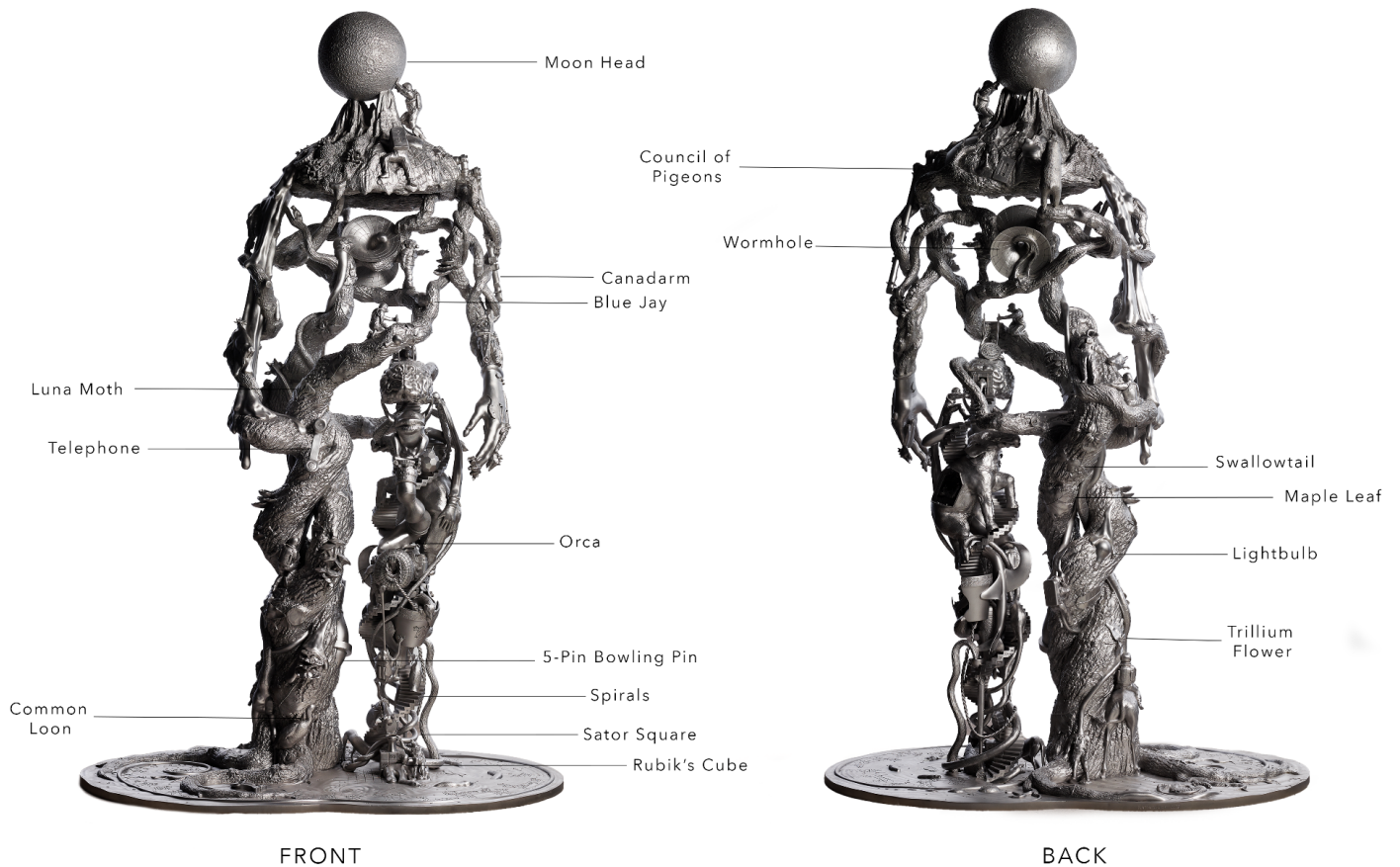


# EMERGENCE - DUSTIN YELLIN



**Blue Jay:** The Blue Jay (*Cyanocitta cristata*) is a common bird in Southern Ontario, and stays in the area year-round. An unmistakable bird, the Blue Jay is known for its beautiful, vivid feathers, and for its noisy, raucous call. The crest, an elongated crown of feathers found in many jays, is raised or lowered according to the bird's mood. These birds are also of ancient lineage; the species belongs to a family of birds called Corvidae, which has been identified in fossils more than 25 million years old! The bird is also a nod to the Toronto Blue Jays, the city's Major League Baseball team.

