameo Glass still not been completely lost. After the fall of the Roman Empire got information related to Byzantium and then to China, where he received a local development were called Peking glass.

In contrast to the masters of the English cameo Glass working on new technology, French masters acquainted with the principles of the ancient glassmakers. Emile Galle, the most famous representative of the French school of Glass cameo (the last third of the nineteenth century), spent nearly thirty years in the lab, experimenting with different techniques of art glass. Among his works have vessels in the technique of etching in acid, but there are those who have an especially

convex relief, which is only possible with the use of the form, and then - the technology of glass paste. Halle interest to the art of China and Japan, and familiarity with Peking glass vessels led to the development of technology and the creation of similar vessels with high bas-relief. Technological differences antique, English and French Cameo Glass created as a result of various effects. Thus, the image of the ancient Roman cameo-glass have high relief, English - low relief. French Cameo Glass, etched in acid - graphically and mold - sculpture. Graphicness French cameo Glass, etched in acid does not mean that this technique can not achieve the best effect of the picturesque ancient cameos, when modeled layers agate create subtle tonal gradations. The technique of scenic modeling multilayer crystal, etched in acid, from 2002 to 2007, the capital of Argentina - Buenos Aires, working Ukrainian artists Natalia and Andrei Petrusevski. They have developed methods of creating beautiful engraving in acid and graphically modeling using new technologies helped to create a series of cameo-glass vessels, differing precision drawings and paintings modeling. The slightest change in the process leading to changes in the final artistic effect works cameo glass.

Conclusions. During historical change and scientific discovery technique kameoglass gradually transformed by changing its technological forms and methods of production. English Cameo Glass second half of XIX century style mimics drevnerimsogo Cameo Glass, using a fundamentally different technology. Forms of production a number of works of French Glass cameo last third of XIX - early. Twentieth century have in common with technology drevnerimsogo Cameo Glass.

Prospects for further research. Analysis stylistic and technological features of different schools cameo art Glass.

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Аннотация

Петрушевская Н.И. Технологический аспект дизайна европейского камео гласс. *Рассмотрены технологические различия и особенности древнеримского камео гласс и английского камео гласс второй половины XIX в.*

Ключевые слова: *стекло, камео гласс, художественное, резное,градировка в кислоте, накладное стекло, камея, форма.*

Анотація

Петрушевська Н.І. Технологічний аспект дизайну європейського камео гласс. *Розглянуто технологічні відмінності і особливості давньоримського камео гласс та англійської камео гласс другої половини XIX в.*

Ключові слова: *скло, камео гласс, художнє, різьблене, градирування в кислоті, накладне скло, камея, форма.*