LEONARDO DA VINCI
達文西

Art & Science · Then & Now
藝術與科學 · 過去與現在

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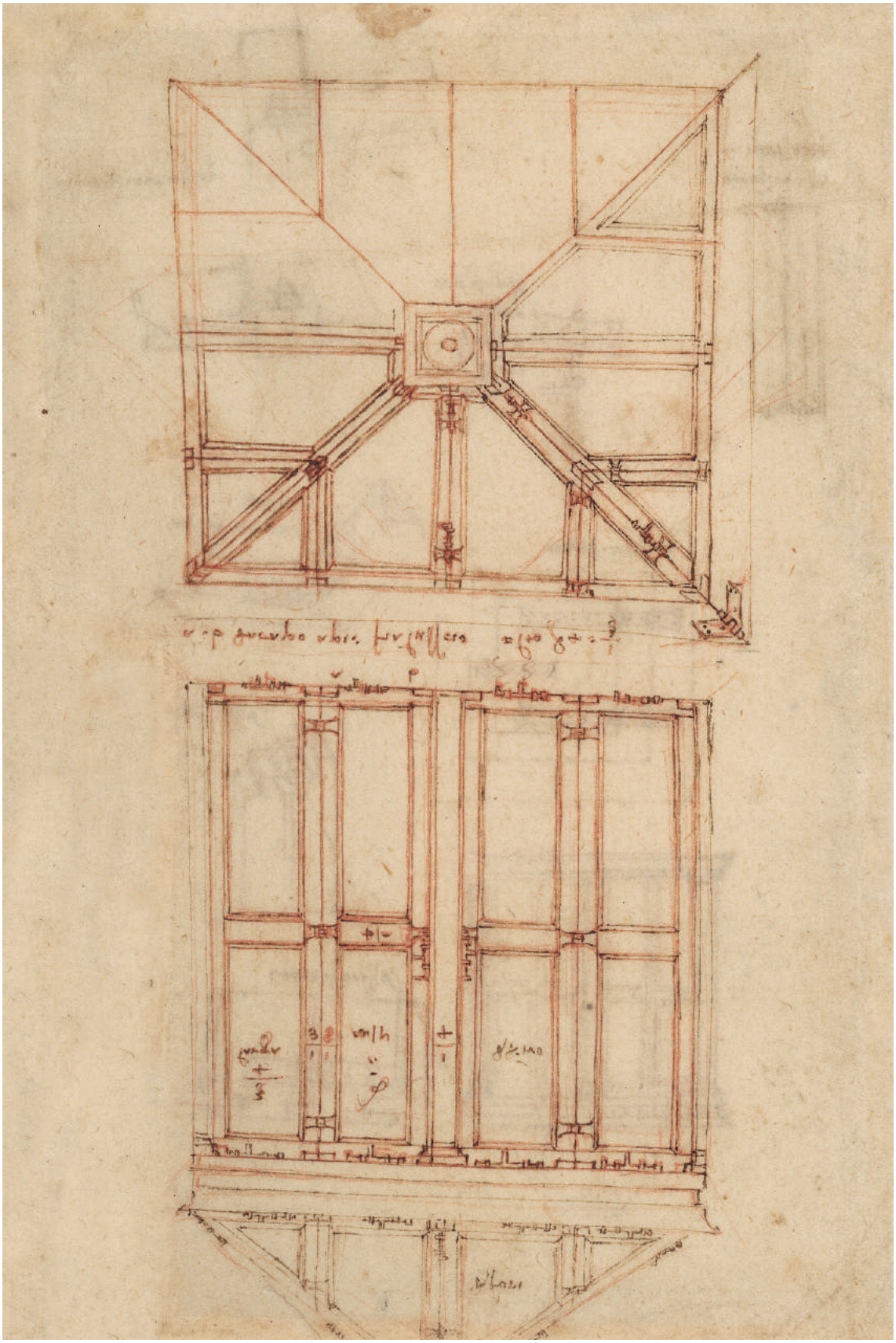

WAY KUO

President and University Distinguished Professor
City University of Hong Kong
香港城市大學校長暨大學傑出教授　郭位

I am extremely proud that City University of Hong Kong (CityU), in collaboration with the Veneranda Biblioteca Ambrosiana, Milan, welcomes for the first time in Hong Kong original works by the artist Leonardo da Vinci. This extraordinary exhibition, facilitated by the Consulate General of Italy in Hong Kong and the Istituto Italo Cinese, presents to the Hong Kong public twelve drawings from the *Codex Atlanticus* of the Veneranda Biblioteca Ambrosiana, Milan, along with models based on Leonardo's designs and contemporary pieces inspired by Leonardo's creations. The exhibition comes at a special time as we celebrate the 25th anniversary of CityU becoming a university. It is an excellent opportunity for us to reflect on our past, our heritage and our connections to artistic and cultural themes similar to those expressed in this exhibition. CityU and Leonardo da Vinci share some commonalities. Renowned as a polymath, this artist exemplifies the ideal of research across the arts, sciences and technology. Similarly, CityU bridges technological virtuosity and humanistic engagement through a project for which I have coined the term 'soulware'. Leonardo believed that only through direct experimentation and observation could he build on and improve past knowledge. He held that beauty should be combined with utility, even for practical and military machines. In both cases, he was an innovator who embraced scientific methodology on the one hand and aesthetics, on the other, an idea not properly articulated in design until the 19th century. It is in this spirit of discovery and cross-disciplinary investigation that I am delighted to see contemporary artists, most of whom are faculty at the School of Creative Media, CityU, contribute to this exhibition, emphasising the influence of Leonardo's art even into the 21st century, as interpreted through the dynamic field of creative media. We hope that the public will enjoy experiencing in this exhibition, the 10th to be held at our exciting CityU Exhibition Gallery, the intellectual and artistic principles that Leonardo da Vinci infused into his art.

香港城市大學（城大）與米蘭昂布羅修圖書館合作，迎來著名藝術巨匠李奧納多·達文西的真跡首度來港展出，本人深感榮幸。是次展覽得到意大利駐香港總領事館及意中經濟文化交流協會支持，向香港大眾呈獻米蘭昂布羅修圖書館館收藏的《大西洋古抄本》中十二幅手繪圖、根據達文西的設計圖而製作的實物模型，以及受達文西啟發而創作的當代作品。是次展覽正值我們慶祝城大成為大學二十五週年這個特別的時刻。這是一個絕佳的機會，讓我們反思我們的過去，遺產以及與本次展覽中所表達的藝術和文化主題相似的聯繫。城大與達文西享有其共通之處。達文西以博學多才見稱，堪為將研究完美貫穿藝術、科學、技術等多個領域的典範。城大同樣致力融匯尖端科技與人文關懷，為此我曾在某個研究項目中首次提出了「心件」這一說法。達文西相信，唯有透過直接實驗及觀察，方可令已有知識更上層樓；同樣重要的是，達文西主張美感與效用缺一不可，即使實用器具及軍用機械亦不例外。達文西無疑是開創新局的先驅，一方面堅持科學方法，另一方面追求美學，儘管直至19世紀他的設計才能真正得到實現。正正是秉持這種探索新知與跨領域研究向來的精神，得見當代藝術家參與這次展覽我感到非常欣喜，而且他們多為創意媒體學院的同事。他們的作品表明，透過創意媒體此一充滿活力的場域詮釋達文西的作品，即使在21世紀他亦依然合時，其影響將永存不朽。是次展覽為城大第十個展覽，我們希望公眾能透過欣賞達文西的作品，同時了解其藝術作品中治學與藝術之原則。

