ESCHER X NENDO | BETWEEN TWO WORLDS

ARTWORK LABELS

Escher X nendo | Between Two Worlds

This exhibition presents the work of Dutch artist M. C. Escher in dialogue with that of Japanese design studio, nendo. Through specially created architectural, spatial and design elements nendo has created an immersive exhibition installation in which viewers can experience the unique graphic world of Escher alongside the inventive design world of nendo.

Escher and Oki Sato, nendo's founder and principal designer, share common interests in their love of spatial manipulation, optical illusions and playful visual devices. Just as Escher often used a recognisable image in his work to convey complex concepts, for this design commission, Sato has used the minimalist form of a house as the fundamental module of his design. This iconic form is a readily understood symbol of space and can convey concepts such as inside and outside, two-dimensionality and three-dimensionality, and perspective and scale, and also evoke feelings such as warmth and nostalgia. Sato calls his motif 'a house for Escher' and it appears throughout the exhibition in different forms, enabling visitors to experience Escher's ideas in a physical way.

Escher X nendo | Between Two Worlds is the first exhibition of Escher's work in Australia and is drawn from the renowned holdings of the Gemeentemuseum Den Haag in The Hague, the Netherlands.

the form of a house

Nendo was founded in 2002 by Oki Sato (born 1977), one of the world's best known and most prolific designers. Based in Tokyo and Milan, the studio designs graphics, products, furniture, installations, architecture and interiors that seek to surprise people in subtle, intelligent and playful ways. Nendo (meaning 'clay' in Japanese) has presented exhibitions at The Museum of Modern Art in New York; Centre Pompidou in Paris; the Victoria and Albert Museum in London; and the Design Museum Holon in Israel. At the heart of nendo's vision is simplicity, curiosity and craftsmanship, and the studio is known for its ability to recognise small moments from everyday life and use them to create new objects and designs.

When approaching this collaboration, nendo made a conscious choice to adopt Escher's logic-based processes and seek inspiration from his world to create new work for the exhibition. The animation projected on the floor of the entrance corridor symbolises these 'seeds' of ideas that later evolve into art and spatial installations. With resonances of how an idea evolves, clouds of small particles gradually form lines and connect to become surfaces that create the house motif that will accompany visitors on their journey through the exhibition.

M. C. Escher

Maurits Cornelis Escher was born in 1898 into a prosperous family in Leeuwarden, the Netherlands. He studied graphic arts in Haarlem and worked as a printmaker throughout his life, creating some of the most celebrated and enigmatic prints of the twentieth century. Following his training, he settled in Rome, started a family and began producing prints inspired by nature and the picturesque landscapes of southern Italy.

Escher and his family left Italy in 1935 due to the rise of fascism. This departure prompted the artist to shift focus away from the external world to his inner, imaginary world. He began using his refined skills to produce ingenious and complex optical illusions, tessellations and 'impossible realities'. These were first only taken seriously by mathematicians and scientists, but by the late 1960s Escher's work had become widely popular, particularly with the counterculture generation, who appreciated the mind-bending nature of his images.

In the 1960s Escher's failing health and the rising popularity of his woodcuts (which he printed on demand) slowed the artist's creation of new prints, although his late works are no less inventive or technically brilliant than his earlier work. Escher made his last print in 1969, a year after his first museum retrospective was held at the Gemeentemuseum in The Hague. He died in 1972 at seventy-three years of age.

Study for Drawing hands

February 1948
pencil

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This pencil sketch of the artist's right hand, shown in the act of drawing, is a study for *Drawing hands*, 1948, one of Escher's most celebrated prints. In the finished lithograph the right hand draws the left hand, which in turn draws the right hand. Both hands appear to emerge as three-dimensional forms from a flat sheet of paper pinned to a board. These disembodied drawing hands are emblematic of Escher himself and of his mastery of the art of illusion. *Drawing hands* remains one of Escher's most ingeniously economical and paradoxical images.

Early years

Escher was the youngest of five sons and was known as ‘Mauk’ to family and friends. He was particularly close to his father, a civil engineer with methodical habits and strong scientific interests. ‘Old Es’ fostered his son’s talents, providing him with private carpentry and music lessons and instilling in him a love of astronomy. He bought Escher his first camera in 1913 and established a darkroom, carpentry workshop and art workspace for him in the family home.

In 1903 the family moved to Arnhem, near the German border, where Escher attended primary and secondary school. He was a poor student and described his school years as a hell in which he only enjoyed the drawing classes. His art teacher taught him how to make linocuts, and his first prints – small portraits, book plates and nature studies – date from his secondary school years.

Escher had already made more than twenty-five prints by 1919, when he enrolled in architecture at Haarlem’s School of Architecture and Decorative Arts. The school’s graphic arts teacher, Samuel Jessurun de Mesquita, well-known for his accomplished woodcuts, encouraged Escher to change to the full graphic arts course. Under his tuition Escher quickly developed considerable skill in the medium, exploring its graphic power and technical range in a wide variety of subjects and styles.

Escher’s father, G. A. Escher

1916

linocut, printed in purple ink

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This profile portrait of Escher’s father is the artist’s earliest known print. To make it, he used a simple and inexpensive relief-printing technique in which a sharp tool is used to carve out an image from a sheet of linoleum. The parts of the lino block not cut away are inked up and printed; in this case Escher used ink from a commercial ink pad. Escher made numerous portraits of his beloved father, who was an important figure in his life. His father’s organised habits and interest in scientific and natural phenomena strongly influenced Escher’s own development.

Seated man with a cat on his lap

1919

woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Fiet van Stolk-van der Does de Willebois

August 1918
linocut, 2nd state

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In his earliest prints, Escher depicted himself, his family and friends, and objects close to hand. Fiet was the older sister of his schoolmate, Jan van der Does de Willebois, and she remained a lifelong friend. Escher took a small profile photograph of Fiet at this time which may have served as the model for this linocut. In the bottom right-hand corner Escher has carved his monogram ‘MCE’, which he continued to use throughout his career. It, like the text alongside, had to be carved in reverse so that when it was printed, it read in the correct orientation.

Self-portrait in a chair

February 1920
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This woodcut self-portrait, executed while Escher was a student in Haarlem, the Netherlands, shows his early use of an unusual vantage point, a device he would explore in many later works. Escher appears to have positioned a mirror on the floor to depict himself from this extreme viewpoint. The print has been carefully designed with the zigzagging diagonals of legs and arms directing the viewer's eyes up to Escher's slightly world-weary face. Shown holding a cigarette and with prints featuring prominently behind his head, he presents himself as an artist, at once relaxed and self-assured.

Portrait of a man

February 1917

linocut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Self-portrait

1919

woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Over the course of his career, Escher made twelve printed self-portraits, half of which date from his first five years as a printmaker. This compelling image, made when he was twenty-one, is Escher's first self-portrait in woodcut, a medium he took up in 1919. His early accomplishment in woodcut is evident in the expressive and powerful cutting of the block, which enhances the intensity of the young artist's gaze. The background, which is animated by horizontal grooves gouged from the block, provides a foil for the fine, varied cutting of the face, hair and eyes with small woodcutting knives.

Portrait of G. A. Escher

1935
pencil

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This drawing depicts Escher's father at ninety-two. He was quite far-sighted by this time and is shown here using a magnifying glass to read and wearing his habitual visor. Escher made this detailed drawing, with its incisive contour lines and careful shading, for translation into lithography. The resulting lithograph repeats the composition exactly and was made to be distributed among family members. Executed four years prior to his father's death, this drawing was made by Escher in July 1935, after he left Rome and before he took up residence in Switzerland in September 1935.

Young thrush

1917

linocut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher's parents gave him a Kodak camera in 1913 and he began taking snapshots and developing them in a purpose-built darkroom at home. He photographed friends, family and natural objects including flowers, birds and insects. A number of these snapshots have been linked with his earliest prints. The tiny thrush depicted here appears in a photograph taken by Escher that was the direct model for the composition. The close framing lines Escher drew around the bird on the photograph appear in the print, which also repeats the bird's exact pose, only in mirror image as the printing process reverses the orientation of an image.

Parrot

1919

linocut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

For kids

Escher made this print of a parrot (or maybe it's a cockatoo!) when he was at art school. Animals and birds were some of his favourite subjects while he was learning how to make prints. Sometimes he drew them from life and sometimes he copied them from picture books or photographs of animals at the zoo.

Do you think Escher has made this parrot look realistic? What is your favourite animal or bird and how would you draw it?

Railway bridge across the Rhine at Oosterbeek

January 1917
etching

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In 1917 the Escher family moved from Arnhem to nearby Oosterbeek on the Lower Rhine. The railway bridge across the river was the subject of one of Escher's first forays into the etching medium. He sought technical instruction from Arnhem painter and printmaker Gert Stegeman and printed the few etchings he made in this period on Stegeman's press. Escher only made a handful of etchings throughout his career, claiming the linear nature of the medium was less suited to his interest in exploring tonal contrasts compared to his preferred medium of woodcut.

Portrait of Pieter Jan Zutphen, Texel

October 1920
ink

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher was a prolific draughtsman who created over 2000 drawings during his life. He often used pen and black ink in his early career, and later also used pencil, colour pencil, chalk, watercolour and other media. In the summer of 1920 Escher spent three weeks on the island of Texel, off the Dutch coast. He stayed at the farm of Pieter Jan Zutphen and made several drawings of him, including this large, finished work. With its faceted, planar delineation of form it shows the young artist searching for his own style, here experimenting with a simplified form of Cubism.

Seated female nude

1920/21

linocut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Between 1920 and 1921, Escher made seven prints of female nudes that vary stylistically from a naturalistic to a Cubist treatment of form. He was still a student in Haarlem at this stage and paid a model to pose for him. This linocut, striking in its graphic impact, is the largest of these prints – the soft, pliable linoleum enables the subject to be rendered on a large scale. Escher juxtaposes stripes with areas of solid black and white to create a highly symmetrical image in which the female body has been reduced to a series of curved and angled forms.

