ABSTRACT

Keung Hung’s media art series *Dao Gives Birth to One* (2009–2012) shows how traditional Chinese philosophy and aesthetic concepts in art can be reapproached using an interactive digital installation format (see Fig. 1). The goal of this article is to provide a new experience in perception by addressing certain traditional Chinese concepts of time and space. In this paper, we analyze an excerpt from the *Dao De Jing*, examine the traditional scroll format in painting, and consider the symbolism of the void and the ancient art of brush writing in traditional Chinese art, as applied to an abstract digital installation of Keung Hung’s work.

The *Concept of Dao*

Keung Hung’s *Dao Gives Birth to One* aims to visualize the cycle of vigor and vitality [1] of *Dao* in the universe via digital media. Hung first explores the concepts of *sheng* (生 “gives birth”) and *yi* (一 “one”) as used in Chapter 42 of the *Dao De Jing* and addresses the question of how they can be visualized digitally. Translations of the ancient text made by different scholars generally reflect various linguistic perspectives. Interpretations of *sheng* include “to create,” “to give birth” [2] and “to generate” [3]. According to the *Dao De Jing*, *yi* reflects a philosophy of how the universe is one and is constantly in a state of flux, infinitely waxing and waning, with endless potential for creation as each one thing (*yi*) begets ten thousand things. This can be compared to a fractal algorithm where each *yi* is capable of reproducing itself endless times. *Yi* is the first word in the first chapter of *Shuowen Jiezi*, the oldest Chinese-language dictionary with an ordered structure. It dates from the Han Dynasty (second century CE), and in it is written that from the *yi* is founded the *Dao*, which creates heaven and Earth and then generates the whole universe [4]. *Yi* thus represents the “unity” of the universe. Everything (10,000 things) is from one, and one is everything (10,000 things).

The subject matter of *Dao Gives Birth to One* (version III) is the excerpt from the *Dao De Jing* mentioned above. The installation (Fig. 1) presents individual segments of a horizontal scroll format looped at varied lengths of time, creating a somewhat random abstraction of the subject matter.

**THE LONG SCROLL FORMAT**

The traditional Chinese handscroll format provided ancient Chinese artists with creative challenges significantly different from the Western European concepts of time and space in 2D painting. Since the Renaissance, perspective has commonly been depicted on a stationary rectangular canvas, measured mathematically from the viewer’s eye point, as though the viewer were riveted in one place, feet anchored on the ground, looking out through a limited rectangular window at a spot on the far horizon. This limits the imagination of the viewer and the artist, because it does not allow the viewer to participate by traveling through the visual landscape in time and space. It is, however, the basis for the Cartesian-coordinate system that makes up most digital 3D modeling environments.

The ancient Chinese handscroll format is a rolled painting. It is usually only 10–12 inches high, allowing it to be held comfortably in one’s hands. Its length, however, is variable; some paintings extend to as much as 40 feet. This allows the painting to unfold, like a novel, in time and space. The viewer begins at farthest right and looks at a small portion of the painting at a time. The challenge to the artist is to visually entice the viewer to continue through the scroll to “travel” through the visual landscape in time and space. The scroll format itself gives creative license to the artist to...
guide the viewer through changing scenery. Scenery, as in Zhang Zeduan’s scroll *Along the River During the Qing Ming Festival* (eleventh/twelfth century), evolves over time from a rural scene to an urban one as the viewer visually travels through pathways and waterways provided by the artist [5]. Other handscroll paintings show endless pathways through mountains and valleys, allowing the viewer to escape into the landscape vistas over a period of time [6]; some even show changes in seasons as one wanders along the terrain. The viewer of the handscroll has the freedom to ramble along at their own pace.

In the work *Dao Gives Birth to One*, Keung Hung applies 12 story lines into 12 screens as a storyboarding sequence in order to enact the process in which “one” can be generated into “10,000 things” as expressed in the texts of Chapter 42 of *Dao De Jing* quoted above— with the addition of a human interactive element. In this endeavor, the artist first creates 12 white digital screens and then inserts a custom “Flying Animated Chinese Character” (FACC) composed from animated brushstrokes. The basic narrative sequence is as follows: The scene in screen 1 represents the beginning. The animated three-dimensional “one” is a FACC flying alone in the universe (white virtual space) after serving its function to divide the universe into heaven and earth (Fig. 2). In scene two, once human beings appear in this universe, the form of the characters (“form imitation” [象形, *xiang xing*]) is expanded and created through their interaction. Thus screen 2 shows how, whenever any part of a human being (such as limb, nose, head) interacts with the FACC (*yi*, “one”), this 一 will generate another and become 二, because (Chinese) linguistic characters are meaningless without human involvement [7]. Furthermore, in screen 3 and later screens, numerous FACC are generated in such a way that they become brushstrokes. Even though there are a large number of FACC in the last screen, they move on their own track with a certain system, which simulates our human activities in the chaos of the universe. The last few seconds of screen 12 is about everything returning to white (void) again with only one Chinese brushstroke left, which implies the system of our human life cycle in this universe.

