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The Memory of Landscape in Beijing

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Abstract

The paper studies the memory of landscape in Beijing and its significance to communicative spaces. The research focuses on historical coincidences between Beijing and ancient Chinese capitals to reveal the historicity of landscape in Beijing. The research analyzes the polarized relationship between imperial landscape and scholarly landscape in Chinese capitals to discover the cultural role of mnemonic landscape for the identity of a city as well as the freedom of human individuality. The paper interprets the planning of a capital as recorded in earliest Chinese literature, compares suburban landscapes and urban gardens in the capitals of the Western Han, Northern Wei, and Tang dynasties, configures the map of mnemonic landscapes in Beijing of the Ming and Qing dynasties, and discloses the hidden landscape enclaves in modern Beijing. The paper concludes with a historical criticism regarding urbanization in contemporary China.

Landscape and Peaceful Living

Throughout contemporary urbanization, many rural Chinese migrate to larger cities for a better life through seeking employment at thriving construction sites. The high density of new tall buildings shrinks the existence of mnemonic landscapes, which latter are inherent to public spaces and the characteristic of a

city. The theme of the Shanghai Expo in 2010 was coined as "Better City, Better Life," which implied both the ambition and anxiety regarding urbanization. What is missing in urban society is people's realizing that the value of a good life lies in the collective memory of historic landscapes. Faced with the dominant skyline of autonomous buildings, this memory becomes difficult to sustain and gradually disappears. The communicative spaces for spiritual remoteness used to be very active in Chinese gardens but are seldom encountered in present mega cities.

Two early documents about city construction in Chinese history appear in the *Shijing* (*Classic of Poetry*) (7th century BC). The first is the poem "Ding zhi fang zhong 定之方中;" the second, the poem "Gong Liu 公刘." The former discusses how king Wengong of Wei (Weiwengong 卫文公, reign 659-635 BC) constructed his capital city Chuqiu 楚丘; the latter about how the king Gong Liu of early Zhou[1] constructed his capital Bin 豳. Wengong spotted the star of construction for the most suitable construction time. He followed the movement of the sun to decide the orientations of buildings. Standing on a high place of nearby ruins, he viewed the distant (*wang* 望) mountains and hills, then descended to observe (*guan* 观) agrarian fields. With the help of divination, he chose the most auspicious site for his city.[2] Gong Liu climbed a hill looking into (*zhan* 瞻) the expansive plain. After ascending to a southern hillock, he suddenly discovered (*gou* 觏) the suitable site for his city. The land there is expansive and far-reaching. He measured the shadows of the sundial for orientations (*yinyang*) of the site and observed carefully (*guan*) the spring watercourses. He examined the sunset of the western mountain to ensure spacious land for the city, and he thought that the curved bank of a watercourse was most suitable for people to live together. In the poem, he advanced the concept of "peaceful living" (*anju* 安居) in the city where people could properly dwell, build, and joyfully communicate.[3] Both poems demonstrate that an auspicious site is crucial for a capital as well as the perception of the cosmic order of light and shadow and beautiful landscapes. There exists an inherent relationship among the perception of landscapes, cosmic dwelling, and joyful communication in urban life.

In another poem, the "Sacred Terrace (Lingtai 灵台)" of the *Shijing*, King Wen of Zhou (reign, c. 1105-1056 BC) built his Sacred Park (Lingyou 灵囿), which included the Sacred Pool (Lingzhao 灵沼) and Sacred Terrace.[4] The Sacred Park was an extensive natural landscape enclosed by a wall where all creatures lived in harmony so that sacred ethics (*lingde* 灵德), Dao, would pervade the entire park. The Sacred Terrace was not only for perceiving the landscape but also for observing the auspicious *qi* and providing space for public celebrations.[5] The Sacred Park is the first recorded imperial garden in Chinese history. It established the interactive relationship among memorable landscape, memorable water, and the buildings for engaging in that memory. This relationship model was paradigmatic and was repeatedly alluded to and imitated in later imperial gardens such as the Shanglin Park (Shanglinyuan 上林苑) of the Western Han dynasty and the Yuanmingyuan 圆明园 (Garden of Perfect Brightness) of the Qing dynasty.

A memorable landscape provides a chance for the individual to identify with nature. In the *Lunyu* (*Analects*), Confucius stated that "the wise man delights in water, and the humane man delights in a

mountain."[6] The virtue of man is compared to the beauty of landscape. This is the aesthetic concept of so-called "comparative ethics" or "moral analogy" (*bide* 比德).[7] As Confucius further stated, "poetics can be visible;"[8] it can thus be said that a memorable landscape is a scenic view (*jing* 景) where the mind dwells. In another sense, the mind inhabited by a memorable landscape acts as the Daoist saint Zhuangzi's "fasting room of heart" (*xinzhai* 心斋) whose emptiness in turn brightens the beauty of nature.[9]

With heavy polluted air and the radical shrinking of public spaces, Beijing is reaching a moment of life or death in its urban history. The city continuously expands into suburbs and surrounding rural areas while painstakingly maintaining its symbolic geometrical center of politics and culture. The sunny ordered texture of traditional courtyard housing (*siheyuan* 四合院) has been gradually devoured by stretched disoriented shadows of glossy institutional towers. The centripetal escalation of land value resonates with the hierarchical ground and sky occupation and leaves no free space for cultivation of individuality. The social groups which produce cultural creativity and diversity are pushed to the periphery of the city where they humbly build their enclaves, such as the Factory 798 artist colony.

Beijing was peaceful and harmonic in historical times, interspersed with memorable natural land-scapes and gardens. The Chinese like to use the traditional idiom "*anju leye* 安居乐业," which literally means "peaceful living, joyful working," for describing a good life. The concept of *anju* can be traced to the Daoist scripture *Laozi* and implies the peaceful life of the individual, the nation, as well as between neighboring nations.[10] The scientist Shen Kuo 沈括 of the Northern Song emphasized that only when the propensity of the *topos* (*dishi* 地势) looked good did the "peaceful living" become possible.[11] Contrasting to the natural form of landscape, the traditional plan of a Chinese capital typically adopted the artificial grid form. According to the oldest urban planning theory in the *Kaogong ji* 考工记 (c. 4th century BC), a capital city should be in a square form enclosed by a city wall and adopt a grid system of avenues to respond to the cardinal orientations of the cosmos. The builders needed to refer to the water surface to judge if the ground was adequately flat for building a city and employ a sundial for observing the cardinal orientations.[12] This ancient urban theory helps us understand the beauty of the built texture of sunlight and shadows experienced as the "cosmic consciousness" in traditional *hutong* 胡同 neighborhoods in old Beijing.[13]

Landscape and Capital

The advantage of *topos* (*xingsheng* 形胜) is a top priority for choosing a site for building the Chinese cap-ital. In the official history book of Beijing entitled *Rixia jiuwen kao* 日下旧闻考 (A Study of Old Records [of the Capital]) (1774), which was commissioned by Emperor Qianlong (reign 1735-1796) of the Qing dynasty, the four chapters of "advantages of *topos*" immediately follow the chapters regarding cosmos

and ancient history but stand ahead of the chapters of imperial palaces, city plans, institutes, imperial gardens, suburbs, and customs. In the book one official described the advantage of *topos* with the military concept of "formation of earth" (*dizhe*n 地阵), referring to the natural mountains and waters providing security for the capital.[14]

The advantage of *topos* highlights the importance of landscapes surrounding the capital. The survey of *topos*, as embodied by the ancient king's viewing gestures, starts from suburbs and moves towards the city site in order to establish an auspicious sense of place for living. Aristotle's concept of *topos* (place) can help us reinforce this understanding of the relationship between the suburban landscape and the city. He defined the *topos* as the primary sense of "in" in which both contained and container were parts of the same, and emphasized that no place could be isolated from what occupied it, rather that the limits of the container and contained coincided.[15] This coincidental double limit between container and contained is, according to Edward Casey, a space of mutual existence. Compared with Plato's *chōra* (space) which manifests interest in the shaping of the form of the contained (e.g., a building, city, etc.), Aristotle's *topos* emphasizes the fixed contour of the environing places (e.g., the original site of a building, the suburban natural environment of a city, etc.), the so-called "ordered natural world."[16] In other words, the advantage of *topos* is essentially related to peaceful living within a city.

The interactive relationship between the suburban landscape in the natural order and the grid city in the artificial order can be traced to the capitals of the Western Han, Northern Wei, and Tang dynasties. The capital Chang'an of Western Han was located on the plain between the Wei 渭 River to the north and the Zhongnan 终南 Mountain to the south. Eight rivers passed through the plain. The imperial Shanglin Park was southwest of the capital and north of the Zhongnan Mountain. The city plan of Chang'an followed the cosmic order of the grid system stated in the *Kaogong ji*.[17] The capital Luoyang of Northern Wei was located on the plain between the Mang 邙 Mountain to the north and the Luo 洛 River to the south. Multiple rivers passed through the plain. The city plan of Luoyang more strictly implemented the cosmic grid system. Its central axis was established to mark the spatial hierarchy of the imperial power. For consideration of food security, the Tang dynasty adopted the two-capital system of Chang'an in the west and Luoyang in the east. The Luoyang of Tang was built west of the Luoyang of Northern Wei. Imitating the magnificent Shanglin Park of Western Han, both Tang capitals established a large Forbidden Park (Jinyuan 禁苑) in the suburb for the emperor's extensive wandering and hunting. The royal army was stationed in the Forbidden Park, which built up a military buffer zone between the capital and the main watercourses in the suburb.[18]

In terms of the relationship between the urban grid plan and suburban landscape, the ancient capitals of Chang'an and Luoyang established good models for the capital Beijing of the Ming and Qing dynasties. All these ancient capitals were located on a plain in northern China with nearby characteristic mountains and waters. There are many similarities between the Chang'an of Western Han and the Beijing of Qing. The biggest imperial garden of Chang'an was the Shanglin Park, founded by Emperor Wu

of Han (reign 140-87 BC), in the southwestern suburb. The largest imperial garden cluster of Beijing was located in the northwestern suburb between the city and the West Mountain range, including the magnificent Yuanmingyuan, and the Summer Palace (Yiheyuan 颐和园; old name, Qingyiyuan 清漪园) founded by Emperor Qianlong. Both the Shanglin Park and the Summer Palace contained a huge Kunming 昆明 Lake.[19] According to Qianlong's garden record, his Kunming Lake intentionally alluded to Emperor Wu's[20] and this implied that the former took the latter as his admired model for administrating the nation. In the imperial gardens of Chang'an, Emperor Wu built multiple observing towers (*guan*) for a bird's eye view of extensive landscapes.[21] The imperial Forbidden Park of the eastern capital Luoyang of Tang was located in the western suburb. Like Luoyang, the imperial garden cluster in the northwestern suburb of Beijing acted as a military buffer zone where the imperial army of Eight Banners was stationed.

In the Luoyang of Tang, the imperial gardens were concentrated in the northwestern corner of the city and spread to the western suburb, but many scholars' private gardens were hidden within the gridiron neighborhoods (*lifang* 里坊) in the southern city, especially the southeastern corner where the great poet Bai Juyi's domestic garden was located.[22] According to Bai's garden record, his home was within the Lüdaoli 履道里 block on the southern bank of the Yi 伊 River. He was proud that the southeastern corner of the city had the best fengshui and landscape.[23]

The need for retreat is crucial for humanity. Bai Juyi once described the retreat within the bustling capital as the best approach towards blessings and peace, as a situation of shuttling freely between appearing and disappearing, the hectic and relaxed. In his view, when encountering setbacks in life, resorting to the wilderness of nature like a hermit could be called a "small retreat;" being your ethical self while serving in the imperial court could be called a "big retreat." The retreat within a city as a free scholar is what he described as a "middle retreat" (*zhongyin* 中隐),[24] which echoes the Confucian concept of the "middle way" (*zhongyong*) and the Daoist negative approach towards ultimate freedom.[25] The freedom of humanity needs a remote place for ethical development. The "middle retreat" approach historically represents Chinese intellectuals' philosophy of life and was best materialized by gardens throughout the city and beyond. After the eastern capital Luoyang of Tang was changed into the western capital Luoyang of Northern Song, the joy of retreating into a garden within the city was continued by the great scholar Sima Guang whose Garden of Solitary Joy (Duleyuan 独乐园) was located within the Zunxianfang 尊贤坊 block, which was across the Yi River from Bai Juyi's block. According to Sima's garden record, he built a terraced pavilion in the garden for observing distant mountains (Jianshantai 见山台), and such a view of distant mountains from within the city was highly valued by local residents.[26] In terms of the urban structure, what is interesting is the diagonally polarized relationship between the imperial landscapes in the northwestern corner of the city and the scholarly gardens in the southeastern corner. For both Bai and Sima, their residence was remote and small, but the solitary joy in the garden engaged the cosmos. In Beijing of the Ming dynasty, there existed a similar diagonal pattern between the imperial gardens in the northwestern suburb and the scholarly gardens surrounding a body of water called Bubble River (Paozihe 泡子河) within the southeastern

corner of the city. More interestingly, the cosmic connection of the scholarly gardens by the Bubble River was related to a nearby Daoist temple and the Observatory (Guanxiangtai 观象台).

Landscapes of Beijing in the Ming and Qing Dynasties

The area of Beijing was the location of the capitals for four consecutive dynasties. Since the Jin dynasty, there had been recorded "Eight Scenes of Yanjing" (Yanjing bajing 燕京八景) for characterizing the most iconic landscapes of the area.[27] All these scenes were either relevant to the distant view of West Mountain in the western suburb or connected to the watercourses emerging from that direction. A popular phrase, circulated among modern scholars, of so-called "three hills and five gardens" (*sanshan wuyuan* 三山五园) describes the characteristic landscape in the northwestern suburb of Beijing of the Qing dynasty.[28]

The desire for viewing the distant landscape was embodied in Beijing through the city wall and the multistoried pavilions (*lou* 楼) in gardens and temples, most of which existed in the western suburb between West Mountain and the city. Among the chapters on the suburbs of the capital in the historical book *Rixia jiuwen kao*, two are on the eastern suburb, one respectively on the southern and northern suburbs, and sixteen on the western suburb which includes numerous Buddhist and Daoist temples and their gardens.[29] During the springtime, citizens liked to pass through the Xizhi 西直 Gate of the northwestern corner of the city, cross over the Sorghum Bridge (Gaoliangqiao 高粱桥) and go sightseeing in the northwestern suburb near West Mountain. Within the same city corner, scholars built private gardens by the Lake of Collected Water (Jishuitan 积水潭) which received the watercourse originating from the northwestern suburb.[30]

The history of Beijing as the national capital started from the Jin dynasty whose capital, Zhongdu 中都, was laid out by including the watercourse from today's Lotus Lake (Lianhuachi 莲花池) in southwestern Beijing. The emperor created his retreat garden in the northeastern suburb by making use of an existing lake whose water source was in today's Purple Bamboo Park (Zizhuyuan 紫竹院) in western Beijing. Kublai Khan created his capital of the Yuan dynasty, Dadu 大都, northeast of the Jin capital by enclosing the Jin's retreat garden as his imperial palace garden. The Yuan capital shifted its main water source from the southwestern to the northwestern suburb,[31] which was well known for rich springs. The Yuan court diverted the spring waters into two separate watercourses: one served the imperial gardens within the city, the other flowed into a new canal for food transportation. The capital of the Ming dynasty, Beijing, enclosed the Yuan capital and combined the two watercourses from the northwestern suburb into one, serving both the imperial gardens and the food canal.

During the Ming dynasty, gardens of scholar officials began to emerge in the northwestern suburb, the northwestern and southeastern corners of the city wall. These three locations were connected by the water course flowing from the northwestern suburb throughout the city into its southeastern corner.

During the Qing dynasty, many imperial gardens were created in the northwestern suburb, replacing the Ming private gardens. Meanwhile, the private gardens within the city were mostly occupied by the princes.

The two most well-known private gardens in the northwestern suburb during the Ming dynasty were the royal relative Li Wei's 李伟 Garden of Delicate Brilliance (Qinghuayuan 清华园) and the scholar Mi Wanzhong's 米万钟 Dipper Garden (Shaoyuan 勺园). The two gardens were across from each other and well known for water scenes and the borrowed view of nearby West Mountain. A Ming document on the Garden of Clear Brilliance states: "Between the mountain and water a high tower rises up. Climbing up to the tower, look straight towards Fragrant Hill and gaze over the Jade Spring [Hill]. The two heights [of my garden tower and the West Mountain] are as intimate as two persons' eyelashes touching. In the garden there are over ten miles of watercourses, which carries the boat everywhere."[32] The scholars' poems praised the tiny Dipper Garden for its meandering depth of water.[33] During the Qing dynasty, Li's garden was replaced by Emperor Kangxi's (reign 1661-1722) Garden of Uninhibited Spring (Changchunyuan 畅春园). Kangxi's garden record stated that he loved the sweet spring water in this suburb and decided to build the garden here.[34] The northwestern suburb was called Haidian 海淀, which meant "shallow lakes," and its central area was the Village of Ten Thousand Springs (Wanquanzhuang 万泉庄).[35] North of Kangxi's garden was his son Emperor Yongzheng's (reign 1722-1735) garden of Yuanmingyuan, which was inherited by Qianlong and expanded eastward to the Garden of Gorgeous Spring (Qichunyuan 绮春园) and the Garden of Eternal Spring (Changchunyuan 长春园), which latter included the Western garden designed by European Jesuits.

In order to concentrate the spring waters in the northwestern suburb for the purpose of imperial gardens and the food canal, Qianlong expanded the West Lake east of the Hill of Jade Spring into a huge lake and renamed it Kunming Lake, which became part of the imperial Garden of Clear Ripples (today's Summer Palace).[36] The Kunming Lake worked as the first reservoir in the history of Beijing, serving as the primary water supply of the capital. The main road from Sorghum Bridge outside the Xizhi Gate to Haidian became a popular journey for scholars to appreciate the beauty of mountains and waters. A Ming poem states: "The spring lake with sunset and rippling bluish water, / The sky shades and terraces contain each other. / Ten miles of green-bluish mountains like walking in a painting, / Twin white birds are as in Jiangnan."[37] The author came from the beautiful Jiangnan area, which was well known for water landscapes in southeastern China, and the landscape in the northwestern suburb reminded him of his hometown.

The watercourse from the northwestern suburb flows below Sorghum Bridge and into the Lake of Collected Water outside the Desheng 得胜 Gate, east of the Xizhi Gate. Both gates belong to the northwestern corner of the city wall. Passing through the sluice (Shuiguan 水关) of the Desheng Gate, the watercourse enters the city at the Shicha 什刹 Lake north of the imperial palace garden called Lake of Primary Nectar (Taiyechi 太液池). The Shicha Lake area, located between the Forbidden City in the south and the northern city wall, became a popular place for scholars to build their private gardens and hold parties for appreciating the beauty of near and far landscapes. Many poems acclaimed the expansive view of the lake

and the distant view of West Mountain. One poem states: "The Buddhist temple leans against the open northern gate, / Below the city tower sunset falls to the expansive lake."[38]

The water of the Shicha Lake flowed south into the Lake of Primary Nectar of the imperial palace garden, west of the Forbidden City. After building the Garden of Eternal Spring and the Western garden for his retirement within the Yuanmingyuan complex during the 1770s, Qianlong began to build his palace residence for retirement, the so-called Qianlong Garden within the northeastern corner of the Forbidden City. Similar to the open-stage theater at the eastern end of the Western garden of the Yuanmingyuan, the remotest destination of the Qianlong Garden was a secret interior theater designed by the Jesuit painters' Chinese students with the technique of illusionary perspective.[39] The perspectival depth of the theaters in both Qianlong's retirement gardens recalls another popular Jesuit technique of representation in China—the art of memory.[40]

The water from the imperial palace garden flowed further south and mixed with the food canal at the southeastern corner of the city wall. During the Ming dynasty the ground of the inside corner was low and formed a curved water body named Bubble River, which was connected to the canal outside the city corner.[41] Along the Bubble River many private gardens were built. Immediately north of the garden cluster were the Daoist Temple of Master Lü (Lügongci 吕公祠) and the ancient observatory on the eastern city wall. The observatory was established during the Yuan dynasty with the assistance of the Jesuit astronomers who later served in the Ming court. Next to the observatory was the Examination Hall (Gongyuan 贡院) where the national exam was held for scholars who wanted to be government officials. Scholars from all over the country liked to reside in the Bubble River area, visiting the gardens, touring the water landscape below the ancient observatory and city wall, and asking for a fortune telling in the Daoist temple prior to taking the national exam. A poem states: "There is an open woods and water within the capital, / In the city corner scatter small islands. / The terraced tower opens to the sun and moon, / Meandering paths hide in smoky clouds."[42] During the Qing dynasty, most gardens along the Bubble River declined, but the landscape maintained its charisma and mystique. Both the Bubble River and the Lake of Collected Water near the Desheng Gate were the most tranquil landscapes within the city. The mnemonic landscape of the Bubble River was essentially related to the observatory, the so-called Terrace towards Heaven (Tiantai 天台).[43] Coincidently, while the memory of Qianlong's imperial gardens was entangled with the Jesuits' design art, the scholars' memory of the humble landscape of the Bubble River was related to the Jesuits' astronomy. The observatory terrace on the city wall, which overlooked the gardens in the city corner, was perceived by the scholars as the "celestial path climbing towards the high-autumn sky."[44]

Landscapes of Modern Beijing

After the Qing dynasty most imperial gardens in the northwestern suburb of Beijing disappeared. The former Altar of Land and Grain (Shejitan 社稷坛) west of the Tiananmen of the Forbidden City became the first public park, called the Central Park, of modern Beijing in 1914.[45] After the founding of New China in 1949, there were heated debates among scholars and government officials regarding how to develop Beijing into a modern capital and whether the old city wall should be preserved. During the 1960s, except for two gate towers, the ancient city wall was completely demolished for the purpose of constructing highways and subways.[46] The two remaining towers stand respectively over the Shicha Lake and the Bubble River area, recalling the lost memory of the watercourse passing through the entire city from the northwestern to the southeastern corner. This water orientation in the capital matched the overall natural water orientation of China and was considered an auspicious fengshui. Since the 1950s the government has planned the development of Beijing based on the Forbidden City as the urban axis. In the past three decades modern high-rise buildings rapidly replaced the historical fabric of courtyard houses, gardens, and water courses. The disappearance of the city wall and water landscapes deconstructs the collective memory of historical Beijing. The Jiangnan-like landscape of rich springs and gardens in Haidian has been destroyed and the traces of the Bubble River are gone. The Shicha Lake shrunk and changed into a modern boisterous nightlife attraction. The traditional view of West Mountain within the city is obstructed by dense high-rise buildings.

