

Alexander Calder



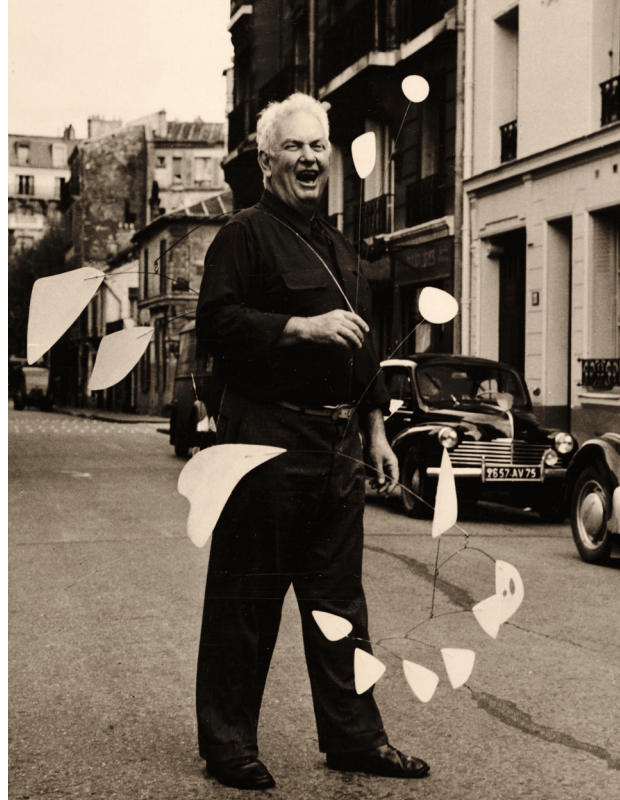
1 A Playful Engineer

Alexander Calder (1898–1976) was born into a family of artists in Lawnton, Pennsylvania. Known as Sandy to friends and family, Calder loved to tinker. When he was eight years old, his parents gave him tools and a workspace where he constructed toys and gadgets with bits of wire, cloth, and string. He earned a college degree in mechanical engineering, but unsatisfied with that line of work, he enrolled in art school in New York City and became a newspaper illustrator.

Moving to Paris in 1926 proved to be a pivotal moment in his life. Calder made imaginative, miniature circus animals and performers similar to the toys he invented as a child. He then created a whole circus, complete with balancing acrobats and a roaring lion, and he put on performances for his friends. These circus characters, assembled of wire, cork, cloth, and string, were an early form of moving sculpture. Through the popularity of “Calder’s Circus,” he met other artists living in Paris, including surrealist Joan Miró and Piet Mondrian, whose abstract paintings inspired him: “When I looked at [these] paintings, I felt the urge to make living paintings, shapes in motion.” Calder then created his first motorized abstract sculptures, dubbed “mobiles” by his artist-friend Marcel Duchamp. Developing an ingenious system of weights and counterbalances, Calder eventually invented works that, when suspended, move freely with air currents. The mobiles combine Calder’s sense of play with his interest in space, chance and surprise, movement, toys, and engineering.

Calder returned to the United States in 1933. He set up a studio in Connecticut, where he continued to produce innovative sculptures on both large and small scales. During his lifetime, he received more than 250 commissions from public and private institutions, including the National Gallery of Art.

“When everything goes right, a mobile is a piece of poetry that dances with the joy of life and surprise.” Alexander Calder



above: Alexander Calder holding his mobile on a Parisian street, 1954 / Agnès Varda. Alexander Calder papers, 1926–1967. Archives of American Art, Smithsonian Institution

right: Alexander Calder, *Untitled*, 1976, aluminum and steel, National Gallery of Art, Gift of the Collectors Committee

previous page: Alexander Calder in his studio, c. 1950 / unidentified photographer. Alexander Calder papers, 1926–1967. Archives of American Art, Smithsonian Institution



2 A Monumental Challenge

In 1973, when the East Building of the National Gallery was under construction, Calder was asked to create a giant mobile to hang in the atrium space. After consulting with architect I. M. Pei, Calder made a maquette (a small three-dimensional model) for museum approval. The mobile's colorful organic shapes complemented Pei's geometric architecture.

After the design was approved, Calder faced the challenge of how to construct a mobile that was thirty-two times bigger than the size of its model. If it were constructed from steel, as he had originally planned, the finished work would weigh about 6,600 pounds. It would be so heavy that a motor would be required to make it move. Calder collaborated with artist-engineer

Paul Matisse, who used unique aerospace technology to solve the weight and movement problems. Matisse fabricated the mobile's panels of high-strength honeycombed aluminum with thin skins. Although the panels appear to be solid steel, they are actually hollow and buoyant. In spite of its grand scale, the mobile weighs merely 920 pounds, moves solely on air currents, and maintains a sense of lightness and delicacy.

When asked to title the mobile, Calder replied, "You don't name a baby until it is born." The East Building mobile remains untitled because Calder died before it was hoisted up to the frame of the roof. Calder never saw the completion of his last, and one of his largest, mobiles. What would you name it?



