

SYMBOLIC MEANING OF GOLD EMBROIDERY PATTERNS IN UZBEKISTAN

The choice of decor element is a creative process, depending on the range of clothes, fabrics and who the clothes are intended for. The study of national traditions, national samples as the cultural heritage of the people will greatly help the development of thinking, artistic taste, culture, spirituality of the younger generation in the transition of our country to a developed country, as well as the Uzbek national culture. and the training of specialists who will contribute to the development of the economy remains our main goal. This monograph explores the spiritual significance of the national patterns of the people of Uzbekistan, the educational role of national patterns for the younger generation, the spiritual significance of the national patterns of the Uzbek people, and the peculiar patterns used in the gold-embroidery craft. In order to automate the process of making stencils of these patterns, an algorithm and a block diagram of a mathematical model were created using CAD, and the use of national traditions in modern costume design was studied.

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**Scholars'
Press**

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Monograph

**Nigora Muhiddinovna Tosheva
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THE REPUBLIC OF UZBEKISTAN
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BUKHARA ENGINEERING AND TECHNOLOGICAL
INSTITUTE

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SYMBOLIC MEANING OF GOLD
EMBROIDERY PATTERNS IN
UZBEKISTAN

MONOGRAPH

2022

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The choice of decor element is a creative process, depending on the range of clothes, fabrics and who the clothes are intended for. The study of national traditions, national samples as the cultural heritage of the people will greatly help the development of thinking, artistic taste, culture, spirituality of the younger generation in the transition of our country to a developed country, as well as the Uzbek national culture. and the training of specialists who will contribute to the development of the economy remains our main goal. This monograph explores the spiritual significance of the national patterns of the people of Uzbekistan, the educational role of national patterns for the younger generation, the spiritual significance of the national patterns of the Uzbek people, and the peculiar patterns used in the gold-embroidery craft. In order to automate the process of making stencils of these patterns, an algorithm and a block diagram of a mathematical model were created using CAD, and the use of national traditions in modern costume design was studied.

The monograph was discussed at the Council of the Bukhara Institute of Engineering and Technology and recommended for publication.

N. M. Tosheva and V. E. Ubaidova

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CONTENT

INTRODUCTION.....	4
CHAPTER 1. HISTORY OF NATIONAL CLOTHING. STUDYING THE SYMBOLIC SIGNIFICANCE OF NATIONAL PATTERNS AND ORNAMENTS	
1.1. The history of clothing: national traditions, social, spiritual and educational, religious relations and aesthetic forms clothes.....	7
1.2. History, types of Uzbek patterns, patterns on national clothes, objects and historical monuments.....	10
1.3. The history of Uzbek embroidery: types of patterns, embroidery methods and the symbolic meaning of national patterns	12
CHAPTER 2. STUDYING THE TECHNOLOGY OF MANUFACTURING EMBROIDERY OF NATIONAL PATTERNS AND ORNAMENTS	
2.1. Necessary fixtures and equipment for the gold-embroidery craft.....	16
2.2. Gold embroidery technology	18
2.3. Methods of embroidery in the gold-embroidered craft.....	20
2.4. Embroidery motifs and their structure	23
2.5. National ornaments in gold embroidery and their use in modern models.....	39
CHAPTER 3. STUDY OF THE SIGNIFICANCE OF NATIONAL PATTERNS AND ORNAMENTS IN MODERN MODELS	
3.1. Studying the educational value of national patterns for the next generation.....	43
3.2. Introduction to computer-aided pattern design.....	50
3.3. Creation of a Mathematical Model for Computer-Aided Design of Patterns and Ornaments for Gold Sewing	54
3.4. Application of national traditions in modern design suits	60
CONCLUSIONS AND RECOMMENDATIONS.....	66
BIBLIOGRAPHY.....	67

INTRODUCTION

I am convinced that you, dear teachers and mentors, are the leading representatives of the intelligentsia of our people. By actively participating in improving the effectiveness of the social system based on the cooperation of the family and the community, you will be an example for all.

Sh.M. Mirziyoyev

Advanced training on the basis of modern educational technologies, which have become a requirement of the time, plays an important role not only in raising the level of knowledge of teachers, but also in improving leadership qualities.

It is known that any pedagogical technology is built in the relationship "teacher - process - student", that is, in this learning process, both the teacher and the student work in unison. The educator creates conditions for the student to explore, solve problems independently, create a friendly atmosphere in groups, make logical and unanimous decisions, and express their opinions reasonably, freely and fluently. The teacher himself acts as an organizer, manager, facilitator, observer, supervisor, friend, partner, assistant to the student (student or listener).

Such an effective development of science, engineering and technology has led to the emergence and constant development of new knowledge-intensive production processes that improve the quality and increase the volume of products. Naturally, a change in production methods requires a corresponding change in education.

The advent of mass industrial production in the seventeenth century created the opportunity and the need for the publication of many textbooks and, on this basis, laid the foundation for the formation of a mass educational system. At the current stage of the development of society, modern computers and telecommunication systems serve as effective teaching aids, while these tools have become a direct productive force, at a time when real processes of automation of mental work are taking place, industrial jobs are intended for secondary education. At a time when almost half of the jobs in some complex industries are directed to highly educated specialists, the popularity of higher education is growing, and secondary specialized vocational education is becoming general education.

Relevance of the topic. After Uzbekistan gained independence, the restoration of national values and the application of their good traditions in modern life became an urgent problem. Today, during the period of rapid development of tourism in our country, foreign guests are very interested in national products, their types and patterns in decor, and their spiritual significance. However, scientific research on the spiritual significance of Uzbek national patterns has not yet been carried out. Therefore, the development of the spiritual significance of national samples of folk art in Uzbekistan is an urgent problem.

Today, like any other consumer product, the demand for clothing is higher. The garment design process involves the construction of modern garments, shapes, details, their proportions, embellishments and calculation formulas used to draw the product, using detail graphic methods that provide the desired shape of the garment in the finished form.

Small sewing enterprises, joint ventures and individual sewing enterprises in the Republic of Uzbekistan produce a wide range of clothing that meets the needs and tastes of the most demanding masses. Modeling clothes teaches how to create a model of clothes and how to make a model from a basic pattern. In this case, the base sketch includes the model lines on the sketch, creating a new model. In the artistic design of clothes, you are taught to decorate them by giving them different embellishments depending on the type and function of the clothes. Obviously, the choice of decor elements is a creative process, depending on the range of clothes, fabrics, and the purpose of the clothes. The study of national traditions, national samples as the cultural heritage of the people will make a great contribution to the development of thinking, artistic taste, culture, spirituality of the younger generation in the context of our country's transition to the number of developed countries of the world, as well as the national Uzbek culture and contributes to the development of the economy.

Theme Purpose:

- to study the spiritual significance of the national patterns of the people of Uzbekistan.
- to study the educational role of national patterns for the younger generation.

Expected Result:

- to study the spiritual significance of the national patterns of the people of Uzbekistan;

- development of algorithms and block diagrams of mathematical models to automate the process of drawing complex patterns used in gold embroidery;

- study of the use of national traditions in modern costume design.

Monograph structure:

The monograph consists of 3 chapters, conclusions, recommendations and a list of references. The main content of the work is presented on 77 pages, consists of 33 figures, 8 tables, 2 diagrams.

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CHAPTER 1. HISTORY OF NATIONAL CLOTHES. STUDYING THE SYMBOLIC SIGNIFICANCE OF NATIONAL PATTERNS AND ORNAMENTS

1.1. HISTORY OF CLOTHES: NATIONAL TRADITIONS, SOCIAL, SPIRITUAL AND EDUCATIONAL, RELIGIOUS RELATIONS AND AESTHETIC CLOTHES.

Clothing reflects some elements of tradition, social relations, education, religion and aesthetic forms dating back to the history of the people. Along with some changes in the economy and politics of public life, dress codes are also changing. The material situation, the tastes of people, the ideals of beauty, the peculiarities of managing and some aspects of family life are also highlighted.

At the end of the 2nd millennium BC - the beginning of the 1st millennium BC, the largest slave-owning states of Central Asia were Bactria, Sogd and Khorezm. The conquest of a significant part of Central Asia by the Iranian Achaemenids in the 6th century BC and Alexander the Great in 329-327 BC also contributed to the development of slavery here. In the middle of the III century BC. Parthia, the largest slave-owning state in Western Asia, arose. According to many written sources, even the Roman Empire became a dangerous rival. Aramaic, Greek and Persian scripts are widespread in Central Asia. They had a profound influence on the further development of material and spiritual culture.

In the paintings and sculptures of this period, we see Anahita, the god of earth and fertility, horsemen, animals and imaginary creatures. Among the finds of Afrosiab are figurines made of shawls, boots with long sleeves, pointed hats with ornaments. On ancient paintings and coins, dishes, weapons, we see drawings of people and animals.

Judging by the found monuments, music also flourished in Central Asia. One of the true masterpieces of the ancient cultural meso of the peoples of Central Asia and Iran is the sacred book "Avesto". Avesto is the sacred book of Zoroastrianism. Zoroastrian slavery was widespread in Central Asia in the early feudal era as one of the main religious beliefs. Zoroastrianism persisted for several years at the dawn of Islam in these lands. Avesto is not only a religious book, but also an excellent source for studying the centuries-old history, socio-economic life, language, writing and artistic culture of many countries. The essence of Zoroastrianism is based on the contradiction between good and evil (good and evil).

Monuments of the ancient art of Central Asia provide a rich opportunity to get acquainted with the types of clothing of antiquity.

The spread of Islam in Central Asia and the formation of religious beliefs, Sharia and related sectarian laws and beliefs, as well as the role of the local population played a positive role. Instead of worshiping all kinds of gods, hiltens and sacred things, people began to follow the teachings of Allah, the One and Only, and His Messenger Muhammad (peace and blessings of Allah be upon him).

In the 9th-12th centuries, so many great scientific discoveries and studies in the field of science and culture were made in Central Asia, and this was not only an invaluable contribution of our ancestors to the treasury of world culture, but also a reflection of their brilliant mind and intellect, recognized throughout the world.

Central Asian miniaturists of the late Middle Ages left a rich legacy in art. Artists such as Kamoliddin Behzod, Muhammad Chagri, Muassin, Abdullo, Muhammad Murad Samarkandi skillfully depicted all segments of the population, their lifestyle, appearance and clothing of this period. According to the miniatures, white, blue, purple, gray and brown colors were most often used in Central Asian clothing. Knitted fabrics were rarely used, and striped fabrics were mostly Indian and Iranian.

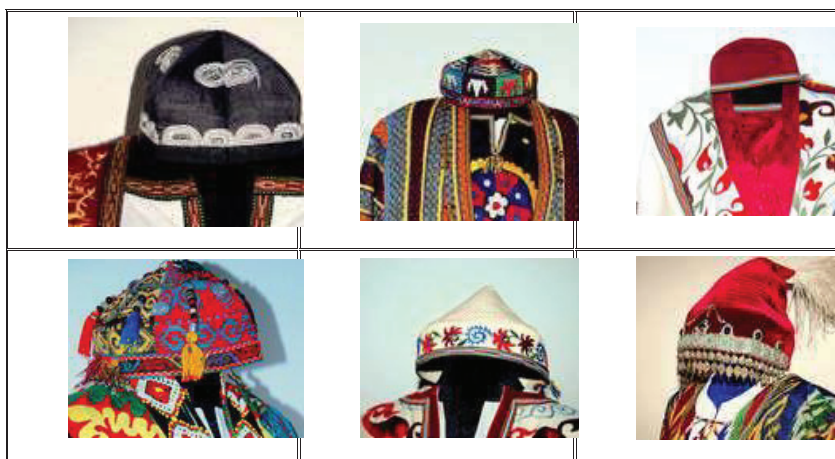


Fig.1. Uzbek headdresses of the first half of the 19th century



Fig. 2. Clothing of the Uzbek people in the first half of the 19th century



Fig. 3. Clothing of the Uzbek people in the first half of the 19th century



Fig.4. Outerwear of Uzbek women in the first half of the 19th century

1.2. HISTORY AND TYPES OF UZBEK PATTERNS, PATTERNS ON NATIONAL CLOTHES, OBJECTS AND HISTORICAL MONUMENTS

Gold embroidery art has a long history and almost all countries of the East are its homeland. Pliny says that Babylonian embroidery has long been popular, and it was there that embroidery with threads of different colors was invented. When Babylon, the birthplace of gold embroidery, became part of the Roman Empire, it became famous for its colorful embroidery incorporating gold, silk and wool. In Byzantium, the traditions of gold-embroidered art also flourished, and only emperors, their wives and nobility wore gold-embroidered clothes. During the Sassanid period, gold embroidery also flourished in the palace of the king of Iran. Because this country had regular cultural and political cooperation with Byzantium. An example of the development of gold-embroidered art in Iran in the 15th-17th centuries are samples of gold-embroidered products. In Ancient Russia, they also studied the art of gold embroidery, imitating Byzantium. In

Central Asia, gold embroidery is one of the oldest types of folk art. From archaeological finds and historical sources, it is known that gold-embroidered items and objects were widespread among the peoples of Central Asia in the 1st-2nd centuries BC. The main profession of the Samarkand poet Fitrat, who lived in the 17th century, was gold embroidery, he embroidered beautiful gold patterns on fabrics. In the XIX - early XX centuries, a unique school of gold embroidery art was created.