Where is the retreat for spiritual peace and where is the place for tracing the memory of historical Beijing? In the fragmentary and chaotic environment of this mega city, some citizens never give up the desire for a retreat where the soul can find itself. These retreat places are usually forgotten and abandoned landscape enclaves, scattered in the high density of autonomous buildings and coldhearted infrastructures. As enlightened by Sima Guang's Garden of Solitary Joy, any retreat for spirituality requires a remote landscape where the view and mind can meet. Somewhere between the Xizhi and Fucheng 阜成　Gates outside the western city wall there is a cemetery for European Jesuits including the tombs of Matteo Ricci (1552-1610) and Giuseppe Castiglione (Lang Shining 郎世宁, 1688-1766), the chief designer of the Western garden of the Yuanmingyuan.[47] The cemetery site is now hidden on the campus of Beijing Academy of the Communist Party. The campus is a former Catholic church whose buildings and landscape were used as a plot site for the movie, *In the Heat of the Sun* (*Yangguang canlan de rizi* 阳光灿烂的日子, 1994), directed by Jiang Wen 姜文. Few people know about the existence of this Jesuit cemetery. For those who have found their way in, this secret landscape becomes a retreat for reflection and enlightenment in history.

Different from a tourist attraction such as the Temple (Altar) of Heaven, the Ditan 地坛 Park (Altar of Earth) is quietly located outside the Anding 安定　Gate of the northern city wall. The park is fully covered with ancient pine trees. Tourists pay little attention to this park most likely because of its remote location and humble scale. But for the citizen who seeks himself, this park is a paradise. The park recently became well known because of a piece of published prose entitled "I and the Ditan Park" by Shi Tiesheng 史铁生

(1951-2010). Shi was a writer who had used a wheelchair since 1973. For fifteen years he had been a frequent visitor to Ditan Park, reflecting in solitude and observing the hope of life in an age when individuality was easily twisted and degraded. This prose touches the hearts of many Chinese. Here is an edited translation of some excerpts from his text:

> This is an abandoned ancient garden. It looks like a place of wilderness, seldom remembered by people. It is close to my home. I think this coincidence is a fate. It seems the ancient garden has been waiting for me for over four hundred years. Fifteen years ago, I came to the garden in a wheelchair. Bathing in serene sunshine, I sensed time and saw my shadow. This is the place where I escaped the world and entered another. Each tree and spot of the ground has witnessed my visit. In the corners of the park, I contemplated for hours the issue of death and the meaning of life. Some things are eternal in this park, such as the sunset through the stone gateway of the altar, the moment when serene sunshine spreads over the ground, the song of swallows in solitude, children's footprints in snow, and those silent ancient pine trees. Because of this garden, I am often thankful for my fate. When I have to leave this world, I would miss this garden and dream of it. If there is a garden god, he would see me sitting here, being happy, depressed, carefree, lonely, weak, lost, or confident. I often contemplate three questions: Should I die? Why do I live? Why do I write? I hear the god of the garden tells me: "This is your sin and blessing."[48]

After moving his home further away from the park, he wrote another prose item entitled "Missing the Ditan Park." Here is an edited translation of some excerpts:

> I miss the Ditan Park because I miss its serenity. When you sit there, the dusty world recedes but the song of four seasons never stops. The peacefulness of the park is not a silence. The garden might remember a young man in a wheelchair who came here daily, looking for his retreat. Whenever stepping into the garden, my heart calmed down. That serenity was the primordial opening of my heart and its surroundings. A lost soul seems to return to home, the beginning of life. I came across Roland Barthes's book, *Writing Degree Zero*,[49] and thought the degree zero of writing should be the beginning of life. What writing forever searches for is the original desire of the soul, endlessly desiring for the meaning of life. Whenever you live in a difficult life, or pray for hope in your soul, you will return to the degree zero. Each return is like stepping into the garden, retrieving serenity, and thinking of my new direction. Now I understand the god of the garden is those ancient pine trees whose heavy shades keep all the memories, reminding you of the remote dream. After moving my home, I seldom visit the Ditan Park. It has changed completely. I no longer go to the park looking for quietness, rather search for the park in my serenity. It is just like the Daoist saint Zhuangzi's dream of butterfly: Am I the Ditan Park, or is the park myself? I am not *in* the park, but rather the park is what I am.[50]

Like the scholars' dream by the Bubble River of the Ming dynasty, Shi Tiesheng's dream in the Ditan Park recalled Sima Guang's solitary joy in the garden.

Conclusion

What is the memory of landscape in Beijing? It can be the archived memory in literature and paintings such as the gardens in Haidian and the Bubble River, or the existing places of memory such as the Hill of Jade Spring and the Shicha Lake (today's Back Sea), or the historical memory which consists in the uncanniness of history such as the Western garden of the Yuanmingyuan and the Qianlong Garden in the Forbidden City, or the "strange places of memory" in Paul Ricoeur's sense,[51] such as the Jesuit cemetery garden and the Ditan Park.

Through deciphering the memory of landscapes, the historian is not to succumb to regret or nostalgia, but to join together, as does architect Steven Holl's design project of the "Linked Hybrid" residential neighborhood in Beijing, the fragments of history to evoke another way of living together. In his design, the architect set up a water garden with a movie theater in the community atrium to celebrate the memory of Beijing that is essentially related to water. He used the skywalks on the twentieth floor for connecting the eight residential towers, which recall the memory of the lost city towers and city wall near the Dongzhi 东 直 Gate of the northeastern corner. These skywalks, including a gallery, café, theater, swimming pool, etc., act as communicative spaces for the neighborhood and are intended to project a view towards the distant West Mountain. Such a desired view towards the northwestern suburb sustains the historical memory of Beijing but becomes uncertain in the polluted smoggy air.

Citing Edward Casey, Ricoeur analyzes the significance of landscape in urban life. He claims that "the best of civilization cannot abolish the primacy of wilderness."[52] The more we aspire to the calmness and stability of house and home, the more we aspire towards freedom in landscape. The manner of construction in urbanization reinforces the urgency of mnemonic landscape. Laozi advised that wholeness (*quan* 全) be approached through a curved (*qu* 曲) rather than straight way and that newness emerge from preserving the old.[53] The "peaceful living," the concept of *anju*, should not be simplified into a spectacular skyline of new and robust buildings in modernization, but rather should echo philosopher Martin Heidegger's concept of poetical dwelling where we "save the earth, receive the sky, await divinities, and initiate our essential being."[54] The sky is the cosmic blue sky under which, as Merleau-Ponty wrote, "I am the sky itself as it is drawn together and unified...My consciousness is saturated with this limitless blue."[55]

While waiting for the return of blue sky in Beijing, local citizens, migrant workers, tourists, and power clubs compete for the limited mnemonic landscapes among the forest of anonymous (i.e., of no character) and autonomous (i.e., self-centered) buildings. The mystiques of these landscapes seduce the individual mind and provide remote peacefulness for urbanites. To ease the pressures of centripetal urbanization, the Beijing municipality is planning to distribute part of its national institutional functions into nearby Tianjing City and Hebei Province. During this new centrifugal urbanization (*chengzhenhua* 城镇化) surrounding the capital, small cities will become bigger and the rural areas will be transformed

into towns. It is crucial to learn the historical lesson that local mnemonic landscapes need to be enlivened as cultural enclaves for cultivating the dream of individuality, which all can really bring charisma to a city.

Notes

1　The Chinese historical dynasties mentioned in the text include: Zhou (c. 11ᵗʰ-3ʳᵈ centuries BC), Western Han (206 BC-23 AD), Northern Wei (386-534), Tang (618-907), Northern Song (960 1127), Jin (1115-1234), Yuan (1279-1368), Ming (1368-1644), Qing (1644-1911). Unless otherwise stated, all translations are my own. A short version of this essay was first presented at The Tenth Research Colloquium of Garden History of Germany, Schloss Benrath, Düsseldorf, September 2013.

2　Zhou Zhenfu 周振甫 anno., "Ding zhi fang zhong 定之方中," *Shijing yizhu* 诗经译注 (Beijing: Zhonghua shuju, 2010), 66-67.

3　Ibid., "Gong Liu 公刘," 405-8.

4　Ibid., "Lingtai 灵台," 387-89.

5　He Qinggu 何清谷 anno., *Sanfu huangtu jiaoshi* 三辅黄图校释 (Beijing: Zhonghua shuju, 2005), 229, 277.

6　Li Zehou 李泽厚 anno., "Yongye diliu 雍也第六," *Lunyu jindu* 论语今读 (Beijing: Sanlian shudian, 2004), 179.

7　Chen Wangheng 陈望衡, *Zhongguo gudian meixueshi* 中国古典美学史 (Changsha: Hunan jiaoyu chubanshe, 1998), 91.

8　Li Zehou, "Yanghuo dishiqi 阳货第十七," 477.

9　Zhuangzi, "Renjian shi 人间世," *Zhuangzi*, anno. & trans. Sun Tonghai 孙通海 (Beijing: Zhonghua shuju, 2008), 72.

10　Laozi, Ch. 80, *Laozi*, trans. & anno. Rao Shangkuan 饶尚宽 (Beijing: Zhonghua shuju, 2009), 190.

11　Shen Kuo 沈括, "Zedi he dichuang 择地和缔创," *Mengxi bitan* 梦溪笔谈 (Changsha: Yuelu shushe, 2002), 279.

12　"Dongguan kaogongji diliu 东官考工记第六," *Zhouli*, anno. Qian Xuan 钱玄 et al. (Changsha: Yuelu shushe, 2002), 429-30.

13　George N. Kates, *The Years That Were Fat: The Last of Old China* (Cambridge, MA: The MIT Press, 1952), 251-56.

14　Yu Minzhong 于敏中 et al., *Rixia jiuwen kao* 日下旧闻考, v. 1 (Beijing: Beijing guji chubanshe, 2001), 71.

15 Aristotle, "Book IV," *Physics*, trans. Robin Waterfield (Oxford: Oxford University Press, 2008), 83, 86, 98.

16 Edward S. Casey, *The Fate of Place: A Philosophical History* (Berkeley: University of California Press, 1998), 55, 58.

17 He Qinggu, "Han Chang'an gucheng 汉长安故城," 67.

18 Zhou Weiquan 周维权, *Zhongguo gudian yuanlinshi* 中国古典园林史, 2ⁿᵈ ed. (Beijing: Tsinghua University Press, 2002), 132-33.

19 For classic literature on the Shanglin Park, see Sima Zhangqing 司马长卿 (or Sima Xiangru 司马相如), "Rhapsody of the Imperial Park (Shanglin fu 上林赋)," in Xiao Tong 萧统 ed., *Wen xuan* 文选, trans. & anno. David R. Knechtges, v. 2 (Princeton, NJ: Princeton University Press, 1987), 73-113.

20 Hui Zou, Appendix 5 "Qianlong's Record of Kunming Lake by Longevity Hill," *A Jesuit Garden in Beijing and Early Modern Chinese Culture* (Lafayette, IN: The Purdue University Press, 2011), 178.

21 He Qinggu, "Guan 观," 326-36.

22 Li Hao 李浩, *Tangdai yuanlin bieye kaolun* 唐代园林别业考论, revised ed. (Xi'an: Xibei daxue chubashe, 1998), 205-211. An imaginative city map of the Luoyang of Tang, which includes the total 103 named *lifang* blocks, is in *Zhongguo gudai jianzhushi* 中国古代建筑史, ed. Jianzhu kexue yanjiuyuan jianzhushi bianweihui 建筑科学研究院建筑史编委会 (Beijing: Zhongguo jianzhu gongye chubanshe, 1980), 114.

23 Bai Juyi, "'Chishangpian' xu '池上篇'序," in Chen Zhi 陈植 & Zhang Gongchi 张公驰 ed. & anno., *Zhongguo lidai mingyuan ji xuanzhu* 中国历代名园记选注 (Hefei: Anhui kexue jishu chubanshe, 1983), 5.

24 Bai Juyi, "Zhong yin 中隐," an English translation in Xiaoshan Yang, *Metamorphosis of the Private Sphere: Gardens and Objects in Tang-Song Poetry*, Harvard East Asian Monographs, Book 225 (Cambridge, MA: Harvard University Asia Center, 2003), 38-39.

25 Laozi, Ch. 28: 71.

26 Sima Guang, "Duleyuan ji 独乐园记," in Chen Zhi & Zhang Gongchi, 26-28.

27 Yu Minzhong et al., v. 1: 116.

28 Zou, *A Jesuit Garden in Beijing and Early Modern Chinese Culture*, 11.

29 Yu Minzhong et al., "Chs. 91-106," v. 3.

30 Liu Dong 刘侗 & Yu Yizheng 于奕正, "Shuiguan 水关" & "Gaoliang qiao 高梁桥," *Dijing jingwu lüe* 帝京景物略, anno. Sun Xiaoli 孙小力 (Shanghai: Shanghai guji chubanshe, 2001), 27-43, 280-86.

31 Hou Renzhi 侯仁之, *Beijingcheng de shengming yinji* 北京城的生命印记 (Beijing: Sanlian shudian, 2009), 198.

32   Liu Dong & Yu Yizheng, "Haidian 海淀," 320.

33   Ibid., 325-26.

34   Zou, Appendix 1 "Kangxi's Record of the Garden of Uninhibited Spring," *A Jesuit Garden in Beijing and Early Modern Chinese Culture.*

35   Ibid., Appendix 4 "Qianlong's Record of the Village of Ten Thousand Springs."

36   Ibid., Appendix 5 "Qianlong's Record of Kunming Lake by Longevity Hill."

37   Wen Zhengming 文征明, "Xihu 西湖," in Liu Dong & Yu Yizheng, 416.

38   Yu Shenxing 于慎行, "Lianhua An tanshang xiyin 莲花庵潭上夕饮," in Liu Dong & Yu Yizheng, 31.

39   Nancy Berliner ed., *Juanqinzhai in the Qianlong Garden: The Forbidden City* (London: Scala Publishers, 2009).

40   As for the relationship between theater and memory in 17th-century Europe, see the analysis of Robert Fludd's theater memory system in Francis A. Yates, *The Art of Memory* (Chicago: The University of Chicago Press, 1966), plates 17, 20. Fludd's book was stored in the Jesuit library in 18th-century Beijing. See *Catalogue de la Bibliothèque du Pé-T'ang*, ed. Mission Catholique des Lazaristes à Pekin (Pékin: Impremerie des Lazaristes, 1949), no. 1616.

41   Xu Pingfang 徐苹芳 ed., Appendix "Mingqing Beijingcheng fuyuan tu 明清北京城复原图," *Mingqing Beijingcheng tu* 明清北京城图 (Shanghai: Shanghai guji chubanshe, 2012).

42   Feng Kebin 冯可宾, "Ti Yangshi Biyuan 题杨氏泌园," in Liu Dong & Yu Yizheng, 83.

43   Yu Minzhong et al., v. 2: 719.

44   Ge Yilong 葛一龙, "Qiuye tong Wuzhong su Lügongci 秋夜同武仲宿吕公祠," in Liu Dong & Yu Yizheng, 82.

45   Zhu Qiqian 朱启钤, "Zhongyang gongyuan ji 中央公园记," in *Zhongshan gongyuan zhi* 中山公园志, ed. Zhongshan gongyuan guanlichu 中山公园管理处 (Beijing: Zhongguo linye chubanshe, 2002), 266-67.

46   Wang Jun 王军, *Cheng ji* 城记 (Beijing: Sanlian shudian, 2006), 296-321.

47   Liu Dong & Yu Yizheng, "Li Madou fen 利玛窦坟," 303-5.

48   Shi Tiesheng 史铁生, "Wo yu Ditan 我与地坛," *Wo yu Ditan* 我与地坛 (Beijing: Remin wenxue chubanshe, 2013).

49   For a Chinese translation of Roland Barthes's *Writing Degree Zero*, see 罗兰·巴特, *Xiezuo de lingdu: jiegou zhuyi wenxue lilun wenxuan* 写作的零度：结构主义文学理论文选, trans. Li Youzheng 李幼蒸 (Beijing: Sanlian shudian, 1988).

50   Shi Tiesheng., "Xiangnian Ditan 想念地坛."

51   Paul Ricoeur, "The Uncanniness of History," *Memory, History, Forgetting* (Chicago: The University of Chicago Press, 2006), 401.

52   Ibid., "Inhabited Space," 151.

53   Laozi, Ch. 22: 55.

54   Martin Heidegger, "Building Dwelling Thinking," *Basic Writings* (New York: Harper Collins, 1993), 352.

55   Maurice Merleau-Ponty, *Phenomenology of Perception* (London: Routledge, 1962), 214.

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Bridging Engineering and Architecture

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> However useful the task of the grammarian, his contribution to the world's literature is small.
> — *Paul Philippe Cret*

"In order to be an engineer, it is not enough to be an engineer." This quotation from the philosopher José Ortega y Gasset is simple to say but not simple to understand. Initially, I would like to approach the question it poses from a teacher's point of view. Anyone who has spent more than a little time in a university, especially teaching a subject such as architecture—which has always had a strained relationship with the university—will have realized that what students need most is what their teachers cannot give them: understanding of their untaught but deeply held convictions, *the culture* that both sustains and limits their projects. Ironically, students possess this understanding before they enter school but often neglect it while enrolled. Teachers can give students skills, concepts, and examples, but not the foundation on which decisions about their use can be made. I believe it is this non-technical frame of reference that Ortega meant when he pointed to what the engineer needs.

My opening quotation comes from a book by José Ortega y Gasset called *History as a System*, the contents of which are broadly cautionary. Ortega warned that

this magnificent and miraculous technology of ours [is] endangered and might crumble between our fingers

and vanish faster than anybody had imagined. Today [1940] I am more than ever frightened. I wish it would dawn upon engineers that in order to be an engineer, it is not enough to be an engineer. While they are minding their own business history may be pulling away the ground from under their feet.[1]

My concern, like Ortega's, is with the "ground" beneath the engineer's feet, a foundation he suggested is non-technical.

Ortega had expressed similar alarm ten years earlier in *The Revolt of the Masses*, a book that gave him international fame. There, too, the harvest of European civilization was judged to be unhealthy. He spoke of the seeds of barbarism in the techno-science of the 19th century and suggested that it is illusory to expect anything better from those who

> disregard science as such. . . [as do the] mass of technicians themselves – [the] doctors, engineers, etc. who are in the habit of exercising their profession in a state of mind identical . . . to that of the man who is content to use his motor-car or buy his tube of aspirin without the slightest intimate solidarity with the future of science, of civilization.[2]

Even so, unease about the technician's limitations should not cause us to denounce science, he said, but to seek it more energetically and discern its limits more exactly, which means distinguishing its *kinds*, because *natural* science is only one among many. This, Ortega's most significant point, is one to which I will return at the end of this study. Again, the warning: contentment with past technical achievements quickens culture's atrophy, for

> technology . . . will irretrievably empty the lives of those who are resolved to stake everything on . . . it alone. To be an engineer and nothing but an engineer means to be potentially everything and actually nothing. Just because of its promise of unlimited possibilities technology is an empty form. . . unable to determine the content of life. That is why our time, being the most intensely technical, is also the emptiest in all human history.[3]

Devastating as it is, I would like to take this indictment seriously.

Ortega's chapter title, "Man the Technician," suggests that the problem he confronted is not only historical but also constitutive of the human being as such. He was in fact deeply worried about the global transformation of society after the age of the revolutions (the end of the *ancien regime* and the birth of the industrial period), for that period gave birth to a new type of person, called the mass man. Ortega also charted the growing secularization of society and the increasing disenchantment of the world; see, for example, his text on *The Dehumanization of Art*. But as one reads him further, history gives way to ontology. The tension between freedom and necessity, which is also a conflict between mind and body, or possible realities (such as an engineer's mathematical projections) and real possibilities (say, an architect's

cultural engagements), can be discovered in the make-up of each of us. Ortega introduced a curious symbol to characterize this conflictual anthropology; the person, he said, is an

> ontological centaur, . . . one's being and nature's being do not fully coincide . . . [each of us] is partly akin to nature and partly not, at once natural and extra-natural . . . half immersed in nature, half transcending it . . . a boat drawn up on the beach with one end of its keel in the water and the other in the sand.[4]

The image should be familiar to architects: Vitruvius sketched not the centaur, but an equivalent image of a person being in between—the story of Aristippus on the shore of Rhodes after a storm had wrecked his ship, taking delight in the geometric marks he found in the sand because they were signs that he had landed among civilized people, despite the fact that the tide would soon wash them away as had the storm his ship.

