THE QUEST OF BEAUTY
BY JAMES BYRNIE SHAW
I. DAWN
I. Rythm is Found.

THE day had vanished and the shadows had hidden behind the
trees and the rocks. The dusk was settling down in powdery
fineness over the surrounding shore. Eoandros was lying on the
ground in front of the cave which was his home. His small family
were not far away, engaged in play. Eoandros had had a success-
ful day and they had all dined sumptuously. Night was approach-
ing on silent slippers and an intense quiet accompanied her. Eoan-
dros felt again that vague disquiet which had invaded his inner
life so many times before. He found he was once again longing for
a shadowy something which he could not think of clearly, nor
could he decide just what it was. This time it had originated and
had become an insistent longing while he was listening to the waves
slowly strike against the shore. Out over the sea he knew they
started, that mysterious sea whence came so many things he could
not understand. Often he had stood by the water’s edge and
watched them coming in from far away, and sometimes when the
sea was calm he had himself stood deep in the water, and by push-
ing his hand up and down, had made a train of little ripples start
on their distant journey out into the unknown. Tonight that per-
sistent “snap-snap-snap-snap-” found an echo inside him. It re-
minded him of the long walk he had had carrying the deer he had
slain, when his feet had settled into a steady “pad-pad-pad-pad-.”
This same monotonous series of noises he had noticed already many
times in his life, and it was becoming more and more the occasion
of a series of silent echoes inside his body. Oftentimes at night he
could almost hear that internal “tap-tap-tap-tap-.” It was not the
noise that interested him, but the regularity of the beat, the succession that came just exactly so. He was beginning to see this same regularity in the procession of the sun day after day, and of the myriads of stars at night. It was not a matter of noise after all, but of a something that went down inside him to places where noise could not exist, and which stirred him into the feeling that he must make a rhythm himself. He had noticed yesterday, as he put away a dried deerskin, the deep murmur it gave when he touched it, and he felt he could not let tomorrow pass without stretching the new skin over something so it would be tight. When it became dry he would try to produce on it that steady "tap-tap-tap-tap-tap-" which kept running through his head. He gradually drifted into sleep on the rhythm of the waves' "swish-swish-swish-"

Another night he was attracted by the note of the big rock-owl which he had seen many times, but whose cry he had not before particularly noted. "Ko-ko, ko-ko, ko-ko" it came, and after short silences the same reiterated. This was a new rhythm, not the long monotonous beat of the waves on the sand, nor the steady pad of his feet on the trail. He had even noticed during the day the coupled notes in the song "pee-pee." It was a good deal like the day and the night, the day and the night, repeated and repeated again. It was quite different from the call of another bird "caw-caw-caw-" Why did they sound so different? He could walk to the sound of the "pee-pee," and his feet would come out in the starting position, but to the "caw-caw-caw-" everything was reversed.

He sensed vaguely that there was a difference in the rhythms. Sometimes too he could hear the notes with a difference in the stress, one bird saying "cuckoo-cuckoo" while another said "what-cheer, what-cheer-" And at night he sometimes heard what he thought was one and the same bird saying sometimes "poor-will, poor-will," and at other times saying "whip-poor-will. whip-poor-will." The three-fold rhythm worried him, for he could not fit himself to it. His hands could lift stones to the "pee-pee," right-left, right-left; but the "caw-caw-caw-" mixed him up. He could even compound the pyrric rhythm into a double rhythm, as sometimes the rock-owl, "Ko-ko, ko, ko." But to step right-left-right, and then left-right-left, seemed to have a different something inside it. Sometimes he wished he had legs like a bug, for then he
could have walked front-mid-back, front-mid-back, and all would have been well. Eoandros was not aware that he was discovering in himself the basis for the monotonous series of numbers, the distinction between even and odd, and the singular nature of prime numbers. He had made his drum and had found that he could easily beat dub-dub-dub-dub-dub or he could make it go dub-dub, dub-dub; but the dub-dub-dub, dub-dub-dub, was a different matter. These rhythm patterns he was getting acquainted with fascinated him more and more as the days flowed smoothly by.

