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Article

Exploring the Changing Elements of I Ching in Artistic Creation

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Abstract: In the post-World War II era, amid widespread questioning of artistic intentionality and historical truth, the I Ching (Book of Changes) offered Western artists a structured philosophy of change. This paper examines how Merce Cunningham and John Cage engaged with the I Ching, not as a divinatory or holistic system, but as a methodological framework for introducing chance into creative process. Cunningham operationalized its hexagrams to determine choreography through coin tosses and spatial mappings, while Cage adapted its symbolic systems into generative rules for music and visual art. Their practices reflect a selective translation, prioritizing procedural logic over cosmic harmony, shaped by 20th-century consumer culture and Zen philosophy, ultimately codifying the I Ching into an artistic tool for navigating chaos and contingency. Inspired by this approach, the author's interactive digital work Trace further explores themes of journey, perception, and chance through real-time video and sound, examining the tension between systematic generation and lived experience, while reflecting on the material and technical constraints of exhibition practice.

Keywords: I Ching; chance operation; artistic codification; Merce Cunningham; John Cage

1. Introduction

Chance and change have served as central themes and sources of inspiration for numerous artists and poets. In the post-Second World War era, individuals became increasingly reflective about the meaning of artistic creation and the extent of human influence on the world. Questions arose regarding whether the history known to humanity truly represents factual truth or merely a constructed narrative [1].

Moreover, during the twentieth century, particularly from its second half onward, the rapid advancement of information technology profoundly disrupted everyday life. From the standpoint of knowledge renewal, the twentieth century was characterized by an explosion of information and accelerated knowledge production. Faced with this overwhelming flood of data, history ceased to function as a stable, collective national memory. Instead, it revealed a state of fragmentation, inconsistency, and confusion. Once the malleable nature of historical truth became apparent, successive waves of skepticism emerged concerning the very concepts of "reality" and "truth."

In response, practitioners in literature and the arts began to experiment with methods that deliberately minimized human intentionality. For instance, certain forms of writing abandoned conventional rules and adopted game-like procedures. In seeking a balanced relationship between the self and the external world, people increasingly turned to simple yet profound cultural classics in search of answers, hoping to alleviate the anxieties and disorientation caused by growing complexity.

It was within this context that the American dancer Merce Cunningham and the Fluxus-associated artist John Cage developed their creative practices in the 1950s, a calm,

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deliberate engagement with the principle of change and an emphasis on objective, non-subjective facts. In their artistic thinking, the I Ching (Book of Changes) occupied a significant place. This is because the I Ching encompasses phenomena related to logical analysis, numerical operations, principles explaining the functioning of all things, and functions traditionally associated with divinatory prediction.

Through an analysis of the social conditions and specific artworks of that period, this paper will demonstrate that these two artists did not treat the I Ching as a mere tool for fortune-telling, nor did they fully adhere to its traditional understanding of "change." Instead, they took "change" as their core concept and selectively drew upon its underlying principles in a measured and pragmatic manner.

2. Theoretical Framework: The Philosophy of Change in the I Ching

The I Ching, or the Book of Changes, is a foundational text of ancient Chinese thought. Its philosophical framework profoundly informs classical Chinese works on medicine, philosophy, morality, and life strategies [2]. It is crucial to clarify that it is not merely a book of fortune-telling. Historical accounts suggest its preservation in the guise of a divination manual was a strategy to survive periods of censorship, such as the "burning of books and burying of scholars," capitalizing on the ruling class's belief in fate [2].

The Chinese character for "I" corresponds to the concept of "change." The primary elements and basis of all change are Yin and Yang. These two fundamental, opposing, and complementary forces are the source of all transformations. Yin and Yang represent the dual aspects of all phenomena; they penetrate and mutually convert into one another under certain conditions, existing always in a dynamic pairing.

A central principle following this duality is that any circumstance, upon reaching its extreme, will inevitably begin to change. This change, in turn, leads to a state of unimpeded flow and continuity [3]. This encapsulates the core meaning of "change" in the I Ching: it signifies infinite, interactive, and ceaseless transformation within nature and human understanding. Importantly, this perpetual change is not chaotic but follows an intrinsic, ordered pattern.

Furthermore, the concept of "change" itself embodies a paradox, also meaning "the unchanging" or "constancy." This refers to the enduring principles and patterns underlying the flux of all things. Although phenomena and human affairs are complex and ever-shifting, their changes are interconnected through causality, having discernible origins and trajectories. By understanding the present through its roots, one can anticipate future developments.