One of Philadelphia's greatest architects, Paul Philippe Cret, cited Ortega's arguments in a paper he wrote in 1933 on the progress of modern architecture. Although he introduced Ortega's topic under the heading "barbarism," Cret was prompted less by events in Germany at the time—events that led to a measure of barbarism previously unknown in the whole of human history—than by the difficulty of developing good taste in his students, especially the young talents who accepted modernism's supposed rejection of the past. In response he advocated a "new classicism." In a number of papers from those very same years he took up issues related to the design of bridges.[5]

These texts also sound cautionary notes. After recommending the great bridge builder Paul Séjourné's summary motto, *On croit inventer, on retrouve,* he noted a fallacy that had become common among contemporary designers—"that engineering or architecture is an exercise in a mathematical text book, where, given the premises and following prescribed rules, there is only one correct answer."[6] The truth is there are always many mathematically correct solutions to design tasks. The chief difficulty is one of choice, and with the matter of choice, Cret said, "we enter the domain of art."[7] Speaking of choice in the paper called "Bridges," he suggested that preference should be given to the scheme most likely to give distinction and significance to the work. Put in reverse, a correct solution—correctly calculated—may also be unremarkable or insignificant. Thus Cret affirmed Ortega's assertion that to be an engineer one must be more than an engineer. In what, then, does this "more than" consist? If aesthetic concerns are key, project development would allow choice. If, however, the non-mathematical foundation is ethical, design requires decision making—taking a stand. Perceived from this second point of view, the bridge builder is not a poet with a slide rule.

Bridge design concerned Cret throughout his career, from the time of his collaboration with engineers in the design and construction of his first bridge, the Delaware River, or Benjamin Franklin Bridge, to his work on many others. His interest was hardly academic. Intense and acrimonious debate accompanied the development of the Delaware River Bridge from the moment the Pennsylvania Department of Works announced their intention to have an architect lead the project. For engineers, that suggestion was outra-

geous. The following judgment, published in the *Engineering News-Record*, exemplifies the controversy: "[S]trength is measurable and definite; beauty is neither, but too often only lies in the eye of the beholder . . . The engineer's instinct for simplicity [unlike the architect's for beauty, is] indisputably sound."[8] While Cret tried to keep out of the fray, he did take part in the project as a collaborator with the engineers who were eventually put in charge of the design. Construction started in 1922 and was completed four years later. In fact, the professional correspondence shows entirely productive collaboration between Cret and the engineers. He summarized his arguments on the subject in an important essay from 1927.

Several significant points are contained in that text. First, the divorce between architecture and engineering appeared to have been relatively recent. Cret saw its beginning in the second half of the 18th century. Before then, in France at least, bridge designers were also schooled in architectural ateliers. Architectural training was not optional but essential for a young engineer. Second, and with the controversy concerning the Delaware Bridge fresh in his mind, Cret observed that by the beginning of the 20th century the divorce between the two fields was definite; the unity of the old profession had, he maintained, been completely severed. Largely because of professionalization, reunification was impossible. Complementarity was the only alternative. Its achievement assumed a three-part intellectual task—distinguishing the unique contributions of the two fields, demonstrating their joint necessity, and explaining the manner of their correspondence. Citing Hippolyte Taine, he argued that "the strength and dignity of design were attained, not by dissembling, but by emphasizing structural purpose."[9] The idea of emphasis was not new. Before the Victorian period architects knew that there were "possibilities of beauty latent in the sheer mechanical frame of construction."[10] The architect's task, then, involved amplifying, heightening, or accentuating structural solutions, i.e., making what was latent patent. Without this, with calculation only, there would be intellectual satisfaction but no emotion. Cret's summary is as follows: "Logic and clarity and strength, although they are elements of the beautiful, are not all there is to beauty. Until they are emphasized by subtle modification of lines and structural proportions—until a sense of harmony, of rhythm and accent fuses them into an aesthetic unit, they remain mute; they are seen, but they are not felt;"[11] "However useful the task of the grammarian, his contribution to the world's literature is small;"[12] "Constructive necessities . . . will never create a building really worth while, because these elements have only a limitative and corrective value."[13] Artistic judgment is as essential as engineering logic. On this point, Cret cited his most well-known source: "Art begins where calculation ends."[14]

Le Corbusier's aphorism, famous as it is, concluded an account that must be seen as contradictory, or at least not simple. He did, indeed, give the architect disposition over our emotions:

> Architecture is a thing of art, a phenomenon of the emotions, lying outside questions of construction and beyond them. The purpose of construction is to make things hold together, of architecture to move us . . . Architecture is a matter of 'harmonies,' it is a 'pure creation of the spirit.'[15]

Yet earlier in the text he spoke of an engineering sensibility that sounds remarkably similar to the architect's. He admitted that

> engineers produce architecture, for they employ a mathematical calculation which derives from natural law, and their works give us the feeling of harmony. The engineer therefore has his own aesthetic, for he must, in making his calculations, qualify some of the terms of his equation, and it is here that taste intervenes.[16]

This explains why architecture can be found in the Parthenon and the telephone, also why engineers "find themselves in accord with Bramante and Raphael." How, then, are the architect and engineer different? Are they? Can the second substitute for the first, or are the two distinct but complementary, as Cret argued?

Le Corbusier's most sustained treatment of the problem can be found in a text entitled *The Home of Man*, written in Vichy in 1941, and published the next year. The architect supplied the drawings and captions for the book, while François de Pierrefeu, a hydraulics engineer and supporter of the Saint Simonian Catholic right, supplied the text. Joining the architect and engineer, a third player appeared on stage in their account: the humanist. The virtues these three represented were put together in the make-up of what was alternately called the "master of works" or "cathedral builder." His profile was as follows—"The ideal master of works should be a humanist [and] accommodate within himself . . . two distinct actors, an *architect* and an *engineer*." Then, restating Saint Simonian ideas of the technocrat as a secular savior, this new trinity was offered as a replacement for its Christian antecedent, a new power of world construction. We are told that the humanist should possess "a sense of [the] *oneness* of [all] existing [things, the] variety of forms."[17] The vision of the whole, of harmony, or of wide proportionality, was not, however, achieved by, or evident in, calculation. Instead, intuition was required. Intuition was also the mental faculty that could bind the architect and the engineer together in their shared concern for "*the well-being of man in pursuit of happiness and fulfillment*."[18]

A diagram Le Corbusier developed summarizes this division and complementarity of tasks. Circles above and below its central fan-shaped figure show the relative proportions of sentiment and technique in the work of the architect and engineer. Two kinds of knowledge are represented by the red and blue, knowledge of man and knowledge of physical laws. The first includes understanding of all manner of human needs (spiritual, intellectual, civic, social, domestic, physiological, and material), and the second, physical constraints (those of raw material, gravity, material resistance, and mathematics). Each is also a tendency, represented by the two axes, one toward creative imagination, beauty, and free choice in the vertical direction, the other towards material constraints and calculation along the horizontal line. While both kinds of knowledge are necessary, the architect and engineer are allotted different measures of each. The fan at the center proportions these powers to the several building tasks, each with coupled blue and red triangles, variously bridging sentiment and technique. Reading from left to right, the tasks consist of monuments and temples, civic buildings, hospitals, recreation facilities, the home, administrative offices,

workshops, factories, and infrastructural works. The home is at the center because architects and engineers, mediating spiritual and physical needs, contribute equally to its design. The family it houses serves as the nucleus of society, or the germ of the common good. Here, then, the accent is not on the designer, still less on the profession, but on the task, and different tasks require different kinds of knowledge, with less sentiment for the hydroelectric dam, more for the chapel.

Le Corbusier and Cret were not the only architects to discuss the architect/engineer dichotomy. In 1933, the same year that Cret cited Ortega's anticipation of barbarism, Auguste Perret, an architect to whom Le Corbusier often referred and for whom he worked, also addressed this opposition. Like Cret and Le Corbusier's, Perret's ideal architect is endowed with what seem to be extra-mathematical faculties of intuition, judgment, and perception. According to Perret, "the architect must be able to perceive the elements of beauty in his work before he can present and display them, [and] make them sing."[19] Perret explained himself with a counter-example, the Eiffel Tower, which is over-decorated in detail and structurally redundant, its designer having been tone-deaf. His second counter-case referred to Orly airport. There, thankfully, the hangars by Freyssinet (1921) were not spoiled by art. But despite their economy they were not quite architecture. What they lacked, Perret said, what stopped them from being expressive works, even though they worked, is "scale, proportion, harmony and humanity."[20] Were they qualified through these measures the result would have been musical: architecture, he said, "is the art of making supports sing."[21] This is much like Cret's notion of emphasizing the action of structural elements. One of Perret's most famous lines, that "Technique, spoken in poetry, brings us to architecture," makes the same point.[22] Less philosophical than Le Corbusier, Perret did not try to explain the sort of knowledge that allowed the architect to transform calculation into expression.

The entire problem disappears if one assumes that engineering works are beautiful in themselves, and that mathematical thinking is sufficient for aesthetic pleasure. Is that true? Can we end the question by ignoring the distinction? Is the structurally determined "equipoise" of a bridge by Robert Maillart as beautiful as a painting by Picasso, as Sigfried Giedion maintained in his paper "Construction and Aesthetics?" What Le Corbusier hinted in his praise of the engineer's aesthetic was in fact maintained by earlier writers. Already in 1910 the Austrian Joseph Lux, for example, had argued that the true architect of modern times was the engineer. Lux's sense of a new epoch was hardly tentative: "nowadays," he said, "technology is more important than Plato."[23] Although Lux's engineer developed his solutions without reference to historical models, such an engineer was not blind to aesthetic concerns, for indeed there was a process through which right sensibility was acquired. First, one must see that calculation does not exclude considerations based on empirical experience. Next, the accumulation of experience gives the engineer a kind of judgment, something Lux called "the sense of form" (*Formgefühl*), which for Lux was a kind of aesthetic sensitivity or eye for visual harmony. In fact this sense of form pre-existing in the engineer's mind was for Lux "the precursor" to "mathematically hardened construction."[24] The surprising point here is that qualification *precedes* calculation. This is just the opposite of Cret's history of the project in which

accentuation followed calculation. This accentuation was governed by the principle of eurhythmy, according to which symmetries were adjusted to make a seemly appearance, as in Vitruvian optical correction. The example Lux cited was Paxton's Crystal Palace of 1851, which represented form first—the famous tablecloth metaphor—then calculation.

Two years before Lux's *Ingenieur-Aesthetik* another German language theorist, Adolf Gotthold Meyer, argued in *Eisenbauten* that engineering involved "pictorial thinking." To explain this he presented a brief history of the modern approach. The new way of building dated from the time of Jean-Baptiste Rondelet, who "treated the structural calculation for the first time as an essential part of the discipline of construction."[25] Rondelet's discovery was also the moment when two approaches to design, one based on mathematical rules and calculation and another on artistic genius, went their separate ways. But more interesting is Meyer's account of the origin of the engineer's pictorial thinking. Its formation involved a two-step development. First there was the transposition of problems of mechanics into arithmetic and algebraic formulae, and then there was the transfiguration of those two into a *vision of graphic form* (*ein Anschauung graphischer Gebilde*). His epistemology was not explained more fully, but this vision of form developed in each engineer and in the profession, Meyer concluded, is the means by which the right calculation is selected, there being, as Cret also observed, many possible solutions to any given problem. According to this perception as well, calculation is something that occurs 'after the fact' of a designer's intuition.

In 1909, one year before Lux's text and one year after Meyer's, the German art historian and philologist Carl Watzinger offered a striking reading of the Vitruvian eurhythmy, mentioned above with regard to Cret. Among the elements of order essential to architecture, Watzinger said, eurhythmy was the one that governed the optical effect or appearance of the work. This would mean that it was categorically distinct from the principle of symmetry with which it had been associated. Ancient, like modern, design was thus a two-step procedure in which symmetries were calculated, then modified. Pleasant or appropriate appearances resulted from the adjustment of pre-conceived arrangements. We have seen that modern architectural theorists also envisaged a two-part process—visualization before the calculation, in the arguments of Lux and Meyer, and adjustment after it, for Perret, Le Corbusier, and Cret. Leaving aside the distinction between the engineer and architect, the key is that adjustment and anticipation give the work its significance, appropriateness, and beauty. There are two important premises in this account. In one, insignificance is likely in purely symmetrical design or narrowly mathematical thought, and in the other the risk of insignificance arises from the relative autonomy of mathematical modeling. Un-interpreted calculation might be described as meaningless certainty. And in all of this, poeticizing is no help.

Jean Ladrière, the great historian of science and mathematics, once observed that mathematical thinking seems to be both constructed and given at the same time.[26] He meant that according to one view mathematics is a generalization, idealization, or representation of the phenomena that present themselves in given reality. According to a second view, mathematics presents itself with its own objects—highly

abstract, approximating a system, and very largely formal—something like a bridge without abutments. Adjustment and attunement are necessary in architecture precisely because of the tendency toward formalism in mathematical modeling. As a style of thought, interpretation develops in the opposite direction—not horizontally, as a system, but vertically, into pre-existing conditions. Moreover, attunement is optical, not conceptual, intuitive not logical, circumstantial not abstract. If we grant the complementarity of these two styles of thought, both can be seen to be required in the architectural project; again, one kind of thinking calculates the internal coherence and self-sameness of the design, and another intuits the ways that arrangement will appear as part of a wider situation it cannot control. Their internal or essential complementarity is what Cret said results from collaboration and Le Corbusier illustrated in his diagram.

Aristotle, in *Nichomachean Ethics* observed that a mark of a wise man is to know the degree of exactitude required for a particular inquiry, project, or subject. His advice emerged in consideration of the different kinds of science required for productive work in physics and ethics—each a science in its own right. He cautioned: "the same exactness must not be expected in all departments of philosophy alike, any more than in all the products of the crafts."[27] Next follows an admonition: "it is the mark of an educated mind to expect that amount of exactness in each kind [of science] that the nature of the subject admits."[28] Again, the focus is on the task, which always plays itself out in a specific cultural context. An illustrative distinction would be between the conclusions of an orator and those of a mathematician, with suitable yet probable arguments in the first case, exact demonstrations in the second. Similarly, the geometrician and the carpenter might both be seeking the right angle, but in different ways, for the former would be looking for the essence, while the latter would be content with that approximation to it which satisfies the purpose of the work.[29] Both kinds of reasoning are required for the development of an architectural project—in the first case, knowledge of the laws of nature and techniques of calculation, in the second, knowledge of human affairs, the habits, symbols, and institutions of a culture that give life its pattern, purpose and beauty.

Notes

1   Ortega y Gasset, José. *History as a System.* (New York: W.W. Norton & Company, 1961), 103.

2   Ortega y Gasset, José. *The Revolt of the Masses.* (New York: W.W. Norton & Company, 1957), 87.

3   Ortega y Gasset, José. *History as a System.* (New York: W.W. Norton & Company, 1961), 151.

4   Ibid., 111.

5   In one text from 1930 titled "Bridges," and two others from 1936, one called "The Design of Bridges," the other "Bridge Architecture." I have consulted the original manuscripts of these talks, held in the Annenberg Rare Book & Manuscript Library, University of Pennsylvania.

6   Design of Bridges, 2.

7   Cret, Paul Philippe. *Paul Philippe Cret, Architect and Teacher.* ed. Theo B. White (Philadelphia: Art Alliance Press, 1973), 70.

8   "What Is Art?," *Engineering News-Record* 85 (16 September 1920): 531; cited in Farnham, Jonathan. "Staging the Tragedy of Time: Paul Cret and the Delaware River Bridge," *Journal of the Society of Architectural Historians* (57:3, September 1998): 261.

9   Cret, Paul Philippe. *Paul Philippe Cret, Architect and Teacher.* ed. Theo B. White (Philadelphia: Art Alliance Press, 1973), 63.

10   Ibid., "The Architect as Collaborator of the Engineer," 63.

11   Ibid., 64.

12   Ibid., "Design and Construction," 71.

13   Ibid., 71.

14   Ibid., 69.

15   Le Corbusier. *Towards a New Architecture.* trans. Frederick Etchells (New York: Payson and Clarke, Ltd., 1927), 19.

16   Ibid., 15.

17   Le Corbusier and Francois de Pierrefeu. *The Home of Man*, trans. Clive Entwistle and Gordon Holt (London: Architectural Press, 1948), 32.

18   Ibid., 33.

19   Perret, Auguste. *Contribution à une Théorie de l'Architecture* (Paris: André Wahl, 1952), 22. See also: Britton, Karla. *Auguste Perret.* (London: Phaidon, 2001), 242.

20   Ibid.

21   Perret, August. "L'Architecture," *Revue l'Art et l'Esthétique*, 1/1-2 (June 1935), 49.

22   Britton, Karla. *Auguste Perret*. (London: Phaidon, 2001), 213.

23   Mallgrave, Francis and Christina Contandriopoulos, ed., *Architectural Theory, Vol. 2* (Malden, MA: Blackwell Publishing, 2008), 105.

24   Ibid., 106.

25   Giedion, Sigfried. *Building in France, Building in Iron, Building in Ferroconcrete*. trans. J. Duncan Berry (Santa Monica, CA: Getty Center for the History of Arts and the Humanities, 1995), 33.

26   Kockelmans, Joseph J. and Kisiel, Theodore J., ed., *Phenomenology and the Natural Sciences* (Evanston: Northwestern University Press, 1970), 457.

27   Aristotle. *The Nicomachean Ethics*, 1.3.1, trans. H. Rackham (London: Heinemann, 1956), 7.

28   Ibid., 9.

29   Ibid., 7.

About the Author

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Lewis Carroll on the Problem of Architectural Meaning[1]

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Abstract

In the work of English author/mathematician/logician Lewis Carroll (Charles L. Dodgson), questions of language and meaning constantly lurk beneath the surface. As a literary genre, Carroll's nonsense has been shown to address changing theories of language in the specific context of the nineteenth century. This essay identifies how Carroll's architectural criticism, exposed in his short pamphlets on architecture and in The Vision of the Three T's (1873) in particular, connects issues of architectural meaning to changing understanding in the propriety and usage of language. Those changes were brought about in the context of Oxford by scientific positivism and approaches to language such as the German-influenced New Philology. The aim is to unveil how such philological themes are chosen targets for several of Carroll's jokes in the architectural pamphlets. I argue that Carroll's position is grounded in a broader enquiry on the theme of architecture's significance and questions of interpretation in that specific context.

Discussing the mechanisms that govern the production of social space in our modern societies, Henri Lefebvre briefly invokes Lewis Carroll's nonsensical explorations. For Lefebvre, Carroll's work, and more especially his pieces on mathematics and symbolic logic, conveys relevant philosophical reflections on the language-based dimension inherent to the formation of a certain kind of space—social space. Carroll's entire corpus effectively brings forth the complex and intricate mechanisms that govern our relationship to space; using literature as a malleable tool, his work interrogates the means by which we understand,

represent and inhabit the world through the mediation of "words, signs, doubles and shadows, and games". [2]

However incongruous the situations found in the *Alice* books, the reader intuitively senses that there are spatial issues at stake. In *Alice's Adventures in Wonderland* for example*,* the story takes place in unsettling underground spatial conditions where the order of things as we "normally" understand it is blurred. Notions such as *inside* and *outside*, *top* and *bottom*, *here* and *there* are tangled. The tale tells us how young heroine Alice struggles to navigate through such conditions. Interestingly, this struggle involves the loss and progressive reclaiming of a linguistic ground, one that will allow Alice to interact with a colourful series of characters.[3] *Through the Looking Glass and What Alice Found There* proposes an equally disconcerting yet logically distinctive spatiality.[4] Looking from afar like the regular grid of a chess game, the land behind the mirror also obeys peculiar, *out of this world* rules. For instance, contrary to our experience, movement is a precondition in the abstract—absolute—space of the *Looking Glass* world: in order to stand still, one has to "run faster than fast".[5] As a writer, Carroll plays with the reader's assumptions on the relationship between space, time and movement, constructing his literary jokes around the fact that our knowledge of such notions is bound to be expressed in words, and in a way that can never be transparent. The fiction bears a didactic intent: after all, our everyday experience in what we call the *real* world can at times be as puzzling as Carroll's imaginary universe. And although we rely on language to give shape to this experience, the realm of words and discourse is always one step removed from the immediacy of our perception.

Not only do Carroll's tales trigger a reflection on our condition of being in space, the *way* by which the tales are told is also crucial in this regard. Carroll's nonsense, understood here as a literary genre, is a self-conscious process that emphasises how our condition of existence is first and foremost a linguistic one. Marina Yaguello aptly points out that Carroll's verbal delirium brings into light the nature of language, the ways by which meaning is constructed, and our relationship as speakers (*locuteurs*) to language.[6] Carroll's inherently critical attitude towards writing is grounded in the specific context of the second half of the nineteenth-century, a context marked by two opposite impulses. On the one hand, the proponents of scientific positivism advocated the explicative authority of scientific reasoning, mathematical models and experimental observation over other forms of knowledge production. On the other, romantic intellectuals, artists, writers and architects wished to challenge what they saw as a formulaic classicism and rationalist impulse inherited from the Enlightenment: they attributed the dehumanizing effect of the Industrial revolution to positivism and held the advance of the Natural Sciences responsible for an objectification of nature. Their critique was essentially conveyed by revisiting medieval and early Renaissance themes and by giving priority to the ambiguity of human emotions over the clarity of scientific reason.

