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Vol.1 ｜穿越光牆 – Archive or Alive?
Archive or Alive? – Crossing Through the Light Wall

陶亞倫曾應數位藝術基金會之邀，2009 年於台北數位藝術中心開館時，展出現地製作的動力機械作品《終結歷史之光》。在這個作品中，藝術家以「光的物理性」為題，透過雷射光機、煙霧機、電腦程式、背景音效等，在特定空間中營造身體感官經驗。

2018 年「概念美術館」開館並提出「科技藝術典藏基礎計畫」，希望重新思考現代主義式博物館在典藏、展覽與教育上的功能劃分。過去博物館關注的典藏，圍繞在物質的真實性（authenticity）與原件性（originality）；新博物館學以人為本，提出典藏策略若無法滿足於任何時刻再現的能力，則喪失典藏的意義。然而，數位科技藝術創作立基於機械複製時代的來臨、美學觀念的解放和科技媒體的更迭出新，從根本轉變了創作媒介與媒材的獨一性。

「概念美術館」開館展選擇在不同的時空背景與問題意識上，邀請陶亞倫一起重新思考《終結歷史之光》。這檔展覽之所以名為「穿越光牆 - Archive or Alive（是檔案化亦或是再現）？」，首先就在於我們對於起始點的探問：這到底是另一個版本、是重製、還是典藏？（文 / 陳禹先）

In 2009, Tao Ya-Lun was invited by Digital Art Foundation for the inaugural exhibition of Digital Art Center, Taipei, at which Tao exhibited a site-specific kinetic installation, The Light of Historical Ending. He addressed "the physics of light" and created physical and sensory experiences in the specific space by using laser projectors, smoke machines, computer programming, and sound effects.

In 2018, Concept Museum of Art is inaugurated and launches "Save Media Art," hoping to reform the taxonomy of the purposes of collection, exhibition, and education in the system of modernist museums. Museums' focus on collections used to revolve around the authenticity and originality of the material, while the new museology has steered its way to be people-oriented, arguing that if an acquisition strategy fails to demonstrate its viability to represent, the purpose of the collection acquisition is unfulfilled. Nevertheless, thriving in the age of mechanical reproduction, the liberation from traditional aesthetics, and the advance of media technologies, techno/digital art has fundamentally expanded the realm of media for artistic creation.

For the inaugural exhibition, Concept Museum of Art invites Tao Ya-Lun to reimagine The Light of Historical Ending in a different milieu and with a new problematic. The exhibition is titled as Archive or Alive? – Crossing Through the Light Wall for that we want to probe into the essential question: Is this exhibition to be deemed as another version of work, a reproduction or archive of the original? (by Yu-Hsien Chen)

策展人的話
Words from the Curators

策展人 / 陳禹先
聯合國教科文組織早於 2003 年第 32 屆大會中就提出數位文化資產（Born-Digital Heritage）的概念，並呼籲數位文化資產受到科技汰換與物理衰敗的影響，事實上處於急迫（in danger）的保存狀況之中。科技藝術作品除具有數位文化資產的特質，更需考量於特定時間、空間下藝術的表現性；反觀歐美國家過往 30 多年的科技藝術保存研究經驗，台灣才正開始尋找延續藝術家作品壽命的方法。敬請大家持續關注「科技藝術典藏基礎計畫」與「概念美術館」。

策展人 / 林子荃
科技藝術能被典藏保存下來嗎？我們嘗試透過 VR 虛擬重現的優勢，處理

科技藝術保存的問題，然而經由 VR 原始作品能有多少比例被保存與再現，又有多少是無法處理的，戴上 VR 之後，我們又會看見什麼？透過實際案例的操作與展演，拓展可向前挖掘的方向，同時也期望帶起相關議題的討論。

Curator / Chen Yu-Hsien

As early as 2003, UNESCO has recognized the concept of Born-Digital Heritage during its 32nd General Conference in 2003, and draw the attention to the preservation of digital heritage that is in danger due to the rapid obsolescence of technologies and physical deterioration. Techno art has the intrinsic properties of digital heritage, and its artistic expressiveness is to be gauged with the consideration of a specific time and space. In contrast to the experiences of the preservation of techno art accumulated in Europe and the United States, Taiwan has just started to look for ways to extend the life of the artworks. Your continuous attention to "Save Media Art" and "Concept of Museum of Art."

Curator / Lin Tzu-Chuan

Can techno art be collected and preserved? We attempt to take advantage of VR to tackle the issue of techno-art preservation. Nonetheless, how much veracity of the original work can be preserved and represented through VR, whereas how much is left unaddressed? And what can we see with VR glasses on? Through practical exercise and exhibition, it is attempted to further the exploration and also hoped to raise the awareness of the related discussions.

第一場：光中的光牆──虛與實的實踐對照
Session 1 : Real v.s. Virtual: The Light Wall Within

時間：2018 / 08 / 31（五）19:30
地點：台灣數位藝術中心 Taiwan Digital Art Center

講者：陶亞倫（「終結歷史之光」原作）、江翊瑋（「穿越光牆」VR 製作）
主持：陳禹先（「穿越光牆」策展人）、林子荃（「穿越光牆」策展人）
Speaker : Ya-Lun Tao, Artist of The Light of Historical Ending; Yi-Wei Chiang, VR Producer of Archive or Alive? – Crossing through the Light Wall
Moderators : Yu-Hsien Chen; Tzu-Chuan Lin, Curators of Archive or Alive? – Crossing through the Light Wall

● Save Media Art 計畫的起源
Origin of Save Media Art

2018 年財團法人數位藝術基金會提出「科技藝術典藏基礎計畫」，反思過去博物館典藏縈繞於「真實性」（authenticity）與「原件性」（originality）的保存原則，策劃「概念美術館」首檔展覽「穿越光牆 - Archive or Alive?」，以 VR 製作重返 2009 年台北數位藝術中心開館展出的現地作品──陶亞倫創作的《終結歷史之光》。座談中 VR 製作江翊瑋、原作藝術家陶亞倫和策展人陳禹先、林子荃，分別在「技術、概念、典藏」三面向討論，以《終結歷史之光》中時基（time-based）、現地（site-specific）、體感和互動等特性作為敲門磚，叩問數位典藏與 VR 製作中原件、再現或重製等議題。

In 2018, Digital Art Foundation (DAF) launched Save Media Art, a project that takes a closer look into archiving that used to focus on authenticity and originality. DAF curated Concept Museum of Art and launched a

series of exhibitions with its inauguration titled as Archive or Alive? – Crossing through the Light Wall. The exhibition used VR to bring back The Light of Historical Ending, a site-specific work by Ya-Lun Tao, who exhibited at the inaugural exhibition of Digital Art Center (DAC) in 2009. During the session, the discussion, in terms of technology, concept, and archiving, went around Yi-Wei Chiang, the VR producer, Ya-Lun Tao, the artist, and Yu-Hsien Chen as well as Tzu-Chuan Lin, the curators. The elements that are time-based, site -specific, sensory, and interactive in Tao's work served as triggers for a talk on originality, representation, and reproduction, when it comes to digital archiving and VR production.

「穿越光牆」的 VR 內容製作
VR Production

「穿越光牆 - Archive or Alive?」參考《終結歷史之光》當時展出照片及文件，利用 Unity 開發出 VR 來重現該作。江翊瑋從技術層面出發，諸如雷射光牆特性的掌握、空間場景建置、人物模型塑造等；摸索如何還原的同時，也更動原作的部分細節，點出 VR 與原作之間「原件性」問題。其 VR 處理的取捨，考量有二：一為《終結歷史之光》留下的檔案有限，如原先使用的音效近乎佚失；另外，在於 VR 本身性質呈現的變更，如空間尺寸與天花板高度的調整，達到更佳的觀感效果。

Archive or Alive? – Crossing through the Light Wall referred to the photos and documents exhibited in The Light of Historical Ending, a predecessor work reproduced using Unity, a VR development platform. Chiang started the reproduction on a technical level that covered using laser light walls, setting up scenes and spaces, and creating character models. He also adjusted some of the details from the original, so as to explore the originality of both the original and the reproduction using VR. There were 2 factors taken into account for VR processing: one was the limited number of files retrieved from The Light of Historical Ending. For instance, only a handful of the sound tracks were to be found; the other was the nature of VR in presentation, such as the size of the space and the height of the ceiling that needed adjustments to create a better visitor experience.

VR 雖然是「虛擬實境」，企圖追求如實；但江翊瑋坦言，VR 設計中應注意「風格」的一致性；包含裝置穿戴者在 VR 中手的簡約呈現，或不表現出穿戴者的身體造型，由於只要在細節未盡逼真，穿戴者便容易造成暈眩不適應。

Although VR technology, which stands for "virtual reality," seeks simulated experience similar to the real world, the consistency of styles in designing details is as important, according to Chiang. Examples can be found in the modeling of users' hands with simple outlines or the attempt to not show the body shape of users with wearables. If the details are not taken care of well enough, users are likely to experience VR sickness, such as dizziness.

VR 內容與與原作之異同
VR Reproduction v.s. Original: Similarities & Differences

「體感」作為《終結歷史之光》中重要概念之一，以「光的物理性」為題，利用具威脅感的雷射光，加速衝撞、切割觀者的暴力。陶亞倫認為，VR 與雷射光「虛」的性質與技術上接近，VR 作為「無邊際、無地心引力的世界」，甚至跳脫物理限制，趨近藝術家理想的狀態。但體感方面，他表示：「真實物理空間的體感是人與生俱來，但 VR 體感是科技賦予」，難以「再現」來談論，直指「真實性」命題。

With sensory as one of the key elements, The Light of Historical Ending featured the nature of light, where laser light served as an intimidation to boost the vibe of violence that smacked into and ripped apart the viewers. Tao believes that VR is similar to laser light, regarding their technical feasibility and the nature of being "virtual materials." VR technology allows the creation of worlds without physical borders and gravity, which can even go beyond physical limitations and bring to life the ideal worlds that artists have in mind. Yet, when it comes to sensory,

"human beings are born with the sensory that helps us perceive the physical world around us, while VR experiences come from technology," said Tao. In other words, instead of addressing the reproduction of sensory, it was the authenticity that should be the focus of study.

● VR 作為數位典藏的未來
VR as the Future of Digital Archiving

陶亞倫述及近代思想史發展：唯物論、現象學等思維，基於表徵非形而上。然而，他引借尼采觀點，認為真實世界抑是幻象，宛若投影。同理於科技、新媒體藝術，誠如陶亞倫所言，人類透過科技將理想展現其形狀，而背後的概念，將會是數位典藏的重點。

Later on, Tao mentioned the history of modern thought where there are materialism and phenomenology, which hold that matters are their outer appearances in nature, instead of non-metaphysical. However, he also talked about Nietzsche's point of view that the real world is an illusion, just like images projected on the wall. The same applies to technology and new media art. As Tao pointed out, human beings present their ideas in physical forms using technology, and it is the idea that is the essence of digital archiving.

陳禹先分析當今博物館對於數位典藏的二種策略：一者為透過分類編目，檔案化組成原件；另者為觀念核心的保留，透過再詮釋（reinterpretation），再現藝術作品，VR 即為一種紀錄工具。不過，後者典藏形式的困境，包含如何將概念更細緻詳實的定義與捕捉，如同陳禹先對陶亞倫的提問，原作中的體感概念該如何被再現。此外，陶亞倫也表示由於藝術家的思維跳躍，加上 VR 新的視覺及身體，數位藝術典藏亦會是一種新的創作。

Yu-Hsien Chen elaborated on the 2 digital archiving strategies adopted by museums today: one is to organize the originals in file formats through categorizing and cataloging; the other is to preserve the core concept of the works for future reproduction through reinterpretation, with VR as a means to capture the content. However, the challenges in using the second strategy lie in defining and capturing the concept of the works in a more precise and detailed manner. This echoes with Chen's question to Tao on how to reproduce the sensory in the original work. According to Tao, artists have a wandering mind and their thoughts often jump around, coupled with VR technology now serving as an extension to their eyes and bodies, it is believed that digital archiving can be a new approach to art creation.

第二場：技術驅動與概念轉型
Session 2 : Technology-driven & Concept Transformation

時間：2018 / 09 / 20（四）19:30
地點：台灣數位藝術中心 Taiwan Digital Art Center

講者：蔡遵弘（臺北科技大學設計學院設計博士）
主持：王柏偉（藝評人）
Speaker：Tsun-Hung Tsai, PhD in Design from College of Design, National Taipei University of Technology (NTUT)
Moderator：Po-Wei Wang, Art Critic

「穿越光牆」的技術與美學
Crossing through the Light Wall: Technicality and Aesthetics

2018 年財團法人數位藝術基金會策劃「穿越光牆 - Archive or Alive?」展覽，邀請藝術家陶亞倫合作，以 2009 年作品《終結歷史之光》為楔子，本次座談中蔡遵弘、王柏偉分別以「技術性」與「藝術性」切入，將焦點放回 VR 發展和陶亞倫的創作歷程，剖析技術媒介運用與概念傳達的關係與啟示。

In 2018, the Digital Art Foundation-curated Archive or Alive? – Crossing through the Light Wall exhibition invited artist Ya-Lun Tao to present The Light of Historical Ending, a work he had completed in 2009 to kick off the discussion. During the session, Tsun-Hung Tsai and Po-Wei Wang redirected their focus on the development of virtual reality (VR) technology and Tao's process of creating the work, exploring the ideas of technicality and aesthetics respectively as well as delving into the relationship between, and revelation of, the use of technical media and the expression of concepts.

VR 技術近年的發展
Recent Development of VR Technology

蔡遵弘從 VR 技術發展脈絡談起，從 1935 年名詞提出、VR 停留在實驗室的研發階段，直至 2014 年美國新創公司 Oculus 發行「Rift DK1」頭戴式顯示器進入市面。2014 至 2015 年為 VR 發展高峰期，由於當時 VR 研發對顯示卡的要求條件低，有利開發者普遍使用，當階段國際間自發性創作的 VR 作品數量甚高。2016 年進入平緩期，其中 HTC Vive 上市，開創 Lighthouse「空間定位技術」，觀者可在有限空間內，在 VR 的虛擬實境中遊走。

Tsai began his talk by laying out the development of VR technology. The term first came up in 1935 and was still very much in its infancy. In 2014, Oculus, a U.S. startup, released its VR headset, Rift DK1, contributing to a boom in such technology during the 2014-15 period. Back then, powerful graphic cards were not as important as they are today for VR technology, so it was easier for developers to make use of the technology and there were an increasing number of interest-driven VR creations among the international community. VR reached a plateau in 2016, when HTC Vive and its Lighthouse "room-scale" tracking technology came out, allowing users to roam virtual reality in limited space.

蔡遵弘提出 VR 技術市場的二方向趨勢：其一為全景攝影，如 2016 年 Samsung Gear 360 及 Ricoh V；其二為追蹤技術（Inside-out），減少感應器佈置成本，並改善使用者在空間移動的限制，如 Google Mirage Solo with Daydream 或 Windows Mixed Reality 頭戴裝置。除了在視覺方面提升，VR 亦包含體感與互動裝置的研發，如衣服、手環、戒指等形式的穿戴裝置，偵測身體各部位肌肉，嘗試將肢體帶入 VR 世界之中。當 VR 趨於成熟，將進入 AR 的轉向，將虛擬置入於實際空間。

Tsai also pointed out two trends in the market of VR technology: the first being panoramic photography (Samsung Gear 360 in 2016 and RICOH THETA V, for instance) and the second being the inside-out tracking, a technology that reduces the deployment cost for sensors and increases users' mobility in a confined space. Examples include Google's Mirage Solo with Daydream and the Windows Mixed Reality headset. In addition to focusing on the improvement of visual effects, VR technology also concentrates on the development of motion sensing and interactive devices. These devices come in the forms such as clothing, bracelets, and rings. By detecting movement of every part of the body, they seek to integrate body movements into virtual reality. As VR technology matures, it will eventually shift towards augmented reality (AR), thus incorporating virtuality into reality.

陶亞倫藝術創作中的空間性、物質性與精神性
The Spatiality, Materiality, and Spirituality in Tao Ya-lun's Artworks

王柏偉梳理陶亞倫作品「空間性」脈絡，首先提出「系統的封閉性」特徵，以 1990 年代末《鬆口氣》為例，骨架式收縮如生物樣態的雕塑，

觀者在系統外觀看封閉腔體。空間感作為裝置的衍生物，2000 年《線性空間》「洞、通道」隱喻，開啟空間脈絡的例外型態，然而還未深入空間的探討。直至 2003 年，《意識真空 2 號》等作品，展開陶亞倫對精神性空間的探索。作品使用高倍率顯微鏡，初見於 1997 年《自我意識 1》，2000 年初成為重點媒介。誠如王柏偉所言：「陶亞倫放棄外部式對於空間旁觀的理解，而進入到空間當中」，「放大」影像作為向內延伸的空間，微觀細小之物的精神效果，影響諸如張永達等藝術家的創作。

Wang dissected the idea of spatiality in Tao's artworks by bringing up the presence of a systematic closedness in his early creations. A Sigh of Relief, a work of sculpture Tao created in the late 1990s, serves as a fitting example. The skeleton-like sculpture seems to have contracted itself to the resemblance of an organism, presenting to the viewers on the outside the image of a closed chamber. However, metaphors of open space, such as holes or channels, began emerging in The Linear Space, a work of his in 2000. He only treated the concept of space as a derivative of his installation at the time, rather than as a major theme. It was not until the release of the Consciousness in Vacuum II in 2003 that Tao was committed to exploring the spiritual space. High-resolution microscopes first appeared in Self-consciousness I, a work of Tao's in 1997, and became an important medium in his creations in the early 2000s. "Tao Ya-Lun did not seek to understand the concept of space from an external and sidelined perspective; instead, he seeks to position himself within the concept of space," said Wang. By "enlarging" images as a way to reach inward-looking spaces and by microscoping the minutest details as a way to access their spiritual denotations, Tao has influenced the likes of Yung-Ta Chang in their creations.

關於「物質性」與「精神性」過渡，王柏偉從 1998 年《生滅》、《黑色 2 號》觀看黑油黏稠性的速度變化，到 2008 年《零度意識：漂浮速度每秒 30 萬公里》、《旋轉的光牆》等作品，油性煙霧的使用，進而追求光的銳利度及切割感。2013 年《留白》淬鍊出「光」，消除空間邊界，卻讓觀者完整進入到光的秩序中，啟蒙所謂「中式人文主義精神」。

Wang also touched upon the gradual shift in Tao's artworks towards materiality and spirituality. It began with the emphasis on thickness and density of engine oil in two of his works created in 1998, Life and Death and Black No.2, and transformed into the use of oil-based haze in his works in 2008, such as Unconsciousness – Drifting Speed: 300,000 Kilometer Per Second and Swirling Wall of Light, seeking to bring out the cutting sharpness of light in these creations. In 2013, Tao's State of Mind further removed boundaries and stressed the notion of light, allowing viewers to completely immerse themselves in the order of light and come to realize the spirit of a "Chinese Humanism".

超脫物理空間的走向，VR 成為首選的媒介，王柏偉解釋：「VR 的影像其實被等於留白當中的光」，不論投影還是虛擬實境，承載的皆為光，也回歸最初 2018 年《穿越光牆》數位典藏中新作與重製及今日「虛、實」二分法的適用性問題。

VR has become the perfect medium for those who seek to break away from physical spaces. "The images shown in VR are no different from the concept of 'light' in State of Mind," Wang explained. Whether it be the projection of images or the VR technology – light has always been what they mean to carry. Such a realization also goes back to reflect the dichotomies between the original and the remake as well as between reality and virtuality, as shown in Crossing Through the Light Wall exhibition in 2018.

第三場：科技藝術典藏什麼碗糕
Session 3 : What is Techno/Media Art Collection?

