

## Calder's Kinetic Sculpture at LACMA: Innovation Public Art Space and Embodying the American Spirit

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### ABSTRACT

*This paper presents a case study of Alexander Calder's kinetic sculpture, "Three Quintains," installed at the Los Angeles County Museum of Art (LACMA). The research explores the selection of Calder as the designer and the thoughtful design aspects of the sculpture. The study reveals that the sculpture is deeply rooted in cultural and historical influences, with careful consideration of shape, material, and color. The mobile nature of "Three Quintains" exudes a light-heartedness while embodying a culturally rich history. Moreover, the sculpture successfully promotes the optimistic, positive, and lively spirit of American art. The research aims to establish a benchmark for public art in museums and demonstrate the significance of public art construction in China's cultural self-confidence promotion.*

**Keywords:** Calder, Kinetic Sculpture, Three Quintains, LACMA, Public Art, American Spirit.

### 1. Introduction

As the Chinese government puts forward national strategies such as "confidence in culture, confidence in system and beautiful countryside", more and more attention has been paid to the construction of public art in China. How to construct the public art of the museum; how to choose the public art works; and how to highlight the cultural and artistic spirit of China's public art works?

This study starts with the observation of geographical data and local identity of LACMA, and then makes a detailed analysis on the spatial layout, creative concept, color system and material use of Calder's "Three Quintains" as public artworks.

This study shows that: first, Calder's "Three Quintains" are rooted in deep cultural and historical soil; second, the shape, material and color of the sculpture are carefully considered and full of design; third, the mobile of the "Three Quintains" is light-hearted, but the cultural with a long history; fourth, the decision to set up "Three Quintains" of public art at LACMA to promote the optimistic, positive and lively spirit of American art was indeed successful.

To study the significance of Calder LACMA's "Three Quintains" kinetic sculpture for the reform of public space, it is not only to hope that it will establish a benchmark and paradigm for the public art in museums, but also, more importantly, to play a demonstration role for

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the public art construction in China in the cultural self-confidence construction promoted by the Chinese government. Promoting the construction of public art in China reflects a confident Chinese spirit.

This study is limited to the investigation and discussion of the "Three Quintains" of LACMA's public artworks.

## 2. Literature Review

### 2.1 Research Status of "Three Quintains" at LACMA

Alexander Calder holds a prominent position as one of America's most celebrated and internationally acclaimed modern artists. Moreover, he stands as a significant innovator in 20th-century sculpture, credited as the inventor of kinetic sculpture .

Numerous papers, both in Chinese and English, have been dedicated to examining his artistic achievements. Notably, LACMA's "Three Quintains" sculpture assumes a crucial role in the promotion and dissemination of Calder's kinetic sculpture, making it a focal point in many art history books .

While the sculpture's importance is evident, the researchers found limited access to specific studies solely focused on LACMA's "Three Quintains." Thus, the researchers have undertaken the task to explore this topic further .

### 2.2 Original Design Data of "Three Quintains"

Calder's original design for LACMA's "Three Quintains" is preserved in the Calder Foundation's database, consisting of several elements: a conceptual design illustration (Figure 1), two top views (Figure 2), one perspective view (Figure 3), one model view (Figure 4), and a design drawing showcasing color collocation (Figure 5). These valuable resources provide essential information for the in-depth study of LACMA's "Three Quintains".

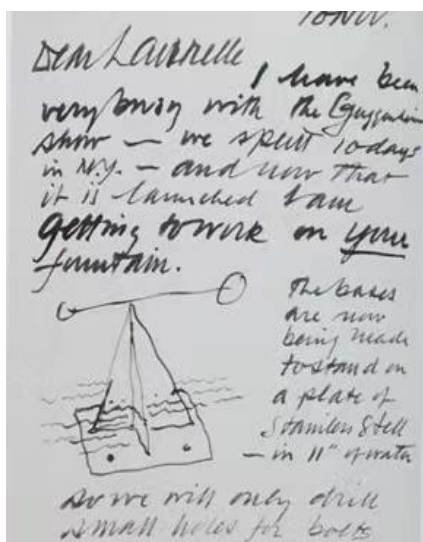


Figure 1 : Calder's original concept design specification for "Hello Girls"