Carroll's nonsense emerges from the contradictions and potentialities inherent to such a context: it addresses a series of shifts in our understanding of language as a vehicle for knowledge. Along this line, Jean-Jacques Lecercle identifies how Carroll's specific way of placing issues of logic and language at the core of his stories induces a strong critical dimension within the works, a critique that, apart from being

a playful commentary on literary fiction, is also directed at the way language is commonly understood, and used.[7] James A. Williams establishes how language theories in Victorian England, and especially the new philological approaches of the mid-nineteenth century, were recurrently targeted by Carroll's jokes. Williams also shows how the position of Oxford star-philologist Friedrich Max Müller on the "autonomy of words" sparked some of Carroll's humorous critiques.[8] Carroll's nonsense thus serves to unveil a number of expectations regarding language and meaning, pointing towards the question of linguistic *usage* as a means of mediating our relationships to our surroundings.

This essay shows how similar *topoi* are at play in Carroll's short pamphlets on architecture, and in *The Vision of the Three T's* (1873) in particular. The aim is to unveil how Carroll's architectural criticism is informed by his appraisal of the new science of language that was being popularized at Oxford at the time. I will argue that philological themes are targeted in several of Carroll's jokes in *The Vision*, connecting questions of architectural meaning to changing theories of language.

Scientific Philology Unravelled in Carroll's Fiction

When Lewis Carroll joined Christ Church College, Oxford, as an undergraduate in 1851, comparative philologist Friedrich Max Müller had recently begun his professorship and, as James A. Williams pertinently states, it is very likely that Carroll, with his early interest in writing processes, attended some of Müller's lectures on language.[9] The German philologist had by then acquired an undisputed renown.[10] Müller upheld a rather novel position regarding language in the Victorian context of the mid-nineteenth century, one influenced by new scientific approaches in philology.[11] This New Philology would gain in strength over the following decades. As Williams points out:

> Oxford philology stood at a crossroad: on the one hand, there was the inherited English approach, a blend of amateur antiquarianism and philological-etymological speculation (a tradition including John Locke and John Horne Tooke), easily regarded as a branch of humanistic philosophy. On the other, there was the party of "Germanizers" who wished to introduce into England the professional, scientific 'New Philology' pioneered by Franz Bopp and Jacob Grimm in Germany and Rasmus Rask in Denmark.[12]

The Victorian context thus witnesses a shift from language understood as the voice of a people to an understanding that progressively separates language from communities and human agency.[13] As Williams notes: "The new science of language (...) insisted that languages develop in accordance with abstract and remote morphological laws, beyond human control."[14] To summarize it briefly, Müller's theory posits a phonetically traceable source to language: all words find their origins in a limited number of sounds—or rings—that emanate from the natural world. He also advocates that words somehow precede human

thought processes or, to put it more simply, that "it is words that give man his thoughts," reinforcing the recently developed idea that words actually possess *a life of their own*, detached and autonomous from the day-to-day community-based practice of language.[15] The new scientific philology thus contributed to problematizing the nineteenth-century understanding of language in England, putting into question the assumed connection between words and meanings as well as the accountability of users in the production of sense. As it got diffused outside the circle of specialists, notably through Müller's lectures in the context of Oxford, this understanding created a certain malaise amongst the general public, resulting in what has been identified as a growing cultural anxiety about language in Victorian society.[16] On the one hand, the economy and propriety of language, tied to positivism and the developing discipline of scientific philology became a central concern. On the other, a more traditional acceptance of the inherently ambiguous nature of language withstood and was re-qualified through nonsense literary experiments such as Carroll's.[17] As Williams pointedly argues: "one of the things that nonsense writing can help us to remember is that a cultural anxiety can find a form and a balance in humour".[18]

Williams' investigation shows how several passages from the *Alice* books unveil Carroll's critical views on scientific philology. Through a series of jokes, absurd linguistic situations and poetic experiments, Carroll's nonsense unveils the inherent absurdity in a notion of language holding that words would be imbued with the capabilities proper to organic life and could somehow *act* on their own. In the opening episode in *Through the Looking Glass* for example, Alice's interaction with the White King revolves precisely on the question of agency over words. It stages the King's struggle with a pen that seems to be moved by invisible forces (Alice's hand). As he tries to write down his *own* feelings regarding a recent traumatic experience, the words appearing on paper end up being quite foreign to his thought: from the point of view of the King, the pen (as a symbol and tool for writing) Williams notes, does seem to possess *a life of its own*. As Williams emphasises, this theme reoccurs several times in the Alice stories, highlighting the question of human control over words in conjunction with questions of identity. The idea that words can govern one's thoughts and utterances is also staged in the Alice-Mabel dilemma in the opening part of *Alice's Adventures*. As Alice tries to recite a previously memorized poem, the words seem to "come out wrong," leading her to infer that she must have become someone else over night.[19] As Williams points out: "Carroll's nonsense worlds permit, with no contradiction, the unsettling idea that language could take on life and speak through his characters: in so doing they stage popular ideas of scientific philology and spoof them, in a manner pregnant with implications of divided personality."[20]

A crucial passage deals with another implication proper to scientific philology: the problematic privilege given to the sonic aspect of words over their role within sentences (enunciations) in the production of meaning. In the famously grotesque dialogue between Alice and Humpty Dumpty, we find the rather arrogant egg-shaped character seated high on his wall in a symbolic position of power, claiming mastery over words. Humpty Dumpty not only speaks about words as protagonists themselves—living beings under his employment and subjected to his whim—, he goes further and concludes by making

an apology against communication: "Impenetrability, That's what I say!" As Williams notes, Carroll's Humpty Dumpty embodies the perfect caricature of the scientific philologist's posture. Humpty Dumpty's claim of control over the behaviour of words comes with a downfall: Williams remarks, Alice constantly demands clarification in order to be able to understand what is being said. We would add that the reader's knowledge of the traditional nursery rhyme's finale—Humpty Dumpty's great fall and the impossibility of putting the pieces back together again—implicitly raised through the episode, infuses the joke with a critical stance: treating words as *living* entities to be regimented at will and favouring sound effects over the transmission of meaning is, outside the realm of nonsense, a dangerous business. Carroll's tale thus points towards the idea that in everyday communication processes, words cannot solely be understood as autonomous, self-sufficient entities, nor can specific meanings be assigned to them outside of a set of commonly accepted rules that govern their usage, thereby emphasizing the prevalence of human agency in language-based communication processes.

Williams' concluding argument, which I will only briefly summarise here, dwells on Carroll's nonsense poem *Jabberwocky*. From Carroll's publication of the first stanza of the famous poem using a mock-Anglo-Saxon font in 1855, to the prominent place given to the entire version in *Through the Looking Glass*, and through its reception and "Germanization" by Victorian philologists, Williams reveals how Carroll's famous nonsense verses push the notions implied by scientific philology to their limit.[21] The poem serves to make apparent some of the New Philology's inherent fallacies: "Just on the edge of comprehension, [the language of the poem] seems to be living out its private life as a subtle, playful interpretative removed from the reader".[22]

If *Jabberwocky* can indeed be seen as this curious, almost autonomous literary creature, the poem concurrently reveals another central feature of human communication, and one crucial to Carroll's practice as a writer: the fact that language is essentially geared towards the production of meaning(s). As linguists have stated since, human communication processes are rarely straightforward: misunderstanding is quite often the norm, while clear comprehension remains the exception. As we speak, meaning is produced through convoluted paths. This production usually requires several rounds of interpretation, enquiry, and clarification. This notion is embedded in Carroll's critical stance towards the New Philology: despite the extreme obliqueness of the *Jabberwocky* stanzas, meaning nonetheless emerges. Even though she finds the poem rather difficult to understand, Alice confesses: "Somehow it seems to fill my head with ideas—only I don't exactly know what they are! However, *somebody* killed *something*: that's clear, at any rate—".[23] It is this ambiguous yet semantically productive quality of language that Carroll essentially plays with. In the end, the Duchess' advice to Alice in *Alice's Adventures in Wonderland* can be seen to summarize Carroll's critical position on scientific philology: "Take care of the sense, and the sounds will take care of themselves."[24]

Positivism, Language and Architecture's Meaninglessness

A similar concern for the possibility of conveying meaning can be found in Carroll's architectural pamphlets, *The New Belfry of Christ Church, Oxford* and *The Vision of The Three T's*. Within Carroll's imposing and polymorphous corpus, the two texts stand at the margin: published more or less anonymously at Oxford, in 1872 and 1873 respectively, they were widely circulated in that context. [25] These two pieces constitute Carroll's most direct discussion on the theme of architecture.[26] In terms of their tone and structure, the pamphlets are in line with Carroll's nonsense writing: they are anchored in the tradition of the satire, where wit and humour are central to conveying the author's critique. *The Vision of The Three T's* particularly focuses on the relationship of architecture to language, hinting at the limits of scientific positivism while mocking several themes dear to proponents of the New Philology.

The architectural transformation under scrutiny in Carroll's pamphlets is the construction of the new bell tower, or Belfry, at Christ Church College (1872-1879). Commissioned by Dean Henry Liddell in the early 1870's, the project was designed by controversial Gothic-revival architect George Gilbert Scott (1811-1878) and executed by his former student George Frederick Bodley (1827-1907). It was seen as an important milestone, one that would end a 350-year process of building at Christ Church. As it touched upon the most pristine parts of the building, altering the physical appearance of the college as it was ex-perienced from the main quadrangle, Tom Quad, as well as its relationship to Christ Church Chapel and to the town, the proposed transformation was from the very beginning extremely controversial.[27] Central to the intervention was the new bell tower planned at the junction of two major interior elements, Cardi-nal Thomas Wolsey's impressive Hall of c1528-29 and the fan-vaulted ceiling above the main staircase of c1640.[28] The superimposition of this new piece on top of the existing college necessitated the interruption of the parapet above the Hall, a gesture that Carroll and his colleagues at Christ Church referred to as the *trench*. The transformation also included a new access to Christ Church Cathedral through the east wing of the college, where two narrow vertical apertures with pointed arches were cut through the façade. It is this double opening to a new passageway that Carroll satirically mentions as the *tunnel*. Already complet-ed as Carroll was writing *The Vision*, these two stages of the project are discussed as two of the "t's". The third "t"—the *tea-chest*—refers to a temporary aspect of the project: a cubic wooden scaffolding meant to shelter the construction site of the future Belfry.[29]

When writing the *The Vision*, and in order to make his critique readily accessible to the widest possible range of readers, Carroll has recourse to a well-known model that he adapts: the pamphlet consti-tutes a shorter, parodied version of one of the most famous and widely reprinted treatises inherited from the Renaissance, *The Compleat Angler*, by Isaak Walton.[30] Rediscovered in the late eighteenth century, this Renaissance treatise on fish and the art of fishing was amongst the most widely circulated books in nineteenth-century Victorian England. In a dialogue taking place over the course of several days, its three characters, Piscator (a fisherman), Venator (a falconer) and Auceps (a hunter) discuss and commend their

respective activities. Angling (fishing) is celebrated as the most conducive to contemplation and therefore most suited to the wise and honest man: fishing is posited as a means to enhance intellectual faculty, guide social conduct, and educate in the realm of ethics. If *The Compleat Angler* is a rather cheerful celebration of fishing, *The Vision of the Three T's*, as the subtitle "a threnody" announces, has a slightly different tone. It constitutes a complaint, a nostalgic mourning.[31] Apart from making this change in tonality, Carroll borrows extensively from Walton's text: two of the characters, Piscator and Venator, come straight from Walton's book, the style of writing and the structure of the dialogue are extremely similar. When the pamphlet came out, most readers would have been familiar with *The Compleat Angler*: they could very quickly identify it as the source and experience the efficacy in the title's word play (Three t's/Treatise). The choice of this well known Renaissance work as model serves another practical purpose: the dialogue form allows Carroll to easily stage opposite views on the project.

Much shorter than the original, Carroll's parodied version is organised into three chapters and takes place over the course of one afternoon. *The Vision* opens with the two sportsmen arriving at their fishing site, admiring the perfect geometry of their surroundings and noticing some recent architectural transformations. Venator asks: "Is all we see of a like antiquity? To be brief, think you that those two tall archways, that excavation in the parapet, and that quaint wooden box, belong to the ancient design of the building, or have men of our day thus sadly disfigured the place?"[32] Piscator confirms the novelty of the three "things". Following this rather expedited introduction, meant primarily to invoke Carroll's source, the two main protagonists enter into three different conversations/interactions with passers-by. The first and last are eminent college scholars, while the second, Lunatic, turns out to be the architect responsible for the project. All three scholars carry their own series of assumptions as to the meaning of the architectural interventions. As we shall see, much like in the Alice books, several jokes are aimed at the implications held by scientific philologists.

The passage of the first Collegian interrupts the protagonists' conversation. Regarding the "tunnel," Piscator enquires: "we would ask the cause for piercing the very hearth of this fair building with that uncomely tunnel, which is at once so ill-shaped, so ill-sized, and so ill-lighted." After having made sure that both his interlocutors do not speak German, the Professor of Natural Sciences answers: "Warum nicht?"[33] He insists: "For nowadays, all that is good comes from the German. Ask our men of science: they will tell you that any German book must needs surpass an English one. Aye, and even an English book, worth naught in this its native dress, shall become, when rendered into German, a valuable contribution to Science!"[34] Motivated, Venator seeks explanation concerning the "trench", which he describes as this "ghastly gash above us, hacked, as though by some wanton school-boy, in the parapet adjoining the Hall."[35] The Professor replies, once more in German: "Wie befinden Sie Sich?"[36] Finally, when asked about the "unseemly box that blots the heavens above"—the tea-chest—the answer provided by the scholar, which he delivers in English this time, is nonetheless equally enigmatic: "Be you mad sir? Why this is the very climacteric and coronal of all our architectural aspirations! In all Oxford there is naught like it! ... And, trust me, to an

earnest mind, the categorical evolution of the Abstract, ideologically considered, must infallibly develop itself in the parallelepipedisation of the Concrete!" [37]

Behind the apparent gibberish of the whole conversation, Carroll's joke can be seen to question the possibility of applying positivist approaches, here represented by the Professor of Natural Sciences, to provide adequate explanations for architectural artefacts. It also pranks the higher value given to German in such scientific approaches, while it invokes the New Philologists' praise of sounds (and especially German sounding words) as self-evidently carrying meaning. It finally somehow connects the box-like shape of the project with the formalism inherent to such scientific attitudes.

Those themes reoccur several times in the pamphlet, notably through the interaction between the two sportsmen and a third interlocutor, Tutor, who not so surprisingly turns out to be a professor of ancient languages and "unknown tongues." Providing his own "expertise" on the architectural interventions, Tutor bases his argumentation on a satirical verse found in the work of first century B.C. Roman poet Horace: *Diruit, aedificat, mutat quadrata rotundis*. Horace's satirical verse, originally published in his *Satires and Epistles*, targeted the monetary cost of architectural works. It is correctly translated by Tutor as "It teareth down, it buildeth up, it exchangeth square things for round," but unlike as seen in the case of the Roman poet, where the verse is infused with irony, Carroll's Tutor uses it literally as a means to celebrate architectural transformations. Tutor does not acknowledge the origin of the line in Horace's work. Rather, he refers to it as the motto of the Governing Body in pursuing the project, and as a trite example to illustrate a rule in a Latin grammar. When asked by Venator about the relevance of using a grammatical rule as motto, Tutor replies: "Sir, if we are not grammatical, we are nothing!"[38] Carroll's joke, which here seems to be aimed quite directly at philologists such as Müller, revolves on the literalness of Tutor's translation and misuse of the ironic verse.[39]

Finally, in order to bring light onto the twin arches (c.f. the tunnel) and to justify the presence of a heavy pier at the centre of the archway, the scholar uses yet another rule, but this time it is a mathematical one. In accordance with the mathematical theory of the non-harmonic mean he asserts, "the pier" is analogous to "the obelisk that the *Ideal Architect* inevitably and carefully places at the centre of his creations, in the midst of all." Tutor states the importance of both rules, the grammatical and the mathematical, as if these were self-evidently leading to an understanding of the architectural interventions. Surprisingly, both rules also seem to bear equal value in the philologist's value system. Once again Carroll's joke targets the tools offered by positivist language theorists, suggesting how these might fall short when it comes to acknowledging our everyday experience of architecture.

Already a year earlier, when writing a first pamphlet on the topic, Carroll had aimed his critique at philological themes along with the methodology proper to positivism, and more especially to the Natural Sciences: the shape given to *The New Belfry* is a mock-monograph, the chief discursive genre favoured by nineteenth-century natural scientists. In a highly satirical manner, Carroll's monograph aims at presenting the most exhaustive and objective attributes, or characteristics, and at producing the most comprehen-

sive knowledge of a new architectural species: the Belfry of Christ Church. Such attributes range from the "etymological" to the "moral," including such notions as "style," "origin," "architectural merit," and so on. Each category, or "treatment," is defined in the most direct—pseudo-objective—manner. According to Carroll, the "true origin of the new Belfry" is as follows: "The head of the house, and the architect, feeling that their names should be embodied, in some conspicuous way, among the alterations then in progress, conceived the beautiful and unique idea of representing, by means of a new Belfry, a gigantic copy of a Greek Lexicon." Carroll inserts a footnote: "The editor confesses to a difficulty here. No sufficient reason has been adduced why a model of a Greek Lexicon should in any way 'embody' the names of the above illustrious individuals."[40] The idea of embodying the names of the project's patrons, Carroll finally tells us, could not be reduced to a working form: they both had to leave the site of construction and could not therefore be 'embodied' by the work. Jeeby (an acronym of Goerges Bodley's initials), the wandering and insane architect, thus came to the site as a replacement. He is said to have found his inspiration for the building while contemplating a box of fake Chinese tea.[41]

The figure of the mad wandering architect is reintroduced by Carroll in *The Vision*, along with the problem of a work's origin and the theme of artistic inspiration processes. In passing by and then engaging in conversation with the main protagonists, Lunatic quickly claims authorship of the disputed architectural transformations:

> Is mine sir! Oh the fancy! Oh the wit! Oh, the rich vein of humour! When came the idea? I'the mirk midnight. Whence came the idea? In a wild dream. (...) My heart told me something was coming—and something came! A voice cried 'Cheese-scoop!' and the Great Thought of my life flashed upon me! Placing an ancient Stilton cheese, to represent the venerable Quadrangle, on the chimney, I retired to the further end of the room, armed only with a cheese-scoop, and with a dauntless courage awaited the word of command. Charge, Cheesetaster, charge! On, Stilton, on! With a yell—another bound—another cavity scooped out! The deed was done.[42]

Logically, Piscator wonders, if the holes were done with a cheese-scoop, the apertures in the wall should have been round. To which Lunatic replies that they were at first, but that as he "wrought out that vision of beauty", some slight changes were made. "Oh, the ecstasy," he says, "when yesterday the screen was swept away, and the *Vision was a Reality*!"[43] Carroll's architect finds inspiration in a piece of Stilton cheese, doing so in a dreamlike drunken flash of insanity.

However complete Lunatic claims his vision to be, Carroll playfully balances it with another equally ecstatic yet much darker one. The observer's "vision" is presented in Piscator's dream as the dramatic—sublime—coming into being of the three architectural interventions. Central to Piscator's vision is the figure (or ghost) of Cardinal Wolsey. The original patron of Christ Church appears, surrounded by a myriad of other spirits howling and making loud noises. His words are grave, and final:

(…)From this thrice-favoured spot, in one rapturous glance gather in, and brand for ever on the tablets of memory, the Vision of the Three T's! To your left frowns the abysmal blackness of the tenebrous Tunnel. To your right yawns the terrible Trench. While far above, away from the sordid aims of Earth and the petty criticism of Art, soars, tetragonal and tremendous, the tintinabulatory Tea-chest! Scholar, the Vision is complete![44]

The story ends abruptly after this passage: Piscator awakens; the sportsmen see a fish and hook it. Carroll brings the quasi-religious ecstasy of the "maker's" vision down to colloquial, earthly concerns, contributing to the humorous effect produced.

The two visions, the vision (inspiration) of the architect and the vision (ecstatic revelation) of the observer are analogous, yet antagonistic in their explanation of the architectural interventions. Both visions occur in a kind of intense, dream-like situation, and portray both artistic creation and the experience of a work of art as mystical experiences. Utterly detached from the considerations of the world, from social, economical or material concerns but, most importantly, from questions of architectural significance, Lunatic's retelling of his vision leads to the production, in Piscators's dream, of a vision of horror.

Carroll has moved the discussion at the opposite end of a spectrum that ranges from the authority given to scientific method to the mechanisms of artistic inspiration. Although his take on the nineteenth-century notion of artistic genius would have to be further explored, we can infer that, for Carroll, both approaches fall short in explaining the architectural production of his contemporaries. His pamphlets highlight the difficulty for a nineteenth-century observer, given the interpretative tools at his disposal, to extricate meaning from an architectural experience.

Mourning Architecture's Lost Expressivity?

In his journal entry of March 12th 1853, Carroll had made a to-do list of topics to pursue, amongst which we find "Scripture History, Church architecture, Anglo-Saxon, Gothic".[45] Although it is quite possible that the notions of Gothic and Anglo-Saxon alluded to in this list relate, as Williams suggests, to linguistic inquiries, our contention is that the terms announce a dual line of interest pursued by Carroll, one that navigates between the architectural and the linguistic.