Thus, the I Ching functions as a guide from the unknown to the knowable. It offers a system for navigating uncertainty by understanding the principles of change, rather than presenting a mere abstract concept of "Chance." This philosophical system, with its emphasis on dynamic balance, patterned transformation, and the interdependence of opposites, provides the theoretical lens through which subsequent artistic engagements will be analyzed.

3. Case Study: The Codification of the I Ching in Artistic Practice

3.1. Merce Cunningham's "Choreography by Chance"

Cunningham, a student of D.T. Suzuki, engaged deeply with Eastern philosophy, which was further supported through his study of the Japanese translation of the I Ching. He identified within it a dialectical inquiry into movement, such as the question of whether stillness could trigger motion. His artistic approach is characterized by a calm objectivity, incorporating elements of games, sports, and urban wandering. He famously asserted that dance required no external explanation, but was simply about the flow of the body itself.

Cunningham rejected the notion that dance movements must carry specific meanings. Instead, he advocated for chance to dictate order. He made deliberate conceptual choices and implemented them with operational clarity, moving away from traditional references

to bodily form towards a cross-media exploration he termed "the embodiment of philosophy". His strategy was to render all creative steps as "objective" as possible, with "Chance choreography" as his consistent method. Every detail, from movement to sequence, could be determined by consulting the I Ching through dice throws or coin tosses.

In his creative process, Cunningham would deconstruct the body into segments, list movement possibilities, and use coin flips to determine final movements and their superimpositions. He would then rigorously rehearse these arbitrarily generated, often disjointed sequences to dismantle and reshape the body's habitual patterns [4]. He mapped the stage into 64 areas, corresponding to the 64 hexagrams of the I Ching, within which dancers' movements were plotted. He assigned "yes" to Yang and "no" to Yin. An odd-numbered toss result meant repeating the previous action, while an even number signalled a change. In this system, dancers became akin to dice on the stage, their agency largely ceded to the pre-determined structure. This approach required meticulous tabulation of dancer numbers, spatial zones, sequences, and bodily actions prior to rehearsal.

Sometimes, performers would not know their sequence until they stepped on stage. Cunningham was committed to the idea of "letting the dice set the rules and accepting it." In his work *Changing Steps*, for instance, where solos could vary in form and order, he used dice to select directions and positions for the dancers.

In *Springweather and People*, Cunningham employed extended periods of silence. He expressed a preference for measuring time's duration over synchronizing with musical beats, especially when sound effects were rapid [5]. He sought to control the length of each segment and the total duration of the piece. For him, time, manifested as rhythm, was the common element linking music and dance. Their collaboration was based on a shared temporal structure, which allowed for integration while preserving individual expressive freedom for both dancers and musicians.

The collaboration for *Summerspace* pushed the idea of change to an extreme. Cunningham's choreographic charts resembled vast maps. Robert Rauschenberg designed a dense, pointillist backdrop that evoked infinite, stretching space. John Cage described the effect as akin to the blurred, ever-moving view from a train window, suggesting the dancers might never cease their motion [6]. Rauschenberg also designed tight-fitting costumes for the dancers, resembling a lizard's protective skin (see Figure 1). The dancers' movements conveyed a languid state, with sudden accelerations and shifts creating an impression of chaotic, subaquatic life.



Figure 1. Screen shot of *Summerspace* video

However, regarding the philosophical content of his later works, it appears Cunningham ultimately set aside the holistic worldview central to the I Ching. For him, it

became a method for isolating and leveraging chance, a self-imposed rule system designed to circumvent potentially intuitive or habitual artistic decisions.

This detachment from the I Ching's holistic philosophy became more pronounced in his later works, which increasingly incorporated elements of modern chaos and urbanity. In *Aeon*, he employed frequency flashing lights and smoke devices [7]. For *Winterbranch*, he instructed lighting designer Robert Rauschenberg to conceive of light as the nocturnal environment of a city, with the effect of car headlights and flashlights piercing the darkness. Furthermore, all the sounds in *Rainforest* were generated from urban garbage [8].

His exploration extended to technology in *Biped*, where he used motion capture to generate animated projections that explored the relationship between the physical body and its virtual counterpart (see Figure 2). Themes of chaos and the urban environment permeate these works. They resonate with Samuel Beckett's observation that the modern artistic task is "to find a form that accommodates the mess". Cunningham's "chance" methodology can be seen as his formal structure to contain and express this contemporary chaos, a purpose ultimately distinct from the I Ching's aim of revealing an underlying cosmic order.



