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RUGS and DYES



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Mrs. J.M. Loch

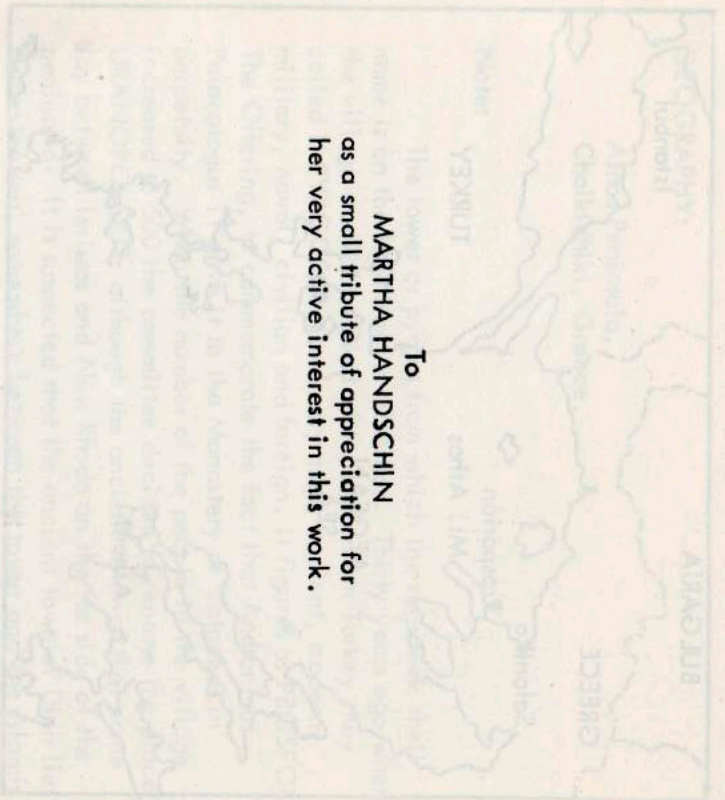
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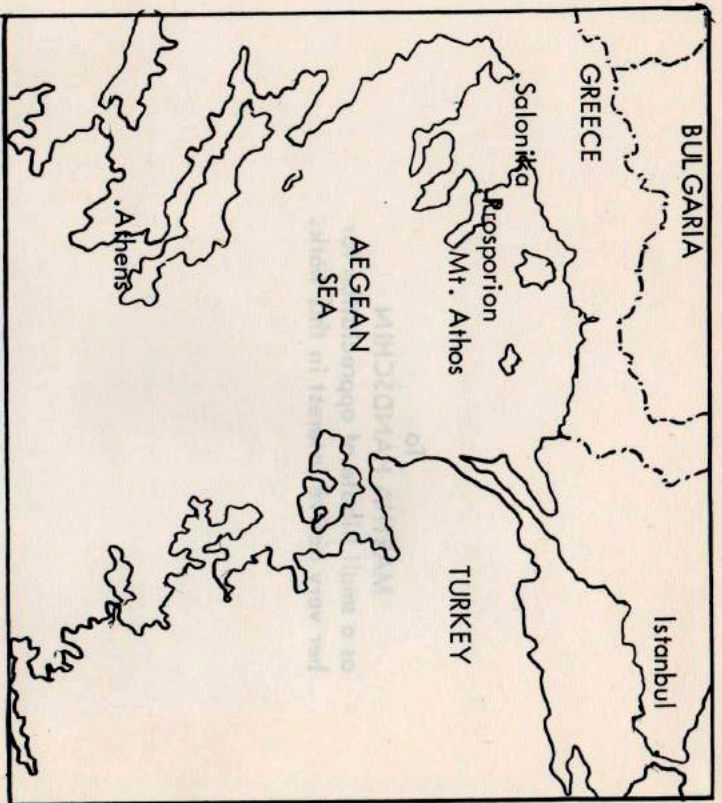
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To
MARTHA HANDSCHIN
as a small tribute of appreciation for
her very active interest in this work.



I wish to thank my friends, Mr. T. Woods-Smith
and Mr. George Jensen, who have photographed
the rugs and various phases of our work.

J.M. Nankivell



GEOGRAPHY:

Athos Peninsula,
Chalkidhiki, Greece.

Note:

The tower or pyrgos from which the rugs took their name is on the land frontier of Athos. Thirty years ago when the village was first settled with people from Turkey they called it PYRGOS; but on every map, ancient, modern, military, naval, civilian and foreign, it figures as PROSFORI, The Offering, to commemorate the fact that Andronicus Palaeologus II gave it to the Monastery of Vatopedi in perpetuity. When the number of the people in the village increased to 500 the committee decided to rename the place URANOPOLOUS, although the ancient town of that name lay between Ierissos and New Rhoda on the far side of the peninsula. It is suspected that the ancient town of Dion lies under the sea, somewhere between the tower and the islands.

The village then seems to have three names: Pyrgos to most people; Prosforion on maps; and Uranopolous to the officials. It lies about four kilometers from Xerxes Canal opposite the Drenia Islands.

J.M.N.

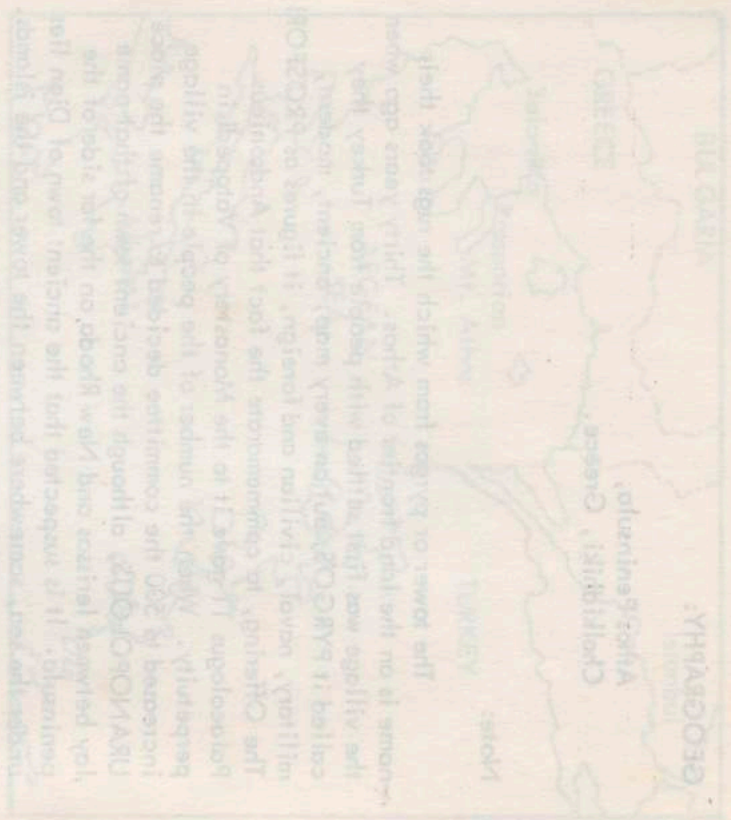
PYRGOS RUGS

In 1928 my husband and I went to live on the frontier of Mt. Athos in a large Byzantine tower which had been a metochi of the monastery of Vatopedi. The Greek Government had taken over the land from the monastery and settled a small group of refugees from Asia Minor there. We arrived simultaneously with many of the villagers. They went into small houses that had been built for them. We went into the tower.