時間：2018 / 11 / 03（六）19:30
地點：台灣數位藝術中心 Taiwan Digital Art Center

講者：陳禹先（「穿越光牆」策展人）、林子荃（「穿越光牆」策展人）
Speaker : Yu-Hsien Chen; Tzu-Chuan Lin, Curators of Archive or Alive? –
Crossing through the Light Wall

2018 年財團法人數位藝術基金會啟動「科技藝術典藏基礎計畫」，策劃首檔展覽「穿越光牆——Archive or Alive？」，以 2009 年陶亞倫《終結歷史之光》出發，本次講座由陳禹先和林子荃主講，討論科技藝術／新媒體藝術物質及概念層面上，典藏保存的困境及未來可能性。
In 2018, Digital Art Foundation (DAF) launched Save Media Art and curated a series of exhibitions with its inauguration titled as Archive or Alive? – Crossing through the Light Wall. With Yu-Hsien Chen and Tzu-Chuan Lin as speakers, the session started out with a discussion on The Light of Historical Ending, a site-specific work by Ya-Lun Tao in 2009. The talk further explored, from the material and conceptual perspectives, the difficulties and possibilities in archiving and preservation of techno/new media art.

● ## 「終結歷史之光」的典藏與保存
Archiving and Preservation of The Light of Historical Ending

從典藏及保存原則開頭，即現今修復（conservation）與預防性保存（preservation）的物質真實性導向，包含最小干預、可逆性、可辨識性等基本原則，達到保存文物至永恆。然而，當此觀念轉介於科技藝術典藏，是否仍然適用？林子荃借用 Lev Manovich 著作《The Language of New Media》，將科技藝術分成人文面向——創作論述和關懷議題、電腦面向——軟體和硬體設備等，套用於《終結歷史之光》：前者包含藝術家與觀者經驗的世界、表演性與社會層面；後者包括雷射裝置、機械馬達、煙霧機、展示空間等。透過訪談和紀錄，得以釐清藝術家理念及裝置使用方式。不過，陶亞倫認為當時《終結歷史之光》在空間與雷射裝置的呈現仍有改善之處，近而提出如何用 VR 保存「創作理念的理想型」議題。陳禹先也提到，就文物保存倫理而言，《終結歷史之光》作為原版延伸出 VR《穿越光牆》，兩者關係如何被紀錄很重要。

The session started with the principles for work archiving and preservation, which include conservation and preservation regarding the authenticity of the work as the ultimate goal. There are basic rules including minimal intervention, reversibility, and identifiability employed to preserve artworks on a permanent basis. However, do these principles still apply to techno/media art archiving? Lin applied to The Light of Historical Ending an idea from Lev Manovich's book, The Language of New Media, which proposes the classification of techno/media art into 2 categories. One is human aspects with ideas, issues, and concerns behind the creation, and the other is computer aspects with software and hardware. In the case of The Light of Historical Ending, the human

aspects refer to the world experienced by the artists and the viewers as well as the performativity and social concern behind the work, while the computer aspects involve laser devices, electric motors, fog machines, and the exhibition space. Through interviews and records, viewers can get an idea of the artists' design concept and the way the devices are used. When being asked about The Light of Historical Ending in an interview, Tao admitted that there was still room for improvement in terms of how the space and laser devices had been arranged, so he further proposed the possible application of VR to preserve the ideal design concept. Chen also commented that, as Crossing Through the Light Wall is a VR exhibition derived from The Light of Historical Ending, how they are recorded as 2 related artworks is very important, regarding ethics in conservation practice.

科技藝術典藏的國際案例
Foreign Example of Techno/media Art Archiving

從美術館購藏的角度來看，如錄像藝術家 Bill Viola 以設定好的電腦設備整體售出；而座談又以 2018 年香港博物館 M+ 購藏案為例：買下網路藝術「張英海重工業」現有及未來所有作品，其中包含作品副本、譯版、硬碟與作品保證書（Certificate of Authenticity）等。香港 M+ 案例中，林子荃點出科技藝術「可複製」的特性，美術館內有典藏版的母片和展示版的消耗性物件，而光碟設備僅作為一種載體。陳禹先解釋，香港 M+ 並非買斷藝術家的作品，而是買下藝術家作品的權利，如同電影播映權一般；又如藝廊代理藝術家創作，作品保證書便是對美術館典藏權利與版本的確保。其他學者爭議，對於藝術家未來發展的穩定性、代表性不確定，可能影響美術館典藏的素質。
Speaking of museums' collection and acquisition of techno/media art, Bill Viola, a video artist who sold his artwork along with the whole set of computer equipment, is a good example. Another classic example brought up in the session was the acquisition of the entire online

artwork series by artist duo Young-hae Chang Heavy Industries in 2018 by M+, a museum in Hong Kong. The acquired scope covers all existing and future artworks of Young-hae Chang Heavy Industries, including the copies, translations, discs and the certificate of authenticity, etc. From the discussion of this M+ acquisition, Lin pointed out the reproducibility of techno/media art. For such artworks, the original pieces and the expendable copies made for exhibition are preserved in the museum, while the disc player is merely a medium. Chen further clarified that M+ did not buy out the artworks of Young-hae Chang Heavy Industries, but acquired the rights to their artworks instead, just like acquiring the broadcasting rights of films. In the case where the museum exhibits the artworks on behalf of the artists, a certificate of authenticity serves as a proof of the museum's rights to the version of the work being exhibited and its archiving. Some scholars, however, argued that such practice would undermine the stability of artists' development and their uniqueness, which may affect the quality of artwork archiving in the museums.

科技藝術典藏的必要性
The Necessity of Techno/media Art Archiving

科技藝術複製的特性改變我們對原件性或與可逆性的認知，除此之外，軟體、硬體更新與定期使用的維護方式，也不同於過去典藏去脈絡化之後的靜態保存觀念，陳禹先說道：「你不去讓它適用於當今的科技，它就會被現代科技發展所淘汰」。如此促使科技藝術保存策略的「範式轉移」（paradigm shift），程序上包含儲存（storage）、升級（Migration）、模擬（emulation）、再詮釋（re-interpretation）；而《穿越光牆》則屬於再詮釋的 VR 作品。回歸最初展覽所提出關於數位典藏的命題，陳禹先以此作結：「改變已不再於是否接受的問題，而是該選擇用何種方式改變」。
The reproducibility of techno/media art has changed people's understanding of originality and reversibility of artworks. Apart from

that, migration and regular use as ways of maintenance in software and hardware media are different from the traditional ones, where artworks should be taken out of their context and put under static preservation. "If techno/media artworks fail to adapt to modern technologies, they will, in turn, become obsolete as technologies continue to evolve," said Chen. The phenomenon has thus driven the paradigm shift in the preservation strategies for techno/media art, where there are 4 steps—storage, migration, emulation, and re-interpretation. Archive or Alive? – Crossing Through the Light Wall, for instance, is a VR production using re-interpretation. At the end of the session, Chen concluded by reiterating the theme on digital art archiving behind this exhibition— "It is no longer about whether or not we should embrace transformation, but which approach we choose to achieve it."
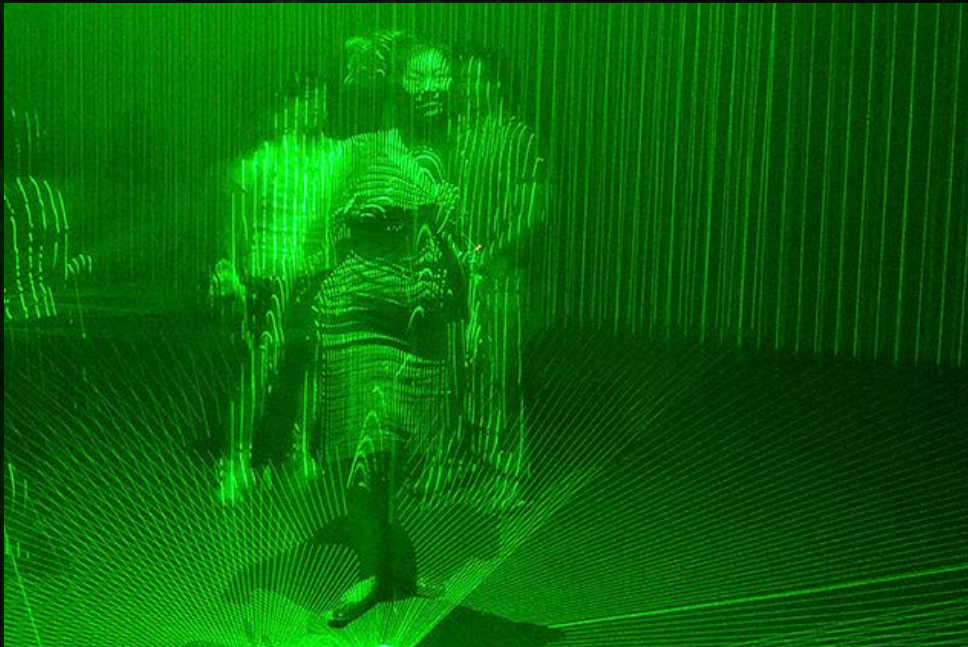
Vol.2 ｜昨日的路徑
PATHS TO THE PAST

如果我們對於某個事物的記憶不存在它內在的屬性中，而是個人在不同脈絡下回憶該事物的感覺；如果我們對於家的感覺，是在跨過某個邊界之後就油然而生的穩定感，那麼，我們難道不是以某種特定的演算方式，將不同的脈絡下的回憶方式定義為「記憶」，將邊界的跨越定義為「家」的抵達／離開？那麼，演算法時代的「記憶」到底以什麼樣的模式呈現？

概念美術館第二檔展覽「昨日的路徑」邀請到王新仁《昨日的路徑》VR 版，作品根據展出空間建模 VR 影像空間，演算出屬於觀者個人的空間影像，既是現地，也是私密的。正如王新仁的家鄉神岡是他記憶的所在、回憶抵達之處，進入《昨日的路徑》的我們，也將產生我們在神岡的空間記憶。這樣的影像、這樣的經驗與記憶，是否成立？如何保存？

Concept Museum of Art Vol. 2 invites Wang Hsin-Jen to exhibit PATHS TO THE PAST (VR version). The VR space of this work is rendered accordingly to the dimension of the exhibition space to create a customized vision of space for the viewer, which makes it site-specific yet personal. As with Shengang, the artist's hometown, being where his memory rests and remembrance called to, we who enter the PATHS TO THE PAST will collect our own spatial memory of being in Shengang. Can such images, experience, and memory as presented in the exhibition be construed as real, and be preserved?
PATHS TO THE PAST (VR version) is different from the dual-channel version in the automatic scheduling algorithm. This version allows the viewer to intervene in the fluid and derivative state of the work. The viewer can choose the viewing perspective freely. Every displacement of the viewer's body is to be recorded during the process and turned into triggers; thus, the viewing experiences will be distinct for the viewers, and each is unduplicable. As with the "observer effect," when measured (or observed), the work takes on an unpredictable reality, which reflects the ever-changing relationship the artist has with his home.

作品介紹
Introduction

是什麼定義了家，是空間上的地理座標、是戶籍上的居住地、還是家人居住十年以上的場所？又或者當你背井離鄉、進退無門後，家的意義才真的產生。《昨日的路徑》是一件探討記憶和家的作品，作者利用空拍、三維實景的方式，創造了獨特的視覺經驗；在程式自動演算下，作品面貌實時改變，三維實景輪番交錯，固有的景觀產生不可預期、流動的新面貌，搭配上田野錄音、顆粒合成音景，呈現濃厚對於家鄉無可言喻的鄉愁。

而本次展出《昨日的路徑》VR 版有別於雙頻道版的電腦排程自動演算，此版本讓觀者能介入作品的流動和衍生狀態。觀者能自由的選擇視野、角度切入作品，過程中身體的移動，將被一一紀錄轉化成觸發的媒介，作品因觀者而不同，每次的觀看經驗無法被複製。如同「觀測者效應」，當進行測量（或觀察）時，將呈現了另一種無法預期的真實，也反應出作者與家時刻改變的關係。（文／王新仁）

What defines home? Is it about the geographic coordinate in space, the place of residence on the household registration record, or where the family members have lived for more than ten years? Or perhaps, the meaning of home only surfaces when one is displaced from home, left nowhere to go. PATHS TO THE PAST is a work that delves into memories and home. The artist uses such methods as aerial photography and 3D Immersive Virtual Reality (3D IVR) to create a one-of-the-kind experience. Programmed by algorithms, the visual of the work is morphed real-time, as are the scenes in the VR, juxtaposed and interlaced, and the default landscape takes on an unexpected, fluid new appearance. Accompanied by the audio of field recording and granular synthesis

soundscape, this work evokes a strong sense of unutterable nostalgia.

PATHS TO THE PAST (VR version) is different from the dual-channel version in the automatic scheduling algorithm. This version allows the viewer to intervene in the fluid and derivative state of the work. The viewer can choose the viewing perspective freely. Every displacement of the viewer's body is to be recorded during the process and turned into triggers; thus, the viewing experiences will be distinct for the viewers, and each is unduplicable. As with the "observer effect," when measured (or observed), the work takes on an unpredictable reality, which reflects the ever-changing relationship the artist has with his home. (by Aluan Wang)

第一場：媒介城市的昨日與明日
Session 1 : Media City: Retrospect & Prospect
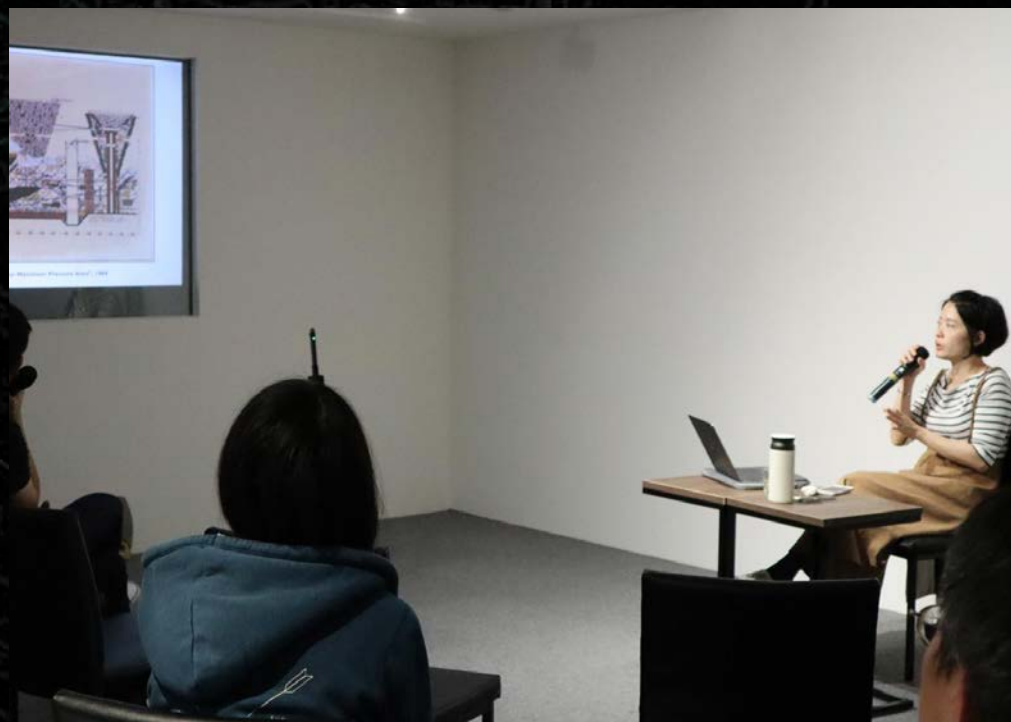
時間：2019 / 03 / 28（四）19:30
地點：台灣數位藝術中心 Taiwan Digital Art Center

講者：朱盈樺（國立臺北教育大學文化創意產業經營學系專任助理教授）
Speaker : Yin-Hua Chu, Full-time Asst. Prof., Dept. of Cultural and Creative
　　　　　 Industries Management, National Taipei University of Education (NTUE)

「概念美術館」的第二檔展覽「昨日的路徑」，為藝術家王新仁作品《昨日的路徑》的VR 版本，根據展出空間建模出VR 的影像空間。本次座談邀請到長期關注地圖學的朱盈樺，來討論在當代城市生活中，科技影像的發展如何使得城市空間產生質變。

Paths to the Past, Vol. 2 of Concept Museum of Art series exhibition is a VR rendition of the work going by the same title by Hsin-Jen Wang, the artist. The space in the VR setting is rendered according to the dimension of the exhibition space. The speaker for this session was Yin-Hua Chu, who has been studying cartography for years and was invited to talk about how the development of science and technology, along with images produced therein have changed the quality of urban spaces in contemporary life.

螢幕介面的時空界限
Screen- Boundaries of Time and Space

講者在開場先說明「螢幕」的特性；這是一個在現代生活當中，容易入侵大眾生活空間的科技。《昨日的路徑》就是透過了螢幕來觀賞，並沉浸於個人、家庭與城市結構當中，模糊了時間與空間的界線。講者認為，在自己進入城市以前，已經有各種方式在腦中建構出其印象；

而當自己進入城市時，只是在與自己的印象進行比對，這種產生影響的影像媒介已經深深影響生活中的各個面向。

Chu started off explaining the nature of a screen, a technology that infiltrates people's daily life. Paths to the Past itself is a work viewed via a screen that immerses viewers into personal experience, family setting, and the structure of a city, while the boundaries of time and space are blurred. Chu believes that before people physically arrive in a city, there have been impressions of that city projected in various ways in people's minds. Once people are in the city, they start matching what they see to the impressions they already have. For this reason, these influential media in image forms are believed to have greatly impacted all aspects of people's life.

滿足慾望的新媒體
New Media to Satisfy Wants and Needs.

想像與慾望總是走在科技前面，並且所有機具的發明皆是在滿足人類所有的想像與慾望。朱盈樺提問什麼才是人真正的慾望與想像？倘若科技無法與想像共同發展，那想像是否受限於科技的發展？

People's imagination and needs always march ahead of the development of technology, while the invention of every machine exists for the sole purpose of satisfying those needs. Chu raised a question on defining the essence of people's needs and imaginations. Should technology fail to develop at the same pace as people's imagination runs free, is it possible that our imagination will also be restricted by what we can build?

至於何謂新媒體？如果今日的舊媒體其實也是昨日的新媒體，或許思考當時的新媒體是如何滿足當下的慾望與想像，並與當時的時代脈絡有所呼應與作出對比，都是人們要去探詢的。從十九世紀開始，出現了許多時間與空間被消彌的概念。但時至今日，時間與空間並不會真正被改變，而是有新的感知習慣被培養與產生出來。

As for what is new media? Yesterday's new media can become old ones today. The question lies in how the new media at different times satisfy the needs and imaginations of people at that time, and what is more, how that process corresponds to that period and shows contrasts at the same time. These, perhaps, are the issues at which people should take a good look. Since the 19th century, there have been many concepts proposed on the elimination of time and space. Yet, as of today, time and space have never been changed, but, indeed, there have been new ways formed over time to perceive the world.

影像史中的再現
Reproduction over the History of Images

談到再現的本質，過去人類就一直進行再現的行為。從十五世紀的布魯內萊斯基之鏡（Brunelleschi's mirror）、阿爾貝提之窗（Alberti's window）與諸多錯視法的表現，都是以平面方式呈現立體效果，也是不同的透視技法。而繪畫就像是面對世界的窗戶，也是觀者得以通往世界的媒介。到了十九世紀開始，時間與空間的消弭始自蒸汽火車的出現，人類的生活空間開始相對縮小，印證了「時間與空間猶如昨日死」。二十世紀以後，人類開始想像如何在平面上觀賞到動態感，並隨著攝影技術發展，將空間置換成容易變換的場景。

When it comes to the nature of representation, there have been precedents over the history where people tried to represent something. There are Brunelleschi's Mirror and Alberti's Window in the 15th century, along with several other applications of trompe l'oeil, where 2-dimensional imagery depicted exists in 3-dimensional optical illusion, which is also a type of perspective often used by artists. Drawings can serve as windows looking into the world and a medium through which the viewers can access the world. Starting from the 19th century, the boundaries of time and space were weakened by the invention of steam trains, and this meant a shrinking of space and shortened distance between humans' residences. These are the living proofs that time and space were as dead and gone as yesterday. After the 20th century, humans began to look into ways to convey motion on two-dimensional surfaces. With the development of photography, regular spaces were

replaced with easily changeable scenes.