Carroll's diary entry was written in the mid-1850's, a few years after the publication of John Ruskin's *Seven Lamps of Architecture*. A colleague and acquaintance of Ruskin at Oxford, Carroll most certainly found interest in the work of the art and architecture critic.[46] In "The Lamp of Obedience" Ruskin writes: "Architecture never could flourish except when it was subjected to a national law as strict and minutely regulative as the laws which regulate religion, policy and social relations (…) The architecture of a nation

is great only when it is as universal and as established as its *language*."[47] Ruskin's claim takes place in the context of his reflections on Gothic architecture, an architecture that he sees, at a time marked by historicism and Romanticism, as the most appropriate stylistic approach to building. However nuanced Ruskin's position may be, and we shall not address the complexity of his work here, this claim nevertheless spotlights an analogical relationship between architecture and language that entails several ramifications. First, architecture, like language, is in need of being regulated. Second, this regulation process is subordinate to civic life, to the structure and influence of cultural and social institutions. Finally, Ruskin's position emphasises the co-dependency between architecture and language as modes of cultural and societal expression.

Ruskin's demand for an *established* and *universal* architecture—akin to language—coincides with the anxiety-ridden shifts in the understanding of language brought about by scientific philology. The development of the New Philology, with its emphasis on Gothic and Anglo-Saxon origins, finds an echo in the nineteenth-century search for architectural origins in medieval, early renaissance ideals. Nineteenth-century Victorian architecture is thus marked by a comparable contradiction: on the one hand we find the idea that a chosen *style*—the High Gothic of the late Middle Ages for example—functions somewhat *autonomously* and inherently carries the most appropriate meanings, detached from processes of interpretation. On the other, a striving for architecture's eloquence endures, that is, for buildings to universally convey, as Ruskin emphasises, the social, political and religious values of a given society. As the understanding of language progressively detaches language from community-based practices, the problem of architectural interpretation also gets severed from questions of collective agency and usage.

Although the protagonists in *The Vision* often refer to their newly transformed surroundings as *ghastly*, *ill-shaped*, or *ugly*, Carroll does not directly aim his critique at the stylistic choices of the architectural intervention, concerns that were at the forefront of architectural discussions in Victorian England. Rather, the entire dialogue staged in *The Vision of the Three T's* constantly emphasizes problems of miscommunication and the impossibility of balancing the uneasiness caused by one's experience of a place with any explanation, rational or ecstatic, that could lead to an understanding.

For instance, although he does criticise the bluntness of the shape displayed by the temporary wooden scaffolding—its box-like aspect—Carroll's chief problem with the "tea-chest", as much as with the "tunnel" and the "trench," is essentially their lack of eloquence and the fact that for some unsuggested reason the meaning of the interventions remains concealed. Carroll thus shifts the debate away from the dominant architectural issue of his time—the question of style—and brings into focus the possibility for architecture to signify and to be interpreted and explained through language. In so doing, Carroll's jokes recurrently and somewhat indistinctively target nineteenth-century scientific approaches, blurring what we would now see as clear boundaries between, for example, mathematical and grammatical concerns, or approaches proper to the Natural Sciences and logico-mathematical reasoning.

The fact that Lewis Carroll would ground his reflexions on architecture in questions of language is not surprising. As we have seen, the problematic nature of language communication constantly lurks

beneath the surface of his writing, conferring to his literary experiments the kind of self-consciousness usually associated with later avant-garde literary and artistic movements.[48] However, as we have seen, Carroll's literary jokes and critical stances towards both linguistic and architectural issues are often fashioned on the foundations of early modern themes, exemplified in part, in the case of *The Vision*, by his specific choice of model. The presence of the two architectural pamphlets within Carroll's corpus not only testifies to his interest in architectural questions, but highlights a specific region of his work, revealing a concern for space, for time, and for that special kind of encounter with space and time fostered by architectural environments and formulated in words, through the dialogical play of conversation. Carroll systematically favours the ambiguity of the *expressed* over the accuracy of transparent representation.[49] As he emphasises the limits of architecture's expressivity and the problem of its reception under specific linguistic, scientific and artistic conditions, Carroll touches upon a most relevant question: He posits an architecture encountered through dialogical exchange, an architecture experienced while being physically appraised, used and, most importantly, framed into discourse. Such language-based conditions remain at the core of today's processes of cohabitation, and crucial to the formation of semantically productive social spaces.

Notes

1   This essay is a work in progress. It is part of a wider research project that examines the connecti between language theories and architectural discourses around a series of nineteenth-century scientific and artistic shifts, with focus on the notion of usage in collective space-making processes.

2   See Lefebvre, Henri, *The Production of Space*, trans. Donald Nicholson-Smith (Oxford: Blackwell Publishing, 2007), 297.

3   The episode entitled *A Caucus-race and the Long Tale* is exemplary in this regard. See Carroll, Lew is "Alice's Adventures in Wonderland," in *The Annotated Alice*, intro. and notes Martin Gardner (New York: Penguin Books, 1970), pp. 29-36.

4   On spatial conditions at work in Carroll's nonsense literature see my *Running Out of Place: The Language and Architecture of Lewis Carroll*, PhD thesis (Montreal: McGill University, 2005), especially chs. 2 and 3.

5   Carroll, Lewis, "Through the Looking Glass and What Alice Found There", in *The Annotated Alice*, intro. and notes Martin Gardner (New York: Penguin Books, 1970), 164.

6   See Yaguello, Marina, *Alice au pays de la langue* (Paris: Seuil, 1981), 150.

7   See Lecercle, Jean-Jacques, "Une case en avant, deux cases en arrière," in *Lewis Carroll, Cahier de L'Herne* (Paris: Éditions de L'Herne, 1987), 45-52, esp. 49-50. See also, Lecercle, Jean

Jacques, *Philosophy of Nonsense: Intuition in Victorian Nonsense Literature* (London: Routledge, 1994).

8   See James A. Williams "Lewis Carroll and The Private Life of Words", *The Review of English Studies*, New Series, Vol. 64, No. 266, pp. 651-671. Williams' analysis serves as point of departure for the present essay.

9   See Williams, "Lewis Carroll," 652.

10   Linda Dowling comments on the popularity of the philologist, who was commonly referred to as the "Head Authority on Languages." See Dowling, Linda, "Victorian England and the Science of Language," *PMLA: Publications of the Modern Language Association of America*, 97 (1982): 160.

11   The initial understanding of philology, inherited from the Greek *philologia*, describing a love of learning (*philos*), of literature as well as of argument and reasoning (*logos*), was narrowed to the study of the historical development of languages (historical linguistics) in the context of nineteenth-century Anglo-Saxon language theories. The late nineteenth, early twentieth century context would, however, see a return of the original sense and scope of the discipline, notably in the philosophical work of Friedrich Nietszche. On this notion see Foucault, Michel, *Les mots et les choses* (Paris: Gallimard, 1966), especially 314-318.

12   Williams, "Lewis Carroll," 652.

13   Ibid., 653.

14   Idem.

15   See Williams, 653.

16   As Williams emphasizes, Müller's position displayed enough ambiguity to alleviate some of the public's anxiety, conferring to his lectures their popular appeal. According to Williams this is due to Müller's lack of clarity in his usage of the word 'language', a clarification that would later be systematized in the work of Ferdinand de Saussure with the clear distinction between language as a system (*la langue*) and language as it is spoken or practiced (*la parole*). While for proponents of scientific philology language is usually an abstract category distinct from specific languages (such as German or English), Müller somehow maintains strong ties between 'languages' as they are being used to convey meaning and 'language' as a field of inquiry that obeys rules residing outside of human control. A similar slippage occurs when Müller refers to 'man' and his thoughts (the notion of 'man' as an abstract category freely alternates with that of 'man' as a specific speaker), an ambiguity that still grounds language in the familiarity of everyday experience. See Williams, 656. On the notion of a cultural anxiety about language in the nineteenth-century context, see also Ramsey, Shawn, "Cultural persuasion in Lexicographic Space: Dictionaries as Site of Nineteenth-Century Epideictic Rhetoric," *Rhetoric Review*, 32 :1, 2013, 64-80, doi: 10.1080/07350198.2013.739494.

17   Shawn Ramsey examines the impact of lexicographic endeavors in the context of the nineteenth century, and places these two positions at opposing ends of the spectrum of Victorian theories of language. See Ramsey, "Cultural persuasion in Lexicographic Space," 64-80.

18   Williams, 656.

19   Carroll, "Alice's Adventures in Wonderland," In *Carroll, The Annotated Alice*, intro. and notes Martin Gardner (New York: Penguin Books, 1970), 23.

20   Williams, 656.

21   Concerning the "Germanization" of Carroll's famous nonsense poem, Williams refers to a translation into German of the first and last stanzas published in *Macmillan's Magazine* in 1872, by Oxford lexicographer and philologist Robert Scott. Interestingly, as we shall see, the same Scott is targeted in Carroll's architectural pamphlet.

22   Ibid., 670. See Williams, 666-675.

23   Carroll, "Through the Looking Glass," 150.

24   Carroll, "Alice's Adventures in Wonderland," 92.

25   Lewis Carroll is the pseudonym of English writer/mathematician/logician Charles L. Dodgson (1832-1898). When he published *The New Belfry*, Carroll used an anagram of his real name's initials, D.L.C., which is also the acronym for *doctor civis legis* (doctor of the law), a title given at Oxford to the highest-ranking personalities. *The Vision of the Three T's* is signed "by the author of the New Belfry," thus connecting the two pamphlets while blurring the notion of authorship. See "Notes sur les pamphlets oxoniens", in Lewis Carroll, Œuvres (Paris: Gallimard, 1990), 1859.

26   The texts are usually mentioned as part of a group of nine Oxford pamphlets. A good contextualization can be found in "Notes sur les pamphlets oxoniens," 1859. I propose a reading of the architectural pamphlets in relation to questions of authorship in Dionne, Caroline, "Architectural Creativity in Lewis Carroll's The Vision of the Three T's", in *Architecture and Authorship* (London: Black Dog Publishing, 2007), 30-39.

27   Henry George Liddell (1811-1898) was head of Christ Church from 1855 to 1891 and father of the 'real' Alice Liddell, the little girl who inspired Carroll's fiction works. For a more detailed account of Scott and Bodley's participation in the architectural project and context, see Sherwood and Pevsner, *The Buildings of England: Oxforshire*, 112. See also Tyack, *Oxford an Architectural Guide*, 77.

28   Idem.

29   The future bell tower was meant to house Great Tom, the college bell originally located inside Christopher Wren's tower above the main entrance gate. The new belfry was indeed completed between 1876-79, but in 1873, and due to political and financial issues as well as to construction delays, the lasting presence of the wooden scaffolding became a source of irritation for many Christ Church residents. See Sherwood and Pevsner, *The Buildings of England: Oxforshire*, 112. See also Tyack, *Oxford an Architectural Guide*, 77.

30   Isaak Walton (1593-1683) is mostly known for his biographical work, amongst which are the *Lives* of Sir Henry Wotton (early translator of Vitruvius into English) and John Donne. See, Walton, Isaak, *The Compleat Angler: or the Creative Man's Recreation,* London, 1653.

31   Threnodies, or Elegies, are usually songs or poems for the dead, mourning the lost of a loved one and expressing nostalgia for bygone days.

32   Lewis Carroll. "The Vision of the Three T's," in *The Complete Illustrated Lewis Carroll* (Ware: Wordsworth, 1996), 1037.

33   The German "Warum nicht?" literally translate as "Why not?"

34 Carroll, "The Vision of the Three T's," 1040.

35 Idem.

36 Literally: "How do you find yourself?" The expression can also mean "How do you do?"

37 Carroll, "The Vision of the Three T's," 1040.

38 Carroll. "The Vision of the Three T's," 1049.

39 Interestingly, the same verse is ironically invoked by Dr. Rev. Edward B. Pusey, Oxford's Regius Professor of Hebrew, as the motto of the German "history of Sacred Books." Pusey's critique is aimed at the German-influenced philological approaches developing in the 1850's at Oxford, including Müller's. Carroll, who was most certainly aware of this 1853 extensive report, playfully has Tutor transform the ironic verse into a Latin rule of Grammar. See, "Evidence," compiled by Dr. Rev. Pusey, In *Report and Evidence Upon the Recommendations of Her Majesty's Commissioners on the State of the University of Oxford* (Oxford: Oxford University Press, 1853), 107. https://archive.org/stream/cu31924030614766

40 It is important to note that at the time of the construction of the belfry, Henry Liddell, main patron to the project, was working with Robert Scott on the completion of a Greek lexicon. Playing on the homonyms—replacing Scott the architect with Scott the lexicographer—Carroll's critique is aimed at the patron's poor administration of the project. It questions the possibility for architecture to embody single words, here patronyms, rather than more complex notions such as values, ideas, or the patron's entire "character," as was the case in earlier architectural theories.

41 Carroll. "The New Belfry of Christ Church, Oxford," 1028.

42 Ibid., 1045.

43 Ibid., 1046. My emphasis.

44 Carroll. "The Vision of the Three T's," 1051-52; emphasis is Carroll's.

45 See *Lewis Carroll's Diaries, Volume 1.* Ed. by Edward Wakeling (London: Lewis Carroll Society, 1993), 74.

46 Carroll and Ruskin met on several occasions at Oxford, through Dean Liddell's circle, but, most importantly, through their common interest in the Pre-Raphaelite Brotherhood. Extensive biographical accounts can be found in Cohen, Morton N., *Lewis Carroll: A Biography* (London: Vintage, 1996).

47 Ruskin, John, "The Lamp of Obedience" In *The Seven Lamps of Architecture* (1849) (London: J. M. Dent & Sons, 1907), 207. Emphasis is mine.

48 A parenthood between Carroll's work and twentieth-century avant-garde movements such as Surrealism has been noted, as well as literary connections with modern literary approaches like, for example, James Joyces' *Finnegan's Wake* and the works of some proponents of the *nouveau-roman*. See among others: Henkle, Roger B. "Carroll's Narratives Underground: 'Modernism' and Form"; Stern, Jeffrey, "Lewis Carroll the Surrealist" ; or McGarrity Buki, Ann. "Lewis Carroll in Finnegans Wake," in *Lewis Carroll: A Celebration*. New York: C.M. Potter, 1982. See also Remy, Michel. "Surrealice: Lewis Carroll et les surréalistes." *Europe-Revue littéraire mensuelle* 68, 736 (1990): 123-136.

49   I must acknowledge here the influence of Gilles Deleuze's study of Carroll's nonsense. See his
Logique du sens (Paris: Minuit, 1969), 273-276 and *Critique et Clinique* (Paris: Minuit, 1993),
34-35.

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Architect-Computer Symbiosis

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Abstract

This paper elaborates on the particular symbiotic relationship that exists between the architect and the computer when working with architectural design programs, by studying the first graphic interface in 1963: Sketchpad. Sketchpad and the computer programs that evolved from it are used in architecture as tools, and are presumed to have powers in themselves beyond the skill of the artisan. However, unlike what happens with traditional architectural drawing tools that are largely transparent to the drafter, in computer aided design drawing the computer is always an active participant in the design process wherein the system by which the commands are executed is mostly invisible to the operator. The new expectation of computer drawing that originated with the birth of interactive computers fundamentally changed drawings' role in favor of maximizing communication with the computer, and the objective of using line drawing for input data was to strengthen the symbiotic partnership between the human user and the computer. The ease of interaction between person and computer in this way was called an interface because it was equal to face-to-face meetings between people. The Sketchpad window implied such a powerful relationship that it was described and imaged to be another being. To demonstrate his new tool, the inventor of Sketchpad chose to illustrate a winking girl called "Nefertiti" that, through a series of changing left eye components, actually appeared to wink from the computer screen at the operator. This figure created by the operator became the identity of the computer, as Pygmalion's statue became human under the creator's touch. This gendering of technology, whether in the movie Metropolis or in Sketchpad, simultaneously allows

its otherness to be comprehended and its threat to be more easily exorcised. Pygmalion's statue and her numerous reincarnations vivify the otherwise lifeless. Maria, the seductive machine in the movie Metropolis, lures one into forgetting one's responsibilities and deprives operators of their self-awareness. And the computer through its drawing function expresses its "ensoulment" as a thinking entity with a human-like face that is sufficient in order for it to "come alive" in the operator's eye.

The ancient story of Pygmalion describes a sculptor who fell in love with a statue he carved and loved so intensely that, as he caressed it, it came alive under his touch (Figures 1+2). In Ovid's *Metamorphosis*, the story of Pygmalion begins with describing a group of women who denied the divinity of Venus and as a result of her wrath, were degraded as the first public prostitutes, "hardened" and "transformed into stony flints."[1] Fleshy humans becoming black stones are followed by white "snowy ivory" becoming flesh. Pygmalion is a tale so fundamental that it endlessly continues to inspire new versions throughout time. Fritz Lang's 1927 movie *Metropolis* hinges on Maria, a chaste and mothering character who is replaced by a robot taking on her outward appearance but is quite opposed in character as sexually alluring and destructive[2] (Figures 3+4). As in Ovid, the robot's hard metallic body transubstantiates into her soft sexuality. The cyborg's first public appearance has her dancing in a cabaret brothel where her creator judges her successful, inasmuch as she arouses men with her eroticism. When perceived as demonic and chaotic, machines have often been portrayed as female.[3] Interpreters have noted the frequent extension of the Pygmalion story into Pandora, where the living statue realizes unanticipated destructive potential.[4]

The longevity of the Pygmalion story suggests its aptness in describing a certain relationship between the maker and the made. We will examine how this special relationship extends between makers and their tools. Tools have long been presumed to have powers (sometimes magical) in themselves beyond the skill of the artisan.[5] Here, we will elaborate in particular on the case of the symbiotic relationship that exists between the architect and the computer when working with architectural design programs, by studying the first graphic interface in 1963: *Sketchpad*.

From Tools to Systems

Architectural drawing has always benefited from the use of tools. A c.2200 BCE basalt statue of the steward-king Gudea holds a temple plan in his lap, along with a rule and stylus.[6] Compass, straight edge, plumb line and square were adapted for architectural drawing from construction sites at which they had been used since ancient times.[7] These tools are, as Aristotle described them, an extension of the hand or *orga-*

non.[8] Vitruvius explains that *organa* are instruments moved "at the skilled touch of a single operator."[9] For architectural drawing, tools contain the architect's geometry. The mason's set square was adapted for drawing perpendicular lines by the high Middle Ages, and yet in 1660 Sir Roger Pratt judged a square to be for the lazy architect who didn't want to use a compass and straight edge to bisect a line.[10] Heidegger suggests that work gathers many pieces of equipment into one whole, and this has certainly been true of the architect's drawing board as it developed with T-square, triangle, and related equipment. Tools are ready-to-hand, having an "in order to" quality that provides particular "affordances" for realizing thoughts without requiring direct attention to the tools themselves.[11] The drawing board construction system allows ready geometrical manipulation in creating architectural drawings.

Unlike what happens with traditional architectural drawing tools that are largely transparent to the drafter, in computer aided design drawing the computer is always an active participant in the design process wherein the system by which commands are executed is mostly invisible to the operator. Hand drawing, through multi-sensorial bodily engagement, invites designers to imaginatively inhabit their drawings. As electronic gaming has shown, computers can also absorb one's body schema within their imagery, despite or perhaps because of the invisibility of its processes. With architectural computer aided design tools, drawing is expected to fulfill a new requirement beyond representation, and that is to perform as the common language between the human user and the computer. This new expectation of drawing that originated with the birth of interactive computers thus fundamentally changes drawings' role in favor of maximizing communication with the computer. Unlike traditional drawing tools which are described in the early computer literature as "mechanically extended man" materializing design conceptions, computers require human beings to become "users" as part of a much larger apparatus, to be "swallowed by the system."[12] Mid-twentieth-century computer theorists, on the other hand, recognizing this condition, called it a form of communication.[13]

From Numerics to Graphics

Early computers relied upon receiving data mainly from stacks of punch cards that provided answers to already determined questions. The punch card system developed from the origin of the word computer, as people who computed results of mathematical equations. Printed mathematical tables were calculated individually by these "human computers." This same attitude continued with early mechanical computers such as Charles Babbage's nineteenth-century computing engines that were informed by the first computer program created by Ada Lovelace.[14] With such devices using only numerically controlled systems with punch cards, there was no possibility of line drawing for input in these early computers. As early as 1960 the experimental psychologist and computer scientist J.C.R. Licklider described this slow form of

communication with the computer through punch cards as the equivalent of corresponding with another person by writing and mailing letters that imposed a substantial distance between input and output, computer and user.[15] The effectiveness of the computer's input and output equipment limited to punch cards in the communication system with humans was comparable to the electric typewriter. Licklider recognized very early in the history of the development of computers that the focus should be on the development of computer displays to enhance the user-machine communication system, and he believed that "the pencil and doodle pad or the chalk and blackboard" was the most effective approach to communication between the two entities.[16] As a result, Licklider judged these early input systems as not being able to fully utilize the capabilities of the computer.

In 1963, the first graphical interface with a computer was created at the MIT Lincoln Lab by Ivan Sutherland as part of his doctoral dissertation. Called Sketchpad, this new computer interface was established to allow humans for the first time in history to interact directly with a computer by using line drawings as the input data. This transformed the nature of communication with the computer from "correspondence" to "conversation", with line drawing as the intelligent language that both the human user and the computer would share in dialogue. According to Licklider, the ease of interaction between person and computer in this way allowed for the same creative, generative conditions as might a conversation between people. It was called an "interface" because it was equal to, or even superior to, face-to-face meetings between people.[17]

From Extension to Partnership

Tools are an extension of one's body, but the computer becomes a partner in thinking. With the development of computer aided architectural design systems the computer emerged as a new partner that became an active participant in the design and drawing process. Since making drawings is so central to the architect's creative work of design, the nature of this partnership between computer and designer deserves careful consideration.

