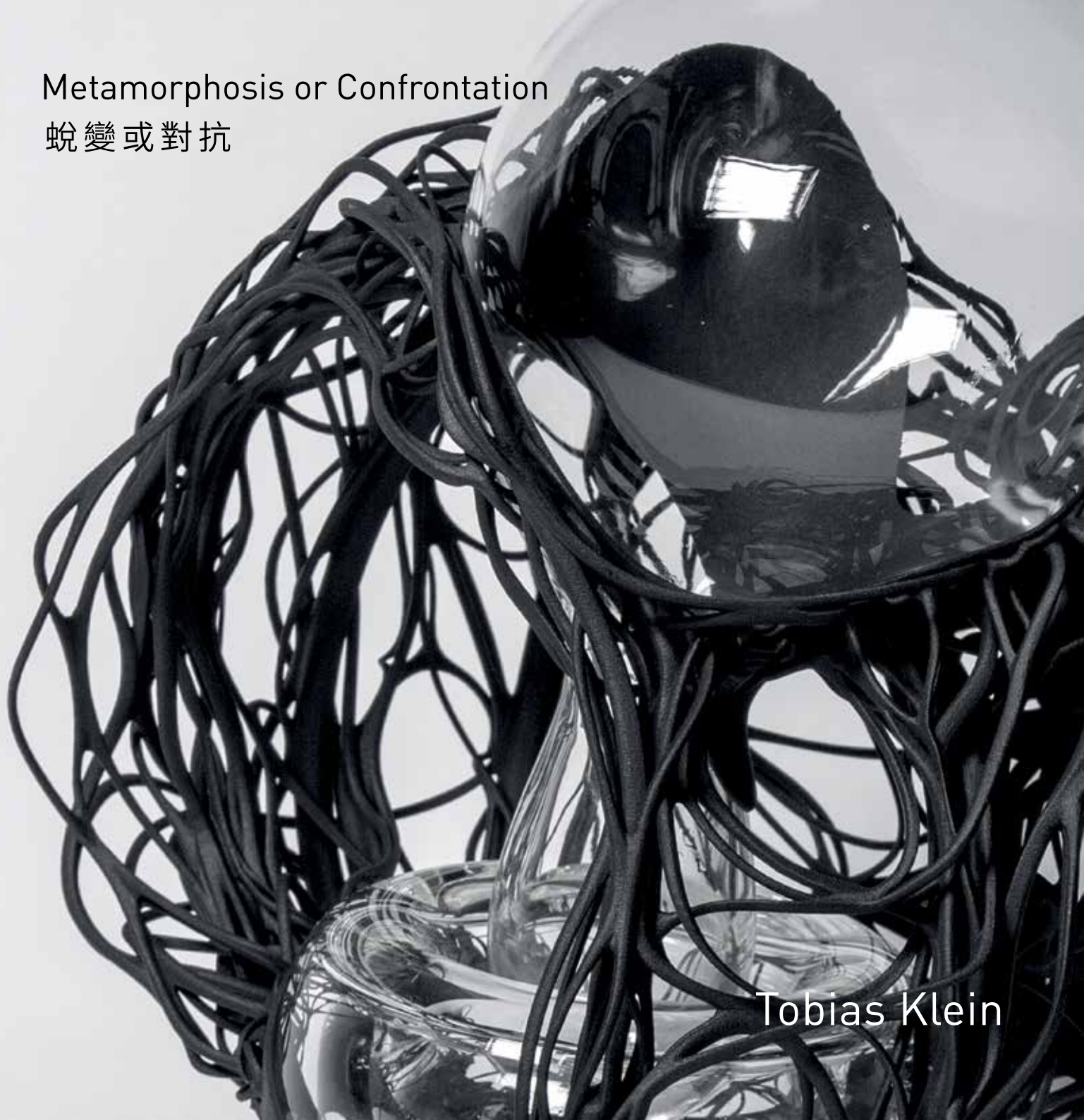


Metamorphosis or Confrontation
蛻變或對抗



Tobias Klein

The University Museum and Art Gallery (UMAG) is pleased to present *Metamorphosis or Confrontation*, Tobias Klein's most extensive solo exhibition to date on the theme of Digital Craftsmanship.

Klein was trained as an architect at the Bartlett School of Architecture, University College London. Before relocating to Hong Kong in 2014, he taught for more than ten years at the world-renowned Architectural Association School of Architecture and the Royal College of Art. Klein holds a PhD from RMIT Melbourne and currently teaches in the School of Creative Media at City University of Hong Kong.

By exploring applications of 3D printing in architecture, art, design and interactive media installations, Klein has created a fusion of contemporary CAD/CAM technologies built from natural materials, found objects and cultural historical references. In his work, Klein develops the emerging discipline of Digital Craftsmanship as an operational synthesis between digital and physical tools and techniques.

The UMAG exhibition traces Klein's work over the past decade and is structured in four distinct areas: *Bones*, *Masks*, *Mutations* and *Forces*. Each theme unravels the relationships and evolution of the artist's body of work, while at the same time demanding that visitors take a position of negotiation, evolution or confrontation.