One day Eoandros was coming down the slope of a hill, when his attention was attracted by the broad spread of a field of grass below. The grass was tall, and the wind was blowing across it. He saw long waves following one another much the same as the waves did on the water when it was still. Then he happened to think that surely the tops of the grass-stalks did not flow across the field. Yet the wind-waves passed on in rapid succession. It puzzled him, for he wondered what this wave of the wind could be. What was the invisible spirit that ran so smoothly and rapidly across the tops of the tall grass-stalks? And he noticed too that the waves were not all alike and were not evenly spaced. While there was rhythm, it was not a monotonous rhythm, he could see the tall saplings on the edge of the hill swaying back and forth in the wave of the wind, and they too had something different from periodic rhythm. He did not call it cadenced rhythm, but he had a desire to walk somehow so as to follow the short and long steps of this new form of motion. He had done something like it when he had been on a steep trail he often passed over, where his steps were sometimes short and long, short and long, or two longs and then a short. Then too that puzzling song of the frogs! It went something like "Clack,cleeeeek,click,claaaaaaa,clack cleeeek." This syncopated rhythm gave him an accountable thrill. He had tried to walk to its rhythm, but his feet were rather heavy for such variety in steps.

One day he saw a goldfinch flash by him, and was much pleased to notice that the bird made a series of waves or ripples, down-up, down-up, as it flew from tree to tree. He began to notice the flowing curves of the flights of other birds, and some of them had the cadenced character. He was trying the problem of beating his drum in the cadenced forms, and was gradually succeeding. He
was also finding forms of rhythm down inside him unlike any he had heard, and some of these he could make on his drum. This success pleased him immensely. He also had learned combinations of the pee-wee and the caw-caw-caw on his drum, and he began to form patterns of rhythm by putting all these together in new ways.

2. Order is Found.

There was another thing that troubled Eoandros at times. He was quite used to the flowers in the woods he traversed, and the prairies that ran back from the sea. But there was such a difference in the way the flowers were put together that he could tell many of them in deep twilight, by the way they were arranged. There was the trailing morning-glory with its delicate colors, just a single flaring bell. There was the dicentra and the begonia with petals opposite like his hands or like the moon and its reflection in the lake. He had often studied the big white trillium, which had a more subtle regularity of a puzzling kind, for each petal was between the other two. There was the iris which grew in the edges of the lake, with a double arrangement like the trillium. This was also to be seen in many lilies he knew. There was the pair of opposite petals in different triples, and the other two similar pairs. The petals in one triple were between those in the other triple. One very cold winter curious little white flowers had fallen from the sky, and though they melted away quickly, he had seen most delightful arrangements in the feathery petals, and arranged in the same sets of three alternate pairs. It was all very complicated, but somehow there was an appeal in it he could not escape from. He used to think about this too at night, and he could pick out some brilliant stars that were also arranged in the same way. Then there was the poppy with two pairs of opposite petals. If he went around them with the tip of a twig, he came back to where he started, and if he went around skipping one every step, he also came back to where he started. If he went around the trillium skipping one he had to go around twice to get back. The syringa was like the poppy. He found some flowers with four pairs of opposed petals. The leaves of the shrubs were often arranged in the same manner in clusters, twos, threes, fours. In many arrangements however, there was a puzzling difference, for often they were not in clusters, but distributed up the stem. In some by going around once he
found two leaves, in others twice gave three leaves, or three times gave five leaves, or five times gave eight leaves. He was not able to unwrap the mystery of the pine-cones, nor that in the circling lines of seeds after seeds in the gorgeous sunflower. But it was evident there was a complex pattern in them. The most interesting forms were repetitions of the star-fish he had played with when he was a boy. This unusual arrangement was a puzzling five. If he tried to count the arms between the other arms he found he had to count them all. If he took them in succession it was like the drum pattern he had made out of the "pee-wee-caw-caw-caw." There was the same arrangement in the beautiful columbines that grew high up on the mountain slopes, with dark blue and snow white petals, five of each, alternating, the long spurs emphasizing the design. The wood-sorrel had the five arrangement, as did the wintergreen with its aromatic leaves, the henbane, the parnassia, the pitcher-plant, the loosestrife, the bell-flower, and the delicate wild rose. These were all beautiful stars, so arranged that they always looked the same if they were turned around. Designs, patterns of order which answered the haunting longing down inside him for that evanescent will-o-th-wisp he was always trying to catch! He began to put his various belongings in patterns like these. Sometimes he put them in lines, sometimes in circles. The pairs were the simplest to produce. Then he began to repeat his patterns, and found that there could be a rhythm in patterns just as there was in taps and waves. He liked to lay flowers out in a row, alternating the kinds so as to make the repeated patterns. He also had come to see that there was a pattern in rhythms. Some of his rhythms became flowers of fancy. He could almost walk now to the jazz of the frog. This was a queer kind of rhythm flower he thought.