Our original idea in going there was for my husband to study the monastic world from the ordinary human point of view. We meant it as a temporary arrangement, but we became so delighted with the old tower and so convinced that we alone could help the village that we remained. This is a common attitude of mind for which we must be forgiven for we were young, and still had certain enthusiasms. We were both writers, and what better place could we find than the tower in its splendid isolation.

We had no furniture, but village carpenters were eager for work and whole trees arrived from Athos to disappear into manure heaps before being hewn into chairs and tables for us. There is a limit to the amount of furniture two people can use, even people like ourselves with multitudes of friends who braved the real perils of the road to visit us. The making of furniture soon came to an end, and work was the cry that went up all around us, for the people were settled on stones, not land. For two impecunious writers suddenly to set out to achieve the impossible and to help a village to exist seems fantastic; but perhaps we were fantastic in-as-much-as the financial side of things did not seem even to dawn on us.

One day we were asked to go and see a man who, we found



to our dismay, was actually dying of malnutrition. Only then did we realize that the people were so poor it was economically impossible for them to feed the old.

The man told us that he had been a rug designer in Turkey. Half the people in the village came from the Princes Isles and Istanbul, and the other half came from Caesaria in the interior of Turkey. Those from Caesaria were highly skilled rug makers.

The man's wife ran into the room with a huge pair of scissors and started muttering and snipping and tugging at cushions and mattresses until she had emptied them and heaped the floor with shining heaps of coloured rug silks.

"Na!" she cried, "look!" and she pulled out more and more. So we gave them an order for a silk rug.

The man sat, yellow and huge on his bed, rolling tobacco leaf into cigarettes with his bony fingers. The skin stretched thinly over a nose that lay like a shadow on his face. He did not live to see the rug finished, but his family worked on it, and the first rug of the Pyrgos industry came into being.

We decided at once that it was no use producing Turkish rugs in a Greek village, and there were factories for the ordinary Greek rug, with which the village people could not hope to compete.

My husband, going to and from the monasteries, brought back photographs he had taken of Byzantine motifs, chiefly from illuminated parchments or books. We decided that they could be used for rugs and that there might be an opportunity of developing a village industry which could produce rugs to appeal to lovers of Greek art. We would take Athos designs; the old women would spin, and become earners and assets to their families instead of merely eaters of bread.

We decided the rugs must be de luxe, the very best which

could be achieved; and the sale price was to cover the cost of production only after providing a generous wage for the workers. In fact it was so generous before the war that two thirds of the selling price went to the girls who made the rugs while the other third covered the cost of materials, the spinning, and loom upkeep. Unfortunately after the war half the selling price went into materials and only half into wages.

The greatest opposition in starting the industry was from the villagers themselves. They were conventional in their conception of rugs, and thought the new designs awful. The more they objected, the more determined we grew. We got no help at all over the designs although the brother of the sick man was also a rug designer. He was determined to put Turkish designs on the Greek market, and declared everything else to be impossible. We worked for days over squared paper and finally designed three rugs which have always been first favourites: the Tree of Life, from the monastery of Esphigmenou; the Vatopedi Fresco; and the Lavra Phidali.

Our next battle was the dyeing. We believed we should do vegetable dyeing from the plants around the village. The villagers declared the idea absurd, so we finally made our first rugs entirely from natural coloured wool from the sheep's backs. We then got in touch with Mrs. Melas, President of the Laiki Techni in Athens and, without seeing the rugs, she came to our help and agreed to exhibit for us at the first International Fair in Thessalonika. Those rugs got the Grand Prix. The villagers were astounded. They could not believe that anything as awful as those black and white abominations could be noticed. But orders began to pour in, and from then until World War Two broke out they never could keep up with their orders.

After nursing the industry for a few years we decided the time had come to give it over to the villagers. The Agricultural Bank was willing to lend girls money to provide themselves with equipment; the Laiki Techni took all they could produce and paid in advance on orders; while our own numerous friends continued to buy all they could get. From then on we acted mainly as advisors and publicizers. But the industry took up an enormous amount of time which we could ill afford

as writers, and we spent countless hours over designs. We were also interested in working at vegetable dyeing, for we felt that above all, there might be a future for the village if that aspect could be developed.

Our only help in vegetable dyeing was the village midwife, Paraskavoula, now dead. Paraskavoula came forward with our first colours, prepared from onion skins and almond leaves. Paraskavoula said briskly:

"If one plant has a colour, all have."

But what Paraskavoula didn't know was that not only have all plants a colour, most of them have many colours. We found that out. We made a rug for the New York Worlds Fair with twenty-five colours and shades in it, all dyed from the one plant: Erica Mediterranean.

We gathered, and boiled, and fermented every plant right through the year, - roots, bark, leaves, chips and sawdust. We tested from different localities and soils; using different mordants, until we determined that the people in this village could get all the colours they needed within a mile of their homes. They knew that the synthetic dyes fade, that it is easier to boil up plants, that it is more economical, and yet even as they sighed with admiration over my coloured skeins swinging in the wind, they would go out and buy dyes.

Until war came to Greece the industry continued, and the majority of families benefited from it. We left the village in 1939 when the war first broke out in Europe, to work with the Poles who were streaming into Hungary and Rumania. As soon as we left, the dyeing began to deteriorate. The villagers mixed vegetable and synthetic dyes; then the quality of the work began to slip, and finally they began to mix the designs, so that there appeared Athos designs with Turkish borders! We had been careful to keep the designs from the various monasteries pure, not only of each particular monastery but also from each particular period - and actually therein

lay the true value of the rugs. The mixtures of both dyes and designs could have been avoided had some organization been sent from time to time to inspect and advise, and to insist on the standards being kept up. But then war came to Greece, and there was no chance of the industry surviving.

After the war was the aftermath, and the financial crisis which affected the whole world. The difficulties of restarting were overwhelming. The Laiki Techni could no longer afford to pay ahead on orders though they were willing to take rugs on the understanding that no payments could be made until the rugs were sold. The monetary exchange was against both English and American buyers, and Greek people very naturally could not invest money in rugs. The people in the village were clamouring for work and most of them were hungry. It was a terrible situation.

We decided to try to establish the industry on the old footing, but the process would naturally be slower as we could not afford to pile up rugs against our slender capital, and there were no buyers in a world as devastated as Europe. With the exception of five rugs which had been sent to a monastery for safe keeping, our own collection had been stolen when our house was looted. We sold these five remaining rugs and in order to replace them gave rug work to certain villagers. This also gave an opportunity for girls growing up to learn the craft. We decided to make rugs only for definite orders - and orders were rare.