Seated man

1920

pencil and charcoal

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Clouds above the coast

1919/20

linocut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Blocks of basalt along the sea

1919

woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher first started making woodcuts in early 1919. He had sought advice on the technique from the artist Roland Holst in late 1918 and made several woodcuts prior to starting in the graphic arts course in Haarlem the following September. Here he was taught by Samuel Jessurun de Mesquita, an important Dutch Art Nouveau artist well-known for his stylised woodcuts. Escher explored the graphic power of the woodcut in works that varied greatly in style from a severely reductive approach, as in this landscape, to a curvilinear treatment of form inspired by Art Nouveau.

Self-portrait

November 1929
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This lithograph is the most accomplished of Escher's self-portraits and was made in Italy, where he had been living for six years. The artist appears poised and self-confident, his steady gaze commanding the viewer's attention. Escher's self-depiction as a mature and serious artist is enhanced by his consummate handling of the lithographic medium, a print technique he had taken up only six months prior. Lithography's capacity for finely nuanced tones is fully employed here in the subtly modelled background and skin tones, and the scratching back to describe beard and hair.

The observed world

After graduating in April 1922, Escher travelled to Italy with friends, beginning an enduring fascination with the country that would profoundly influence his career. He returned to Italy later that year and made it his home, and the subject of his art, until he left in 1935.

In 1923 Escher fell in love with Jetta Umiker, the daughter of a Swiss industrialist. They married the following year and established their home in Rome. From the mid 1920s Escher developed an annual routine of touring remote areas in the spring to seek ‘refreshment for his body and spirit’ as well as inspiration for his work. His photographs and sketches of Corsica, Calabria, Sicily, the Amalfi Coast and the Abruzzi region provided source material for landscape prints that he would make in winter.

Escher was as captivated by expansive landscapes as he was by the ‘little pieces of nature’ such as plants, trees and insects. He strove to analyse and understand the wondrous diversity of the natural world and to convey its essential qualities. Escher was intent on perfecting his graphic skills during his time in Italy, and his nature and landscape prints display extraordinary technical virtuosity. Escher’s later description of these works as mere ‘finger exercises’ has obscured their significance and the role that close observation of reality played in his art.

emerging house

This gallery presents Escher's early landscape prints which, while less well-known, were the foundation for his later and more famous works. A 'house bench' in the centre of the gallery is designed to symbolise Escher's beginnings and his process of finding his voice as an artist. The house forms gradually emerge from the bench on one side while they become visible as negative shapes receding away from the base on the other. Positioned directly in front of Escher's landscape prints, the house bench itself appears as a scenery view, yet also allows visitors to sit and delve into the intricate details of the works.

Freighter

September 1936
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher loved travelling by sea and made numerous voyages throughout his life. In a lecture in 1961 he described how it released him from life's routines and demands and opened him anew to experiencing the wonders of the natural world. Escher preferred to travel on freighters and, beginning at the end of April 1936, he and his wife Jetta spent two months touring the Mediterranean on a number of such vessels. Escher took several photographs of the freighters and later used these to compose this meticulously executed woodcut, modifying only details of the rigging to create a more dynamic composition.

Vitorchiano nel Cimino

February 1925
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher later described his Italian years as the period in which he perfected his handling of the various graphic media. In the years prior to 1929, he made woodcuts using blocks of side-grain wood that he cut with gouges, chisels and knives. In this early Italian landscape print depicting the medieval hilltop town of Vitorchiano, to the north-west of Rome, the complexity of Escher's cutting can be seen, with its varied cross-hatching, parallel lines, flicks, dots and patterned areas. Escher printed his woodcuts himself, as indicated by the pencil inscription '*eigen druk*' ('own printing') at the lower right.

San Gimignano

July 1922
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In April 1922 Escher travelled to Italy with friends, staying in Florence and later touring through Tuscany. They visited San Gimignano which, with its seventeen medieval towers, seemed ‘like a dream’ to Escher. He made detailed drawings in pen and ink, one of which he turned into a woodcut following his return to the Netherlands in June 1922. Escher transformed his straight observational drawing into a highly personal response in this first Italian landscape print. The geometrical lines of the town’s towers contrast with the rhythms of the densely patterned rolling hills and the swirling foliage of the ancient olive tree.

Cesarò and Mount Etna

April 1933
wood engraving

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher's preferred landscape views were of steep, rocky terrain, expansive vistas and picturesque hilltop towns. In April–May 1932 Escher travelled to Sicily with his friend, the Swiss painter Giuseppe Haas-Triverio. Escher made many drawings on this trip that informed eleven prints, four of which feature Mount Etna, the highest volcano in Europe.

Citadel of Calvi, Corsica

October 1928
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher first travelled in Corsica in May–June 1928 with his family and his wife Jetta's parents. They toured the island extensively, exploring the coastal towns of Calvi and Bonifacio, as well as Corte, the former capital in the island's centre. Escher returned to Rome from this trip with seventeen drawings, from which he made three woodcuts, all of which are on display in this gallery.

Pineta de Calvi, Corsica

June 1933
colour woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher's second trip to Corsica, in May 1933, resulted in nine prints, both woodcuts and lithographs. This highly refined woodcut was the first of these prints and shows how sophisticated Escher's technique had become. Three different inks are used: black for the trees and dark and light grey for the citadel, sea and sky. Fading tones enhance the suggestion of distance, and depth is further conveyed by the flattened foreground trees through which the diminutive fortress is shown. Intricately cut and decorative in effect, this same frieze of trees was used by Escher in another print some twenty years later.

Corte, Corsica

January 1929

woodcut, printed in grey and black inks

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Street in Scanno, Abruzzi

January 1930
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher first visited the remote Abruzzi region to the east of Rome in 1928. Enchanted with the mountainous scenery, he returned the following year. Although his plan of producing an illustrated book on the region never eventuated, his journeys inspired some of his most powerful and dramatic prints. In this and other Abruzzi prints, Escher's developing interest in unusual perspectives is evident. The town of Scanno, with its steep descending streets of cobbled steps and rising stone staircases, enabled Escher to explore simultaneous yet opposing perspectives and spatial movement, seemingly prefiguring his later prints that show impossible realities.

Pentedattilo, Calabria

December 1930
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher took his camera on his annual spring trips and photographed subjects of interest. These, together with drawings made on the spot, often served as source material for prints executed in the winter. On his trip to Calabria in 1930 Escher took twenty-seven photographs that relate directly to ten prints. *Pentedattilo, Calabria* is one of these, and a comparison of the print and photograph reveals that Escher took some artistic license in composing his image: the path in the centre, for example, is invented to add greater depth, and the height and craggy nature of the mountaintops is exaggerated for dramatic effect.

Atrani (seen from Pontone), Coast of Amalfi

February 1932

woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Castrovalva, Abruzzi

February 1930
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This view of Castrovalva and the Valle del Sagittario in the Abruzzi is one of the most dramatic of all of Escher's landscape prints. By combining the plunging perspective of the mountainside with the valley's deep recession into the distance, Escher created a powerful effect that is heightened by the rich tonal range of the lithographic medium. Escher spent a full day drawing this vista, wanting to depict 'as faithfully as possible the wide and gripping prospect', although he did also incorporate details from earlier drawings (the enlarged foreground plants) and exaggerate the steep slope to enhance the scene.

Bonifacio, Corsica

October 1928
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This large woodcut was made following Escher's first trip to Corsica in 1928 and depicts Bonifacio, which sits atop white limestone cliffs on the southern tip of the island. It is Escher's largest landscape print and presents a curious manipulation of perspective in its exaggeration of the height of the cliffs and attenuation of the depth of the ravine. The plunging perspective is enhanced by the strip of white sand that draws the viewer's eye to the cliff base. Meanwhile, the horizontal projection of clifftop and town draw attention to the horizon, creating tension and movement within the image.

For kids

Escher made this picture when he was living in Italy. Every spring, he would catch trains or boats and hike through the countryside to discover new places that he could draw. Some of his favourite views were of dramatic clifftop towns like this one on the island of Corsica. Imagine living in one of the little houses at the edge of the cliff.

Where is your favourite place to go on holiday? Can you draw it?

Escher and printmaking

Escher was a printmaker par excellence. He made his first print when he was seventeen and his last when he was seventy-one, mastering a number of complex techniques including woodcut, lithography and mezzotint.

Prints are works produced in multiples by transferring an image from a printing surface, called a matrix, onto paper. Usually the matrix is a block of wood, a metal plate or a lithographic stone. The image drawn onto the matrix is reversed in the process of printing.

Escher's preferred printing techniques were woodcut and wood engraving, of which he made over 300, all printed by hand using either the back of a small ivory spoon or a rolling pin for larger works – the Dutch inscription *eigen druk* ('own printing') appears in pencil below many of these works. He also made more than seventy lithographs. Escher's lithographs were made in limited editions that, because of the complexity of the process, were printed by a specialist lithographer.

Escher was attracted to printmaking for three reasons: the desire for multiplication, the beauty of the craft and the imposed limitations of each printing technique – that is, he enjoyed the strict discipline involved in printmaking, which he viewed as order in the face of chaos.

Venice

October 1936

woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Trajan’s Column

April 1934
from the *Nocturnal Rome* series
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This woodcut is from a series of twelve nocturnal scenes of Rome in which Escher experimented with different shading techniques. In each image Escher came up with a different system of mark-making to depict the city’s iconic architecture which, through harsh floodlights, turned into complex arrangements of light and shadow at night. In this striking image of Trajan’s Column, beams of light emanate from a hidden source, illuminating the buildings in the background while throwing into silhouette the domed church in the middle ground. Cleverly, Escher used the straight white lines of the light beams to create the entire composition.

Fireworks

November 1933
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

For this lithograph, rather than building the composition with black lines and shading on white, Escher began by spraying a tint onto the entire surface of the lithographic stone, resulting in a smooth black finish. He then scratched away the lighter parts of the print – the flares of the firework piercing the night sky and the people below who look up in wonder at the spectacle, briefly lit by its glow. This unusual method was taken up by Escher during a period of experimentation with the lithography technique and is well suited to depicting dark interiors and night scenes.