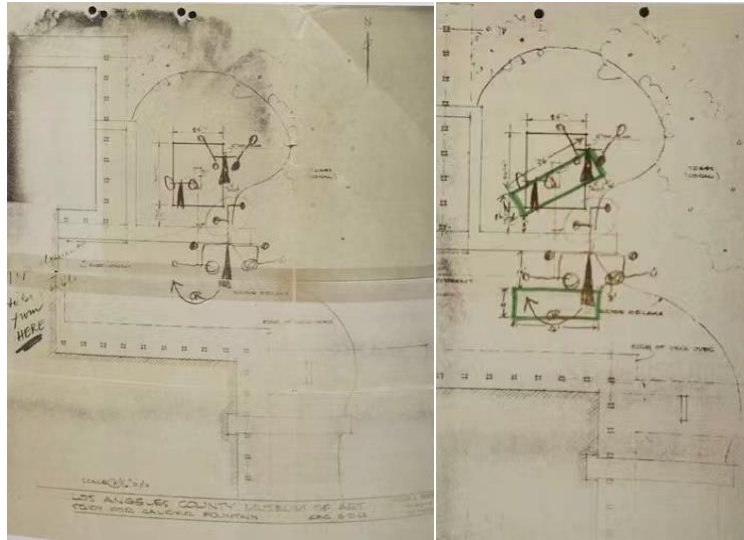


Figure 2 : Original top view design of Calder's "Hello Girls"

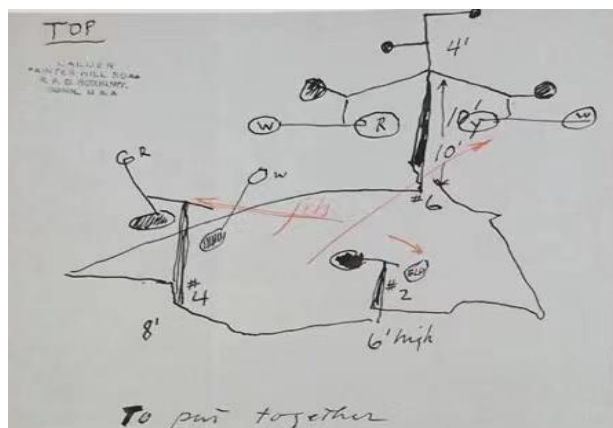


Figure 3 : Original perspective design of Calder's "Hello Girls"

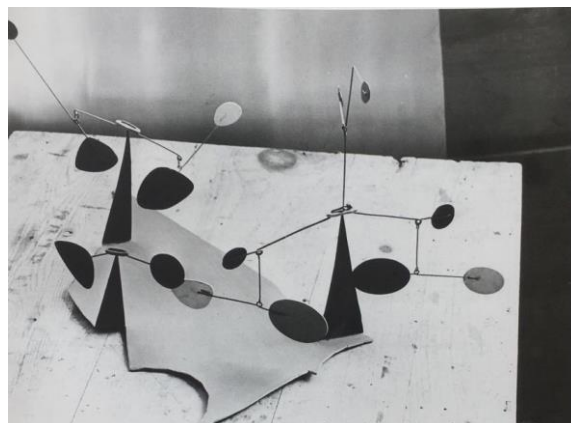


Figure 4 : Original design model of Calder's "Hello Girls"