A question discussed by many philosophers is: "*How would you determine if a computer produced something intelligent?*" Marvin Minsky, a pioneer in the field of artificial intelligence, answered that the machine is being intelligent if the task it is performing would require intelligence if performed by humans.[18] Another pioneer in the field of computer graphical methods, Steven Coons, explained that the first computers that were used in the past to solve problems required a full understanding of the problem, and to know at the very outset the exact steps necessary to solve the problem. Therefore, in a sense the computer was little more than an elaborate calculating machine. Coons believed that the future of the computer through the development of a graphical interface would change the understanding of the computer from a calculating machine, doing so by opening people's minds to viewing the computer as an almost human

assistant with some degree of intelligence.[19]

Licklider compared this new human-computer relationship with symbiotic relationships that form in nature between two difference species where both creatures depend upon each other for their survival. In his paper Man-Computer Symbiosis, Licklider stated:

> The fig tree is pollinated only be the insect Blastophaga grossorum. The larva of the insect lives in the ovary of the fig tree, and there it gets its food. The tree and the insect are thus heavily interdependent: the tree cannot reproduce without the insect; the insect cannot eat without the tree; together, they constitute not only a viable but a productive and thriving partnership. This cooperative "living together in intimate association, or even close union, of two dissimilar organisms" is called symbiosis.[20]

For the computer and its operator, Licklider seems to be claiming an extreme condition of obligate symbiosis where two organisms cannot exist without the other. A facultative symbiosis or biological mutualism seems a less restrictive analogy, for in such a relationship two organisms can benefit from co-existence but do not have to live with the other.[21] Nonetheless, following Licklider's concept, Sutherland also asserted that the human user and the computer could become symbiotic under the proper conditions. In his dissertation, Sutherland writes: "The Sketchpad system makes it possible for a man and a computer to converse rapidly through the medium of line drawings. Heretofore, most interaction between men and computers has been slowed down by the need to reduce all communication to written statements that can be typed; in the past, we have been writing letters to rather than conferring with our computers ... The Sketchpad system, by eliminating typed statements except for legends in favor of line drawings, opens up a new area of man-machine communication."[22] As in Licklider's example of the larva and the tree, he explains that each provides something very different in the symbiotic relationship between human and computer: "In the anticipated symbiotic partnership, men will set the goals, formulate the hypothesis, determine the criteria, and perform the evaluations. Computing machines will do the routinizable work that must be done to prepare the way for insights and decisions in technical and scientific thinking."[23]

This model of a symbiotic relationship already suggests some presence in the computer beyond a mere tool. Claude Shannon, known as the father of information technology, also recognized the presence of another entity that exists in the computer and becomes part of design decision-making.[24] This attitude toward the computer as some sort of a collaborator in design has been described in different ways by various architects. Christopher Alexander in 1964 negatively reacted to the computer's lack of design nuance as merely "a huge army of clerks, equipped with rule books, pencil and paper, all stupid and entirely without initiative, but able to follow exactly millions of precisely defined operations."[25] More recently, architecture professor Ingeborg Rocker has posed the uncanny nature of working in design partnership with a computer: "Nietzsche had argued, sitting half-blind in front of his typewriter, that his new writing tool was 'working on his thoughts.' Today, sitting in front of a computer, one may have similar suspicions—how is this new

tool working on one's thoughts, and thus on one's architecture? Computation and computer technologies of representation have impacted the modes of conceptualizing architecture as much as they have impacted the modes of production."[26] In the nineteenth century, there was widespread interest in the possibility of conversing with the spirit world through the new technologies that communicated across distances and time such as telegraph, telephone, photography, phonographs and even typewriters.[27] Unlike traditional tools, at some level the computer becomes a partner in design.

Some practicing architects and architectural theoreticians have recognized the presence of another entity when using computer tools in architectural design, and yet the source of this uncanny feeling is not made precisely clear. In comparison between the architect who uses the computer program with the software developer who designed the program, the latter understands the inner workings of the computer whereas the architect as a user often does not. The fundamental approaches and decisions made with Sketchpad have consequently been passed along to a great extent in current interactive computer graphics programs that evolved from Sketchpad.

Sketchpad is described by Nicholas Negroponte, architect and founder of MIT's Media Lab, as an invention of great achievement, for it introduced the concept of dynamic graphics. Understanding this new concept took a decade for people to begin to comprehend the possibilities of computer graphics that got changed with interaction.[28] The Sketchpad window altered the dynamics of working with the computer. Rather than the human user knowing at the very outset the exact steps that the computer had to follow to reach an answer to a pre-determined question, through the Sketchpad window the human user was able to consider possible alternatives with the help of the computer by working directly with the machine at the computer console (Figure 5). This partnership allows for and encourages "emergent phenomena" when unforeseen results come from the computer. Licklider developed this idea in 1968 when he wrote that "to communicate is more than to send and to receive" because communicators do something nontrivial with the information they send and receive. Rather than just a back and forth exchange of information, true communication is "jointly constructive" and "mutually reinforcing" so that when minds interact, new ideas emerge.[29] This is the symbiotic partnership with the computer that was envisioned already in the 1960s.

The Sketchpad window not only presented a new way to interact with a computer, it implied such a powerful relationship that it was described and imagined to be another being. Perhaps this is true in part because the early computer screen was derived from television, so there was an expectation to see life enacted within its frame. To demonstrate his new tool, Sutherland chose in his dissertation to illustrate a "winking girl" that, through a series of changing left eye components, actually appeared to wink from the computer screen at the operator (Figure 6). As anthropologist Clifford Geertz explains, a wink is not a mere twitch, although they may look identical; a wink is not merely physical—it expresses "a conspiratorial message" to another person.[30] Winks impart private messages from the winker to the recipient. Sutherland's winking girl thus proclaims the symbiotic partnership between computer and operator. The cyclopean screen as the eye of the computer invites us to see ourselves reflected on its surface as in another person's pupil,

puppet-like. The name Sutherland gave to this cartoon face is "Nefertiti," the Egyptian queen who is still highly regarded as an iconic beauty – her name meaning "the beautiful one has come" – and partly due to the famous bust of her found in 1912 and now in the Berlin Neues Museum.[31] Nefertiti, one of the most powerful women to have ever ruled, lived in the 14th century BCE and established a cult to the sun god.[32] She, the cartoon, existed on the other side of the Sketchpad window and shared a private relationship with Sutherland that was expressed in the gesture of her wink. This figure created by the operator became the identity of the computer, as Pygmalion's statue became human under the creator's touch.

This gendering of technology, whether in the movie *Metropolis* or in Sketchpad, simultaneously allows its otherness to be comprehended and its threat to be more easily exorcised. Like the recurring wink of cyborg Maria in *Metropolis,* who entices men to follow her to destruction as a manipulative Pandora, Sutherland's winking Nefertiti is the image of the computer with whom he collaborates. In the movie, the distrust of machinable industrialism is displaced onto feminine sexuality, and both can seduce the weak.[33] Pygmalion's statue and her numerous reincarnations vivify the otherwise lifeless. Maria, the seductive machine, lures one into forgetting one's

responsibilities and deprives operators of their self-awareness. Unlike Pygmalion's sculpture and the robotic Maria, the computer does not appear outwardly anthropomorphic, but through its drawing function it expresses its "ensoulment" as a thinking entity with a human-like face that is sufficient in order for it to "come alive" in the operator's eyes. While Sutherland never provided a reason for his drawing her, it does allow him to envision his computer partner as female, an other with whom he creates a unity.[34]

Ghost in the Machine

Licklider's proposal for a productive dialogue between operators and computers through an intelligent language is developed by Sutherland as drawing. The screen becomes the input-output device that provides a "medium" for this drawn conversation. Licklider described electrical graphical hardware, which he referred to as "Desk-Surface Display and Control" that are used to aid us in tedious tasks by having a colleague with a different set of skills. In his vision of user-computer symbiosis, the designer "could sketch out the format of a table roughly and let the computer shape it up with precision. He could correct the computer's data, instruct the machine via flow diagrams, and in general interact with it very much as he would with another engineer, except that the other engineer would be a precise draftsman, a lightning calculator, a mnemonic wizard, and many other valuable partners all in one."[35] In this statement, Licklider describes the computer as "another engineer" who has the abilities of a "wizard" that are valuable for an engineer who is using the computer. Clearly, Licklider envisions the beneficiary of this symbiotic partnership with the computer to be an engineer.

Sutherland relates his approach to engineering drawing. In an interview, he revealed a past source for his ideas about sketching: "I had been interested in drawings, mechanical drawings in particular, since a very young age. My father was a civil engineer, and I used to look at his blueprints and try to understand what they meant, and what was important in them and what wasn't. So I was able to read mechanical drawings before I ever entered high school. When the opportunity came to use a suitable computer, it seemed the most natural thing to make drawings with it."[36] The engineer is able to benefit from a symbiotic partnership with the computer because the computer is equipped with the skill of following a set of rules to reach an optimum design solution for a predetermined set of constraints, whereas the architect tends to benefit from a different kind of partnership that does not involve following pre-established rules, but rather expands one's thinking. Already in 1928, Le Corbusier, while lauding the skill of engineers, distinguishes them from architects, writing that the engineer is "inspired by the law of Economy and guided by calculations" while the architect "gives us the measure of an order that we sense to be in accord with that of the world," adding that "he determines the diverse movements of our minds and our hearts; it is then that we experience beauty."[37] The computer interface that is used by architects was conceived for engineering, a different discipline.

When computers were introduced into architectural drawing practices later in the twentieth century, the focus was upon imitating the appearance of hand drawings, rather than a careful consideration of the process of constructing drawings and its role in the architect's imagination. One of the challenges in developing Sketchpad was creating a computer drawing system that utilized the capabilities of the computer while providing a familiar drawing platform for the drafter who was accustomed to traditional drawing methods. As a result, the process of drawing in Sketchpad was designed to imitate the appearance of freehand sketching rather than being a careful consideration of the process of constructing drawings. Sutherland believed that freehand sketching was an intuitive drawing technique that was suitable for the computer. With the use of freehand sketching, it was thought, the user of Sketchpad would be able to capture fleeting ideas and record them on the computer screen relatively rapidly, and that then the computer would resolve the geometric aspects of the drawing through its program.

Although freehand sketching is an important component in developing design concepts in architecture, it is also a valuable drawing aid for engineers to develop and communicate engineering designs. In his dissertation, Sutherland described the new line drawing created in the computer as an appropriate structure for the computer's Cartesian coordinate drawing system. These lines were drawn directly on the computer monitor as if it had some of the characteristics of a sheet of drawing paper. Sutherland developed a "light pen" for interacting on the screen as a hand held drawing tool that resembled a fountain pen in shape and size. Using the rather heavy and cumbersome light pen on the screen's vertical surface was more awkward than the traditional horizontal instrumented drafting board. Sutherland described the Sketchpad line segment as a "rubber band" that is stretched from an identified starting point to an endpoint that is chosen second. Unlike a traditional line which is "drawn" across a surface and retains the character of its

making, the Sketchpad line is the straight connection between two points selected with the light pen on the Cartesian coordinate system of the computer screen. A Sketchpad drawing therefore eliminates the relationship between the hand and body of the drafter that existed in the process of physically produced lines.

Shortly after Sutherland's development of Sketchpad as a two-dimensional drawing system, a three-dimensional expansion called Sketchpad III was created by Lawrence Roberts.[38] Curiously, its title, *Machine Perception of Three-Dimensional Solids,* implies the computer shares a human awareness of depth. Its display mimicked the established three –view orthographic projection that is commonly used in technical drawing.[39] Through descriptive geometry the user of Sketchpad was able to accurately represent the shapes of objects in three dimensions on a two-dimensional support such as paper. This drawing system enabled the Sketchpad user to study actual geometric shapes and their characteristics in a graphic visual form.[40] The nature of the Sketchpad system was ideal for descriptive geometry, because in a Sketchpad drawing, "a cross appeared on the computer monitor which could be recognized by the light-pen as the reference and starting point of the drawing. Moving the light-pen in relation to this initiation point allowed one to draw lines in reference to what was being represented on the computer screen."[41] As a result, the dominant Cartesian mentality pervades computer-based drawing. This method was developed without attending to its impact on the architectural imagination. This "mechanized mimesis" too often overlooks how drawing forms the *habitus* of architectural practices, because it is a largely unspoken, shared body of know-how that is intuitively available to architects as they are working out designs through drawing but that is rarely made theoretically explicit.[42] While focusing upon the immediate problem at hand in a design, designers pre-consciously put to use this bodily cognition of using drawing to think. To properly conceive of electronic media in relation to architectural design practices, one must understand not only the outcomes of the tools that precede it and from which electronic media are molded, but also understand the practices by which the activity of drawing is used for conceptualizing.

The majority of applications that evolved from the Sketchpad system were developed to service the engineering needs of governmental institutions and private agencies that prioritized minimizing cost related to labor and construction. By the time architects adopted CAD systems in their profession, it had already taken a defined shape and had minimal capacity to accommodate the architect's unique needs. A design solution is typically selected from among the proposed alternatives of a computer program. Yet it is the nature of computer programs to eliminate many design possibilities and to dismiss design solutions in which it "thinks" the human-user would not be interested. Pioneers in the field of computer science warned designers not to depend on a partnership with the computer during conception because the computer will never be able to match the human imagination in practicing good aesthetic judgment.[43]

Efficiency

The advantages of the symbiotic relationship between the drafter and the computer that was developed in the Sketchpad system were embraced by governmental institutions and private agencies in engineering related drawing programs. Led by the defense industry, these institutions and agencies were financially capable of integrating the early expensive graphical CAD systems into their operations.[44] Mitchell explained that the earliest architectural drawing software resembled the descriptive system of drafting because the funding for developing these programs came from institutions that were interested in engineering-related aspects of building construction.[45]

The development of graphical CAD systems for architectural applications lagged considerably behind those for engineering applications. However, interest in the potential of computer-aided architectural design grew rapidly in the academic community during the 1960's. As computer technology continued to develop, and as costs of these computer systems decreased, it gradually became an increasingly widespread reality in architectural practice during the early 1970's. Yet, these early applications were still mostly related to the process of building construction and included mechanical calculations, cost estimation, economic analysis, and specification production. Funding for the development of computer-aided architectural design programs after the programs that evolved from Sketchpad were from institutions and agencies that were mainly interested in architectural engineering and civil engineering applications.[46] The general approach was inspired by the idea that if the computer could ascertain the intention of the designer from a few quick lines, then it would be able to complete the drawing task and display the outcome rapidly on the computer monitor. Therefore, the drafter would not need to "waste valuable creative time" in resolving all the geometric aspects of a drawing that could be worked out computationally by the computer.

Interest in drafting-room efficiency and mechanization of drawing long preceded computing. Earlier proposals for standardization of architectural drawing were only partially effective, because the individual hand followed its own rules. With computers the natural resistance of hand drawing to "full mechanization" was removed. The shift to automation with computers makes the drafter no longer in control of tools but instead now subservient to the system of production. With automation, increasingly complex tasks are achieved with decreased user engagement, leading to decreased understanding, for the computer's internal operations are invisible and largely unavailable for creative manipulation. Claude Shannon believed that it is the nature of programming to eliminate potential outcomes that do not support the user's data input and to narrow the displayed outcome based on estimating the user's intention. The result is that the output is increasingly predictable, but within a narrower range of possible outcomes. As technique becomes increasingly rationalized within systems, practice is reduced to production through the redefining of theory as technique.[47] This reduces the need for expertise and judgment in practice and the opportunity for ethical, contemplative actions. Shannon warned against using the computer in tasks that were related to aesthetic judgment, because he believed that the human-user will always be superior

to the computer in this field and that creativity is limited to the capabilities of the computer program.[48] The human user typically selects a design based on the alternatives proposed by the computer program.

The widespread use of computers in architectural drawing is usually justified under the banner of efficiency. Automated drawing is easily absorbed into larger systems. The much-touted efficiency of computing (the trade name *Revit* derives from 'revise instantly') is rarely critically discussed. For whose benefit is greater efficiency pursued? Likely it is neither for the sake of the design nor the inhabitant. Reducing "mistakes" to be worked out between designer and builder on the construction site also reduces opportunities for discussion and creation of improvements to the design that integrates their shared experience. There is a very real likelihood that efficiency translates into control and profit for the powerful construction industry at the expense of architecture.[49] It is not a coincidence that in the new millennium A/E (Architecture and Engineering) firms are being rapidly acquired by enormous construction conglomerates only after the rise of CAD and BIM. In this new scenario, architecture becomes a small service element of the much larger construction industry. Accordingly, the "industry" is now called AEC (Architecture, Engineering and Construction).[50] While most individuals remain motivated to do "the right thing," the primary criteria are not for architecture, and perhaps not even for the future inhabitants of buildings, but for the construction industry. Architectural practice is now increasingly subservient to the construction establishment in large part because the computer allows unified control over what was earlier by its nature an individual activity. The origin of the computer graphic interface was not intended for architectural use and was the product of slight modifications of engineering CAD tools. Consequently, the symbiotic partner in architectural CAD systems that plays a major role in informing many architects' design decisions today is more equipped to aid engineers than architects.

Inter-Face: Toward Symbiotic Touch

According to Ovid, Pygmalion brought his statue to life through touch. Coming to life in a way that was highly tactile recognizes a deeper, total bodily perception of feeling, like blood flowing through one's veins becoming present on the surface of the skin through sound, warmth and color. [51] This multi-sensorial aspect of space in architecture allows the occupant to appreciate the architectural space without reference to visual input.[52]

Licklider emphasized that between humans and computers "creative, interactive communication requires a plastic or moldable medium."[53] Yet we have seen that the dominant interfaces in use are not made for the architecture profession. Watching a television screen may be a fine way to view movies, but why is it presumed to be the most desirable way to design? To engage the total person of the architect in design the interface must take advantage of much more in the way of human multi-sensorial abilities.

Extended thinking through drawing is a very old architectural practice, and the computer offers such a powerful partnership that it need not be limited to the visual. Clicking on typewriter keys and mouse buttons does not connect one viscerally or palpably with a design question. But the interface as a face-to-face conversation could integrate our larger expressive capacity. As Licklider pointed out at the outset of the computer graphic interface, we need to feel the expression in each other's eyes and hear the tone of voice as much as the words that are written for deeper understanding.[54] He called it a more profound change than the printing press and the picture tube. The opportunities of the computer as a symbiotic partner in design – not just in technology – while largely untapped, remain enormous. As Sutherland suggested, the task of the computer display should be to serve as many senses as possible and not be limited to serving vision. He believed that computer displays of smell, taste and sound would act as powerful tools for the human designer working at the computer.[55]

Denis Diderot, known for the great *Encyclopédie*, in 1765 described a sculpture of Pygmalion: "What softness of flesh; no, this is not marble; press it with your finger and the material which has lost its hardness, will yield to your impression" [56] (Figures 1+2). When we touch the computer, it touches us in return.[57] This could be the basis of a larger partnership in architectural design with computing.

Images

Figure 1. Drawing after Gian Lorenzo Bernini's *Pluto and Proserpina*, 1621-22. (Drawing by D. Kassem)

Figure 2. Drawing after Jean-Léon Gérôme's *Pygmalion and Galatea*, c.1890. (Drawing by D. Kassem)

Figure 3. Robot Maria, *Metropolis*, 1927. (By courtesy of Eureka Entertainment Ltd.)

Figure 4. Robot Maria, *Metropolis*, 1927. (By courtesy of Eureka Entertainment Ltd.)

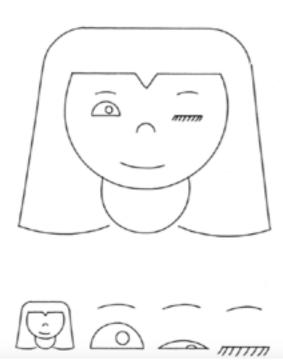Figure 5. Sutherland operating Sketchpad on the TX-2 computer at MIT, 1963. (By courtesy of MIT)

Figure 6. Winking Girl (Nefertiti), Sutherland, Sketchpad Dissertation, 1963. (By courtesy of MIT)

Notes

1   Ovid, *Metamorphosis*, Book X, 239f. Pygmalion's statue went unnamed until 1763, when Jean-Jacques Rousseau's opera *Pygmalion* named her Galatea. George Hersey, *Falling in Love with Statues, Artificial Humans from Pygmalion to the Present* (Chicago: University of Chicago Press, 2009), 101.

2   *Metropolis* (1927), with portions restored (Argentina, 2008), Dir. Fritz Lang, Universum Film AG (U.F.A. Erich Pommer).

3   Albert Anthony, "Menacing Technologies: Counterfeit Women and the Mutability of Nature in Science Fiction Cinema," *Fem Spec,* Vol. 5, no. 1 (2004), 1017.

4   Paula James, *Ovid's Myth of Pygmalion on Screen: In Pursuit of the Perfect Woman* (London: Continuum, 2011), 119f.

5   Mircea Eliade, *The Forge and the Crucible, the Origins and Structures of Alchemy* (Chicago, 1978) 29. Architects' tools have sometimes been found interred in the buildings that they designed.

6   Louvre, Paris. See Flemming Johansen, *Statues of Gudea, Ancient and Modern; Mesopotamia,* Vol. 6 (Copenhagen: Akademisk Forlag, 1978).