Gold embroidery schools are open in Bukhara, Samarkand, Fergana and other places in Uzbekistan. Gold-embroidered clothes made of expensive fabrics are common among various segments of the local population. Craftsmen sewed chakmons, men's robes, shoes, belts, chalvars, turbans and other items for the inhabitants of the emir's palace. Boys from a wealthy family, no older than 8-10 years old, wore robes trimmed with gold embroidery on the occasion of the circumcision ceremony. Until now, many gold-embroidered clothes from the reign of Amir Nasrullo have been preserved. 1885-1911 were the heyday of gold-embroidered art in Bukhara. In 1920, the emirate was overthrown and the art of gold embroidery passed into the hands of the people. Craft workshops were opened, which united craftsmen, and instead of luxurious dressing gowns they began to sew skullcaps, women's sleeveless jackets, bags, shoes, purses for glasses, sofa cushions. In 1930, under the Union of Artists of Uzbekistan, an artel of gold embroidery was created, in which experienced masters of gold embroidery were invited. Later, the artel was expanded and turned into a factory.

At that time, the talented artist Omonjon Majidov, the talented gold embroiderer Umar Khaitov and the master Faizulla Gaybullaev made a significant contribution to the training and development of skilled embroiderers, especially among women. Gold-embroidered skullcaps were sewn only in Bukhara, the craftsmen created new wonderful patterns. They sewed skullcaps for brides, such as "Gulnoz", "Bakhor", "Navruz", "Dilorom", "Rano", "Festival", "Koshbodom" and "Bakht", pleasing to the eye with their radiance and brilliance.

Since the 1960s, women's shoes have been sewn from gold in three different shapes. Such patterns and pictures as tulips, sunflowers, almonds, Minorai Kalon, Somoni mausoleum were reflected on the gold embroidery. One of the great representatives of jewelry art is Nomon Aminov, a gold embroiderer from Bukhara.

He was born in 1908 into a family of gold embroiderers. His father Omonjon Majidov worked in the workshop of the Bukhara Emirate for 12 years.

He taught Numanjon the secrets of gold embroidery from a young age. Numanjon learned the secrets of floristry, painting and embroidery. The creative achievements of N. Aminov were the study of various types of gold embroidery and the creation of new patterns. Very beautiful and impressive is the image of "Light Amir" and the painting dedicated to the 2500th anniversary of Samarkand, presented in the Museum of Folk Arts in Tashkent.

1.3. HISTORY OF UZBEK EMBROIDERY: TYPES OF PATTERNS, EMBROIDERY METHODS AND SYMBOLIC SIGNIFICANCE OF NATIONAL PATTERNS

There are endless springs in life that will not lose their significance over the centuries. Creativity has a clear style throughout each period and is passed down from generation to generation as a cultural heritage and we find expression in fairy tales and legends from the distant past. If we look at ancient paintings, we can see that the patterns reflect the same spiritual meaning in different peoples. In ancient times, all patterns had a religious, non-traditional and mythical meaning.

Circles, rhombuses, crosses are the most common symbols in the traditional art of all peoples. In Central Asia, these symbols have existed since ancient times and are synchronized with other solar and astral signs. Symbolic ones include a square divided into four parts, a four-pointed cross, a cross located inside a circle, and other similar geometric shapes.

The circle is the Sun, a symbol of the Universe, they are symbols of protection from evil forces. This figure is considered ideal, and this makes a lot of sense. Sometimes "sun" means "a surge of life energy."

The solar signs have always been synonymous with the astral meaning of the animal kingdom. In the culture of the mountain peoples of Central Asia, the heavenly radiance is represented by a circle. Ram horns are very common in the steppe zone. In the East, the composition of the cross, the sun and the moon symbolizes the unity of a pair of men and women.

The triangle symbolizes division, the triangle with the downward angle represents the masculine unit, and the triangle with the upward angle represents the feminine unit. The union of the two triangles meant new life.

The square represents the four corners of the world, eternity. The most common Muslim ornament is the octagonal star. The five-pointed star means the brevity of life, the five commandments of Islam. The crescent is a symbol of

Islam, a symbol of prosperity and ascension. Stars are a symbol of independence and divinity.

Wavy patterns are a symbol of vitality, Abri-Bahor is a symbol of rain and fertility.

In ornaments, subject themes are also very common. "Pot of water" - a symbol of life-giving water. The ancient drawings depicted the "tree of life", which grew out of a "pot of water". Patterns depicting knives and daggers were used as amulets to protect against evil forces and were a symbol of life-giving power. Similarly, other symbols have their own meaning, for example, pepper is a symbol of protection from the evil eye, almonds are a symbol of fertility, a ring is a symbol of the sun and warmth, a pomegranate is a symbol of food and future generations, birds are a symbol of peace and tranquility, flower buds are a dream of building a new families.

In patterns, great attention is paid to color. For example, blue is a symbol of protection from the evil eye, fidelity, peace, justice and perfection, red is a symbol of victory, joy, white is a symbol of brightness, happiness, good luck, yellow is a symbol of holiness, green is a symbol of spring, renewal, nature, joy and eternity .

Later patterns became more decorative and their magical and religious significance diminished. Modernity fills them with new content, gives them a new meaning and significance.

In every Uzbek family, a girl is given a dowry from birth. According to tradition, suzanes are embroidered for dowry, which require a lot of work and time. The girl grows up and takes part in the process of embroidering this suzani herself.

Mothers and grandmothers teach girls the secrets of embroidery, the symbolic meaning of patterns. The pattern in each suzane is a unique work of art. In ancient times, women knitted fabrics from natural cotton and silk. Cotton and cocoons were grown for natural fibres.

The image of a bird on the suzanna expressed the desire to create a new family, the image of a knife and amulets means protecting the family hearth from the forces of darkness and evil. This shows how much Uzbek women value the family and give it an important role in order to build a happy and peaceful family life.





The colors of the embroidered yarn are created from natural materials. As a dye for yellow - onion, for red - pomegranate, for brown - walnut peel, for green - pistachio kernel, for dark brown - mulberry bark. The rest of the colors used are made from the above color combination.


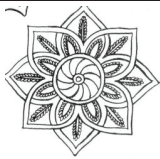


In the Shafirkan, Gijduvan, Shakhrisabz, Nurata regions of the Bukhara Emirate, ancient embroidery products, such as zardevor, suzana, jayposh, takiyaposh, are made according to different patterns. The embroidery style of the population of each region differed from each other and was called by the following names: Uzbek-dozi, bigiz-dozi, zanzhir-dozi, Iraqi-dozi, cast-dozi, zamindozi, etc.

For embroidery, handmade adras, coarse gray cotton and silk fabrics are chosen. According to the pattern applied to these fabrics, women embroidered by hand with silk threads. It took the master an average of four months to embroider a suzani. It takes a lot of time, patience and perseverance to sew a beautiful and elegant thing.

Table 1.

The name and symbolic meaning of the pattern

№	Figure name	Symbolic meaning	Image
1	Amulet	a symbol of protecting the family from the evil eye	
2	Knife	a symbol of family protection from evil dark forces	
3	A flower bud	a symbol of the dream of creating a new family	
4	Birds	a symbol of peace and tranquility	

5	Pomegranate	symbol of abundance and future generation	
6	Circle	symbol of the sun and warmth	
7	Almond	symbol of fertility and prosperity	
8	Pepper	symbol of protection from the evil eye	

CHAPTER 2. STUDYING THE TECHNOLOGY OF MANUFACTURING EMBROIDERY OF NATIONAL PATTERNS AND ORNAMENTS

2.1. NECESSARY DEVICES AND EQUIPMENT FOR GOLD SEWING CRAFTS

At the beginning of the 19th-20th centuries, both local fabrics and various imported factory materials were used for embroidery in gold embroidery. Men's national dressing gowns were sewn from the best grades of imported velvet. Russian velvet was also widely used. This fabric was called “velvet abroad” - from Russian foreign velvet, because it was brought from Western Europe through Russia. Although velvet is very colorful, people preferred red, purple, green and blue. for women's and children's clothing, velvet is used, mainly in red and purple colors. In addition to pure silk velvet, smooth semi-silk velvet, called “bakhmali mushi”, was also used for all other products except for national men's robes. Semi-silk fabrics “alacha” were used in the manufacture of almost all gold-embroidered products. These are mainly household items - suzani, pillow covers, prayer mats, etc.

Wire threads of various types are the main raw material for embroidery. The technology for making gold and silver thread has long been known in Egypt and Babylon. Initially twisted gold wire threads were produced in Delhi. Since the second half of the 19th century, the golden thread was brought to Bukhara only from Moscow, then from England, and now from Japan. Extremely soft gold fibers are known in the language of Bukhara gold embroiderers as “kalebatun”, which is sometimes used instead of gold, sometimes silver thread. When it is necessary to single out one or another type of thread, the golden thread is called the “golden” kalebatun, and the silver thread is called “kalebatuni safed” - the “white” kalebatun. Kalyobatun is a thin metal thread tightly wrapped with silk thread. It takes at least 84% of high-quality silver alloy to prepare kalebatun.

“Birishimi tillo chor tar” is a golden thread and silk yarn of the highest quality. Silver flowers are embroidered from white silk thread. In the early 1990s, 4O-raspoli velvet yarn appeared - a widely used raw material in gold embroidery.

For the manufacture of the "golden" kalebatun, golden water was passed through a wire thread. The color of the silk thread that forms the basis of the kalebatun was varied. Wire with oscillating wire is the main raw material of

Bukhara gold embroidery. In particular, the oscillator is found in all objects of the period from the beginning of the 19th century to the present day. Gold and silver silk, as well as rayon and fibers are used in gold embroidery.

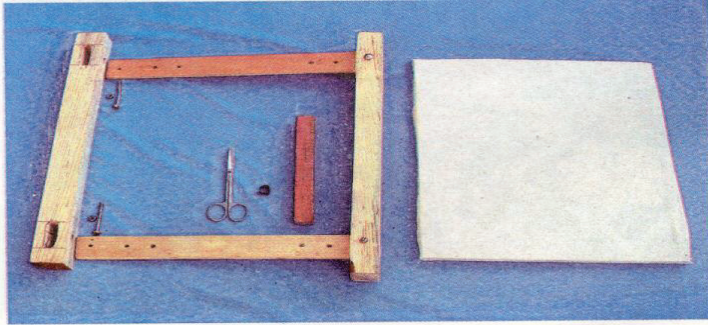


Fig.5. Embroidery tools: korchob, patila, scissors, thimble.

Plates, gold domes, buckles are also used in gold embroidery, which come in white, red, yellow and other colors. Relief patterns, dur, precious natural and artificial stones, glass beads, reminiscent of jewelry made by jewelers from various types of gold, are also used.



Fig.6. Types of scissors and necessary tools

Gold embroidery uses unique tools. To draw patterned compositions, you will need rulers, soft and hard black pencils, notebooks, albums, erasers, transparent, cardboard paper. A kind of frame, that is, “korchop”, according to its purpose, is divided into three types - “korchop” for a national robe, “korchop” for sleeveless jackets, “korchop” for other small items. They are similar in structure and differ in size.