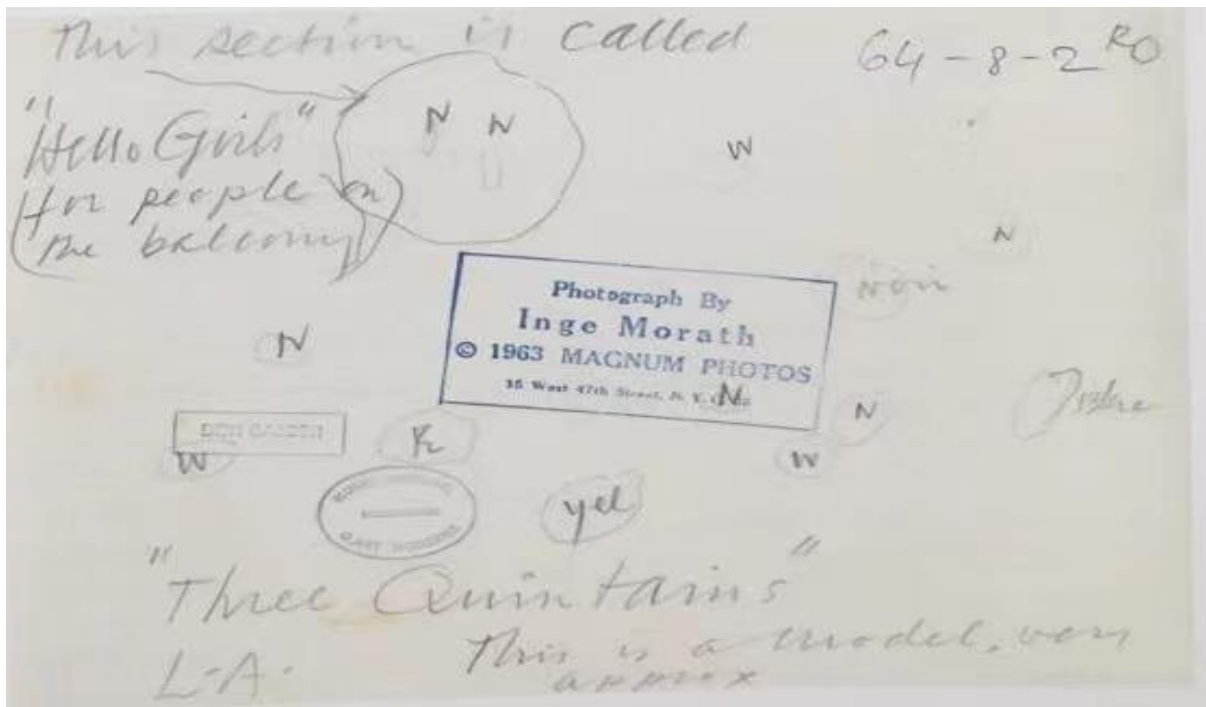


Figure 5 : Original color design description of Calder's "Hello Girls"

### 2.3 Who does The Mobile Sculpture Name Come From

Calder's kinetic sculpture derives its name from his friend Marcel Duchamp. Three literature sources support this consensus.

Firstly, American art historian Jonathan Fineberg recounts that in April 1931, during an exhibition at Galerie Percier in Paris featuring Calder's wire portraits and abstract sculptures, Duchamp suggested naming sculptures with moving parts "mobile sculptures" (Fineberg, 2016). Additionally, during the same exhibition, Jean Alp asked Calder if the wire abstractions were "static sculptures," prompting Calder to use this term to refer to sculptures that do not move (Jonathan,2016).

Furthermore, American art historian H.H. Arnason states that the first group of Calder sculptures, both manual and motorized, were exhibited at the Vigonon Gallery in 1932, and were named by Marcel Duchamp (Arnason, 2007). When Alp heard the term "mobile sculpture," he questioned whether it referred to the artworks Calder had made the previous year, asking if they were "Stables" instead ( H·H·Arnason,2007).

Lastly, Jed Perl writes in 'Sensibility and Science' that Calder, born in 1898, began exhibiting the works his friend Marcel Duchamp named "mobiles" when he was in his thirties.

Although the above three documents differ slightly in the exhibition time, they all clearly and accurately demonstrate that the term "Mobile" was indeed named after Duchamp.

### 2.4 The Relocation of This Work at The Los Angeles County Museum of Art

Initially, the kinetic sculpture "Hello Girls" was designed to be placed in the northeast corner of the complex, reflecting in the pool (see Figure 6, 7, & 8). However, due to the discovery of oil in that location, the work had to be relocated to a more southern position, along the edges of the northeast (now the Hammer Building). Its final position is now situated between the north-east and east buildings (Bing Center), adjacent to some of the windows, specifically between the Members Lounge and the Boardroom (Figure 11).



### 3. Research Methodology

Calder's Sculpture Coordinates and "Three Quintains" (Hello Girls) were studied in six parts in this study. 1. Identity Inspection of The Setting Place; 2. Research Conceptual Design; 3. Research on Spatial Relations and Kinetic Choreography; 4. Modeling Feature Design Research; 5. Research on The Use of Modeling Elements; 6. Research on Material and Color Application. Parts 1-3 reveal the decision-making process of revolutionary artistic events in public art. It was this decision that led Calder to think from the perspective of locality and design a moving sculpture that entered the public art space for the first time. Parts 5-6 reveal the medieval cultural roots of the "Three Quintains" (Hello Girls) in terms of shape, material, and color.