C. A. folio 769 recto, *Project for the Construction of a Movable Pavilion*,
red pencil, pen and ink, circa 1494-1497
©Veneranda Biblioteca Ambrosiana/Mondadori Portfolio.
《大西洋古抄本》對頁769之右頁，〈活動涼亭建築投映〉，
紅色鉛筆、鋼筆、墨水，約1494至1497年
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CLEMENTE CONTESTABILE

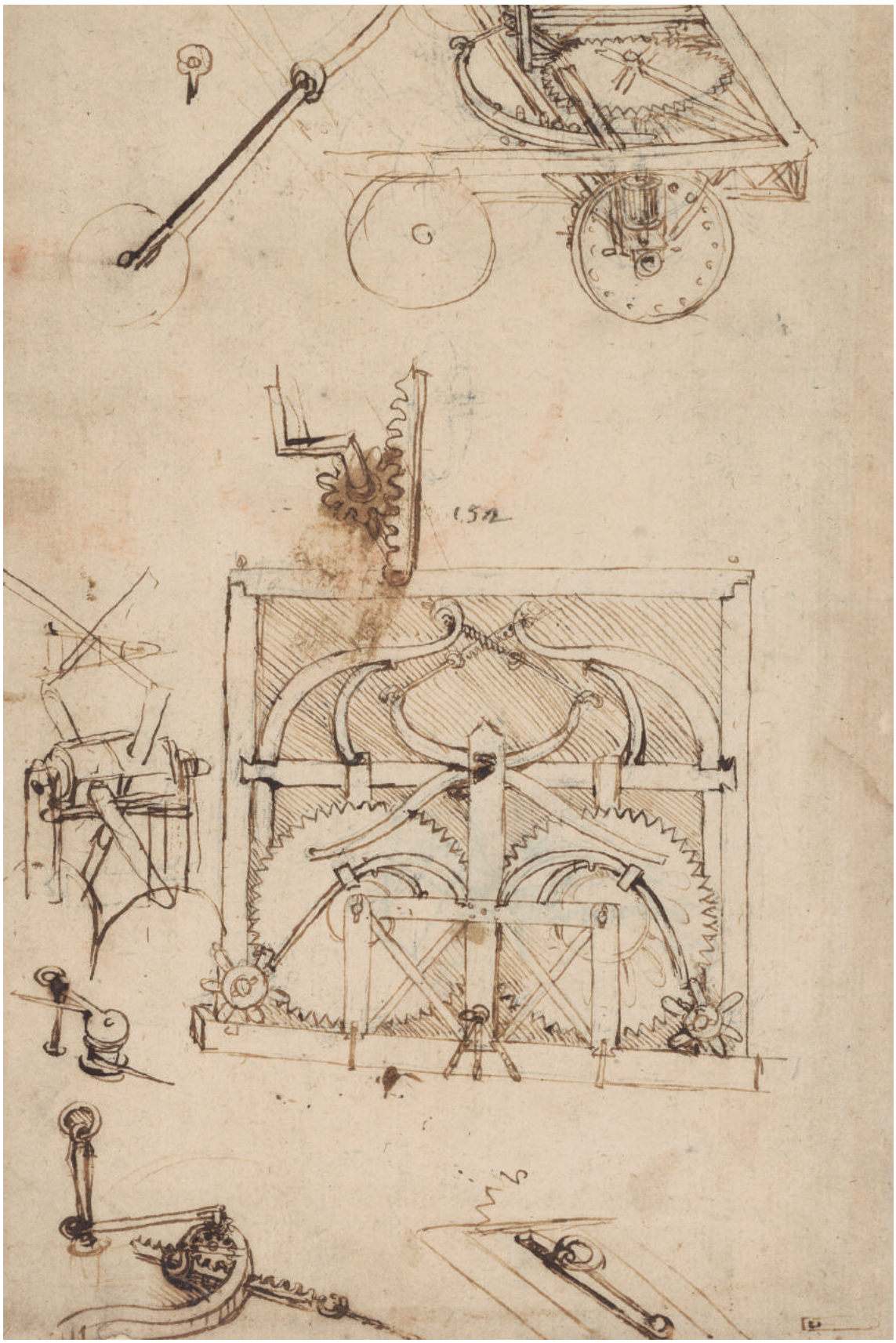
Consul General of Italy in Hong Kong
意大利駐香港總領事館　孔德樂