The frame consists of two even, smooth wooden slats up to 320 cm long, which can be adjusted to any size with a movable screw on the end. A coarse cotton calico fabric is stretched over the frame, which is removed along with the finished product. Since ancient times, the patila tool has been used in gold embroidery. Patila is made of hard wood, 20 cm long, tetrahedral, with a smooth surface, with a hole drilled along the length. In order to make the patila heavier, hardened cast lead is poured into the hole. A golden thread is wound on the patila in four layers. Patilas ensured tight winding of the thread. The thimble is also used in gold embroidery. "Ang" - Persian, angusht - means a finger, a conscientious keeper.

The metal sheath, which is put on the finger to prevent the needle from getting into the hand, consists of holes in the top and sides of the thimble to prevent the needle from slipping off. Two types of thimbles are used in gold embroidery. One type is a factory thimble made of metal for the middle finger, and the other is made of bottomless, thick leather, which does not fit on the three fingers of the left hand.

Scissors in embroidery are of two types. The scissors mean “ushtur gardan”, which means “camel neck scissors”. These are scissors that look like a camel's neck and are used to cut flowers. Small scissors used in everyday life and ordinary medium-sized needles are also used.

2.2. TECHNOLOGY OF PERFORMING GOLD SEWING

Gold embroidery - embroidery patterns with gold thread. Means the Persian word "zar" - gold, "duzi" - sewing.

To know gold embroidery, you need to have the following skills: drawing and depicting patterns, cutting patterns with the help of special scissors, the ability to sew a stencil with gold thread.

The gold embroiderer works in the following order:

- for each stitched part, a separate template is prepared and cut out,

- Drawing on cardboard
- cutting out a pattern from cardboard using special scissors,
- pulling coarse calico on a special lattice - "korchub",
- basting of the part from the main fabric from which the product is made onto coarse calico,
- fixing stencil patterns on the fabric with large stitches,
- winding a gold or silver thread on a patila,
- embroidery with gold or silver threads of patterns on fabric,
- decoration of patterns with various stones, beads or plates, finishing threads or braid in the form of a spring,
- Withdrawal of the finished part with embroidery from the frame.



Fig. 7. Korchob, patila, scissors - tuyabuyin, calico base.



Fig.8. gold threads, ornaments and patterns for embroidery.



Fig.9. The process of embroidering the national men's robe.

2.3. METHODS OF EMBROIDERY IN GOLD EMBROIDERY

There are thirty different classic sewing techniques in embroidery. These methods differ from each other in name depending on the features of their implementation:

"zardozy zamindozi" - full coverage of the surface with a thread,

"zardozy guldozi" - in this case, the base of the pattern is left open, only floral patterns are sewn with a thread, a slightly embossed pattern is formed. Since the upper thread does not pass through the fabric, therefore the cardboard side is sewn with ordinary threads,

"zardozy birishimdozi" - sometimes sewn with silk thread, sometimes gold,

"zardosium pilacchadosi" - embroidery using plates of various shapes, colors and sizes.

"Zamindozi" is used in women's products, national robes, various gold-embroidered products, as well as in gold-embroidered edging braids of skullcaps.

The gold thread does not pass well through thick fabric, so the top thread imperceptibly intertwines with the lower plain silk or cotton thread on the surface of the fabric. A gold or silver thread remains on the surface, only a simple thread is visible on the reverse side. When silk or cotton threads squeeze the gold thread, they form a series of grooves, and the areas where the thread did not pass were slightly raised, which in the language of the seamstress was called a wave, so that they visually formed wavy lines on a wide surface. Visual illusions opened up wide opportunities for the creative imagination and ingenuity of gold embroiderers.



Fig.10. Mixed method "guldozi-zamindozi".

As a result, the patterns turned out to be rectangular, diamond-shaped, in the form of broken lines and many other types. The Bukhara gold embroiderers have unique and well-developed terms for embroideries created in this way, which are passed down from generation to generation without any changes.

1. Mavji yak roya is a one-sided wave. This is one of the simplest and most ancient flowers. It is found in all known items of Bukhara gold embroidery.

2. Mavji do roya - two-way wave. This is embroidery in the form of adjacent stripes, which have more or less broken directions.

3. Mavji ocha-bocha is the wave of "mother and child". When sewing this embroidery, two or four stitches are taken in turn as one. As a result, a series of narrow, flat and dark, sometimes wide, bumpy and shiny tracks are sometimes formed on the stitched surface. This method is stitched in two different ways: yak-roya (one-sided) and du-roya (two-sided).

4. Mavji chashmi bulbul - weaves form small rectangles or rhombuses. Mavji yak roya and Mavji chashmi bulbul are very common in gold embroidery.

5. Shashkhol. The flower is placed between one or two rows of wave cells. There were two versions of this flower: six-stitch and eight-stitch.

6. Gishti haram - sacred brick. Bukhara gold embroiderers say that this phrase in Arabic means haram (sacred). They also acknowledge that this embroidery is more beautiful than other embroideries. Haram embroidery with gold embroidery has never been mixed with other types of embroidery.

7. Embroidery "Four in four waves". The embroidered threads are arranged so that the surface of the embroidery looks like a weave of threads. This embroidery is only partially found on shoes and national robes.

8. Embroidery by Mavji Khanjari. This type of embroidery is used when embroidering small surfaces in the form of equilateral triangles or similar shapes. The embroidery is sewn directly onto the fabric, without fabric preparation and laying. The line is carried out in the direction from the edge of the product to the middle. The threads are laid parallel to the sides of the triangle.

9. Only women's products and the edges of headdresses are decorated with twig embroidery.

10. Kandori embroidery. The embroidery is named after the Afghan city of Kandahar and was brought from there in the second half of the 19th century. Embroidery is used for embroidering small parts of products. The seam allowance is sewn without fabric. To prevent the pile from coming out between the threads from under the seams of fleecy and woolen fabrics, a silver-white base is placed on a white fabric, and a golden-gray base on a yellow one. They embroider the bottom of men's and women's hats. In the art of creating light and

shadow, experienced gold embroiderers can use the techniques described above to demonstrate great skill and be able to reproduce their variety in various ways.

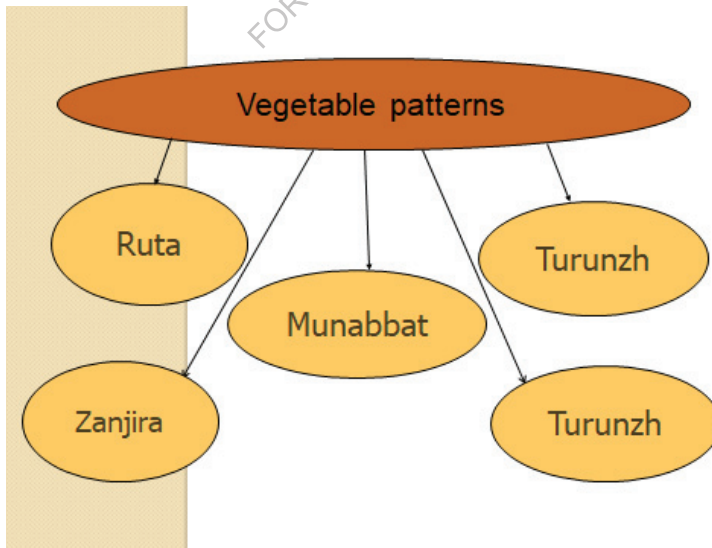
Skilled gold embroiderers, using the most commonly embroidered flowers, combining them in a variety of ways, were able to create many types of patterns.

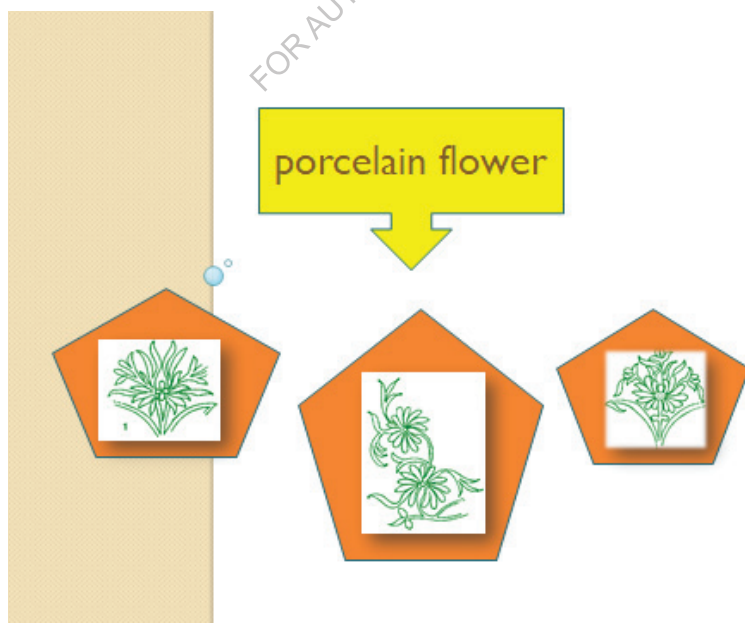
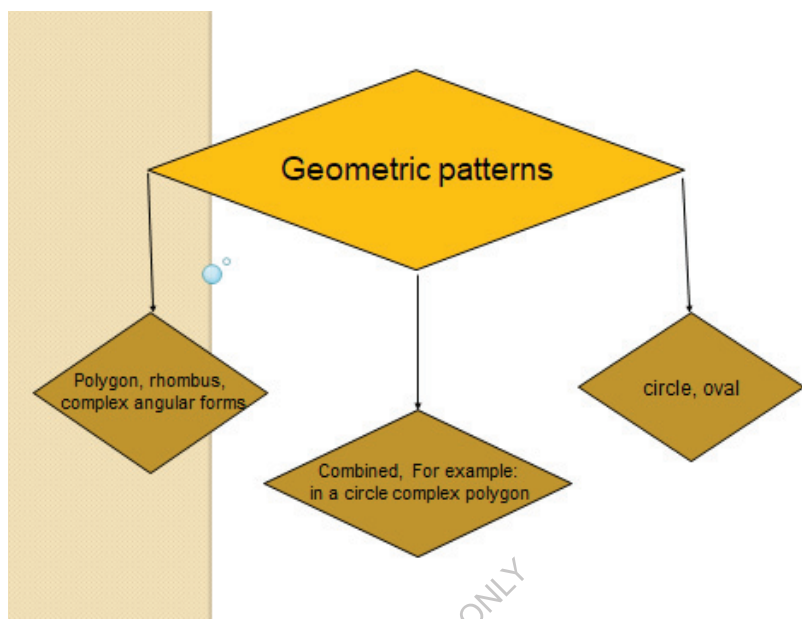
Small, jewel-like flowers are sometimes sewn onto fabric, sometimes made separately, and then sewn onto fabric where needed.

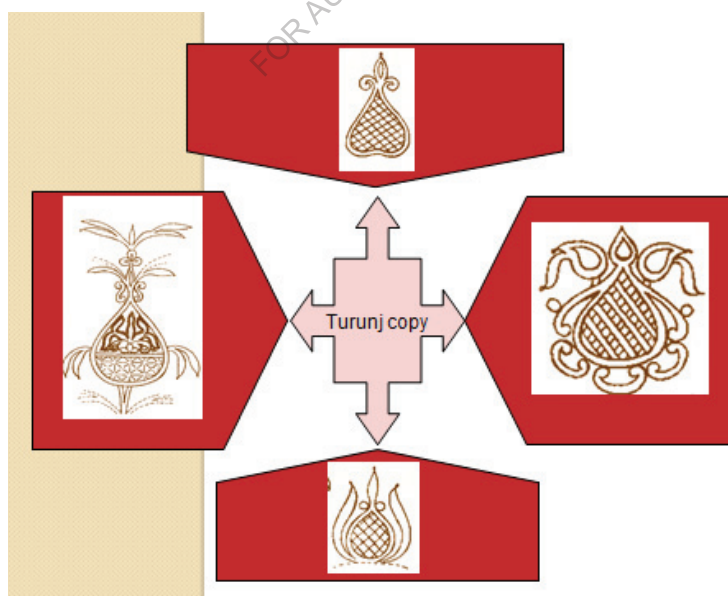
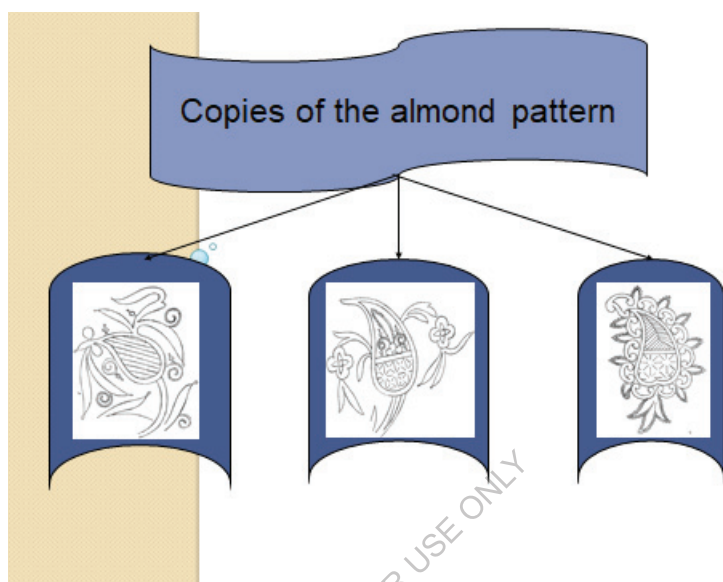
2.4. EMBROIDERY ORNAMENTS AND THEIR STRUCTURE

In the art of embroidery, floral, geometric floral, symbolic and other patterns were used. Patterns have a peculiar technology and methods of execution, depending on how the space is designed.