#### 3.1 Identity Inspection of The Setting Place

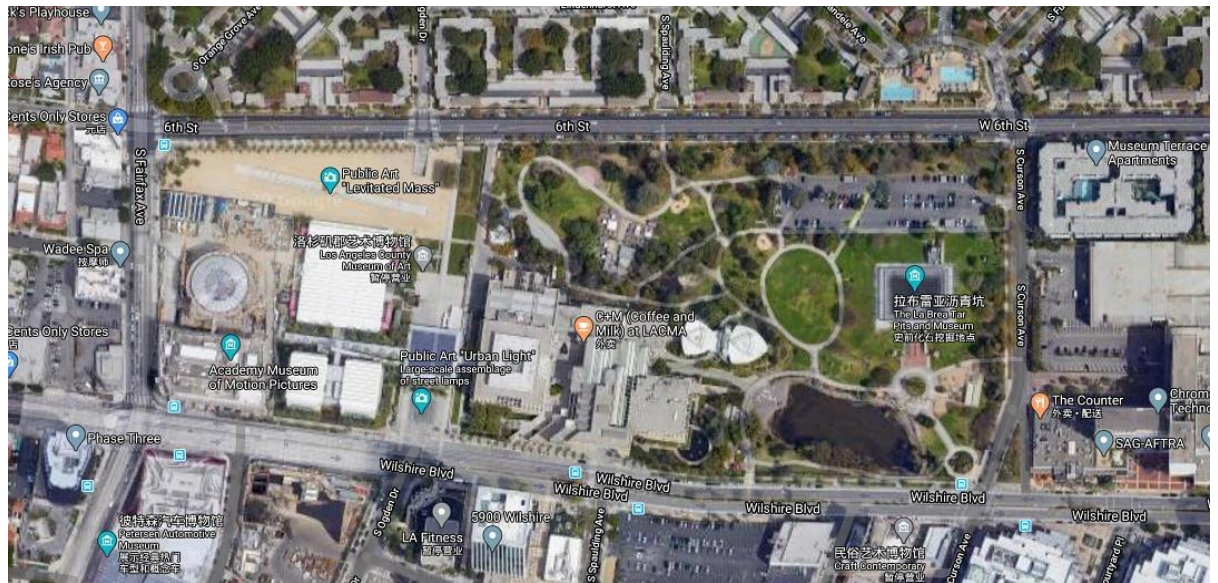


Figure 6 : LACMA satellite location map in Oct 2020

Los Angeles County is situated on the Pacific coast in the southwest of the United States, with the city of Los Angeles serving as its governmental center. The county is the most populous in the United States and is characterized by an open basin surrounded by mountains on three sides, with the fourth side facing the sea. Apart from some hills, the terrain is mostly flat, with an average altitude of 84 meters. Los Angeles enjoys a sunny, dry, and mild climate throughout the year, making it a pleasant place to reside.

From the available literature, Los Angeles has evolved into a culturally diverse and cosmopolitan city, with a significant proportion of immigrants and minorities comprising approximately half of the city's population. The early 20th century witnessed an art boom in the city, and in recent times, it has seen the establishment of over 100 commercial galleries, surpassing other American cities except New York in this regard.

The city's art institutions flourished after the establishment of the first museum in 1913, the Los Angeles Museum of History, Science, and Art in Exposition Park, south of downtown. By the late 1950s, there was a recognized need for a new, independent art museum building, leading to the construction of the Los Angeles County Museum of Art (LACMA) in 1965. The museum complex, designed by William Pereira, consists of three separate buildings connected by a plaza, thoughtfully utilizing the site and the favorable climate of Southern California. A moat-like lake surrounds the building, its boundary gracefully undulating and allowing the complex to blend harmoniously into the natural park environment with trees and shrubs.