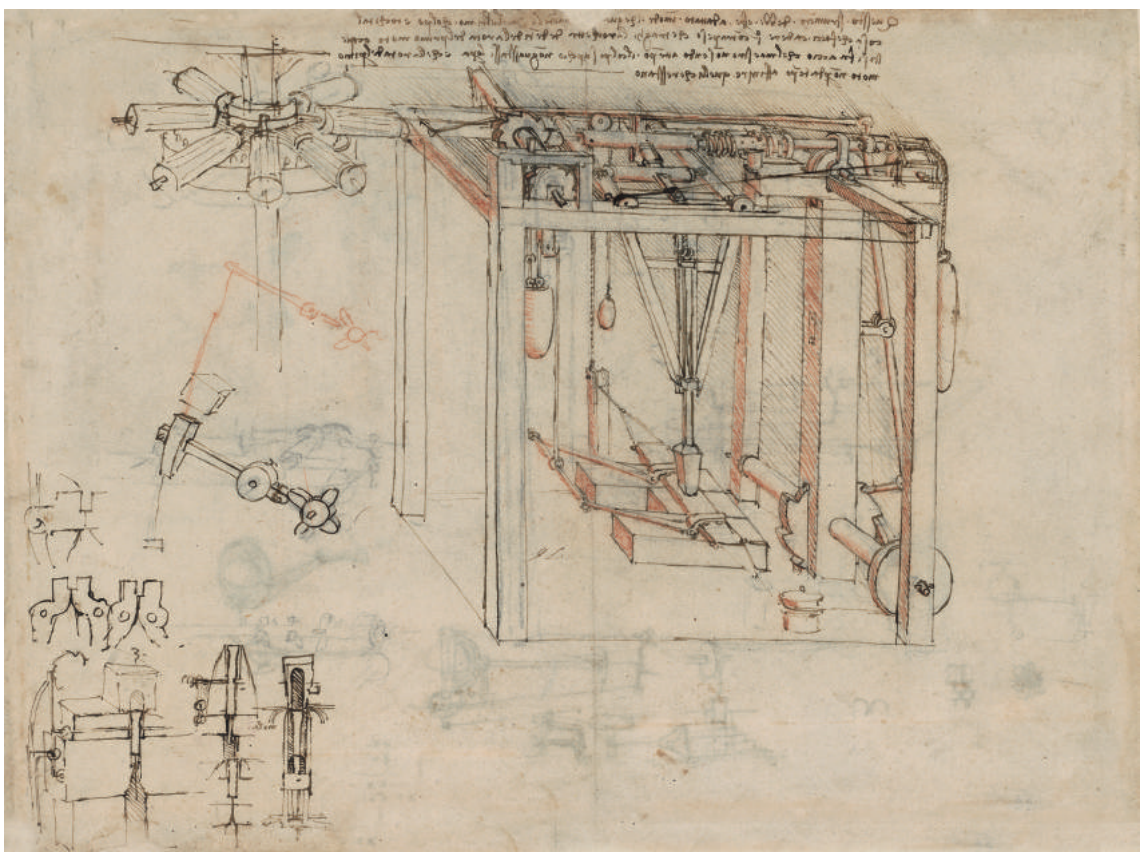
This year marks the 500th anniversary of the death of Leonardo da Vinci - inventor, artist, musician, architect, engineer, anatomist, botanist, geologist, historian and cartographer - who passed away in May 1519. A man ahead of his time, Leonardo da Vinci is considered one of the greatest minds the world has ever known. I commend the City University of Hong Kong for hosting an outstanding exhibition celebrating the prodigious Italian Renaissance master's life and work. The exhibition "*Leonardo da Vinci. Art & Science · Then & Now*" is part of the official program of the 2019 Da Vinci celebrations, promoted by the Italian Ministry of Cultural Heritage and Activities. The Italian Ministry of Foreign Affairs and International Cooperation is proud to support the project. Models based on sketches and original drawings of the *Codex Atlanticus*, from the Veneranda Biblioteca Ambrosiana, Milan, are on display, embracing studies on the most disparate subjects: from pictorial works to research on mathematics and astronomy to curious and futuristic projects. As a unique man of many talents, whose creative brilliance is still astonishing, Leonardo da Vinci continues to be a very modern genius: his natural wisdom crossed so many disciplines that he epitomizes the term "Renaissance man". His influence has not been limited to art, but has touched the worlds of engineering, medicine, military and even today's pop-culture. Da Vinci used to say "The noblest pleasure is the joy of understanding". I trust that visitors at City University of Hong Kong Exhibition Gallery will enjoy this journey into the mind of the Italian genius.

今年是李奧納多·達文西逝世五百週年紀念，這位發明家、藝術家、音樂家、建築師、工程師、解剖學家、植物學家、地理學家、歷史學家兼地圖繪製者於1519年5月離世。他的思想超前於所身處的時代，被譽為世上最偉大智者之一。香港城市大學為這位意大利文藝復興大師舉辦了一個出色的展覽，頌揚他的驚世奇才與生平，我為此感到讚嘆不已。「達文西：藝術與科學·過去與現在」展覽，是意大利文化遺產及文化活動部發起的官方慶祝活動「達文西2019」節目之一，由意大利外交及國際合作部全力支持。展品包括由米蘭昂布羅修圖書館借出的按照草圖製作而成的模型，以及《大西洋古抄本》手繪原作，涵蓋了多種多樣的研究：從圖像作品到數學及天文的研究，以及富好奇心與未來視野的項目。達文西這個多才多藝的奇人，其創意光芒至今依然讓人嘖嘖稱奇，繼續成為現代天才：他天賦的智慧所涉獵的領域眾多，可謂是「文藝復興人」的典範；他的影響不囿於藝術之境，觸及的卻是大千世界，工程學、醫學、軍事，甚至是今天的流行文化。達文西曾說：「最高尚的愉悅就是認識事物的快樂。」我深信香港城市大學展覽館的觀眾，都能夠享受這趟旅程，暢遊於這位意大利天才的思想海洋中。

C. A. folio 812 recto,
Automated Cart (also known as Leonardo's Car), pen and ink, circa 1478

《大西洋古抄本》對頁812之右頁，
〈自動化馬車（又稱為達文西座駕）〉，鋼筆、墨水，約1478年





Alberto Rocca

Director, Pinacoteca Ambrosiana

昂布羅修藝術博物館總監 *Alberto Rocca*

The genius of Leonardo da Vinci is universal. First of all it is universal because his talent investigated countless manifestations of Nature and intellect, as the original drawings set in this exhibition show: civil and military engineering, geometry, perspective, optics and a project for a flying machine. This wide spectrum of interests, nurtured by a single man provided with an astonishing ability in drawing and an insatiable curiosity, have made Leonardo da Vinci universal also in the sense of worldwide renown; his multifaceted production raises admiration and wonder in every part of the globe, even five centuries after his death. This exhibition, organized by the gallery of the prestigious City University of Hong Kong in collaboration with the Veneranda Biblioteca Ambrosiana of Milan, clearly demonstrates this worldwide admiration, able not only to cause astonishment but also and moreover collaboration and dialogue among cultures. Italian genius and refined millennial Chinese culture meet in the remembrance of Leonardo, sign of an ancient friendship and omen of a lasting collaboration.

李奧納多·達文西的天賦創造力是普世的，其一皆因他以非凡的才華，潛心鑽研自然與才智的方方面面，從是次展出的手繪原作中可見一斑，包羅土木及軍事工程、幾何學、透視法、光學，還有飛行器的構想。再者，達文西一人所抱有的廣博志趣，加上其驚世的繪畫功力與永不滿足的好奇心，令他獲得舉世知名的聲譽。即使在達文西逝世五個世紀後，他豐富的創造力依然令世界每一個角落引起讚嘆連連。是次展覽由享負盛名的香港城市大學展覽館與米蘭昂布羅修圖書館合辦，無疑證明了對達文西的欣賞已遍及全球，不僅令人讚嘆不已，亦推動不同文化間的合作及對話。藉紀念達文西之際，意大利天才與中國高雅的千年文化相遇，乃一段古老的友誼及長久合作的佳兆。

C. A. folio 29 recto, *Gold-beating Machine*,
red pencil, pen and brown ink, 1493

《大西洋古抄本》對頁29之右頁，
〈金箔製造機器〉，紅色鉛筆、鋼筆、褐色墨水，1493年

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策展團隊

This catalogue is published for the exhibition

Leonardo da Vinci: Art & Science · Then & Now
本展品目錄為展覽《達文西：藝術與科學・過去與現在》而出版

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Leonardo da Vinci

Art & Science
Then & Now

達文西

藝術與科學
過去與現在

Presented by
City University of Hong Kong Exhibition Gallery
Veneranda Biblioteca Ambrosiana

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協辦

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and to Maria Rosa Azzolina, Director of the Istituto Italo Cinese,
who by facilitating the coordination made this collaboration possible.