Libellula (Dragonfly)

March 1936
wood engraving

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In August 1935, Escher visited the insect house at the Amsterdam Zoo, where he was shown a large mounted dragonfly. Escher's drawing of the specimen led to this wood engraving the following year. Rather than using side-grain wood, as for woodcuts, wood engraving uses end-grain wood, which can be cut in any direction, allowing for more intricate detail. In this print, Escher displays his skill in carving as well as his inventiveness with the technique, using different methods of mark-making for the dragonfly's abdomen and wings, the leaf on which it rests, and the flower and stem to the left.

Flower

1920

etching

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Blowball

July 1943
wood engraving, intaglio printed

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Blowball demonstrates how Escher continued to experiment with printing techniques even when he was an established artist. He made two versions of this work by printing the same block in two different ways. In the other version, which was relief-printed, the dandelion is white and the background black, Escher having inked and printed from the raised parts of the woodblock. In this intaglio-printed version, he wiped the raised surface of the block clean after inking, laid a sheet of paper over it, then ran it through a press. The pressure of the rollers pushed the paper into the inked grooves, transferring the image to the paper.

Old olive tree, Corsica

January 1934
wood engraving

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher was captivated by nature. In his prints, rather than copying exactly what he saw, he aimed to synthesise the natural world and the beauty he saw within it – he wanted to capture its essence. By 1934 he was an extremely proficient printmaker, able to draw upon his mastery of the craft to present close observations of nature through his unique lens. Even this seemingly straightforward wood engraving of an olive tree has an element of careful construction about it: Escher has accentuated the variety of textures and patterns that the leaves, branches and gnarled tree trunk create against the sky and the distant mountains.

Wood near Menton

1921

woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Study for Palm tree

1923

pencil and pen and ink

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Palm tree

July 1923
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

The palm tree is a recurring motif in Escher's work. Produced during his first trip to Italy, this print is one of several in which Escher makes the palm the main subject, presenting it centrally and in a highly stylised manner that emphasises its radial symmetry. Next to this print is a study that shows how Escher worked out the harmonious arrangement of umbrella-like palm fronds and clusters of hanging fruit in pencil, pen and ink before he started cutting the woodblock. Escher also probably found the schematic form of palm trees well suited to reproduction in a graphic medium.

The Fall of Man

1920

woodcut, counterproof

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This Art Nouveau–inspired print shows that Escher was not afraid to try new styles and subjects in search of his own unique graphic expression. The scene depicts the moment in the Christian story of ‘the Fall’, when Eve is tempted by the serpent to eat the fruit from the tree of knowledge of good and evil. Beyond Adam and Eve is the barren landscape ‘east of Eden’ to which they will ultimately be banished. Escher’s initials are reversed because this is a counterproof – an offset from the original print onto another sheet, resulting in a reversed copy.

Paradise

February 1921
woodcut on brown cardboard, 2nd state

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Paradise is noteworthy for its symmetry, a pictorial device that interested Escher from an early age. The camel is counterbalanced with the buffalo; the tiger with the lion; the deer with the stalk; and woman with man (perhaps Adam and Eve before ‘the Fall’). In the centre is a beautiful tree and an owl, hovering like the Holy Spirit. The intensely patterned surface is made up from sequences of parallel lines, short staccato flicks of the woodcutting tool, curves, dots and a variety of other marks. *Paradise* points to the diversity of nature as well as its inherent order.

Upper left to lower right:

Perfume

Fulfilment

Whore's superstition

Beautiful

La Pensée

The scapegoat

(Untitled)

The weathercock

'Never think before you act'

The ghost

Theosophy

The sphere

illustrations for *Flor de Pascua (Easter Flower)* by A. P. van Stolk, published by Hollandia Drukkerj, Baarn, 1921
12 woodcuts printed on one sheet

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

These small woodcuts are from a series Escher made to illustrate the booklet *Flor de Pascua (Easter Flower)*, a collection of witty philosophical texts by his friend Aad van Stolk. While not as technically sophisticated as other prints from this period, *Flor de Pascua* is a key work as it was made while Escher was a young student, exploring motifs for the first time that were to recur throughout his working life. These include duality (*The scapegoat*), geometrical tessellations (*Beautiful*) and, most significantly, the artist's own reflection in a convex mirror (*The sphere*). These prints also clearly reveal the influence of Japanese art on Escher.

For kids

In these twelve little prints, Escher has depicted all sorts of different things. He made them as illustrations to a booklet written by his friend. Even though they are all black and white with no colour, they are very impressive because they show Escher's amazing imagination when thinking of subjects to draw.

Look closely. Can you spot a flower with a face? Do you see any roosters? And can you guess which print shows a reflection of the artist himself in his studio?

Reflections

Escher was intrigued by reflections, which were a recurring theme in his work. His first images on the subject were self-portraits that he made using a reflective sphere in the early 1920s. Escher continued to explore this motif over the next three decades using mirrors, flat surfaces of water, dew drops and even the human eye as pictorial devices through which he could unite different worlds in one composition.

In the months before he left Italy in 1935, Escher produced a sequence of major lithographs in which he explored trompe l'oeil effects using mirrored surfaces. His mastery of illusion and love of visual paradox is revealed in meticulously rendered spheres that present distorted reflections, and dressing-table mirrors that impossibly link interior and external views. The deceptions in these images are not immediately apparent but only reveal themselves upon close inspection.

In three prints from the 1950s, Escher used reflections on the surfaces of ponds and puddles to link different spatial realms. Looking down onto the flat surface of the water reveals reflections of the sky above, uniting two and even three dimensions. Reflective surfaces provided Escher with an important motif through which he could unite worlds, play with spatial realities and link the possible and the impossible.

Hand with reflecting sphere (Self-portrait in spherical mirror)

January 1935
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

‘A reflecting globe rests in the artist’s hand. In this mirror he can have a much more complete view of his surroundings than by direct observation, for nearly the whole of the area around him – four walls, the floor and ceiling of his room – are compressed, albeit distorted, within this little disc. His head, or to be more precise the point between his eyes, comes in the absolute centre. Whichever way he turns he remains at the centre. The ego is the unshakable core of his world.’

M. C. ESCHER

Three spheres II

April 1946
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This refined lithograph explores the qualities of three spheres that have different surfaces. The water-filled glass sphere on the left is both transparent and reflective while the mirrored surface of the central sphere reflects the artist at work in his studio. The opaque sphere on the right is non-reflective but more clearly shows the play of light across its surface. Escher described the central sphere as achieving a ‘triple unity’ in its reflection of both its companions to the left and right, and of all three spheres in its reflection of the drawing the artist is working on.

Study for Self-portrait in spherical mirror

c. 1950
pencil

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher had made his first self-portrait using a mirrored sphere by 1921, when the motif appeared in a large drawing and a small woodcut illustration for the booklet *Flor de Pascua (Easter Flower)*. In both these images he depicts himself drawing, as he does here in this last iteration of the theme. This drawing was made as a study for a small wood engraving the artist used on invitations for exhibitions in Amsterdam in April 1950 and Haarlem in September 1951, as well as his first solo exhibition in the United States, held in Washington DC in October 1954.

Castle in the air

January 1928
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Castle in the air combines multiple perspectives for dramatic effect in its rendition of one of Escher's favourite fairytales. The story tells of a prince who rescues his sister who has been imprisoned by a magician in a castle on a floating island. We simultaneously see the prince riding a turtle from above and the island, which magically rises into the air from below, creating a sense of surreal fantasy. This print is also noteworthy for its sophisticated carving, which helps define the night sky from the surface of the sea and multiple reflections in the water.

For kids

The subject of this enormous print is Escher's favourite fairytale from when he was a boy. The story is called *The Lost Princess* and tells of a prince who, with the help of a clever little dog, finds his twin sister, the princess, imprisoned in a castle on an island. When things go wrong, the prince and the little dog are rescued by a turtle, while the castle floats into the air and disappears into the clouds.

What happens in your favourite fairytale or story?

Still life with mirror

March 1934
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This is one of Escher's early successful attempts at combining two unrelated spaces using a reflective surface. At first glance, nothing appears to be amiss. We recognise the objects placed on the dressing table and also see the reflection of some of these in the mirror – the hanging basket, toothbrush and prayer card. But also reflected in the mirror is a street (Escher drew this on a visit to the Italian hill town of Villalago in 1929) which is, of course, impossible. The realism of this lithograph and the representation of both interior and exterior spaces in one image also recall seventeenth-century Dutch paintings.

Study for Eye

September 1946
pencil

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Eye

October 1946
mezzotint, 7th state

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher created *Eye* and *Drop (Dewdrop)* using the mezzotint process, an intaglio technique that produces an infinite range of tones. The entire surface of the metal plate is roughened with a toothed rocker which, when inked, prints as a rich black. Burnishers are then used to smooth the areas that will form the lighter parts of the image. Escher printed *Eye* in seven states, working from a meticulous pencil drawing of his own eye observed in a magnifying shaving mirror. By adding the faintest reflection of a skull in the eye's pupil, Escher introduces a *memento mori* – a reminder of our own mortality.

Drop (Dewdrop)

February 1948
mezzotint

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

The leaf in this exquisite little print is from a succulent plant that in real life was only two centimetres in length. A minute dewdrop lies on the leaf, its convex surface showing the curved reflection of a window while simultaneously magnifying the veins of the leaf below and the pockets of air trapped between the two. Escher had spoken as early as 1923 of his interest in copying the tiniest pieces of nature and *Drop (Dewdrop)* reveals that this curiosity remained with him in later life. Mezzotint is an extremely laborious process and Escher made only eight, between 1946 and 1951.

Rippled surface

March 1950
linocut, printed in grey-brown and
black inks

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

The idea for this print came from one of Escher's daily walks in the woods close to his house, where he observed the following phenomenon: 'Two raindrops fall into a pond and, with the concentric, expanding ripples that they cause, disturb the still reflection of a tree with the moon behind it. The rings shown in perspective afford the only means whereby the receding surface of the water is indicated'.