His Majesty, King George of Greece, was always very interested in the rug making, and in the winter of 1946 he asked me if there seemed any possibility of getting the industry back on its old footing. I quoted prices to him and he agreed sadly that most likely any idea of restarting it would have to be abandoned. It was 1952 before I decided to try to start it by slowly replacing my own collection. We cut expenses in every possible way, after deciding to give the girls half the selling price of the rugs. That is to say that I, for instance, did all the dyeing instead of engaging a helper; I copied out all the designs whereas before I had only done the original copy; and whereas

we used to pay someone for packing the rugs, I now did that and how it all cut into my time! Sometimes I sat up until one o'clock in the morning trying to copy designs fast enough to keep the girls employed. Where before the war a pupil was never paid for at least six months, life seemed so desperately poor in the village that we worked out a scheme whereby a pupil was paid for her first knots and at an increasing rate for each rug. This annoyed the few remaining experts who had always claimed the work of the pupil over and above their own wages. Try as we could to cover expenses, we did not begin to get within sight of that until the monetary exchange was altered to a slightly better position. Squared paper had to be imported at a cost of £20 per 200 sheets. This never appeared in the expenses. All these things were paid by us. Prices of wool and materials always rose. As we wanted to produce rugs of only the finest quality in order to keep the name of the village well to the fore in the rug-making world, we always bought the best of everything. Although the rugs were intrinsically worth far more than we charged, we priced them low enough so that foreign visitors could afford to buy them and still pay the duty required when they took them home.

Rugs - rugs and I dream they are 'history'. I have copied prehistoric designs from cave walls and from stones, - some of them from Australia even. There the natives kept their 'history' painted on stones. I have also taken ancient designs from cave paintings in Europe. Africa has caves too, decorated by various native tribes. Some of these paintings reveal history and religion to those who study them, though many are modern, that is within the last two or three hundred years. Some designs were originated by Egyptians and Arabs in their carvings and paintings in the burial places for kings and other great people. Weaving began later with fascinating pictures worked in cottons, silks and wools, and as this art progressed, people were using more and more colours from plants.

The first Christian people decorated their churches with carvings and paintings inside and outside, both on stone and

in wood. In Ethiopia the Christian influence is very very strong. Tradition dates back over 2,000 years, and many of the Coptic monasteries have survived from long before the Middle Ages. By some authorities Ethiopia is considered to have been the first Christian nation. Before the time of Christ, Jews, with portions of scripture which later became parts of the Old Testament, established Monotheism. Later Arabs and Ethiopians accepted Christianity and founded the church there. There is a beautiful old church at Gondar, beyond the north end of Lake Tana.

In Mount Athos there is a great deal of painting and carving made by the monks when they built up places very early after Christ. I think the early Christian love of decorating their churches so beautifully came from the fact that those people who followed Christ were in the part of the world where beauty on wood and stone was always found. All of this went on until two or three hundred years ago. Loveliness was also given to old books and manuscripts, and the colours used came mainly from plants.

I have seen a very old small wooden church in the mountains in Poland. Six or seven hundred years ago the painting in it was done from plants and has not changed at all, and the very beautiful priest's garment of silks and cotton is much worked over with wonderful colours from plants.

Vegetable and natural dyes are being rediscovered in many countries, and their importance cannot be over-emphasized, for even in Africa, a land which must be teeming with dye plants, most of the people have forgotten the art of their forefathers and use bad synthetic dyes. In one place, however, they have adopted my way of using plants.

There is room for much more research along the lines I have taken, requiring far more time than I have been able to devote to it. I am thinking especially of the fascinating field of 'cold' dyeing which, so far as my own experiments go, is the answer to

to the good dyer's prayer .

In these days of a literate world, formulas need not be lost, as they were when handed down in families by word of mouth. Different plants tend to be used in different districts, but my experience is that ancient dyes seem to have been loath to experiment, and were content more or less to conventionalize their own work, for otherwise every plant would have that magic word: 'inctoria' after its name.



LIST OF PYRGOS RUGS

THE NUTCRACKER EAGLE motif is the signature which every genuine Pyrgos rug carries in some form. It appears usually as a small border, but is often tucked into the design somewhere. The Nutcracker Eagle motif is the oldest form of the double-headed eagle on Mt. Athos. It originated from the carved wooden nutcrackers which were used by the early hermits on the Mountain. Later it figured as brass or other metal tongs for incense burners.

THE TREE OF LIFE: Espigmenou

The Tree of Life is a large central tree with a grotesque flower on top. Immediately under the flower is a bird eating the fruit of good and evil. Among the roots of the Tree are two dogs who have eaten of the fruit. Their ears were opened to evil. Their tongues are split into two long ribbons through gossiping and talking evil, and their tongues and tails are caught up in the roots of the tree, which is the web of life. All the other creatures are the good little birds and beasts living out their lives without having tasted of the fruit.

The outer border usually depicts a carved wooden back scratcher in the shape of a snake catching a mouse by the tail. Those animals which are already caught are shown inside him. There is a border of either peacocks or small dragons, and a third side border showing the family life of dragons and other beasts.

Good and evil fight for ascendancy above the Tree in

the form of dragons and snakes. The dragon represents the Orthodox Church, and the snakes the devil, or evil. The design is early Byzantine.

There was a second arrangement of the Tree of Life, consisting of four squares, with small figures of the Tree in two of them, and the dogs in the other two. Each section is divided from the other by a broad coloured band like a river. A small lake in the center and the river are dotted with small wading birds and water flowers. There is also a border of huge half single Byzantine roses in two colours.

VATOPEDI FRESCO I.

This is from the murals in the monastery of Vatopedi featuring the Revelations of St. John. The many-horned beast; the winged leopards and lions, all are held together with an intricate seaweed design. The top and bottom borders show sailing ships and fish. The nutcracker border runs down each side.

VATOPEDI FRESCO II.

Also from the fresco depicting the Revelations of St. John from the murals. There are grotesque trees, winged dragons, small queer elephants, wolves and bears. An attractive fish-and-bear border is top and bottom, and the nutcracker eagle down the sides.

LAVRA PHIALE I.

This rug is inspired by the great phiale at Lavra where the water is blessed. A symbolic bird or dragon rises from the fountain. The border is from lambs carved in stone, while the other curious and decorative animals are taken

from the gargoyles and stone work. The lambs border top and bottom, and the nutcracker eagle the sides.

LAVRA PHIALE II

This is taken from the spectacular carvings on the stone base of lovely winged deer, winged beasts like horses, and winged lions riding the deer. The background is from grape carvings over the fountain, and a very beautiful wide border of grapes runs round the body of the rug with an outer border of the nutcracker eagle with an owl on its head.

LOVERS I.

The design is taken from stone work at Lavra. There are amorous deer gazing into each other's eyes, the deer almost touching noses. The geese mainly follow one another around the border.

