

## **EVOLUTION OF JEWELRY PRODUCTION TECHNOLOGIES**

Shubin K.A., student  
Derekh A.S., student  
Scientific superior – Lichevskaya S.P., senior lecturer  
English language department №1  
Belarusian National University of Technology  
Minsk, Republic of Belarus

Jewelry has had a significant impact on human civilization since time immemorial. Archaeological finds show that jewelry was worn as far back as the Paleolithic period, which dates back more than 40,000 years. Jewelry was closely associated with religion and spirituality in many ancient societies. For example, the ancient Egyptians considered jewelry to have magical and protective properties and therefore integrated it into their religious practices. Likewise, the Greeks incorporated jewelry into their religious ceremonies and took inspiration from mythological creatures when creating their jewelry. Moreover, jewelry has been used as a symbol of wealth and social status in many cultures throughout history. In addition to its cultural and symbolic meaning, jewelry has also served a practical purpose throughout history. For example, brooches were used to fasten clothes, and earrings were worn to keep hair out of the face. Even today, jewelry retains its position as a significant element of human culture. Many people wear it as a form of personal expression, a fashion statement, or to commemorate emotional moments. Although the styles and materials used in jewelry may have changed over time, their value and significance remain the same [1].

The history of jewelry is quite extensive and multifaceted and originates in Ancient Egypt, where the main list of jewelry began to form: bracelets, rings, earrings, necklaces and tiaras. It was at this time that they mastered methods of polishing stones, which were first ground with hard sandstone and then wiped with wet leather; glass and enamel were created; The foundations of jewelry making were laid. One can also mention the Sumerian culture, which also excelled in jewelry. Archaeologists found gold and silver figurines and inlaid jewelry. From which we can conclude that Sumerian jewelers were skilled craftsmen and mas-

tered the technique of processing gold and silver, and knew how to forge and inlay their products with precious stones [2, p.18].

Then we can highlight the period of Ancient Rome, where some of the main techniques of jewelry production were relief chasing, metal casting and shiny bas-relief in stone. As in Ancient Egypt, enamel was actively used. The most popular at that time were rings, which mostly served as personal seals [2, p.20].

However, in Ancient Rome they used not only casting, but also foil manufacturing technology. Since gold has always been an expensive material, ancient craftsmen began to take advantage of its plasticity and covered various objects with gold foil. The production process of this foil was very long and labor-intensive. But in the Middle Ages, this process was optimized and, foil began to be made by passing the material through special shafts.

Jewelry making in the Middle Ages can be divided into several periods. During the 14th century, decorative elements inconsistent with each other in composition and color were common in jewelry: enamel, metal reliefs and precious stones. The ornaments feature a variety of stylized geometric shapes with a small amount of detail. Jewelry from the 11th century was characterized by a combination of silver, gold and bright, irregularly shaped stones. Most often, amethysts, rock crystal, emeralds, and sapphires were used in products in Europe [2, p.21].

If we talk in general about technology, it can be noted that in the Early Middle Ages, stone processing became more complicated: the stone was ground for a long time on fine-grained sandstone, and then polished on a lead tile with brick flour or crushed rock crystal. Grinding wheels made of sandstone, similar to millstones, or lead and leather-covered wooden wheels for polishing were also used. It is also worth mentioning that it was in Europe in 1456 that the lapidary Louis de Berquin discovered that crushed diamond was an unrivaled cutting tool. He also revealed the unique properties of diamonds – refracting light when they are cut [3]. And although there are many versions as to who and when invented diamond cutting, it was in medieval Europe that cutting technology made great strides forward. Already in the 17th century, cut diamonds became the main decoration.

Speaking further about the evolution of jewelry production technologies, without going into technical details, we can mainly highlight fashion, which changed from century to century. For example, in the 17th

century, items made of diamond, pearl, ruby and topaz were in fashion. Decorations were made in the form of flower bouquets. In the Victorian era, amethyst, garnet, and sapphire became fashionable. And decorations in the form of various animals. At that time, fashion was dictated by those who could afford all these decorations, namely those from royal families or those close to them. However, when the situation changed, the era began to dictate fashion; examples of this include the Art Deco style, the decorations in which seemed to repeat the catchy but strict architecture of the buildings.

During the Second World War yellow gold came into fashion as other materials were used to create weapons. From the 1950s to the present day jewelers all over the world have been developing various designs from a variety of materials for all types of buyers.

Speaking about jewelry production technologies of our time, it will be obvious to talk about high-precision instruments and measuring devices that modern jewelers use. 3D- modeling should be also mentioned. In addition to devices, new processes are also being invented, for example, electroplating, which makes it possible to coat various objects with metals using electricity. If we talk about something unusual, it is nanotechnology that allows you to interact with materials at the atomic level. Right now, these technologies are being used to create new types of gemstones.

To summarize, we can say that jewelry production technologies have evolved in every significant period of human history and have always kept pace with the times. Looking at modern technologies, we can conclude that this will continue to be the case.

### References

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