Three worlds

December 1955
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Three worlds unites the world below the water's surface (signified by the swimming carp), the world above (signified by the reflected trees), and the surface of the pond itself (signified by the floating leaves). Escher's craftsmanship and consummate observational skills – evident in the rendering of leaves, branches and fish – lend this scene its realism. Compared with the reductive nature of Escher's 1950 linocut *Rippled surface*, nearby, this lithograph also highlights the artist's fluency in different stylistic modes: for Escher, it was the realisation of an idea, rather than the style in which it was produced, that was of paramount importance.

Puddle

February 1952
colour woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher delighted in making his viewers second-guess their perception, an experience sometimes referred to as the ‘Escherian double take’. This colour woodcut is another print in which Escher uses the surface of water to create a visual paradox: are we looking down at a muddy puddle, or up at the moon behind silhouetted trees? In this case, we are looking at both. What is also remarkable about this image is that the trees reflected in the puddle are borrowed directly from the woodcut *Pineta de Calvi, Corsica*, 1933, which Escher had produced almost nineteen years earlier.

reflection house

Escher's fascination with reflections has inspired the layout of this gallery and the house elements within it. The space is designed symmetrically as if one side is the mirror image of the other, an effect accentuated by the mirroring of the house-patterned flooring in the central case.

The house installation in this gallery comprises narrow strips of laser-cut mirrored surfaces mounted on the side walls. When lit from a specific angle, light is reflected back onto the wall above each strip while simultaneously casting a shadow below. The light and shadow meet in between the two mirrored surfaces to complete one house. Just as Escher found a new dimension in the replication of the world on reflective surfaces, so too is a new dimension found in the meeting point between light and shadow.

Regular division of the plane

Escher was obsessed with patterns made from repeated interlocking shapes, known as tessellations. He described them as the richest source of inspiration he had ever encountered and developed his own layman's theory on the subject, which he called 'the regular division of the plane'. This fascination would completely transform Escher's art.

Although his earliest tessellation dates from the 1920s, Escher's serious interest in the subject was inspired by his second visit to the Alhambra in Spain, in 1936. The abstract patterns of the Moorish tiles and wall decorations inspired him to study the geometric laws underpinning tessellations. He initially worked intuitively, then later with the aid of academic articles on crystallography. These introduced him to the systems through which regular shapes could be repeated on the flat plane to infinity. Over the next three decades Escher created more than 130 tessellation drawings of extraordinary variety and inventiveness using colourful, figurative motifs.

Escher's prints from 1937 mark a departure in his oeuvre that developed from his study of the regular division of the plane and drew upon motifs from the drawings. The regular division of the plane provided the tools for Escher to achieve a seamless metamorphosis of form in his images; it also offered new ways of translating two-dimensional form into three. Through these formal devices Escher gave expression to his imaginary world of 'inner visions'.

transforming house

This split-level gallery explores Escher's lifelong research into the 'regular division of the plane' and presents two distinct viewing experiences. The upper gallery provides both a display space for Escher's works and a viewing platform from which the lower level can be contemplated. On the lower level, a house installation appears as a three-dimensional tessellation in which a row of four black houses gradually transforms into a row of five white houses. The roofs of the houses gradually open up and out, as if turned inside out, until the spaces exterior to the houses at the front of the gallery have become interior spaces at the back. While descending the ramp to the lower level, the viewers' vantage point slowly changes until they are able to walk around and into the houses, as if stepping into a two-dimensional picture. Some of Escher's works are presented in single display cases both within and alongside the houses, and visitors can take their own route through the gallery, discovering the works as they immerse themselves in the installation.

Metamorphosis I

May 1937
woodcut on two sheets

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Metamorphosis I was the first print in which Escher introduced the new visual ideas that emerged from his study of tessellations, or ‘regular division of the plane’, as he termed it. Through a series of subtle metamorphoses of form, the schematic figure on the right of this woodcut transforms into an Italian seaside town on the left. This figure derives from one of Escher’s earliest tessellation drawings and morphs into flat geometric shapes, which in turn transform into three-dimensional stacked cubes that finally become the houses of Atrani, on Italy’s Amalfi Coast. Escher achieves not only a metamorphosis of shape, but also of two-dimensional into three-dimensional form.

Sky and water I

June 1938
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher was fascinated with the dynamic tension between figure and ground in tessellations and explored this in *Sky and water I*. He turns figure into ground in this transformation of a bird into a fish, while simultaneously creating a powerful metaphor for the inseparability of the elements of air and water. In the woodcut's central zone, the black birds and white fish are each defined against the ground of the other. As Escher explained, 'Above, the white fish silhouettes merge to form the "sky" for the birds, while in the lower half the black birds blend together to form "water" for the fishes'.

Day and night

February 1938
woodcut, printed in grey and black inks

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Day and night was one of Escher's most famous and popular images, and he printed over 650 impressions of it. The complex print plays with symmetry, dualities, optical illusion and association, and relies on metamorphosis of form as well as figure-ground reversals to achieve its ingenious effects. It shows both day (light) and night (dark) breaking over a Dutch landscape of mirrored towns and waterways as flocks of black and white birds cross flight paths, each gradually emerging from the changing shapes of the other. The birds evolve as three-dimensional forms out of the fields below, this extraordinary feat of imagination and craftsmanship reinforcing the impossibility of the invented scene.

Regular division of the plane no. 18 (Two birds)

February 1938
pencil, pen and ink and watercolour on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This drawing of two birds is related to Escher's famous woodcut *Day and night*, 1938, and clearly displays the figure-ground reversal that so fascinated the artist. He later used this drawing to explain the principle: 'It's a remarkable characteristic of the recognizable figures of a periodic [tessellation] drawing (which are birds in this case) that our eyes never see a continuous pattern but fix their attention either on the dark blue birds or on the white ones; the blue and the white birds can never be seen simultaneously as objects, but function alternatively as one another's background'.

Study for Metamorphosis II and III

October 1939 – March 1940
pencil and coloured pencil

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Atrani, Coast of Amalfi

August 1931

lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Study for Metamorphosis II and III

October 1939 – March 1940
pencil on two joined sheets

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher returned to his *Metamorphosis* woodcut in 1939, adding many further transformations of form that extended the composition from its original length of one metre to an astonishing four metres. Many of these changes were inspired by an association of ideas, as seen in the two preparatory drawings for *Metamorphosis II and III* displayed here. In the larger drawing, Escher introduces a tower in the sea; by association this tower has become a chess piece in the second drawing. Both details were included in the extended woodcut in 1939–40 and in the further reworked and elongated composition made for a mural commission in 1967.

Regular division of the plane no. 4 (Chinese boy)

October 1936

pencil, pen and ink and watercolour on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher developed this very early drawing from a geometric tiling showing three outward-pointing arrow shapes he had seen in the Alhambra several months earlier. The triangular system on which Escher's drawing is structured can clearly be seen here in the underlying ruled pencil lines. Escher used this figure as the basis for the composition for his major woodcut *Metamorphosis I*, 1937, together with the image of the Italian town Atrani from his 1931 lithograph *Atrani, Coast of Amalfi* (also exhibited here). He copied the lithograph of Atrani closely and it appears in reverse in the woodcut.

Eight heads

January, February or March 1922
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

While still a student, Escher made several attempts to create a continuous pattern from the repetition of motifs. *Sea-shells*, 1920/21, is one of the earliest and involves the inverting and printing four times of a single block carved with stylised shells. A more sophisticated effort is *Eight heads*, which is Escher's first full tessellation. Eight different heads are cut into a woodblock – four the right way up and four upside down. When repeat printed, they create a continuous pattern of interlocking motifs. Apart from some isolated attempts a few years later, Escher only revived these explorations after his 1936 visit to the Alhambra.

Plane filling motif with human figures

1920/21

colour lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Sea-shells

1920/21

woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Regular division of the plane no. 63 (Pessimist-optimist)

February 1944
brush and pen and ink, coloured pencil and opaque white paint on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher used the interlocking motifs of two figures from this tessellation drawing in his lithograph *Encounter* of the same year. He developed the lithograph's composition in a series of preparatory studies, including those displayed here. In the vertical sheet, Escher carefully worked out the three-dimensional realisation of the planar figures and their changing orientation as they move forward and around the central hole. In the horizontal sheet, the composition is fully realised and appears as it does in the final work.

Study for Encounter

1944

pencil, coloured pencil and pen and ink on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Study for Encounter

1944

pencil and pen and ink

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Cycle

May 1938
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Cycle is the first of Escher's prints to introduce a cyclic motion into his transformations of shape and of the flat plane into a spatial dimension. The running man descends the stairs to become a flat interlocking shape that simplifies as it rises to form a diamond, then a three-dimensional cube that becomes part of the building from which he emerges. The hilly landscape visible in the upper right was intended by Escher to contrast 'the utmost three-dimensional realism' with the flat pattern at the lower edge, which 'shows the greatest possible amount of two-dimensional restriction of freedom'.

Verbum (Earth, sky and water)

July 1942
lithograph, 2nd state

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In *Verbum (Earth, sky and water)*, Escher gives the metamorphosis of form an evolutionary connotation by depicting black and white frogs, birds and fishes evolving from a grey mist of triangular primordial figures. The title, inscribed in the centre, is taken from the opening of the Gospel According to John: '*In principio erat Verbum'* ('In the beginning was the Word'). By presenting his composition within a perfect geometric form of a hexagon, Escher was striving to depict a harmonious world in which day and night, and the elements of earth, sky and water, were all in perfect balance at a time when the world was at war.

Reptiles

March 1943
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Reptiles combines Escher's obsessions with tessellations, cyclic repetition and the relationship between planar and spatial form into a humorous 'story picture'. A still-life tableau features one of his tessellation drawings come to life: the reptile breaks free from the sketchpad, clambers across an array of objects on the desk – a dictionary of zoology, a set square, a dodecahedron – before finally descending back to being a two-dimensional drawing. Meticulously realised and full of anecdotal detail, *Reptiles* later became one of the artist's best-known prints. It was used for the cover of English band Mott the Hoople's debut album in 1969 and was widely reproduced.

For kids

In this picture, Escher is being very clever and also very funny. With your eye, follow the path of one of the flat light-grey lizards on the open page. Watch as it comes out of the paper, then climbs over the book and other objects, snorts a puff of smoke from its nostrils, and then jumps back down to become a flat drawing once more.