Figure 7 : LACMA 1965

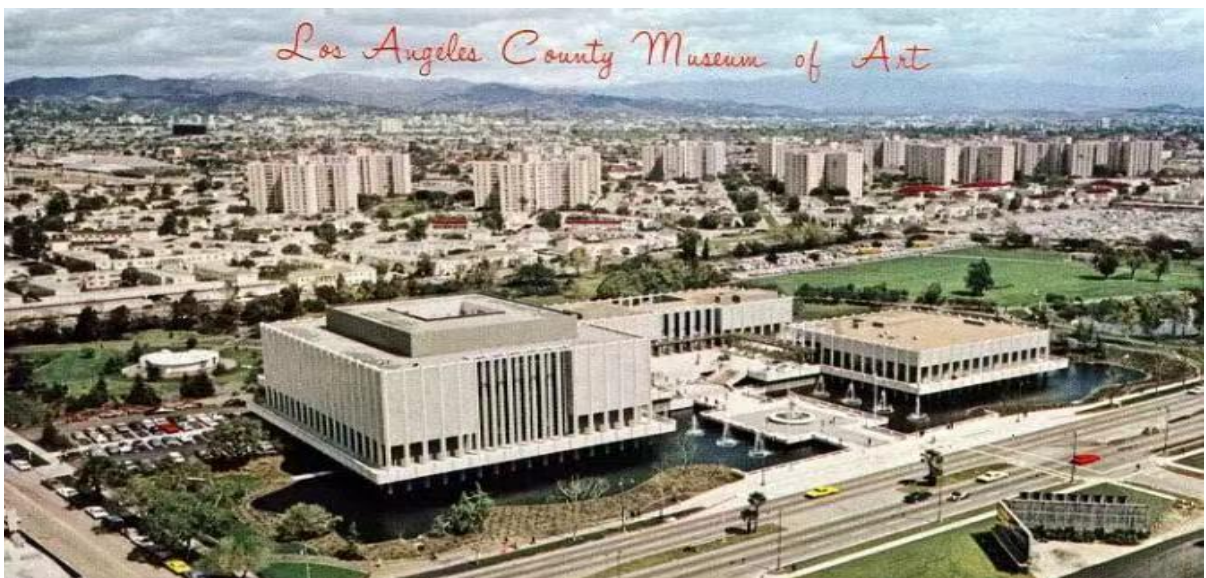


Figure 8 : Color photograph with clear view of the moat surrounding the LACMA complex

According to information from the LACMA website, the museum is one of the largest art museums in the western United States, with a mission to collect, conserve, present, and interpret significant works of art from diverse cultures and historical periods. The aim is to provide a meaningful cultural experience for the public and facilitate education, knowledge, art, aesthetics, and culture (LACMA, 2021)

### 3.2 Research Conceptual Design

Calder's kinetic fountain sculpture for LACMA, originally called "Hello Girls", is now known as "Three Quintains". What is the creative thinking of artists? Why do these three kinetic fountain sculptures have such wonderful and mysterious names?

According to AMC (AMC was established in 1952 and its full name is the art museum committee. AMC is the first volunteer support group of LACMA, dedicated to various activities of the museum. Its members are mainly university educated women, usually the wives of bankers and real estate developers, as well as medical professionals who are curious about modern art.) members, Calder, an artist with extensive literary and historical interests, told them during her first field visit to the LACMA site in the summer of 1964.



In museum lore, the fountain is named after "Hello Girls," a nod to the women's committee that commissioned and paid for it (Laurelle,2001)

Calder first mentioned "Hello Girls" in a letter to Laurelle Burton, AMC's president, after returning from a July trip to Los Angeles, according to Calder foundation archives. Of course, at the time this was misunderstood to refer to the sculpture as a whole. But through another photograph of annotated, we learn that Calder was eventually mean to fountain named "three coordinates of target", in the back of the photo model, Calder wrote in the upper left corner", let this part is called "Hello Girls" (representing the balcony) and drew an arrow to a circle with two capitals N (on behalf of the "black", on behalf of the French black)(see figure 5). So, "Hello Girls" refers only to the top component of the tallest kinetic sculpture ---- two black discs increase the height of the sculpture to ensure that visitors standing on the balcony of the square above the lake can see the tall mobile devices being waved at them.

Quintain (Figure 9) is an archaic term, and in medieval times it was the name of an object, supported by a flagstaff on an upright column, that was used as a training spear for medieval European soldiers. Its appearance as a title in Calder's work reveals the sculptor's extensive literary and historical interests. With this title, Calder wants to share not only medieval culture, but also the subject of war horses. There is a stable landscape in Fresno, California, where Bucephalus is also the name of the horse that Alexander the great rode in battle, the story of which Calder's sister described as his favorite as a child, and "The Jousters", which consists of small knights and large knights ( Margaret Calder Hayes, quoted in "Bucéphalus is 'Not Meant' to Look Like a Horse," The Fresno Bee, October 11, 1967. Copy in Bucéphalus file, Calder Foundation archives).

Perhaps Calder thought of the lake around the complex as a moat, in the same sense as the medieval moats built around fortresses to protect "palaces" from outside invasion. The reason why the sculpture is named by "CMM" (Figure 10) is to use the medieval history and literature metaphor to make the work as the guardian of LACMA. "Three" indicates that he leads the knights and knights together to protect the "palace art" from external invasion. In a tribute to AMC, he also named the museum's legendary fountain, "Hello Girls."



Figure 9 : Medieval knight practicing Quintain



Figure 10 : Three Quintains

### 3.3 Research on Spatial Relations and Kinetic Choreography

Calder's fountain sculpture for LACMA, "Three Quintains," comprises three separate kinetic mobile sculptures and four water sprays arranged within a moat encircling the LACMA complex. Initially situated in the lake of the northeast corner, the sculpture was later moved southwards along the eastern edge of the northern building (now the Hammer Building) due to the discovery of tar in the original location. Ultimately, it found its place in front of windows in the north and east towers (the Bing Center Building) (Figure 11). Positioned next to a circular outdoor staircase, visitors can descend from the elevated courtyard to the garden below, leading to the rest of the park where the suspended embankment divides the lake. The three kinetic sculptures, though separated by the suspended embankment, visually form a cohesive unit that flows around the causeway.