香港大學美術博物館很榮幸呈獻《蛻變或對抗》展覽，本展覽是簡鳴謙迄今舉辦過最全面的數碼工藝主題個展。

簡鳴謙是一名建築師，畢業於英國倫敦大學巴特雷建築環境學院。在二零一四年定居香港前，他曾在舉世聞名的倫敦建築聯盟學院和皇家藝術學院授課長達十多年。簡鳴謙在皇家墨爾本理工大學取得哲學博士學位，目前任教於香港城市大學創意媒體學院。

簡鳴謙通過探索三維打印技術在建築、藝術、設計和互動媒體裝置等領域的應用，創造出一套建基於自然物料、現成物和文化歷史典故，糅合了當代電腦輔助設計及製造系統的技術。他的作品將新興的數碼工藝專業，發展成一種介乎數碼與物質工具和材料的運作綜合。

《蛻變或對抗》展覽以骨頭、面具、變異和力量四個獨特的領域，探索簡鳴謙過往十年的創作。每個展區的主題既揭示一眾作品之間的關係和演化，同時邀請觀眾投入其中，作出協商、演變或對抗。

The first room, *Bones*, serves as a general introduction. Full of references and models that were both inspiration and source material for the artist, the space has been transformed into a cabinet of curiosities (Wunderkammer).

The second room, *Masks*, is dedicated to a single work. Inspired by the intricate detail and cultural allusions of Cantonese Opera masks, this interactive installation transforms the visitor into a participatory player within a landscape of discoveries and unexpected moments. *Mutations*, the third exhibition space, places three different works in a stimulating constellation—*The Invisible Human*, *Melted Proportions* and *Witnesses*—while thematising a shift in time and space. In the final room, *Forces*, Klein establishes a dialogue between traditional forms of Chinese wood carving, experimental glass blowing and the ornamentation of digital transformations.

Seen as a whole, the individual rooms establish myriad readings. On the one hand, they allow for an understanding of the mastery of both digital and analogue materials, while expressing the ability to apply interpretative and communicative techniques between old and new. This entire exhibition may be regarded as an extended Wunderkammer—a total work of art—which impressively presents the rich tapestry of Digital Craftsmanship.

We would like to thank the German Consulate General in Hong Kong and Macau, the Hong Kong University Museum Society, Osage Gallery and the School of Creative Media, City University of Hong Kong for their support .

—Tobias Klein, Florian Knothe, Harald Kraemer

第一展區「骨頭」是本展覽的序篇，展場幻化成一所珍奇屋 (*Wunderkammer*)，佈滿那賦予藝術家創作靈感和啟發的參考資料和模型。

第二展區「面具」精選展示一件互動式藝術裝置，其創作靈感源自粵劇面具上複雜精緻的圖案和文化隱喻。這件裝置讓觀眾置身於一個充滿探索發現和意外驚喜的場景，搖身一變成為積極踴躍的玩家。第三展區「變異」，以時間和空間的轉移為主題，在星羅棋佈、充滿啟發性的空間內展出三組不同的作品——〈隱形人〉、〈熔融比例〉與〈見證人〉。在最後的「力量」展區，簡鳴謙建立起一種中國木雕的傳統造型、實驗玻璃吹製和數碼轉型的裝飾之間的對話。

整體而言，各個展區帶出多方面涵義。它們既使人了解到藝術家能夠同時駕馭數碼和類似物材料，也展現出他可在新舊之間運用一己的演繹和溝通技巧。本展覽反映數碼工藝多元豐富的內涵，可被視為一所擴建的珍奇屋——整體藝術作品。

我們衷心感謝德國駐香港及澳門總領事館、香港大學博物館學會、奧沙畫廊、以及香港城市大學創意媒體學院對是次展覽的大力支持。

—簡鳴謙、羅諾德、孔慧銳

Bones—traces are the presence of those absent

骨頭——
痕跡是逝者在場的明證

The first room is presented as a cabinet of curiosities. The museum's display cases are filled with models, material sources and relics. These found and collected objects serve as the inspiration and origins of the works displayed on the centre table. In a metaphorical sense, these objects reflect the remains of the past, just like bones. At the same time, in today's era of ever expanding layers of technology, the materiality of the human body becomes increasingly more ephemeral and transitory. The found bones thus become the starting point for an investigation that serves as a spine for the construction of the various 3D-printed objects.

Tobias Klein uses the possibilities of Magnetic Resonance Imaging (MRI) to develop his objects from sectional images. In so doing, the artist plays with aspects of materialisation, dematerialisation and immaterialisation, and with how these boundaries can be overcome.

第一展區以珍奇屋的方式呈現，展櫃內擺滿了模型、物質材料和遺物。這些現成物和收藏品是展廳中央展桌上作品的靈感來源。在隱喻意義上，它們是過去的遺存，就像骨頭一樣。與此同時，在科技日新月異而豐富多變的時代，人體的物質性逐漸變得更加短暫和轉瞬即逝。俯拾而得的骨頭因而成為研究的起點，是建構各種三維打印物件的核心。

簡鳴謙探索在藝術創作中運用磁力共振掃描的可能性，以剖面圖來創作。他在創作過程中試驗物化、去物化和非物化的不同面向，以及如何跨越三者的界限。

Vessels of Vanitas expresses the transience of earthly achievements in the face of the inevitability of death. Klein draws here on the exuberant formal language of the rococo, which he brings into an unprecedented new digital 3D-printed form.