How is Escher tricking us in the picture? Can you imagine one of the lizards breaking away from its circular path?

Encounter

May 1944
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Produced during the Second World War, *Encounter* depicts the meeting of two figures described by Escher as ‘a white optimist and a black pessimist’. These figures start out as a complicated flat pattern upon the back wall but step out into the three-dimensional world and walk towards each other around a large circular hole. The optimist, with his hand raised in a gesture of friendship, meets the pessimist with his finger raised in warning. Finally, the two shake hands. Escher occasionally used human figures in his regular division of the plane drawings although he generally preferred reptiles, fish, birds and insects.

Regular division of the plane no. 3 (Weightlifter)

October 1936

pencil, pen and ink and watercolour on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

From 1936 to the late 1960s, Escher made over 130 tessellation drawings for the sheer love of producing these repeating patterns on paper. Escher used figurative motifs – birds, insects, fish, lizards and schematic figures – as recognisability of form was essential to him, as was the use of colour. The motifs were replicated according to the geometric motions of translation (sideways movement), reflection (or mirroring) and rotation, to create repeating patterns that could continue to infinity. These drawings of extraordinary variety and inventiveness became a source for motifs and ideas that Escher drew upon for his prints.

M. C. Escher and J. S. Bach

Escher loved music, especially the compositions of Johann Sebastian Bach, which inspired in him an irresistible urge to make images. Bach's music and Escher's prints share formal qualities. Both artists had a systematic approach, creating compositions around the rhythm, repetition and symmetry of a single theme or motif. In 1741, Bach published the *Goldberg Variations*, selections from which can be heard in this gallery. This complex work for keyboard explored thirty different variations of the one line. Just like Escher's 'regular division of the plane', Bach's *Goldberg Variations* offers ingenious diversity while working to a strict rule.

For kids

A tessellation is a repeating pattern of geometric shapes on a surface called a plane. For example, a chessboard is a very simple tessellation. Escher liked to make tessellations with animals and people. Escher didn't use colour very much but for these tessellation drawings, colour was very important.

Look at all the colourful drawings in this long case. Why do you think colour is important in these drawings?

Regular division of the plane no. 7 (Squirrel)

October 1936

pencil, pen and ink and watercolour on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Regular division of the plane no. 13 (Dragonfly)

winter 1937–38

pencil, pen and ink and watercolour on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Regular division of the plane no. 33 (Lizard)

December 1940

pencil, pen and ink and watercolour on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Regular division of the plane no. 37 (Beetle)

July 1941

pencil, watercolour and coloured ink on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Regular division of the plane no. 39 (Ant)

July 1941, improved April 1963
coloured pencil, gouache and pen and ink on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Regular division of the plane no. 56 (Lizard)

November 1942

pen and black and gold ink, coloured pencil and poster paint

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Regular division of the plane no. 75 (Lizard)

July 1949

pencil, pen and brush and ink and white poster paint on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Regular division of the plane no. 80 (Flying fish and bird)

September 1950

pen and ink, pencil, watercolour and gouache on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Regular division of the plane no. 89 (Fish)

September 1953

pen and ink, pencil and watercolour on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Regular division of the plane no. 91 (Beetle)

September 1953
pen and ink and watercolour on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Regular division of the plane no. 99 (Flying fish)

August 1954

pen and ink, pencil and watercolour on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Regular division of the plane no. 105 (Pegasus)

June 1959

pen and ink, pencil and watercolour on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Lecture illustration: Fundamental forms of regular division of the plane

c. 1960

pen and ink and wash on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher made two drawings as illustrations for lectures on the regular division of the plane that he gave to diverse audiences in the 1960s. This first drawing shows the underlying geometric frameworks of regular divisions of the plane, which Escher associated with six fundamental geometric structures: parallelograms, rectangles, squares, triangles, rhombuses and hexagons.

Lecture illustration: Regular division of the plane. Five examples of square systems

c. 1960

pen and ink and wash on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In the second illustration, Escher demonstrated the three geometric motions by which a motif can be moved within a regular plane division and retain its shape (applied here on a square system): 1. translation (movement sideways); 2. rotation (movement around an axis); and 3. glide reflection (mirroring and sideways movement). Various combinations of these motions are shown in the five patterns. The two upper patterns are labelled ‘translation only’ and ‘axes only’; the lower patterns are labelled ‘translation and axes’, ‘translation and glide-reflection’ and ‘translation, axes, glide-reflection’.

Regular division of the plane no. 122 & 123 (Fish)

April 1964

pen and ink, pencil and watercolour

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Study for Circle limit III

1959

pencil

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Development I

November 1937
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This print presents a developmental metamorphosis from flat grey squares to sharply defined lizards in starkly contrasting black and white. Form is evolved through the subtle and gradual evolution of contour and is given individuality through contrast. As Escher explained, ‘The borders of the square suggest a misty grey initial stage, while in the centre the four figures attain their ultimate and maximal developed form, as well as their strongest contrast’.

Fish and scales

July 1959
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher described this print as comprising ‘two different sorts of mutation, carried out at one and the same time, that is to say both shape and size. The double process completes itself twice over. In the upper part of the print, from right to left, scales grow into fishes that keep on increasing in size. In the lower half the same thing happens, but left to right’.

Fish

October 1941
colour woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Butterflies

June 1950
wood engraving

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This wood engraving relates to two drawings: a coloured tessellation drawing using butterflies that Escher made in March 1948, and a large circular watercolour design of two years later. In the later design the butterflies increase in size as they radiate out from the composition's centre and start to separate from each other. The earlier print is a black-and-white version of part of this circular design and shows a development in form, size and liberation of the elements.

Explanation of process of making regular divisions of the plane using four wooden stamps

1955–65

relief print, pen and ink on graph paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In the late 1930s and early 1940s, when Escher was working out his ‘layman’s theory’ of the regular division of the plane, he made a series of experiments with small woodcut stamps that he carved with simple asymmetrical linear bands. By rotating each stamp through successive ninety-degree orientations, sets of lines could be printed on the paper to create continuous symmetrical patterns. Escher coloured some of these designs for display and later created this explanatory sheet describing the method of their creation.

Clockwise from upper left

Studies for banknotes

June 1951
pencil and pen and ink

February 1953
pencil and pen and ink on plastic on paper

c. 1953
pencil and pen and ink

10 January 1953
pen and ink

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher was commissioned by De Nederlandsche Bank to design a series of banknotes in the early 1950s. He made background designs of tessellated motifs such as this, shown top left, based on a moth. He also made other geometric designs and moiré and linear patterns, trying to achieve a level of intricacy that would make counterfeiting impossible. Although he revised his designs many times in response to feedback from the bank directors and engravers, the commission did not proceed, and the notes were never printed.

Clockwise from upper left

Studies for banknotes

6 March 1953
pen and ink

1953
pencil and pen and ink

6 March 1953
pen and ink

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

From 1950 to 1953 Escher spent considerable time on a commission from De Nederlandsche Bank to design banknotes. He experimented at length with various designs for the background and watermark of the notes. The drawings exhibited here are linear designs and moiré patterns for backgrounds. The design on the right shows portions of four separate patterns made with intersecting curves inside a circle. Each motif has the symmetry of a perfect snowflake or six-petalled flower.

Schematic drawings for Smaller and smaller

c. 1956

typed text, pen and ink, coloured pencil and gouache

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher created these explanatory diagrams as lecture illustrations to show the geometric scheme for the colour woodcut *Smaller and smaller*, 1956, exhibited nearby. The upper-left diagram and larger colour drawing on the right show a quarter of the square print with the triangular divisions on which the lizard shapes are based. The triangles (lizards) are reduced in size using division algorithms and are pivoted and reflected in ever-diminishing spaces from the outer corner (A) to the centre (C).

Smaller and smaller

October 1956
woodcut and wood engraving, printed in brown and black inks

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

From the beginning of his work on tessellations, or the regular division of the plane, Escher was interested in finding ways of representing infinity. This posed a significant challenge for the artist and he explored different pictorial solutions over the years. In the mid 1950s he developed tessellations with regularly diminishing motifs towards the centre of the composition, where the limit was reached of the infinitely small and infinitely many. *Smaller and smaller* is the first of these. The reduction of form and regularly alternating colours of the lizards create a complex and highly decorative pattern.

Regular division of the plane IV

June 1957

woodcut, printed in red ink

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

A limited-edition book on Escher's regular division of the plane (*Regelmatige vlakverdeling*) was published in 1958. He produced several explanatory woodcut illustrations for it, including this one of ferocious bulldogs, based on a 1955 drawing. It illustrates the principle of glide reflection in which the motifs of the dogs are both mirrored and shifted across the plane in multiple directions. Escher introduced an extra level of complexity in the composition by making dogs of each colour stand guard and face in both directions (rather than each colour facing in just one direction).

Square limit

April 1964

woodcut, printed in red and grey-green inks

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher was only able to diminish the size of motifs in his tessellations outwards from the centre of the composition with the help of Canadian mathematician H. S. M. Coxeter. Escher first achieved this in a series of circular woodcuts using principles of hyperbolic (non-Euclidean) geometry. Several years later he felt compelled to create a square composition ‘because’, he explained, ‘the rectilinear nature of walls of our rooms calls for this’. He sent a copy of *Square limit* to Coxeter, who responded, ‘Very nice, but rather ordinary and Euclidean, and therefore not particularly interesting’.

Regular division of the plane V

June 1957

woodcut, printed in red ink

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Executed for the limited-edition publication *Regelmatige vlakverdeling (Regular Division of the Plane)*, this woodcut illustrates the principles of glide reflection (mirroring and sideways movement) combined with rotation using two motifs of different shapes. As Escher explained, ‘Both are reptilian with a head, a tail and four legs but the red ones are squat, broad and short, while the white ones are long and thin’. Escher further explained this complex design of dissimilar motifs by providing a schematic illustration in the publication. This showed the underlying grid of rhombuses around which the design was structured.