"Three Quintains" (also known as Hello Girls) represents a fountain with strong, simple geometric forms of kinetic mobiles floating in the air, gracefully intersecting with water jets. The design prioritizes the balance of quintain factors, ensuring that regardless of the impact of wind or water flow, gravity and balance maintain the energy of motion, preventing any possibility of collapse. The movement trajectory exhibits kinetic randomness due to the combined influence of predictable fountain flow, unpredictable wind flow, and motion inertia.



Figure 11 : Three Quintains



Calder, being a lover of dance, infuses a dramatic essence into his creation, allowing spectators to immerse themselves in the kinetic performance of "Three Quintains" (Hello Girls) for an extended period. Scholar Joan M. Matt characterizes the mobiles as "very dramatic," drawing parallels to a ballet, where the wind's shape and a series of "performance" elements serve as a metaphor for dancers (Joan, 1991).

Every visitor is mesmerized by the shimmering lake surface and the aerial dance of the wind dancers in the sunshine. Indeed, Calder has succeeded in crafting a joyful and contemporary fountain that suits the spirit of a new age.

### 3.4 Modeling Feature Design Research

The researchers unraveled the styling features of LACMA's kinetic sculpture through its title, "Three Quintains." Although Calder didn't create three separate quintain models, the essence of quintain is present in the sculpture's design. The primary example is the Ferenoux triangle in blue and the circular plate in black, resembling medieval quintains used by knights for spear practice. Calder altered the suspension mode by incorporating four quintains on each end of the bar, and the third quintain combines the original quintain with the modified one, featuring two separate discs at the top. In essence, "Three Quintains" represents Calder's artistic redesign of a medieval quintain (Figure 12).

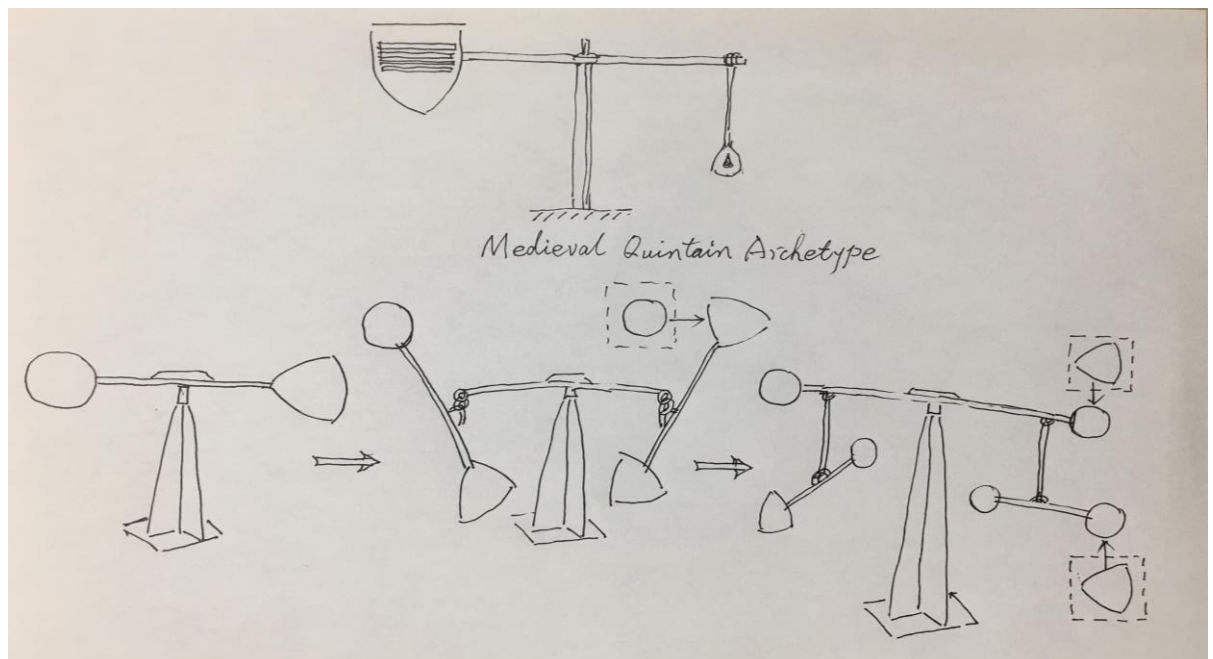


Figure 12 : Modeling and change of Three Quintains

When considering the fountain's interaction with the water, the artwork bears resemblance to the fountain rows in Rome and Florence during the 15th century. James Johnson Sweeney, the director of the Museum of Modern Art in New York, pointed out the intriguing parallel:

"His work [the mobiles] offers an interesting parallel with that of the fountain sculptors of the fifteenth and sixteenth centuries in Rome and Florence. Just as out of their playing with water, and their free and often fanciful solutions of technical problems, grew what we recognize today as some of the earliest hints of the Baroque style in sculpture; so Calder's realizations, vividly vernacular to the present age as they are, offer, at the same time, more possibilities of relationship with plastic expression of the next, than does the work of any other American sculptor today" (James, 1935).

### 3.5 Research on The Use of Modeling Elements

The moving components of "Three Quintains" exemplify the elegant style characteristic of Calder's kinetic sculptures, all rotating gracefully around their base pivots. The sculpture incorporates three primary elements: a folding stand made from a triangular metal plate, representing a variation of the flagpole supporting quintain; the Ferenoux triangle, akin to a variation of the knight's shield; and the round plate, a continuation of Calder's consistent use of the wind dancer motif.

Particularly in the case of quintain, a mast ascends skyward from the base, resembling a growing flower, then branches into two short arms extending at an angle of approximately 100 degrees, with each arm terminating in a black circle.

### 3.6 Research on Material and Color Application

Calder's "Three Quintains" represents the heaviest use of metal in his career. While during World War II, steel was a limited strategic resource, by the middle of the 20th century, the annual per capita steel production in the United States had significantly increased to 538.3Kg, making it a readily accessible material for artists. Calder's choice of steel for "Three Quintains" is not only due to its availability but also its allegorical significance. Steel, being hard and tough, mirrors the temperament of medieval knights who wore steel armor, shields, and swords, evoking the spirit of chivalry that inspired quintain.

In terms of color application, Calder utilized the three primary colors - red, yellow, and blue. These primary colors are the foundation of the color spectrum, and they exude purity and visual impact. Through this color combination, Calder aimed to evoke a sense of joy and happiness in the audience. The color analysis in Figure 13 reveals that black is the common color among "Three Quintains," while blue and yellow are used distinctly - blue on the base quintain and yellow on the highest quintain. Red is associated with the middle and highest quintain seats. This color arrangement not only identifies the base seat but also signifies the comprehensive nature of the highest seat. Blue, being the color of heaven in Western culture, denotes cultural identity when used in the base. The grouping of "Three Quintains" is brought together with a cheerful, lively yellow, reflecting a more lifelike approach. Thus, Calder skillfully combines secular and religious cultural aspects through his color usage.

Number	Shape	Color				
		Red	Yellow	Blue	White	Black
1	Circle	0	0	0	0	1
	Reuleaux triangle	0	0	1	0	0
2	Circle	1	0	0	0	0
	Reuleaux triangle	0	0	0	1	2
3	Circle	1	1	0	1	4
	Reuleaux triangle	0	0	0	1	0

Figure 13 : Color analysis table

#### 4. Calder LACMA's "Three Quintains" Kinetic Sculpture Discusses the Transformation of Public Space

The creation of sculptures in public spaces, commonly known as public art, holds a profound historical significance. As a distinguished institution of American modern art, the Los Angeles County Museum of Art (LACMA) serves as a platform for the dissemination of American artistic expression and the embodiment of the nation's spirit. Public art installations within LACMA's space carry immense symbolic and declarative value. Among these works, Alexander Calder's magnum opus, 'Three Quintains,' stands out as a resounding success.

In their seminal work, "Public Art: Theory, Practice, and Populism," (Krause,2020) Cher Krause Knight and Harriet F. Senie, leading authorities on the subject, shed light on the transformative influence of Calder's creation on the concept of public art. Their analysis highlights how Calder's work ushered in a new era of movement and innovation within the realm of public art.

According to the researchers: Calder's 'Three Quintains' represents a monumental revolution in the domain of public art, propelling the genre into the era of movement.

Through his artistic mastery, Calder vividly communicates a dynamic and progressive image of the United States to the global audience, evoking an innovative spirit that resonates deeply with individuals from diverse cultural backgrounds.