Pattern - from Arabic - means image, flower. This is an ornament formed by repeating elements in a certain order - images of birds, animals, plants, geometric shapes, etc. In gold embroidery, stitches are used to imitate the shape of leaves, stems, trees, bushes, buds, etc., stylized by the artist according to certain laws. In the patterns of fruit figures, we see pearls, orange, pomegranate, cherry, grapes. In embroidery, the term "leaf" has become the name of floral patterns. For example: a flower with four petals, a flower with six petals, a flower with eight petals, a tulip flower, and so on. A flower with more than eight petals is called "guli sadbarg". Large flowers are called "kosagul".







Leaf-type patterns are divided into: single-leaf-single leaf, trefoil, willow leaf and so on. The types of flowers have developed so many styles and geometric shapes over a long time of existence and development of the craft.

The name of the embroidery, for example, carnation (chrysanthemum), is based on Chinese porcelain painting. Bright patterned architectural monuments, their various geometric patterns serve as a rich material for creative enrichment when creating ornaments for embroidery.

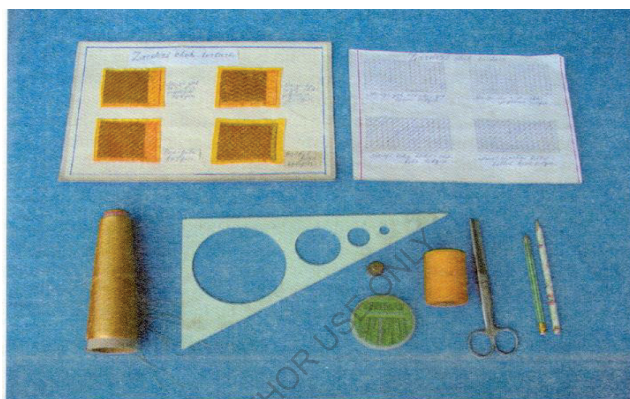


Fig.11. Types of gold embroidery stitches

The altar pattern in this series is usually in the form of a pointed arch. Depending on the structure of embroidery patterns, gold embroiderers divide products into separate groups. National robes are divided into several types depending on the order in which decorative flowers are placed.

Darham type robes are distinguished by the fact that the entire surface is filled with a cedar flower pattern. At the same time, rhombuses, squares, right angles, etc. of different sizes are arranged in rows and filled with dense patterns of the "islimum" type. Often, floral and leaf patterns are centered and in a circle, filling the base of geometric shapes. Embroidery "Almond" is stitched in the central part and along the edge. Another pattern of this type is a direct composition of wood, in which the embroidery lies flat. The flower of the tree consists of a long stem with flowers and leaves, sometimes in fragments, and sometimes with large peonies hanging from all sides. A bouquet of flowers flying in all directions on a flat surface is called a bush. The flower itself is called the

bush, which presents the stem and leaves of the flower, willow twigs, palm branches, almond pattern, etc.

The composition of this type includes national robes called "butador". The entire surface of such robes was filled with a pattern in the form of bushes, and only on the shoulder was an orange color called "tavk" (Arabic ring) beautifully beaded. The composition "butadora" was used in the products of adult men and children.

The pattern "Tavk turunji" is distinguished by its diversity and interpretation of patterns.

They differ from each other externally. Dimensions are calculated from 36X45 to 48X56 centimeters in diameter. "Turunzh" in Arabic means "lemon". In patterns, the type of pattern that appears in the center of the composition. It has a unique look and significance in Central Asia and has been used since ancient times. "Turunzh" is a composition that is not connected to other patterns, as if hanging in space, and over the centuries its shape has changed and changed. Now it has the shape of a circle, 5-10 faceted star, oval, rhombus and ellipse.

According to the structure, the "tavk turunzhi" pattern can be divided into two types. The first type of "tavk turunji" pattern includes compositions formed by a closed ring. Most often, a composition is used with embroidered flowers with a common center or hexagons filled with "islimi" patterns: sometimes these spaces are divided into trapezoidal rows and decorated with a pattern of these bushes.

Inside the circle is usually a hexagonal or octagonal star with a relief ring in the center.

Each part of the pattern is sewn in the form of small flowers, leaves, twigs and palm leaves.

Embroidered flowers of the second type "tavk turunji" consist of intricate compositions of "islimiya" of octagonal stars, alternating flower clusters and branches intertwined in the shape of a flower and placed on a crescent-shaped ring facing the ground.

"Composition" comes from the Latin word "compositio", which means to weave, compose, compare and arrange a pattern in harmony with the idea, character and function. When creating a composition in embroidery, one should take into account such components as symmetry, centrality, periodic repetition of

ornaments, dynamics, beauty, naturalness, ideology, brightness and harmony of colors. Each of them has its own laws. The drawings drawn by the masters are divided into special compositions according to their nature: kitoba, ruta, turunzh and so on. Layout or placement - the correct placement of the composition of the pattern, which will be drawn on the surface of the cardboard, on the sewn product.

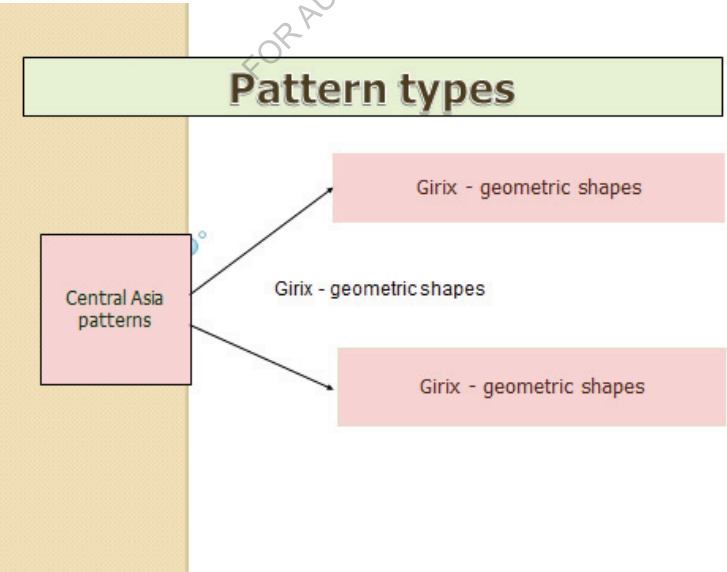
Symmetry comes from the Greek word for "measurement compatibility".

Asymmetry is a violation of the balance of the rules of symmetry in the composition.

Rhythm is a certain part of the composition of the pattern, which is constantly repeated in a straight line at a certain distance, which provides a continuous and beautiful look of movement in the pattern.

Stylization is an artistic generalization of the image, color, shape and structure of a plant and other things in nature.

Women's and children's shoes are decorated with simpler stripes and rings, between which prints with leaves are placed. The composition for embroidery with almonds is very common and is performed both in the “gulduzi” and “zaminduzi” techniques.



The skullcap is a popular lightweight hat in Uzbekistan. Both women's and men's skullcaps are embroidered with cotton, silk and gold threads on plain velvet, satin, and silk. Skullcaps are also embroidered with islimium embroidery and geometric figures of various shapes.

Geometric shapes are hexagonal and octagonal shapes, often sewn together and filled with floral designs in the form of flowers and leaves. Gold-embroidered skullcaps are embroidered using the guldozi and zamindozi techniques. Various four-pointed stars are typical embroideries on men's skullcaps. A braid is sewn along the edge of the male and female skullcaps.

Various cases for eyeglasses, hairbrushes, money and pocket watches are made of smooth plain velvet. Such cases are decorated with islimium branches and almond patterns. Wallets are embroidered on both sides, all other products are embroidered on one side only. Household items such as suzani, pillowcases, pillow covers, cradle covers, needle beds, prayer mats, eyeglass cases, amulets are embroidered using guldozi and zamindozi techniques. They are made from satin, velvet, silk and other fabrics using gold thread.

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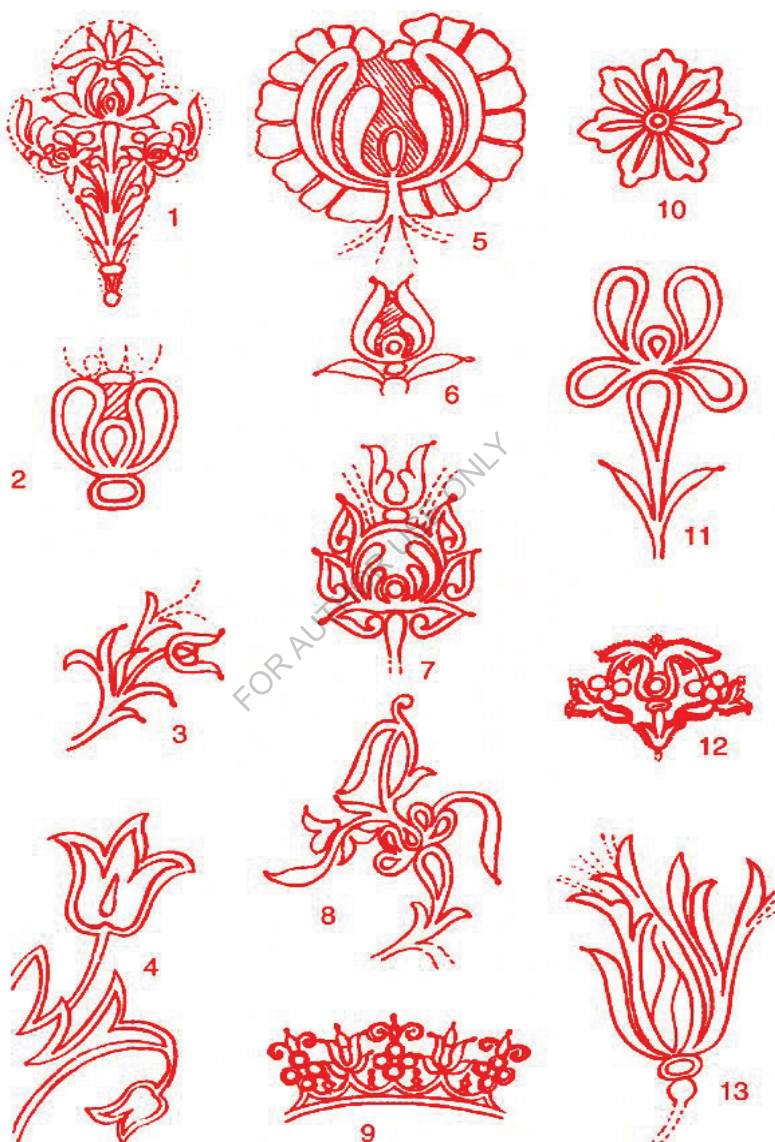


Fig.12. Turunge and grana patterns

1,5,7 - patterns of the "garnet" type, 2,3,4,6,8, 10 - patterns of the "turunzh"