Whirlpools

November 1957
colour woodcut and wood engraving, 2nd state

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher described *Whirlpools* as presenting ‘two nuclei with infinitely small figures. They are linked by a red and a blue row of fishes swimming head to tail and moving in opposite directions. The whole red trail has exactly the same shape as the blue one. When rotated 180 degrees around an axis in the centre, they cover each other’s open interspaces’. Escher printed this woodcut from three blocks – one for the red fish, one for the blue and one for the black outlines.

Path of life I

March 1958
woodcut, printed in red and black inks

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In several prints from the late 1950s, Escher explored the use of similar motifs of diminishing size arranged in spiral progressions. These prints suggest an expansion from the infinitely small to the infinitely large and back again, conveying an affinity with the natural process of birth, growth and death. Escher said of this print, ‘With your eyes you are invited to follow currents of white ray fishes spiring head to tail from the centre outward. The eight biggest rays spire inward again, toward the middle, changing their colour from white to black’.

Plane filling I

March 1951
mezzotint

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher created only two prints in which the entire surface is filled with motifs that do not in any way repeat or have similarity of form. They were called *Plane filling I* and *Plane filling II* (*Plane filling II* is exhibited nearby). Escher discussed these prints in talks about regular division of the plane because their surfaces are entirely filled without overlap or empty spaces, although they are not in fact tessellations. ‘They could never have been produced’, Escher claimed, ‘without years of training in regular surface-filling … The only reason for their existence is one’s enjoyment of this difficult game’.

Plane filling II

July 1957
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Space and illusion

‘I cannot help mocking all our unwavering certainties. It is, for example, great fun to deliberately confuse two and three dimensions, the plane and space, or to poke fun at gravity. Are you sure that a floor cannot also be a ceiling? Are you absolutely certain that you go up when you walk up a staircase?’

M. C. ESCHER

Many of Escher’s most iconic works play with spatial ambiguities and optical illusions and combine two and three dimensions. He delighted in playing with a viewer’s perception and exploring the hidden complexities in pictorial representation. In several early architectural prints, Escher used unusual vantage points or perspectival distortions to manipulate the representation of space. He explored these themes further in later prints that combined multiple viewpoints to create impossible structures that could be drawn on paper but could never exist in reality. The visual conundrums Escher created in these works both intrigue the eye and puzzle the mind. They also highlight the deceptive nature of figurative art in its representation of the three-dimensional world on the two-dimensional picture plane.

house in perspective

An immersive installation of black metal rods within an all-white gallery has been designed for this presentation of Escher's works exploring extreme perspectives and optical illusions. The rods enable the works to be displayed in a new spatial arrangement rather than simply being mounted on the walls, and are arranged in a rhombus-shaped layout around a centrally placed mirror structure. At first glance the metal rods appear to be placed in a clutter, but when viewed from a specific angle a house shape appears.

Balcony

July 1945
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In *Balcony*, a scene of a harbour-side town is manipulated with a spectacular circular magnification in the centre, making the buildings appear to bulge outwards. Escher does this to draw our attention to the inherent illusionism of depicting the three-dimensional world on a flat picture plane. ‘It’s a fiction,’ he wrote, ‘for my paper remains flat. In a spirit of deriding my vain efforts and trying to break up the paper’s flatness, I pretend to give it a blow with my fist at the back, but once again it’s no good – the paper remains flat and I have created only the illusion of an illusion’.

Three spheres I

September 1945
wood engraving

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

It is almost impossible not to perceive the object in the upper half of this picture as a sphere. The grid of white lines is curved in such a way that we think we observe a three-dimensional globe, illuminated on one side and in shadow on the other. But Escher reminds us this is an illusion, and what we are actually looking at are lines on a sheet of paper. In the middle figure, the so-called sphere has been folded backwards so its top appears squashed by the one above it, while in the bottom one it is ‘flattened’ entirely.

Doric columns

August 1945
colour wood engraving

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In the group of works in this corner, Escher attempts to express a conflict between two and three dimensions. Using different methods of spatial distortion, Escher forces our interpretation of the image to shift – from perceived three-dimensional form to the reality of flat printed paper. In this wood engraving, the lower part of the left column and the upper part of the right have the appearance of solid, heavy, three-dimensional blocks of stone. But when our eye travels along these columns we realise this summation is an absurdity because their ends are flattened and folded beneath the ‘weight’ of the other.

Dragon

March 1952
wood engraving

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

‘However much this dragon tries to be spatial, he remains completely flat. Two incisions are made in the paper on which he is printed. Then it is folded in such a way as to leave two square openings. But this dragon is an obstinate beast, and in spite of his two dimensions he persists in assuming that he has three; so he sticks his head through one of the holes and his tail through the other.’

M. C. ESCHER

Depth

October 1955
colour wood engraving and woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

After this print was completed, Escher wrote to his son Arthur explaining the five ways it suggests depth: the thickness of the lines, which decrease as distance increases; the fact that each fish is formed from the same number of lines; the positioning of each fish at the intersection of a cubic system; the reduction in strength of the black outlines as the fish recede in space; and finally, the use of warm and cool colour. ‘Can this methodical approach still count as “art”?’ he asked Arthur. ‘To answer that you would have to know what art is, and I don’t’, Escher added.

Other world

January 1947
colour wood engraving and woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This is the first in a series of prints that Escher called his ‘relativities’ because, as he noted, ‘Every function that we may ascribe to any plane of this building is relative. For instance, the rear plane in the centre serves as a wall in relation to the horizon, a floor in relation to the view through the top opening and a ceiling in relation to the lower view of the starry sky’. The strange human-bird figure is a mythical creature of Persian origin called a simurgh and is based on a small sculpture given to Escher by his father-in-law as a wedding present.

Study for Still life and street

1937

pencil

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Still life and street

March 1937
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This woodcut marks the beginning of Escher's journey into the world of optical illusion. A still life with stacks of books, a pipe and ashtray, a pack of cards and a lidded pot turns into a narrow street scene filled with little people going about their business. Escher's masterful suggestion of depth through the increasing scale of the books that appear to lean against the nearest buildings, as well as his seamless fusion of the street with the surface of the table through continuous diagonal lines, mean our eye makes this transition from one world to another effortlessly.

Convex and concave

March 1955
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

On the banner hanging under the bridge in this image is a pattern of diamonds in three shades, with each group of three creating the illusion of a cube. Our eyes can read these cubes in different ways – as pointing either up or down, and as convex or concave. For Escher, this clever design serves as an emblem for the subject of this lithograph. Almost every architectural feature can be interpreted in two opposing ways. Is the central vaulted ceiling inside or outside? Are the columns convex or concave? Are we looking up or down? Escher's inclusion of mysterious characters adds to the strangeness of this contradictory world.

Print gallery

May 1956
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In this lithograph, a boy is depicted in a gallery looking at a framed print on the wall, but the top of the print bends and extends into a townscape, which includes a veranda that swirls around and becomes the roof of the print gallery. The mathematical term for the visual distortion occurring in this print is called a Riemann surface, named after German mathematician Bernhard Reimann, although Escher had never heard of it when he came up with the idea for the image. This highly sophisticated print was considered by Escher to be one of his most successful pictures.

Study for Covered alley in Atrani

1931

crayon on black paper

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

This drawing was made during Escher's trip to the dramatic cliff-hugging town of Atrani on the Amalfi Coast in the summer of 1931. Made with white, black and green crayon on black paper, it reveals Escher's interest in the effects of light and shadow and is an early picture that plays with multiple perspectives. Escher positioned himself at the intersection of a number of narrow interior stairways while drawing this picture, which gave him a double vantage point of being able to look up while also looking down. The result is a complex composition of diagonal, vertical and curved lines that prefigures his later prints of impossible buildings.

Porta Maria dell'Ospedale, Ravello

February 1932
wood engraving

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher and his wife Jetta particularly loved the picturesque Italian town of Ravello, on the Amalfi Coast, where they first met in 1923. They often spent the summer months there and on several occasions Escher drew the church formerly known as Santa Maria dell'Ospedale, which was built into a hillside grotto on the outskirts of Ravello to accommodate travellers, pilgrims and the sick. He translated his May 1931 drawing of the church's cross-vaulted architecture into this wood engraving in 1932, and it subsequently formed the model for the dreamlike setting of the adjacent print, *Dream (Mantis Religiosa)*, 1935.

Dream (Mantis Religiosa)

April 1935
wood engraving

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Described by Escher as ‘pure fantasy’, this print was nevertheless composed from separate, realistically observed elements. The vaulted architecture derives from a twelfth-century church outside Ravello he had depicted more than three years earlier; the sarcophagus is based on his drawing of a bishop’s tomb in the crypt of St Peter’s in Rome; and the praying mantis was drawn in Sicily in 1930. The surreal combination of the enlarged mantis and desolate architectural setting seemingly afloat in deep space makes this one of Escher’s most bizarre and otherworldly prints. As he once asked, ‘Is the bishop dreaming about a praying mantis, or is the whole conception a dream of the artist?’

Procession in crypt

July 1927
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Procession in crypt is another early work that explores unusual perspectives. The view of the crypt has been taken from a low vantage point close to the floor; this angle is accentuated by the diminishing lines of the paving stones. The vaulted ceiling looms above and is cut off by the picture plane while also receding sharply into the distance. This construction helps create the sense of a voluminous yet oppressive space through which the diminutive, enigmatic hooded figures file.

Inside St Peter’s, Rome

March 1935
wood engraving

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

‘I made the drawing for this print sitting in the upper gallery of the dome [of St Peter’s Basilica in Rome], looking down with a giddy feeling into the abyss before me. This was perhaps the first time I realised that all the vertical lines were directed toward the same point in the nadir [the vanishing point beneath one’s feet]. So this print may be the primary cause of the series of perspective fantasies I developed many years later.’