7   Lon R. Shelby, "Medieval Masons' Tools. II. Compass and Square" *Technology and Culture* 6, no. 2 (Spring, 1965) 236-248. Maya Hambly, *Drawing Instruments, 1580-1980* (London: Sotheby's, 1988). H.W. Dickenson, "Ancient Drawing Tools" *Transactions of the Newcomen Society* 27 (1949-51), 73-83.

8   Joseph Rykwert, "Organic and Mechanical," *Res: Anthropology and Aesthetics* 22 (Autumn, 1992), 11-18.

9   Vitruvius, 10. 1. 3, transl. Richard Schofield, *Vitruvius on Architecture* (London: Penguin, 2009), 278.

10   R.T. Gunther, ed., *The Architecture of Sir Roger Pratt* (New York: Benjamin Blom, 1972).

11   Martin Heidegger, *Being and Time*. James J. Gibson, "The Theory of Affordances" in *Perceiving, Acting, and Knowing*, edited by Robert Shaw and John Bransford (1977).

12   J.D. North, "The rational behavior of mechanically extended man" (September, 1954), cited in Licklider, "Man-Computer Symbiosis" p. 2. Ivan Illich in David Cayley, *The Rivers North of the Future: The Testament of Ivan Illich as told to David Cayley* (Toronto: Anasi, 2005), 162. Giorgio Agamben, *What is an Apparatus?*, David Kishik and Stefan Pedatell, trans. (Stanford University Press, 2009), 15.

13   J.C.R. Licklider and Robert Taylor, "The Computer as a Communication Device," *Science and Technology* (April 1968), 21-41.

14   Doron Swade, *The Difference Engine: Charles Babbage and the quest to build the first computer* (New York: Viking, 2001).

15   Joseph Carl Robnett Licklider, "Man-Computer Symbiosis," *IRE Transactions on Human Factors in Engineering*, Vol. HFE-1 (March, 1960), 4-11.

16   Licklider, "Man-computer symbiosis," 1960, 9.

17   Licklider and Taylor, 1968.

18   Donald Michie, *The Creative Computer: machine intelligence and human knowledge* (New York: Viking, 1984), 17.

19   Russell Morash, "Computer Sketchpad," in *Science Reporter*, Lowell Institute Cooperative Broadcasting Council, ed. (Cambridge: MIT, c. 1960s).

20   Licklider, "Man-Computer Symbiosis," 4.

21   Biological mutualism is any relationship between individuals of different species where both individuals benefit. Some symbiotic relationships are obligate, meaning that both symbionts entirely depend on each other for survival. Others are facultative, meaning that they can, but do not have to live with the other organism. Licklider seems to imply an obligate relationship between human and computer, though he also qualifies it with a mutualist relationship.

22   Ivan Sutherland, *Sketchpad: A man-machine graphical communication system* (Cambridge: MIT Dissertation, 1963), 8.

23   Licklider, "Man-Computer Symbiosis," 4.

24   Claude Shannon, *Claude Elwood Shannon: collected papers*, N.J.A. Sloane, A.D. Wyner, eds (New York: IEEE Press, 1993), 691.

25   Christopher Alexander, *Architecture and the Computer; Proceedings of the first Boston Architectural Center Conference* (Boston, Mass.: Boston Architectural Center, 1964), 52.

26   Ingeborg Rocker, "Interface: Between Analog and Digital Systems" in *LIFE information, on Responsive information and variations in architecture: Proceedings of the 30th Annual Conference of the Association for Computer Aided Design in Architecture (ACADIA)* (New York: Cooper Union, 2010), 53. Don Ihde, *Bodies in Technology* (Minneapolis: University of Minnesota Press, 2002), 97-8.

27   Richard Noakes, "Instruments to Lay Hold of Spirits: Technologizing the Bodies of Victorian Spiritualism," in *Bodies/Machines,* Iwan Rhys Morus, ed. (London: Berg, 2002), 125-163.

28   Nicholas Negroponte, *Being Digital* (New York: Vintage, 1996), 103.

29   Licklider, "Computer as a Communication Device," 1968, p. 21.

30   Clifford Geertz, "Thick Description: toward an Interpretive Theory of Culture" in *The Interpretation of Cultures: selected essays* (New York: Basic, 1973), 6.

31   Sutherland refers to his drawing of Nefertiti as "cartooning." Sutherland, 107. Her appearance and winking are also comparable to the famous early cartoon character Betty Boop. Invented in 1930 and still well known, her flirtatious wink is famous and the phrase "made of pen and ink, she will win you with a wink" introduced Betty's cartoons. Like Sutherland's winking cartoon girl, Betty Boop ruptured divisions between reality and representation.

32   Earl Ertman, "Nefertiti's Eyes" *Archaeology,* Vol. 62, no. 2 (March/April 2008), 28-32.

33   Albert Anthony, "Menacing technologies: Counterfeit Women and the Mutability of Nature in Science Fiction Cinema," *Fem Spec,* Vol. 5, no. 1 (2004), 1-17.

34   Telephone Interview with Ivan Sutherland, Dalal Kassem, 2013.

35   Licklider, 1960, p. 9.

36   Karen Frenkel, "An interview with Ivan Sutherland," *Commun.* ACM 32, no. 6 (1989), 712-3.

37   Le Corbusier, *Toward an Architecture*, trans. John Goodman (Santa Monica: Getty Research Institute, 2007), 92.

38   Lawrence Roberts, *Machine Perception of Three-Dimensional Solids* (Cambridge: MIT Dissertation, 1963).

39   John Rule and Steven Coons, *Graphics* (New York: McGraw-Hill, 1961).

40   Riccardo Migliari, "Descriptive Geometry: From its Past to its Future," *Nexus Network Journal* Vol. 14, no. 3 (2012), 555.

41   Rocker, 56.

42   "Mechanized mimesis" is a term coined by Mario Carpo, cited in Daniel Estévez and Gérard Tiné, "Project and Projections: Some advantages of the principle of opacity" in *Perspective, Projections and Design: Technologies of Architectural Representation*, Mario Carpo and Frédérique Lemerle (London: Routledge, 2008), 163-4. Paul Emmons, "Demiurgic lines: Line-making and the architectural imagination" *Journal of Architecture* Vol. 19, no. 4 (2014), 1-24.

43   Licklider.

44   Norman Sanders, "An Industry Perspective on the beginnings of CAD" *SIGCSE Bulletin*, Vol. 40, no. 2 (June, 2008), 128-134.

45   William J. Mitchell, *Computer-aided Architectural Design* (New York: Van Nostrand Reinhold, 1977), 15.

46   Mitchell, ibid., 16.

47   Alberto Pérez-Gómez and Louise Pelletier, *Architectural Representation and the Perspective Hinge* (Cambridge: MIT Press, 1997), 174.

48   Claude Elwood Shannon, *Claude Elwood Shannon: collected papers*, ed. N. J. A. Sloane, A. D. Wyner, and Ieee Information Theory Society (New York: IEEE Press, 1993), 691.

49   Daniel Bell, "Work and its Discontents: The Cult of Efficiency in America" in *The End of Ideology* (Glencoe: 1960). Anson Rabinbach, *The Human Motor, Energy, Fatigue and the Origin of Modernity* (New York: Basic, 1990). Michel de Certeau, *The Practice of Everyday Life*, trans. Steven Rendall (Berkeley: University of California Press, 1984), 175-6. The rationalization of construction documents is sometimes translated into the absurdity of building the drawing.

50   *Mastering Revit* (2010), 5.

51   George Hersey, 95-6.

52   Marco Frascari, *Eleven Exercises in Architectural Drawing* (London: Routledge, 2012).

53   Licklider and Taylor, 22.

54   Licklider and Taylor, 23. Face to face communication allows externalizing models so people can be sure they are talking about the same thing.

55   Ivan Sutherland, "The Ultimate Display" (paper presented at the Proceedings of IFIP Congress, 1965).

56   Diderot, 1765, quoted in Hersey, 97.

57   Negroponte, 133-4.

About the Authors

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Dressing the Port, Re-Dressing the Square: Signs and Signifiers in the Urban Landscape of Famagusta, Cyprus, 1291-1571

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Abstract

This article discusses and interprets the development, urban topography and main signifiers of the port city of Famagusta, Cyprus between the 14th and 16th centuries. It traces the city's three distinct patterns of development, directly paralleling the three administrations in the years constituting the late Lusignan, Genoese and Venetian periods:

In the late Lusignan period (1291-1373), the city's initially unfortified waterfront becomes a collection of socio-urban clusters of merchants and others that echoes their mother cities' socio-cultural and visual heritage. Simultaneously, at the urban core, in the area surrounding the central square, the rising Cathedral of Saint Nicholas (c.1300-c.1340) and the expanding Palace of the Lusignan become physical and symbolic bookends for the city's most important civic space.

In the late 1360s, on the eve of the Genoese occupation, and due to the construction of the city's fortifications, the merchant administration centers relocate to the area surrounding the main square, superimposing their loggias onto the urban core. Nearby, the impressive Church of Saints Peter and Paul, constructed with eastern merchant funding, reiterates the balance of power at this time and completes the area's urban identity. Throughout the years of Genoese administration (1373-1464), financial and political difficulties deny the city of further development, resulting in a humbler, if not outright neglected, urban

fabric. Nevertheless, a surviving building in the square, possibly the Catalan loggia, can attest to continuous construction during this time.

During the Venetian Period (1473-1571) this situation is partially reversed when a series of defensive and civic renovation works are undertaken. In the prevailing spirit of the Renaissance, Venetian authorities redress a number of structures such as the Castle and Sea Gate by the port (1490s-1520s), and the Palace in the main square (1540s-1550s), appropriating spolia from the island's ancient past within a uniquely Venetian cultural and urban narrative.

1. URBAN COLLECTIVES: FAMAGUSTA AND ITS WATERFRONT IN 1291

The port city of Famagusta lies in the middle of a large bay which forms the eastern shores of Cyprus. In the city's vicinity, a series of settlements sheltered socio-urban development and cultural production from prehistory through early Byzantine times. The last and most significant of those settlements, Salamis, was abandoned following a series of destructive raids and earthquakes between the 6th and 9th centuries AD. Famagusta, whose Greek name Αμμόχωστος literally translates as 'buried in sand', was founded in the 10th century at a distance of five kilometers to the south of Salamis as the main eastern port of the restored (but distant) Byzantine province of Cyprus.

From the Rise of a Lionheart to the Fall of Acre

During the first two hundred years of its development the city was rarely mentioned in imperial documents or other sources. That was to change quickly when Cyprus was captured from the Byzantines by the English King Richard the Lionheart in 1191. While on his way to Jerusalem during the third crusade, Richard swiftly defeated the island's local rebellious ruler. He immediately sold Cyprus, first to the Templar Knights and, following a disastrous and violent year-long rule by the Knights, he then re-sold it to the Lusignan, a longtime crusading family from the same-named town in the Poitou region of western France.

Famagusta's importance, situated as it was just across the waters from the threatened and fragile Holy Land Crusader Kingdoms, was quickly understood by the Lusignan. Accordingly, throughout the 13th century the island's new ruling family undertook civic, defensive and religious works in the city, which grew to become the second largest in Cyprus (following the capital, Nicosia), surpassing in both size and

significance the older port towns of Limassol and Paphos, respectively situated on the island's southern and western shores.

The fall of Crusader Acre in 1291 signaled the definitive collapse of the Holy Land Crusader Kingdoms and simultaneously led to the further development and growth of Famagusta. Thousands of refugees settled in the city, and merchants from across Europe and beyond adopted it as their port of call and primary node of commercial and cultural exchange.

Merchant settlers resided in fairly easily identifiable areas of Famagusta, joining smaller, preexisting communities of fellow citizens. Significantly, these quarters were not legally or physically exclusive, as had been the case in Acre and other Crusader cities in the Holy Land, but were rather areas which fell within the authority of the island's royal domain, in which merchants comprised an increasingly large percentage of the population.[1] The core of the growing Genoese, Venetian, Pisan and other communes of Famagusta was naturally located at the water's edge, by the port. Micro socio-urban versions of the merchants' mother cities developed along Famagusta's initially unfortified seafront:

A Genoese Waterfront

Genoese settling in Cyprus can be traced back to at least as early as 1203,[2] and a decade later Queen Alice granted Genoa various privileges, among them land in Famagusta in order to construct "houses".[3] Perhaps it was the same site that King Henry I (re)-granted the Genoese in 1232, one that was bound on one side by an adjacent house, on two sides by streets, and on the fourth by the sea.[4] In turn, this is probably the same property that yielded rents in 1249, and almost certainly can be identified as the site that developed into the official Genoese *loggia*, when in 1299 a galley docked directly alongside it.[5]

A Genoese notary named Lamberto di Sambuceto recorded this last information. Lamberto worked in Cyprus, mostly in Famagusta, from as early as 1294 until his departure for Genoa in 1307. As official 'notary and scribe' of the Genoese commune in Famagusta until 1300, he conducted the majority of his business in the Genoese *loggia*.[6] Numerous Genoese citizens and protégés feature in Lamberto's documents, some as part of the royal family's official staff (*criers* or *jurats*), others dealing in the clothing trade, some accepting or investing sums of money, others buying property.[7] Naturally, the forty-six will documents that are found in Lamberto's Cyprus registers concern, in their vast majority, citizens of Genoa. Of those, about two thirds were merchants or temporary visitors to Famagusta,[8] often persons renting residential properties by the port, near the *staciones* of the Genoese commune and the fish market.[9] The Genoese-dominated merchant quarter of Famagusta was thus in full development by 1301, when a Genoese *podestà* arrived to replace and upgrade the previous Genoese administration (consul), and included the *loggia*, the adjoining *staciones* or *fondaco*,[10] various shops and leased properties, and the city's fish market.

There exists no documentation whether a church dedicated to San Lorenzo was ever constructed in the quarter, as had been the wish of Famagusta's Genoese community in 1301,[11] but during the same year the Genoese *loggia* did possess a chapel dedicated to Saint George,[12] Genoa's patron saint. At the same time, a Hospital of Saint Anthony, which adjoined the fish market and the Genoese *loggia*, is linked in many documents to Famagusta's Genoese community.[13] The ruins of the church of Saint Anthony (Figure 1), identified as such in the late 19th century, can still be seen inside Famagusta's harbor wall, between the Sea Gate and the Arsenal.[14]

Diversifying the Port: Venice, Pisa and Marseilles in Famagusta

Venice already enjoyed substantial commercial and trading ties with the Byzantine province of Cyprus well before 1191. Throughout the 13th century, Venetians acquired various privileges from the Lusignan, including fiscal exemptions, judicial autonomy and substantial land properties.[15] However, Venetian-Lusignan relations fluctuated greatly during this time, and even as late as 1291 Venice was still not as established on the island as Genoa was.[16] The substantial influx of Venetian citizens and protégés from the fallen Crusader Kingdoms, especially Acre, altered this situation.

A document of 1302 includes Venice's persistent request for either the granting of, or permission to acquire, churches, streets, squares, and *loggie* in Nicosia, Limassol and Famagusta.[17] Lamberto di Sambuceto writes that in the same year a Genoese-owned house was found next to Famagusta's Venetian *loggia*,[18] and yet another mention from 1302 locates the Venetian *loggia* by the sea, next to the city's customs house or *commerzium*,[19] permitting us to localize the core of the Venetian quarter also by the sea, adjoining the port's royal center of commercial activity and control. Though a treaty of 1306 denied the Venetians the granting of a complete (and thus safer) urban quarter they had requested four years earlier,[20] there is no doubt that, by that year, both perceived and actual, physical Venetian presence at the port of Famagusta had began to rival that of Genoa.

The Republic of Pisa also had commercial relations with Cyprus since the first crusade,[21] enjoyed exemptions and privileges throughout the 13th century, and operated out of Limassol, until then the island's major port, as Genoa and Venice had done.[22] While even into the 1290s, and despite its fateful 1284 defeat by Genoa in the Battle of Meloria, Pisa continued to maintain its center of activity and administration in Cyprus at Limassol. Famagusta was by then home to a Pisan consul and a growing community,[23] and a number of Pisan brokers and middlemen still conducted merchant transactions there in the early 1300s.[24] Also in 1302, and despite not having a substantial population in Famagusta, Marseilles maintained a consul and a prominent *fondaco* at the port,[25] certainly in order to safeguard its commercial privileges and interests in the quickly growing city.

2.BISHOPS, KINGS AND MERCHANTS IN THE CITY CENTER: STAGING THE SQUARE, 1291-1473

Only about 300 meters away from the port and its swelling, dense merchant quarter, Famagusta's main square was taking shape in what was becoming the geographic middle of the quickly growing urban landscape. During the 1290s and well into the following decades, the square was flanked to the east by the construction site of the city's new cathedral church, and to the west by the expanding royal palace, residence of the Lusignan whenever they found themselves in Famagusta. Throughout the 14th and 15th centuries, the square provided a stage for almost the entirety of coronations, celebrations, processions, disagreements, fights, and open conflicts between the royal domain, the church authorities, the mercantile communities, and the various nations now dwelling the city. Modifications of existing buildings and new constructions surrounding the square signified, to both residents and visitors to the city, shifts in alliances and affiliations, changes in political power, and military occupations.

Between Cathedral and Palace: The Main Square in the Fourteenth Century

The Cathedral of Saint Nicholas still towers in the east side of the main square of Famagusta.[26] The building is a late 13th century massive reconstruction of an existing church,[27] and construction phases appear to span the first four decades of the 14th century.[28] Though the impressive façade of Saint Nicholas (Figure 2) has been 'appropriated' by a number of art historians and is still variably described as influenced by contemporary High Gothic styles of regions of France or Germany, without a definitive answer the reality on the ground must have been that, entering the square from the street leading west out of the port, the cathedral gave one the perception of arriving into the center of a developing and prospering city at the core of Europe. Attached to the north side of Saint Nicholas was the Latin bishop's residence with its adjoining garden and a number of mansions belonging to the nobility, all of these further reinforcing the impressive visual impact of the square's east side.

It is again from Lamberto di Sambuceto, in two documents dated April 28, 1300, that we first learn of the *logia domini regis*, situated on the square's west side.[29] The chronicles note that ten years after these mentions, Amaury of Tyre, usurper of the throne between 1306 and 1310, ordered urban works to be conducted in the city, reflecting the realities of the city's quickly growing population and size, but also its fearing Ottoman (and possibly Crusader) threats. These works included reformulating and widening works for the main square.[30] It appears that the dense urban fabric, some of which still exists east of the church of Saints Peter and Paul at the southwest end of the square,[31] was a safety concern for Amaury.

Unfortunately for him, the restructuring of the square did not alter history's route, and following his 1310 assassination, his brother King Henry II returned from exile and initially resided not in the capital, Nicosia, but at the royal court in Famagusta. There he constructed a bridge connecting the court to the church and monastery of Saint Francis, located at the northwest corner of the square.[32] The Franciscans were favored by Henry, who often sought meditative refuge in their church via this bridge. Henry's successors, Hugh IV and Peter I, the former a humanist and patron of the Arts, and the latter a warrior and patron of the idea of Crusade, dwelled in Nicosia, but often stayed in Famagusta with their courts. Henry's bridge and spiritual refuge was quickly forgotten and sadly converted into a shooting gallery.

By the time of Peter's reign (1359-1369), the chronicles and visitors recount that both his royal court and the city of Famagusta lived in "unimaginable wealth and unspeakable sin." It is thus not surprising that Saint Bridget of Sweden arrived in the city in 1372, consulted with the royals and preached to the people gathered in the square for the event, hoping to rid Famagusta of the "malignant devil" encroaching it.[33] Her efforts did not bear fruit, and divine wrath descended less than a year later in the form of Genoese galleys. Following months of conflict and negotiation, the city was surrendered to Genoa in return for peace, with the condition that all Cypriot trade be conducted via Famagusta, and thus monopolized by Genoa.

The Loggias Relocate to the Center

While still located by the waterfront as late as 1368, the Genoese, Venetian and Pisan[34] centers of commercial activity had undergone a significant change during the first half of the 14th century: The construction of the eastern city wall, facing the sea, which commenced *circa* 1310[35] and continued with frequent reinforcements in the following decades, materialized along the edge of the merchant quarter. Even if this construction did not necessitate large-scale demolitions within the quarter,[36] a statement of which one cannot be certain, it must have certainly restricted the quarter's further development and prosperity. The previously mentioned church at the hospital of Saint Anthony[37] was constructed *circa* 1330-1350 in this area with a north-south rather than an east-west orientation, obviously due to lack of space between the new walls and the pre-existing street and urban fabric.

Meanwhile, by the mid 14th century, as Eastern Mediterranean trading routes became increasingly constricted, maritime state relations worsened again. Trading conflicts, legal battles and fights spread. Famagusta was not spared: The Venetian *loggia* was still adjoining the *commerzium* in 1368, when during Genoese-Venetian fighting, Genoese fighters climbed on the *commercium's* roof and threw stones into Venice's *loggia*.[38] By now, the constantly quarreling, powerful but suffocating merchants needed not only to have more available space, but also to position themselves closer to the city's center of power. Sometime after 1368, and presumably following a collective treaty, the merchants moved their headquarters

to the middle of the city, superimposing their administration centers onto the central square, the area of the *plathea Famagoste*.[39]

A 1372 incident confirms the new location of the Italian *loggias*: Only four years after the Genoese were throwing stones into the Venetian *loggia* at the harbor, it was now Venetians and Cypriots that encircled the new Genoese *loggia*, located next to Saint Francis, which itself adjoined the north side of the Palace, as mentioned earlier. As the Genoese tried to escape by jumping from their *loggia* into Saint Francis, the mob attacked Genoese shops and merchant houses in the surrounding area before finally being appeased by royal forces[40]. This was the incident, using as pretext ceremonial differences following the coronation of Peter II as King of Jerusalem in Saint Nicholas Cathedral across the square, which resulted in the death of numerous Genoese in the subsequent invasion of Genoese forces, and in the 85-year occupation and administration of Famagusta by Genoa.