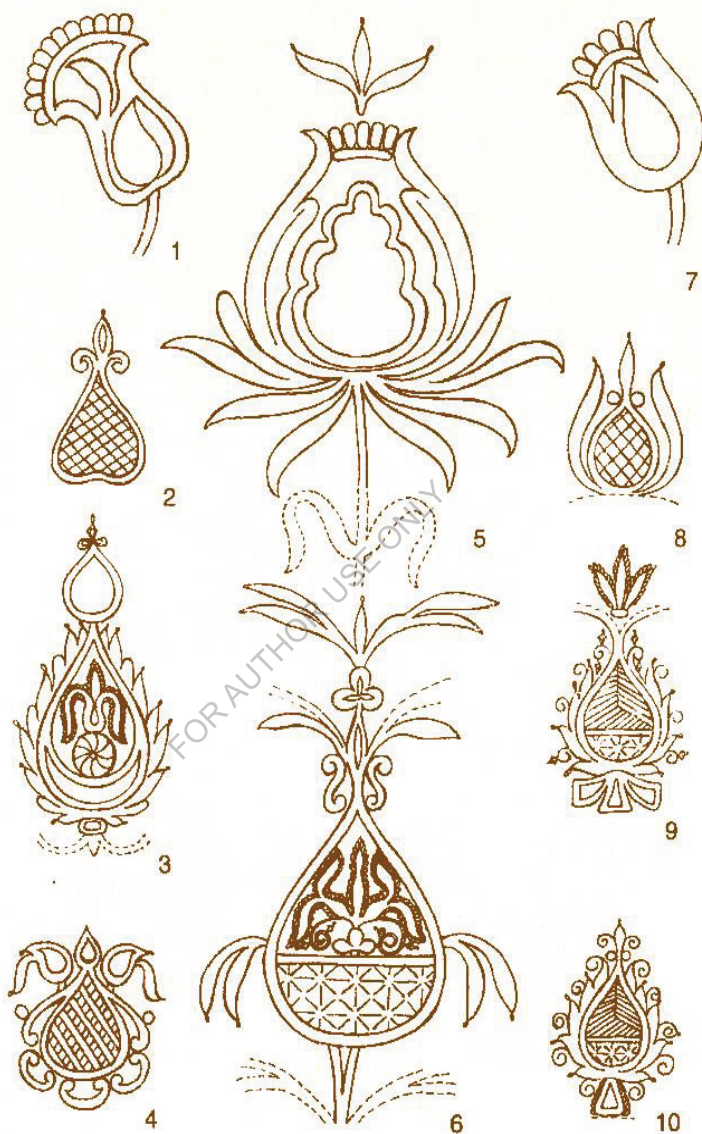


Fig.13. Tulip patterns



Fig.14. Patterns like "chrysanthemum"



Fig.15. Patterns like "tavk"



Fig.16. Men's national robe in the style of "Darham"



Fig.17. Men's national dressing gown in the style of "butador"



Fig.18. Men's national robe is sewn in the technique of embroidery in a circle



Fig.19. Men's national dressing gown is sewn using the "butador" technique



Fig.20. Embroidery in national costumes



Fig.21. Patterns on national headdresses



Fig.22. Patterns on national suzani.



Fig.23. Patterns on national products

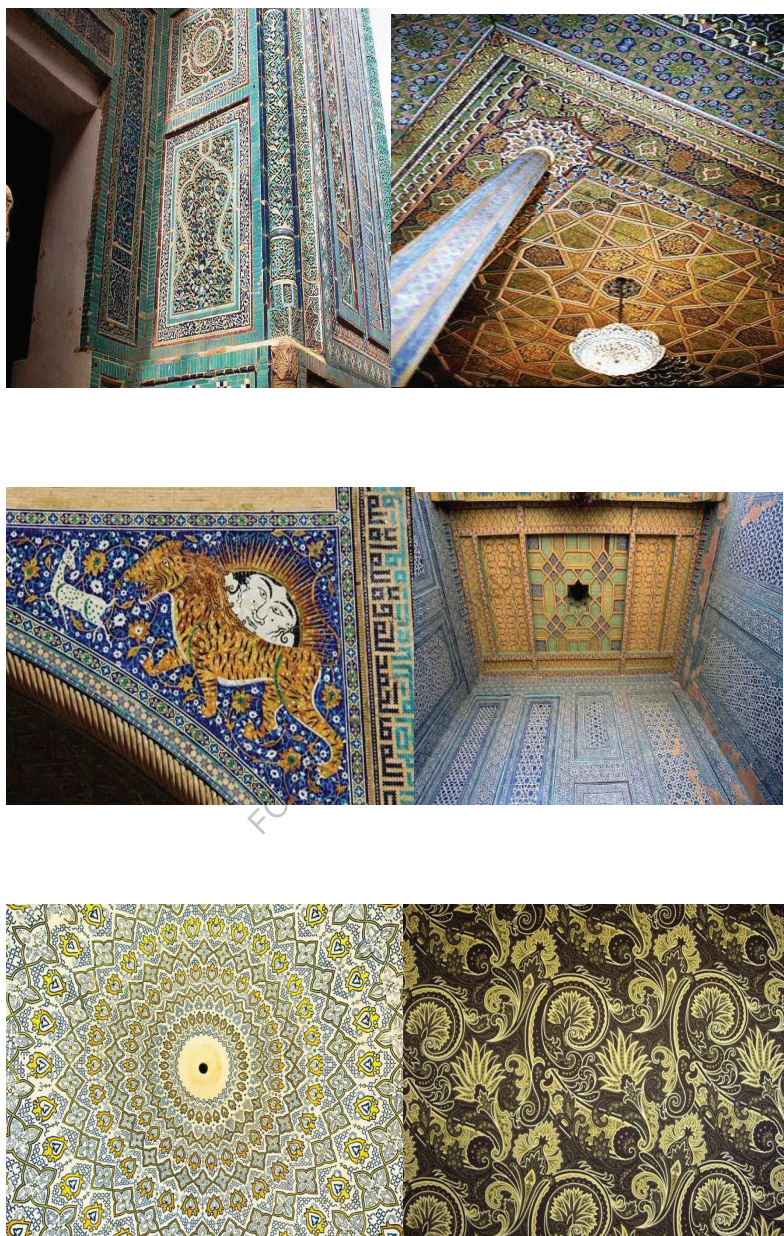


Fig.24. Patterns on historical monuments

2.5. NATIONAL ORNAMENTS IN GOLDEN EWING AND THEIR APPLICATION IN MODERN MODELS

The most developed type of gold embroidery is Bukhara gold embroidery. The production of gold embroidery products has its own center in Bukhara, serving fans of this unique art.

The most important aspect of the ecological movement is cultural ecology. The crisis of industrial civilization is reflected in the global crisis of culture. This is evidenced by all the signs of the crisis: the decline in the role of culture in society, the standardization and unification of cultural values, the loss of national identity and identity, the spread of popular "resistance to culture". The ecology of culture deals with these problems and the search for solutions. The concept of "ecology of culture" was first introduced by D.S. Likhachev. He drew public attention to the importance of preserving and supporting cultural traditions for the survival of mankind. According to him, "the task of preserving the natural biological environment cannot be limited to ecology. The environment is also important to the lives of people across generations and the culture it has created."

Preservation of one's identity in culture, respect for others (because only those who are different from us allow us to understand ourselves) is the fundamental richness of the emerging new civilization.

Modernization of the living environment of a modern person under the influence of new technologies should be combined with the cultural consistency of the lifestyle, which is one of the most important problems in the development of modern design culture. The search for "ethno-cultural similarity" of design is carried out in two directions: on the one hand, the desire for self-understanding of the foundations of national culture, the restoration of its most important archetypes in the product environment; on the other hand, the growing interest of modern man in other cultural riches that enrich the material environment.

One of the most important tasks at this stage is the creation of national design on a national scale, because the image of national identity is now the key to the success of design in the international market.

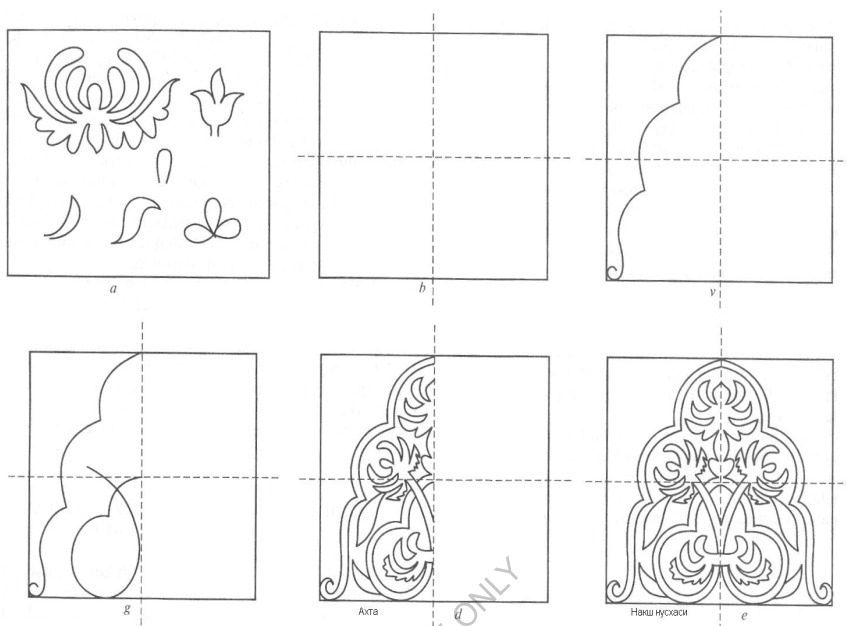






















Fig.25. Stages of creating a national patterned ornament

The classification of the national ornament is given in the table below.



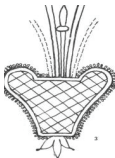


Table 2.





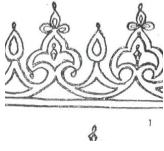






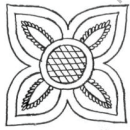



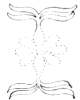




Classification of ornaments of the national pattern

P.01	P.02	P.03	P.04	P.05
Bodom (mindal)	qushbodom	qushbodom xazonok	bodomi nalaknok	bodomi xazonok
P.06	P.07	P.08	P.09	P.10
qushbodom -2	qushbodom -3	qushbodom xazonok-2	bodomi xazonok-2	bodom-2

				
P.11	P.12	P.13	P.14	P.15
bodom -3	bodom-4	anor-gul	turunj	turunji xazonak
				
P.16	P.17	P.18	P.19	P.20
turunji nalnok	anor-gul 2	anor-gul 3	turunj-2	turunji xazonok
				
P.21	P.22	P.23	P.24	P.25
turunji	Tojigul xazonok-2	kabagul	kabagul-2	kabagul-3
				

Continuation of table 2.

P.26	P.27	P.28	P.29	P.30
tojigul-2	kabagul-54	kabagul-5	tojigul-3	tojigul-4
				
P.31	P.32	P.33	P.34	P.35

madoxil	chor madoxili durun- badurun	madoxil -2	madoxil -3	madoxili durun-badurun
				
P.36	P.37	P.38	P.39	P.40
madoxil -4	chor madoxili durun- badurun -2	madoxil-2	madoxil -5	madoxil -6
				
P.41	P.42	P.43	P.44	P.45
chor madoxili durun-badurun -3	chor madoxil	bargi majnunbed	majnunbed	bargi shulluki
				
P.46	P.47	P.48	P.49	P.50
bargi shulluki	bargi majnunbed	bargi majnunbed -2	bargi majnunbed -3	shulluk
				

CHAPTER 3. STUDY OF THE SIGNIFICANCE OF NATIONAL PATTERNS AND ORNAMENTS IN MODERN MODELS

3.1. THE STUDY OF THE EDUCATIONAL SIGNIFICANCE OF NATIONAL PATTERNS FOR THE GROWING GENERATION

In order to study the educational value of national patterns for the younger generation, a public opinion survey was conducted among students of professional colleges. About 100 college students took part in the survey.



Fig.26. Vocational college student survey

The survey was conducted in two stages. Students were given questionnaires to find out their attitude to national costumes, the range of national costumes, the situation of using national costumes, fabrics used in national costumes, ornaments used in national costumes, what types of patterns they know, how they feel when wearing national costumes.

Table 3

Age groups of students

№	students	age					total	
		14	15	16	17	18	Кол- во	%
1	Boy students	20	20	15	5	5	65	65
2	Girl students	10	10	5	5	5	35	35
	Total	30	30	20	10	10	100	100

Analysis of the survey results based on the a priori ranking method revealed that the majority of female students are aged 14-15 years (65%), boys of the same age - 35%.