〈虛空的容器〉突顯世俗之物在必然臨到的死亡前的短暫本質。簡鳴謙借鑒洛可可風格中詞藻華麗的形式語言，將之引入一種前所未有的數碼三維打印形式之中。

Vessels of Vanitas II (2016) 〈虛空的容器 II〉

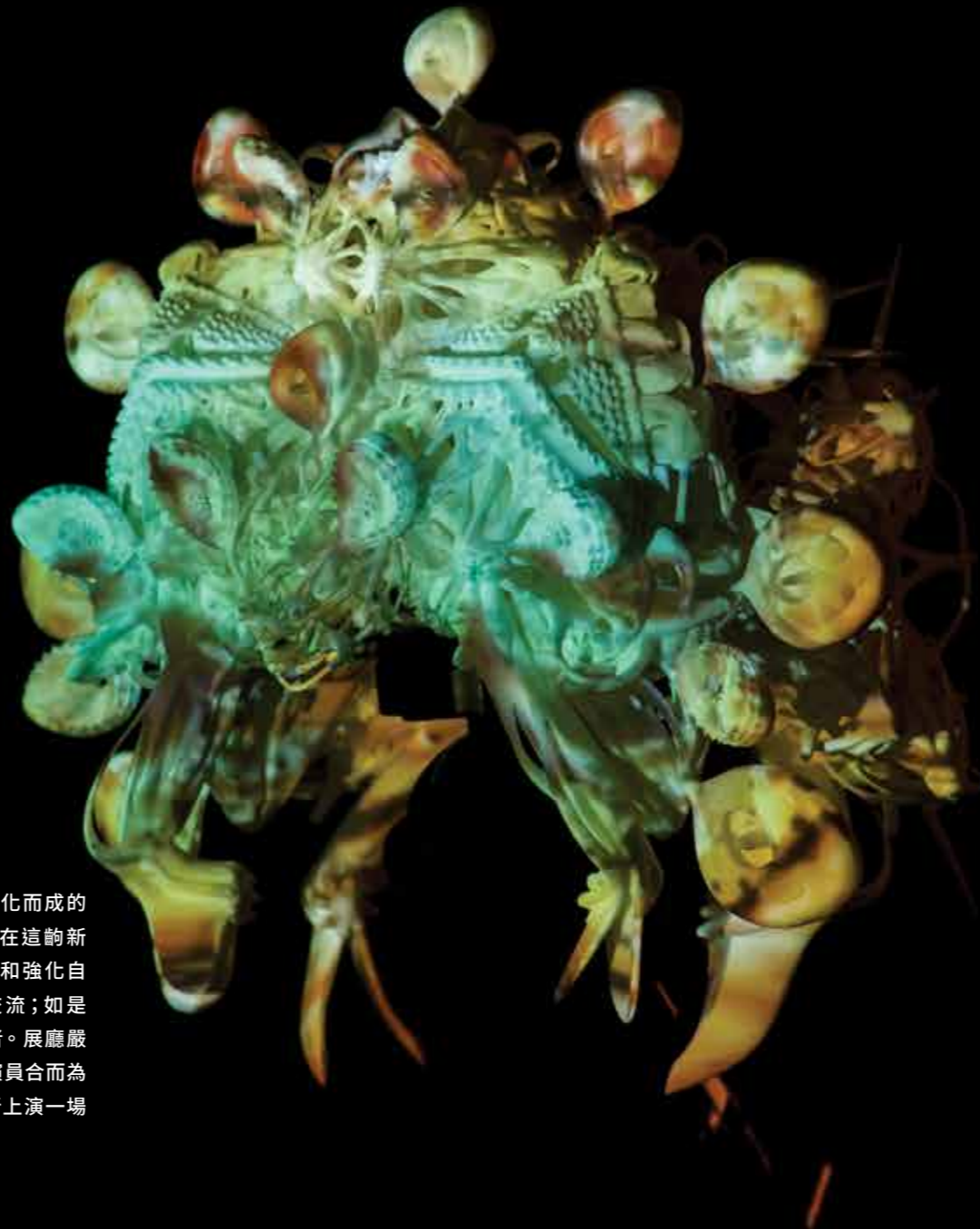


Masks—ephemeral encounters and choreographies

面具——短暫的相遇和編舞設計

The second space is a choreographed amalgamation of virtual and augmented reality, transformed from elements of traditional Cantonese opera. In this new opera, *Augmented Landscape*, masks are worn to disguise, amplify and communicate with other human or machine actors, allowing for the metamorphosis of an individual spectator into a character on stage. Built around the formal construct of masks, the space fuses audience and actor so as to create a dialogue of four masks re-enacting a silent encounter in a newly formed landscape.