3 Perfectly Balanced

Connected to the ceiling at only one point, the mobile has twelve arms and thirteen shaped panels that are clustered into two groups. The upper group, described as "wings," includes six black panels and one blue panel, all hanging horizontally. In contrast, the lower group consists of six vertical red panels, or "blades." To make it move on the air currents in the museum, these blades are fastened to the arms at an angle. The speed and direction of the mobile vary when the air hits it, just as the wind moves a boat when it fills a sail.

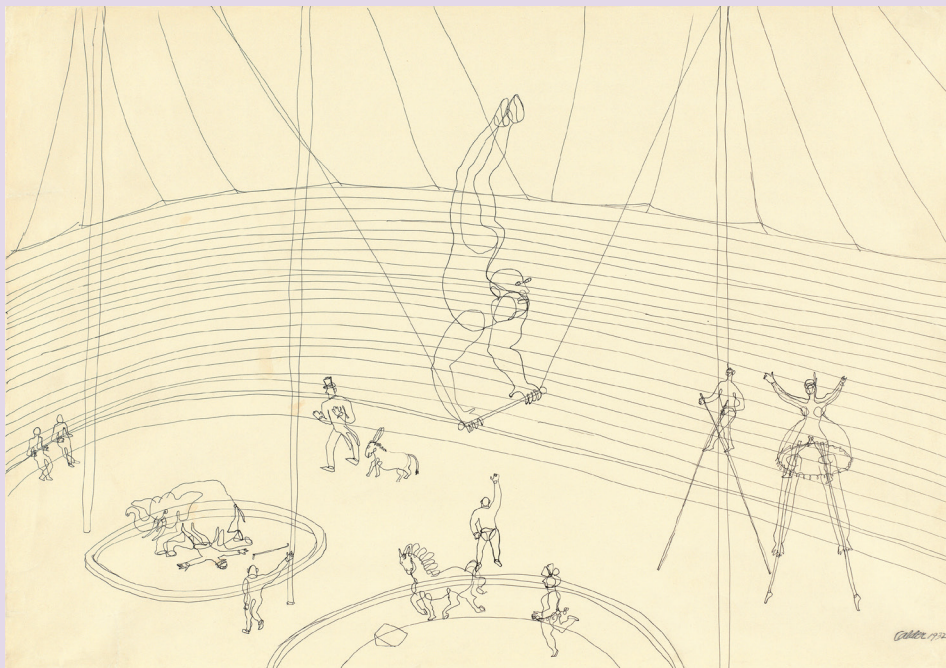
The mobile has an orbit of just over eighty-five feet. That's the average length of a blue whale! Calder carefully planned the arms to be different heights so the shapes will never collide. At times, the red blades brush close to the building's walls, but they playfully avoid contact by a few inches and then continue onward in slow revolution. Always changing, the graceful mobile inspires imagination. What does the mobile remind you of?

**"I want to make things that are fun to look at."
Alexander Calder**

try this

“It wasn’t the daringness of the performance nor the tricks or the gimmicks: it was the fantastic balance in motion that the performers exhibited.”

Alexander Calder



above: Alexander Calder, *The Circus*, 1932, pen and black ink on wove paper, National Gallery of Art, Gift of Mr. and Mrs. Klaus G. Perls © 2000 Estate of Alexander Calder / Artists Rights Society (ARS), New York

right: Alexander Calder, *Rearing Stallion*, c. 1928, wire and painted wood, National Gallery of Art, Gift of Mr. and Mrs. Klaus G. Perls © 2000 Estate of Alexander Calder / Artists Rights Society (ARS), New York



“I think best in wire.” Alexander Calder

Drawing with Wire

While a student at the Art Students League in New York City, Calder developed a talent for continuous line drawing, that is, creating an image with one single, unbroken line. He became a skilled draftsman while he worked for several newspapers in the city. Calder took his exploration of line into three dimensions when he began to create sculptures made of wire, a material he had loved since childhood.

Experiment with line in both two and three dimensions

You will need:

Paper

A pencil or pen

A single length of lightweight wire, such as plastic-coated electrical wire, copper, or brass wire from a hardware store

Choose a subject you can observe closely, such as a family member or friend, a flower, an object in your home, or an animal. Before you pick up your pencil, let your eyes wander over the edges of your subject.

Next, use your index finger to trace the outlines of the subject in the air, then try tracing them on your paper with your finger.

Finally, take your pencil and begin to draw. Work slowly without lifting the pencil until the figure is finished. Let the continuous line cross over itself and loop from one area to another. Continuous line drawings take practice, so try different ways to make several drawings of the same subject.

Now try it in wire! Think of wire as a single continuous line. Carefully bend and twist a piece of thin wire to create a three-dimensional “drawing” of your subject. To display your sculpture, stick the ends of the wire into a lump of clay or use string to suspend it.

Throughout his life, Calder experimented with materials and learned from them.

Reflect: What was challenging about making a continuous line drawing? What was different about making the sculpture? What did you learn from trying both?