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Jeffrey SHAW 邵志飛

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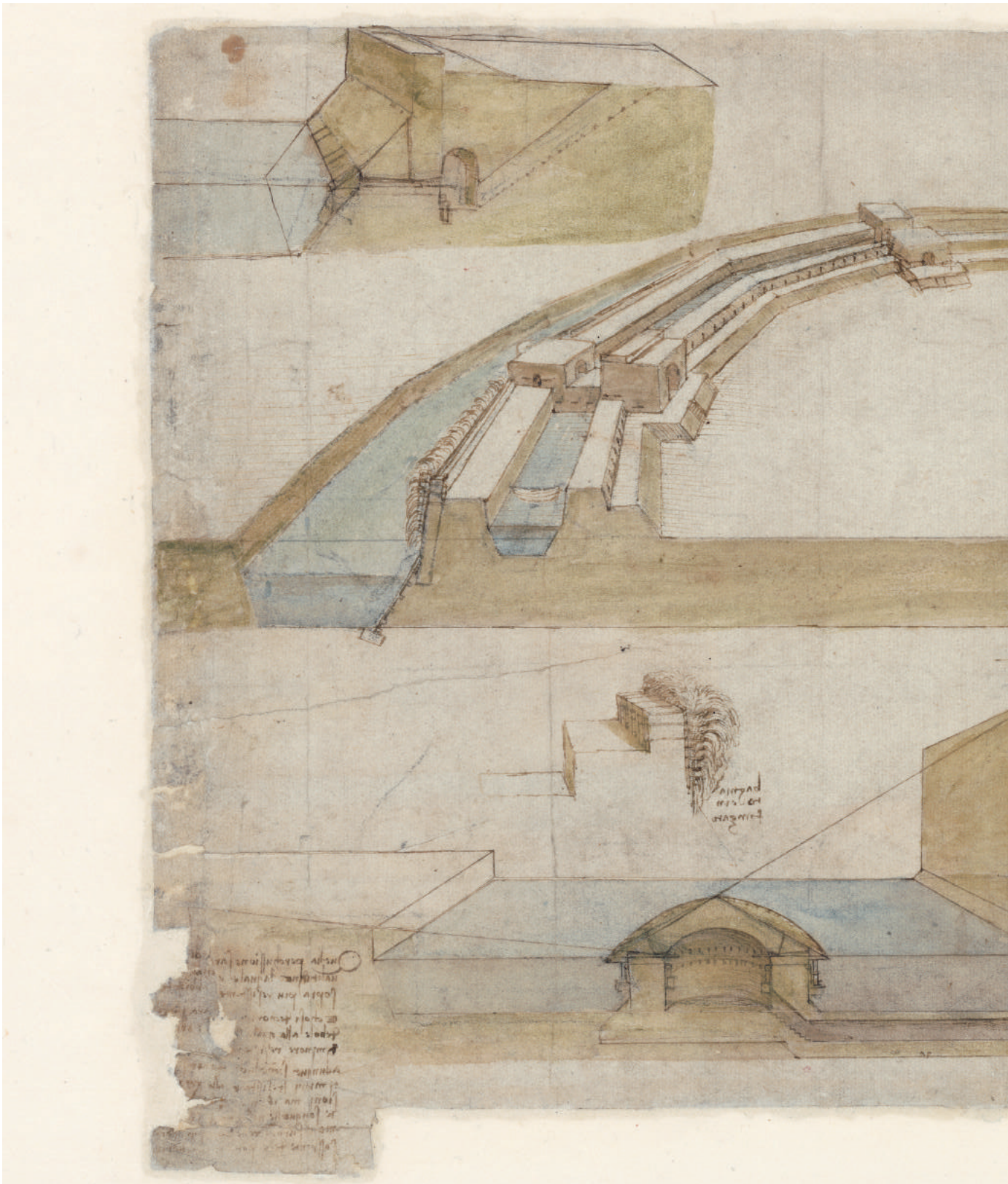