第二展區是一個由傳統粵劇元素轉化而成的虛擬實境和擴增實境的編排組合。在這齣新歌劇裏，佩戴面具的目的在於偽裝和強化自我，以及與他人或機械演員進行交流；如是者，觀眾便能蛻變成舞台上的演出者。展廳嚴謹地圍繞各個面具建造，將觀眾和演員合而為一，從而在全新建構的景觀下，重新上演一場四副面具之間靜默的對話。



Augmented Landscape [2020] 〈擴增景觀〉

The installation—a collaboration between Tobias Klein and Alejandro Rodriguez—is a dialogue with the visitor who becomes a participatory player, a co-author. Partly constructed as a performance, partly as a projection and partly as augmented reality, the interactive work consists of a multitude of revealed and hidden mask-like characters.

Two of the masks are 3D printed and exist as physical objects. The other masks exist in a virtual reality, accessed via a VR headset and a projected augmented reality. The visitor's movements are scanned and transcribed into a digital performance, making the visitor one of the characters. Similar to the traditional opera form, the virtual encounters are choreographed through a sequence of stages, mimicking the cycle of a single day, from dawn to dusk, in a constructed landscape.

This shifting perspective between visitor/actor and audience represents a choreographic confrontation between participation and observation, which references the cybernetic feedback cycles of Gordon Pask.

這件裝置由簡鳴謙和 Alejandro Rodriguez 共同製作，是與成為積極參與的玩家和共同作者的觀眾之間的一場對話。這件互動性展品由眾多明確和隱藏、像面具般的角色組成，集表演、投影和擴增實境於一身。

當中兩副面具是經三維打印技術製造的實物，其餘的則存在於虛擬實境內。觀眾可以使用虛擬實境耳機、及透過擴增實境投影來欣賞這些面具。觀眾的舉止會被掃描，再改編成一場數碼舞蹈，使觀眾成為表演者的一員。這種虛擬的互動與傳統粵劇形式相似，是以一系列舞台場景精心編排而成。它在建構的景觀內模仿白晝與黑夜的循環、從黎明到黃昏的時光流逝。

這種參觀者或演員與觀眾的角色互換，代表着參與和觀察之間經精心編排的對抗，體現出高登·帕思的模控回饋循環。

Mutations—creation of a spatial grammar

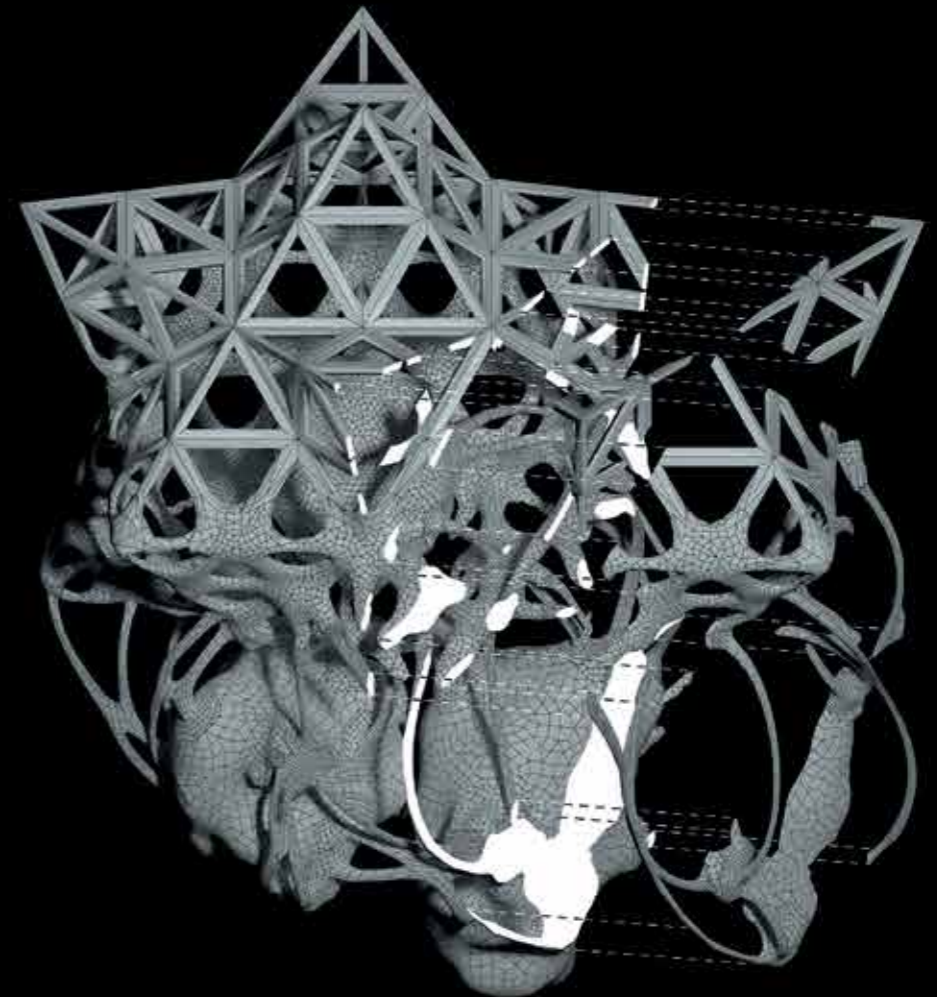
Disparate works meet and converse in the third room. Each work deals with alterations of space and time. *The Invisible Human—Abdomen* is the result of an environmentally driven crystallisation process based on the digital image material of the *Visible Human Project*—the digitized body of the condemned murderer Joseph Paul Jernigan. His body, frozen to -73 degrees celsius, was cryosectioned into 1,871 slices of 1 mm thickness and then recomposed to become the 3D-printed substrate for a mutated bed of growing crystals.