Figure 2. Merce Cunningham *Biped* (1999)

3.2. John Cage's "Programmatic Divination"

John Cage, a close collaborator of Cunningham, was also deeply influenced by Eastern culture. While Cunningham's work operationalized chance, Cage's engagement more explicitly highlighted and adapted the conceptual frameworks of the I Ching and Zen Buddhism, albeit with a similarly detached, methodological perspective.

Cage encountered Eastern philosophy prior to Cunningham, systematically studying Zen under D.T. Suzuki at Columbia University, which profoundly shaped his subsequent work in sound and visual art. Intrigued by the divinatory symbols of the I Ching, he began creating his own diagrams and operationalizing them in musical composition. His early works, such as *Music of Changes* and *Imaginary Landscape No.4*, utilized the I Ching to determine parameters like duration, sound, tempo, and superimposition.

In his compositional method, Cage adopted a process analogous to coin divination. He incorporated musical elements, noise, pitch, duration, intensity, into this framework of change. He simplified the trigrams' solid and broken lines into "straight" and "broken" lines. His description, "Three coins tossed once yield four lines" to generate trigrams and hexagrams [9], indicates a personal modification of the traditional method, as standard coin divination typically requires multiple tosses to build a single hexagram line by line. He also instituted his own rules, such as those to prevent stagnation in low-pitch scenarios [10].

This abstraction and refinement of rules is evident in his visual art (see Figure 3). In his Mountain Lake Workshop diary, he described using the I Ching to divide a canvas into six vertical areas. The number six was determined by the size and type of stones used as references and guides. Through a process of elimination and chance operations, the painting evolved step-by-step based on these stones. Over subsequent days, the stone placements and the number of panels per painting were determined by chance. He applied washes of paint around the paper, akin to cleaning fabric, while also exercising personal preference in selecting final works from the series, titled *New River Rocks and Washes* [11]. This later practice demonstrates a departure from a purely original "chance method" of the I Ching, incorporating subjective choice.



Figure 3. One of a series of paintings by John Cage.

Both Cunningham and Cage frequently employed the number 64 (the total hexagrams) as an operational framework, yet recognized it as a generative, not terminal, structure. Their "chance operation" reserved only half of the decision-making authority for the randomized system, implying an equal share of control retained by the artist. In their practices, "tossing a coin" extracted the operational logic of "change" itself while largely abandoning the cultural and cosmological inevitability embedded in the I Ching's philosophy. Within the I Ching's original thought, such a balance approaches the concept of dynamic harmony between human agency and natural principle, where the two interact variably and continuously to generate and renew.

4. Discussion: Societal and Philosophical Drivers of Codification

One significant driver behind the artistic codification of the I Ching can be traced to the context of the 20th-century consumer society. This environment was designed to stimulate desire rather than satisfy instinctive needs, blurring the line between natural thought and cultural manipulation. An unconscious sense of freedom could itself be conditioned by external, uncontrollable forces. For instance, excessive consumption often involves purchasing unnecessary items to attain a semblance of autonomy [12]. This dynamic fosters a paranoid self-questioning: "What makes me do what I want to do?" [13]. In contrast, the I Ching opposes attempts to rigidly control the world's changes, advocating instead for a release into and alignment with the natural flow.

This tension between compulsive conditioning and sought-after liberation finds resonance in Zen Buddhism, a philosophical stream closely related to the I Ching's core ideas. Zen posits that human conception is not merely a composition of thoughts, concepts, and morals, and that even a solid sense of self is illusory. The human condition is presented as the result of mental fluctuations, perpetually born and dying in the ceaseless movement of thought [14]. To live authentically, according to Zen, one must shed the

interference of intellectual consciousness and reclaim a "common heart," returning to intuition and pure emotion by getting rid of over-reliance on intelligence.

It is within this framework that Cunningham's engagement with the I Ching and related philosophies can be understood. While some critics have linked his work to intellectuality, his rigorous training regimen can conversely be interpreted as a practice aimed at stripping away the dancer's original, habitual patterns, an effort to achieve a state akin to the "common heart." His philosophical acceptance of the I Ching genuinely engaged with concepts of perpetual change and the inconstancy of all things.

However, a fundamental divergence emerges in the application. In Cunningham's works, the objects of change, be they dancers from one another, dance from music, or thought from form, are often treated in isolation. He directs attention not toward unified movement or logical order, but toward disassembly, stage chaos, and life's random possibilities. This operational principle deviates from the I Ching's inherent requirement for holistic interaction and dynamic balance.