LOVERS II.

The same theme treated slightly differently.

DANIEL'S LIONS.

This design comes from the illuminated Book of Daniel at Lavra. There are forms of the lion of St. Mark, some winged, some crouching, with the ends of their tails in the form of small birds. There are large, stiff decorative birds looking on. The same theme is in the border, but there the bird-tailed lion has caught and transfixed another large animal. The nutcracker eagle is worked into the single wide border that runs round the rug.

HUNTING RUG - LAVRA.

This is from an ancient illuminated scripture at Lavra.

The nutcracker double-headed eagle is used as a small top and bottom border, after which a wide border runs right round the rug, with a small striped border dividing it from the center.

SPRINGTIME IN KAPSOKALYVIA.

This is a delightful treatment of animals, birds, and winged creatures, especially horses, kicking up their heels in spring. There is a background of spring flowers. A large pelican balances on a lily leaf. In the wide outer border a stork preens its feathers.

DRAGON AND SNAKE.

This represents good and evil fighting for supremacy, good the Orthodox Church in the form of a dragon, and evil, the devil, a snake. The design is from Docheariou.

DRAGONS AND BIRDS.

This comes from the stone work at Esphigmenou. There is a striking border of running hares. In the center are bats with their tails intertwined. The rest of the design consists of birds and dragons.

ST. JOHN'S LAMB.

This comes from an ancient silver plate. The border shows a dancing wild pig.

SCRAP RUG.

This contains motifs from various monasteries, with tiny borders of trailing leaves. It was especially designed to use up small amounts of left over wool, so that each group of motifs is arranged on a different background.

There are charming angel pigeons with different coloured halos round their heads, and there is a monk leading donkeys down the Holy Mountain where a hermit's hut swings out over the void.

THE CREATION.

Obviously the theme in this design is evolution. The two-headed figure both biting itself and breathing out evolving plant and animal life is too suggestive to need an explanation. This two-headed figure is used as the head of the Orthodox Archbishop's staff.

THE BATTLE OF THE BEASTS.

A striking design of birds and beasts locked in battle taken from an old Byzantine design on tiles.

THE GARDEN OF EDEN.

This shows animals lying down together. A crouching deer with a bird on his toe, a hare sprawling besides it, two dog-like creatures holding hands, and quaint plants of some early period sprouting sparsely here and there give this rug uniqueness.

LION AND DONKEY.

Here the design contains a most amusing dancing donkey, shying away from a lion and a dragon. The design runs across the rug in stripes alternating with rows of large, conventional, single roses.

DOCHEARIOU DRAGONS WITH ANDRONICUS EAGLE BORDER.

The border is taken from the carving in the tower. It is broad and edged with a barber stripe. The dragons are on a central field, tail to tail, on a plain background.

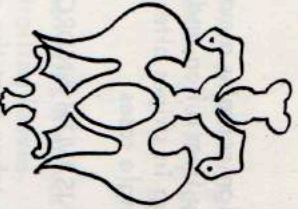
Sometimes the design is in reverse with the Andronicus eagles as a center piece and the dragons in the border.

DOCHEARIOU DRAGONS AND ROSES.

The center of this rug is in four sections with a wide border of kingfishers around the whole and bands of kingfishers running across each section. There are four winged dragons, each one supported by large, flat roses. Above and below the center section is a 'tartan' border, and round is a very narrow fish border, followed by a wide dancing-pig border. The nutcracker eagle makes the outer border.

In the world show which I hope to get ready will be a few rugs with designs from cave and rock drawings. The exhibit will show the development of designs, gradually going up to the Byzantine work and the use of plants.

This is a very small history but it may start a few people moving along the lines of "world thinking".



FURTHER DESIGNS AND THEIR MEANINGS

To my mind the most 'famous 'cave' drawings are in Australia.

1. STONE FROGS.

A number of girls offended the Sorcerer. Then they went hunting in the bush, and he turned them into frogs. Their mother thought they were lost and she went into the bush to find them. She walked until she was hungry, and she caught a frog to eat. It screamed aloud and she knew it was her girl. The others rushed to her crying. She begged the Sorcerer to make them girls again and give them back to her, but he refused and turned them into stone frogs so that they could not be eaten.

2. THE BABY MAKERS.

In the center of the sky the Spirit held four bits of ropes to touch the earth, and then he flung down hundreds of boys. Bahloo, the moon, turned himself into a white bird and then turned some of the boys into girls, and the boys and girls became human beings.

3. THE FIRE MAKERS.

Tribes were dancing in protest against the man and woman who discovered how to make fire from sticks, but selfishly kept the secret to themselves. In the end the tribes managed to get the secret from them.

4. THE BORA OF BALAMA.

This shows the great dancing of tribes during the secret making ceremony. In the center are the dancers, who are men.

The only woman is an angry widow working magic.

5. GAYA-DARI - THE PLATYPUS.

A Water-Rat tribe man fell in love with a Duck-tribe woman, and they ran away together along a great river. The Water-Rat and the Duck tribes followed them, but they escaped through a huge waterfall to a place behind it. The tribes sat down there waiting for them to come out. They waited for many years, then quite suddenly out swam the very first platypus, whom they knew was the child of the two people who had fled together. Even though traditionally Australian tribe and family names are taken from women not men, and 'birds' cannot marry 'animals', a new tribe was formed from this first platypus who came from the union of a bird and an animal.

6. THE BLACK BIRDS.

These birds saw some naked swans and they pulled out their own feathers to clothe them, thus making them into black swans.

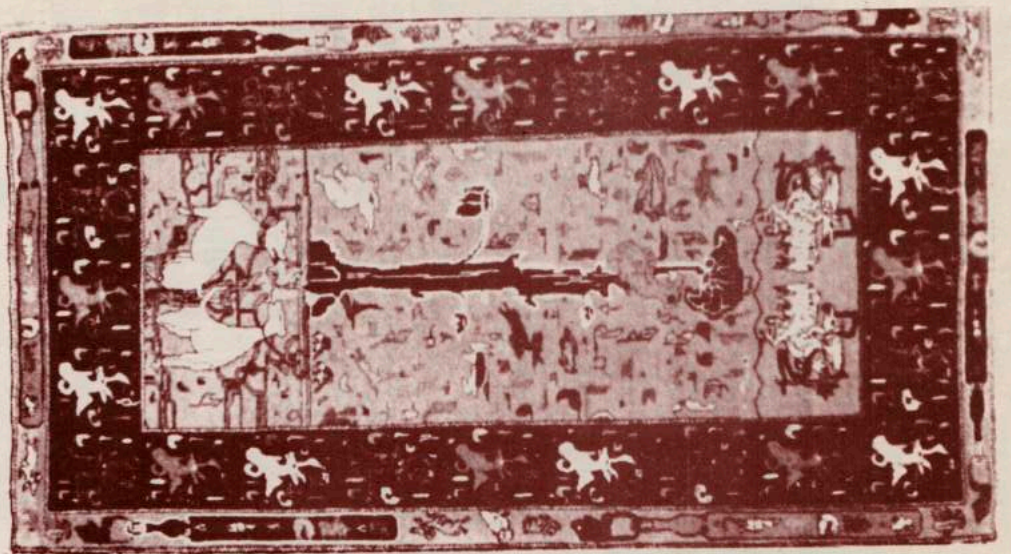
7. EGYPT.