講者分享了《持攝影機的人》（1929）與《後窗》（1954）兩部電影，藉由不同的影像手法，穿透觀景窗、讓觀者觀察世界並改造世界，反思觀看與被觀看、媒介與自身的差異。柯比意的都市學觀點提出，現代辦公室所有事物都是在改變時間與空間；完成世界飛行旅行的富豪被報紙形容為消滅時間與空間的人；麥克魯漢於 1960 年代提出「媒介即訊息」，廢止了地球的時間與空間。在科技的改變下，時空思維有著巨幅的反轉。

Later on, Chu mentioned 2 films- Man with a Movie Camera (1929) and Rear Window (1954), both of which adopted different imaging techniques to allow the audience, through the viewfinder, to observe the world and further transform it. From these, the audience has a chance to think about the differences among being the people who watch others, those watched, the medium, and oneself. Le Corbusier put forward his ideas in Urbanisme that everything in a modern office is changing the idea of time and space; a man of great wealth who completed round-the-world flight was described in the newspaper as the person who raced against time and space; "the medium is the message," a phrase coined by Marshall McLuhan in the 1960s, proposes that human sensory, through media, can be communicated beyond time and space. With changes in technology, people's perception of time and space has also undergone drastic changes.

公 / 私領域的信息傳遞
Information Communicated: In Private v.s. In Public

在現代化生活中對「家」的界線模糊，公領域與私領域透過螢幕與觀景窗的發展置入不同時間與空間的訊息。透過作品《昨日的路徑》得以讓觀者想像自己在哪，並藉由世界的縫隙來觀察作品。同時又應用肢體與空間對話，在重構時空環境下，由演算法抵達屬於觀者的回憶。

In modern life, the boundaries between home and other places become blurred. Due to the advancement in screens and viewfinders, information from different time and space can be placed in both public occasions or private settings. In Paths to the Past, viewers can imagine themselves standing at an ideal spot where they appreciate the work by peering through a crack in the world. At the same time, a dialogue is built between the space and viewers' body; with the reconstruction of space and time using algorithms, new memories are formed for this new viewing experience.

媒介載體的進步導致人對時空認知有了變化，但如果視覺得以資訊化，對於地圖圖標的指示系統會有何種想像？朱盈樺分享到當人在受限時，所產生的想像其實相當廣大；從過去紙本地圖與現今 google 地圖的變化，以「地點為本」到以「本機定位為本」的標示系統，已經是一種正在產生的轉變了。

The advancement of media leads to changes in people's perception of time and space. On the other hand, when people can turn what they see into data form, there is a question of what icons for map indicators people may expect to see in the future, for instance. Chu mentioned that people in constraining situations may have an expanded imagination. A good example would be the transition from paper maps to Google Maps, which is happening right now, as the navigation system used to be destination-based and is now mobile location based.

講者在最後分享了諸多無法被量測或感知的事物，如何產生出許多的想像與生命力。但同時也提醒現代出現的許多儀器，雖然能紀錄最真實的時間與空間，但過於透明的資訊反而無法產生更豐富的想像了。

At the end, Chu wrapped up her presentation by talking about things that cannot be measured or perceived, which, in a way, may ignite countless imaginations and vitality. Yet, she stressed that although many instruments today can record incidents at any time and space down to the last detail, the recorded information can also be too specific to leave room for fevered imagination.

第二場：智能過剩的世界
Session 2 : A World of Excessive Intelligence

時間：2019 / 04 / 30（二）19:30
地點：台灣數位藝術中心 Taiwan Digital Art Center

講者：凌天（交通大學建築研究所專任助理教授）
　　　王柏偉（藝評人）
Speaker : Tien Ling, Full-time Asst. Prof., Graduate Institute of Architecture,
　　　　　National Chiao Tung University, (NCTU);
　　　　　Po-Wei Wang, Art Critic

「概念美術館」第二檔展覽「昨日的路徑」是王新仁同名作品的 VR
版本。本次座談從作品的議題延伸出來，討論從機器感知（machine
perception）與機器學習等新學門出現以後，（人工）智能的過剩情態。
Paths to the Past, Vol. 2 of Concept Museum of Art series exhibition is a VR
rendition of the work going by the same title by Hsin-Jen Wang, the artist.
This session was an extension of Wang's work, focusing on the excessiveness
of (artificial) intelligence after the emergence of new areas of study such as
machine perception and machine learning.

● 三維的邊界擴張
Expansion of 3D Boundaries

藝評人王柏偉先說明了以演算法所產生出的世界，與元素化的世界構
築有何想像。另一位講者凌天則以全景式地圖（如 Google Earth）開
啟大家對於地圖的三維概念，並分享現在的座標閱讀習慣已不僅僅是
出入地點，而是將所有地點的三維得到邊界擴張，連結形成一個載體。
開啟 Google Earth 時，地球畫面會緩慢旋轉移動，呈現以使用者為中

心的相對概念，建立介面與客體的關係。凌天也提及地圖的功能性轉
變成體驗性，使得地圖產生更強的連結以增加遊戲性。
Po-Wei Wang, an art critic, explained the world created using algorithms
and the imagination for a world constructed by elements. Tien Ling,
another speaker, enlightened the audience on the 3D concept of maps
by showing a panoramic map (such as Google Earth). Ling pointed out
that when people read coordinates on a map today, they not only
pinpoint a location but expand the 3D boundaries of all locations, which
are connected to form a carrier. When you open the Google Earth app,
the globe icon rotates slowly, which demonstrates the relative concept
of user-centered design and establishes the relationship between the
app interface and objects. In addition, Ling mentioned that maps have
transformed from a functional tool into an experiential device, which, as
a result, builds stronger links between the maps and users and enhances
the gameplay within.

● 剩餘影像是否要被呈現？
Remnant: Images to Be Presented Or Not?

系列作品《明日的路徑》探討邊界的消失與連續性圖像的產生，若路
徑以新的座標系統出發，是否會產生跟現今思維不同的可能性？王柏
偉表示，若要綜合可被使用的視覺圖像，是否有需要被去除的多餘影
像？對於《明日的路徑》最大的疑惑是來自於規定影像世界的方式，
是否會刪除剩餘的影像去影響呈現的可能性？
Paths to Tomorrow series explored the disappearance of boundaries
and the creation of continuous images. If a path sets out from a new
coordinate system, could it lead to a thinking different from that of

today? As Wang suggested, to synthesize visual images that are usable, shall we keep the unwanted images that were removed earlier? The biggest doubt over Paths to Tomorrow series came from the rules for the image world: were images in remnant removed to produce the presentation of an artwork?

演算法的效能
Performance of Algorithms

有觀眾認為目前可能不會產生異於現今思維的演算，因為演算需要一個端點來進行起點運算，並且當人類使用時需要一個起始標準進行三維空間的判斷，若無此基礎是無法進行更多步驟的。

Some viewers do not think an algorithm different from today's thinking would be created, as it requires a starting-point to begin the computation. When used by human beings, there needs to be a preliminary standard to determine a 3D space, and any further steps will not be possible without these foundations.

兩位講者回應道，所有呈現的結果皆是演算形成，而隨機運算的景色結果即可產生諸多可能性了。早期電腦飛行遊戲的景色皆是隨機形成，現在以 Google Earth 為例則是能採用現實圖標即時顯現，而這些演變的差異則是源自於電腦運算的效能。若能突破效能限制，也許未來即可呈現愈趨廣闊與自由的世界。此外，觀眾也提供了超方形 (Hypercube)

的幾何概念，從四維投射到三維的新思維可以參考並應用。

The 2 speakers responded by indicating that all presentations were the result of computation through algorithms, and landscapes generated from randomized algorithms can show immense possibilities. For instance, landscapes in flight simulator games in the early days were randomly generated, while Google Earth today adopts real-time display of reality icons. The differences from a series of evolution could be attributed to advances in computational performance. If there could be a breakthrough in performance, we will be able to present an ever-expanding and freer world. In addition, a member of the audience mentioned the hypercube in geometry, which can be taken into account for new concepts in projection of 4D sphere to 3D.

規範與限制之於演算法的變化
## Rules and Limitations of Algorithm Changes

王柏偉再次提出疑問，程式設計者如何讓機器學習運算人與群聚概念，並且如何控制擴大縮小邊界？現場也討論到這為程式設計者所編寫程式的規範，會劃分給予機器思考的限制。

Wang brought up another question on how programmers teach machines to compute concepts about people and clusters, and how machines control the expansion and contraction of boundaries. It was also discussed that programming norms written for programmers might put limits on machine thinking.

凌天在最後提及空間產生的速度緩慢，若要在快速的時間內觀察到變化是不合理的，這是一種時空觀點的限制下所產生的樣式。人與人的互動會相互影響，這個世界也是同理。類似於 Google Earth，科技的進步與運算可以加上更多層次的變化，也能疊加更多上述三維、四維的運算投射。

Toward the end of the session, Ling mentioned that space was created at a slow pace, and it did not make sense to expect observable changes within a short period of time. This is a pattern born from the limitations of spacetime perspective. Human beings interact and affect each other, and the same applies to other elements in the world. Similar to Google Earth, advances in technology and algorithms could be topped with changes on various levels, along with more of the 3D or 4D computational projections mentioned above.
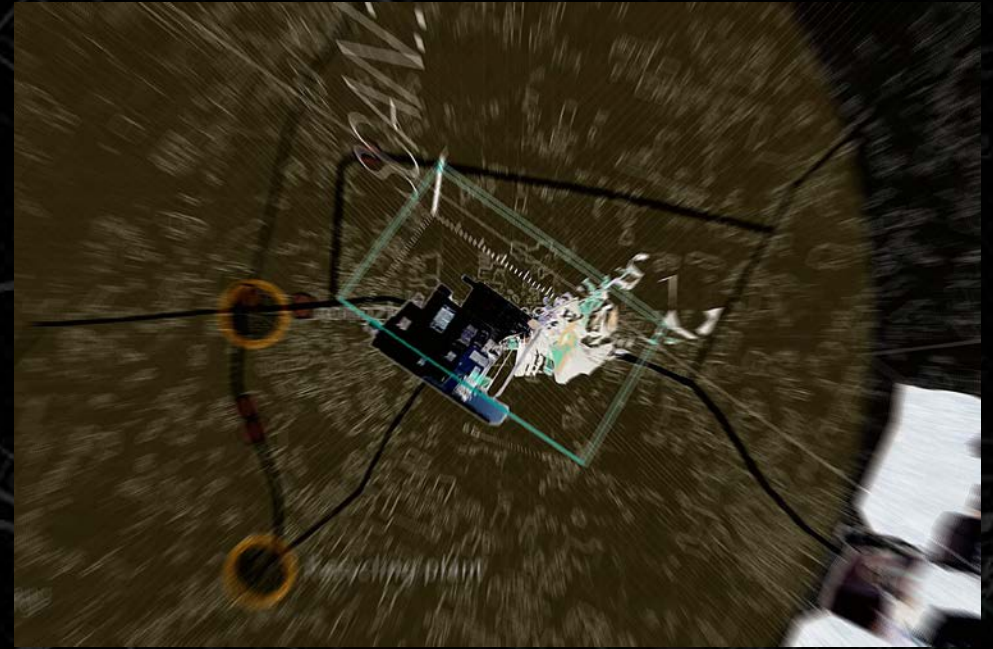
Vol.3 ｜ Archive or Alive：劉守曜獨舞數位典藏
Archive or Alive: Shou-Yuo Liu

基於對數位工具的探索，以及持續探問「線上影音檔案庫」的可能性，繼彙整近百支九〇年代小劇場紀錄影片，在地實驗試圖發展「身體」、「動作」的檔案與詮釋資料，補充檔案使用者「人事時地物」等基本資料以外的識讀介面。進而，在建構詞彙之際，擴充藝評的詞庫，讓非語言（nonverbal）的表演作品有更多藉語言敘述、評論的空間。

數位典藏內容以劉守曜 2014 年獨舞作品《Shapde5.5》的三段身體表演為主，因其不僅是他三十年來對「身體表演」的探索與積累成果，呈現舞者「由內而外」的內在真實意識，更包含身體與物質、非物質等不同「對象」間的關係：身體與動作、身體與裸身、身體與服裝、身體與物件（佈景道具）、身體與聲音、身體與意識、身體與時間、空間等。此外，紀錄內容還包含劉守曜的三段「即興」——他的獨舞創作原點。

2018 年「Archive or Alive：劉守曜獨舞數位典藏」計劃，便是這樣企圖下的實踐。

於此同時，我們期望典藏（archive）在當代不僅是物件保存，更要讓檔案還原栩栩如生（alive）的藝術能量。觀者或作表演觀之，或作研究探之。無論採取什麼立場，「全景影像」結合「VR 頭顯」的沉浸式、自由觀看經驗，勢必觸發迥異於過往二維、第三人稱邏輯的線性敘事影音感知。這無疑是一場果敢的實驗，將「身體表演」與「多視點全景影像」結構在「紀錄－映演」的生產關係，應將擾動錯綜於表演－視聽－評議三方的認知系統：關於身體的紀錄與論述、關於表演的即興與出神、關於紀錄的如實與重製。（文／葉杏柔）

Based on its fervent exploration on using digital tools, ET@T has been driven by its relentless quest to push the possibility of "online video archive." After their previous initiative to contextualize nearly a hundred documentation footages on "avant-garde theatre" of the 90s, ET@T has now furthered its attempt to archiving "Body" and "Physical Movements," and deriving the corresponding "metadata." This initiative is expected to provide the viewers with an understanding framework beyond primary information such as "What/Who/When/Where/Why," and while constructing the vocabularies available for the critics, hopefully, it will allow more room for discourses and critiques for nonverbal performing arts.

This digital archiving project revolves around three sections of the physical performance in Shapde5.5, a solo dance work by Shou-Yuo Liu in 2014. These three sections are to be construed as more than Liu's accumulation and crystallization of "physical performance" for the past 30 years, but a representation of the artist's innate and true consciousness from the inside out, as well as the thoughts of relationship between "objects" in the spectrum of the body, the material and the immaterial. The relations that are dealt with range from body and movement, body and nudity, costume, objects (props), sounds, consciousness, time, space, and so on. The digital archiving also includes three pieces of improvisations—the very starting point where Liu's solo dance pieces unfolded.

In 2018, Archive or Alive: Digital Archiving Development of a Solo Dance by Shou-Yuo Liu was carried out under the aforementioned attempt.

Meanwhile, we hope that, in contemporary times, archive serves more than the purpose of conserving objects but also keeping alive the artistic energy residing within itself. Whether it is to be viewed as performance or probed as research materials, the immersive and dynamic viewing experience offered by "panoramic image", along with "VR headset," definitely challenges the conventional way of perception given by linear narratives set in two-dimensional and third-person perspective videos. The project is undoubtedly a bold initiative to structure "physical

performance" and "panoramic images of multiple viewing perspectives" into the framework of the production relations between "documentation and screening." This dynamic perception system is established amidst performance, audio-visual content, and critiques. And, it is about the documentation of and discourse on the body, the improvisation and spiritual trance state of the performer, and the authenticity and representation of the documentation. (by Hsing-Jou Yeh)

關於藝術家
About the Artist

劉守曜
劇場導演、演員、舞者。1987 年從事劇場工作迄今，早年以演員、舞者為重心，擁有豐富跨界與國際合作經驗。近年專注於導演工作，作品橫跨戲劇、舞蹈、戲曲和數位科技，強調身體與跨領域風格獨具。獨舞系列作品尤其受人矚目，近作有：《薩蠻 – 發展中作品》及《Shapde5.5–劉守曜獨舞》等。

SHOU-YUO LIU
Director, actor, performer and dancer. Since 1987, Shou-Yuo LIU has been working in theatre and experienced in directing, and acting till now. He is known for the cross-boundary collaboration works (including Drama, Dance, Chinese Opera and Digital Technology) and physical solo dance performance, had been participated in the production of art festivals in Seoul, Berlin, and New York. And his solo dance works, Shaman- Working in Progress, SHAPDE5.5 – Shou-Yuo Liu, Solo Dance have been well received.

關於策劃團隊
About the Curatorial Team

在地實驗
「在地實驗」（ET@T）由藝術家黃文浩創立於 1995 年，觀察與發展所有具有潛力的藝術形式，並探索因數位文化而產生的不明狀態。二十餘年來，不論是數位文本、理論與各種數位文化相關的展演形式，在地實驗希望藉由完整而深入的專業知識，經由實際的創作與演練，累積出厚實的經驗與心得。2018 年「Archive or Alive—劉守曜獨舞數位典藏研發計畫」由在地實驗主持、製作，2019 年概念美術館 vol.3「Archive or Alive：劉守曜獨舞數位典藏」策劃人為在地實驗的企劃統籌葉杏柔。

ET@T
ET@T was founded by artist Huang Wen-Hao in 1995 to explore all possible art forms and nascent states of production in digital culture. For more than twenty years, ET@T hopes that its practice of comprehensively applying professional knowledge to digital texts, theories, exhibitions, and performances derived from digital culture, will result in abundant experience and learning. In 2018, project Archive or Alive: Digital Archiving Development of a Solo Dance by Shou-Yuo Liu was organized and produced by ET@T. In 2019, exhibition Concept Museum of Art vol.3: Archive or Alive: Digital Archiving Development of a Solo Dance by Shou-Yuo Liu was curated by Hsing-Jou Yeh, chief coordinator of ET@T.

第一場：不在現場的觀眾：談表演藝術的紀錄與新媒體

Session 1 : The Invisible Audience- Documenting Performing Arts and the New Media

時間：2019 / 6 / 30（日）18:30-20:30
地點：空總臺灣當代文化實驗場 C-LAB，中正堂 Zhongzheng Performance
　　　Center, Taiwan Contemporary Culture Lab (C-LAB)

講者：黃文浩（財團法人數位藝術基金會董事長）
　　　王文儀（臺中國家歌劇院首任藝術總監）
　　　劉守曜（「劉守曜獨舞數位典藏」舞者）
主持：葉杏柔（「在地實驗」企劃統籌）
Speaker：Wen-Hao Huang, Chairman of Digital Art Foundation;
　　　　　Wen-Yi Wang, Executive and Artistic Director,
　　　　　National Taichung Theater;
　　　　　Shou-Yuo Liu, Dancer of Archive or Alive: Shou-Yuo Liu
Moderator：Hsing-Jou Yeh, ET@T Planning Coordinator

「概念美術館」第三檔展覽，由在地實驗與劉守曜合作的「Archive or Alive：劉守曜獨舞數位典藏」計畫帶來建立表演藝術「身體」、「動作」的影音檢索系統，記錄並製成可供未來參照的數位檔案典藏。首場座談邀請黃文浩、王文儀、劉守曜，一起討論 VR 如何成為「紀錄」與「檔案」新方法的可能。

The third exhibition of the Concept Museum of Art: Archive or Alive: Shou-Yuo Liu, a collaboration between ET@T and Shou-Yuo Liu, aims to create an audio-visual retrieval system featuring bodies and movements for performing arts, and to record and create a digital archive for future reference. The first session invited Wen-Hao Huang, Wen-Yi Wang, and Shou-Yuo Liu to discuss how VR can be a possible new approach for documenting and archiving.