Eoandros also noticed the arrangements which were not closed, but spiral in form. These he found in shells, in the lines of sunflower seeds, in the yellow and the white pine cones, the snail, the murex, the nautilus, even in the twisted bark on the cypress. Here was a regularity which widened its sweep as it went farther around, not symmetrical in any of the other ways, yet with a similar quality of order in it. He found there was a balance like this even in the colors. The near mountains had vivid intense purples and blues, the more distant paler colors, out to the faint amethyst of the far-
off ranges. He saw that in the big breakers after a storm the heavy bases were balanced with the light fragility of the foam at the crests. He could even see the sprawling bases of the mountains topped with the lace-work of the cliffs. It was queer how everything seemed to balance in that way.

The days flowed on with their steady monotone, not even split into pyrrhic couples nor with trochaic nor iambic emphasis. The years came too with the ponderous swing of the huge swells of the sea, and passed over the life of Eoandros. He managed to connect three hundred sixty days with the year, but it was not an exact repetition, he found, and he did not succeed in getting them to agree in any way. The "patient stars nightly climbed the ancient sky," always set in irregular patterns, though enchanting. A few wanderers, the planets, had a rhythmic swing forward and back and then a long way forward. It was too intricate for Eoandros. He studied it many years.

Rhythm was in the soul of Eoandros, and he felt the pressure of something inside him to express himself in rhythms. He began to dance, finding therein an intoxication that swept him to heights of exaltation he had not experienced before. He discovered that it gave him new powers he had not dreamed of. Under the spell of the dance he became a creator in many senses. He danced the seed into the ground, and he danced the harvest down. He made dances for all the events of his life. The charm of the patterns he had wondered at in the flowers, leaves, crystals, the curving beach, the cirrus clouds, grew into his daily life. His shelters, at first rude and clumsy, began to take form, order, design. He was delighted to find that in his effective day's work there could enter a creative character. Architecture was making its appearance, as patterned forms, first in his imagination, then in solid material which he came to see could be made to express what he had inside of him. His units were small from necessity, but he could repeat them, and thus he put rhythm into pattern. And conversely in his dances he began to introduce patterned forms, corresponding to the forms he had beat out on his drum. He found he could make a pyrrhic dance, a trochaic dance, and an iambic dance. It was many centuries before the number three was put into his building, for he did not find out how to make a triangle of stones stand up. This puzzling triple of things was a long time getting into his dance. Dactylys,
amphibrachs, and anapests were patterns that did not fit the dual symmetry of his body. Sometimes he wished he had three legs, and three arms, and three sides. He became fascinated with this mysterious three. It seemed to belong to a kind of superior man. Vague glimpses of the fleeting spirit of Beauty were these primitive phases of the life of Eoandros. But the Quest of Beauty had begun. Rythm and order were emerging in the consciousness of man.

II. SUNRISE

1. Symmetry Emerges.

The scene changes much. for many thousands of years have gone by, and their loitering procession has wrought many marvels undreamed of by Eoandros, and has brought many new visions, strange as exotic flowers. Magnificent cities have grown up under the magic wand of the passing milleniums, adorned with lavish structures. The waves still snip-snap on the sands, but their crooning is drowned in the noise of unloading galleys, and their rythm is distorted by the floating debris they lift with every pulsation. The songs of birds may still be heard up in the mountains far from the turmoil of the throngs that wander through the streets of the cities. The pyrrhic rythm now is the clack-clack of chariot wheels that rumble over the stones of the streets. The simple patterns in the huts of Eoandros have given place to elaborate structures of stone that would have seemed to Eoandros to be the work of genii. Palaces, temples, monuments to the vain-glory of kings, magnificent gardens for the pleasure of emperors, walls around the cities that were ridges of hills! On them roll thirty chariots side by side. Canals flow by as large as rivers. In place of a simple square hut there is a mammoth pyramid, many hundreds of feet on the sides and in its height. Instead of small cubes of stone a man could lift there are now monoliths not a thousand men could lift. Out of these are built temples and palaces whose corridors echo the commands of rulers and chants of priests. The deerskin coat has become scarlet and and blue and white, with trimmings of gold, and green and purple. The pentagram in flowers is now wrought in silver and copper and gold. Jewels that glow with the hidden fire of gems, flash red and blue and green from the arms, the necks, and the girdles of women, carved by cunning skill into patterns that
Eoandros never saw. The blare of trumpets, the tinkle of bells, the liquid notes of harps, mingle with the laughter of the banquet tables, where even the dishes have been designed to exhibit the gorgeous wealth at the command of the host. Statues of heroes, gods, and nymphs mark the alleys in the parks and gardens, where the tinkling of the fountains still gives the rythm in the endless flow of time.