Three thousand years ago geese gliding down a river were painted on the walls of one of the great tombs.

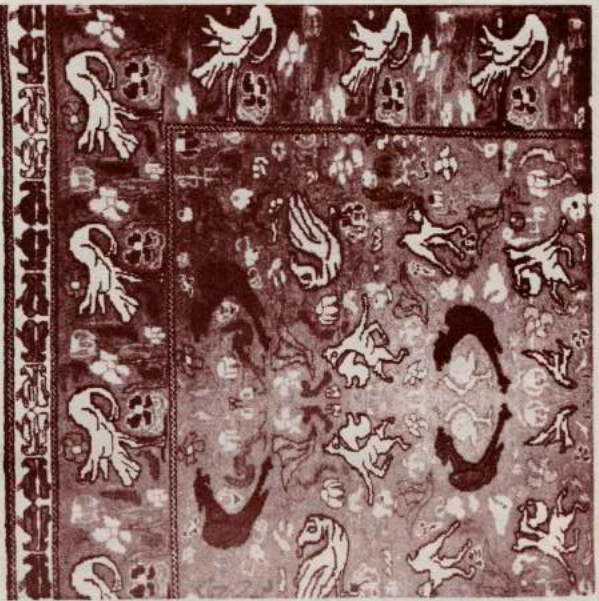
Four thousand years ago a tiny grasshopper locust sitting on the leaf of a small desert plant was drawn in a tomb. The locust suddenly began to think that he was huge, and that the hares which dashed round and round him would eat him. He felt bigger than they were, and therefore he would never be able to hide from them. There was nothing he could do as they got nearer and nearer!

8. AFRICA.

In a red cave black dancers drew pictures of themselves in red too, before they danced. This is very early work.



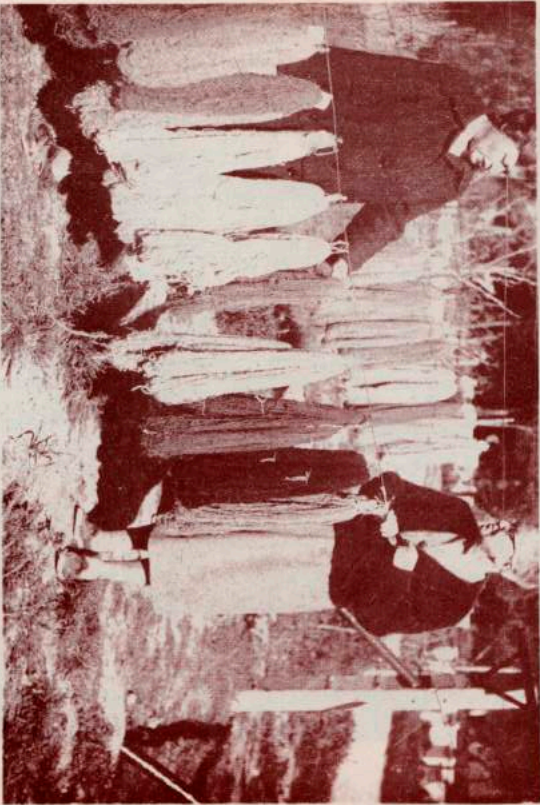
Design from Mt. Athos. This Tree of Life pattern comes from a bronze chest in the Monastery of Esphigmenou. It was used in the very first Pyrgos Rug.



The designs in this rug are from wood-carvings made by the monks in the 'skete' of Kapsokalivia on Mt. Athos.



Design from Mt. Athos. This rug contains motifs from several different monasteries. The double-headed eagle trade-mark of the Pyrgos Rugs is clearly to be seen in the lower border.



Mrs. Loch (right) and Miss Handschin (left) are drying the many coloured skeins of wool which they have dyed with vegetable dyes, all made from plants in that area.

9. FRANCE.

Here people drew in caves very early pictures of the animals they used to eat.

10. SPAIN.

Here they drew in caves chiefly the animals they used. The one I took was from a Palaeolithic cave.

11. GREECE.

Four thousand years ago owls were painted on pots.

Two thousand years ago animals and birds were incised on daggers.

Three thousand years ago donkeys were painted on pots.

Two thousand years ago fish were drawn on pots.

12. UR OF THE CHALDEES.

This rug shows a dead king's royal gaming board which was with him in the underground palace for the dead.

The animal designs were on shell plaques set in silver with a background cut away with careful details, the hollows filled with paste, sometimes black and red.

13. PAZYRYK.

Pazyryk had a peculiar art form called 'Scythian', tattooed on human bodies. It has been found in the far east, and slightly resembles the art of China and other countries. In these Pazyryk Siberian tombs were found felts and rugs thought to be Persian, as well as Chinese silks and Scythian stuffs which show the influence of Persian and Greek art as

well as Chinese. Apparently long before Christ these things were taken by armies and nomads towards the borders of China.

The frozen tombs of Pazyryk in a lonely place north of the Altai mountains are mounds over burial places, usually of nomadic people. Many tombs were full of solid blocks of ice in which there were often two bodies. Most coffins were hollowed logs and centuries of ice kept everything intact. They show in an astonishing way the culture of nomads probably a few thousand years before Christ.

In one of these mounds in Mongolia near the frontier of China a rug was found encased in a block of solid ice. It had been buried with a rich man probably from the Near East. This rug, which I copied, is thought to be Persian because of the dress of the horsemen in the outer border and the formal 'cross' which is in the next border and the central squares. A picture of this rug is carved on stone in Nineveh. No one knows whether the rug was copied from the stone carving, or the stone carving from the rug.

I have also copied designs from Scythians who tattooed their bodies with pictures of animals. One rug design of animals I copied from pieces of felt found in a grave of tattooed bodies at Noin, in the middle of Mongolia.

The presentation of these ancient designs in the form of rugs is my way of showing a little 'history' through Art. Art reaches from the dawn of man. Man first caught and ate animals; then man used certain animals as gods. Later some peoples thought drawing and carving would help them reach God after death. Medieval Christian Art was an expression of the religious feeling of that period. And today's culture is reflected in present day Art.

OF THE DYES

The Greek Ministry of Agriculture has always been very interested in both the Pyrgos rug industry, and in vegetable dyeing; and after I closed down the rug work I was asked to give short courses in vegetable dyeing under the Ministry of Agriculture at the American Farm School in Thessalonika. The American Farm School in actual fact asked me to give the first short course as a trial, and it was entirely under their auspices. The Ministry of Agriculture sent a group of girls to it, and so did the Queen's Fund, and the Quaker Girls' School sent their senior class. The first course was so impressive that the Ministry of Agriculture included it in their program for Short Courses for the people of the rural districts, and sent groups of their instructors, as well as chosen pupils.