● ## 如何記錄？如何跨領域？
Documentation in Cross-boundary Collaborations

主持人葉杏柔一開始先與觀眾分享該計畫中的工作報告與技術模式。除了說明操作介面的革新，也強調展覽提出的三大重點：對舞者劉守曜身體的紀錄與論述、表演中的即興與出神狀態、如實記錄與重製考量。從計畫構思到拍攝、後製，葉杏柔分享許多與劉守曜的緊密溝通，及過程的艱難。

Moderator Hsing-Jou Yeh began by sharing with the audience the work report and technical model of the project. In addition to explaining the operating interface with innovation, she highlighted the three main features of the exhibition: the documentation and discourse of the body of the dancer, Shou-Yuo Liu, the improvisation and trance during the performance, and the realistic documentation and considerations for reproduction. From drafting concepts of the project to the shooting and post-production, Yeh shared a lot of the close communications with Shou-Yuo Liu and the difficulties in the creative process.

王文儀認為，「紀錄」在跨領域的計畫中，一直都需要導向兩個不同的終點：首先，採取不同的技術，必須了解其回到各自領域當中的本質是什麼。此外，這兩個無關的技術與本質交合的目的是什麼。

According to Wen-Yi Wang, documentation in cross-boundary collaborations has always fallen into two different traits: the adoption of different technologies must keep in focus their nature in their respective fields; also, the purpose of merging these two unrelated technologies with their own essence.

她也舉例在《紐約客》（The New Yorker）的文章〈Must the Show Go On?〉中說到，自從 20 世紀的舞蹈大師們，如瑪莎‧葛蘭姆（Martha Graham）、梅爾斯‧坎寧安（Merce Cunningham）、碧娜‧鮑許（Pina Bausch）離開以後，所屬的舞團還能怎麼發展，以及曾經的作品如何被記錄、呈現？甚至，數十年前的傳統戲曲知識習得，更是以人稱「錄老師」的錄像帶流傳為主。由此可見，對於表演藝術稍縱即逝的藝術形式，「紀錄」變得極其重要。

Wang mentioned an article she read in The New Yorker- Must the Show Go On?, which was about how the dance troupes could continue to flourish since the passing of Martha Graham, Merce Cunningham, and Pina Bausch, the 20th century masters that belonged to the groups, and how their works have been documented and presented. What was more, a few decades ago, traditional opera knowledge was mainly acquired through video tapes referred to as "video teachers". These examples all show that recording and documenting have become substantially important for performing arts where some moments disappear in a blink of an eye.

● **異於常態的知識系統**
Knowledge System Not as Usual

黃文浩說明在「概念美術館」的知識架構中，藉由旁徵博引的下標、關鍵字等檢索方法去標示出作品或其概念，將區分一般學者論述上容易主觀詮釋，而是更科學性的客觀路徑去讓觀眾自行認識作品。接著，這套知識系統又能再回到學術界與大眾的視野；卻同時能讓表演藝術界形同參照。表演藝術創作者們在生產作品的構思過程中，往往採用鏡框式的畫面去構成想像；全景表演紀錄在這時就能提供一個維度更寬廣的視角，給予創作者回頭檢視作品的部署。

Wen-Hao Huang explained that in terms of the knowledge involved in the Concept Museum of Art, works or their concepts are marked by indexes of correlative subscripts and keywords, which distinguish them from the generally subjective interpretations of scholarly discourse and allow the audience to understand the works on their own through a more scientific and objective approach. Furthermore, this system of knowledge conforms to the way in which the academic and the general public views it, but, at the same time, allows the performing arts community to make reference to it. In the process of conceptualizing a work, the creators of

performing arts often use proscenium-arch stages to present what they have in mind. For this, panorama documentation provides a broader perspective, allowing the creators to look back at the arrangement of their work.

另外，身體表現的紀錄投入到 AI 的系統，亦能在數據比較之中，開發出更多值得借鑒的可能性。他也表示，「概念美術館」陸續推出三檔展覽以來，許多人都回饋說它們已不只是「紀錄」，反倒更像是再次翻新的「創作」。可見除了一般在典藏、紀錄上的概念，還是具備高度的創造性；同時也印證了王文儀所言，當異質媒介相互碰撞後，保有本質的紀錄目的，卻也同時造就了新穎的反身性目的。

Besides, putting the documented physical performances into the AI system provides possibilities more worthy for reference by means of data comparison. Huang also stated that since the launch of the three exhibitions at the Concept Museum of Art, many people have commented that these exhibits have been seen as more than simply documented works, but rather created works that have been remodeled. It can be seen that, in addition to the general ideas for archiving and documenting, there is also a huge potential for creativity. Meanwhile, this observation also confirms Wang's statement that when heterogeneous media collide with each other, the original purpose of documenting the essence of an artwork is maintained, but at the same time, a new and reflexive purpose is created.

第二場：與時間的獨舞： 回顧於未來的身體簡史
Session 2 : Solo Dance with Time - A Brief History of the Body Looking Back on the Future

時間：2019 / 7 / 20（日）19:00
地點：台灣數位藝術中心 Taiwan Digital Art Center

講者：陳雅萍（國立臺北藝術大學舞蹈理論研究所副教授）
　　　周伶芝（策展人、構作顧問）
Speaker : Ya-Ping Chen, Assoc. Prof., Graduate Institute of Dance, Taipei
　　　　　National University of the Arts;
　　　　　Ling-Chih Chow, Curator / Dramaturgy Consultant

「Archive or Alive：劉守曜獨舞數位典藏」的第二場座談，特別邀請舞蹈史學者陳雅萍與策展人一起為身體史對話；尤其是 1980 年代末到 1990 年代初台灣小劇場的身體。
In the second session for Archive or Alive: Shou-Yuo Liu, a Dance history scholar, Ya-Ping Chen was invited to join the curator in a dialogue on the history of the body; particularly the body in Taiwanese experimental theater from late 1980s to early 1990s.

● 身體與鏡頭之間的對話
Dialogue between the Body and the Camera

周伶芝先點出本次獨舞數位典藏計畫中， 與《Shapde 5.5》不同的是，已經捨棄掉劇場中影像設計疊加在舞者身上的意義，反倒是直接面對正在紀錄他的攝影機。當舞者的身體被不同角度、位置的鏡頭給解剖、鉅細靡遺地紀錄下來時，怎麼樣還能保有身體的完整性，這一點令人感到動容。這次的影像紀錄了舞者自我身體的完成，而紀錄技術勢必也朝向未來。

Ling-Chih Chow started the discussion by pointing out that this project is different from Shapde 5.5, as the meanings that image design superimposes on the dancer typical of the theater is abandoned; instead, the dancer in Archive or Alive: Shou-Yuo Liu directly faces the camera that is recording the performance. When the dancer's body is dissected and minutely recorded by the camera in different angles and positions, it is touching to see how the integrity of the body can still be preserved. The images document the completion of the dancer's body, and the recording technology is bound to move into the future.

劉守曜作為身體的實踐者，怎麼透過整理個人的身體簡史，讓我們理解在時間作用下，身體在演出或被拍攝的時刻，身體策略怎麼去看自己的身體，不斷在時間淘洗之下的回望會是什麼。儘管他在跳著自己過去的作品，然而這些並不是「重演」，而是劉守曜如何去重新呼喚過去的獨舞角色。

As a practitioner of the body performance, Shou-Yuo Liu has compiled a brief history of his own body for the viewers to understand how the body intends to look at itself in strategy during performance or when it is photographed with the effect of time, and what the retrospection will be as time goes by. Although Liu is performing his dances in the past, these are not quite re-enactments, but rather how Liu invokes his past roles in solo dance.

● 身體、主體與情動轉向
Body, Subject, and Affective Turn

陳雅萍提示了對四十年來戒嚴身體的回應與反叛的「雙向進路」：採取歷史化（historicizing）方法的認識論，以及採取剝去法（via negativa）方法的存有論。前者認知戒嚴體制對身體的規訓與制約，進而認識其身體所形塑出來的歷史意識與台灣人主體。後者則是要剝除這層層的制約，找回被國家與戒嚴體制所箝制的身體本能（如慾望、感知與衝動）。這兩者的路徑，皆是指向尋找真實的身體（the authentic body）與主體（subjectivity）。同時，這兩種途徑也恰好反映了台灣

表演藝術的兩大外來舞蹈與前衛劇場類型：德國舞蹈劇場與日本舞踏。談到劉守曜的獨舞系列，也提出其影像留存的三種方向：身體與意識、劇場與身體的原點、自我的探詢與身份認同的建立。

Ya-Ping Chen suggested a "two-way path" for the response and rebellion against the body of martial law over the past 40 years: adopting the epistemology of historicizing as well as existentialism of the via negativa. The epistemology recognizes the discipline and conditioning of the body by the martial law system, and then recognizes the historical consciousness and the Taiwanese subject that is shaped by the body. The via negativa aims to remove the layers of constraints and to recover the body's instincts, such as desire, perception, and impulse, which have been restrained by the state and the martial law system. Both paths lead to the search for the authentic body and subjectivity, and at the same time, reflect the two major types of foreign dance and avant-garde theater in Taiwan's performing arts: German dance theater and Japanese Butoh. About Archive or Alive: Shou-Yuo Liu, Chen also proposed three ideas for image retention for Liu's work: body and consciousness, original points of the theater and body, and inquiry of self and establishment of identity.

陳雅萍引用了學者 Dee Reynoldsd 的論述，談及當代身體表演與舞蹈研究中，身體物質性、肉身性與歷史性中的「情動轉向」（the affective turn）。「情動」關乎具身性（embodiment）；「身體」也成為了主體與世界的中界面（interface）。兼具情動轉向、舞蹈身體的恍惚、表演的儀式性，意識由身體進入，並超越了戲劇性角色的附身，觀眾在其中也成為了參與者。

Chen quoted a scholar, Dee Reynoldsd, on the affective turn in the materiality, corporeality and historicity when it comes to the body in contemporary body performance and dance studies. "Affective" is about embodiment, and "body" also becomes the interface between the subject and the world. With the combination of affective turn, the trance of the dancing body, and the ritual of performance, consciousness enters

through the body and transcends the possession of dramatic roles, in which the audience becomes the participants.

表演與研究的重新認識
Reconceptualization of Performance and Research

兩位講者也討論到，如果表演是關乎具身性，那當科技（如錄像、VR）介入之後，所謂具身性、場域、特定時間與空間的特殊性等，又發生了什麼變化。

The two speakers also discussed that if performance is about embodiment, what happens when technology (e.g., video, VR) intervenes to change the so-called embodiment, the site-specific feature, and the uniqueness of specific time and space.

「表演」一方面作為被研究的對象，另一方面揭示一種研究的方法與視野。換言之，表演（具身的實踐）作為一種認識論、一種認識世界與自我的方法，強調了對身體行為的研究，導正傳統學院研究方法過度重視書寫與文本的取向。

Performance, on the one hand, serves as the object of study and, on the other hand, reveals a method and vision of research. In other words, performance (embodiment in practice), as an epistemology and a way of knowing the world and the self, emphasizes the study of bodily behavior and corrects the traditional academic research approach that focuses too much on writing and studying the text.

第三場：為何獨舞成為檔案？ 80-90 年代小劇場的身體煉成與轉譯

Session 3 : Solo Dance Archived ? Body Refinement and Translation in the Experimental Theatre of the 80s and 90s

時間：2019 / 7 / 30（日）19:00
地點：台灣數位藝術中心 Taiwan Digital Art Center

主講：汪俊彥（表演藝術評論台駐站評論人）
與談：劉守曜（劇場導演、演員、舞者；本展作品舞者）
主持：王柏偉（藝評人）
Speaker : Chun-Yen Wang, Critic of PAReviews
Panelist : Shou-Yuo Liu, Theatre Director / Actor / Dancer / Dancer of
　　　　　 Archive or Alive: Shou-Yuo Liu
Moderator : Po-Wei Wang, Art Critic

「Archive or Alive：劉守曜獨舞數位典藏」第三場座談，由汪俊彥從王墨林的身體論開始，以及當時如優劇場、河左岸劇團的表演活動等，多歷史的層次思考 1980 至 90 年代小劇場身體的煉成。爾後，由與談人劉守曜分享更多過去台灣小劇場運動史的身體發展，探究為何獨舞需要成為檔案。
The third session for Archive or Alive: Shou-Yuo Liu kicked off from Jun-Yen Wang elaborating Mo-Lin Wang's theory of the body and the performances of the U Theatre and the Rive-Gauche Theatre Group. Jun-Yen Wang reflected upon the refinement of the body in the experimental theater from the 1980s to the 1990s on multiple historical levels. Then, the panelist Shou-Yuo Liu shared more about the development of physical bodies in the history of experimental theater movements in Taiwan, exploring why his solo dances need to be archived.

● 「成為檔案」與「轉譯」
Being Archived & Translated

汪俊彥說道，「成為檔案」有意思的地方，在於劉守曜從 1999 年的獨舞距今二十年間，台灣表演的方法已經大為迥異，檔案的紀錄無非可以作為見證。但與之同時，「成為檔案」也意味著那段歷史已「不再有」。

所折射出來的問題意識是，假如九〇年代的身體來到當代已經逐漸遠離，究竟檔案在這其中的效用是什麼，以及如何被端視？
The interesting thing about "artwork being archived", said Jun-Yen Wang, is that during the twenty years since Liu's solo dances in 1999, the performing techniques in Taiwan have changed much, and the archived documents serve as the best proof. Yet, at the same time, a piece of work "being archived" also means that its story "has become history". The question reflected from that will be, if the body of the 1990s has gradually drifted apart from the present, what the role of archiving is in this transition, and how the archived is viewed afterward.

我們常常在談身體的表演，例如劉守曜的「即興」、「出神」等，其實就是九〇年代小劇場身體的煉成結果，與之提煉出來的方法。汪俊彥認為這些方法同時間需要再加上「轉譯」；因為當身體經歷過那麼多不同東西方身體訓練體系，舞者的身體如何轉化這些身體方法。

People often talk about physical performance, such as Liu's Improvisation and Spiritual Trance, which in fact showcase the body refinement in the experimental theater in the 1990s, as well as the approaches for such refinements. Jun-Yen Wang believed that these approaches need to be translated at the same time, because when the body has experienced various Eastern and Western training systems, it remains unsolved to see how the dancer's body translates these techniques for physical performances.

獨舞中經驗的延續
Continuing Experience in Solo Dance

劉守曜說明為什麼自己的獨舞一直與之前的作品有所關聯，最主要是因為每一次的展演都有不同的議題關注或合作對象，然而每一次的表演身體都跟過去所受過的訓練脫不了關係。當自己要做獨舞時，經驗就需要被延續，情感才能夠真實。他也認為王墨林三十年前對身體論的觀察，其實也提示了展示「醜陋」的可能性。但在自身採取的方式，反倒更關注即興的演練；因為即興能夠消化所有不同訓練體系的身體，而非直接繼承那些身體系統。

Liu explained why his solo dances are always related to his previous works, mainly because each performance features different issues as a focus or people to work with, and every performance has something to do with the training the body received in the past. When Liu does a solo dance, the experience needs to be extended so that the emotion can be real. Also, he thought that Mo-Lin Wang's theory of the body brought up thirty years ago actually hinted at the possibility of showcasing "ugliness" . But the approach Liu adopted was more concerned with improvisation, as improvisation is capable of integrating all the different training systems of the body, rather than simply taking in those systems.

對於汪俊彥提到獨舞中戲曲的元素，劉守曜很難得地解釋這是受到《牡丹亭》的「遊園」段落影響，而九〇年代的身體訓練確實常常從傳統戲曲中尋找素材。戲劇元素也成為獨舞身體的其中一種歷史複雜性。

In response to Jun-Yen Wang's reference to the operatic elements in Liu's solo dances, Liu explained, which does not happen often, that his performance was influenced by the Garden Tour passage from The Peony Pavilion, and that physical training in the 1990s did often draw inspirations from the traditional opera. The theatrical element has also become one of the historical complexities of the body in solo dances.

獨舞身體作為歷史與檔案
Body in Solo Dances as History and the Archived

對於解嚴以後的表演身體，汪俊彥觀察到當今的發展開始走向多元的、碎裂的、解構的、去中心的......但在劉守曜身上卻似乎是不斷凝聚的、內觀的。故此，從劉守曜身體系譜的開展看來，也正好承載了過去九〇年代以降的各種表演身體記憶，這些積累也成為了他的獨舞。雖然劉守曜的獨舞採取類似個人生命闡述的自傳形式，但所有這些自傳式生命也無法離開九〇年代台灣同時正在醞釀、思考的多重性、曖昧性的未定論。

After the lifting of martial law in Taiwan, Jun-Yen Wang stated, based on his observation, that the performing body has gradually become more pluralistic, fragmented, deconstructed and decentered. Yet, in

Liu's case, it seems to be cohesive and introspective in a continuous manner. Therefore, from Liu's body, which keeps on extending and flourishing through performances, it seems that he has carried the memories of miscellaneous performances from the 1990s onwards, and such accumulations have resulted in his solo dances. Although Liu's solo dances take the form of an autobiographical account of a person's life, all these lives portrayed in autobiographical ways cannot be separated from the multiplicity and ambiguity of unsettled theories that were simultaneously brewing and contemplated in Taiwan in the 1990s.
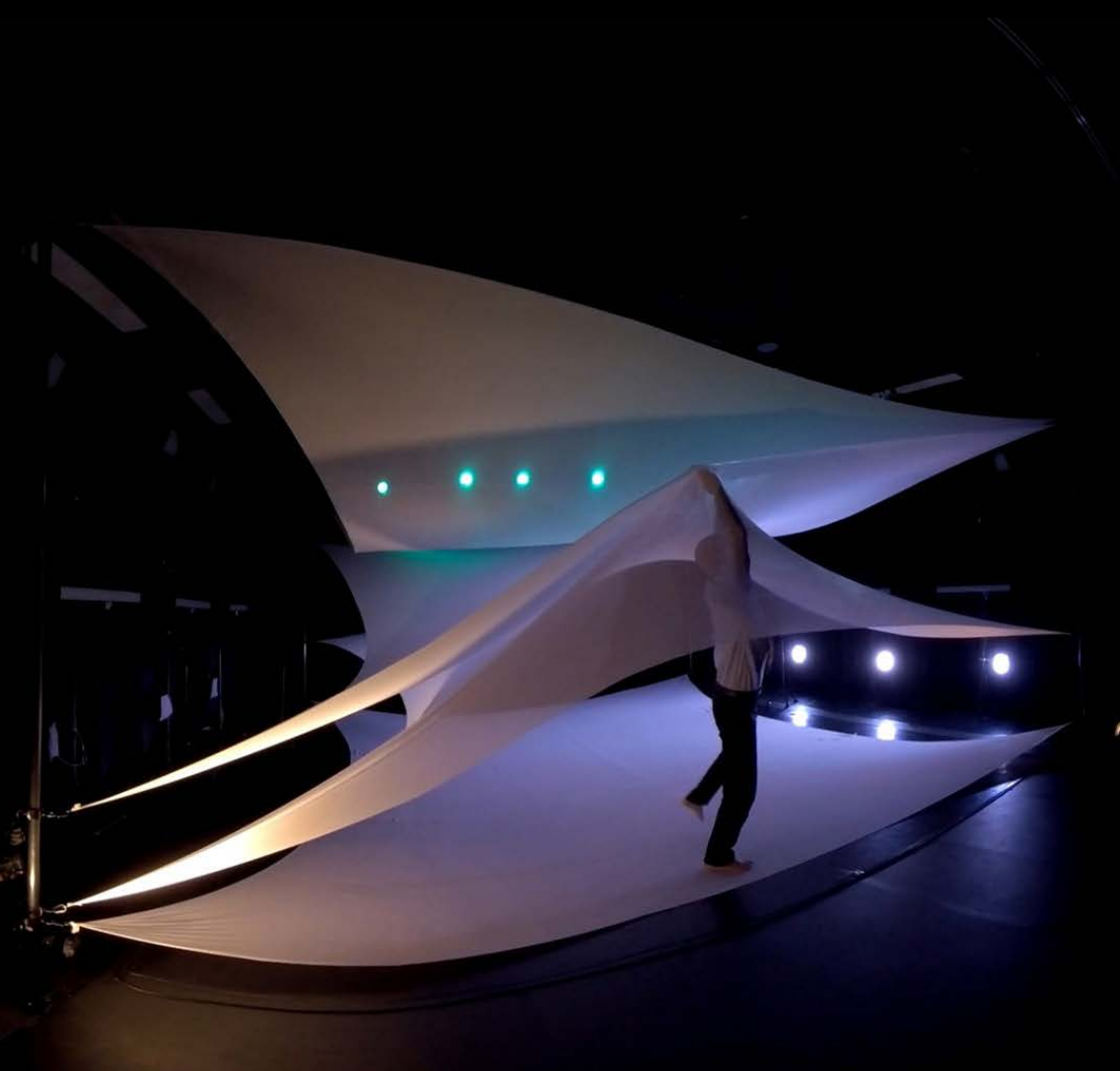
training methods by Grotowski or Suzuki. In Mo-Lin Wang's Body and Urban Theatre, he specifically pointed out how the body performances in Taiwan make use of Suzuki's training method not via "translation" as an equivalent appropriation, but via "reversal" where the whole idea is completely changed in its order. This "reversal" revealed exactly how people imagined the important messages the 1990s had had about localization and Taiwan's search for self-validation and identity since the start of the 2000s have taken two very different paths.