The five-part series *Witnesses*, juxtaposed by the two-part *Masks*, consists of large-format lenticular prints. The illusion of 3D-space can only be experienced by walking through the lenticular prints in real space. The spatial effect is disorienting due to the colourful interplay of what one sees and what one believes is being seen. This interplay between the two levels of reality conceals and reveals the perceived and actual, the difference between an object and its constituent parts.

變異—— 一種空間配置語法的創造

迥然相異的作品在第三展區內相遇和對話，三組作品皆關注空間和時間的變化。〈隱形人（腹部）〉是一個由環境驅動的晶體化過程之產物。該晶體化過程以「可視人計劃」——那被判處死刑的殺人犯約翰·保羅·傑尼根的數碼化身體——的數碼圖像為基礎。他的身體被冷凍至攝氏零下七十三度，經冷凍切成一千八百七十一片（每片為一毫米厚）後，再加以重新編製，成為用以製造不斷增長的晶體的變異層的三維打印基質。

〈見證人〉五組作品系列，由大型的光柵印刷品組成，與〈面具〉兩組作品並置展出。觀眾只有親身行走於真實空間內的光柵印刷品中，才能體會到立體空間的錯覺。那肉眼可真實看見的、和誤以為能看到的影像相互影響，產生令人迷失方向的空間效果。兩個層次的實境互動，既隱藏又顯露出那感知到的、和真實的事物，以及一件物件及其構成元素之間的差異。



Melted Proportions III (2019) 〈熔融比例 III〉

The six-part work *Melted Proportions* consists of a mutation of the work *Duodecedron Abscisus Elevatus Vacuus* by Leonardo da Vinci. The polyhedron, which consists of 120 equilateral triangles, is digitally eroded into six iterative steps. Together, these six works visualize a mutation that leads from the basic geometric form to a digital abstraction. The third space symbolizes the slowing down of time, the simultaneity of non-simultaneity and the mutation of time and space.

〈熔融比例〉的六組作品源自李安納度·達文西繪畫的 *Duodecedron Abscisus Elevatus Vacuus*，屬達文西原作之變異版。 *Duodecedron Abscisus Elevatus Vacuus* 畫內的多面體，由一百二十個等邊三角形組成。藝術家將它數碼化，逐步削弱成六個迭代的階段。這六組作品將那使基本幾何形狀轉化成數碼抽象的變異視覺化。第三展區象徵放慢了的時間步伐、非同時性的同時性、以及時間與空間的變異。

Forces—blown glass and synthetic nature

The fourth room engages with the fusion of traditional arts and crafts and innovative forms of Digital Craftsmanship. Traditional Chinese wood carving, experimental glass blowing and the ornamental transformations of 3D printing articulate an exciting balance between various materials and manufacturing techniques.

Part of a series of seven blown-glass vessels, the shapes of these volumes and their creation loosely follow the notion of primordial mitosis—the splitting of a single cell into two—the beginning of complex forms of life. The blown-glass works were each cut, creating a straight division between the upper and lower sections. The complete volumes were not 3D scanned before the act of cutting, but were arranged and then scanned, held in place by a series of jigs. This creates a disruption between the digital and the analogue, in which the digital augments the actual, not through common methods of overlay such as projection mapping, but rather through a digital construction of their Gestalt, which adds a void to the form. This results in the establishment of the immaterial as part of the physically concrete, extending the notion of the object and establishing immateriality as part of the notion of Digital Craftsmanship.

力量 —— 吹製玻璃和合成自然

第四展區探索數碼工藝的傳統藝術與工藝和創新形式的混合。傳統的中國木雕、實驗玻璃吹製和三維打印豐富多彩的變化，清晰地呈現在各種物料和生產技術之間扣人心弦的平衡。

在吹製玻璃系列的七件作品中，部分玻璃器的形狀和創作過程大致都是隨原始有絲分裂——細胞分裂（一個母細胞分裂成兩個子細胞），即萬物的起源——的概念而作。每件吹製玻璃經過切割後，分裂成上下兩半。這組玻璃器並非被切割後，再作三維打印；而是先以一組夾具裝置妥當，繼而進行三維打印。如此，數碼和類比物之間出現了一個斷裂。在這種斷裂中，數碼技術將真實擴增的過程，並非通過投影繪圖等一般的疊蓋效果製成；而是以其形式 (*Gestalt*) 作數碼建構而成，這能使造形更加豐富。如此，無形（非物質）成為了物質實體的一部分，使物件的概念進一步延伸，並將無形建構成數碼工藝概念的構成元素。



Glass Mutation III (2018) 〈玻璃變異 III〉

BONES

骨頭

The objects and cultural historical references contained in this room's three vitrines are in dialogue and confrontation with the works displayed on the centre table. Together they form the basis for understanding the overall exhibition and oeuvre of Tobias Klein.