At two stages of the survey, the most popular types of national clothes were identified. After processing the survey results using the Ranger program, the number of colors for each type of clothing range was determined. The average correspondence of responses was determined using the coefficient of concordance W:

$$W = \frac{S}{1/12n^2 (m^3 - m) - n \sum_{i=1}^n T} , (1)$$

S-is the square of the sum of deviations;

$$T = 1/2 \sum_{i=1}^n (t_i^3 - t_i), \quad (2)$$

t_i -is the number of interrelated colors in each row of the matrix;

n-is the number of respondents in the group;

m - the number of estimated factors.

The W value of the concordance coefficient is checked using f^2 Pearson's criterion. The values of the concordance coefficient W and the Pearson criterion- f^2 are shown in table 4.

Table 4

**The values of the concordance coefficient W
and the Pearson criterion f^2**

№	Assortment of national clothes	W	f^2 computed values	f^2 table values
1	The dress	0,97	779,7	15,51
2	Robe	0,85	663,9	15,51
3	Men's national robe	0,70	563,3	15,51
4	Sleeveless shirt	0,80	641,8	15,51

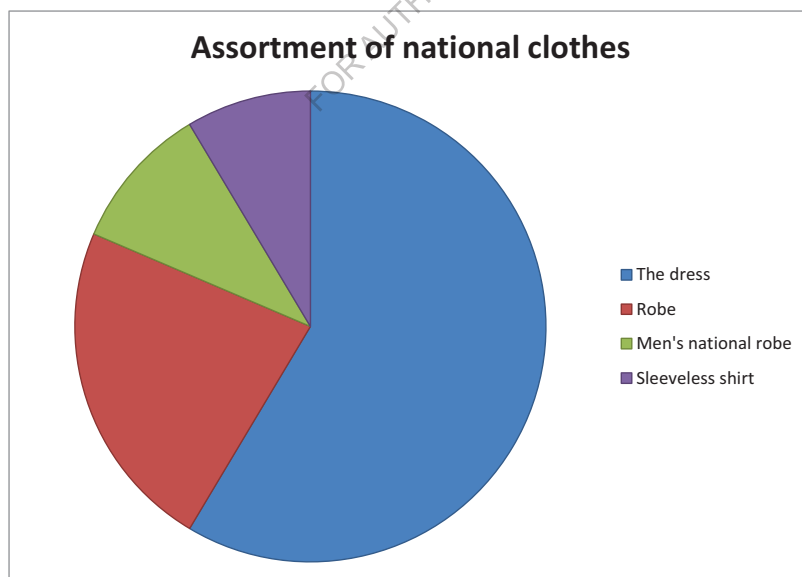


Fig.27. Assortment of national clothes

Table 5

The values of the concordance coefficient W
and the Pearson criterion f^2

№	Cases of using national clothes	W	f^2 computed values	f^2 table values
1	At weddings and events	0,91	764,7	15,51
2	At houses	0,82	652,9	15,51
3	On learning	0,20	353,3	15,51
4	On walks	0,56	646,8	15,51

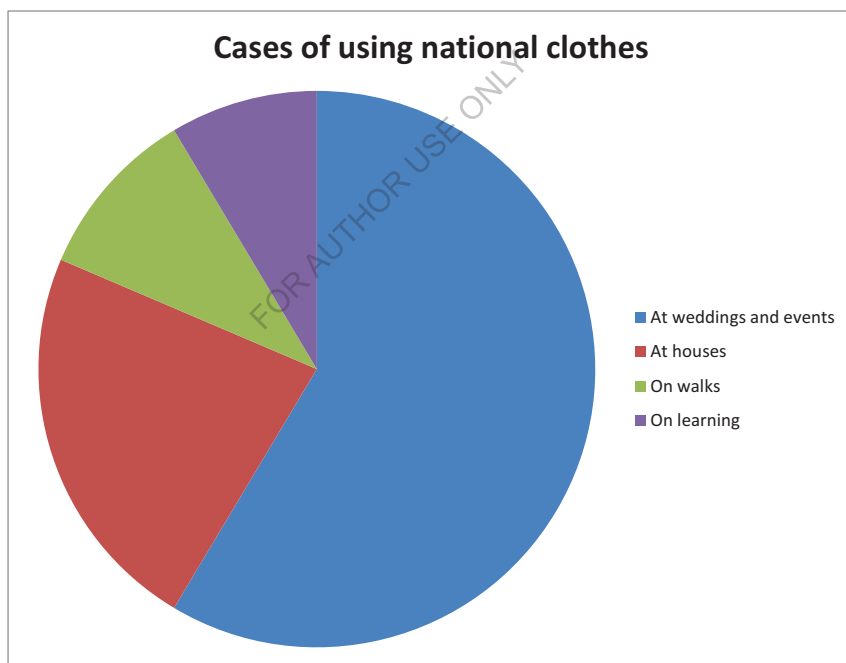


Fig.28. Cases of using national clothes

Table 6

**The values of the concordance coefficient W
and the Pearson criterion f^2**

№	Fabric used in national clothes	W	f^2 computed values	f^2 table values
1	Adras	0,95	819,2	15,51
2	Atlas	0,78	651,9	15,51
3	Banoras	0,30	321,3	15,51
4	Bekasam	0,60	541,8	15,51

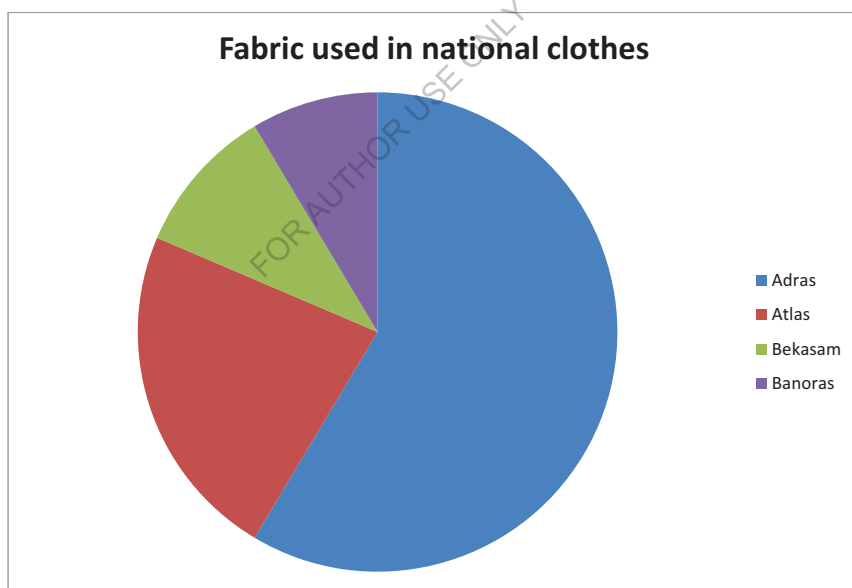


Fig.29. Fabric used in national clothes

Table 7

**The values of the concordance coefficient W
and the Pearson criterion f^2**

№	Jewelry used in national clothes	W	f^2 computed values	f^2 table values
1	Golden sewing	0,97	779,7	15,51
2	Hand embroidery	0,85	663,9	15,51
3	Application	0,70	563,3	15,51
4	Other decorations	0,80	641,8	15,51

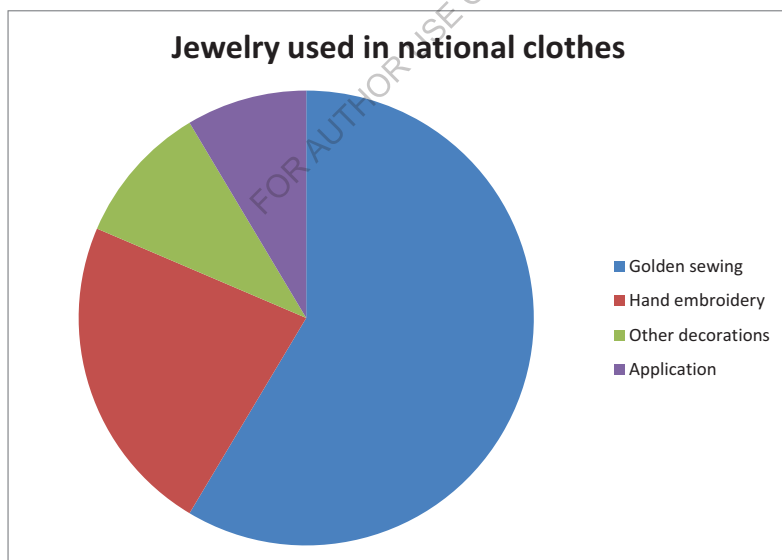


Fig.30. Jewelry used in national clothes

Table 8

**The values of the concordance coefficient W
and the Pearson criterion f^2**

№	The most common types of national patterns	W	f^2 computed values	f^2 table values
1	Image of sun and moon	0,82	678,7	15,51
2	Plant symbol	0,72	598,9	15,51
3	Fruit symbol	0,70	565,1	15,51
4	Symbols of geometric patterns	0,45	441,8	15,51

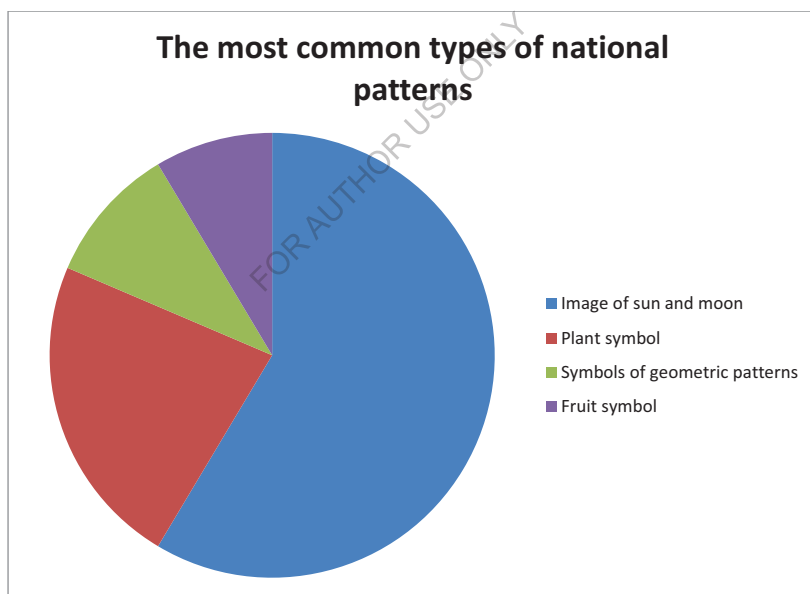


Fig.31. The most common types of national patterns

The analysis of the survey results showed that the most popular clothing among students is the national dress, the most common fabric is the national

adras fabric, and the most popular garment decoration is hand-embroidered national patterns. The study showed that patterns in national costumes encourage young people to understand and be aware of their names and meanings. When they wear national costumes, modesty prevails in their actions compared to sportswear, and a sense of humility prevails in their character.

Based on the foregoing, we can conclude that the developmental and educational value of national traditions.

3.2. GENERAL INFORMATION ABOUT COMPUTER DESIGN OF PATTERNS

The contour of the patterned ornament can be represented as a curve. Let's call this curve G .

This curve consists of separate curvilinear sections ($g_1, g_2, g_3, \dots, g_l$), each curve can be represented by the following formula.

$$G = g_1 + g_2 + \dots + g_k, (2.1.)$$

We call the curve G the generalized contour of the curve. We will express the process of transforming the curve G into the curve G_1 as $f(G) = G_1$

The expression $f(G) = G_1$ - is a general mathematical model of the process of changing geometric data for drawing patterns, and it shows the continuous process of converting a G curve into a G_1 curve.

Simply put, in order to show a graphical representation of the generalized contour of the sweep, the outlines of all the details of clothing can be drawn in pencil continuously, that is, without looking up from the paper, with a curved line. In this case, of course, the pen can pass through some points and lines several times, and when moving from one part to another, connecting bridges are formed. Now you can take a detail from this drawing, for example, a detail of the back, the unnecessary part of the contour is turned into a small dot by scaling.

This point is located in any corner of the back half, retains all the structural features of the original image and returns to its original shape by magnification.

The initial data for the mathematical model are the coordinates of the corner points and the change parameters. Corner points are defined and set as incremental values for the gradation of patterns and derived part patterns.

Most of the tasks of drawing patterns are associated with calculations and the execution of graphical procedures, since the main design results are presented graphically.