M. C. ESCHER

Tower of Babel

February 1928
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

During his years in Italy, Escher began exploring how we perceive space in a series of images that use extreme vantage points and exaggerated perspectives. This is evident in several landscape and architectural views but also in his scenes based on literary sources, of which *Tower of Babel*, 1928, is one of the most compelling. It employs a breathtaking ‘birds-eye view’ and sharply receding lines to depict the tower reaching to the heavens, built by the Babylonians as described in the Bible in Genesis chapter eleven. The tower looms far above the town and harbour, creating a strong illusion of a three-dimensional form on the two-dimensional sheet of paper.

zooming house

Here the architectural structure of a connecting corridor, twenty-one metres long, has been transformed into a house-shaped path that explores Escher's use of perspective and optical illusion. The height of the path is four metres at the entrance but diminishes to fifty-five centimetres at the end, accentuating the perspective and making the path appear much longer than it is. The alternating black and white pattern on the interior exaggerates this recession.

house of movement

The house motif in this gallery is incorporated in an animation projected and mapped directly onto a geometric, tile-like base. This element has been designed as a three-dimensional relief using the same two-dimensional house patterns presented earlier in the exhibition. This was inspired by Escher's works in the following room, which show his investigation of the perfect geometry of crystals and Platonic solids. In the same way Escher expressed the tension between order and chaos, this house expresses a state of flux between two-dimensionality and three-dimensionality. By creating digital optical illusions, the animation changes the depth, layout and colour of the base and creates new moments that exist between the accurate physical dimension and the limitless digital world.

Crystals and Platonic solids

Escher was fascinated by the symmetry and regularity of Platonic solids. These shapes, also known as regular convex polyhedrons, are three-dimensional spatial forms with flat faces and straight edges, with every face being a regular polygon of the same size and shape. Named after the Greek philosopher Plato, Platonic solids have been studied by mathematicians since Antiquity.

There are five Platonic solids: the tetrahedron (four faces), the cube or hexahedron (six faces), the octahedron (eight faces), the dodecahedron (twelve faces) and the icosahedron (twenty faces). From the late 1940s, Escher made a series of works featuring the five Platonic solids as well as crystals and other, more complex, geometric spatial figures of his own invention.

While focused in a very intellectual way on this serious branch of geometry, Escher came up with another invention that reveals his innate playfulness – a wheel-shaped creature he called the *wentelteefje* (‘curl-up’), which he made the subject of a lithograph in 1951. The armoured body of this peculiar animal was the inspiration for nendo’s design of this faceted and backlit room, which displays Escher’s works featuring crystals and Platonic solids.

Study for Stars

August 1948
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher was fascinated by the symmetry and regularity of Platonic solids. These shapes, also known as regular convex polyhedrons, are three-dimensional spatial forms with flat faces and straight edges, with every face being a regular polygon of the same size and shape. Named after the Greek philosopher Plato, Platonic solids have been studied by mathematicians since antiquity and feature in the work of other artists, including Leonardo da Vinci and Salvador Dalí. There are five Platonic solids: the tetrahedron (four faces), the cube or hexahedron (six faces), the octahedron (eight faces), the dodecahedron (twelve faces) and the icosahedron (twenty faces). All five appear in this woodcut.

Curl-up

November 1951
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

The curious little creature depicted in this print is described in detail by Escher in the accompanying text, the introduction of which translates to: ‘The *Pedalternorotandomovens centroculatus articulosus* came into being (*generatio spontanea!*) as a result of dissatisfaction concerning nature’s lack of any wheel-shaped living creatures endowed with the power of propulsion by means of rolling themselves up. So the little animal shown here, known in popular parlance as the ‘curl-up’ (‘*wentelteefje’*) or ‘sausage roll’ (‘*rolpens’*), is an attempt to fill a long-felt want. Biological details are still scarce; is it a mammal, a reptile or an insect?’

For kids

Escher was a very inventive artist with a good sense of humour. This print shows an odd little creature that Escher invented in 1951 and which he called the ‘curl-up’ or the ‘sausage roll’. It is special because, as well as being able to walk on its six legs, it can also curl itself up and roll along at lightning speed.

If you could invent any type of animal what would it be? Would it have any special powers?

Study for Crystal

17 November 1947
pencil

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher marvelled at the existence of crystals – nature's own Platonic solids – describing them as 'glittering fragments of regularity'. He shared this interest with his half-brother Berend, a geology professor at Leiden University in the Netherlands who published several books on mineralogy and crystallography. This drawing is a study for a mezzotint showing a compound polyhedron of a cube and octahedron (only the outline of which is visible in the drawing) lying on a bed of irregular-shaped pebbles. The image juxtaposes the order and inevitability of the Platonic solids with the chaotic and random biological forms.

Contrast (Order and chaos)

February 1950
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In this lithograph a star-shaped dodecahedron (a regular polyhedron with twelve pentagrammatic faces) within a glass sphere is surrounded by various broken and crumpled objects, which Escher viewed as representing order amid chaos. Escher often contemplated the dichotomy between order and chaos, even relating it to the difference he perceived between drawing and printmaking. Unlike the unconstrained art of drawing (chaos), printmaking techniques impose limitations and boundaries that the artist must work within (order). ‘Order is the repetition of elements,’ Escher reflected, ‘chaos is profusion without rhythm’.

Stars

October 1948
wood engraving

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher was particularly intrigued by the way in which Platonic solids can be nestled inside each other to invent countless new spatial figures. Some of these are depicted as stars in this wood engraving, which brings together Escher's love of geometry and astronomy. In the centre of this 'constellation' is a hollowed-out hybrid polyhedron of three interlocking octahedrons containing two chameleons – 'because', Escher explained, 'they are able to cling by their legs and tails to the beams of their cage as it swirls through space'. When Escher was a boy, his father installed a telescope on the roof of their house, sparking the artist's lifelong hobby of stargazing.

Study for Stars

August 1948
woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

The smaller stars in this woodcut are all Platonic solids, except the furthest to the left, which is a rhombic dodecahedron. A number of composite polyhedrons also appear, some more complex than others. These hollow geometric figures, which allow us to see their back and interior edges, are reminiscent of Leonardo da Vinci's illustrations of polyhedrons in the treatise *De Divina Proportione (The Divine Proportion)* by Luca Pacioli, published in Venice in 1509. Escher also designed and carved a number of polyhedrons in solid wood, not as models to copy from but as works in their own right.

Double planetoid (Double planet)

December 1949
colour wood engraving, 2nd state

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In November 1949, Escher wrote to his friend Paul Kessler about this print: ‘I am working on a new coloured woodcut representing a small (very small!) planet, consisting of two inextricably interlocked tetrahedrons of different colours. One of them has triangular pyramid structures with humanoid inhabitants; the other has rocks, strange plants and prehistoric animals. The whole thing is contained in a circular, deep-blue plane, which more or less gives the illusion that the planet is seen through a telescope. As everything feels drawn to the centre because of the force of gravity, the observer must be able to rotate the print around this centre point’.

Infinity and impossible worlds

Escher was captivated by the challenge of representing infinity. His tessellation drawings had implied endless repetition on a flat plane; similarly, the never-ending cycle which featured in many of his prints and his later use of visual devices such as the Möbius strip both suggested infinity. He took the concept even further in the mid 1950s, when he began using regularly diminishing tessellations in circular compositions.

In 1954 an exhibition of Escher's prints coincided with the International Congress of Mathematicians in Amsterdam and was viewed by hundreds of delegates. It ignited interest in his work from the global mathematics community, among them young British mathematician Roger Penrose and Canadian geometer H. S. M. Coxeter. Escher began a correspondence with both men, who provided him with ideas for new work and solutions to problems he had been unable to resolve.

In the late 1950s Escher created his most iconic images of seemingly impossible buildings, some of which incorporated impossible objects introduced to him by mathematicians. Escher wanted these prints to at first mystify viewers by presenting something unfathomable, but then describe the perfectly legitimate method by which it was constructed, thereby making the impossible possible. Escher incorporated elements from his early observations of nature into these prints, which helped to situate them within the familiar, 'real' world.

Relativity

July 1953
wood engraving

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

The invention of multidimensional worlds on two-dimensional surfaces, which Escher had explored in *Other world*, 1947, culminated in *Relativity*. As Escher once explained: ‘Three earth-planes cut across each other at right angles, and human beings are living on each of them. It is impossible for two inhabitants of different worlds to walk or sit or stand on the same floor, because they have different perceptions of what is horizontal and what is vertical’. *Relativity* is important for its representation of an endless cycle of movement: the faceless inhabitants of the three worlds are compelled to travel up and down the staircases forever.

Up and down

July 1947
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

The precepts of one-point perspective are overthrown in this print, as Escher introduces two additional vanishing points on the vertical plane – the zenith (directly above us) and the nadir (directly below us). The viewer is also given more than one vantage point: we see the scene from below *and* from above. To achieve this Escher ingeniously conflates the zenith in the lower half (the tiled ceiling) with the nadir in the upper half (the tiled floor) at the centre point. If we were to attach another copy of the print to the top or bottom, the scene would seamlessly repeat itself, and our gaze endlessly bounce up and down.

For kids

In the bottom half of this print we are standing on the tiled floor looking upwards, just like the boy sitting on the steps who looks up at his mother in the window. However, in the top half we are floating somewhere near the ceiling looking downwards, and now the little boy is below us. It is very peculiar indeed!

What does this topsy-turvy world make you think of? Does it make you feel dizzy?

Spirals

December 1953
wood engraving, printed in grey and black inks

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher was compelled to make this print after encountering an engraving in an early book on perspective, *La pratica della perspettiva* (Venice, 1569) by Daniel Barbaro. The engraved diagram depicted a torus (a hollow, donut-shaped ring generated by revolving a circle about an axis in three-dimensional space) consisting of spiral-shaped bands. Escher found the illustration unsatisfactory on a number of levels and sought to create his own version as a coloured wood engraving, complicating the problem further by making the spiral thinner as it moved around and back into itself. ‘A self-centred sort of thing’, as he later referred to it, ironically.

Bond of union

April 1956
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

The inspiration for this and another print, *Rind*, 1955 (depicting the singular head of a woman) came from the H. G. Wells novel *The Invisible Man* (1897). The story is about a scientist who becomes irreversibly invisible. Rather compromised by this situation, he wraps his translucent body in bandages in order to be seen. For Escher, the concept offered the opportunity to portray a person both internally and externally. In *Bond of union*, a single continuous ribbon creates a double portrait of the artist and his wife Jetta. The floating spheres enhance the suggestion of infinite space.