I then decided to publish if possible instructions for dyeing with vegetable or natural dyes in the most simple form so that they could be followed by anyone who could read and write.

The synthetic dyes of today are bad, and you will find very few shops ready to guarantee colours as fast. In addition, the modern commercial dyes are crude and ugly. How different were the old vegetable and natural dyes of our forefathers! The value of the old rug does not lie only in its workmanship, but also in the excellence and beauty of its colouring.

There is no reason why natural dyes should not return to use in the world. In fact in some countries they are returning; Persia and Sweden, to mention only two, are countries which are holding out every possible inducement to people to revive the ancient art.

We have now been experimenting with dyes for over thirty

years, and particularly with the plants of the Athos peninsula.

To extract dye from plants requires very little skill once the idea of fixing the colour has itself become fixed in the mind of the dyer. To get the best results the time of the year must be studied; the age of the plant; the part of the plant to be used; and its locality. A plant from a stream will produce something entirely different from the same species on a mountain top.

With vegetable dyes may be included those natural dyes extracted from stones, earth, manure, and other matter which were in use in ancient times.

For instance, kermiz is the tiny insect which makes the bright red berry on the scrub oak. Until recent times it was considered a vegetable dye. It is the 'cochineal' of the European old world, but whereas real cochineal is a 'weeper', kermiz never 'weeps', but is a most reliable colour. It was of great commercial importance to Greece in ancient times. It was used to ransom kings, and later for the robes of cardinals. Until recent years it dyed the red coats of the English soldiers, and an unrescinded law still exists making it illegal to dye these coats with any other medium, though I doubt if it is ever used now.

I have an idea that kermiz was used by Lydia, the dyer of purple, for the ancient word 'purple' really meant 'colour', and if you go to Phillipi today you will find the hills covered with scrub oak, and the scrub oak with kermiz. Today only a few isolated localities use it, and few, if any, of these realize the range of colours that can be obtained from it.

Another colour of great antiquity is made from verdigris which is obtained from copper. A verdigris bath takes from two to three months to prepare, but once prepared can be used for a long time, although wool must be dyed skein by skein and not crowded into it. No boiling is required; it is entirely

a method of cold dyeing. The colour obtained is intense, and instead of fading gains intensity with age.

In some districts of Greece children can still remember their grandmothers boiling silk in a solution of water and cow manure to give it a rich greenish-yellow colour. There is no silk coloured like that to be had now, but there is no reason why the method should not be put into practical use once more.

In the past ages the richer colours were superimposed on each other - thus blue would be dyed over red for its loveliest effect, and in reverse red at its best was dyed over a blue foundation. Unfortunately dye formulas were the prized secret recipes of certain families, and nothing was ever written down. It was simply handed down from generation to generation by practice and word of mouth, and so the Persians in the brief span of sixty years lost their glorious Persian blue when synthetic dyes were introduced into Persia. In this way many colours have to be rediscovered.

There is a mistaken idea that synthetic dyes are much easier to work with. This is not true.

Every plant produces colour; many stones produce colours; some insects; and manure. In all cases the treatment is just as simple as using synthetic dyes, and the effect is lasting if a few fundamental rules are followed: -

- (1) Goods to be dyed should be clean.
- In the case of wool it should be thoroughly scoured, and completely freed of dust and fat. If wool is greasy and dirty, the colours cannot be fast. Dirt and fat absorb the dye. With every washing the colour is washed away with the dirt.
- (2) I prefer goods to be put DRY into the dye bath. Dry

goods absorb more dye than goods soaking with water.

- (3) There are two methods of dyeing - hot and cold. In both methods good preparation is essential.
- (4) All dyes need a mordant to set them, or, in other words, to make them fast.

There are various mordants. I prefer alum. In addition to alum I use salt, citric acid (lemonsoume Gk.), nitric ammonia, bluestone, vinegars, and in some cases I simply rot and ferment vegetable matter until the dye is a sour mass and self-setting.

- (5) In every district some plants will be found more suitable than others. It is simply a matter for individual experiments.
 - a. Different soils give different results.
 - b. Different seasons give different results.
 - c. Male or female plants give different results.
 - d. Different parts of the same plants give different results.
 - e. Plants watered by different streams give different results.
- (6) Each plant gives more than one colour. Many plants give a number of shades and colours.
 - a. Leaves give one colour.
 - b. Barks give one colour.
 - c. Roots give one colour.

TO PREPARE AN ORDINARY DYE BATH

- (1) Never be afraid of using too much material from plants. It is easier to thin down the colour in a dye bath than to strengthen it.

- (2) Soak the bark, leaves or roots, after chopping them up, in a clean boiler: tin-lined, enamel, or steel. Never use sheer un-tinned copper or iron.

- (3) Plants are better soaked for two or three days. Boil plants very thoroughly. Never be afraid of time. Insufficient time spent in boiling is wasted time. You cannot overboil plants for dyeing. Two, three or four hours boiling means that the dye is really extracted from the plants.

- (4)
 - a. When boiled strain dye.
 - b. Introduce dry goods.
 - c. See that the liquor in the vat is sufficient to cover the goods well and give sufficient room for boiling and turning. It is a mistake to overcrowd a vat. Boil the goods to be dyed from half an hour to one hour. Lift out. Apply mordant. Boil a little longer in dye. Drain in a flat basket. When thoroughly drained, hand in shade to dry. Wash thoroughly when dry. If near the sea a first washing in sea water brightens colours considerably.

FORMULAS FOR NATURAL DYES

For from 1 to 3 okes of wool (an oke is approximately 2 1/4 lbs.) take 27 drams of alum. If more than three okes is used, double the alum. Crush it to a powder. It is easier for beginners to boil goods thoroughly in dye bath, lift out, introduce the alum, boil until dissolved, then put goods back into the bath with the alum, stir frequently and boil for a few minutes.

In some cases, as with verberna and erica, the best method is to introduce the alum to the bath before the plants are lifted out. When dealing with plants I have not used before, I always experiment with the dye and alum before lifting out the plants. If the alum cuts or curdles the dye then it is always safer to boil goods in the dye before introducing the mordant.

To darken or brighten the colours, take out a small quantity of the dye, pour in a very little ammonia, and wash each skein it it.

ALWAYS DRY IN SHADE. THE ACTION OF SUN ON ALUM MAKES GOODS STREAKY.

TO MORDANT WITH URINE. SCOTCH METHOD.

Soak goods to be dyed thoroughly in a vat of stale urine, the fouler the better, afterwards wash in pure water, then introduce goods into a vat of boiling dye; boil thoroughly until colour is absorbed. If blue, wash goods in salt water, but all other colours are washed in fresh water.