三個展櫃內的器物和文化歷史材料，正與展廳中央桌上的作品對話與對抗，兩者構成理解整個展覽和簡鳴謙藝術作品的基礎。

- 01 *375 Park Avenue*
Nylon (white), 3D print (Selective Laser Sintering SLS), brass (0.2 mm) and photo-etched
2014, Edition of 3, 17 x 35 x 35 cm

〈公園大道 375 號〉
尼龍（白色）、三維打印（選擇性雷射燒結技術）、黃銅（0.2 毫米）及光蝕刻
2014 年、三版之一、17 x 35 x 35 厘米

- 02 *Immersive Ornament*
Brass (0.2 mm) and photo-etched, mirror, acrylic glass
2011, 80 x 60 x 60 cm

〈沉浸性裝飾〉
黃銅（0.2 毫米）與光蝕刻、鏡、亞加力膠
2011 年、80 x 60 x 60 厘米

- 03 *Soft Immortality Body*
Polymer (clear), 3D print (Polyjet), piano wire (ø 0.8 mm), Black Marble base
2007, 50 x 40 x 90 cm

〈柔弱的不朽身體〉
聚合物（清澈）、三維打印（Polyjet 技術）、鋼琴線（ø 0.8 毫米）、黑色大理石底
2007 年、50 x 40 x 90 厘米

- 04 *Augmented Fauna*
Found deer pelvis bone, Polylactide (PLA), 3D Print (FDM), Glass cast
2017, 2 x 10 x 15 x 20 cm

〈擴增動物相〉
現成鹿骨盆、聚乳酸、三維打印（熔融層積成型技術）、玻璃鑄造
2017 年、2 x 10 x 15 x 20 厘米

- 05 *Synthetic Syncretism - Yemayá*
Starch and plaster, binder and flexible epoxy infiltrant (white), 3D print (Z-printing), lamb shoulder bone
2006, 10 x 12 x 15 cm

〈合成混合論——葉瑪亞女神〉
澱粉與石膏、黏合劑與彈性環氧樹脂浸漬劑（白色）、三維打印（Z-printing 技術）、羊肩胛骨
2006 年、10 x 12 x 15 厘米

- 06 *Synthetic Syncretism—Chelonian Urn*
Starch and plaster, binder and flexible epoxy infiltrant (white), 3D print (Z-printing), tortoise skeleton bones
2006, 10 x 15 x 10 cm

〈合成混合論——海龜甕〉
澱粉與石膏、黏合劑與彈性環氧樹脂浸漬劑（白色）、三維打印（Z-printing 技術）、龜骨骼
2006 年、10 x 15 x 10 厘米

- 07 *Inversive Embodiment*
Nylon (white), 3D print (Selective Laser Sintering SLS), piano wire (ø 0.8 mm)
2011, 30 x 20 x 20 cm

〈倒裝體現〉
尼龍（白色）、三維打印（選擇性雷射燒結技術）、鋼琴線（ø 0.8 毫米）
2011 年、30 x 20 x 20 厘米

- 08 *Slow Selfie*
Nylon (white), 3D print (Selective Laser Sintering SLS), Aluminium Sulphate Crystal, violet pigment
2013, 35 x 25 x 25 cm

〈緩慢的自拍〉
尼龍（白色）、三維打印（選擇性雷射燒結技術）、硫酸鋁晶體、藍紫色顏料
2013 年、35 x 25 x 25 厘米

- 09 *Slow Selfie II*
Nylon (white), 3D print (Selective Laser Sintering SLS), Aluminium Sulphate Crystal
2013, 25 x 12 x 25 cm

〈緩慢的自拍 II〉
尼龍（白色）、三維打印（選擇性雷射燒結技術）、硫酸鋁晶體
2013 年、25 x 12 x 25 厘米

- 10 *Slow Selfie IV*
Nylon (white), 3D print (Selective Laser Sintering SLS), Aluminium Sulphate Crystal
2015, 25 x 15 x 25 cm

〈緩慢的自拍 IV〉
尼龍（白色）、三維打印（選擇性雷射燒結技術）、硫酸鋁晶體
2015 年、25 x 15 x 25 厘米

- 11 *Ghost*
Nylon (white), 3D print (Selective Laser Sintering SLS), Aluminium Sulphate Crystal
2012, 25 x 15 x 15 cm

〈幽靈〉
尼龍（白色）、三維打印（選擇性雷射燒結技術）、硫酸鋁晶體
2012 年、25 x 15 x 15 厘米

BONES

骨頭

- 12 *Flower*
Nylon (white), 3D print (Selective Laser Sintering SLS), Aluminium Sulphate Crystal
2012, 25 x 15 x 15 cm
- 〈花〉
尼龍 (白色)、三維打印 (選擇性雷射燒結技術)、
硫酸鋁晶體
2012 年、25 x 15 x 15 厘米