**Canadarm:** An arm is formed, in part, by the Canadarm, a machine designed by the Canadian aerospace industry for the use on the American (USA) Space Shuttle program to deploy, retrieve, and repair satellites as well as the space shuttle itself. Just like the coordinated multilateral effort (between Europe, Africa, and the Americas), which confirmed Einstein's general theory of relativity through the 1919 eclipse, Canadarm represents another key moment in international relations, and demonstrates how science and peace are interlinked philanthropic activities. It remains Canada's most famous technological invention in the field of robotics.

**Common Loon:** The Common Loon (*Gavia immer*) is the provincial bird of Ontario. They are large diving water birds with sharp pointed bills and piercing red eyes. Their heads and necks are black, while their bodies are black with white striping, spotting and checkering. Loons spend their spring and summers in the northern

# EMERGENCE - DUSTIN YELLIN

part of North America, with 94% of the global population estimated to breed on the quiet, remote freshwater lakes of Canada. The Common Loon also appears on Canadian currency, including the one-dollar "loonie" coin, and a previous series of \$20 bills.

**Five-pin Bowling Pin:** Five-pin bowling is a bowling variant played in Canada. It was invented around 1909 by Thomas F. Ryan in Toronto, at his Toronto Bowling Club, in response to customers who complained that ten-pin bowling was too strenuous. He cut the pins down to 75% perfect of their original size, and used hand-sized balls made of rubber, thus inventing the original version of five-pin bowling.

**Luna Moth:** The Luna Moth (*Actias luna*), is found in Canada, and is easily spotted by its lime-green wings. Across Canada, it has one generation per year, with the winged adults appearing in late May or early June. They only live for about a week after emerging from their cocoons, as they find a suitable mate and tree on which to lay their eggs. In fact, they don't have mouths or digestive systems, because they never eat during that time!

**Lightbulbs:** In 1874, Canadians Henry Woodward and Mathew Evans patented a design for an incandescent light bulb. Although far less known, their invention preceded that of American Thomas Edison by several years. In fact, the second patent (issued in 1876 in the United States) was among those that Edison bought as he refined the technology to create a longer-lasting bulb. Woodward and Evans' early work on the light bulb in Toronto has gone largely unrecognized, but was nevertheless an important development in the invention of electric lighting.

**Maple Leaves:** The Maple leaf is the Canadian symbol of national identity. The maple tree, with its vibrant autumn colours, has always been a prominent feature of the landscape in the eastern parts of Canada. Long before the arrival of settlers, the indigenous peoples living in these areas valued the maple tree for its sweet sap and the goods derived from it, including syrup and maple sugar. In the 19th century, the leaf itself emerged as a symbol of national identity, becoming the much loved symbol of Canada that it is today.

**Orca:** The Orca (*Orcinus orca*), also known as the killer whale, is one of the most distinct marine mammals in the world. The largest member of the dolphin family, they are known for their large size and striking black-and-white colouring. Killer whales are highly social animals that live in family-related pods of 10 to 40 individuals and remain together for life. In Canadian waters, there are noted populations in the northern Pacific along British Columbia, and, less commonly, in the Atlantic and Arctic regions. Nestled in the leg of the sculpture, you can find an Orca swirling out of a Berninian helical column.

**Swallowtail Caterpillars & Butterflies:** Swallowtail caterpillars are the larval stage of Swallowtail butterflies (*Papilionidae*), a family of light-coloured butterflies that are common in Ontario (and greater Canada). Their caterpillars are large in size, and their soft bodies come in various colours and patterns. They feed on a variety of plant matter before spinning a chrysalis and entering the pupal stage, finally emerging as Swallowtail butterflies. Swallowtails get their name from the forked appearance in some of their hindwings, similar to the tails of Swallow birds.