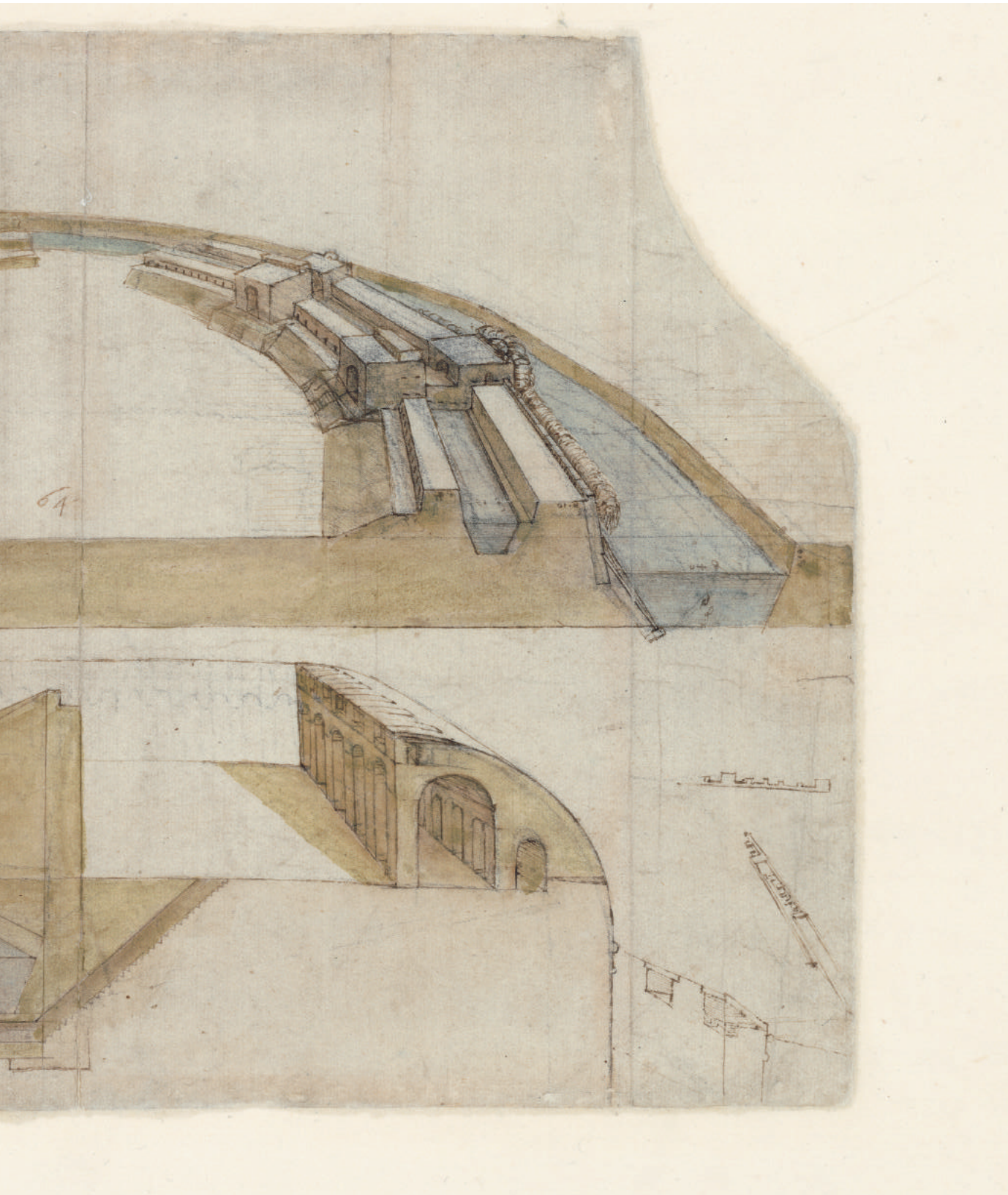

C. A. folio 116 recto, *Four Studies for a Large Fortress*,
stylus, black pencil, pen and in watercolour, circa 1502-03 (or later)
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李奧納多·達文西，〈四幅巨型要塞研究圖〉，
《大西洋古抄本》對頁116之右頁，尖筆、黑色鉛筆、鋼筆、水彩繪成，約1502至1503年（或更後期）
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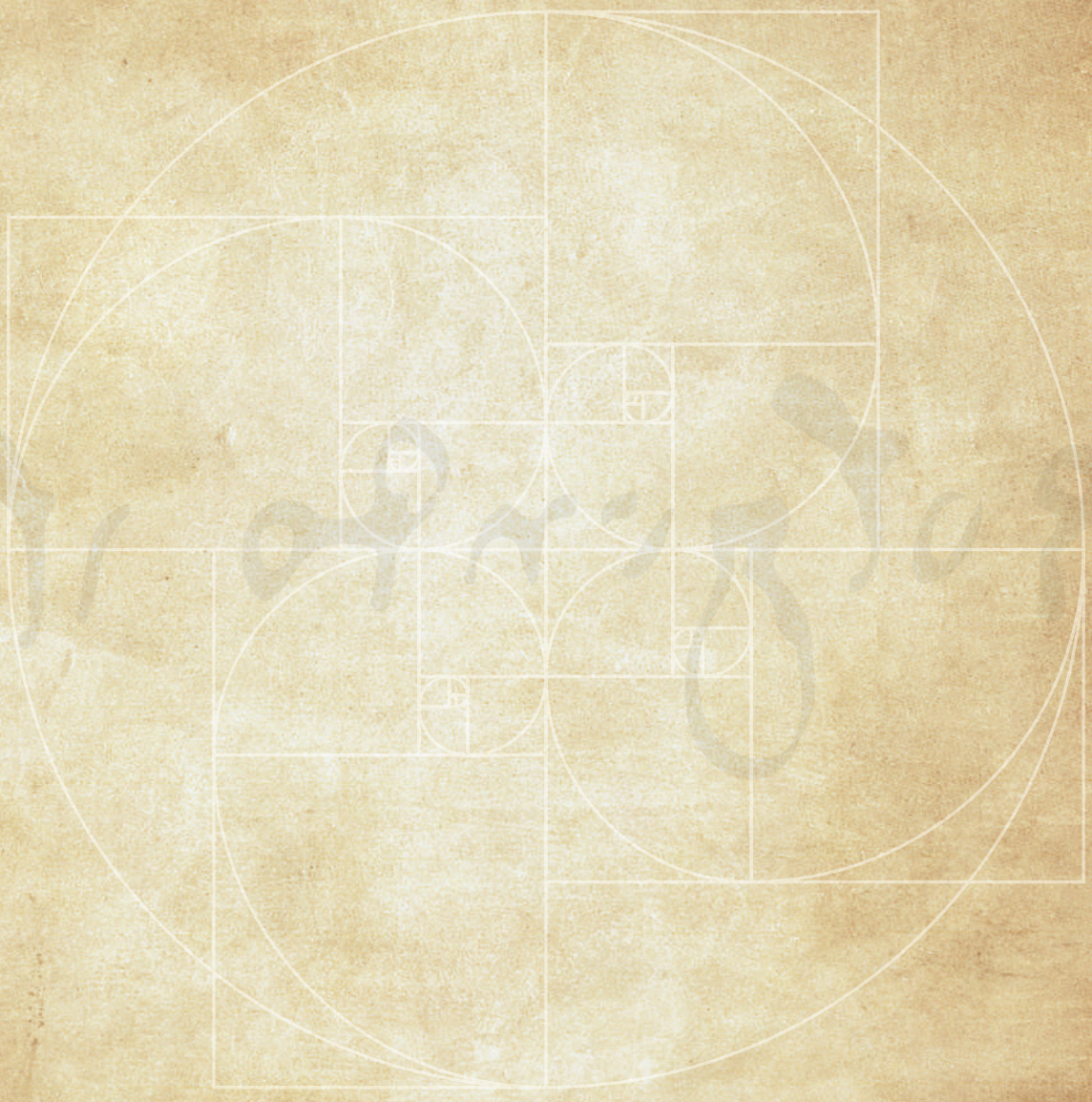
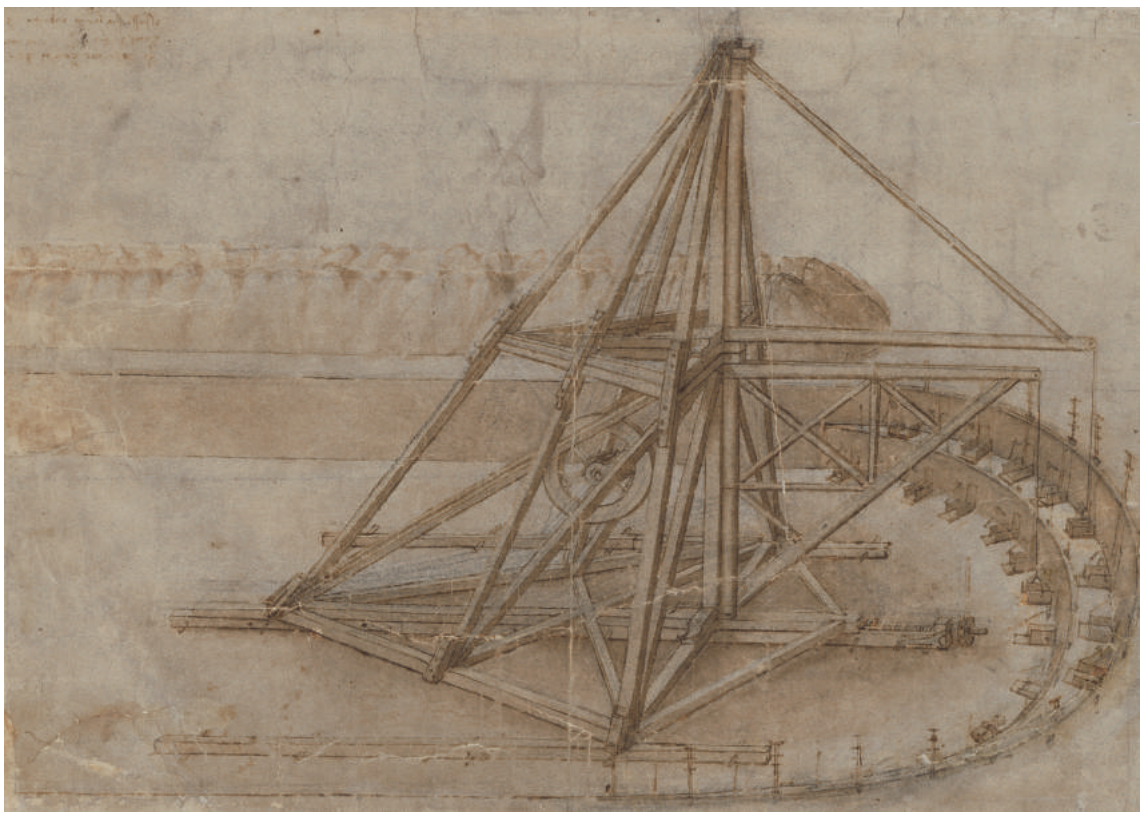