- 13 *Vessels of Vanitas II*
Resin (white), 3D print (Stereolithography Apparatus SLA)
2016, Edition of 3, 75 x 25 x 40 cm
- 〈虛空的容器 II〉
樹脂 (白色)、三維打印 (光固化立體造型術)
2016 年、三版之一、75 x 25 x 40 厘米

- 14 *Vessels of Vanitas I*
Polymer (clear and white), 3D print (Polyjet)
2015, 30 x 15 x 15 cm
- 〈虛空的容器 I〉
聚合物 (清澈與白色)、三維打印 (Polyjet 技術)
2015 年、30 x 15 x 15 厘米

- 15 *Crown*
Polylactide (PLA), 3D Print (FDM), Glass cast
2017, 20 x 30 x 20 cm
- 〈冠冕〉
聚乳酸、三維打印 (熔融層積成型技術)、玻璃鑄造
2017 年、20 x 30 x 20 厘米

- 16 *Rift*
Polymer (clear and white), 3D print (Polyjet),
Aluminium Sulphate Crystal
2016, 20 x 10 x 15 cm
- 〈裂痕〉
聚合物 (清澈與白色)、三維打印 (Polyjet 技術)、
硫酸鋁晶體
2016 年、20 x 10 x 15 厘米

- 17 *Soft Immortality_Heart*
Polymer (clear), 3D print (Polyjet), piano wire (ø 0.8 mm)
2007, 50 x 25 x 25 cm
- 〈柔弱的不朽_心〉
聚合物 (清澈)、三維打印 (Polyjet 技術)、鋼琴線 (ø 0.8 毫米)
2007 年、50 x 25 x 25 厘米

- 18 *Embodiment*
Diptych, Giclee print on Hahnemühle FineArt paper, Alu-dibond
2012, 2 x 150 x 100 cm
- 〈體現〉
聯作、Hahnemühle 藝術紙 (Giclee print 藝術微噴技術), Alu-dibond
2012 年、2 x 150 x 100 厘米

MASKS

面具

- Augmented Landscape*
Computer (x4), VR Headset (x2), nylon (white),
3D print (Selective Laser Sintering SLS) (x2),
mini projector (x4), projector (x2)
2020, 240 x 300 x 600 cm

MUTATIONS

變異

- 01 *The Invisible Human—Abdomen*
Nylon (white), 3D print (Selective Laser Sintering SLS),
Aluminium Sulphate Crystal
2013, 60 x 30 x 30 cm
- 〈隱形人——腹部〉
尼龍 (白色)、三維打印 (選擇性雷射燒結技術)、硫酸鋁晶體
2013 年、60 x 30 x 30 厘米

- 02 *Melted Proportions I–VI*
Resin (white), 3D print (Stereolithography Apparatus SLA)
2019, Edition of 3, 50 x 40 x 40 cm
- 〈熔融比例 I–VI〉
樹脂 (白色)、三維打印 (光固化立體造型術)
2019 年、三版之一、50 x 40 x 40 厘米

- 〈擴增景觀〉
電腦 (4 部)、虛擬實境耳機 (2 部)、尼龍 (白色)、
三維打印 (選擇性雷射燒結技術) (2 個)、微型投影機 (4 部)、
投影機 (2 部)
2020 年、240 x 300 x 600 厘米

- 03 *MASK A*
28 LPI lenticular print, Alu-dibond
2016, Edition of 3, 140 x 120 x 2 cm
- 〈面具 A〉
光柵印刷 (每吋透鏡數目為 28 片)、Alu-Dibond
2016 年、三版之一、140 x 120 x 2 厘米

- 04 *Witnesses I–V*
28 LPI lenticular print, Alu-dibond
2017, Edition of 3, 140 x 120 x 2 cm
- 〈見證人 I–V〉
光柵印刷 (每吋透鏡數目為 28 片)、Alu-Dibond
2017 年、三版之一、140 x 120 x 2 厘米

- 05 *MASK B*
28 LPI lenticular print, Alu-dibond
2016, Edition of 3, 140 x 120 x 2 cm
- 〈面具 B〉
光柵印刷 (每吋透鏡數目為 28 片)、Alu-Dibond
2016 年、三版之一、140 x 120 x 2 厘米

