Alexander Calder
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Alexander Calder (July 22, 1898 – November 11, 1976) was an American sculptor and artist most famous for inventing the mobile. In addition to mobile and stabile sculpture, Alexander Calder also created paintings, lithographs, toys, tapestry, jewelry and household objects.

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Childhood

Alexander (Sandy) Calder was born in Lawnton, Pennsylvania, on July 22, 1898. His father, Alexander Stirling Calder, was a well-known sculptor who created many public installations, a majority of them in Philadelphia. Calder’s grandfather, sculptor Alexander Milne Calder, was born in Scotland and immigrated to Philadelphia in 1868. He is best-known for the colossal statue of William Penn on top of Philadelphia's City Hall tower. Calder’s mother, Nanette Lederer Calder, was a professional portrait painter who studied at the Académie Julian and the Sorbonne in Paris from around 1888 until 1893. She then moved to Philadelphia where she met Alexander Stirling Calder while studying at the Pennsylvania Academy of the Fine Arts. Calder’s parents were married on 22 February 1895. His older sister, Margaret "Peggy" Calder, was born in 1896. Her married name was Margaret Calder Hayes, and she was instrumental in the development of the UC Berkeley Art Museum.[1]

In 1902, at the age of four, Calder posed nude for his father’s sculpture The Man Cub, which is now located in the Metropolitan Museum of Art in New York City. That year, he completed his earliest sculpture, a clay elephant.[2]

Three years later, when Calder was seven and his sister was nine, Stirling Calder contracted tuberculosis and Calder’s parents moved to a ranch in Oracle, Arizona, leaving the children in the care of family friends for a year.[3] The children were reunited with their parents in late March 1906 and stayed at the ranch in Arizona.
until fall of the same year.\[4\]

After Arizona, the Calder family moved to Pasadena, California. The windowed cellar of the family home became Calder's first studio and he received his first set of tools. He used scraps of copper wire that he found in the streets to make jewelry and beads for his sister's dolls. On January 1, 1907, Calder’s mother took him to the Tournament of Roses Parade in Pasadena, where he observed a four-horse-chariot race. This style of event later became the finale of Calder’s wire circus shows.\[5\]

In 1909, when Calder was in the fourth grade, he sculpted a dog and a duck out of sheet brass as Christmas gifts for his parents. The sculptures were three dimensional and the duck was kinetic because it rocked when gently tapped. These sculptures are frequently cited as early examples of Calder’s skill.\[6\]

In 1910, the Calder family moved back to Philadelphia, where Alexander briefly attended the Germantown Academy, and then to Croton-on-Hudson in New York State.\[7\] In Croton, during his early high school years, Calder was befriended by the painter Everett Shinn with whom he built a gravity powered system of mechanical trains. As Calder described:

\[8\]

We ran the train on wooden rails held by spikes; a chunk of iron racing down the incline speeded the cars. We even lit up some cars with candle lights.

After Croton, the Calders moved to Spuyten Duyvil to be closer to the Tenth Street Studio Building in New York City, where Stirling Calder rented a studio. While living in Spuyten Duyvil, Calder attended Yonkers High.

In 1912, Stirling Calder was appointed acting chief of the Department of Sculpture of the Panama Pacific International Exposition in San Francisco.\[9\] He began work on sculptures for the exposition that was held in 1915. During Alexander Calder’s high school years between 1912 and 1915, the Calder family moved back and forth between New York and California. In each new location Calder’s parents reserved cellar space as a studio for their son. Toward the end of this period, Calder stayed with friends in California while his parents moved back to New York so that he could graduate from Lowell High School in San Francisco. Calder graduated in the class of 1915.

**Education**

In 1915, Calder decided to study mechanical engineering and enrolled at the Stevens Institute of Technology in Hoboken, New Jersey. He was a member of the Delta Tau Delta fraternity and excelled in mathematics. In the summer of 1916, Calder spent five weeks training at the Plattsburg Civilian Military Training Camp. In 1918, he joined the Student’s Army Training Corps, Naval Section, at Stevens and was made guide of the battalion.

\[10\]

I learned to talk out of the side of my mouth and have never been quite able to correct it since.