Graphic input devices (GMC). The input device operates in automatic and semi-automatic modes. GMC converts strings and characters into digital code. The GMC machine works on the principle of scanning. The semi-automatic GMC, for example, transmits information in absolute coordinates using a magnetic pen or an optical recording device. Moves in a direction. The advantage of such graphic designers is that the length of their workspace is unlimited.

The properties of the spatial form of a pattern are its set of visible features, including the geometric shape (configuration), properties and dimensions of space, mass, texture, image, color, light - shadow.

There are three types of pattern shapes:

1. Dimensional, in which the equality of sizes in three coordinates is observed;
2. Plane, with a sharp decrease in the size of one of the three coordinates;
3. Linear, in which only one kind of 3D dimension takes precedence over the other two dimensions.

Dimension is a property of the duration of the form and its elements along three coordinates. When solving many compositional problems, it is important to take into account the visual perception of the pattern ornament. The mass of large figures also seems large. For example, the mass of a cube or sphere seems very large, while the mass of objects that are close to linear seems small.

The properties of light and shadow also play an important role in defining the form. The location of light and shadow is evaluated by the shape, relief, surface and illumination of the object. Without shadows, the three-dimensional shape of an object cannot be clearly seen.

If light strikes an object at a 90° angle, the shape in space is seen in a light silhouette, while the surrounding objects remain in shadow.

Methods for constructing mathematical models can be divided into two groups. The first group includes mathematical models of elements and

macromodels of systems. These methods are characterized by the use of heuristic methods and forecasting methods.

A heuristic (i.e. informal) method is used to select the type of mathematical relation of the model.

The second group includes methods for constructing complete mathematical models of systems based on mathematical models of elements.

The first group includes theoretical and experimental methods. Theoretical methods are based on the application of regularities characteristic of the simulated process. These models consist of systems of equations of a mathematical operator.

Experimental methods are based on the application of experimental relationships between parameters and variables.

An important part of the design is the combination of computational and graphical procedures. This is due to the fact that the main design results are more visual.

For the exchange of information flows between the consumer and the computer, the following input-output devices are used: a device for semi-automatic input-encoder of graphic information; graphic information output device - plotter, graphic display.

Graphic input device. The graphic information input device operates in automatic and semi-automatic modes. The automatic graphics input device converts lines and symbols copied on paper, tracing paper, or photographic film into a numerical computer code. The automatic graphical input device works on the principle of scanning and tracking. The scanning device considers fixing the coordinate points in the drawing area. In the next device, the working body moves along the contour and observes the lines. The application of the photoelectric effect is common to both types of devices. In both cases, relatively simple images are used for encoding.

Devices for automatic input of graphic data information are widely used.

Semi-automatic optical device for graphic input of information with program control is designed to obtain a graphic description or a text document. The size of the working area is 850x618mm, with an error of 0.1mm. Information is transmitted in absolute coordinates using a magnetic pen or an optical recording device. Types of drawing elements (points, vectors, arcs,

circles, curves) and line types (basic, dotted, solid, dimensional, etc.) are set from the keyboard.

Graphic input-output device. The graphic input-output device of information - graphic displays - serves as the basis for an interactive graphic system. Most displays use cathode ray tubes to create graphics.

To enter graphic information on the display, light pens, graphics tablets, coordinate potentiometers are used to move the cursor around the screen. The lightest handles are used. They consist of a photocell and optical systems that focus light from a point on the screen onto a photocell, and also allow you to display images of the element, move, rotate, remove it. The backlight key allows you to quickly change and edit graphics. Several types of displays are produced in Russia: ES-7064, EPG-SM, UPGI, «Graphite».

Each pattern goes through a complex preparatory process before reaching the master. The cut-out fabric with the printed pattern goes to the workshop. The artist prepares patterns of ornaments, shows them to the customer and passes them on to jewelers for embroidery only after they are approved by the customer.

As soon as the pattern of ornaments is approved by the customer, the preparation of the required number of elements that make up the composition of the ornament begins.

To do this, the outline of the picture drawn on white paper is pierced with a needle. White paper is placed on thick paper, and the contour of the drawn ornament is transferred to thick paper with the help of kerosene or coal.

The outline of the pattern is drawn in pencil or ink and cut out with scissors. Gulbur is engaged in cutting patterns. Sometimes I use the help of gold embroiderers to cut patterns.

Making a pattern stencil is a very small and complex labor-intensive operation, since all work is done by hand. Despite the use of scissors, which are easy to cut patterns, the work of the gulbura master is very laborious, and when a large number of products are to be produced, when cutting 150 or more patterns per day, the gulbura master's hands can be damaged, which can be harmful to health. So obviously there is a problem here.

3.3. CREATING A MATHEMATICAL MODEL OF AUTOMATED DESIGN OF PATTERNS AND ORNAMENTS FOR GOLD SEWING

The widespread use of computer technology and graphics is one of the most urgent problems today. To automate the production of stencil templates in the production of gold jewelry, it is recommended to use the following steps:

1. Drawing templates based on a Pentium-IV computer using graphics stations or a standard Windows driver. (Fig.31). The widespread use of computer technology and graphics, drivers, plotters and scanners allows you to create many very attractive and original patterns.

2. The image is then embedded in 3D Studio Max Pentium 90 Windows NT, which clearly shows how the virtual image of the garments will look when projected using 3D graphics and animation. At this stage, you can make the necessary changes: choose the optimal arrangement of the composition of the ornament, its color, scale, proportions, rhythm, and then create an economical arrangement of the selected ornaments using the integrated program "JULIVI" (Spreader). With this program, you can create stencils of patterns, economically place them on cardboard, cut out patterns and create ready-made stencils for embroidery.

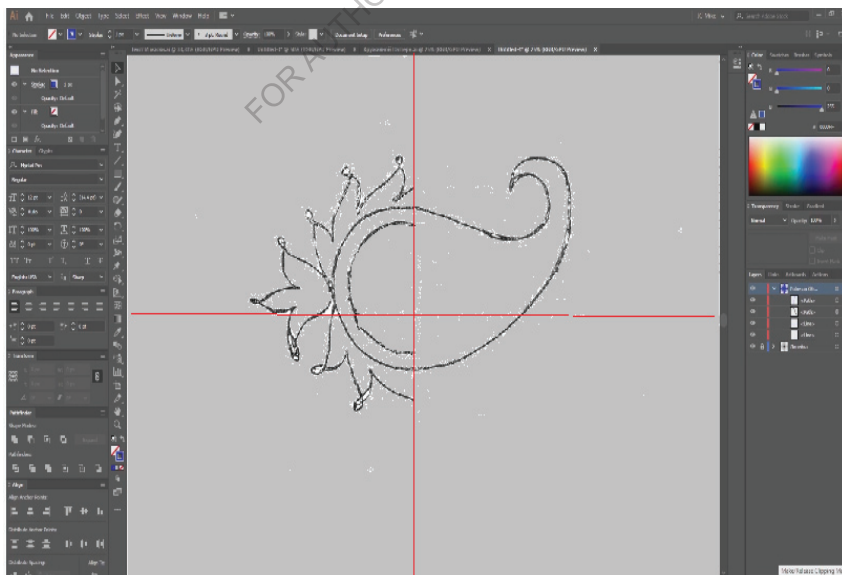


Fig.32. The driver-artist program.

Thus, the following flow chart of an automated process for the manufacture of finished stencils used in gold embroidery is recommended. The automated process of making ready-made stencils, recommended for use in gold embroidery, completely eliminates heavy manual labor, drastically reduces the time for making stencils, and at the same time increases labor productivity.

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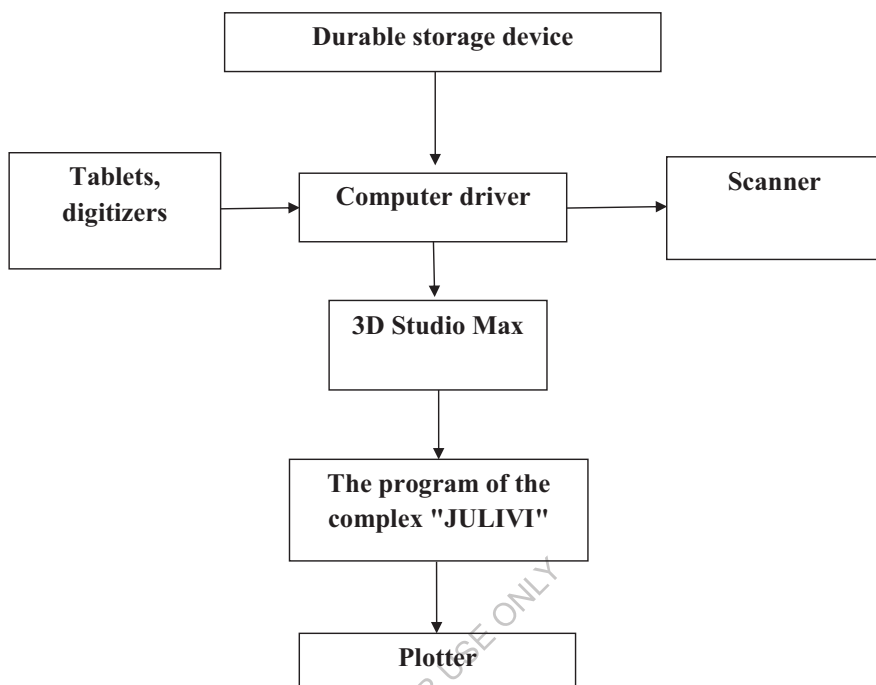


Fig.33. Sequence diagram of the process of computer-aided design of patterns and ornaments

