

EMERALD CITY

Geometric demarcation of space is central to our perception of the world. Since the birth of Greek mathematician Euclid's *Elements*, geometry has been one of the greatest tools with which we make sense of all spatial being on earth ('geo'). As a branch of mathematics, it has also provided a basis for other fields of study, such as quantum mechanics, which describes the nature and behaviour of matter and energy at the smallest possible dimensions. In 2013, physicists Nima Arkani-Hamed and Jaroslav Trnka discovered 'amplituhedron'—an immaterial geometric shape resembling a multi-dimensional and multi-faceted gem—as they attempted to simplify the calculation of interaction between particles. In *Emerald City*, geometry is not the non-Euclidean space-time of gravitational fields that Einstein called a 'mollusk', nor is it a simple description of the standard three dimensions. While beginning with the relationships expressed in Euclidean geometry—examples include lines, surfaces, symmetry, parallelism, angles, the interior and the exterior—the exhibition is about the breakdown of geometry's standard rules as a metaphor for dealing with difference through its sub-concepts including 'a world in a world', 'sea as negativity', 'the geometricized outside', 'groundedness', 'the finish of Euclidean box', 'functional asymmetry', and 'parallax and de-framing'. Globalisation has narrowed the spaces in which cultural differences can exist. German philosopher Peter Sloterdijk holds that globalisation 'reduces all local particularities to two denominators: money and geometry'¹. Examining the role of geometry as a universal spatial language that is believed to have transgressed historical and geographical bounds, the exhibition seeks to shed light on the possibility of cultural coexistence amid globalisation and renew the discussion about the past, present and future.

Translation is inevitable in order for Greek geometry, which was established more than two thousand years ago, to become a universal spatial language. Geometric axioms are abstracted from nature to form spatial rules for humans to take over the

1. Peter Sloterdijk, *In the World Interior of Capital*, trans. Wieland Hoban (Cambridge: Polity Press, 2013), 30.

role as a creator who can (re)design the world. They are a spell for the instantaneous evocation of transformation—for the measurement, depiction, and construction of a universal spatial order. Greek geometry has been involved in a process of translation, between Egyptian hieroglyphics and Greek letters. In 1607, when Xu Guangqi, the late Ming scholar and high-ranking court official, and Matteo Ricci, the missionary, published their Chinese translation of Euclid's *Elements*, they challenged the ancient Chinese conception of mathematics, which was based on the inductive method described in *Nine Chapters on the Mathematical Art*. French philosopher Michel Serres regarded the Greek conception of geometry as a knowledge about two systems of writing; there was the transition from 'mathematical corpus' to 'doxography', and from 'language reputed to be natural and its alphabetical notations' to 'the systematic language of numbers, measures, axiom and formal arguments'². Serres described the fundamentals of translation with a diagram: two diagonal lines run through a square, the ends of one line representing the speakers, and the ends of the other representing noise and code. For biking speakers, noise is an anti-feature to be excluded in the coding process entailed in the formation of the new language (the translation)³. The abstract ideal of both geometry and translation is 'transparency'—faithfulness, or fidelity, devoid of noise or chaos. Of course, this is only an ideal—or an illusion.

Geometry relies on semblance—it penetrates all things through its axioms and the wavelength of the logic that ensues, thereby reducing the world to commensurate measurability. Mathematician Thales measured the height of the Great Pyramid by measuring its shadow with a small stick. If the pyramids are the manifestation of Ra's rays, we can say that Thales pierced the spatial structure with the light of reason, like the first rays of sunbeam passing through a transparent gem without diffusion. There remains a gulf between modern optics and ancient Greek or Egyptian science, and there have been changes in the sources of light: from natural light (sunlight), which humans have relied on to keep track of days, to artificial light. There has also been a shift in how the appearance happens, from the refraction of light through the transparent atmosphere to telecommunication.

2. Michel Serres, *Hermes: Literature, Science, Philosophy*, ed. Josué V. Harari and David F. Bell (Baltimore: Johns Hopkins University Press, 1982), 125.
3. Serres, 126.

In telecommunication, images are transmitted via signals at the speed of light, reaching far beyond the vanishing point of a geometric perspective. The implication of the geometry of light rays is the physical human finitude in perceiving the world, as reflected in the concepts of horizon. Italian philosopher Paul Virilio referred the viewpoints based on geometric perspective to as 'small optics', reserving 'big optics' for the extensions of the traditional linear perspective in the light of television and computer screens, which open up an intermittent void that connects other time-spaces and extends human vision through appearance transformed by telecommunication⁴. The sources of light have changed over the centuries, but the idea of transparency has remained—the visible world is scorched by it. Geometry is like a window: one looks through its glass, yet one's visual perception is at the same time restricted by its frame, just like the fierce sun of midsummer drives away the gloom of opacity it opposes even as it corrodes the very shape of things. In L. Frank Baum's *The Wonderful Wizard of Oz*, Emerald City is a utopia so brilliant and glorious that its inhabitants must wear a pair of green spectacles.