##### 4.1 Calder LACMA "Three Quintains" Kinetic Sculpture to The Destruction of Tranquility

"Noble Simplicity, Great Serenity" is the evaluation of ancient Greek sculpture by Johann Joachim Winckelmann (Winckelmann, 1764). Traditional European sculpture, inheriting the aesthetics of ancient Greece, has embraced the concept of "Noble Simplicity, Great Serenity" for thousands of years. This perspective perceives space as fixed, distinct, and static, including negative space. However, since modern times, the concept of the fuzzy boundary of sculpture space has broadened the original notion of space, enriching the creative ideas of artists and laying a crucial foundation for the birth of the concept of activity space (Smith, 2005). The concept of activity space is based on the characteristic space concept of movement, change, and relative positioning concerning static material media. It reflects a spatial interaction between people and things, people and space, and things and space, emphasizing the relationship between the work itself and the surrounding negative space. This relationship is characterized by openness, variability, and extensibility (Jones, 2010).

Alexander Calder, an internationally renowned sculptor, designed LACMA's "Three Quintains" kinetic sculpture, gaining recognition for his monumental works since the 1950s (Doe, 2018). In the decade leading up to the installation at LACMA, the Frank Pars Gallery in Beverly Hills sponsored three solo shows featuring Calder's work. His first solo exhibition in Southern California took place as early as 1937, and by 1953, his kinetic sculpture "Wind Dancer" had attained commercial fame (Smith, 2016).

The LACMA "Three Quintains" kinetic sculpture by Calder utilizes the flow of air and the impact of fountain water, creating an impression that the air is flowing and transforming the surrounding space for the viewer (Brown, 2009). This dynamic process integrates the concept of time into the sculpture's creation. As the sculpture moves, time flows, resulting in a unified experience between the artwork, its environment, and the people interacting with it (Smith, 2016). Calder's "Three Quintains" embodies a dance-like quality, reflecting American optimism and a sense of humor specific to American soil. In the specific setting of the Los Angeles County Museum of Art, the sculpture stands as a more appropriate representation of America's artistic spirit, deviating from the seriousness of traditional European sculpture and challenging the notion of "Noble Simplicity, Great Serenity" (Brown, 2009; Jones, 2010).



#### 4.2 Publicity of The American Spirit

According to John Russell, a renowned American art critic, Calder's artistic expressions are unmistakably infused with the American spirit (Russell, 1982). The Los Angeles County Museum of Art (LACMA), situated in the western United States, invited Calder to create public art for its establishment, setting a clear benchmark for the museum's ideology. The AMC committee's vision was to portray a confident, optimistic, and emotionally unrestrained American spirit to the public (Smith, 2008). In the aftermath of the two World Wars, the United States attained global political, economic, and military dominance, leading American art to break free from European expectations and embrace self-assuredness (Jones, 2015). Calder's kinetic sculpture ushered in a new era by infusing life and motion into inert and static materials, reflecting the essence of the American spirit (Brown, 2010).

The introduction of kinetic sculpture as a form of public art demonstrated a pioneering leadership role. In a letter to the council announcing the commission, AMC President Laurelle Burton emphasized the significance of having a prominent artist like Alexander Calder design a sculpture specifically for the new museum. This act would set the standards for future artistic endeavors and contributions by other artists and donors (Burton, 1964).

### 5. Conclusions and Prospects

After conducting a comprehensive survey of Calder LACMA's "Three Quintains" kinetic sculptures, the researchers arrived at the following conclusions:

1. Calder's "Three Quintains" sculptures are deeply rooted in cultural and historical influences (Smith, 2009).
2. The sculpture's shape, material, and color are thoughtfully considered and demonstrate a meticulous design process (Brown, 2012).
3. The mobile aspect of the "Three Quintains" imparts a light-heartedness while still embodying the essence of a culturally rich history (Jones, 2014).
4. The decision to install "Three Quintains" as public art at LACMA successfully promoted the optimistic, positive, and lively spirit of American art (Russell, 1975).

Since the establishment of Calder's "Three Quintains" kinetic sculpture at LACMA in the 1960s, over 50 years have passed. During this time, LACMA and its public art collection have continued to grow and evolve (Doe, 2019). The significance of studying Calder LACMA's "Three Quintains" lies not only in establishing a benchmark and paradigm for public art in museums but also in playing a crucial role in demonstrating the importance of public art construction in China's cultural self-confidence promotion as advocated by the Chinese government (Laurelle, 1978). The promotion of public art construction in China reflects the country's confident spirit and cultural identity.

Prospects for future research involve further exploring the long-term impact of Calder's "Three Quintains" on public space and its influence on contemporary public art practices globally. By understanding and applying the lessons learned from Calder's innovative sculpture, China can continue to develop and nurture its own vibrant public art scene, contributing to its cultural self-expression and confidence on the global stage.

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