Consequently, Cunningham's basic attitude toward the I Ching revealed a greater interest in its numerical and combinatorial architecture than in faithfully engaging with its holistic text. He transformed the process of consulting the I Ching (e.g., tossing coins) into a cartographic, tabulating, and mechanized mathematical operation. His thinking logic prioritized formal and contentual accuracy, focusing on quantitative investigation, enumeration, and clear evidentiary reasoning. Methods such as induction, analysis, comparison, and observation underpinned his rational approach. The "tossing of dice" served to generate an accurate map that dancers then executed with precision, effectively enacting a "literary translation" of intuitive experience through logical thinking [15].

In essence, Cunningham adopted a scientific methodology, borrowing from Chinese philosophy to forge a new strategy for the body, a framework to, in his own terms, "think outside the box." As noted, his lifelong inquiry was into the possibilities of the two-legged human form. Ultimately, his chance method was a structural approach, a logic for connecting elemental sequences. Cunningham selectively learned and adapted what was useful to accomplish his specific artistic goals, a process that involved a significant translation and codification of the source philosophy.

5. Creative Practice: The Generation and Presentation of Trace

*5.1. Concept and Inspiration: Lines, Traces, and the Journey**

The work *Trace* investigates changing journeys and phenomena reducible to line transformations. It is inspired by the core principles of change in the I Ching and minimalist aesthetics. Drawing from personal experience, the production employs methods of machine selection and semi-artificial selection. Taking the journey as its central theme, the work explores its dualities, positive and negative, visible and invisible. This conceptual framework borrows from the I Ching principle that opposing elements coexist in perpetual flux, and seeks to examine the dynamic balance between sound and the emergent visual event. The work exists in two versions designed to operate alternately.

The theoretical foundation relates to Tim Ingold's distinction between lines as threads and traces, noting that traces most commonly result from a creature's movement across a surface. In the work *A Line Made by Walking*, the photograph contains no figure, yet clearly signifies a human trace, highlighting a disconnect between continuous motion and its static residue. Ingold further differentiates between the 'transport' of rides and the 'ambulation' of walks [16]. In this framework, each journey stop functions as a discrete point, connected by transport into a chain. Meaningful movement often begins only upon disembarking.

A destination, analogous to a "dot", also operates as a signal station, epitomized by devices like mobile phones. Signals in transit are invisible; only upon reaching an interface and being interpreted do they leave a cognitive trail. This mediation between movement, perception, and technology informed the choice of the metro as a primary subject.

When using the metro or similar transport, the scenery viewed from the window remains physically inaccessible. For passengers confined within a mobile container, sensory perception and physical action are desynchronized. Upon arrival and consulting a map, one's actual sphere of activity often appears confined to a single frame, particularly in urban environments. A dense technological landscape envelops modern life, presenting a surface order underpinned by chaos.

5.2. *Production: Methodology and Realization**

5.2.1. Version 1: Interactive Scheme

For the digital component, recorded video footage was processed using the Processing environment integrated with the Syphon library. This enabled real-time interaction: viewers could stream video to the work via messaging applications (e.g., WhatsApp or WeChat), with the trajectory of their actions appearing within the composition. Changes in the number of image frames triggered corresponding pixel movements. The base video consisted of 70 files randomly selected from a library of over 100, predominantly featuring tracks and overhead wires, fast-moving lines analogous to roads. This recorded "path" exists, but the recording agent ("me") is absent. The live stream layer, drawn via Syphon, filled this void with the trace of a chance-met 'passenger', generating dynamic particle trails as shown in Figure 4.



Figure 4. Particle trails generated from live video input during audience interaction.

In this configuration, the walking participant outdoors cannot see the projection, while the indoor observer cannot physically access the outdoor path, creating a deliberate disjunction between action and perception.

The sound component was created in PureData (Pd). It mimics and amplifies metallic scraping sounds, rendering them acoustically blurred yet rhythmically defined. This design aims to evoke the inertial sounds of a train's departure or the rhythmic patterns arising from airflow changes and wheel-rail interaction. Each audio segment's length was

determined by inter-station distance and acceleration profiles. Short intervals result in abrupt stops, while longer stretches involve multiple directional shifts. Sound files are played randomly in Pd, and their coincidence with the video is also left to chance, creating unpredictable alignments or disjunctions. The interface for this random sound player is shown in Figure 5.