王柏偉提問是否有可能為九〇年代的身體做個定調或命名,汪俊彥先提示九〇年代的精彩之處,是「轉譯」的不等同性。意即,葛羅托斯基(Jerzy Grotowski)或鈴木忠志的身體作用在台灣人身上時,已經不是原來的葛氏或鈴木訓練法。在王墨林《都市劇場與身體》中,曾精準談到台灣表演身體在處理鈴木忠志的訓練法時,不是對等借用的「翻譯」,而是整個翻過來使用的「翻案」。這個「翻案」正好揭示了我們如何想像九〇年代對在地化的重要信息,與台灣在進入 2000 年以後尋求自我證成與認同的機會,走向了兩條完全不同的道路。

When Po-Wei Wang brought up the question whether it was possible to define or name the body in the 1990s, Chun-Yen Wang suggested that the wonderful thing about the 1990s lay in the inequivalence of "translations". That is, when the body performance by Jerzy Grotowski or Tadashi Suzuki is applied to Taiwanese people, it is no longer the original

Vol.4 ｜忽悠—留給未來的殘影
Go Astray - Afterimage for Tomorrow

「忽悠」—意旨「晃動」、「搖擺」，是使人飄忽不定的狀態或心態。
人死後的靈魂終歸何處？記憶是否復存？一直以來都是宗教世界與科幻
領域被議論的命題；而在閾限之間，魄體幻化為飄忽游離的狀態，又應
如何被具體描述。《留給未來的殘影》以實現性手法、與舞者跨界共創
的策略，使虛擬實境成為當代尖端科技身體義肢（prostheses）的附加，
允諾一種另類的、「脫離身體」的經驗，使人一生的記憶圖景得已藉由
科技的持存，體現一個「感性的科技轉向」。虛擬實境不僅是身體的延
伸，它提供了更多的自由、投入純粹意識的未來；虛擬影像的模仿是不
斷的、一而再的在主體面前呈現出來。
作為 VR 電影，《留給未來的殘影》以沉浸觀看形式，述說著男子甦醒
於某個意識層面，其所見、所聽、所感的究竟是記憶？是夢境？是虛擬
實景？抑或是死前的記憶回返？文本中，主角透過「生前記憶續存服務」
人們神經元中的記憶碎片顯為殘影，並在一根火柴的時間之內，複訪生
命中的那個曾經。於此之中，空間不再具有理性，時間亦失去邏輯序次。
虛擬實境的創作實踐之所以能引發觀眾對作品的情感與哲學性內容、對
文本的敘事與主題做出熱烈且全面性的回應，乃是因為觀者身處於影像
景觀世界之內，窮盡所有現場表演中的感官可能性，並體現於一系列空
間、聲音、時延、影像間，建立出一套獨特的屬於「它自己的世界」
（'in-its-own-world'-ness）。
以舞蹈闡述記憶中超脫語言描繪的意境；用影像記錄舞蹈中表意魂魄游
離的飄忽，導演陳芯宜與編舞家周書毅共同創作的《留給未來的殘影》
更超越了「舞蹈錄像」（dance video）的表現形式，使觀者遊牧於三根
火材燃燒時所顯像的記憶殘影，通過游離於奇點（singularities）的空間
跳躍，遊牧於一幕幕影像世界，不斷地游走，卻不斷地分裂。身處於此
「臟器式表演」（visceral performance）之中，以虛擬科技、憑影像敘事、
借舞蹈身體，激起觀眾極為內裡的、無法以言語來表達的、多愁善感的
感知經驗；同時也描述強烈的情感以及觀眾因內心騷亂所引起的生理反

應，促使個體（觀眾）意識到其頭顱與肉身開始產生融合與聚變。
化為概念美術館中的科技藝術展，「忽悠—留給未來的殘影」邀請觀者
在「言下之意」與「絃外之音」（literal and lateral）之間轉換，以科技
連結身體，召喚記憶的殘影，體驗煙滅前的忽悠。（文 / 邱誌勇）

As a VR film, Afterimage for Tomorrow is an immersive experience
recounting a man awakens in somewhere of his consciousness. What he
sees, hears, and feels, are these just memories? Is it a dream? A virtual
landscape? Or a flashback before death? In the context, with Afterlife
Memory Trust, memories fragment in human neurons are presented as
afterimages. The protagonist revisits **the specific point of his life in a
light time. Herewithin, space is no longer rational, and time is not in
chronological order.**
**By means of dance, it recounts the ineffable notion of memories.
Through the medium of image, it records the dance that symbolizes
the drifting state of disassociated body and soul. The collaboration of
Afterimage for Tomorrow between the director Singing CHEN and the
choreographer Shu-Yi CHOU surpasses the expressive form of dance
video. Audience as nomad wander through afterimage of memories
which appear when the 3 matches light up. Thus, Audience travel
through spaces disassociated around singularities, and wander through
scenes of visualized world. They are lingering in the world which is
constantly pulled apart. In the visceral performance, by means of virtual
technology, narrative** film, and physical dance, audience is stirred up with
ineffable and sentimental perception coming from deep inside.
Transformed into digital art collection of the Concept Museum of Art, Go
Astray -Afterimage for Tomorrow invites audience to shift between literal

and lateral, integrate technology with their bodies, call for the flashback of memories, and experience the state of going astray before everything is evaporating. (by Chih-Yung Chiu)

藝術家自述
Artist's Statement

陳芯宜

這是我第一次製作 VR 影片，在構思與研究的過程中，不斷想著「VR 要帶給人類的是什麼？人類的感官如何被拓展與改變？真實又是什麼？」，以及「在人類文明歷史中，從聲音、圖像、語言、文字、影像...到虛擬媒體，所留下的紀錄，有多少得以穿越時間與空間，來到我們（或未來）的眼前？」希望透過這些思索，將「形式／媒體」與「內容的核心」合而為一。於是影片設定了一個可以上傳記憶意識的未來世界，藉由周書毅的舞蹈，捕捉在死亡之前、彌留之際無以名狀的情緒。也藉此討論什麼東西值得留下？未來的 VR 是否直接就在我們的腦內？甚而後設地看待這段舞、這段 VR，是否能穿越？或是一切都將化為塵土。

Singing CHEN

This is my first VR video. During the research and brainstorming process, I kept wondering questions like, what has VR brought to us? How does VR extend and change human senses? What is reality hereafter? I was also wondering, in the history of civilization, how many vestige of sound, graphic, language, characters, image, and virtual media get to travel through time and space, and become visible to us (or to the future)? With these pondering and weighing, I try to integrate form/medium with the core value of content. Thus, this film is set upon a futuristic world where memories and consciousness can be uploaded. Through Shu-Yi CHOU's choreography, it captures the ineffable emotions as one lingering at the edge of death. Also, it is to discuss what's worth remaining. In the future, could VR be rooted inside of our brain? If we put this VR film of dance into meta-thinking, could this work traverse time? Or on the contrary, everything would turn to ashes in the end.

第一場：從 VR 電影到概念美術館
Session 1 : From VR Movie to Concept Museum of Art

時間：2019 / 12 / 12（四）19:30
地點：台灣數位藝術中心 Taiwan Digital Art Center

主講：邱誌勇（國立清華大學藝術學院學士班教授、本展策展人）
　　　陳芯宜（《留給未來的殘影》導演、編劇）
　　　周書毅（《留給未來的殘影》編舞、演出）
主持：王柏偉（數位藝術基金會藝術總監、藝評人）
Speaker : Chih-Yung Chiu, Prof., Interdisciplinary Program of Technology
　　　and Art (B.A.), College of Arts, National Tsing Hua University
　　　(NTHU) / Curator of Go Astray - Afterimage for Tomorrow;
　　　Singing Chen, Director & Playwright of Afterimage for Tomorrow;
　　　Shu-Yi Chou, Choreographer & Performer of Afterimage for
　　　Tomorrow
Moderator : Po-Wei Wang, Art Director of Digital Art Foundation / Art Critic

「概念美術館」的第四檔展覽，為邱誌勇策劃、導演陳芯宜與舞蹈家周
書毅共同創作的 VR 電影「忽悠—留給未來的殘影」。本展的首場講座，
即邀請到本展的策展人邱誌勇教授、陳芯宜、周書毅，一起分享 VR 電影
如何探究身體感知與虛實關係的種種微妙問題。
Exhibition Vol. 4 of the Concept Museum of Art, curated by Chih-Yung Chiu,
is a VR film- Go Astray: Afterimage for Tomorrow, co-created by director
Singing Chen and dancer Shu-Yi Chou. In the first discussion session for this
project, we invited the curator of this exhibition, Professor Chih-Yung Chiu,
Singing Chen, and Shu-Yi Chou to share how VR films explore the subtle
issues of physical perception and the relationship between virtuality and
reality.

虛實之間的身體感知
Physical Perception between Virtuality and Reality

邱誌勇教授以展覽的策劃過程開頭，道出作品中周書毅的舞蹈讓他很感動，不需要言語的狀態下也能把很多的事情說出來。VR不該是無中生有；像在作品中就是奠定在生活中的生老病死，和所能辨識的感覺。某程度上而言，這讓我們可以穿透過去。也因此他才丟出了「忽悠」這個名詞作為展覽名，意即恍惚、不確定的狀態。

Professor Chih-Yung Chiu began by sharing the process of curating the exhibition, stating that he was moved by Shu-Yi Chou's dance in the work, which told a lot of stories without words. VR should not be created out of vacuum, as the work is based on the life of birth, aging, illness, and death, and the feelings that can be recognized. In a sense, this allows people to have a peek through the past. That is why Chiu coined the term "Go Astray" as the title of the exhibition, referring to a state of trance and uncertainty.

藝評人王柏偉接著提問導演是怎麼製造出空間感？像是舞者離觀者很近時，有些觀者會覺得驚恐，但另一些卻想伸手抱住舞者。邱 a 誌勇

說《留給未來的殘影 》讓觀者會想觸摸舞者；只不過戴著很重的頭盔，身體感會把觀者拉回現實空間。我們知道 VR 是透過一種沉浸技術讓身體感知（somatic）變得非常強烈，會不斷強化觀看過程心理、生理的反應。有時候影像裡的世界太美好，回到真實覺得太殘酷，就會產生所謂「後 VR 的憂傷」（post-VR sadness）。

Critic Po-Wei Wang then asked the director how he created a sense of space. For example, when the dancers are very close to the audience, some of whom feel startled but others want to reach out and hug the dancers. Chiu explained that Afterimage for Tomorrow makes the viewers want to touch the dancers, but with a very heavy helmet, the physical sensation would pull the viewers back into the real world. It is known that VR is an immersion technology that amplifies people's somatic senses, which will continuously expand the psychological and physiological responses during the viewing process. Sometimes, the world in the film is so beautiful that going back to reality becomes cruelty itself, which leads to the so-called "post-VR sadness".

● 與觀看對象之間的距離與信任
Distance and Trust with the Viewers

陳芯宜表示在拍攝之前看了很多觀看 VR 的紀錄影片，她發現有一個情節是影像中有兩個人在談情說愛，但觀眾的焦點卻散落在各處。這對一個傳統敘事電影出身的人來說是很驚恐的，因為說故事就是要抓住觀眾的

眼睛。她那時候體會到 VR 不是傳統電影的概念，但不管是科技還是傳統影像，創作者要召喚的就是人的情感。她為自己發出核心的創作提問──觀者到底是誰？如何建構一個讓人相信的世界？

Chen pointed out that she watched a lot of documentaries on VR before producing the project, and she found a scene where two people were interacting with profound affections for each other, but the audience's focus was scattered all over the place. This is very disturbing for someone with a background and long history in traditional narrative films, because storytelling is about capturing the audience's attention. She realized at that time that VR is not like traditional films. Yet, regardless of technology or traditional images, it is human emotions that the creator wants to evoke. Hence, Chen asked herself an essential question about creation: who is the viewer? How do you construct a world that people believe in?

另一是技術的問題，比如說觀者跟蘋果的距離。我們從一出生就與眼見的世界相處，如果比例與距離失真那是很明顯可以感覺到的。最後很意外也很重要的一點，陳芯宜與周書毅時常會視訊討論，當某次周書毅在鏡頭前跳舞時，兩人的眼神突然透過鏡頭對接，讓他們發覺原來這就是透過影像接觸到彼此，也因此開始找尋舞者與觀眾的距離感。

The next is a technical issue, such as the distance between the viewers and the apple. People have been living with the world they see since birth, so it is easy to sense it when the aspect ratio and distance are distorted. Another surprising and important thing was that Chen and Chou had video discussions quite often; there was one time when Chou was dancing in front of the camera, the two of them made eye contact suddenly through the camera, where they realized that they had built connections with each other through the images. That was the origin of their search for the distance between the dancers and the audience.

表演者與觀眾的觀看位置
Viewing Positions of the Performer and the Audience

周書毅分享自己之前參與河床劇團《開房間》的經驗，房間內只有一個觀眾跟一個表演者，那是他覺得一次很貼近 VR 的經驗。因為 VR 不像傳統的舞台或是 2D 影像，有一個很明顯的方向。當有需要面對的方向時，身體會發生改變；但房間內的是 360 度的舞台。對他來說 VR 不能剪輯的語彙也挑戰舞者是否真的活在鏡頭裡，這個形式也決定了身體的語言。

Chou shared his previous experience with Just for You Festival by Riverbed Theatre, where there was only one audience and one performer in the room, which, to him, was an experience very close to experiencing VR, since VR, unlike the traditional stage or 2D video, features a certain direction for navigation. When there is a need to face a certain direction, the viewers' body will change. In comparison, the room from Just for You Festival is a 360-degree stage. For Chou, the expressions in a VR project that cannot be edited pose challenges to the dancers to live inside the lenses for shooting, a form that also determines the language of the body in the performance.

最後邱誌勇以電影《開羅紫玫瑰》（1985）總結。故事情節是經濟大蕭條的時代，女主角到電影院看電影是她唯一逃避生活的方式。某次觀看時，男主角從銀幕裡走出來，突然讓觀眾喪失作為一個觀眾的角色。他覺得那就像 pre-VR；VR 不是只有言下之意，更重要的是弦外之音。觀眾的位置是潛意識不斷轉換的過程，等到分不清楚時身體就進去了。

Chiu concluded with the film The Purple Rose of Cairo (1985). The story is about the time of the Great Depression, when the only way for the heroine to escape from her life is to go to the movies. At one time, the hero of the story comes out of the screen and suddenly, the audience loses their role as viewers. That, to Chiu, was like pre-VR. VR is not just about what is said, but more importantly, what is meant. The perspective of viewing the work is constantly changing along with the viewer's subconscious, and the body enters the immersive experience when it can no longer tell the differences.

第二場：從技術到藝術：VR 作為藝術創作的中介
Session 2 : From Technology to Art: VR as a Medium for Artistic Creation

時間：2019 / 12 / 25（三）19:30
地點：台灣數位藝術中心 Taiwan Digital Art Center

講者：邱誌勇（國立清華大學藝術學院學士班教授、本展策展人）
　　　胡敏君（國立清華大學資訊系統與應用研究所副教授）
主持：王柏偉（數位藝術基金會藝術總監、藝評人）
Speaker : Chih-Yung Chiu, Prof., Interdisciplinary Program of Technology and
　　　　　Art (B.A.), College of Arts, National Tsing Hua University (NTHU) /
　　　　　Curator of Go Astray - Afterimage for Tomorrow;
　　　　　Min-Chun Hu, Assoc. Prof., Institute of Information Systems and
　　　　　Applications, National Tsing Hua University (NTHU)
Moderator : Po-Wei Wang, Art Director of Digital Art Foundation / Art Critic

「概念美術館」的第四檔展覽「忽悠—留給未來的殘影」，第二場講座
邀請本展策展人邱誌勇、藝評人王柏偉、虛擬實境專家與觀察者胡敏君，
一起來討論 VR 當中的技術問題如何造就觀者的體感問題。
Go Astray: Afterimage for Tomorrow, Vol. 4 of the Concept Museum of Art,
had the curator of the exhibition, Chih-Yung Chiu, art critic, Po-Wei Wang,
and VR specialist and observer, Min-Chun Hu as attendees of the second
session of discussion on how the technical challenges in VR create the
limitations for the physical perception for the viewers.

● **VR 的技術發展及其限制**
Technical Development of VR and Its Limitations

講座一開始，邱誌勇先以最近各種結合 VR 的創作為例，提出 VR 觀看時不免會遇到設備的沉重、暈眩感等問題，VR 未來是否更具輕便性跟可能性？另外，上一檔「概念美術館」的展覽，也透過 VR 讓觀眾重新觀看表演藝術家劉守曜當年在牯嶺街小劇場的舞作。但由於當代舞蹈語言太凌亂，就算給 AI 很多資料辨識，也不見得能跑出一個模型來。那在針對表演藝術典藏化，VR 又能有什麼樣的發揮空間？
Chih-Yung Chiu first exemplified various recent creations using VR elements to raise the troubles people encounter when viewing VR, such as holding the heavy equipment and feeling dizzy, and whether VR would be more convenient and potential for further development in the future. In addition, the preceding exhibition of Concept Museum of Art allowed the audience to re-experience the dance works by performance artist Shou-Yuo Liu at the Guling Street Avant-garde Theatre through VR. However, due to the confusing contemporary dance languages, even if we feed AI with a lot of data for recognition, it is unlikely to have a

model. In that sense, what is the scope of VR's role in the archiving of performing arts?

王柏偉接著補充提問，對藝術圈來說，科技創造的想像是最不熟悉的。現在看到的影像都還是銀幕的感覺，但如果要幾乎看到一個世界，這個技術距離我們還有多遠？

Po-Wei Wang then added that the imagination created via technology is one thing to which the art world is least familiar. The images we see now still feel like they are presented within a screen; if we want to see a presentation as good as a whole world, how far away from us is such technology?

● 虛擬影像如何成像？
Formation of Virtual Images

胡敏君先為大家介紹 VR 發展的狀態，其中先說明了清大比較著重的是在軟體開發跟互動機制設計，如何讓使用者在 VR 裡做到很直覺的互動。雖然很常用控制器，但使用者如果要做出投擲的動作，其實不可能把控制器丟出去，所以現在多是用 leap motion 捕抓使用者的手勢，也用大量的資料庫讓它知道手勢的意義。所以對以手勢辨識來互動的技術來說已經相對成熟。

Min-Chun Hu first introduced the state of VR development today, explaining that National Tsing Hua University (NTHU) focuses mainly on software development and interactive mechanism design, as well as how to provide users with intuitive interactions in VR. Although there are usually controllers, it is actually impossible to toss out the controller, if the users want to perform an action of throwing. For this reason, Leap Motion is a common option for capturing the users' gestures, along with a large database for the machine to know the meaning of the gestures. Therefore, it can be said that the technology for interaction using hand-gesture recognition is relatively mature.