Given this geometric foundation, one may assume that the exhibition contains copious geometric shapes, grids, or diagrams. They do appear, as in Liu Chuang's *Segmented Landscape*, which is characterised by two rhombuses and the traditional Chinese auspicious *fangsheng* pattern. Zhou Siwei's *Images Carrier 02* deconstructs found internet images into geometric forms—the artist printed these images out and reassembled them into a delicate paper sculpture, which was then recaptured as a photograph. The exhibition tries to avoid 'overly geometric' artworks, albeit to no avail, since the rules of geometry are omnipresent—like water in water—in everything from painting stretchers to projector throw distances to pedestal surface areas. The works featured in this exhibition are more concerned with the 'residues' that are not easily simplified, systematised, or unified in a single knowledge system, such as geometry. Composer Iannis Xenakis used cellular automata (a discrete model formed by grids of cells) to build scales like a sieve: the remainder is, left behind by the grid, the opaque difference.

4. Paul Virilio, "Big Optics," in *On Justifying the Hypothetical Nature of Art and the Non-Identicality Within the Object World*, ed. Peter Weibel, trans. J. Crary and S. Kwinter (Cologne: Galerie Tanja Grunert, 1992), 82–93.

Nik Kosmas's colourful sculpture *Stall Bars*, titled after the stall bars originated in the 19th century, is no different from any playground equipment (which is a product of the urban planning ideology that children's physical and mental development is essential to public health). For Kosmas, who has recently devoted himself to the fitness industry, the subtle asymmetries of the human body can be extended to the asymmetries of social structures. Ajay Kurian's work, *Tall Toys, No Noise (Fear)*, is a pair of dark cuboids that resemble wardrobes at first glance. Punctuated by orange LED lights around a transparent surface where chains are suspended, this work reminds us of an important principle of geometric space: the continuum. Based on the popular animated film *Inside Out*, in which emotions are reconceptualised as managers in a corporate headquarters, *Tall Toys, No Noise (Fear)* centres on the character Fear, the purple, personified emotion. It represents the role of functional fear in the delicate process of child development; it conceals terror which is irrational and cannot be reduced to caution, like the opaque area in Kurian's sculpture. Japanese multimedia performance group Dumb Type, formed in 1984, exhibits the soundtrack to their live stage work at this exhibition. Their name implies the fact that language does not appear in their work. Their stage design relies on geometric frames in a style reminiscent of Robert Wilson, while the accompaniment stands out: although geometry allows for the calculation of architectural acoustics, geometric principle applies on acoustics but not sound itself which roams the stage like a shadow beyond the frame.

One of the goals of geometry is to establish a world within the world. Shen Xin's *Record of Rites* describes a Chinese developer's failed attempt to reconstruct the Crystal Palace through the perspective of a banquet guest. The Crystal Palace was built specifically for the Great Exhibition of 1851, the first world's fair, intended to showcase Britain's achievements in industrial revolution. The design of the huge glass-and-iron structure of the Crystal Palace was based on the shape and size of the largest plate glass available at the time. The impressive use of glass was conceived to celebrate the superiority of an empire and its colonies. Multinational corporations have long since replaced the regime of empire in controlling the means of production;

the attempt to re-create the imperial ideal of modernist gaze through transparent glass can only be sheer folly. Between the 1960s and 1970s, Carl F. Cheng created numerous installations resembling large household appliances such as microwave ovens in his Los Angeles studio. Closed circuit ecological systems were created in these installations, an example being *Erosion Machine No.2*, which is on view at *Emerald City*. The small window in this work allows us to observe the weathering of sedimentary rocks, as if we are sneaking a glimpse at a masked shaman imitating natural phenomena in animistic dance rituals.

Geometry is an oft-ignored, transparent part of our reality, but sometimes, in the midst of a paradigm shift, it reveals itself like a bolt of lightning. In the 1980s and 1990s, television audiences witnessed important events around the world, including the fall of the Berlin Wall. Mass media ushered in the age of virtual geography, allowing us to conceive the world as a unified whole. In China, these decades were marked by a resurgence of cultural forms, including literature and art; many writers and artists reflected on China's new role in the world. Others turned to symbols of rationality, including geometric shapes—as in the works that curator Gao Minglu described as 'rational paintings'—to confront the overemphasis of scars and affect in art forms after the collapse of ideological systems. For Shu Qun, it is the hexagon that appears repeatedly; for Wang Guangyi, it was the red grid, segmenting and completing the cold composition. During the same period of time, New York witnessed the emergence of Neo-Geo (short for Neo-Geometric Conceptualism), a movement associated with artists including Ashley Bickerton, Jeff Koons, and Peter Halley (who stated that Neo-Geo stood for the geometrisation of modern life). Their works share in common the use of boxes and cubes. For example, in Koons's works, we see basketballs and vacuum cleaners in transparent boxes. Artworks that explore consumerism, along with Donald Judd's minimalist boxes, bring to mind the shift between ontological states that occurs before and after the unboxing of consumer products, from the concept of consuming to a tool ready-at-hand. These works were the beginning of the research that made *Emerald City* an attempt to create fissures for the opaque concealed by transparent tool-being of geometry.

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