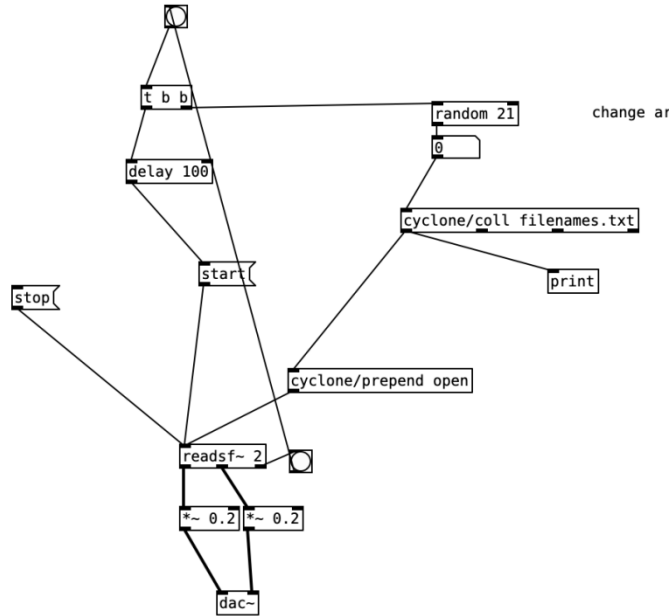


Figure 5. Random sound file player.

Material and sequence selection followed a rule-based process. Video files arranged on the laptop screen formed a plane analogous to a map. A set of rules derived from tossing three coins (generating eight possible combinations, each corresponding to a step count of 1-8) was used to navigate from an initial file and select the subsequent video sequence. This method references chance operations while instituting a personal generative rule set.

5.2.2. Version 2: Automated Scheme

The video component for the second version utilized the same 70 clips of train tracks, played sequentially via the VLC media player. These clips, captured under varying weather and light conditions, all depict the moving sight lines from different platforms. The soundscape remained identical to Version 1.

5.3. Physical Realization and Exhibition*

Movement during a journey occurs within a container. Metro windows, mobile screens, and map frames bounded by roads are all such containers, conceptually reducible to cuboids. To materialize this, the work was projected onto fabric mounted on a custom-built wooden frame. Sizing calculations were based on the assigned exhibition space, assuming an average viewer height and a 30-degree viewing angle. A calculation error during construction resulted in a slight projection deflection and minor light spill, an integrated, unintended consequence of the making process.

During the preview, the intention to alternate between versions was logistically constrained by exposed cabling and high visitor traffic, which would have required blocking the projector. Consequently, each version was presented on separate weekends. When visitors paused before the work, the interactive function of Version 1 was explained. Three visitors participated. Feedback included one viewer noting they could "feel the movement and time of the body" in front of the work, describing the sound as metallic yet not harsh, with rhythmic interruptions likened to "a daydream woken by an alarm clock."

A second participant found it interesting but noted the impossibility of seeing screen changes while walking. A third observer remarked that the frame structure seemed deliberately obscured, almost disappearing into the display.

6. Conclusion and Reflection

In conclusion, this project began by analyzing the characteristics and methods of Merce Cunningham and John Cage, examining how social and cultural factors influenced their distinct approaches to incorporating, and ultimately codifying, the I Ching. Their work demonstrates a translation of philosophical principles into generative, rule-based systems. Inspired by their engagement with change and chance, my practical work, *Trace*, sought to create an environment where images and sounds undergo random, co-evolving transformations. It explored this through two modes: one a closed, computer-selected combination of sound and image, and the other incorporating audience participation into the changing environment. Utilizing the concepts of change and chance from the I Ching, the work engaged with the theme of the journey, probing the disjunction between perception, movement, and the frames that contain them.

Reflecting on the practical execution, several aspects emerged that warrant consideration. An unforeseen outcome was the visual effect of the physical container: painted black to contrast with a white wall, it was instead absorbed into the exhibition's light-absorbing black backdrop, causing the intended framework to visually recede, a result contrary to the aim of highlighting the container itself. Technically, the first interactive version presented challenges. Performance issues, potentially due to large video files or software configuration, resulted in less fluid visuals than in testing, with pixel effects not responding as markedly to frame changes and instances of lag ("Caton"). The addition of a grey filter further reduced the clarity of the projection on cloth; the live interaction layer only became distinctly visible when a phone was aligned with a large, high-contrast pattern. Logistically, the planned covert alternation between the two versions proved impractical during the exhibition due to exposed cables and the need to avoid blocking the projector. Consequently, the safer, entirely machine-selected Version 2 was presented for the majority of the exhibition period, highlighting a tension between the ideal of seamless, variable presentation and the practical constraints of the exhibition setting.

Ultimately, this exploration underscores that the artistic appropriation of the I Ching, from Cunningham and Cage to contemporary digital practice, often involves a selective translation. The philosophical whole is frequently harnessed for its operational logic, its mechanisms of chance and change, while its holistic worldview may recede. The process reveals as much about the artist's own context and constraints as it does about the ancient text itself.

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