To simple rythm has been added the enrichment of tone. Music has come into the world, and rythms now expand in richly clad forms like new tropical plants, as the sun of civilisation rises. Instead of the phyllotaxis of leaves around a growing stem, we now have the phyllotaxis of the musical scale, the dominant with three waves where the tonic had two, the mediant with five in four of the tonic, the subdominant with four in three of the tonic. Mesoandros is charmed to find that by changing the lengths of his harpstrings he can produce all these different tones which please his ear, but which do more than that, they enable him to find an expression for that everlasting longing which he has down inside him. He has made tone patterns to go with his rythm patterns, melodies have come into existence, with their strange power of moving him to sparkling gaiety or to wistful sadness. His melodies wind around his unspoken dreams with their tone leaves and flowers in the new strange but symmetric patterns.

And to the stone walls with their natural markings has been added a wealth of color. Patterns now have their richly clad forms and are dressed in exotic clothes. This furnishes another new phyllotaxis, for certain combinations of colors seem to please, and by weaving them into patterns the effect is delightful. Mesoandros has not yet discovered what only centuries will disclose, the spiral three in two, four in three, five in four, the tonic, the dominant, mediant, and subdominant of the color scale. But somehow in that deep-lying core of him, whence come so many unsatisfied wishes, he senses vaguely the unity which is inside everything. He has glimpses of profounder rythms, than any he has yet made expressions for. The painter has emerged from the crowd, just as has the musician. Both have found new means to clothe Beauty in a richness she never had in the simple materials of Eoandros. Architecture, Music, Sculpture, Painting, all expand and blossom lavishly. For many centuries all the materials of sea and land and air will
be seized to weave robes for Beauty. Elusive Spirit! At last you will be imprisoned in the habitations of wealth and power and leisure! Man will even make a servant of you to intensify his pleasures, to give him a deeper thrill! You will be the slave-girl to come to the dance when bidden! Your scant draperies will describe graceful volutes in the air: your sandaled feet will tap new rythms to the clink of anklets, and the jingle of tambourines. Your dance will be loaded with tone rythms; your arms will flash with jewel patterns; the subtle white of the moon will blend with the flickering waves from the torches to make strange shadows dance on your laughing face; and the stars will twinkle in unison with all the rich harmony! Your wealthy patron is paying for more than he knows, because your dance originated in the attempt of Eoandros to express something in his soul which had in it the rythm of the universe. As best he could he made a ritual to make visible in some way this eurhythmic creative urge. Even though they wrap you in color and tone, the universal rythm is immortal, and its glory cannot be hidden!

But not everything is in the crowded city. Here is a mountain in Samos with a solitary watcher on top. The smoke of his fire rises and floats away on the light zephyr of the evening. The sticks of wood vanish as the flames dance and the smoke drifts. The tumbling brook near by hurries over the rocks in a flurry of white foam, and rushes down to the sea. Mists rise from the sea and become the floating clouds, which break in rain and come down to the earth. Fire lives by the death of earth, and air by the death of fire. Water lives by the death of air, and earth by the death of water. Behold the unending cycle of rythmic change! He watches the steady march of the stars as they light their tapers in the dark-blue sky. He hears their silent music as they turn on their paths from east to west. Rythm, rythm, all is rythm he thinks—music of the spheres! Down where the waves of the Icarian sea wash the sands he draws patterns and studies them intently. Some are made of squares. Sometimes the sum of two sets of the little squares will make a larger square. He studies the tap-tap-tap—which in the milleniums that have past has become the one, two, three,... of numbers. This he has broken by counting round a circle. Especially the count of six could give either two or three by skipping corners. The count of five could not. It gave a mystic pentagram which he
and his friends use as a symbol of the intertwined melody of the universe. He sits where Aetna frowns with sulphurous smoke, and studies his lyre. He has found that if he changes the lengths of the strings, he can get the tones of the scale of music. The lengths of three in two, four in three, five in four gave tones which please when struck together. He handles a cube and finds six on the faces, eight on the corners, and twelve on the edges. The same proportions as in the musical scale. Surely rhythms penetrate the universe and everything is just an exhibition of this numerical music. If he had known another set of ninety-two complex rhythms Mesoandros would be twenty-five centuries too early. In another garden near the city he and his friends draw sand-diagrams and spend days and years looking at them. The hidden rhythms and inner patterns which they see they set down. Along with the right and left symmetry, the two-fold symmetry, they have found many others, arranged in patterns. The isosceles figure, appears with its repetitions. It is full of zest like the hunt for gold. The regular figures appear, figures inside of them, and the figures made by laying them out in patterns of ornament. The square and the triangle had already given the keys to the diagrams used in constructing the temples and palaces. And out of these had come a series of measures, widening like the spirals of Eoandros. Subtle rhythms had appeared which were not for the many, for the crowd in the market-place, nor for mere rulers. They were sacred and for the initiate only. A general lost a battle because he did not know them. A new pattern often appeared in the midst of arrangements already known. And at the same time, far away where the lotus swayed on its limber stem, while the wild bees clustered in its cup, other secret rhythms of number entranced Mesoandros. Like grains of sand in the desert are the members of the endless tap-tap-tap of eternity. And beautiful are the progressions of numbers that can be thought of, with ever increasing variety.