The Leonardo da Vinci Exhibition
達文西展覽



C. A. folio 4 recto, *Study for a Digging Machine*,
black chalk, pen and ink and watercolour on dark prepared paper, circa 1503-05
©Veneranda Biblioteca Ambrosiana/Mondadori Portfolio
《大西洋古抄本》對頁4之右頁，〈挖掘機器研究圖〉，
黑色鉛筆、鋼筆、墨水、水彩繪於深色特製紙上，約1503至1505年
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The Leonardo da Vinci Exhibition
達文西展覽

City University of Hong Kong is proud to present 12 original drawings by Leonardo da Vinci from the Veneranda Biblioteca Ambrosiana, Milan, brought to Hong Kong for the first time to celebrate the 500th anniversary of the artist's death. Leonardo was a scientist, painter, sculptor, architect, engineer, mathematician, and even musician, but he was first and foremost a polymath inventor and creator. Whether looking at plants, musical harmonies, or elliptical curves of cannon balls, Leonardo was fascinated by the world around him, and devoted his life to exploring and transcribing it. His indiscriminate love for and exploration of the diversity of human and natural knowledge—arts, humanities, sciences and technology—turned him into the exemplar of what is now called a Renaissance man.

The most prolific artist of his time, Leonardo left behind over 6,000 drawings that reveal his scientific, theoretical, and creative mental worlds. Though Leonardo was revered as a painter during his lifetime, these thousands of sheets remained largely unknown before the 19th century (only his unfinished "*Treatise on Painting*" was published). Since then, however, his writings, overflowing with artistic, scientific, and technological inventions, have become almost more famous than his artwork. They reveal a polymath whose prescient observations and scientific analyses seem to foreshadow later discoveries; one need only think of his flying machines, his perfect rendering of hydrodynamic water turbulence, and his industrial-age style machines (five models of which are also on display in the exhibition).

In tribute to Leonardo's continuing influence, nine contemporary artists (eight based in Hong Kong) produced new artworks imagining what Leonardo might have done in an era of digital media and virtual reality. Combining new and old media, the artists respond to his ideas on flight, movement, light, and the act of drawing itself. Fully embedded in contemporary technology, these pieces nonetheless hark back in startlingly direct ways to the legacies of Leonardo's drawings, paintings, and unlimited curiosity.

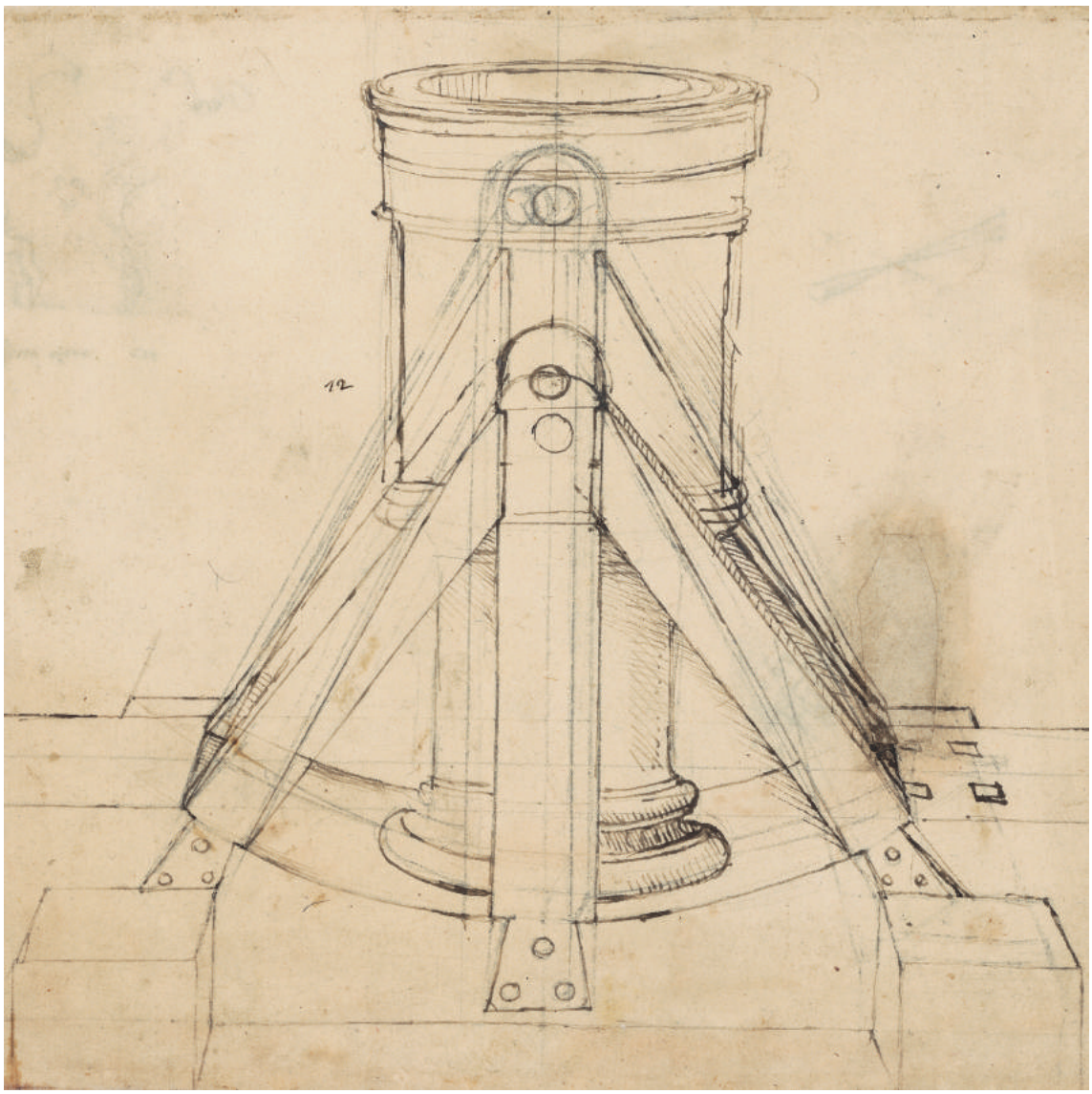
Please note: all the drawings in the Exhibition Catalogue, unless otherwise stated, are from the Biblioteca and Pinacoteca Ambrosiana, Milan.