再來是內容的生成；他們也搜集了大量照片，再用演算法對素材做特徵描述。聲音也很重要，發聲位置若聽起來像座落在 x、y、z 軸的某個點就可以引導觀眾往那邊看。有些作品會搭配嗅覺，就會以精油操控使用者進入符合場景的嗅覺，並結合腦波偵測應用。當使用者發現不合宜時，就會產生不一樣的訊號。不過還是有太多外在刺激能影響腦波，所以很難精準判斷。

Then there is the generation of content. Producers have collected a large number of photos and used algorithms to capture and present the features of the materials. Sound is another essential element, as the vocal sounds placed at a point on the x, y, and z axes can attract the audience to cast their sight into certain directions. Some works will be presented with olfaction, where essential oils are used to direct the users into scenes matched with certain smells. Combined with brainwave detection, a different signal will be generated when the users find scenes unmatched with the elements. However, there are still too many external stimuli that can affect people's brain waves, which makes it difficult to make accurate decisions.

至於眼動裝置，像是 IR camera 可以用虹膜位置去定位方向，但還是不知道確切的點會是在哪。現在也很多人做觸覺回饋，最簡單的是震動、觸覺手套等。如果是要增大虛擬空間，現在有 redirected walking 這般技術，會運用視覺去欺騙使用者，或是用虛擬影像去干擾。使用者在行走時不會明顯感覺自己有走偏，但其實身體一直在同個地方繞，但虛擬場景裡的顯影則是讓人感覺越走愈遠。

As for eye-tracking, devices such as IR cameras can detect locations based on the position of the iris part of the eye, but still cannot pinpoint infer the exact location at which people are looking. Now, there are also many people doing tactile feedback, the simplest of which are vibration response and touch-screen gloves. For increasing the virtual space, there is redirected walking, which uses the sense of sight to deceive the users, or virtual images to interfere with them. The users do not feel that he or she is going off course when walking, but in fact their body keeps circling around the same place. In this way, the visualization in the virtual scene is making people feel that they are going considerably further away.

對全觀的追求
Pursuit of a Holistic View

針對表演藝術的 VR 化典藏，胡敏君提到這幾年有另一種 AI 演算法叫「Zero-shot, Few-shot」。只要知道指定物件的重要特徵，就可以輕易類比在相似物件上；但目前主要使用還是在視覺物件上，若是動態影像的話，就不太確定學到的機率有多高。

For the VR-based archiving of performing arts, Hu mentioned that there is another AI algorithm called "Zero-shot, Few-shot" that has been known to people in recent years. As long as the key features of a specific object are known, it is easy to make analogies to similar objects; however, the algorithm is currently used mainly for visual objects, and it is not certain how well it can be applied in the case of moving images.

胡敏君也認為要「看到一個世界」，按照目前技術也還無法做到。要有此等水平，首先要有很強的設備，並搭配很多的攝像來去摸擬每個角度看到的樣貌。一般來說，攝影機沒那麼多，就會造成有些角度缺失。最後，胡敏君也深刻表示這次的對談非常可貴，畢竟在促進不同領域的交流，才更能讓彼此基於互相了解，進而達致研發上的合作。

Hu also stated that "to see a presentation as good as a whole world" is not possible with current technology. To be able to do so, one must first have excellent equipment and profuse camera images to simulate what is seen from every angle. Generally speaking, if there are not enough cameras, there will be no images from certain angles. Lastly, Hu expressed that the discussion conducted in the session was very valuable; after all, more exchanges of ideas from different fields will facilitate cooperation in research and development among one another based on mutual understanding.

第三場：舞蹈、影像與身體感
Session 3 : Dance, Image, and Sensation

時間：2020 / 01 / 13（一）19:30
地點：台灣數位藝術中心 Taiwan Digital Art Center

主講：孫瑞鴻（影像設計師）
　　　陳武康（「驫舞劇場」藝術總監）
主持：王柏偉（數位藝術基金會藝術總監、藝評人）
Speaker : Ruey-Horng Sun, Image Designer;
　　　　　 Wu-Kang Chen, Art Director of HORSE
Moderator : Po-Wei Wang, Art Director of Digital Art Foundation / Art Critic

展覽「忽悠─留給未來的殘影」討論表演與影像之間的關係，第三場講座特邀影像設計師、創作者孫瑞鴻，以及「驫舞劇場」藝術總監陳武康，在藝評人王柏偉的提問下，思考陳芯宜《留給未來的殘影》中 VR 與舞蹈、影像、身體感的關係。
Go Astray - Afterimage for Tomorrow brings out the relation between performance and images. In the third session, moderated by Po-Wei Wang, an art critic, we invited Ruey-Horng Sun, an image designer and artist, and Wu-Kang Chen, the art director of HORSE, to discuss the relations among dance, image, and physical sensation of the film Afterimage for Tomorrow by Singing Chen.

表演與 VR 中的共作
Co-producing of Performance and VR

王柏偉首先以驫舞劇場於 2019 年做的演出《非常感謝您的參與》作為引言；此作品以即興的方式讓所有劇組角色上台演出，他認為這與 VR 有一個共通點：舞台成為大家平行工作的狀態。但不同的是，VR 必須做好更縝密的規畫。講座中他首先請大家分享觀影的經驗，也提問影片中的主角兼舞者周書毅與觀者之間的關係是什麼？以及如果可以用 VR 來創作的話，會想怎麼去使用？

Po-Wei Wang first introduced the performance Thank You So Much for Your Time, conducted by HORSE in 2019. In that project, the entire cast went on stage in an impromptu way, which Wang believes to bear a resemblance with VR - the stage becomes a place where everything happens all at once at that moment. Yet, what sets VR apart is that VR requires more meticulous planning. During the session, Wang asked about the speakers' experience in film-watching, and raised questions regarding the relation between Shu-Yi Chou, the main character and the dancer in the film, and the audience. There was another question to

invite discussions on the ways of using VR technology for future creation.

陳武康分享這次的觀影經驗讓他有一種被忽悠的感覺，因為觀者也在學習著怎麼去觀看 VR。VR 像是透過一個包覆感來重塑身體經驗，影像中的距離感讓他感覺很真實、又不真實，當周書毅離他很近的時候，會有一種衝動想伸起手來。他覺得這雖然很蠢，但這是非常親密的狀態。如果要嘗試 VR 創作的話，他認為 VR 跟劇場的狀態其實很兩極，應該可以打破傳統觀影形式。但如果要所有觀者在同一時間觀賞，就需要夠多的頭顯，再加上與表演者之間的互動，這就讓情況顯得很困難。

Wu-Kang Chen shared that he had experienced being led astray when he watched the film because he, as a viewer, is also learning how to immerse himself in a VR experience. Chen referred to it as remolding the physical sensation through a sense of being surrounded. The distance built up by the images was real to him, but it was not wrong to say it was unreal. When the figure of Chou approached Chen, he had this sudden impulse to reach out to chou. Chen thought this move would have been foolish, but a bit intimate also. To create a piece of work using VR, Chen suggested that it should be a chance to break the norm for film-viewing, for VR productions are entirely different from traditional theatre performance. Yet, it might be even more challenging if more audiences join the setting and interact with the actors simultaneously, for that would require more VR headsets.

觀看主體的體感經驗
Viewers' Physical Sensation

孫瑞鴻則認為觀影的時候，一開始觀眾在被邀請時，是信任這個空間的。但隨後，距離感開始拉開，因為視覺跟聽覺被控制而開始有點不安，但嗅覺仍是可以自己控制的。影片中觀者會身處在不同的地方，嗅覺會將身體拉回來，讓觀者知道他們還是在同一個地方。這次長時間的觀看也讓他有包覆感與親密感，甚至影像有時會與心靈直

接對接，就像是 VR 的觸感、觸視（haptique）。他也認為 VR 這個概念相對是非常新的，在技術上就是相對困難，不像電影早期會有燃燒底片的實驗，VR 就比較難容忍出錯，以至於是否能用以玩樂。如果要用 VR 創作，他會想先玩到當機，熟悉語彙到滿意的程度才再開始探索、打破規則。

Ruey-Horng Sun believes that audiences trust the VR settings when they are invited to watch the film in the first place. But then, the audience started to feel their body drifting apart, because their visual and auditory sensation are dominated by the VR setup, which can be irritating. The olfactory sense, on the other hand, can assure the audience that they are still safe and sound in the same place, for they still have control on the ability to smell. Sun also felt a sense of being surrounded and intimacy in this long period of viewing. Even more, he could sometimes relate the images directly to his mind, just like feeling the images through his touching, the haptique of VR. Sun thought that the VR creation is a relatively new concept and thus it bears more challenges on the technical level. In the early days in the movie industry, films could be burned to test their format, while the VR productions today have little room for error, and it is still a question if VR can be used for entertainment purposes. According to Sun, if he were to create a piece of work using VR technology, he would have played with the VR settings until the system crashed, so as to get familiar with the technology before exploring and breaking the rules.

VR 在攝製與觀看的當下性
The presence of VR during producing and viewing

陳芯宜在講座中回應她在開拍之前，大多數的時間都在研究人類觀看 VR 是什麼感覺，對她來說很關鍵的決定是，她想要讓觀者的身體可以進到情境裡去。至於製作過程，她覺得不是沒玩到，而是玩過以後，再把比較好的部分拿出來。比如說編舞，周書毅到現場必須在短時間內熟悉場地，熟悉過程中的哪些東西是她想要的；但舞者的當下就是當下，之後不一定會回來。拍攝其實有很多不確定性，雖然計畫很縝密，但沒有人知道最後會變成怎樣。

Singing Chen responded in this talk that she spent most of the time studying the viewer experiences of VR before she started producing the film. A pivotal decision for making this film was that she tried to really put the viewers into the VR scenes. As for the process to reach this goal, instead of not having much fun, she had actually had so much fun using VR technology and screened the better parts to be included in the film. Take choreographing as an example, Chou must familiarize himself with the environment in a short time when arriving onsite and sort out the elements that Chen wanted. That being said, for a dancer, the presence can only emerge at present, which may never come back again sometime in the future. Despite careful planning, there can still be uncertainties that lead to unpredictable results.

最後，王柏偉請教陳芯宜，因為在電影中群體是很重要的議題，那在 VR 裡如何表現群體呢？陳芯宜認為 VR 很孤獨，完全把觀者封在裡面，觀者得一個人去經歷，不像電影觀賞還會有其他觀眾。孫瑞鴻也同意，他認為電影 3D 技術讓觀者越來越真實，到 VR 好像人真的就在那裡；但也就是一個人，像是掌握觀看特權一樣。或許這也是 VR 的獨特觀賞經驗所能賦予的新形態體感模式。

In the end of the talk, Wang asked about ways to present the idea of being in a group using VR, which is a crucial topic in film-making. Chen believes that viewers could be lonely in VR because they are blockaded in the film where they have to experience the story on their own, which is nothing like watching a classic movie with others aside. Sun agreed that 3D technology makes movies more natural, and VR allows viewers to immerse themselves even more in the movies. He also added that the VR features individual experience, so viewers may feel like they have the privilege of watching the film all to themselves. This may be a new form of physical sensation brought by the unique viewing experience from using VR.

Vol.5 ｜指間之道─吳以琳個展
TAO in a Moment – Wu Yi-Lin Solo Exhibition

在音樂的節奏中隱藏著一個祕密，若我要透露它，它就會推翻世界。– 魯米
《指間之道》建立在藝術家的悟道體驗之上。作品由一段聲音文本出發，透過聲響帶領意識穿越維度，在過程中因為維度空間的改變，時間也隨之改變它的狀態。「指」是「意指」。在意指與意指、念頭和念頭之間，意念的發展超越了時間的限制，藝術家探索著念頭到念頭之間，可能就僅僅幾毫秒可以產生的變化和發生的一切。（文 / 王柏偉）

"In the rhythm of music a secret is hidden; If I were to divulge it, it would overturn the world." – RUMI.
TAO in a Moment is based on the artist's epiphany of Tao. This work is derived from an audio context in which the audience's consciousness is guided by the sounds to pass through different dimensions. In this journey, the status of time changes along with the transitions in dimensions.
The first character in the Chinese title, "zhi," refers to the intention of the human being. In just a moment, shifting around from one intention to another, and wandering from one thought to another, the exploration of intention can go beyond the limit of time. The artist is in search of the mind shift of the human being and the myriads of changes that could happen in just a millisecond. (by Po-Wei Wang)

藝術家自述
Artist's Statement

在創作的歷程上，不管是錄像或是聲音總是離不開「時間」單位，統整與反思這幾年的創作，也是建立於時間單位的生產物。2016 年的春天開啟了一段新的旅程，短短幾個小時的旅程進入不同以往的頻率次元，翻轉過往的價值觀以及看待世界的方式，來自大地母親跨文化、跨時間的溫柔教導，顛覆了以往對於「時間」和「聲音」認知。

2017 聲音裝置作品《請包容我，扯落你衣裾的縫線》，試圖去表現聲音有著穿越維度性質和脫離線性時間之後的可能性。而此次的作品《指間之道》

承襲此脈絡，加入了「空間」和「移動感知」，並邀請舞踏舞者 Tully 拍攝 360VR 影像，藉此進一步詮釋作品概念。

吳以琳 Wu Yi-Lin，畢業於台南藝術大學應用音樂系，曾任遊戲配樂師、數位音樂編曲講師、演唱會樂手，現為台北藝術大學新媒所研究生與 Weelin Studio 編曲家即聲音設計師，曾獲第三十九屆金穗獎最佳配樂。作品涵蓋流行到實驗，影像配樂到聲音裝置，近年致於音樂創作與設計、影像配樂、藝術創作。

Whether in my journey of creating video art or sound, I cannot help circling around "time," the subject I cannot leave behind. Thus, I try to sort out and reflect on my creations which constantly circling around time for years. Back in the spring of 2016, I started a new passage of journey in which I entered a dimension like no other in just few hours, and my personal value and ways of seeing are therefore turned around. The mother earth's tender guidance, transcending culture and time, overturned my perception toward "time" and "sound" from the past.

In 2017, the audio installation Bear with me, as I pluck the occasional thread from your train is intent to represent the characteristic of sound, which is able to pass through dimensions, and the potentiality of time after it dispatches from linear timescale. TAO in a Moment carries on my path in creating, further includes the subject of "space" and "moving perception," and also invites the butoh dancer Tully in 360 VR film production to interpret the work concept.

Wu Yi-Lin, graduated from Department of Applied Music in Tainan National University of the Arts, served as game sound designer, digital music composition lecturer, concert musician. Currently, Wu is graduate student of Department of New Media Art in Taipei National University of the Arts and the sound designer and the composer in Weelin Studio, has won 39th Golden Harvest Award for Best Score. Wu's works varies from popular music to experimental music, and from film score to audio installation, and she's dedicated in music creation, design, film score, and art creation in recent years.

第一場：空間祕技：如何畫圓為方
Session 1 : Secret to Transforming a Sphere into a Cube

時間：2020 / 07 / 07（二）19:30
地點：台灣數位藝術中心 Taiwan Digital Art Center

講者：江軻（國際電影動畫與遊戲製作設計師）
　　　吳以琳（本展藝術家）
主持：王柏偉（數位藝術基金會藝術總監、藝評人）
Speaker : Jacky Jiang, Animator / Game Designer;
　　　　　Yi-Lin Wu, Artist of *TAO in a Moment—Wu Yi-Lin Solo Exhibition*
Moderator : Po-Wei Wang, Art Director of Digital Art Foundation / Art Critic

「概念美術館」第五檔展覽「指間之道─吳以琳個展」，以藝術家的悟道體驗出發，並啟發自一段聲音文本，再透過聲響帶領觀眾意識穿越不停改變的空間維度，時間的狀態也在持續改變。第一場主題講座，藉由本展藝術家吳以琳以及動畫與遊戲設計師江軻，從藝術創作的角度，分享其創作理念及其在技術層面上的瓶頸，並如何突破與解圍。

TAO in a Moment—Wu Yi-Lin Solo Exhibition, presented in Concept Museum of Art Vol. 5, is based on an artist's epiphany of Tao. It starts with a string of words and sounds and guides the audience's consciousness through ever-changing times and space dimensions. In the first talk, Yi-Lin Wu, the artist, and Jacky Jiang, the designer of game and animation, shared with us the philosophy behind the artwork, the difficulties on the technical level, and how they overcame the challenges from an artistic perspective.

● VR 的媒介特性與空間製作
VR Features and Space Creation

吳以琳以日常空間陳述，欲讓觀眾感受「經歷傳遞體驗」中，聲音帶領藝術穿越維度，因而察覺體感空間和時間的相對性。透過不斷與 VR 這媒介進行對話、實驗，VR 作為一種新興的創作媒介，使用者將身歷其境般地進入一個完全人造的 3D 世界。而要達到 VR 的沉浸式體驗效果，必須提供視覺、聽覺、互動以及其他感官的模擬元素。因此，相對其他創作媒介，VR 在實行的程度上尚有一定的侷限性。

Wu aims to deliver a sense of transmission by using sounds to turn the work into a piece of art with dimensions, which allows the audience to get a sense of the relativity between space and time perceived. With the help of VR technology, the audience could set foot in a virtual 3D world. To optimize the experience of immersion, the artwork had to come with ways to simulate human senses such as vision and hearing, and also provide the audience with an interactive environment. Therefore, creating art with the use of VR technology is still somewhat limited today, compared to other approaches to art creation.

江軻補充說明 VR 技術上的瓶頸與解決方式，其中如觀眾在體驗 VR 的自主性，以及人體所能負荷的觀看時長；或是技術層面上二維平面到三維空間的轉換等。江軻藉由多年赴美求學和多樣的工作經歷，從動畫製作、遊戲設計等，不斷追求對空間的探索，可見其對動畫藝術的投入，以及技術的累積與磨練。他認為作品中最困難的部分，是透過六個鏡頭拍攝立方體空間後，所呈現的球體性空間（如 Google 地圖般的效果）。必須以點跟面重新將球體整合、校正、裁製成 VR 中所見的立方空間，也須考量到人體雙眼焦距的誤差，過程頗為耗時。

Jiang also mentioned problems related to the use of VR and ways to overcome them. Speaking of problems, he had to consider how independent audiences could get in the VR world, how long they could wear the headset without getting fatigued, and how to transform 2D elements into 3D presentations in the artwork. Jiang is not only an animation enthusiast but also armed with a wealth of experiences in animation art, thanks to his study and various work experiences in the U.S. To him, the most challenging part of the work was to capture a cubical space using 6 cameras to create a spherical space similar to the one in Google Map. The making of the work was a long process of adjusting lines and planes in order to integrate and correct the components and transform the sphere into the cube seen in the VR; at the same time, the vision differences caused by the focal length of human eyes also needed to be taken into consideration.

VR 中人性與感官的結合
Harmony between Humanity and Senses in VR

吳以琳在作品中要求一定程度的不真實性，而非完全具象三維地去追求真實，因此在 VR 空間中加入了些許曲線，期望達到如印象派繪畫的效果：著重於光影的改變及對時間的印象。江軻更以梵谷《在亞爾的臥室》（La Chambre à coucher）一畫為例，畫中的透視是錯亂的，並無單一的透視點，而且加入了人性與感官對空間的解釋。他認為這便是現今三維動畫所需的，特別著重於人的感官體驗。

Since she intended to make her work a bit unreal for the viewer, instead of building a world-accurate space, Wu added curves to mimic the effects of impressionist drawings, which is an art style that features contrast between light and shadow and impressions about times. Jiang further explains this idea by holding up La Chambre à coucher by Vincent Van Gogh as an example; he said the perspective in that work is without order and a vanishing point, but the work was incorporated with humanity and humans' interpretation for the space. Jiang believes that is what the 3D animation nowadays needs, an emphasis on human senses.