Music which had followed the steps and patterns of the dance, was beginning to make its own movements, movements which echoed those of the spirit in its efforts to seize the haunting rhythms that flowed ceaselessly by it. The effects of tone and tone patterns were added to those of steps and created a sublimated dance. Unlike the paintings on the walls, which seemed at least to represent things, the patterns in music represented something more subtle than
things. They held the quivering waves of emotion. In them were unfathomable cycles. The difficulty lay in the attempt of the musician to make tone and time express a world which was vastly more subtle than all the combinations of tone and measured tempo. The chisel had failed to bring to Galatea the life in the imagination of Pygmalion, and it took his own soul to breathe into the cold stone a palpitating life too spiritual for the marble. The painted walls also failed to catch this same elusive spirit, they seemed to be only unreal reflections, for the rhythms of the mind and soul are evasive and escape the trap of any material. Even the musician's waves of air could not do it. In number and geometric form there was no material thing; no medium, but they too had as yet failed to show the living spirit. They were however beginning to make it evident that in them unadorned rhythm and order would some day be seen.

2. Harmony Emerges.

The years flowed smoothly on. The choral Greek monody and the impersonal liturgy had helped in the quest for beauty. But polyphonic rhythm had swept around the soul of Mesoandros and produced a new creation. A spiral in melody, sweeping from part to part, returning to the source, descending, widening in the chorus, creating new patterns of rhythm, and weaving together harmonies in a magic song! In the imagination of Mesoandros new tone combinations sounding simultaneously gave him a hope he kept pursuing that he could express in such combinations the magic thrill which was always surging through his soul. He had marvelous success. He found triads, then augmented and diminished them. Every chord carried its own subtle appeal. He and his fellows were swept out of themselves into a world of new enchantment. They felt intuitively that this was an indication that Beauty hovered near. Music became a guide to her fairy realm. Mesoandros had visions that led him to believe he was nearing the end of his quest. But an insidious question kept puzzling him. In his paintings he had found out how to give personality to the trees, the mountains, the rippled lakes, and the dappled forests: how to make the sunset sing, the twilight whisper fairy tales, the morning stars to chant together. In his architecture he had made stone oratorical, he had caught the very breath of rhythms and frozen it into solid
form. The aspirations of his life had carried him higher and higher with every mounting spire. His dreams, his desires, his hopes, he had crystallised, and all his fellows recognised them as also theirs. He had trapped Life. But did this expression of life breathe with the spirit of Beauty under the paint, the clay, the stone? Sometimes in his music he felt he had almost unwittingly captured Beauty also. But most of the time he was aware that although he had produced what his fellows admired, and said of it "Marvelous! That is Life! That is what I also experienced, what I felt, what I thought, but could never make visible," yet he had failed; for he had not painted the vision of Beauty, nor carved it in lacy stone, or sung it in his symphonies. A subtle spirit was beyond Life. There was the unsung melody of a wider horizon, a profounder world, a more distant star. He knew that he had not caught up his fellows to a new ether, had not let them see Beauty, but only her garments. His life was rich and worth memorialising, with all its strange experiences. But what about the Spirit that always beckoned him on? Could he show this Spirit through the surfaces of marble or the glowing color? Could his music ever get in unison with the voice whose message haunted him, yet which he had never been able to repeat?