為紀念達文西逝世五百週年之際，香港城市大學獲米蘭昂布羅修圖書館借出12幅李奧納多·達文西的手繪真跡，並首度來港展出，實乃榮幸之至。

身為同時代最多產的藝術家，達文西留下超過6,000幅手繪，讓世人得以盡覽其科學與理論的卓有成就，窺見其匠心獨運的精神世界。儘管達文西生前被視為畫家，但這數千頁手稿直至19世紀才廣為人知（此前僅曾經發表其未竟之作《繪畫論》）。然而，自此之後，他那些在藝術、科學及技術等層面屢有創見的文章，甚至比其藝術創作更有名。大師的洞察力頗具先見之明，其科學研究彷彿預言了後世的發明；譬如飛行器、對水動力學渦流原理的精確描述，以及多款工業時代風的機械，其中五款的實物模型將於是次展覽展出。

為向達文西不息的影響力致敬，九位當代藝術家（當中八位駐居香港）特別創作新作，設想達文西若置身現代，面對數碼媒體與虛擬實境技術，將創造出何種作品。參展藝術家結合新舊媒介，回應達文西對於飛行、運動、光線以至繪畫此一實踐的見解。這些作品完全深入至現代科技中，同時直接呼應達文西的手繪、畫作等豐富的藝術遺產，與大師無盡的好奇心一脈相承。

請注意：展覽目錄中的所有繪圖，除非另有註明，均來自昂布羅修圖書館.



C. A. folio 59 verso. *Bombard*,
pen and ink over black pencil, compass and ruler lines, 1495
©Veneranda Biblioteca Ambrosiana/Mondadori Portfolio
李奧納多・達文西，〈射石砲；凸面鏡光線研究圖〉，
《大西洋古抄本》對頁59之左頁，鋼筆、墨水繪於黑色鉛筆、圓規、間尺痕上，1495年
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C. A. folio 59 verso, *Studies on Light Rays on Convex Mirrors*,
pen and ink over black pencil, compass and ruler lines, 1495
©Veneranda Biblioteca Ambrosiana/Mondadori Portfolio
《大西洋古抄本》對頁59之左頁，〈凸面鏡光線研究圖〉，
鋼筆、墨水繪於黑色鉛筆、圓規、間尺痕上，1495年
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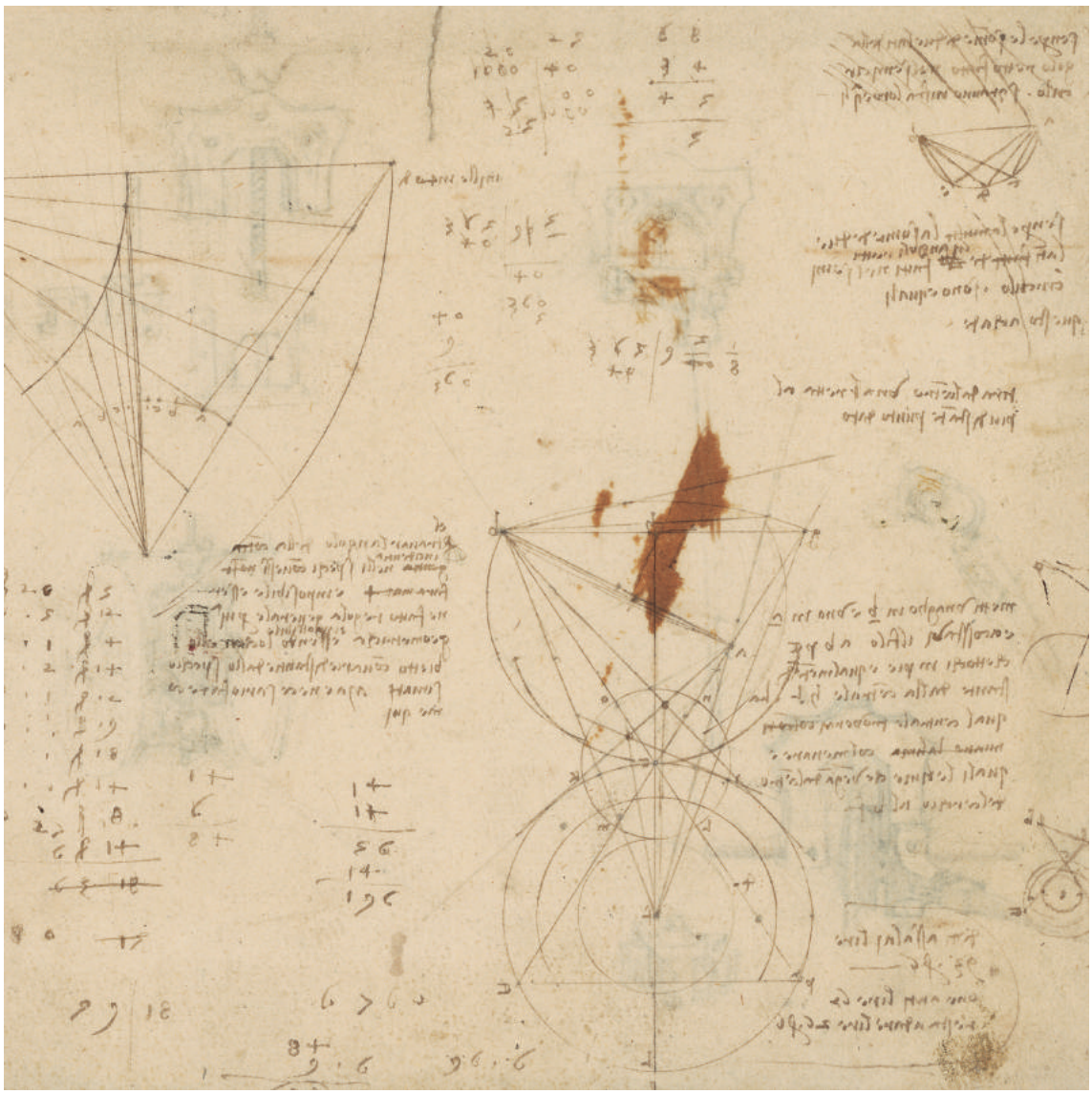

Introduction to Leonardo da Vinci (1452 – 1519)
李奧納多·達文西生平介紹 (1452 – 1519)

Born in 1452 near Florence, Leonardo was the illegitimate son of Ser Pier da Vinci, a notary, and of a peasant woman referred to as Caterina. Around 1469, when Leonardo was 13 or 14, his father apprenticed him to a leading artist in Florence, Andrea del Verrocchio (1435-1488). Before entering Verrocchio's studio, Leonardo seems to have received a very basic education, with rudimentary skills in Italian, a little Latin, and arithmetic. Leonardo's notes reveal, for instance, that he could not read classical Latin texts that provided so much new information to Renaissance writers and artists. One challenge in his early education might also have been caused by being left-handed; this famously forced him to create his own writing method, going from right to left, with mirror images of each letter. He also wrote in an old-fashioned script rather than a new humanist one, though he later worked hard to improve his script style.