Calder received a degree from Stevens in 1919. For the next several years, he held a variety of engineering jobs, including working as a hydraulics engineer and a draughtsman for the New York Edison Company. In June 1922, Calder found work as a mechanic on the passenger ship *H. F. Alexander*. While the ship sailed from San Francisco to New York City, Calder worked on deck off the Guatemalan Coast and witnessed both the sun rising and the moon setting on opposite horizons. As he described in his autobiography:

"It was early one morning on a calm sea, off Guatemala, when over my couch — a coil of rope — I saw the beginning of a fiery red sunrise on one side and the moon looking like a silver coin on the other."\[11\]
The H.F. Alexander docked in San Francisco and Calder traveled up to Aberdeen, Washington, where his sister lived with her husband, Kenneth Hayes. Calder took a job as a timekeeper at a logging camp. The mountain scenery inspired him to write home to request paints and brushes. Shortly after this, Calder decided to move back to New York to pursue a career as an artist.

Art career

Calder moved to New York and enrolled at the Art Students' League. While a student, he worked for the National Police Gazette where, in 1925, one of his assignments was sketching the Ringling Brothers and Barnum and Bailey Circus. Calder became fascinated with the circus, a theme that would reappear in his later work.

In 1926, Calder moved to Paris where he established a studio at 22 rue Daguerre in the Montparnasse Quarter. At the suggestion of a Serbian toy merchant, he began to make toys. At the urging of fellow sculptor Jose de Creeft, he submitted them to the Salon des Humoristes. Later that fall, Calder began to create his Cirque Calder, a miniature circus fashioned from wire, string, rubber, cloth, and other found objects. Designed to fit into suitcases (it eventually grew to fill five), the circus was portable, and allowed Calder to hold performances on both sides of the Atlantic. He gave improvised shows, recreating the performance of a real circus. Soon, his "Cirque Calder"[1] (http://ubu.artmob.ca/video/Calder-Alexander_Le-cirque.avi) (usually on view at the Whitney Museum of American Art) became popular with the Parisian avant-garde. In 1927, Calder returned to the United States. He designed several kinetic wooden push and pull toys for children, which were mass-produced by the Gould Manufacturing Company, in Oshkosh, WI. His originals, as well as playable replicas, are on display in the Berkshire Museum in Pittsfield, Massachusetts. In 1928, Calder held his first solo show at a commercial gallery at the Weyhe Gallery in New York City. In 1935, he had his first solo museum exhibition in the United States at The Renaissance Society at the University of Chicago. In 1929, Calder had his first solo show of wire sculpture in Paris at Galerie Billiet. The painter Jules Pascin, a friend of Calder's from the cafes of Montparnasse, wrote the preface. In June 1929, while traveling from Paris to New York, Calder met his future wife, Louisa James, grandniece of author Henry James and philosopher William James. They married in 1931. While in Paris, Calder met and became friends with a number of avant-garde artists, including Joan Miró, Jean Arp, and Marcel Duchamp. A visit to Piet Mondrian's studio in 1930 "shocked" him into embracing abstract art.
The Cirque Calder can be seen as the start of Calder's interest in both wire sculpture and kinetic art. He maintained a sharp eye with respect to the engineering balance of the sculptures and utilized these to develop the kinetic sculptures Duchamp would ultimately dub as "mobiles", a French pun meaning both "mobile" and "motive." He designed some of the characters in the circus to perform suspended from a thread. However, it was the mixture of his experiments to develop purely abstract sculpture following his visit with Mondrian that lead to his first truly kinetic sculptures, manipulated by means of cranks and pulleys.

By the end of 1931, he moved on to more delicate sculptures which derived their motion from the air currents in the room. From this, Calder's "mobiles" were born. At the same time, Calder was also experimenting with self-supporting, static, abstract sculptures, dubbed "stabiles" by Arp in 1932 to differentiate them from mobiles. Calder and Louisa returned to America in 1933 to settle in a farmhouse they purchased in Roxbury, Connecticut, where they raised a family (first daughter, Sandra born 1935, second daughter, Mary, in 1939). Calder continued to give Cirque Calder performances but also worked with Martha Graham, designing stage sets for her ballets and created a moving stage construction to accompany Eric Satie's Socrate in 1936.

During World War II, Calder attempted to join the Marines as a camofleur, but was rejected. Instead, he continued to sculpt, but a scarcity of metal led to him producing work in carved wood.

Calder's first retrospective was held in 1938 at George Walter Vincent Smith Gallery in Springfield, Massachusetts. In 1943, the Museum of Modern Art hosted a well-received Calder retrospective, curated by James Johnson Sweeney and Marcel Duchamp.

Calder was one of 250 sculptors who exhibited in the 3rd Sculpture International held at the Philadelphia Museum of Art in the summer of 1949. His mobile, International Mobile was the centerpiece of the exhibition.