《指間之道》作為藝術家與遊戲開發者彼此的溝通協調下的創作結晶，從理念到技術完成，雙方也保留一定程度的自主權，各自獲益良多。VR 與一般創作媒介最大的不同在於，沉浸式體驗即建立一仿真的三維空間，在賦予觀者適度自由的同時，亦無法完全控制觀者的行為。吳以琳、江軻兩人皆認為不可控的元素所帶來的反饋是珍貴的，也論及 VR 在未來的發展空間，如對於三維藝術、舞蹈、行為藝術等，都可透過動態捕捉和掃描加以紀錄保存，賦予更多可能性。

TAO in a Moment is a harmonic creation born under cooperation between an artist and a game designer. Starting from the origin of an idea in the first place to the completion of the final result, both sides had their fair share of influence over the work and this has allowed them both to learn and thrive from the making of the work. The major difference between a VR artwork and others lies in the immersion experience, where the audience can enjoy a certain level of interaction, which is out of the creator's control. Both Wu and Jiang consider this unpredictability a valuable factor. They also shared their opinions on the outlook of VR development in fields such as 3D art, dance, performance art, where they believe VR can be used to capture and scan works in a dynamic approach for recording and archiving, leading to endless possibilities for future art creation.

第三場：心智、出神與 VR
Session 3：The Mind, Absent-Mindedness, & VR

「指間之道—吳以琳個展」的第三場講座，除了藝術家吳以琳與藝評人王柏偉，也請來心智哲學專業的林映彤老師，一起討論出神體驗與悟道經驗中，自我、意識與身體的關係。心智哲學如何思考這樣的問題，又發展出哪些的實驗來測試這些問題？

In addition to artist Yi-Lin Wu and art critic Po-Wei Wang, the third session of TAO in a Moment – Wu Yi-Lin Solo Exhibition invited Ying-Tung Lin, an assistant professor of Philosophy of Mind to discuss the relationship between the self, consciousness, and body in the absent-minded experience and the epiphany of Tao by asking how philosophy of mind addresses these issues, and what sort of experiments can be conducted to look in to them.

● 「出神」的精神狀態
Absent-mindedness

講座開始由吳以琳簡單介紹其創作理念與作品，並提到主要處理的問題意識，是希望觀眾在體驗 VR 時覺察到意識維度的轉換。她也描述其過往的「出神」經驗，以及先前多以「意識的轉換」與「審視自我」為主題的創作脈絡，繼而說明此次展覽《指間之道》主要透過 VR 沉浸感，讓觀眾經歷悟道體驗中的意識穿越維度，因而覺察到的身體空間與時間的相對性。

Yi-Lin Wu opened with a brief introduction of her work and the idea for the creation, mentioning that she primarily wanted audiences to comprehend changes in the dimensions of their consciousness in the VR setting. She described when she experienced absent-mindedness in the past and the process for her creation, which mainly focused on shifting in consciousness and self-contemplation. The exhibition TAO in a Moment uses immersive VR to subject audiences to the traversing of conscious dimensions in the epiphany experience of Tao, so as to develop awareness for the relativity of body, space, and time.

林映彤以心智哲學與應用科學角度切入，觀察與分析《指間之道》創作過程中的自我意識展現。她透過實驗舉例，試圖說明「出神」經驗是可透過外力給予不同的感官體驗，以塑造認識。此外，「出神」另一種可能的精神狀態，類似於分神、神遊（mind wandering），自創另一個維度的想像空間，以回應《指間之道》中場景轉換所帶有的可能性。此外亦討論到諸多創作的細節，包含觀眾與整體空間的互動關係、場景轉換的效果，到音效所具有的含義等。

Approaching from the perspectives of philosophy of mind and applied

science, Ying-Tung Lin observes and analyzes the manifestation of self-consciousness during the process of creating TAO in a Moment. She exemplified with experiments to illustrate that, during the absent-minded state, outside forces can provoke different sensory experiences to cultivate a person's awareness. Furthermore, another possible mental state of absent-mindedness is akin to the mind distracted or wandering, creating a new dimension of imagined space to respond to all the settings made possible within the scene changes in TAO in a Moment. Many details during production were also discussed, including the interaction between audiences and the overall space, the impact of scene changes, the significance behind sound effects, and so on.

● 觀眾的體驗接收程度
Audiences' Acceptance of the Experience

林映彤論及作品可能遭遇的瓶頸，即為創作者、觀眾兩者主體性的不同，以致於觀察作品的觀點與經驗的差異。作品所呈現的是創作者自身的經驗，但由於與觀眾自我意識上的不同，無法確認其經驗為何，以及能否複製。吳以琳回應，的確期望觀眾能進入她的意識狀態是一大挑戰。創作過程中多是以觀眾的體感經驗去設想、陳設，確保有足夠的脈絡理解作品；但所欲傳遞的經驗仍然有限，同時認為觀眾思考的多樣性也是作品有趣的一個面向。

Lin commented on a potential challenge — the contrasting subjectivity of the creator versus the audience, which leads to diverging perspectives and experiences in viewing the artwork. This piece exhibits the creator's personal experience, but the audiences' distinctive consciousness makes it impossible to verify what his/her experience is like and whether or not that experience can be replicated. In response, Wu acknowledged that the expectation for the audiences to enter her conscious state is indeed a challenging task. The process of creation involved conceptualizing and curating in accordance with the audiences' bodily experience to ensure that there is adequate context for the audiences to understand the piece of work. Nevertheless, there was only so much experience to be conveyed, and the diversity of thought from the audiences is one of the elements that add to the richness of her artwork.

林映彤與提問者認為吳以琳在作品理念的傳達上的確做了很好的嘗試，由其悟道的經驗出發，脈絡也相對清晰。在最後他們也討論出改善建議，如果脈絡不侷限於以文字、視覺媒介作為導向，並聚焦現有基礎，可能可以考慮加入更多感官如觸覺、嗅覺等，開發更多的可能性。

Lin and an inquiring audience member agreed that Wu made an exceptional attempt in expressing her idea via the work, basing off of her epiphany experience and providing a relatively clear context. Towards the end of the session, they recommended that the context be expanded beyond text and the visual medium. With the current structure as the main focus, the creator could consider adding in other senses such as touch, smell, and more, in order to invite other possibilities.

Vol.6 ｜時空膠囊—VR 攝影計畫
Time Capsule-VR Photography Project

「時空膠囊—VR 攝影計畫」真正的觀眾，在 100 年後的未來才會出現，我一直都這麼相信著。

我總覺得，時空膠囊這個概念好浪漫，它是一種跟未來人的對話，也是一種反觀當下的思想實驗。如果我們都能以宏觀、遙遠未來的角度反思現在當下的所做所為，這個世界會變成什麼樣子呢？我們還會為了雞毛蒜皮的小事而爭執不休嗎？什麼是我們會想要改變的？什麼是我們會更珍惜的？五年前，我開始了「時空膠囊—VR 攝影計畫」，紀錄著生活周圍小人物的故事，一些我覺得看似日常、看似普通，卻值得被保留下來的故事。本次展出的內容，只是過去所紀錄的一小部分而已。這次特別選出以「群眾」為主軸的作品。我很喜歡 same same but different 這句話，意思是「我們雖然都很像，卻不盡相同」。但也能倒過來說，我們雖然不一樣——可能是年齡、背景、信仰的不同——但其實，我們都是一樣的。這次挑選的作品，正有這個意義。

對於這個計畫來說，本展出並不是結束，而是開始。希望能藉由這次的展出，找到理念相投的夥伴，讓這個計畫持續下去，未來以更完整的面貌來跟大家相見。（文／全明遠）

I firmly believe that the actual audience for Time Capsule: A VR Photography Project exists in the future, a hundred years from now.

I have always found the concept of time capsule to be very romantic. It is a way to converse with humans from the future, and it can also be a thought experiment to review the present. If we could all reflect on our present actions from a macroscopic, far-away future point of view, what would the world look like? Would we argue over trivial matters? What would we change? What would we cherish more? Five years ago, I started Time Capsule: A VR Photography Project, keeping record of stories of people in the streets, stories of everyday life that seemed ordinary yet worth preserving.

This exhibition contains only a small part from all these records. The selected pieces share a theme: the mass. I appreciate the English saying "same same but different", meaning that we are all alike yet different. When reversed, it can mean that, although we are all different (for example in age, background, religion, etc.), we can also be alike. My selection aims to convey this meaning. This exhibition is not the end of this project but its beginning. Through this exhibition, I wish to encounter like-minded people to continue this project together, and hope to bring a further, more complete version of the work to the audience. (by Ming-Yuan Chuan)

關於藝術家
About the Artist

全明遠，出身動畫與電影視覺特效創作，曾在 Grass Jelly Studio 仙草影像擔任 VFX 視覺效果總監，完成許多經典 MV。現任 Funique VR Studio 總監，專精於 VR 攝影技術與後期製流程，以頂尖技術推進 VR 敘事的可能。近年作品榮獲日舞、威尼斯、翠貝卡等國際影展肯定。

CHUAN Ming-Yuan, VR Supervisor of Funique VR Studio, an experienced VR creator specialized in VR cinematography and post-production with a solid filmmaking and visual effects background. He produced many renowned music videos when he was the VFX Supervisor in Grass Jelly Studio. His recent works are screened in several international film festivals including Sundance, Venice, and Tribeca film festival.

第一場：動靜之間：VR 與電影的對話
Session 1 : Dynamic and Static: Dialogue between VR and Films

時間：2020 / 11 / 10（二）19:30
地點：台灣數位藝術中心 Taiwan Digital Art Center

講者：全明遠（本展藝術家、Funique VR Studio 總監）
　　　蘇逸華（台北電影節節目部選片人）
主持：王柏偉（數位藝術基金會藝術總監、藝評人）
Speaker：Ming-Yuan Chuan, Artist of *Time Capsule - VR Photography Project* / Director of Funique VR Studio;
　　　　　Stephanie Su, Film Selector - Department of Program, Taipei Film Festival
Moderator：Po-Wei Wang, Art Director of Digital Art Foundation / Art Critic

「時空膠囊—VR 攝影計畫」為「概念美術館」的第六檔展覽，藝術家全明遠以「群眾」為主題，藉由 VR 靜態全景攝影紀錄著生活周圍小人物的故事。首場講座討論了全明遠開始計畫的契機，以及 VR 與電影的環境營造所帶來何種視覺想像與差異。
Time Capsule -- VR Photography Project is the sixth exhibition series of Concept Museum of Art. With the masses as the theme, artist Ming-Yuan Chuan records stories of the ordinary people in life through VR static panoramic photography. The first session was about the starting point of Chuan's project, and the visual imagination and different experience created through settings in VR and films.

● VR 與電影在觀看上的差異
Different Viewing Experiences between VR and Films

VR 作為 21 世紀的一種藝術形式，是融合了前一世紀三大藝術的「電影、爵士樂及程式設計」。全明遠認為，VR 不僅僅是一種讓視覺接收全景影像輸出的行為或裝置，反倒是藉由虛實合併，讓單一個體與環境融合，沒入沉浸式環境的媒介。而某些電影也類似 VR，讓觀眾沉浸於導演的長鏡頭手法，彷若擁有了接近的沉浸式體驗。但本展 VR 的靜態影像卻與電影相異，例如電影鏡頭會隨著導演的調度來改變畫面的景深，而靜態 VR 影像的相同焦距，會讓畫面中所有物件都相對平等，且一覽無遺、毫無保留。
As an art form of the 21st century, VR is a fusion of the three major art forms of the previous century-- film, jazz, and programming. Chuan believes that VR is not only a way or a device to produce panoramic visual images, but rather a medium that combines the real and virtual worlds, allowing an individual to be immersed in an environment. Some movies are similar to VR, where the audience gains a VR-like immersive experience via long takes used by the director. However, the static images of VR in this exhibition are dissimilar to films. For instance, in a film, the depth of field changes as the director adjusts the lens; while in static images, the identical focal length makes all objects relatively equal in expression, and everything is crystal clear.

《時空膠囊》雖以靜態影像呈現，仍能感受出拍攝瞬間的動感與時間帶來的匆匆流逝。全明遠說明攝影計畫，是為了記錄台灣正在消逝的美景，並歸檔於數位典藏，讓百年後的人們可以打開膠囊，重現過去群眾的生活體驗。

Although the Time Capsule is presented via static images, viewers can still feel the dynamic instant of shooting and the fast passage of time. Chuan explained that the purpose of this project is to preserve the disappearing beauty of Taiwan using digital archiving, so that people in a hundred years from now can open the capsule to reproduce the life experience of people in the past.

VR 的手工性與精神性
Craftsmanship and Spirituality of VR

早期執行計劃時，VR 技術尚未成熟，當時拍攝的影像必須透過繁複的後製拼貼，猶如工匠一筆一筆細膩地勾勒出時代的痕跡。作品以黑白畫面呈現，能夠擁有無限的想像；對藝術家而言，黑白雖然受限於現代設備，但折衷是一種張力的呈現，更帶有讓人省思的空間。

In the early days, VR technology was still in its infancy. Producing a VR project required photo collage through complicated post-production, like a craftsman meticulously marking the traces of an era stroke by stroke. The works were presented in black and white, stirring infinite imagination among viewers. To the artists, black and white images were limits created by devices at that time, but they also allowed the expression of a certain tension and reflection among the audience.

蘇逸華舉例了藝術家查克・克洛斯（Chuck Close），其中以他早期的自畫像，是以照相寫實主義（photorealism）形式來表現。到了晚年行動不便，變透過馬賽克形式來製作自畫像。這一點與全民遠提及的圖像後製拼貼有雷同的地方。

Stephanie Su gave the example of the artist Chuck Close, whose early self-portraits were expressed in photorealism. Immobile in his later years, Close made his portraits using mosaics instead. This change is similar to the post-production of photo collage mentioned by Chuan.

VR 的聲音與劇場感
Sound and Sense of Theatre Created via VR

由於現場來了一些 VR 製作者觀眾，好奇未來放映內容是否會增加聲音作為數位典藏的一環？全明遠則認為由於早期的作品收音較為不良，故現展覽暫以無聲方式呈現。但未來若與收音技術者合作，將會嘗試收錄聲音。王柏偉提出 VR 靜態相片的聲音處理與電影相異，定格畫面的空間感易被聽覺所掌握，如何調整平衡與置入聲音是重要的課題。

Some VR producers in the audience wondered if sound will be part of the digital archiving and be broadcasted in the future. Chuan stated that due to the poor quality of sound collected in the early works, the exhibition is presented soundlessly for now. Yet, if he could work with boom operators, he will try to collect sound in the future. Po-Wei Wang pointed out that the sound of static VR photos is processed differently than that of films, since views can easily grasp the sense of space of a still image through hearing. It is a key issue to strike a balance when inserting sound to photos.

至於 VR 比起電影，是否更靠近劇場形式的觀點？全明遠以 VR 電影《霧中》為例，說明其拍攝形式正是以劇場邏輯所呈現。這跟控制鏡頭、畫面之電影導演不同，劇場導演相較更能清楚掌握環境的敘事。而觀看環境的自由，也正與 VR 極為相似。

Does VR provide a perspective closer to theater than film? Chuan took

the VR film In the Mist as an example, pointing out that the film was produced based on the idea of a theatre. Unlike film directors who control the camera and image, theater directors have a better grasp of the narrative of an environment, where the level of freedom in viewing is similar to that in VR.

最後，全明遠表示透過此次的展覽宣傳，希望先讓大眾參與並逐漸熱絡，同時也期盼能發掘同理念的創作者，深耕此數位典藏之計畫，共同埋下百年後開花的時空膠囊。

In the end, Chuan said he would like the public to participate in the exhibition and gradually develop an interest in VR. In addition, he hoped to work with artists with the same insight to further develop this project of digital archiving and bury the time capsule that will be opened in a hundred years with reproductions in full blossom.

第二場：VR、紀實與攝影
Session 2：VR, Documentary and Photography

時間：2020 / 11 / 17（二）19:30
地點：台灣數位藝術中心 Taiwan Digital Art Center

講者：全明遠（本展藝術家、Funique VR Studio 總監）
　　　曹良賓（影像創作者、Lightbox 攝影圖書室發起人）
主持：王柏偉（數位藝術基金會藝術總監、藝評人）
Speaker：Ming-Yuan Chuan, Artist of *Time Capsule - VR Photography Project*
　　　　／ Director of Funique VR Studio;
　　　　Liang-Pin Tsao, Visual Content Creator / Founder of Lightbox Photo
　　　　Library
Moderator：Po-Wei Wang, Art Director of Digital Art Foundation / Art Critic

「時空膠囊─VR 攝影計畫」第二場講座，以影像創作者曹良賓與本展藝術家全明遠共同討論 VR 的紀實與攝影等相關議題，並從許多攝影史上的案例來談全明遠的 VR 攝影與紀實之間的關係。
In the second session of Time Capsule—VR Photography Project, the visual content creator Liang-Pin Tsao and the artist of the exhibition Ming-Yuan Chuan touched upon issues related to the use of VR in documentary and photography, and draw from many cases in the history of photography to discuss the relationship between Chuan's VR photography and the documentary.

● 攝影的成像史
History of Photographic Imaging

曹良賓先從影像的技術史沿革下手，談攝影中的記錄與再現。靜態影像強調的特點是其紀錄性，但其實其再現的本質從攝影術的草創時期，是個相對困難去克服的特質。首張由法國人尼埃普斯（Joseph Nicéphore Nièpce）使用瀝青所拍攝的相片，曝光時間就長達八小時，所能留住的影像相當有限，也並非真正紀錄當下時間的一切。雖在攝影術的發展中，曝光時間逐漸減少，但也不是相對短暫或是比較紀實。或許可思考看看，當時的攝影影像究竟是留下的較多，還是遺失掉的較多？
Liang-Pin Tsao began with the history of photographic technology and its development to talk about documentation and representation in photography. Documentation is the foremost characteristic of still images, while representation is a matter that has been relatively harder to address since the dawn of photography. The very first photographic image was taken by Joseph Nicéphore Nièpce, a French inventor using bitumen. It required an exposure of eight hours, yet preserved limited imagery and did not truly capture what was happening in the moment.

Although exposure time for taking photos gradually is shortened as technology of photography develops, the time consumed was not relatively shortened or images were not more authentic. It may be worth considering whether photographic images back then had been preserved more than lost or it was the other way around.

延著時代的進步，誕生了成像逼真的銀版攝影、可供複製的卡羅法攝影、曝光時間快速的濕版攝影、改善濕版攝影缺點的乾版攝影，甚至降低攝影技術門檻的底片相機。上述攝影技術殊異，但拍攝的理由卻大同小異，目的都是想紀錄所有宏偉、值得定格的一切。
New photographic techniques came into being as time progressed, such as the daguerreotype that produced the more realistic images, the replicable calotype, the collodion wet plate process with short exposure time, the dry plate that improved upon the wet plate, and even the film camera that made photography more accessible. The aforementioned photographic techniques have their own feature, yet they exist for the same purpose ─ to document everything magnificent and worth capturing.

靜照攝影與 VR 中的觀眾自身
Still Life Photography & Self-awareness of Viewers in VR

羅伯特・亞當（Robert Adams）論述塔爾博特（William Henry Fox Talbot）所著的《自然的畫筆》（The Pencil of Nature），提問人們為何要拍照？目的除了是紀錄，多數都帶有儀式性以及帶著敬意去面對攝影的一切，並且與其共榮。同時，亦非攝影者定義了拍照的對象，而是攝影者被定義。曹良賓認為這些都是很有意思的理解。
When Robert Adams spoke of The Pencil of Nature by William Henry Fox Talbot, he questioned why people took photographs. Other than to document, most people approach photography in a ritualistic and reverential manner and thrive with it. At the same time, it is not the photographer that defines the subject, but the other way around. Tsao

finds these implications to be quite fascinating.

現今，人們愈來愈習慣拍攝自己，當我們帶著 VR 設備觀看影像，雖於擴展了場域的空間，卻無法觀看自己，這與羅伯特・亞當的想法是相反的，因此 VR 影像有更多的孤立與抽離感。此外，靜態影像具有隨時將觀者喚回現實的特點，這在 VR 的特定情境中卻難以具備。
Nowadays, people are increasingly used to photographing themselves. When we view images in a VR setting, the technology expands our surrounding space, yet it does not allow us to see ourselves ─ contradictory to Robert Adams's idea. Thus, VR images give out a greater sense of isolation and detachment. Additionally, still images have the unique feature of bringing the viewers back to reality, which is something that staged VR settings lack.