**Telephone:** In 1876, Alexander Graham Bell of Brantford, Ontario invented the telephone, arguably the most significant communication invention since the pen and paper. The telephone made it possible for people to communicate with each other across great distances. Bell executed the first "long distance" calls between his home in Brantford and nearby Paris, Ontario (approx. 16km away).

# EMERGENCE - DUSTIN YELLIN

**Trillium Flowers:** The White Trillium (*Trillium grandiflorum*) is Ontario's provincial flower. They bloom in forests and woodlands across Ontario, recognizable by their three broad leaves, three small green sepals, three petals, and a three-sectioned seedpod (Even their genus name, *trillium*, refers to this phenomenon of threes!). The flower is featured on many provincial documents, from health cards to driver's licenses, and is the Ontario government's official logo.

**Baseplate/Constellation:** The sculpture's base plate is cast with a star map depicting the night sky in Toronto on May 29, 1919. This was the date astronomer Arthur Eddington used a solar eclipse to test and prove Albert Einstein's theory of general relativity by measuring how much starlight is bent as it passes the sun. The plate also echoes The Golden Record, an album of sounds and images that astronomer Carl Sagan sent to space on the Voyager Satellites (1977) as a "cosmic message in a bottle" to be found by possible extraterrestrials. Joining these elements is a parade of original constellations, or astro glyphs, which are mirrored by the 3D hybrid animal/human astronauts found throughout the sculpture.

**Spirals:** Throughout the sculpture one can find various spirals; on the baseplate, look for an ammonite fossil, spiraling tentacles, and a human ear with its spiral-shaped cochlea. The tail of an aardvark perched within the figure's leg also spirals down onto the baseplate, representing the 'golden ratio', or 'golden spiral'. This cosmic constant is said to be the key to the universe: found everywhere from the shape of hurricanes, to elephant tusks, to spirals on a sunflower head, and even in the topology of space-time.

The sculpture also features another kind of spiral throughout, one resembling a DNA helix. You can find these in the form of a numbered staircase, a rope, a Berninian helical column, and the body of the tree itself.

**Moon Head:** The figure's head is represented by a moon, which sits atop a volcano that makes up the figure's neck and shoulders. As a nod to the tale of Sisyphus, we see an astronaut pushing the moon into place. Sisyphus is a figure in Homer's Iliad and other works of Greek mythology. In the story, Hades, God of the underworld, punishes Sisyphus for cheating death twice, eternally condemning him to roll a boulder to the top of a mountain, only to have it roll back down to the bottom every time he reaches the peak.

**Council of pigeons:** A group of pigeon astronauts assemble beneath the volcano. The dome under which they gather is cast with constellations that mirror those seen on the statue's baseplate, once again calling back to the 1919 solar eclipse.

**Wormhole:** Chewing through the bark of the tree is a wormhole, a hypothetical tunnel between two distant points in our universe that, in theory, could cut the travel time from one galaxy to another from many millions of years to hours or minutes. Look for an astronaut passing through the tunnel.

**Sator Square:** The SATOR square is an ancient arrangement of five, five-letter Latin words. It is a two-dimensional palindrome, which means that it reads the same forwards/backwards and up/down. The mysterious square has been used as a protective amulet since at least the first century, and examples have been all over Europe. The words across the square read, "Sator, Arepo, Tenet, Opera and Rotas", translating to "The sower holds the wheels from the bank with effort", which can be interpreted in both agricultural and magical contexts.

**Rubik's Cube:** Emerging from the baseplate is a Rubik's Cube made of periodic elements, which symbolically mixes up the periodic table to form new molecules.

# EMERGENCE - DUSTIN YELLIN

**Can you find these other hidden details? :**

Baby octopus (not the tentacle)

Small cat

Shark tooth

Typed riddle

Statue of a saint

Second, hidden wormhole

Owl

Lone baby turtle

Ancient Greek coin

Love note to Zia

Crescent moon

Hammer

Shark gills