COLD DYEING

Soak and boil the plants, then let them stand in the same vat until thoroughly sour and fermenting. Strain out vegetable matter. Introduce goods to strained dye. Stand goods several days in the dye, turning at least once a day. Hang in shade to dry. Wash thoroughly when dried. No mordant needed with this method.

Green walnut shells may be thrown into vinegar. Let stand until deeply coloured. Strain. Introduce goods to be dyed and let stand several days according to depth of colour wanted. Turn in dye frequently. This is a very economical method and can be used until the last drop of liquid is absorbed.



DYES LISTED UNDER COLOURS

BLACK:

- Alder bark with copperas.
- Common dock root with copperas.
- ✓ Oak bark and acorns with copperas.
- ✓ Iris root - also grey. Water Flag.
- Hawthorn bark with copperas.
- Sloe, common. Bluish-black.
- Pomegranate skins and seeds with copperas.

BLUE:

- Blaeberry fruit with alum.
- Elder fruit with alum.
- Indigo, vegetable. (Method see formulas).
- Gentian Violet with Verbena (Chaste Tree), root base.
- Mountain Ash bark with alum.
- Scabies (Devil's Bit). Leaves with alum.
- ✓ Stock, dark purple flowers. With alum.
- ✓ Pistacio lentiscus (Greek folk name Skene), with alum.
- ✓ Wood, with fermented leaves in urine. *also mulberry, fermented 3 weeks, cold dyes.*

BROWN:

- ✓ Pine bark chips, with salt.
- Erica Mediterranean, with alum, and later blue-stone wash.
- ✓ Oak bark and galls with alum.
- ✓ Lichen (Method see formulas).
- ✓ Currants with alum.
- ✓ Dulse (seaweed), with alum.
- ✓ Blackberry roots, reddish-brown, with salt.
- ✓ Onion skins, with alum.
- ✓ Chestnut wood; sawdust, bark, leaves, (green sheaths can also be used), with alum.
- ✓ Walnut, green sheaths, (wood, bark, leaves, sawdust, can also be used) with alum.
- ✓ Madder, reddish-brown, with alum.

Cistus (rock rose), leaves and stalks of young sprouts, dark greenish-brown, with alum.

- ✓ Eucalyptus, bark, leaves, or wood: dark reddish-brown, with alum.
- ✓ Smoke Bush (Pistacio terebinthas), leaves, bark, roots, etc., greyish-brown, with alum.
- ✓ Stink-Weed, whole plant, with alum, and bluestone wash.
- ✓ White waterlily roots, with alum.

BEIGE:

- ✓ Pinkish. Arbutus roots, with alum. To darken, wash in ammonia.
- ✓ Pinkish. Blackberry roots, with salt.
- ✓ Pinkish. Pine chips, with salt.
- ✓ Pinkish. Willow bark, or leaves, with alum.
- ✓ Pinkish. Christ's Thorn, roots, with alum.
- ✓ Pinkish. Peach, leaves, wood, or chips, with alum.
- ✓ Pinkish. Pear, leaves, wood, or chips, with alum.
- ✓ Sand. Onion skins with alum.
- ✓ Coppery. Apple, leaves, wood, or chips, with alum.
- ✓ Coppery. Madder, roots, with alum.
- ✓ Coppery. Mulberry, chips and bark, with alum.
- ✓ Coppery. Plum, chips and bark, with alum.
- ✓ Coppery. Kermiz (Method see formulas).

FAWN:

- ✓ Birch bark, with alum.
- ✓ Onion skins, with alum or lime wash.

GREEN:

- ✓ Verbena (Chaste Tree), leaves, roots, or seeds, with alum, and later bluestone wash.
- ✓ Arbutus leaves, with alum.
- ✓ Stock flowers, dark purple, with alum and later lime wash.
- ✓ Asphodel, leaves with alum, and bluestone wash.
- ✓ Mountain Ash, leaves and bark, with alum and lime wash, can brighten with ammonia.

Milk Wart, whole plant, with alum, and bluestone wash.

Artichoke, Globe, leaves and plant, alum and bluestone wash.

Dyers' Rocket, whole plant after flowers have opened, with alum and bluestone wash, or with indigo.

Stinging Nettles, whole plant when mature, with alum, bluestone wash, ammonia wash if wished.

Ripe privet berries with salt.

Sink-weed with alum, and bluestone wash.

Gorse bark with alum.

Blackeyed Susan with alum, and bluestone wash.

Heather, or Erica, with alum, and bluestone wash.

Teasel or Fuller's Thistle with alum.

Broom, with alum and bluestone wash.

Iris leaf, with alum, and bluestone wash.

Wood, young plant, with alum and bluestone wash.

Manure, fresh from cows, with water. Strong yellowish green, excellent for dyeing silks.

Elder berries with alum and light lime water wash.

Lvy leaves with alum, bluestone wash, darken with ammonia if wished.

CLARET:

Concur (a lichen), scraped from rocks and steeped in urine for three months, then taken out, made into cakes and hung in bags to dry. Pound the cakes to powder, boil thoroughly, fix colour finally with alum. For crimson use white lichen.

Kermiz (Method see formulas).

MAGENIA:

Dandelion, (contodon taraxacum), with alum. Thistle, (Donkey Thorn), deep puce coloured flowers used. Requires long boiling, with alum.

Kermiz and gentian violet.

Carthamus tinctorius (bastard saffron), thistle with orange flowers, with alum. Indian tape dyed with this.

ORANGE: Kermiz and yellow root.

Ragweed (Stinking Willie), with alum.

Barberry roots, with alum.

Blackberry roots, with salt.

Madder roots, with alum.

Mulberries and young leaves, with alum.

Rush seeds, with alum.

PURPLE: Gentian violet, on red base.

Kermiz (Method see formulas).

Eunymous (spindletree), with sal-ammoniac.

Sundew, with alum.

RED: Kermiz (Method see formulas).

Madder, Turkish red.

Alkanet tinctorius. (Method see formulas).

Rock lichen.

White lichen, crota.

Tormentil, with alum.

Smilax, ripe berries, with alum.

Ladies' Bedstraw, (Galium Verum). (Method see formulas).

Galium boreale.

Madder, plant with alum.

Blaeberry or myrtle with alum, verdigris and sal-ammoniac for violet red.

Limestone lichen.

Rue, plant, with alum.

VIOLET: Gentian violet with Kermiz base.

Wild cress with alum.

Vetch, bitter, with alum.

Bilberries, with alum.

Gentian violet, on milk wart base.

YELLOW: Yellow root, with alum.

Apple tree bark, ash and buckthorn bark, with alum.