Traditionally, the blank space in the pictorial imagery of a Chinese painting, referred to as *kong* (空 “void”), is a major compositional element wrought with symbolism. It can represent the cosmos, a vast distance (里, *li*) [8] or the great unknown (the *Dao*) [9]. The “void” can imply infinite space with endless time. The Chinese characters of Hung’s work fly about in the “void,” giving a virtual experience with a 4D sense to it. In addition, utilizing the long scroll format goes beyond the limitations of the traditional Western European conception of a gallery in which the art object is displayed upon a pedestal, in an austere setting, to be worshipped like an ancient religious icon [10]. A newly proposed concept, explained in an article by Chang Tsong-zung, is a viewing space more in tune with the traditional Chinese concept of scholar-connoisseur, in which a scholar may invite his peers into his home, studio or garden pavilion to share a personal collection of handscrolls laid out upon the table before them [11]. Scholar/collectors through history would compose short bits of poetry or verse to complement the imagery in the painting. In the handscroll format, viewers choose which scenes to gloss over and which to savor in depth.

*Dao Gives Birth to One* combines the 12 digital video screens to create a long scroll format. Hung first invited people to his studio to interact with flying Chinese characters in front of his artwork. In the studio, he could shift the focus to different parts of the participants’ bodies. All the footage was then edited into different lengths.
and set into the 12 videos in a long scroll screening format, creating 12 video screens with 12 different running times (Fig. 1). The first video lasts 3 minutes, the second 8 minutes, the eighth 21 minutes and the last video lasts 5 minutes. Viewers need not worry about the time restriction of the video work, or which part of the videos they have missed, because the video loops run in overlapping phases so people can come and go freely. Viewers are encouraged to perceive this long scroll video installation from different perspectives, viewing the screens one by one closely or from a long distance. The arrangement of the chairs in the space symbolizes the power of positive and negative space, the yin and yang of traditional Chinese aesthetics. The free and relaxed atmosphere encourages viewers to enter into the spirit of this video work and merge their minds with the exhibition space as a whole (Fig. 3).

**CALLIGRAPHY IN MOTION**

The *Dao* project also uses digital technology to simulate the reality of Chinese calligraphic characters in terms of time and space. The practice centers on the traditional aesthetics of Chinese Shuhua (書畫) as a form of art, and the format of the scroll as commonly applied in both Chinese shu (書 “brush writing” [calligraphy]) and hua (畫 “painting”). The first step gives viewers a temporal experience by inviting them to observe the whole process of character-writing through digital animation sequences. Using the character for “horse” (馬, ma) as an example, Hung not only animates the motion of the form of 馬 but also visualizes the underlying process of writing the character through sequenced images (see Fig. 4). At this point, the appreciation of Chinese calligraphy is no longer centered on a completed work of art; it includes the concept of time, creating a sense of growth and duration.

The second method that Hung uses to engender a 4D experience in viewers involves animating 3D Chinese characters digitally. The artist contends that Chinese-character writing contains the seeds of 3D and 4D experience, which become manifest only when a traditional calligrapher controls the volume of ink and the pressure of the brush on a 2D writing platform [12]. The concept of “vertical lift” in Chinese brush writing dates back to the great fourth-century calligrapher Wang Xizhi. His followers modeled the weight shift of the brush by pushing and pulling the brush when writing to create heavy and light strokes. This is the “vertical lift” that gives 3D representation, like chiaroscuro—light shading and modeling a form. Hung visualizes the Chinese character for “mouth” (口, kou) in a 360° view (Fig. 5). He designs the flying sequence of this character as a shape that, while in motion, flips from left to right. As the viewer watches the character zoom around in virtual space (void), its motion suggests a three-dimensional form rather than a flattened 2D image. When the characters “mouth” (口, kou) and “horse” (馬, ma) are flying together, there is a distinct sense of spatiotemporal experience.

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**Fig. 3.** Visitors sit freely in the exhibition space of *Dao Gives Birth to One* (version III). Hong Kong Museum of Art, Hong Kong, 2010. (© Keung Hung)

**Fig. 4.** Animation sequence for the Chinese character 馬 (visualization by the artist). (© Keung Hung)
Apart from Hung’s own work, a number of styles of digital text artwork have surfaced around the world in the last two decades. Several contemporary artists, such as Camille Utterback (1970–), Romy Achituv (1958–) and Lee Lee Nam (1969–), have applied motion to text. Hung saw Text Rain (1999) at Utterback’s studio in San Francisco in 2006 and Lee’s Korean 8-fold Screen (2007) at HKART Fair10, Hong Kong, in 2010.