At the same time that Mesoandros was playing with the rhythms of number, he was also studying the patterns of space. He was delighted when he found out that essentially they were the same, the difference being something like that between music and painting. He called the discovery Analytical Geometry. Through this unity he was led to investigate many new curves, new designs, whole new worlds. In one new world cadence ruled alone. Proportional similarity had vanished. There were no parallel lines. No two patterns could be exactly alike, yet there was a symmetrical order here that pleased him much. It reminded him of the way he had learned to use the seventh in music. In another space world everything came back to the beginning. He could call it unbounded but finite. It was the same as the rhythmic cycles of waves that expanded across the lake and then came back from the distant cliffs. He found a new world by making shadows of his patterns, and even though as he moved his lantern the shadows changed, yet they still retained all the properties they had in this world all the time. It was Alice-in-Wonderland, though he had never heard of
Alice. He called it projective geometry. He found a world in which the phyllotaxis wound out and back and up and then into a fourth direction. He could now arrange designs in fourfold dimensions instead of three. This opened very fascinating vistas for him, down whose mystic ways, even if enveloped in blue haze, was a profounder world than the one he seemed to live in. He made shadows on his walls of the new and intricate patterns possible in this new world, and found they had a rhythm, a harmony of surpassing beauty. He had been making many traceries in his architecture before, but this opened up an unlimited wealth of new designs. He labeled this projective ornament. He wondered if there was anything like this in numbers, and then he came to see he had been playing with just these designs through all the ages. For he had always been creating new ideal numbers to satisfy his craving for completeness and unity. He saw now for the first time that these ideal numbers made the same kind of patterns as his new spaces. His positive and negative numbers gave the same symmetry as a mirror, and the complex numbers gave an infinite symmetry around a point in a plane. He was richer than he had thought. Also he noticed that the cadences which he thought many times vanished out into an endless infinity, really did not, but that often they seemed to have a goal which they might never reach, but the goal was in plain sight and on the wings of his fancy he could fly beyond the cadenced series and arrive at the limit. This gave him what he called Calculus. It brought in transcendental art and transcendental beauty and showed they were real parts of his inner life. Through all the milleniums he had thought they were merely dreams. Symmetry and Harmony had now emerged into his consciousness, and Unity was on the way.

III. THE DAY

1. Unity.

And today Neoandros is pushing the quest into new regions. He has begun again to build organic architecture, whose form is due to the expanding spirit which is organising the outflowing life into much more complex forms. The habitations must be nearer the ultimate beauty. His buildings soar into the skies, up from crowded levels below into regions of light and air. His walls are becoming transparent so that the sun can throw his shadows, his
light and shade, across the surfaces of the interiors. He is decorating the surfaces with colors in new arrangements, with geometric traceries of intricate rhythms. The upper parts of his thousand-foot sky-reaching structures he is drawing in, so as to give himself more air and light, and roofs on which he is living again, as he did many centuries ago. He has gardens up there and skating rinks, and dines under the stars, then dances under the stars. His millions of glowing electric lights, of all combinations of colors, he sets in new and more elaborate patterns with complicated clockworks to change them. The hum and the speed of machinery is in his blood, and Neoandros is introducing motion into his patterns, rhythmic change, just as if he was now making music without using tone. He controls immense power and it makes his whole life beat faster, so that unconsciously he is speeding up all his rhythms. Just as millions of years ago Neoandros was searching in his primitive way for beauty, so Neoandros is still searching with all his modern inventions for beauty. Machinery does not have the freedom, the flowing spontaneity of the natural world, but it produces its own rhythms. If Neoandros must live in the whir of wheels, and gears, in the hammer of giant masses, in the roar of furnaces, in the new rhythms of rolling-mills, the creak of enormous cranes, he must inevitably search for new rhythms, the new patterns imprisoned there. No longer does he hunt his food in the forest on foot, for now it is on the way to him by land, water, and air, from thousands of miles away. He hunts for what he wants at the poles, the tropics, under the sea. He hears his fellow man ten thousand miles away, sees him move and act. He has filled the whole atmosphere with new vibrations, and new wave-patterns. The loom of Time is weaving faster and faster, and the flying shuttle is making a design in the warp and woof Neoandros is not yet conscious of. There have appeared new waves of power, lightning flashes, invisible colors of X-rays, and even the whole universe is throbbing with intense heartbeats. Like the hum of millions of gnats, the cosmic songs envelop us. Waves go in all directions, of unseen colors, which to the eye that could see them would make octaves beyond octaves of color-melodies and harmonic chords such as man has never imagined. In his laboratories Neoandros has found that even the solid rocks, the everlasting hills, the pillars of the heavens, the multitudinous sea, the thin ether, are all nothing more than hur-
ryng rythms. Like golden clouds of trailing glory left by the flash of the meteor, they stretch across his amber sky. They are writing in their quivering hurry as they flash by, but one message for him to read: "The universe is built only of rythm and in patterns of order, and the builder is the Spirit of Beauty."