給群眾的永續 VR 計畫
Sustainable VR Project for the Public

全明遠接續曹良賓的靜態攝影介紹，他認為早期拍攝立體照片的攝影家，就像是此攝影計畫的前輩。另外針對羅伯特・亞當的理論，全明遠在攝影當下也帶有虔誠與崇敬的心進行紀錄，並且認為自身是紀實攝影而並非藝術，也希望未來這些作品作為公共財，藉此拋磚引玉、促使更多人從事該項計畫。對於曹良賓提問為何採用黑白攝影方式，全明遠則回應是希望讓觀眾帶有抽離感，給予觀者空間省思百年前的行為是否影響百年後的一切，也正是他所訂定主題的原因之一。

Following up on Tsao's introduction on still images, Ming-Yuan Chuan commented that early photographers making stereographs are like the predecessors of this photography project. In regards to Robert Adams's theory, Chuan held his reverence and respect when photographing. He believes that what he is doing is documentary photography rather than art production, and hopes these works become public goods that inspire more people to join the project. As to Tsao's question on the use of black-and-white film, Chuan replied that he wanted the audience to feel a sense of detachment, so that they have space to contemplate whether or not actions taken a century ago will impact the world after a century. This is also one of the reasons he chose this theme.

對於本展覽，會以何種方式保存？全明遠說，VR 需要以高標準技術所紀錄，品質過於粗劣的輸出入設備會影響創作者所要傳達的主題。倘若擔心影像載體技術的中斷與消失，則無論是數位或類比攝影，檔案與技術只要仍被使用，都將會被永久流傳。只要知識最後尚存，未來就會有延續，也將被觀者所傳承。

In terms of how the exhibition will be preserved, Chuan asserted that VR needs to be preserved with high-tech. Input and output devices of poor quality will strain what the creator wishes to convey. Should there be concern that image carrier technology will disappear or be depleted, so long as the files and technology remain in use, both digital and analog photography will be eternally passed on. As long as knowledge persists, progress will be made and perpetuated by the viewers.

Vol.7 ｜ 低級自由—李懿澕個展
Low Life: Li Yi-Ho Solo Exhibition

我想要創造一個橋樑，讓人類認識蟑螂所見的世界，從渺小的視角、令人厭惡的蟑螂身體，來感知所處生存環境的樣貌。透過 VR 內容的安排，降低人類對蟑螂的負面印象，同時，投射我對於蟑螂社群的想像，以及蟑螂與其他生物在廚房共生的狀態，來將人與蟑螂之間的不對等、主從關係模糊化——藉由牠的帶領，參觀在廚房裡上演的低視野事件，讓蟑螂成為人類生活空間的敘事主角。作品設計了觸角、翅膀、尾毛三個裝置，來模擬蟑螂接收外界訊息的回饋機制，作為作品的體感輔助，使觀眾得以進入「成為一隻蟑螂」的沉浸體感。

人與蟑螂的關係應該是互相影響的，人類的家也是蟑螂的家、蟑螂的生活模式也是順著人類生活模式運行的。因此，牠是否擁有真正的自由？自由地選擇吃哪些人類吃剩的食物？自由地選擇要在哪些人類擺設的家具底下休息？期望透過這些問題，將構成蟑螂印象的權力歸還給蟑螂本身——牠不是噁心的昆蟲，牠跟我們一樣。（文 / 李懿澕）

I would like to create a bridge between humans and cockroaches, providing humans with a chance to know how cockroaches perceive the world. Confined by a restricted vision and the disgusting body of the cockroach, the audience could get a glimpse into how cockroaches recognize the appearance of their habitats. With the story design in Virtual Reality, this artwork is aimed to change the negative perception that humans have on cockroaches. Moreover, I utilize my own imagination for the cockroach community and their symbiosis with other creatures in the kitchen, to blur the boundary and deconstruct the dominant-subordinate relationship between humans and cockroaches. With the guidance of the cockroach, the audience visit the kitchen in the ground level viewpoint in which the cockroach become the main narrator among the human living space. Thus, I also design installations of antenna, wings, and cerci to imitate the feedback mechanism that cockroaches use to receive external messages. These installations create an immersive experience which makes it easier for the audience to become an embodiment of cockroaches.

Humans and cockroaches would certainly have mutual effect on each other. The home to humans are also the home to cockroaches. Also, cockroaches conform to the house-owner's lifestyle. Are cockroaches entitled to their true freedom? Can they freely choose which leftover food to eat, and freely decide under which furniture to rest? By raising these questions, this artwork hopes to give cockroaches the power as individual entities—they are not some disgusting insects anymore; they are just like us. (by Li Yi-Ho)

關於藝術家
About the Artist

李懿澕，即將畢業於實踐大學媒體傳達設計系，創作類型為影像編輯、裝置設計。2020 年赴波蘭波茲南藝術大學交換一學期，作品《Mar.12-May.4》獲波茲南藝術周線上參展。

Li Yi-Ho, a prospective graduate from Department of Communications Design in Shih Chien University, is an artist specializing in video editing and installation design. She went to University of Fine Arts in Poznan as an exchange student in 2020. Her artwork 《Mar.12 May.4》 was selected in the Poznan Art Week for online exhibition.

第一場：遊戲感與體驗創造
Session 1 : Game Feel and Experience Creation

「概念美術館」第七檔展覽「低級自由—李懿澕個展」，藝術家李懿澕打造了一個 VR 加上體感裝置的 XR 作品，讓觀眾以蟑螂的視角，一窺人類生活的日常場景。本場講座由藝術家道出創作概念、作品內容如何轉化成體驗等過程。再透過與動畫與遊戲設計師江軒的對話，打開觀眾認識 XR 作品創作過程中的務實技術，也探討 XR 與遊戲作品的體驗創造之差異。

In the 7th exhibition at Concept Museum of Art —— Low Life: Li Yi-Ho Solo Exhibition, artist Li Yi-Ho creates an XR installation by combining VR with devices featuring immersive technologies. Her work provides audiences with a chance, from the perspective of cockroaches, to view the daily lives of humans. The artist kicked off the session by sharing her artistic conception and how she converted the presentation of the project into an immersive experience. She then discussed with the animator and game designer Jacky Jiang the pragmatic skills involved in creating a project with XR, as well as the distinction between creating experiences with XR and that with gaming projects.

● 蟑螂視角的模擬
Imitation of Cockroach Perspective

李懿澕首先說明作品的創作想法及其命名由來：「低級自由」的「低級」指的是蟑螂被人類定義為卑微的生物，被冠上了所有負面的形容詞；而「自由」則意指 VR 作為一種更多想像力、沉浸式的載體。在作品的開頭，觀眾視角像被關進狹小空間，就如同人類將蟑螂定義為負面的生物、缺少自由，呼應了「低級自由」這個主題。

Yi-Ho Li first explained the inspiration for this project and its naming. The "low" in Low Life refers to how humans perceive cockroaches to be lowly creatures and associate them with negative images. "Life" refers to the freedom that VR can facilitate as a medium for more imagination and better immersive experience. When the audience first steps into the installation, their vision is enclosed in a confined space; in the same way that humans deem cockroaches to be creatures with negative images that lack freedom, this idea echoes the theme of low life.

江軒在回應中表示認同藝術家將視角放慢的設計，這是一方面考量到體驗者的適應力；另一方面也從人類的時間維度轉換到蟑螂的時間維度，透過放慢速度就可以呈現。然而，他提到對於完全沒有看過文字敘述的觀眾來說，直接體驗作品可能無法第一時間理解自己是一隻蟑螂，因此提出了兩個改善建議：一是在開頭直接加入文字敘述，二是在開頭加入一些視角的轉換或是透過周遭物件有意識地放慢，使觀者明白自己從人類轉換成了蟑螂，也更容易銜接後續的體驗。

In his response, Jiang applauded the artist for slowing down the perception of time in her design. On the one hand, this gives the audience time to adapt; on the other hand, the decreased pace exhibits

the switch from the dimension of humans to that of cockroaches. However, he mentioned that it might be difficult for audiences who have not read the artwork description to immediately be aware that they have been placed in a cockroach's perspective. For that, Jiang offered two suggestions: introduce the description right at the beginning and add in elements for perspective shifts or deliberately slow down the transition of surrounding objects; these can serve as indications for the audience to realize that they have become a cockroach and make it easier to for them to relate to the following display.

體感裝置與「自由」的反饋
Immersive Installations - Feedback on Sensory & Concept of Freedom

在作品體驗中，共有三個被動的體感裝置反饋，分別是蟑螂的觸角、翅膀以及尾毛。李懿瀞談及這三個體感裝置的原先發想的表現方式與最終選擇的結果並不一致；一開始的發想都較為直覺，例如翅膀與尾毛，原本想以「風扇」方式表現翅膀張開、氣流通過的狀態，但在找尋素材以及測試時遇到了困難，最後多方權衡下選擇了「震動」來表現蟑螂的觸鬚、翅膀以及尾毛。

There are three immersive devices in the project that provide passive feedback— the antenna, wings, and cerci. Li mentioned that her original idea on how to display these three devices was not the same as how she did it in the end. She started out with something more intuitive, such as arranging the wings and cerci into the shape of a fan to demonstrate how air flows through open wings. However, she had some problems finding the right material and testing. After taking everything into consideration, she decided to use vibrations to display the antenna, wings, and cerci.

而在蟑螂「複眼」的視角還原上，李懿瀞表示她一開始也有找到幾個不錯的濾鏡，是帶有廣角效果的，但她後來取捨為保留一個觀點：「人類視角與昆蟲複眼的最大差別在於，人類可以決定我們要觀看甚麼，然而昆蟲雖然一次可以接收許多資訊，但它始終無法聚焦看清楚。」她認為人類與昆蟲的差異是明確存在的，不需要百分之百的模擬。

As for replicating the perspective seen via compound eyes of cockroaches, Li said she had found a couple of wide-angle filters that were suitable, but she decided against them in order to make a statement- "The major difference between the human perspective and the compound eyes of insects is that we can decide what we want to look at, while insects can receive a lot of information at the same time, but they can't precisely focus on the objects seen." She believes that the discrepancy between humans and insects is obvious, and there is no need to imitate and reproduce it completely.

藝術家在此作品中設計了三條體驗路線，為了呼應有限度的自由，在關卡與關卡之間，依據了頭盔轉動的方向以及視角停留秒數，選擇路徑。江軻對此回應：絕對的自由是不存在的，因為觀眾只能在創作者的框架下體驗，他對於路線選擇給了藝術家一些建議，應該引導觀眾做決定，明確的指標路線給觀眾選擇，讓觀眾對於作品參與感更高，或是完全隨機，可透過創作者的編排私心將其中某路線機率提高。

There are three routes for experiencing that the artist designed for the project. Echoing the theme of limited freedom, the route that each person takes at each checkpoint is decided by the direction where the audience's helmet is facing and how many seconds they wait. In response to this, Jiang said, "There is no such thing as absolute freedom, because

the audience can only navigate within the framework set by the creator."
He proposed that the artist could mark the routes clearly and guide the
audience to make their own choices, so that they feel more involved.
Another way is to allow the audience to go about by random, but arrange
for certain routes to be chosen, so the audience has a higher chance of
taking them.

遊戲與藝術的界定
Defining Games and Art

講座尾聲，李懿漙提出了一個自己在創作中一直思考、想突破的困難，
就是關於遊戲與藝術的界定。她說明這個作品與遊戲並無不同，亦是
用遊戲軟體製作而成，並具有一定的遊戲性。江軒回應道：人生如戲，
人生就是一種遊戲，差別取決在創作者是想要嚴肅的創作還是輕鬆的
創作。他的建議是保持中立，越是嚴肅的作品越會被觀眾開玩笑，應
該把思考的重點放在觀眾的體驗。

Towards the end of the session, Li brought up a question that she has
been reflecting on during the process of production— how to define
games and art. She explained that this installation is not at all different
from a game; it is made with gaming software and is playable in a sense.
Jiang responded that life is a game. The difference lies in whether the
creator wants to be serious or nonchalant in her creation. His advice
is to remain neutral. The more serious a work is, the more inclined the
audience will be to make fun of it. The focus should be on viewers'
experience.

若是要凸顯藝術的方式就是有時候玩、有時候不玩，或是透過結局的
設定來表現。例如在體驗中的某個抉擇中被吃掉、結束體驗，這樣一
來就會創造落差，觀者也會因此而反思。

Art can be accentuated by alternating between playing and not playing,
or be presented via constructing specific endings. For instance, if a
choice someone makes leads to that person being eaten and that ends

the experience, this
will create a gap in
viewers' perception
and inspire self-
reflection.

一件作品是不是藝
術，創作者說是就
是，藝術與否主要
在於創造力、想像
力，不需要太在意
是否抽離遊戲性。

Only the creator of a piece of work can dictate whether or not it is art.
Since the perimeters of art have to do with creativity and imagination,
there is no need to dwell on its playability.

第二場：後人類視野
Session 2 : Post-Human Viewpoint

「低級自由—李懿澕個展」第二場講座，邱誌勇以「後人類視野」為主軸，藉由文學史和表演藝術中使用了「動物視野」的作品作為舉例，與本展藝術家李懿澕討論了人類在其中轉換視野的動機與意圖。接著梳理了「觀看機器在人類史上的轉變」，談及科技進步的過程中，始終追求「寫實」的原因，打開觀眾對後人類視野的認識。

In the second session of Low Life: Li Yi-Ho Solo Exhibition, Chih-Yung Chiu focused on Post-human Viewpoint. Taking works which use Animal's Viewpoint in the history of literature and performing arts as examples, he started a conversation with the artist Yi-Ho Li about the motives and intentions of human beings in changing their viewpoints. Chiu then explained the transformation of viewing devices in human history by talking about the reasons why people pursue realism in the process of technological advancement, allowing the audience to have a better understanding of the post-human viewpoint.

● 人類與動物的視角轉換
Change of Viewpoints between Humans and Animals

邱誌勇首先談及不同種的生物或動物觀看的世界都不相同，例如：狗的視力其實很差；馬看不太到前方的東西、而是看左右兩側的。蛇可以感受熱能，因此像是紅外線一般地觀看世界。較為特別的是昆蟲，複眼世界對人類來說，是很馬賽克的。

In the beginning, Chiu stated that different kinds of creatures or animals see the world differently. For example, dogs' eyesight is actually pretty poor; horses can hardly see things in front of them, but from both the left and the right side; snakes can sense heat, which allows them to perceive the world with infrared sensing; insects are especially unique as their compound eyes produce a kind of mosaic vision.

此外，邱誌勇也舉例了很多西方與台灣文學、電影與表演作品當中，有關動物視野的作品，並提及作為第一人稱視角書寫如何擺脫人類中心主義的權力結構，以政治性的語彙去談人如何模仿動物說話。因此可以想像《低級自由》，當有天人類變成蟑螂的時候，不僅是視野的變換，也是整個視域（horizon）的擴大。蟑螂可以走平面、垂直面，甚至是天花板。

In addition, Chiu named works related to animal's viewpoint in Western and Taiwanese literature, film, and performance to illustrate how writing as a first-person point of view can be freed from the power structure of anthropocentrism, and, with the use of political vocabulary, how people imitate animals' conversation. Therefore, viewers can imagine that in Low Life, should humans become cockroaches, it is not only a change of viewpoint, but also an expansion of their horizon because cockroaches can walk on flat, along walls, and even across ceilings.

觀看機器在人類史上的轉變
Transformation of Viewing Devices in Human History

接著，邱誌勇談到從裸視到 VR。在西元前 3、4 世紀的神話故事中，古希臘畫師宙克西斯（Zeuxis）和巴赫西斯（Parrhasius）就追求「寫實」以及「擬真」的繪畫。到了布魯內斯基（Filippo Brunelleschi）發明的建築的透視法、達文西的沿用......到了繪畫中，人類開始將科學理論運用到藝術中。暗箱、攝影機的出現，拍攝已幾近再現百分百真實。人類大腦與眼睛有選擇性的功能（selective function）可以選擇性地注意、理解以及記憶，然而攝影卻記錄了鏡頭下的所有。至 1968 年，《達摩克利斯之劍》（The Sword of Damocles）成為史上第一台 VR 裝置。這些虛擬裝置出現的原因，是為了將身體感在視覺主導的世界以外重新被附加或召喚回來。

Afterwards, Chiu introduced naked-eye 3D views and Virtual Reality (VR). In the mythology of the 3rd and 4th centuries B.C., the ancient Greek painters Zeuxis and Parrhasius had pursued realism in painting. In addition, Filippo Brunelleschi invented perspective in architecture, which was later applied to painting by Da Vinci, showing that human beings began to apply scientific theories to art. With the invention of camera obscuras and cameras, photos taken have been able to represent scenes nearly the same as the original. Unlike the human brain and eyes, which have a selective function for paying attention to, understanding, and memorizing certain things, cameras capture everything through the lens. By 1968, the Sword of Damocles came out as the world's first VR display system. These devices come to existence to bring back our bodily experience in spite of the world dominated by vision.

許多人都認為 VR 是擬仿的概念，例如：後現代主義布希亞（Baudrillard）提及只有複製品、沒有真實的原型。將此說套入 VR 作品的虛擬美學，亦即不須追求真實是什麼。但邱誌勇有不同的見解：在 VR 影像中創造的角色場景都是對照外在的；足夠的擬真、寫實才不會使認知結構產生錯亂。因此《低級自由》這類的作品與後人類視野是相關的；正是重新反思人跟世界的關係，以及人跟生物之間的關係。

Many people regard VR as a kind of simulation, as proposed by the postmodernist Baudrillard that there are only replicas instead of real prototypes. If applied to the virtual aesthetics of VR works, this theory suggests that there is no need to pursue what is real. However, Chiu holds a different view, for he thinks that the characters and scenes in VR are all created based on that from the external world, so that they can be real enough to prevent the viewers from being confused in terms of the cognitive structure. Therefore, artworks, such as Low Life, are related to the post-human viewpoint, allowing people to reconsider the relationship between humans and the world, as well as that between humans and creatures.

去人類中心主義的機會
Opportunity for De-Anthropocentrism

主持人王柏偉分享了他的觀後感想：在《低級自由》中，人們好像都預設了人類對蟑螂身體的認知，例如蟑螂的尾毛以裝置震動的方式感知，以人類的身體感塞入蟑螂的感知中，觀眾像是被塞進一個設定好的蟑螂機器人中，模仿他們的形體。

The moderator Po-Wei Wang also pointed out that people seem to presuppose human's perceptions of cockroaches and project them in

Low Life. For instance, cockroaches' cerci are reproduced via devices that vibrate, which is using the human's body to experience a cockroach's perception. The audience is like being put into a cockroach robot that imitates the appearance of a cockroach.

藝術家李懿澕回應，在創作中有許多概念的發想與最後完成的不一樣，技術上以及觀眾的體驗舒適度間做了許多妥協，她意識到這個作品只是一個想像，即使她盡可能拋棄人類中心主義，還是不可能百分百成為真正的蟑螂視角。然而，藝術本身就是從想像出發，沒有想像就沒有創作，因此即使《低級自由》不能百分百變成蟑螂視角，但是以藝術的角度來看，它給觀眾創造了一個去人類中心主義的機會。

Artist Yi-Ho Li expressed that the initial concept and ideas did not end up as intended in the final production. Compromises have been made between the technology applied and the sensation for the audience to feel at ease. She realized that this work is just an imagination, where it was impossible to represent the viewpoint of a real cockroach, even if she tried to remove anthropocentrism as much as possible. However, art begins in imagination, without which, there can be no creation. Although Low Life is not able to fully present a world seen from a cockroach's viewpoint, it still creates an opportunity for the audience to experience de-anthropocentrism, judging from an artistic point of view.