In the 1950s, Calder increasingly concentrated his efforts on producing monumental sculptures. Notable examples are "125" for JFK Airport in 1957, "La Spirale" for UNESCO in Paris 1958 and "Man" ("L'Homme"), commissioned for Expo 67 in Montreal. Calder's largest sculpture until that time, 20.5 meters high, was "El Sol Rojo", constructed for the 1968 Summer Olympics in Mexico City.

In 1962, he settled into his new workshop Carroi, a very futuristic design and overlooking the valley of the Lower Chevrière to Saché in Indre-et-Loire (France). He did not hesitate to offer his gouaches and small mobile to his friends in the country, he even donated to the town of a stabile trônant since 1974 in front of the church: an anti-sculpture free from gravity.

He did make the most of its stabiles and mobiles at factory Biémont Tours (France), including "the Man", all stainless steel 24 meters tall, commissioned by Canada's International Nickel (Inco) for the Exposition Universelle de Montréal in 1967. All products are made from a model made by Calder, by the research
department (headed by M. Porcheron, with Alain Roy, François Lopez, Michel Juigner ...) to design to 'scale, then by workers qualified boilermakers for manufacturing, Calder overseeing all operations, and if necessary amending the work. All stabiles will be manufactured in carbon steel, then painted for a major part in black, except the man who will be raw stainless steel, the mobiles are made of aluminum and made of duralumin.

He made most of his monumental sculpture during this time at Etablissements Biémont in Tours, France. Calder would create a model of the work, the research department would scale it to final size, then experienced boilermakers would complete the actual metalwork — all under Calder's watchful eye. Stabiles were made in carbon steel; mobiles were mostly aluminum.

In 1966, Calder published his *Autobiography with Pictures* with the help of his son-in-law, Jean Davidson. In June 1969, Calder attended the dedication of his monumental stabile "La Grande Vitesse" in Grand Rapids, Michigan. This sculpture is notable for being the first public work of art in the United States to be funded with federal monies; acquired with funds granted from the then new National Endowment for the Arts under its "Art for Public Places" program.

Calder created a sculpture called *WTC Stabile* (also known as *Bent Propeller*), which in 1971 was installed at the entrance of the World Trade Center's North Tower. When Battery Park City opened, the sculpture was moved to Vesey and Church Streets.[12] It stood in front of 7 World Trade Center when it was destroyed on September 11, 2001.[13]

Calder died on November 11, 1976, shortly after opening a major retrospective show at the Whitney Museum in New York. He had been working on a third plane, entitled *Salute to Mexico*, when he died.

**Calder's paintings**

In addition to sculptures, Calder painted throughout his career, beginning in the early 1920s. By 1973, Braniff International Airways commissioned him to paint a full-size DC-8-62 as a "flying canvas." In 1975, Calder completed a second plane, this time a Boeing 727-227, as a tribute to the U.S. Bicentennial. In 1975, he was commissioned by BMW to paint a BMW 3.0 CSL which would come to be the first vehicle in the BMW Art Car Project.

**Commemoration**

Two months after his death, Calder was posthumously awarded the Presidential Medal of Freedom, the United States' highest civilian honor, by President Gerald Ford. However, representatives of the Calder family boycotted the January 10, 1977 ceremony "to make a statement favoring amnesty for Vietnam War draft resisters".[14]

In 1987, the Calder Foundation was founded by Calder's family. The Foundation "runs its own programs, collaborates on exhibitions and publications, and gives advice on matters such as the history, assembly, and restoration of works by Calder."[15] The U.S. copyright representative for the Calder Foundation is the Artists Rights Society.[16] Calder's work is in many permanent collections across the world.

**Quotes**

"How can art be realized?
Out of volumes, motion, spaces bounded by the great space, the universe.

Out of different masses, tight, heavy, middling—indicated by variations of size or color—directional line—vectors which represent speeds, velocities, accelerations, forces, etc. . . .—these directions making between them meaningful angles, and senses, together defining one big conclusion or many.

Spaces, volumes, suggested by the smallest means in contrast to their mass, or even including them, juxtaposed, pierced by vectors, crossed by speeds.

Nothing at all of this is fixed.

Each element able to move, to stir, to oscillate, to come and go in its relationships with the other elements in its universe.

It must not be just a fleeting moment but a physical bond between the varying events in life.

Not extractions,

But abstractions

Abstractions that are like nothing in life except in their manner of reacting.”[17]

- From Abstraction-Création, Art Non Figuratif, no. 1, 1932.