The oldest expression for rythm was in the dance, and so it is the newest. Swift is its new tempo, reflecting the rainbow, a thousand and new kinds of rainbow, gay with the new freedom in life, weaving new curves and tapping out new forms of poetry. It is the flowering, flying, spontaneous, exuberant symbol of eternal youth. It is the richly decorated expression of the various types of groups found in memoirs on mathematics, whether finite groups or continuous groups. In the transformations on the stage, designs that have to remain static in architecture come to life. Instead of being the frozen music which the architect creates, the dance is now living music itself. In it there is realised a synthesis of space-patterns, sound patterns, color-patterns, all woven together in the most complex of all forms, the combination of human bodies in action. Color and tone, statue and architecture, music and drama, rythm and order in every form, all are called upon to contribute simultaneously to this new dance, synthetised into one exhibition of beauty.

This has been attempted in painting. The futurists undertook to make painted surfaces express motion, action, the rythm of movement. The cubists undertook to express the third dimension, and some undertook to express motion of solid objects. Neoandros has also undertaken to express the unseen, unimagined, the unknown fourth dimension and life and change in it. The search for Beauty has led us into strange worlds, not given to the senses, but the quest now is in the full light of day, not the groping of dawn, nor the undirected wanderings of the sunrise time of man. This new beauty has to be put into such material forms and their combinations as possible, even if it cannot be adequately expressed by them, but they merely blow the trumpets for the coming Queen. This is the aesthetic renaissance now going on, and out of it we may hope for new expressions of Beauty, wherein her glory may be more apparent.

We have seen that the very beginning of the Quest of Beauty lay in the simple expression of rythm and order, or to be more ex-
act, in number and geometric form. We can follow this same principle throughout the centuries, we may go farther and say that the world of mathematics is, unconsciously perhaps, the source, the creative matrix, whence emerge all the new born creatures of art in any form. It becomes most instructive to examine the great development of new patterns, new numbers, in modern mathematics. We may start with the ideas of Galois, so rich in potentialities, and and a single example will suffice. He discovered that for every equation there was a cluster of irrational numbers, like the petals of a magnificent flower, but arranged in most intricate and subtly beautiful symmetries. The simple numbers of Ecandros have been multiplied into a wealth of unlimited riches. Flowers whose conjugate numbers are arranged in grouped patterns of elaborate design, blooming in one dimension, two dimensions, three, four, and any number of dimensions without end! Here is a mine of rhythms whose riches will furnish motifs and themes for futuristic music, dances for the future, without end. We may hope some day to see the dance of the quintic staged with all the loveliness it deserves. Then we have the duplication, triplication, manifold repetition of these forms in the symmetries in hyper-numbers. New dance patterns may now appear on the stage and in the air, everywhere at once. A spectrum spread out in a plane instead of a thin line is possible. The tremendous realm of the linear operator not only contains all of modern physics as theorems and corollaries, not only exhausts the possibilities of a world of superimposed effects, but in itself points to a world where events are knit together so closely that those long past may reach over and touch those going on today and modify them. These are effects like chords in a symphony going on in the whole universe in eternity. The plan itself changes while the music is being played. We have a hint of this in the movie films where a scene once shown is again faintly portrayed to affect a new scene. All these and infinitely many more types of symmetry, harmony, compound rhythm, cadenced and periodic poetry of life, are at hand in modern mathematics waiting to appear in the creations of artists. They are the soul-children of Beauty and must receive bodies to appear in the world of phenomena. Mathematics is the outcome of the study of rhythm and order in themselves. Art is the attempt to express rhythm and order in material form. The soul of man is the creator of this world of Beauty from the chaos of phenomena.
THE QUEST OF BEAUTY