Text Rain (Fig. 6) is an interactive installation in which falling English letters form lines of a poem about bodies and language. Participants and viewers can play with those falling letters by gesturing with their bodies. Korean 8-fold Screen is a digital video installation with eight different LCD displays arranged vertically to simulate the appearance of traditional Asian folding screens. These videos show Korean and Chinese textual elements flying from left to right on the screen. Although the textual elements in these two works of art are animated, their shapes remain flat, on a 2D plane (Fig. 7).

In contrast, a work by internationally renowned artist Xu Bing, The Living Word (2011) (Fig. 8), is a nondigital installation piece that shows the evolution of a Chinese character over time [13]. Multiple physical representations of the character for “bird” (鳥, niao) symbolically lift from the ground in their modern simplified state and, as they progress upward, evolve into their past traditional state until they reach the earliest form of script, a simple glyph of a bird. Xu’s installation is a physical, still installation that shows the 3,000-year historical change in the character, giving it the element of time without actual motion. Like Xu’s, Hung’s flying characters in the Dao projects abstract the concept of time and
space in character writing but further enable viewers to have an interactive spatiotemporal experience in an active digital format.

In another Xu Bing work, *The Character of Characters* (2012) [14], traditional animation techniques in digital format are used to morph the basic brushstrokes into natural phenomena as recorded in an ancient Tang dynasty text: A dot should be like a rock falling from a high cliff, a horizontal stroke like a cloud stretching across the sky, a diagonal stroke like the gleaming horn of a rhinoceros or the sharp edge of a sword [15]. The beauty of Chinese brush writing is brought to life through sequential animation, and always with a bit of humor, in Xu’s work.

Hung’s *Dao Gives Birth to One* abstracts the traditional Chinese painting format through digital installation and incorporates 3D and 4D flying animated characters within his fragmented video sequences. Hung also abstracts concepts of time and addresses the symbolism of the void in his installation piece. Traditional Chinese furniture provides seating for the audience as well as variations in the balance and structure of the installation. The randomness in size and shape of chairs, contrasting video segments and the non-sequential nature of the video clips contribute to the avant-garde feel of the work. Viewers may focus on one segment of the scroll at a time, or they may step back and take in the entirety of the display with all its visual contrasts, choosing when, and how long, to immerse themselves in the abstract imagery. The employment of traditional Chinese arts in a conceptual digital installation does not promise an easy acceptance, understanding or appreciation by all audience/participants. The challenge here is to examine, artistically and conceptually, traditional Chinese aesthetics and use these for inspiration to break away from the standard approaches to viewing and perceiving art objects in a gallery setting.

**CONCLUSION**

The project *Dao Gives Birth to One* suggests a broad spectrum of possibilities between Chinese art and digital media. It demonstrates that the digital environment can be redesigned to embody traditional Chinese art and aesthetics, especially considering that the standard Cartesian coordinate space of most 3D modeling programs is based on Western European ideas [16]. Explorations of other cultural concepts of space and time can bring inspiration and new ideas to the digital realm. Thus, the technology of the twenty-first century, rather than rendering ancient Chinese, or other civilizations’, art methods and aesthetics obsolete, can be the instrument for creativity and exploration of unique cultural traditions and their application to contemporary art.

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**References and Notes**


4. “Unity: . . . The start of the Great Begin of the Way is based upon Unity. It divides Heaven and Earth and forms the ten thousand creat-

4. “Unity: . . . The start of the Great Begin of the Way is based upon Unity. It divides Heaven and Earth and forms the ten thousand creat-


6. The Song Dynasty painter Guo Xi (c. 1020–1090 CE) explains the visual cues that draw the viewer in: “One feels an itch for taking to the road when he sees a white stretch of footpath against blue smoke; one wishes to go to take a look on seeing a peaceful river reflected at sunset . . .” Lin Yutang, *The Chinese Theory of Art* (New York: G.P. Putnam’s Sons, 1967) p. 75.

7. According to *Shuowen Jiezi* [4], one of the processes of creating Chinese characters can rest on the features of our bodies or on perceptions of objects from afar.
“Look at the landscapes of to-day. They comprise distances of several hundred li.” From the Song Dynasty (eleventh century) treatise of Guo Xi in Osvald Siren, *The Chinese on the Art of Painting* (Hong Kong: Hong Kong Univ. Press, 1963) p. 44. Also, “mountains . . . will appear high if half hidden midway by cloudy forms, but not so if completely exposed . . . rivers . . . appear long if they are cut off from view in places.” Guo Xi’s treatise translated in Lin [6] pp. 79–80.


11 Chang [10].


16 The Cartesian coordinate system was developed by the seventeenth-century French philosopher Descartes (who used the Latin name Cartesius). It is a coordinate system for placing geometric objects in 2- or 3D space. It is based on Euclidean geometry, which dates as far back in time as the Greek mathematician Euclid in the late fourth century BCE.

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