Algorithm for the mathematical model of computer-aided design of gold embroidery patterns

```

uses crt,graphABC;

procedure      col(k,xp,yp,x,y,r:integer);//      semicircle      drawing
procedure vari:integer;

begin
for i:= (90*k) to 180+(90*k) do

putpixel(xp*r*10+x*r*40+round(cos(i*pi/180)*10*r),yp*r*10+y*r*40+rou
nd(sin(i*pi/ 180)*10*r),clBlack);

end;

procedure body(x,y,r:integer); // almond drawing procedure
begin
Arc(101+x, 97+y, r, 125, 310);

Arc(200+x, 235+y, 170-r, 62+round((50-r)*1), 125);

Arc(140+x, 155+y, 70+r, 11+round((50-r)*0.9), 125);

end;

begin
clrscr;

col(0,1,3,1,2,4);

col(1,2,2,1,2,4);

col(2,3,1,1,2,4);

col(3,0,2,2,2,4);

col(0,1,3,2,2,4);

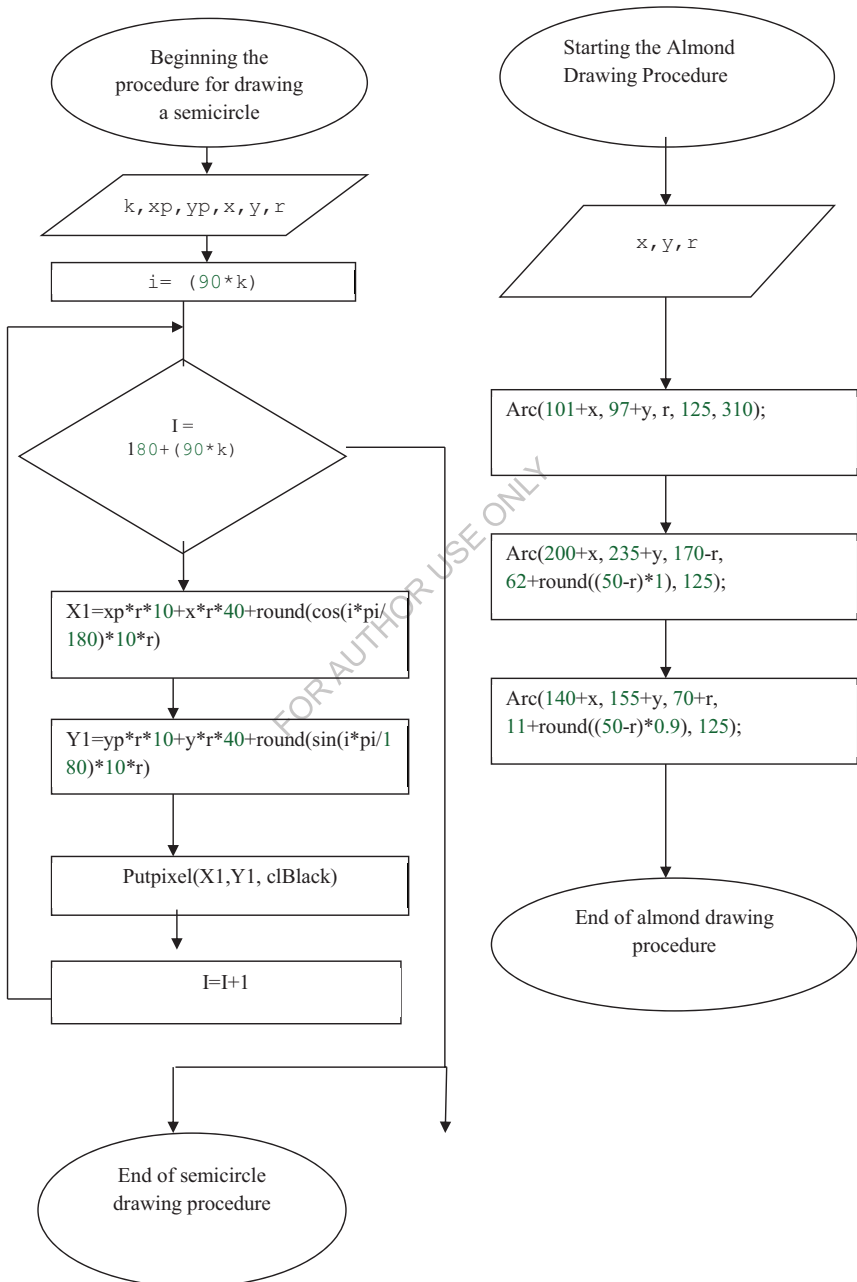
body(-10,-10.70);

body(-10,-10.60);

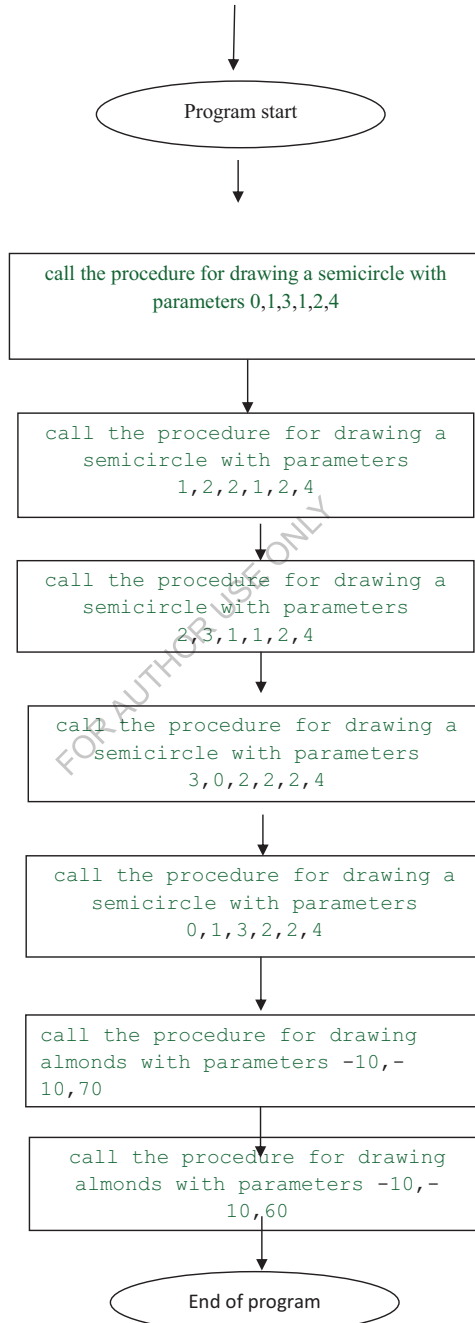
end.

```

Block diagram of the mathematical model of computer-aided design of gold embroidery patterns



Continuation of the block diagram of the mathematical model of computer-aided design of gold embroidery patterns



3.4. APPLICATION OF NATIONAL TRADITIONS IN MODERN COSTUME DESIGN

Postmodernism is associated with the features of the assimilation of national traditions in modern costume design, including the quotation style (assimilation of costume parts without modification and mixing elements from various creative sources in the model). A quote can be a detail of a national costume, a decorative element, a pattern, a shape, or a range of colors. By combining different quotes and mixing elements of costume from different nations, the designer created a completely new image, not associated with a clear and recognizable creative source, like the 1970s. So Jean-Paul Goethe, J. Galliano, R. Gili create their models on ethnic themes.

In costume modeling, a special direction is the development of the style of the national costume. The ethnic style has already adapted the form of the costume of the peoples of the world to the modern costume.

The influence of oriental traditions is not limited only to the development of forms, colors (many fashionable colors are borrowed from the color culture of eastern countries - indigo, "spice color", "Chinese yellow", "bright Buddhist yellow", etc.), accessories.

In the modern world, pluralism of tastes (diversity) and equality of aesthetic ideals, including ideas about beauty, take place in connection with certain ethno-cultural traditions. Non-European human figures as a European form of beauty have taken an equal place in fashion. 1960 (by P. Cardin and P. Rabanne) black mannequins appeared on the podium (Noemi and others) and proved that not only white fashion models are the standard of beauty, since the image of a fashion model is always the standard of time. Of great importance is the diversity of people on the catwalks and pages of fashion magazines. Thus, the uniqueness of each nation, people and individual is determined.

The fundamental basis of modern culture is aesthetic pluralism, which implies equal, often different, national ideas about beauty. In modern fashion, the standard of the same fashionable form, the individuality of each person, originality are valued.

The synthesis of Western and Eastern traditions allows a person to show individuality in relation to traditional ethnic and European clothing, that is, to create high-quality clothing. And even in 1960, hippies created clothes based on

the national costumes of other peoples as an alternative to the suit of a businessman and European uniforms.

The new approach to costume design is also applicable to Japanese designers, who combine free design, prone to change and transformation of oriental costume, as well as features of the European tradition of individuality in clothing. These are the works of Japanese designers, which embody the highest examples of the dialogue of cultural traditions, so non-European designers have had a huge impact on Japanese fashion. It must be admitted that there is a “Japanese style” in costume design.

As far as modern design is concerned, the Japanese artistic tradition is very interesting in that the design is harmonized from an ecological point of view.

The core components of the Buddhist teaching about life are important for environmental design. Japanese traditions are an important experience in the development of culture, aimed at preserving and preserving the traditions of Japanese culture for many centuries. The past has always been in harmony with the present, it still exists and is always in touch with time.

The combination of tradition and modernity is a striking example of Japanese art.

When creating modern clothing, Japanese designers do not adopt a specific form of traditional clothing, but copy the general principles of costume design, compositional techniques, artistic and creative traditions. First of all, they are based on the style of oriental clothing, which is comfortable, simple and versatile. Free style is an important feature of oriental clothing: it creates a certain distance between the body and clothing without deforming the body. Japanese clothing is based on simple geometric shapes - rectangles and trapezoids. Japanese designers often use this principle. Such models create freedom and comfort for movement.

In modern models of the Japanese, there is an interest in the packaging of products and the layering of clothing. This feature is typical of the Japanese tradition - without freedom and without space there is no beauty; truth comes only when beauty is manifested in an individual image. Commitment to nature - not to apply force to nature, to feel the uniqueness of each object - a feature of Japanese art.

The idea of focusing on consumer creativity is at the heart of the Japanese tradition. When a person is presented in the context of other people, they have a contextual consciousness in which humanity perceives it as a form and possibility

of interdependence. In Japan, some traditional art forms together became a form of creativity that blurred the distinction between art and everyday life and provided a broad social basis for art. Eliminating the distinction between subject and object, creative and passive spectator, is the goal of environmental design, and it is this idea that Japanese designers first introduced in costume design.

In Japanese art, the completion of a work is opposed to the eternal movement of life, which also contradicts the Buddhist teaching about the variability of life in the eternal flow of time. The source of beauty is not longevity, so the product created by the designer develops and communicates with the consumer.

Spontaneity, improvisation and transformation in the process of wearing - all this characterizes the clothes of Japanese designers and allows the consumer to participate in the creative process.

Another feature of the Japanese tradition, which is very important for modern culture, is the ability to assimilate various influences. In costume design, Japanese models have combined European and Japanese artistic traditions to create a completely new outfit that we can imagine not only as Japanese or European clothes, but also as clothes of the future.

An example of the synthesis of Japanese and European traditions in design shows that it is the dialogue of cultures that can give important ecological features to an emerging culture in a new civilization.

Uzbek designers use traditional fabrics (satin, silk, bekasam and adras), accessories and jewelry. They give new life to national costumes and present modern costumes made from national fabrics.

The traditions of material culture also attract the attention of contemporary designers from other nations, especially "exotic" regions. Other cultures are an almost inexhaustible source of new design. Man, especially in the West, has always been fascinated by the unknown, the beautiful, the rare, the "exotic".

"Wind of Fashion" changes the traditional clothing of women. The length and shape of the coquette (oval, rectangle, trapezoid), the length and shape of the shirt (rectangular, trapezoidal) and the principles of formation (gathering, folds, pleated, corrugated, flared, inserts), length, shape and cut are changing sleeves; there is a noticeable variety of armholes and types of collars. The types of decorative ornaments used, the type of fabric, and colors also differ. Every year, international shows of collections of models of famous designers are held, which

are saturated with bright colors, bewitching tones, unforgettable moments and unique sensations.

For this reason, professional designers and non-professional craftsmen are encouraged to revive traditional handicrafts in different countries (especially handicraft traditions have never been interrupted in Finland and Japan). In Uzbekistan, the traditions of crafts are preserved in folk crafts (ceramics, textiles, jewelry, etc.).

The traditions of material culture also attract the attention of contemporary designers from other nations, especially in "exotic" regions. Other cultures are an almost inexhaustible source of new design. Man, especially in the West, has always been fascinated by the unknown, the beautiful, the rare, the "exotic".







Fig.34. The use of Uzbek national traditions in modern clothes of the 21st century

However, the interest of modern culture in the traditions of the third world countries lies not only in the desire for novelty and miracles - the search for new signs of a new worldview in Eastern philosophy, religion, nature and man can become the basis of a future civilization. The crisis of Western civilization. The life experience of "uncivilized" peoples led to a change in Western views, since it was in the East that human nature coexisted with others. Post-industrial civilization is based on a synthesis of Western and Eastern traditions. He attracted Europeans with his oriental exoticism, wealth and delicate taste. In any period of the history of European costume, from the time of the Crusades to the "ethnic style" of modern fashion, the influence of the East is felt.

CONCLUSIONS AND RECOMMENDATIONS

In the socio-economic policy pursued in the country, much attention is paid to the development of all spheres of life, especially the upbringing of the younger generation in the spirit of the ideology of national independence. Today's youth is the future of our country. The main task of educational institutions is to prepare them to become fully mature people. Studies and surveys have shown that the younger generation prefers to wear clothes made from national fabrics and national ornaments in their wardrobe, many girls like national clothes decorated with national handmade embroidery.

The study of the process of sewing national embroidery showed that the process of drawing patterns is very long and laborious, therefore, at the next stage of the work, the task of automating this process was solved.

Studies have shown that the younger generation, as a rule, when wearing clothes with national patterns is more modest and calm than in other modern or sports style clothes, in which they behave freely and actively. So, from this we can conclude about the educational role of national costumes.

National patterns in clothes encourage young people to understand the meaning of these patterns, when and for what purposes they are used. This, in turn, emphasizes the developmental and educational value of national models.

In general, during the formation of character, worldview and discipline in the younger generation, its interest in samples of national costumes, ancient national heritage and traditions contributes to the understanding of national values, national ideas and national pride.

President Sh.M. Mirziyoyev said: "I am convinced that you, respected representatives of the intelligentsia of our people, respected teachers and coaches, are committed to improving the socio-spiritual environment in our country, promoting a healthy lifestyle among young people, strengthening peace and harmony in our society. You will be an example for everyone by taking an active part in raising our work to a qualitatively new level, increasing the effectiveness of a social system based on the cooperation of the school, family and community, which has justified itself in life." Therefore, the tasks that are assigned to the teacher are very complex, responsible and, at the same time, honorable. In an effort to become one of the developed countries, significant work is being carried out in the field of education in Uzbekistan to introduce advanced technologies in order to bring the content of education to the level of world standards.

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