FORCES 力量

- 01 *Eversion I*
glass (blown and cut)
2017, 18 x 20 x 19 cm
- 〈外翻 I〉
玻璃（吹製與切割）
2017年、18 x 20 x 19 厘米
- 02 *Eversion II*
glass (blown and cut)
2017, 18 x 20 x 18 cm
- 〈外翻 II〉
玻璃（吹製與切割）
2017年、18 x 20 x 18 厘米
- 03 *Glass Mutation IV*
Nylon (black), 3D print (Selective Laser Sintering SLS),
glass (blown)
2020, 49 x 35 x 33 cm
- 〈玻璃變異 IV〉
尼龍（黑色）、三維打印（選擇性雷射燒造技術）、
玻璃（吹製）
2020年、49 x 35 x 33 厘米
- 04 *Glass Mutation III*
Nylon (white), 3D print (Selective Laser Sintering SLS),
glass (blown)
2018, 29 x 39 x 25 cm
- 〈玻璃變異 III〉
尼龍（白色）、三維打印（選擇性雷射燒造技術）、
玻璃（吹製）
2018年、29 x 39 x 25 厘米
- 05 *Glass Entanglement IV*
Nylon (black), 3D print (Selective Laser Sintering SLS),
glass (blown and cut)
2020, 35 x 23 x 22 cm
- 〈玻璃糾纏 IV〉
尼龍（黑色）、三維打印（選擇性雷射燒造技術）、
玻璃（吹製與切割）
2020年、35 x 23 x 22 厘米
- 06 *Glass Entanglement III*
Nylon (black), 3D print (Selective Laser Sintering SLS),
glass (blown and cut)
2020, 38 x 23 x 20 cm
- 〈玻璃糾纏 III〉
尼龍（黑色）、三維打印（選擇性雷射燒造技術）、
玻璃（吹製與切割）
2020年、38 x 23 x 20 厘米
- 07 *Displacement*
glass (blown), neon gas, black cable, neon ballast
2017, 22 x 40 x 19 cm
- 〈位移〉
玻璃（吹製）、氖氣、黑色電纜、氖鎮流器
2017年、22 x 40 x 19 厘米
- 08 *Glass Mitosis*
Nylon (black), 3D print (Selective Laser Sintering SLS),
glass (blown) silvered
2020, 59 x 30 x 28 cm
- 〈玻璃有絲分裂〉
尼龍（黑色）、三維打印（選擇性雷射燒造技術）、
鍍銀玻璃（吹製）
2020, 59 x 30 x 28 厘米
- 09 *Dollop*
3 x glass (blown) silvered
(2017/2019), 26 x 42 x 33 cm
- 〈一團〉
鍍銀玻璃（3塊）
2017/2019年、26 x 42 x 33 厘米
- 10 *Glass Mutation V*
Nylon (black), 3D print (Selective Laser Sintering SLS),
glass (blown)
2020, 47 x 33 x 17 cm
- 〈玻璃變異 V〉
尼龍（黑色）、三維打印（選擇性雷射燒造技術）、
玻璃（吹製）
2020年、47 x 33 x 17 厘米
- 11 *Glass Entanglement I*
Nylon (black), 3D print (Selective Laser Sintering SLS),
glass (blown and cut)
2020, 38 x 33 x 19 cm
- 〈玻璃糾纏 I〉
尼龍（黑色）、三維打印（選擇性雷射燒造技術）、
玻璃（吹製與切割）
2020年、38 x 33 x 19 厘米
- 12 *Glass Entanglement II*
Nylon (black), 3D print (Stereolithography Apparatus SLA),
glass (blown and cut)
2020, 42 x 28 x 18 cm
- 〈玻璃糾纏 II〉
尼龍（黑色）、三維打印（光固化立體造型術）、
玻璃（吹製與切割）
2020年、42 x 28 x 18 厘米

FORCES 力量

- 13 *Glass Entanglement VII*
Nylon (black), 3D print (Stereolithography Apparatus SLA),
glass (blown and cut)
2020, 31 x 20 x 19 cm

〈玻璃糾纏 VII〉
尼龍（黑色）、三維打印（光固化立體造型術）、
玻璃（吹製與切割）
2020年、31 x 20 x 19 厘米

- 14 *Glass Entanglement V*
Nylon (black), 3D print (Stereolithography Apparatus SLA),
glass (blown and cut)
2020, 37 x 33 x 26 cm

〈玻璃糾纏 V〉
尼龍（黑色）、三維打印（光固化立體造型術）、
玻璃（吹製與切割）
2020年、37 x 33 x 26 厘米

- 15 *Glass Entanglement VI*
Nylon (black), 3D print (Stereolithography Apparatus SLA),
glass (blown and cut)
2020, 36 x 28 x 24 cm

〈玻璃糾纏 VI〉
尼龍（黑色）、三維打印（光固化立體造型術）、
玻璃（吹製與切割）
2020年、36 x 28 x 24 厘米

- 16 *Coexistence III*
Resin (white), 3D print (Stereolithography Apparatus SLA),
glass (blown)
2020, 68 x 32 x 28 cm

〈共存 III〉
樹脂（白色）、三維打印（光固化立體造型術）、
玻璃（吹製）
2020年、68 x 32 x 28 厘米

- 17 *Coexistence II*
Resin (white), 3D print (Stereolithography Apparatus SLA),
glass (blown)
2020, 43 x 30 x 30 cm

〈共存 II〉
樹脂（白色）、三維打印（光固化立體造型術）、玻璃（吹製）
2020年、43 x 30 x 30 厘米

- 18 *Coexistence I*
Resin (white), 3D print (Stereolithography Apparatus SLA),
glass (blown)
2020, 29 x 30 x 30 cm

〈共存 I〉
樹脂（白色）、三維打印（光固化立體造型術）、
玻璃（吹製）
2020年、29 x 30 x 30 厘米

Metamorphosis or Confrontation
20 May–30 August 2020

Curated and designed by
Tobias Klein, Florian Knothe, Harald Kraemer

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簡鳴謙、羅諾德、孔慧銳

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