## Gallery

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<th>Aula Magna, <em>Las Nubes</em></th>
<th>Le Tamanoir (1963), Rotterdam, Netherlands</th>
<th>Têtes et Queue (1965), Berlin, Germany</th>
<th>De tre vingarna (The Three Wings), (1967), Blå stället, Angered, Gothenburg, Sweden</th>
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<td>1953, Universidad Central de Venezuela, Caracas, Venezuela</td>
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Selected works

- **Dog** (1909), folded brass sheet; this was made as a present for Calder's parents
- **The Flying Trapeze** (1925), oil on canvas, 36 x 42 in.
- **Elephant** (c. 1928), wire and wood, 11½ x 5¼ x 29.2 in.
- **Two Acrobats** (ca. 1928), Brass wire, painted wood base, Honolulu Academy of Arts
- **Aztec Josephine Baker** (c. 1929), wire, 53" x 10" x 9". A representation of Josephine Baker, the exuberant lead dancer from *La Rêve Nègre* at the Folies Bergère.
- **Untitled** (1931), wire, wood and motor; one of the first kinetic mobiles.
- **Feathers** (1931), wire, wood and paint; first true mobile, although designed to stand on a desktop
- **Cone d'ebene** (1933), ebony, metal bar and wire; early suspended mobile (first was made in 1932).
- **Form Against Yellow** (1936), sheet metal, wire, plywood, string and paint; wall-supported mobile.
- **Object with Yellow Background** (1936), Painted wood, metal, string, Honolulu Academy of Arts
- **Mercury Fountain** (1937), sheet metal and mercury
- **Devil Fish** (1937), sheet metal, bolts and paint; first piece made from a model.
- **1939 New York World's Fair** (maquette) (1938), sheet metal, wire, wood, string and paint
- **Necklace** (c. 1938), brass wire, glass and mirror
- **Sphere Pierced by Cylinders** (1939), wire and paint; the first of many floor standing, life size stabiles (predating Anthony Caro's plinthless sculptures by two decades)
- **Lobster Trap and Fish Tail** (1939), sheet metal, wire and paint (suspended mobile); design for the stairwell of the Museum of Modern Art, New York
- **Black Beast** (1940), sheet metal, bolts and paint (freestanding plinthless stabile)
- **S-Shaped Vine** (1946), sheet metal, wire and paint (suspended mobile)
- **Sword Plant** (1947) sheet metal, wire and paint (Standing Mobile)
- **Snow Flurry** (1948), sheet metal, wire and paint (suspended mobile)
- **.125** (1957), steel plate, rods and paint
- **Guillotine pour huit** (1962), at the LaM, Villeneuve d'Ascq, France
- **Teodelapio** (1962), steel plate and paint, monumental stabile, Spoleto, Italy
- **Man** (1967) stainless steel plate, bolts and paint, 65' x 83' x 53', monumental stabile, Montreal Canada
- **La Grande Vitesse** (1969), steel plate, bolts and paint, 43' x 55' x 25', Grand Rapids, Michigan
- **Reims, Croix du Sud** (1970), at the LaM, Villeneuve d'Ascq, France
- **Eagle** (1971), steel plate, bolts and paint, 38'9" x 32'8" x 32'8", Olympic Sculpture Park, Seattle, Washington
- **White and Red Boomerang** (1971), Painted metal, wire, Honolulu Academy of Arts
- **Stegosaurus** (1973), steel plate, bolts and paint, 50' tall, Wadsworth Atheneum, Hartford, Connecticut
- **Cheval Rouge (Red Horse)**(1974), red painted sheet metal, at the National Gallery, Washington, D.C.
- **Flamingo** (1974), red painted steel, at the Federal Plaza, Chicago, Illinois
- **The Red Feather** (1975), black and red painted steel, 11' x 63" x 11'2", The Kentucky Center
- **Untitled** (1976), aluminum honeycomb, tubing and paint, 358½ x 912", National Gallery of Art Washington, D.C.
- **Mountains and Clouds** (1976), painted aluminum and steel, 612 inches x 900 inches, Hart Senate Office Building
- **The Big Sail** (1966), this 33 ton metal sculpture is composed of five intersecting forms, four planes, and
one curve. It stands 40 feet tall, on the campus of MIT in Cambridge, Massachusetts.

**Bibliography**


**References**

4. ^ Calder Foundation (http://www.calder.org/)
9. ^ Calder Foundation (http://calder.org/chronology/period/1898-1930/10)
16. ^ Calder Foundation website: Copyright and Disclaimers page (http://calder.org/home/page/about.html)
17. ^ Alexander Calder, "Comment réaliser l'art?" from Abstraction-Création, Art Non Figuratif, no. 1, 1932

**External links**

- Calder Foundation website (http://www.calder.org)
- Atelier Calder website (http://www.atelier-calder.com)
- The Pace Gallery (http://thepacegallery.com)