- Poplar and elm, with alum.
- Myrtle, with alum.
- Almond leaves, with alum.
- Almond roots, with alum.
- Milk Wart, with alum, darken with ammoniac wash.
- Erica, with alum. If grown in chestnut forest very rich yellow indeed.
- Stink weed, with alum.
- Dyers' Rocket, with alum.
- Blackeyed Susan, with alum.
- Mountain Ash, leaves, bark or roots, with alum.
- Birch, leaves and twigs, with alum.
- Ivy, with alum.
- Verbena (Chaste Tree), with alum.
- Rock Rose (cistus), with alum.
- Sundew, with ammoniac.
- St. John's Wart, with alum.
- Marigold, flowers, with alum.
- Arichoke, Globe, with alum.
- Beetroots, with alum.
- Camomile, both white and yellow, with alum.
- Asphodel, leaves and roots, with alum.
- Onion skins, with alum.
- Juniper branches, with alum.
- Bracken roots, with alum.
- Teazel, with alum.
- Carthamus tinctorius (bastard saffron thistle). Use flowers, with alum.
- Croton tinctorum (chrozophora), with alum.

LICHENS

Lichens have played an important part in dyes all the world over, and I am therefore listing them in a section to themselves, as I think that the most practical way to deal with them.

- | | |
|--|----------------------|
| <u>Concur</u> , rich claret colour. | Formula under CLARET |
| <u>Common Wall lichen</u> , parmelia parietine - | BROWN |
| <u>Crotal</u> , dark, parmelia cetrarophilla - | BROWN |
| <u>Crotal</u> , parmelia saxatilla - | YELLOWISH-BROWN |
| <u>Lichen</u> , dark purple, treat as for claret - | REDDISH - BROWN |
| <u>Crotal</u> , rock-lichen, ramalina scopulorum - | RED |
| <u>Crotal</u> , white, lecanora pallescens - | RED |
| <u>Crotal</u> <u>concur</u> , lecanora tartrea, white - (mixed with urine) | BRIGHT CRIMSON |
| <u>Lichen</u> , limestone, urceolaria - | SCARLET |



A FEW SPECIAL FORMULAS

LADIES'S BEDSTRAW:

Galium verum.

Use roots to obtain a very fine red colour. Strip bark from roots and boil them in water to extract the remainder of the virtue, then take out roots and put in the bark.

Boil together with the yarn, adding alum to fix the colour.

ALKANET, TINCTORIUS:

Modern Gk. vaphoriza.

Dye Root.

The roots dye red. Besides being used by the ancients for dyeing materials, alkanet was used by the ladies of the time as rouge, and it was a valuable article of commerce. It is a mordant when used with alum.

Dioscorides says that the roots made up with oil were good for old ulcers. It was first infused and then sipped for internal pains, and applied externally for bruises and sprains.

INDIGO:

Pound madder in necessary proportions, soak for at least twenty-four hours before boiling. Boil thoroughly for from two to three hours, then strain out the madder roots and add sufficient ground indigo, vegetable or Bengali, for the blue you require.

For from five to six pounds of wool twenty drams of

madder are necessary. Dip and soak goods over and over again, hanging in the air for a short time between each dipping so as to oxidize the colour well. Finally set by soaking in a bath made from boiling dirty sheep's wool. Bath for setting should be hot.

The Swedes make up their indigo into a liquid preparation as follows:

Dissolve indigo, vegetable or Bengale, in nitric acid. Approximately 15 grams of powdered indigo to 150 grams of twenty to twenty-five percent nitric acid solution.

Introduce the indigo well powdered in small quantities and very slowly into a large bottle in which the nitric acid has already been poured, and which gives it room to fume well. Stir carefully with a glass rod. Let stand several days before using. Pour a little into water and dip goods in until required colour is obtained.

CAUTION: Never pour water into this preparation. Pour the preparation INTO the water. This rule should be followed whenever nitric acid is used, for it is highly explosive. It should always be kept in a glass topped bottle clearly labelled, and in a place removed from the danger of children or incompetent people handling it. It is dangerous.

KERMIZ:

Kermiz is the small insect which raises the red blister on the leaf of the scrub, or kermiz, oak, the Scarlet of the Bible, whose colour takes its Greek name from the insect. It is not to be confused with cochineal, which it closely resembles, for dye from cochineal 'weeps', whereas if properly prepared kermiz is a non-weeper.

When the pregnant kermiz insects creep from the berries in thousands to go to their hatching grounds they are swept up, dried into tiny crystals, and are ready to be converted into colour. This colour can be used in various ways and there are numerous recipes. I give only two which have been well tested by me. (a dram is 2.7 grams).

DARK RED

16 drams of kermiz powder
16 drams of citric acid
8 drams of alum.

Crush all together, tie in a loose bag, soak all night in sufficient water to dye three or four pounds of wool. Next day boil for two hours. Introduce wool. Boil about one hour. Wash immediately and dry in shade.

The bath can be used until the colour is exhausted. A fine range of attractive shades of fast pinks and mauves can be obtained in this way. To heighten blue tinge in mauve, a flat salt-spoon of gentian violet powder can be added. To dye extremely dark red, dye over a good natural grey colour.

BRIGHT SCARLET

50 drams kermiz powder
20 drams yellow root
20 drams citric acid
200 drams nitric acid
10 drams alum
20 drams solder

Pound up yellow root and soak in water all night. Crush the kermiz to powder, together with acid and alum. Put in loose bag and soak in vat with yellow root. Stand all night. Next day boil for two hours. Introduce goods,

boil one hour. Take some of the dye from the vat into a steel or enamel vessel (not copper or soft metal). Pour in the nitric acid as prepared in the previous formula. Dip goods in, skein by skein, and soak well so that colour is even. Throw back into bath and boil from fifteen minutes to half an hour. Wash immediately and hang out to dry. Bath can be used until colour is exhausted.

For orange, double the quantity of yellow root. To intensify colour, add more citric acid as bath gets exhausted.

SCRUB OAK:

Quercus Coccifera.

The bark of this scrub oak was once used by women to dye their hair black. Steeped in boiling water it yields good colour, and it can be usefully used to strengthen browns.

Three sprigs of this dye plant is the crest of the Dyers Company of England, whose charter was granted in 1420.

VERBENA:

The Chaste Tree
Vitex Agnus-Castus

This is one of the most valuable and reliable plants for green and yellow colours.

If there are no fresh young leaves available, a good strong dye can be obtained from the roots.

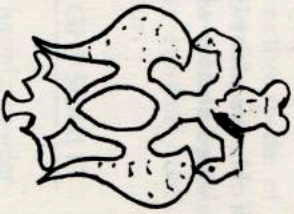
VERDIGRIS:

A good colour is made from verdigris. This is obtained

by collecting a vat of urine. The staler the better. It is best stored in a copper vat into which is thrown scrap copper, and allowed to stand for three months. The goods are then laid in it, skein by skein, each skein remaining in the brew for three or four weeks. The process is cold dyeing. When the right colour is obtained, wash goods thoroughly; if possible a first washing in the sea is recommended. The colour is an intense verdigris that glows vividly. It gains in intensity as it ages.

STONES AND EARTH COLOURS:

Dyeing from stones and earth is most fascinating. A varied range of beautiful, fast colours can be obtained. There is no mordanting to think of in rock dyeing. This method is used chiefly by desert people who have no access to plants.



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