Horseman

July 1946
colour woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Predestination (Topsy-turvy world)

January 1951
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Belvedere

May 1958
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In *Belvedere*, one of Escher's best-known works, we perceive a two-storey building that could not possibly exist in the real world because the orientation of the second floor contradicts that of the first. Escher's inspiration for this lithograph came from an optical illusion called an impossible cube, illustrated in its simplest form on the sheet of paper at lower left. The cube also appears as a three-dimensional model in the hands of the seated man, who, Escher said, 'gazes thoughtfully at this incomprehensible object and seems oblivious to the fact that the belvedere behind him has been built in the same impossible style'.

Cube with ribbons

February 1957
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In *Cube with ribbons*, Escher developed the concept he had explored in *Convex and concave* two years earlier, in 1955. The nodules along the two elliptic ribbons appear to turn inside out exactly at the point where the surfaces of the ribbons invert. Escher assists our reading of the object as three-dimensional by adding the cubic frame and three different light sources. However, every interpretation of this impossible object pushes the observer into an endless back and forth, the ribbons and nodules shifting from in front to behind, and from concave to convex.

Circle limit II

March 1959
woodcut, printed in red and black inks

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In his *Circle Limit* series, Escher used tessellations and hyperbolic geometry to represent the idea of infinity. Based on a model introduced to him by mathematician H. S. M. Coxeter, these prints depict the infinite repetition of a motif within the confines of a circle. In *Circle limit II* Escher used crosses, which diminish infinitely in size and increase infinitely in number as they progress outwards from the centre, until they reach their 'limit' at the boundary. On the flat plane of the paper, the crosses appear curved and of different lengths; however, in the hyperbolic plane they are in fact straight and of equal length.

Circle limit IV (Heaven and hell)

July 1960
woodcut, printed in ochre and black inks

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher wrote of this print: ‘The disc is divided into six sections in which, turn and turn about, the angels on a black background and the devils on a white one, gain the upper hand. In this way, heaven and hell change place six times. In the intermediate, “earthly” stages, they are equivalent’. The extraordinary level of finesse involved in the cutting of the woodblocks for these *Circle Limit* prints required Escher to use strong magnifying glasses.

Ascending and descending

March 1960
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

A model of an endless staircase published in an article by the mathematicians Roger and L. S. Penrose in February 1958 inspired Escher to make this print depicting a building with a staircase at the top that never gets any higher or lower. ‘The inhabitants of these living-quarters’, wrote Escher, ‘would appear to be monks, adherents of some unknown sect. Perhaps it is their ritual duty to climb those stairs for a few hours each day. It would seem that when they get tired they are allowed to turn about and go downstairs instead of up. Yet both directions … are equally useless’.

Sheet of studies of impossible figures

c. 1960–61

pencil

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

On this sheet of studies, we see various forms of the tribar and the impossible cube. Escher was captivated by these impossible figures because they reveal a conflict between our visual perception and reality. Along the top are several tribars in different orientations, some of which are joined. The figure on the lower left appears to be a tribar with a cube attached to each point, reinforcing the perception that each angle is ninety degrees. The impossible cube in the lower centre resembles that held by the seated man in *Belvedere*, 1958, and the tribars were developed into the major print *Waterfall*, 1961.

Studies no. 6, 9, 11, 12, 13 and 15 for Waterfall

c. 1961
pencil

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

These preparatory sketches for *Waterfall*, 1961, show how Escher carefully worked out the complex mathematical relationships between architectural elements before arriving at a satisfactory composition for the final print. Using the numbers in the corners, we can piece together Escher's progress. The earlier studies depict a tribar created from a building with a contradictory number of storeys. Escher then increases the absurdity of such a structure by adding running water, which plunges down on the millwheel and then conceivably travels uphill. This also cleverly introduces a sense of perpetual motion, which is a fundamental characteristic of Escher's images of impossible worlds.

Waterfall

October 1961
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

In 1954, a young mathematician named Roger Penrose encountered Escher's impossible architectural spaces and was inspired to invent his own impossible images. Penrose arrived at the so-called 'tribar', or 'Penrose triangle', a triangle with three ninety-degree angles that is possible to conceive in a drawing but impossible to realise in three-dimensional space. This, in turn, became the inspiration for one of Escher's most famous prints. In *Waterfall*, Escher used three tribars to create the illusion of gravity-defying water that flows perpetually around a closed circuit of a mill. The two polyhedrons on top of the towers and the enlarged microscopic mosses in the garden reinforce the peculiar nature of the scene.

Möbius strip II (Red ants)

February 1963
colour woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher was fascinated by the visual representation of infinity. One of the devices he used to do this was the Möbius strip, named after the German mathematician and astronomer August Ferdinand Möbius, who discovered it in 1858. As demonstrated in this print, a Möbius strip is a surface with only one side and one edge, creating a path without end. Unlike the tribar, it is possible to make a Möbius strip in the physical world. Escher brings the work to life by incorporating nine red ants, who crawl along the twisted loop in the same direction, the outside becoming the inside and then the outside again, for eternity.

For kids

Escher loved making pictures of objects that boggle the mind. This print shows a three-dimensional object called a Möbius strip. You can make your own Möbius strip when you get home by getting a strip of paper, giving it a half-twist, and then joining the ends of the strip together to form a loop.

Pick any ant and follow its path as it crawls along the strip. Where does it end up?

Möbius strip I

March 1961

colour woodcut and wood engraving

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Knots

July 1966
pencil and crayon

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Escher made a woodcut illustrating three types of knots in 1965, and this drawing was a development of the one he found most intriguing. Two bands, set at right angles to each other, forming a cross-shaped profile, are knotted with three loops. If you trace the path of any of these bands with your eye, you will end up back where you started, having travelled along every inch of both bands. Therefore, the structure does not consist of two bands but one. The triangular openings in the bands allow both the exterior and the interior to be visible.

gathered house

In response to Escher's fascination with the representation of infinity, this gallery was designed as a circular space for the display of the artist's endlessly transforming tessellations and impossible geometric loops. In the centre of the room, a five metre–wide 'chandelier' constructed from more than 50,000 die-cut black and white houses is suspended from the ceiling. The inversion of colour in the middle of the installation forms a three-dimensional house shape that floats in the centre and changes its appearance according to the visitor's vantage point. When viewed from the opposite angle this same image is in the opposite colour, requiring the viewer to complete a circuit around the gallery to fully experience the installation.

snake house

Inspired by Escher's last print *Snakes*, 1969, this space is a serpentine white passage cut out of a black, waist-high surface. The top part of the path folds inwards slightly, allowing the eye to complete the house-shape silhouette as it curves along the corridor. The walkway, like Escher's print, is constructed from interlocking circles that maintain a mathematical relationship based on equal angles and tangents. The preparatory drawing for *Snakes* is encountered along the path to the final print, symbolising Escher's long research process while creating this final complex composition.

Study for Snakes

1969

pencil and red ballpoint pen

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

The last decade of Escher's life was defined by international recognition and increasing ill health. The 1961 English translation of the book *The Graphic Work of M. C. Escher* greatly increased his popularity outside the Netherlands but opened the door to a proliferation of unauthorised reproductions. This was fuelled in part by the hippie counterculture of the late 1960s which was drawn to the mind-bending nature of Escher's prints. The art world finally started taking his work seriously as well: art historian E. H. Gombrich wrote about Escher's illusionism in his 1961 article '*How to read a painting*'. Meanwhile, the artist suffered prolonged illnesses and underwent several major surgeries from which he never fully recovered.

Despite his deteriorating health, at the end of the 1960s, aged seventy-one, Escher threw himself into his last and most ambitious print, the colour woodcut *Snakes*. Numerous preparatory studies, including this one, show how Escher worked out the complicated mathematical circular design, which is composed of three identical 'pizza slice' segments. As *Snakes* was printed in green, orange and black, Escher carved three of these 'pizza slice' blocks – one for each colour – which he printed nine times (by hand) to complete the whole circle.

Snakes

July 1969
colour woodcut

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

Snakes embodies the refined craftsmanship Escher developed in fifty years of printmaking and is the final articulation of his lifelong fixations as an artist. It is a masterpiece of technical brilliance and a sophisticated expression of order and logic. Escher achieves his most absolute representation of infinity by diminishing the interlocking rings both inwards towards the centre of the circle and outwards towards its edge. The work also incorporates Escher's love of the natural world and the visual paradox of depicting three-dimensions on two: the three-dimensional reptiles, which Escher copied from a book on snakes, appear to slither in and out of the lattice of rings. To compensate for his failing eyesight, Escher used a magnifying glass with a neon light to help him carve the print's extraordinarily fine detail.

In 1968, a major retrospective exhibition was held at the Council of The Hague Museum (now the Gemeentemuseum Den Haag) in honour of the artist's seventieth birthday. In the same year, Escher's wife Jetta left him and returned to Switzerland. In the summer of 1970, soon after finishing *Snakes*, Escher moved into a retirement home for elderly artists in Laren, North Holland. He died in March 1972, aged seventy-three.

Drawing hands

January 1948
lithograph

Escher Collection, Gemeentemuseum Den Haag, The Hague, the Netherlands

The final work by Escher in this exhibition is the iconic lithograph *Drawing hands*, 1948. This is one of the artist's most ingenious and paradoxical images and encapsulates his principal artistic concerns. The meticulously rendered hands appear to break out of the flat confines of the drawing and create an endless cycle as they draw each other into being. Escher's love of embedded visual games reaches a high point in this work, which displays his mastery of optical illusion and playful paradox, his fascination with the representation of infinity and the close observation on which all his art is based.

House for Escher collection

This space presents a collection of objects that grew out of the research and design process of the *Escher X nendo | Between Two Worlds* exhibition. Sketches, tests and models have been used to explore the principles informing Escher's art and their relationship to nendo's three-dimensional manipulation of the house motif. What started as a series of paper mock-ups evolved into an eleven-piece collection made from metal and painted black and white. *House for Escher* is a collection that commemorates nendo's response to Escher's art and is a tribute to a memorable collaboration.