In Verrocchio's studio, Leonardo would have found himself in the most artistically and intellectual challenging workshop at that time. Best known for his sculptures in marble and bronze, Verrocchio was a gifted painter as well, with a mastery of perspectival drawing, human anatomy, and architecture; and he was a favourite of the Medici family, the *defacto* rulers of Florence. As an engineer, Verrocchio was also famous for having built the huge copper orb that in 1468 crowned Filippo Brunelleschi's lantern and dome on the Florentine Cathedral. Leonardo himself noted in one of his notebooks: "Remember how the ball of S. Maria del Fiore was soldered together."[1]

Apprentices like Leonardo would have copied not only Verrocchio's drawings, but also classical Roman sarcophagi and contemporary Florentine art, such as the celebrated frescoes by Masaccio (1401-1428) in Santa Maria del Carmine (1425-28). They would also have had the opportunity to acquire the sculptural, drawing and architecture techniques and skills of their master.

As is clear, drawing was the foundational learning tool for artists, sculptors, and architects alike. It was standard practice for masters to create handbooks with compilations of their drawings to be studied and copied by all the apprentices. In the 15th century, paper was still relatively costly and was not a disposable item as it later became. The art of making paper from textile and natural fibres, though known to China already in the 2nd century BCE, only reached Europe in the 12th and 13th centuries. As Leonardo's notebooks show, he seems to have painstakingly kept all of his sheets of paper, using and reusing them over a number of years.

With his workshop system, Verrocchio was able to fulfil the many varied commissions asked of a well-established studio by the leading families of Florence. And while the master would always do the most important and difficult parts of an art work (such as the faces), he would allow the oldest and most talented apprentices to help him paint sections, even occasionally entire figures. Leonardo, recognized as a gifted student, can be seen to have painted the angel to the far left in Verrocchio's *Baptism of Christ*, c. 1476, his profile delicately shown in three-quarters view.

[1] Martin Kemp, Leonardo da Vinci. *The Marvellous Works of Nature and Man*, Melbourne-London: J. M. Dent & Sons, 1981, p. 40.

Lantern of Santa Maria del Fiore by Filippo Brunelleschi,
with Verrocchio's Copper Ball, 1468.
布魯內列斯基設計的聖母百花大教堂頂塔上有維洛奇歐的銅球，
1468年

After finishing his apprenticeship, Leonardo joined the Florentine artists' guild as a full-fledged master in his own right.[2] He then remained in Florence until 1482 when he entered the service of Duke Ludovico Sforza of Milan. During those 12 years in Florence Leonardo produced some of his well-known paintings of Madonna and child, earning modest notoriety. He was still not yet well-known outside of Florence, and to gain a position at the court of Milan, wrote a famous presentation letter in which he shows great self-confidence and a sense of his own potential vis-a-vis his contemporaries:

> *"My most illustrious Lord, having now sufficiently seen and considered the achievements of all those who count themselves masters and artificers of instruments of war, and having noted that the invention and performance of the said instruments is in no way different from that in common usage, I shall endeavour, while intending no discredit to anyone else, to bring myself to the attention of Your Excellency for the purpose of unfolding to you my secrets, and thereafter offering them at your complete disposal, and when the time is right bringing into effective operation all those things which are in part briefly listed below [...]"* [3]

Presenting himself first and foremost as a master of military weapons and fortifications, Leonardo was hired by the Duke of Milan for his technical rather than artistic abilities. Early sheets in the *Codex Atlanticus* (from the Veneranda Biblioteca Ambrosiana, Milan) exhibited here, show that this was not quite an empty boast. Before going to Milan Leonardo was already developing engineering devices for military and other practical purposes (cf: C.A. folio 157 recto in the exhibition). Many of his early drawings reveal a deep knowledge of earlier publications on war machines, especially *De re militari* by Roberto Valturio (Latin edition 1472 and Italian 1483). There Leonardo would have found a treasure-trove of illustrated Roman military machines and devices updated by Valturio to suit contemporary warfare. Leonardo stayed in Milan for 18 years, during which he embarked upon an intense journey of self-education, reading books in Italian, teaching himself anatomy and natural sciences through observation and experiments, and learning from intellectuals around him. Using his mastery of Euclidean geometry, for instance, he studied the natural world, analysing the projected rays of light and sound, the hyperbolic curves traced by falling bullets, and the thermodynamics of water. At the same time, he cultivated his inventions or 'fantasias' of pure decoration, pursued anatomical dissections, fabricated musical instruments, and helped with architectural projects. All of these diverse interests are visible in the thousands of pages of drawings and notes he compiled, and which he originally planned to publish as separate treatises. Although none was ever completed, his unfinished *Treatise on Painting* was published after his death.

Leonardo was interested in so many different aspects of the arts and sciences that he ultimately completed relatively few works of art. Some remained unfinished for historical circumstances: he left Florence before completing the *Adoration of the Magi* (begun 1481); work on both the *Sala delle Asse* (1498) and an equestrian bronze sculpture was stopped by the death of the Duke's wife and then the fall of Milan to the French armies in 1500. Unfortunately, Leonardo was such an inveterate experimenter and polymath that several of the works he did complete, such as the *Last Supper* (1495-97), quickly deteriorated because of his new techniques for painting on plaster. The only finished and well-preserved paintings from this period are the *Virgin of the Rocks* (a copy of which is shown in this exhibition) and a small group of portraits. When the French army invaded northern Italy and Milan, Leonardo returned to Florence, which remained his base until 1508, when he definitively returned to Milan at the invitation of the French king. One learns from his contemporaries, that in Milan Leonardo was too busy with mathematics to fulfil his numerous painting commissions, writing in his notebooks instead.[4] During this decade, he nonetheless produced the celebrated *Madonna, Child and St. Anne* (1510) and the *Mona Lisa* (1503-1505), both in the Louvre, several smaller Madonnas, and an unfinished fresco, the *Battle of Anghiari* (1505) in Florence (painted over in the 16th century). From Milan, Leonardo then went to Rome at a period when both Michelangelo and Raphael were also there (1513 to 1516), working for the Medici Pope Leo X. Called to France by King Francis I in 1515, Leonardo went there already ill, dying in 1519.

[2] Martin Kemp, Leonardo da Vinci. *The Marvellous Works of Nature and Man*, Melbourne-London: J. M. Dent & Sons, 1981, p. 23.
[3] Matthew Landrus, *Leonardo da Vinci's Giant Crossbow*, Berlin: Springer Verlag, 2010, p. 17.
[4] Martin Kemp, Leonardo da Vinci. *The Marvellous Works of Nature and Man*, Melbourne-London: J. M. Dent & Sons, 1981, pp. 215-216.