2. Ideality.

These inadequate expressions are symbols. The expressions of Eoandros were symbols, as were those of Mesoandros. They are symbols of the haunting dreams of a real beauty which come to man when he is not too engrossed in the world of facts, of change. The dreams float in when he is bent over with knitted brows endeavoring to reason out the problems of Life. They mock his crawling intellect. They come to him in peaceful moments when the stray wisp of cloud takes on an angel shape and catches a new and strange hue from a world beyond the setting sun. They visit him after he has left his laboratory, suggesting the benzene ring whose repetitions will create hundreds of thousands of new chemical compounds. These dreams are the guests at the table where formulae develop, and at the touch of their magic an unseen unity unlocks the realm of a new harmony. Whether in mathematical formulae, in the scores of symphonies, or in steel structures covered with terra cotta and glass, they all attempt to express the real beauty they are heralds for. What is underneath as a force driving the mighty stream is Wonder. The finest and the most lasting result of modern science is the wonder induced by the startling discoveries of astronomy, physics, chemistry, and the others. We understand at last that we live in a marvelous and mysterious world of which we know little, perhaps nothing. At last we realise that mysterious as it is, it too is but a symbol, a hint, to tell us of the other worlds we can create ourselves, where the mystery deepens, and the wisp of cloud is lit by a light never seen on sea or land. We come to know that Merlin is each one of us, and we are the magician who evokes Ariel at command. Under the spell of Beauty we may realise the message of Pythagoras and "pass from rolling sphere to rolling sphere of the universe, till at last we ascend into the radiant ether, amidst the immortals, where we shall ourselves be as the gods." Neoandros is tired of the futile play with matter, he is sick of the illusions of mechanism, he has lost all faith in the power of a deterministic scheme of things as an answer to any of his fundamental questions. For he sees that life is for the most part a sort of shadow of himself cast by a radiance which is outside him but near him. This radiance is the Beauty he is always hunting. However many of its patterns he may find in the material shadows he finds or makes, he knows that these patterns are only shadows.
There is a sea whose singing waves caress a shining shore. The sea is blue and in the crystal air that flows across its surface wheel the curved wings of blue-birds. The shore is backed with tall trees under whose sheltering shade bloom flowers of pastel hues. Butterflies with brilliant wings flit in changing patterns from flower to flower. The moonlight powders the scene with silvery radiance, the murmur of waterfalls mingles with the night song of the mockingbird. The air spins threads of perfumes that wind back into the echoes of the long ago. The breeze loiters on the face with the touch of a loving hand. The slight rustle of the leaves whispers faintly messages that no tongue yet has told. For the shore is that of a Magic Isle, enchanted with the wand of Beauty. Here Pythagoras heard the music of the spirits of the stars. Here Plato saw the universe spun in geometric patterns. Here Hypatia—martyr to fanaticism—saw the Classic beauty. On this isle Omar heard the nightingale singing and walked hand-in-hand with Spring amid the roses. Phidias found his marble here. Da Vinci spent his days and nights wooing the elusive wraith that always floated just beyond his reach. Beethoven under its magic spell wove the moonlight and the dreams of the spirit into rapturous music here. Shakespeare found Prospero under the shadow of the cliffs and saw Ariel floating on the breeze. Isadora Duncan danced here to the music of joyous freedom. Galois gathered his unearthly blossoms from the flowerbeds of this isle in his too short span of life. Henri Poincaré was charmed by this spot and created his automorphic mirrors here. Einstein has just seen here that the universe is only order in rhythms. Whoso is fortunate enough to sail that sea in any boat, to walk the magic shore in any shoes, to drink from the sparkling fountains out of any cup, will set out on the Quest of Beauty's Court, which once begun shall never be forsaken.

"For truly as thou sayest, Fairy Kings
And Fairy Queens have built the city, son;
They came from out a sacred mountain-cleft,
Toward the sunrise, each with harp in hand,
And built it to the music of their harps.
And as thou sayest, it is enchanted, son,
For there is nothing in it as it seems,
Saving the Queen: though some there be that hold
The Queen a shadow and the city real:
Yet take thou heed of her, for so thou pass
Beneath this archway, then wilt thou become
A thrall to her enchantments, for the Queen
Will bind thee by such vows as is a shame
A man should not be bound by, yet the which
No man can keep: but so thou-dread to swear,
Pass not beneath the gateway, but abide
Without among the cattle of the field,
For, an ye heard a music, like enow
They are building still, seeing the city is built
To music, therefore never built at all,
And therefore built forever."