On November 27, 1395, more than twenty years following the end of the Cyprus-Genoa war, the notary Nicola de Martoni, on a tour of the Holy Land, landed in Famagusta. He described "fine squares," buildings and impressive fortifications, but was also quick to point out that already a third of Famagusta lay uninhabited and in ruins as a result of Genoese rule.[41] He saw the impoverished Genoese bishop at the cathedral, he visited the palace, which was now residence of the Genoese *Commandante*, and between them he strolled the main square which he described as the "fruit market," and where bread, a great variety of fruit and vegetables, clothes and other goods were sold or auctioned.[42] While under Genoese rule the main square of Famagusta thus acquired humbler uses than its royal past would have imagined, the Italian *loggias* were still functioning in 1420, when Emanuel Piloti specified their location, i.e., "along the great street that began at the main square and led north," and was of the opinion that the Pisan was the most beautiful.[43]

On the other side of the main square, meanwhile, heading west alongside the south façade of the palace, the covered street had long constituted the heart of the central commercial quarter.[44] Along the covered street, numerous merchants set up their *staciones*, small shops in or adjoining arcaded or vaulted spaces.[45] Since the 14th century, wooden balconies often covered the entrances to these shops, and trading places, tables and other urban furniture filled the covered street and the other commercial arteries.

A Merchant Church by the Square

On the covered street's south side, at the southwestern edge of the palace, lies one of the most imposing, intriguing and mysterious monuments of Famagusta, the church identified as that of Saints Peter and Paul (Figure 3). It owes this identification to Camille Enlart who, based on a sixteenth century chronicle, named it and dated it to the mid-14th century.[46] In the 110 years since that assertion, the building was

also proposed to have been an Orthodox foundation of an earlier time,[47] a Latin church of a later time,[48] and even the main church of the monastery of Saint Dominic of Famagusta.[49] The interpretation favoring the Dominican friars does not appear to hold, and it remains most probable that this was the building allegedly constructed with funds amounting to only one-third of the profits made on a single trip to Syria by a prominent Famagusta merchant, Simon Nostrano,[50] descendant of a family that had arrived from the East and settled in the city during the early 14th century.

The church is situated just west of the square in the heart of the commercial district, at the crossroads where the covered street leads west to the artery that exits Famagusta through the Land Gate. And while of the two frescoes uncovered recently in the church's interior, the largest one depicts the Forty Martyrs of Sebaste and poses intriguing questions as to the building's attribution, dedication and history,[51] an unidentified graffiti painted high on the west wall, depicting a sailing ship,[52] could speak to the building's and the neighborhood's history, tradition and memory as the city's area of merchants in the late 14th century.

It was in this landscape of Famagusta's central square area, a simultaneously impressive and decaying urban enclosure surrounded by the towering silhouettes of Saint Nicholas, the Palace and Saints Peter and Paul, and suffering under the draining financial decisions of Genoese colonial administration, that merchants conducted their business in the first half of the 15th century. As a Mamluk attack on the island in 1426 and the plague of 1438 completed an unfortunate pattern of destruction in the city,[53] it was also in the main square that, as part of both the city's università and popolo, based on either their citizenship and/or status, Famagustans took oaths of allegiance first to the Casa di San Giorgio in 1447, when Genoa finally decided to transfer the city's administration directly to its most powerful banking institution, and then to King James II, the last Lusignan ruler of Cyprus, when his men succeeded in recapturing the city in 1464.[54]

3.RE-DRESSING THE PIAZZA:
FRAGMENTS OF THE RENAISSANCE IN FAMAGUSTA, 1473-1571

Following its 1464 recapture by James, largely desolate Famagusta witnessed yet another destructive plague in 1470, an event that prompted the King's appeal to Venice, his ally against Genoa, to send settlers for the repopulation of the cities and villages of the island. The most significant "settler" that Venice responded with was a wife for the Cypriot King. Via a series of clever political maneuverings, young Caterina Cornaro, of the powerful Venetian family, wed James and moved to Cyprus. It was through James's death in 1472, and the abdication of Caterina in 1489, that Venice would finally rule over Cyprus as its colony.

The sixteenth century indeed saw the city's fortunes reverse, through an impressive influx of population and a steady, if of humble scale, revitalization of buildings and neighborhoods. While foreign trade through the port was minimal compared to the 14th century, as new routes to and from the Americas

in the west and Ottoman conquests in the East had redirected commercial focus, the city edged toward its last decades of prominence.

A Final Constructed Act of Non-Venetian Power?

Soon after 1489, Venice would face its first challenge on Cyprus in the form of the powerful earthquake of 1491. This earthquake coincided with a list of grievances presented by the Famagustans to their new ruler across the sea, Agostino Barbarigo.[55] Among others, they wondered what purpose the royal cathedral and Latin bishopric of the city served, since, following the catastrophes and in the absence of a bishop, they lay in ruin and at any moment could collapse.

Back in the Square, by now simply referred to as the *Piazza*, a building still stands as part of that complex of endangered structures that the Famagustans spoke of (Figure 4). It is attached to the south-western corner of Saint Nicholas Cathedral and forms the piazza's southern edge. While the single scholar thus far who engaged this building thought that it dates partly from the late 14th or early 15th century, he reiterated that as a whole the building should be dated a century later, at the beginning of Venetian rule.[56] In a well-known late 19th century interpretation, he also mentioned that *colonnettes* in the Cathedral, taken from this building, "are in the Aragonese style, identical to ones in the cloister of Saint Anne in Barcelona and others in the Barcelona archaeological museum," and he thought the whole structure was a Catalan work of the late 15th century.[57]

Could this be a work initiated and/or funded by the Catalan Luis Perez Fabricius, Archbishop of Cyprus in the 1470s,[58] or even the Catalan *loggia* of the time, of which a few commentaries survive?[59] The Catalans had a significant presence in 15th century Cyprus. Following King James' death in the year 1472, it was the continued Catalan plots,[60] especially the one to abduct the Queen and wed her to Alfonso of Naples in 1488, which led to the final Venetian push for Caterina to abdicate[61] and to the end of Catalan influence on the island. It is thus possible that the Venetians renovated an existing building, possibly Fabricius' disused bishopric or the Catalan *loggia*, in their attempt to give the piazza a post-1491 renewed, civic, Renaissance, and most of all Venetian, character.

This hypothesis on the building's possible 15th century uses is reinforced by the fact that the structure initially carried a second floor, since a stairway survives attached to its side, outside the piazza, and there are vestiges of balconies. The archway to the street, much less decorated with the attached stair to its side, and the balcony above it, would suggest an entry from the piazza into an interior cortile, and not leading out to a street, accounting for either a bishop's residence after the wishes of the Catalan Archbishop, or a commercial loggia for the Catalans with a colonnade on the second floor looking out on the piazza.

The 6-meter marble slab with acanthus and other natural motifs surviving at the side of this build-

ing, left of the grand archway, appear to have been a final "urban furniture" addition by the Venetians to the renovation of this building. Researchers have mentioned the abandoned Hellenistic to early Byzantine city of Salamina, 5 km north of Famagusta, as provenance of this piece. In fact, throughout Venetian rule Salamina was repeatedly the architectural quarry for additions and decorations to new or renovated buildings, and the piazza of Famagusta bears multiple testimonies to that.

The Palace of the Proveditors

The *Palazzo dei Proveditori* dominates the *piazza's* west side. During Caterina's reign (1473-1489), the complex still stood as the 14th century Lusignan palace and the 15th century Genoese commander's residence. Caterina initially resided there. Intimidated by her Venetian brethren while continuously insisting that she deliver the island to Venice the *Serenissima*, she lived in forced isolation. For months she dealt with uncertainty, uprisings and assassinations right in the palace halls and courtyards.[62] On an April morning, standing at the main stairway, Caterina's father, Marco, shouted into the square that the queen and her family were prisoners in their own court.[63]

It wasn't until a slave stormed into the royal bedroom waving a dagger at her in early 1474[64] that the queen was finally convinced to hand the Palace to the Proveditors and move into a smaller, safer mansion just north of the *piazza*, one adjoining the Venetian *loggia*. Two years following that move Caterina left her new, humbler Palazzo for the capital, Nicosia. Under Venice the *Serenissima*'s watchful eye, she ruled Cyprus from Nicosia's Royal Court between 1476 and 1489. In Famagusta, a late 15th century singular façade north of the *piazza's* west side is in all probability what still remains of either the 1474-1476 "*Palazzo della Regina*"[65] or the renovated Venetian *loggia*.[66]

Between 1487 and 1489, visits from Venice by members of Caterina's family, including her mother and brother, had as intent to persuade her to relinquish power[67]. Against both her and her subjects' wishes, Caterina finally gave in. On February 15th, 1489, she left Nicosia for Famagusta, dressed in black and veiled, in a tearful procession. As she exited the court, soldiers summoned by the Venetians shouted "*Marco, Marco*", while citizens wept.[68] A solemn mass was held upon her arrival in Famagusta, and the standard of the Venetian Republic was raised in front of the palace in the piazza.[69]

The marble slabs above the city's Sea Gate and citadel entrance conserve the dates 1491 and 1496, and the names of Proveditors Nicolo Foscarini and Nicolo Priuli.[70] It may have also been at this time that the palace's damaged Great Hall was replaced by a rectangular, two-storey building, constructed in a simple, disciplined High Renaissance manner. Its north and west outer walls still tower today, overlooking the medieval windows of Saints Peter and Paul across the empty court.

Work on Famagusta's fortifications was naturally the primary care for Venice in her effort to head

off an Ottoman attack. This work, interrupted by the destructive War of Cambrai, resumed in the 1520s and 1530s and involved the Sanmichelis. The date 1544 is conserved above the Land Gate at the city's southwest end.[71] It was also in the 1540s, one of the most stable decades of Venetian rule in Cyprus, that the city's authorities felt the need for a "redressing" of the old palace. A new façade was constructed in front of the fourteenth century structure (Figure 5).[72] The marble coat of arms of Capitano Giovanni Renier on the keystone of the central arch is dated 1552.[73]

The Columns and the Sarcophagus

The 1571 map of the Ottoman siege of Famagusta, published in Brescia by Stephano Gibellino, bears an index which has shed considerable light in the topography of the city under Venetian rule. The first item on the index, one might imagine the most significant, reads: *"S. Nicolo, Domo di Franchi, davanti al qual gli e l'arca di Venere posta fra due colonne"*.[74] This designation, filled with Renaissance imagination and conviction that the tomb of Venus lay in the middle of Famagusta's *piazza*, reflects a long and continuous Venetian attitude towards the Classical past and its re-appropriation.[75]

Another Stephano contemporary to Gibellino, the Cypriot chronicler Lusignan, mentions the discovery of the tomb of Venus during excavations in 1564, and retells her life as Queen of Cyprus.[76] The imagining of Venus as Queen of Cyprus predates Lusignan and Gibellino's time, as it is also tied to the beginning of Venetian rule and Doge Agostino Barbarigo, the recipient of the 1491 list of complaints by Famagusta's *universita*[77]. Two years earlier, in February 1489, Barbarigo had also received Caterina Cornaro in Venice following her final departure from Cyprus, sailing with her to the Piazza San Marco on the Bucentaur in a rare and splendid ceremony.[78]

In the same year Barbarigo proudly decided to showcase the inclusion of Cyprus in the *Stato di Mare* by his commission to the Lombardo workshop of four fireplaces in the Doge's apartment at the Palazzo Ducale in Venice. The apartment was ready by 1492. Richard Cocke has recently argued that two of the fireplaces show Cyprus as Venus and Crete as Jupiter flanking Venice as the Lion of St Marc, among *amoretti* and cornucopias representing the abundance of agricultural products connected with Venice's new island possession, which was to be its breadbasket for the next century. The importance of the marble sarcophagus as the Goddess's tomb between the two columns (Figure 6) with the winged lion in the middle of the *piazza* is thus of significant symbolism, and together with the Ducal fireplaces it completes a Cyprus-in-Venice and Venice-in-Cyprus cycle of representations which would last on through to the final days of Famagusta as part of the Venetian empire, that is, until the city was overrun by the Ottoman army following a year-long siege in 1571.

SUMMARY

The urban topography of Famagusta and its main signifiers between the 14th and 16th centuries follow three distinct patterns of development, directly paralleling the city's three administrations in the years constituting the late Lusignan, Genoese and Venetian periods. In the late Lusignan period (1291-1373), following Famagusta's post-1291 explosive growth, the city's initially unfortified waterfront grew to become a collection of socio-urban clusters of merchants and other dwellers that echoed their mother cities' socio-cultural and visual heritage. At the urban core, in the area in and around the central square, the rising Cathedral of Saint Nicholas (c.1300-c.1340) and the expanding Palace of the Lusignan became physical and symbolic bookends for the prospering city's most important civic space. In the late 1360s, on the eve of the Genoese occupation, and partly due to the constructions of the city's extensive fortifications, the merchant centers of administration relocated to the area surrounding the main square, superimposing their *loggias* onto the urban core. The imposing Church of Saints Peter and Paul, constructed with eastern merchant funding in the area of the square, reiterates the balance of power in the city at this time and completes the area's urban landscape. During Genoese administration (1373-1464), financial and other difficulties denied the city of further development, resulting in a neglected and humbler urban fabric. Nevertheless, a surviving building in the square, possibly the Catalan *loggia*, can attest to continuous construction during this time. This situation was partially reversed during the Venetian Period (1473-1571), when a series of both defensive and civic renovation works were undertaken, especially in the 1490s, the 1520s, and the 1550s. In the prevailing spirit of the Renaissance, Venetian authorities redressed a number of structures such as the Castle and Sea Gate by the port (1490s-1520s), and the Palace in the main square (1540s-1550s), appropriating the island's ancient past within a uniquely Venetian cultural and urban narrative.

Late medieval and Renaissance Famagusta can thus be understood as an unusually multicultural port city for its time and geographic location which, unlike earlier examples in the Holy Land Crusader Kingdoms, was deliberately given a unified, fortified character and form by the Lusignan. This was a socio-urban form which Famagusta would not lose through the Genoese and Venetian periods. Within this form dwelled citizens of all social strata, including visitors and merchants of various ethno-linguistic and religious groups—often uneasily and in competition, but by necessity shaping an unavoidably common urban fabric of unique architectural and cultural richness.

Images
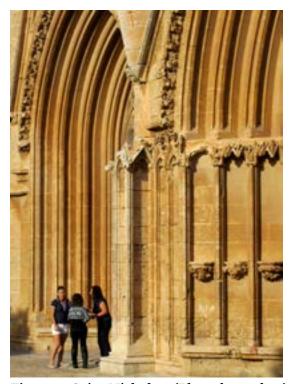

Figure 1. Saint Anthony. (Photo by author)

Figure 2. Saint Nicholas. (Photo by author)

Figure 3. Saints Peter and Paul. (Photo by author)

Figure 4. Saint Nicholas and Unidentified Building. (Photo by author)

Figure 5. Palazzo. (Photo by author)

Figure 6. Columns in the Piazza. (Photo by author)

Notes

1   Michel Balard, "Famagouste au Début du XIVe Siècle," in *Fortifications, Portes des Villes, Places Publiques dans le Monde Mediterraneen*, ed. Jaques Heers (Paris: Université de Paris-Sorbonne, 1985), 294; Benjamin Arbel, "Urban Assemblies and Town Councils in Frankish and Venetian Cyprus," in Πρακτικά του Δεύτερου Διεθνούς Κυπρολογικού Συνεδρίου, ed. Theodoros Papadopoullos, vol. 2 (Nicosia: Society of Cypriot Studies, 1986), 203; Peter Edbury, "Famagusta in 1300," in *Cyprus and the Crusades*, ed. Nicholas Coureas and Jonathan Riley-Smith (Nicosia: Society for the Study of the Crusades and the Latin East, and Cyprus Research Center, 1995) 346; Angel Nikolaou-Konnari, "Greeks," in *Cyprus: Society and Culture 1191-1374*, ed. Angel Nikolaou-Konnari and Chris Schabel (Laiden: Brill, 2005), 17.

2   Louis de Mas Latrie, *Histoire de l'Île de Chypre sous le Règne des Princes de la Maison de Lusignan,* vol. II (Paris: Imprimerie Nationale, 1852), 39; David Jacoby, "The Rise of a New Emporium in the Eastern Mediterranean: Famagusta in the Late Thirteenth Century," in Μελέται και Υπομνήματα 1 (Nicosia, 1984), 159.

3   Mas Latrie, *Histoire*, II, 39; Jacoby, "The Rise of a New Emporium," 159.

4   Mas Latrie, *Histoire*, II, 54; Edbury, "Famagusta in 1300," 338.

5   Michel Balard, ed. *Notai Genovesi in Oltremare. Atti Rogati a Cipro da Lamberto di Sambuceto, 11 Ottobre 1296 – 23 Giugno 1299*, vol. 39 of *Collana Storica di Fonti e Studi diretta da Geo Pistarino* (Genoa: Università di Genova, 1983), 167; Edbury, "Famagusta in 1300," 339.

6   Peter Edbury, "Famagusta Society ca.1300 from the Registers of Lamberto di Sambuceto," in *Die Kreuzfahrerstaaten als Multikulturelle Gesellschaft. Die Rolle der Einwanderer in Kirche, Staat, Verwaltung, Wirtschaft und Kultur*, ed. H. E. Meyer (Munich: R. Oldenbourg Verlag, 1997), 87-88. The Genosee *loggia* was an establishment that already in 1300 merited a full-time guardian (Jacoby, "The Rise of a New Emporium," 163).

7   Edbury, "Famagusta Society," 90-91.

8   Peter Edbury, "The Genoese Community in Famagusta around the Year 1300: A Historical Vignette," in *Oriente e Occidente tra Medioevo ed Età Moderna. Studi in Onore di Geo Pistarino*, ed. Laura Balletto (Genoa: Glauco Brigati, 1997), 236-237.

9   Edbury, "Famagusta in 1300," 339-340.

10   Jacoby, "The Rise of a New Emporium," 163.

11   Valeria Polonio, ed, *Notai Genovesi in Oltremare. Atti Rogati a Cipro da Lamberto di Sambuceto, 3 Luglio 1300 – 3 Agosto 1301*, vol. 31 of *Collana Storica di Fonti e Studi diretta di Geo Pistarino* (Genoa: Università di Genova, 1982), 416; Jacoby, "The Rise of a New Emporium," 164.

12   Balard, "Famagouste," 284.

13   Balard, *Notai Genovesi*, 33; Romeo Pavoni, ed, *Notai Genovesi in Oltremare. Atti Rogati a Cipro da Lamberto di Sambuceto, 6 Luglio - 27 Ottobre 1301*, vol. 32 of *Collana Storica di Fonti e Studi diretta di Geo Pistarino* (Genoa: Università di Genova, 1982), 60; Romeo Pavoni, ed, *Notai Genovesi in Oltremare. Atti Rogati a Cipro da Lamberto di Sambuceto, Gennaio - Agosto 1302*, vol. 49 of *Collana Storica di Fonti e Studi diretta di Geo Pistarino* (Genoa: Università di

Genova, 1987), 219, 303; Balard, "Famagouste," 285; Edbury, "Famagusta in 1300," 339-340.

14   On the hospital of Saint Anthony from the 14th to the 16th century see Panos Leventis, "The Urban Landscape of Late Medieval and Renaissance Famagusta, " in *Famagusta*, eds. Gilles Grivaud, Angel Nikolaou-Konnari, Catheirne Otten-Froux and Chris Schabel (Turnhout: Brepols, forthcoming).

15   Jacoby, "The Rise of a New Emporium," 164-166.

16   Jacoby, "The Rise of a New Emporium," 166.

17   Louis de Mas-Latrie, ed, "Nouvelles Preuves de l'Histoire de Chypre," in *Bibliothéque de l'École de Chartes* 34 (Paris: Librairie d'Alphonse Picard, 1873), 55; Jacoby, "The Rise of a New Emporium," 167, provides an incorrect page number for the Mas-Latrie citation.

18   Pavoni, *Notai Genovesi* (1987), 83; Edbury, "Famagusta in 1300," 346.

19   Jacoby, "The Rise of a New Emporium," 171.

20   Mas-Latrie, *Histoire*, II, 102-108; Jacoby, "The Rise of a New Emporium," 179; Edbury, "Famagusta in 1300," 351.

21   Catherine Otten-Froux, "Les Pisans en Chypre au Moyen-Age," in Πρακτικά του Δεύτερου Διεθνούς Κυπρολογικού Συνεδρίου, ed. Theodoros Papadopoullos, vol. 2 (Nicosia: Society of Cypriot Studies, 1986), 127-128.

22   Jacoby, "The Rise of a New Emporium," 154-157.

23   Jacoby, "The Rise of a New Emporium," 158-159; Otten-Froux, "Les Pisans en Chypre," 137.

24   Jacoby, "The Rise of a New Emporium," 158; Otten-Froux, "Les Pisans en Chypre," 133.

25   Jacoby, "The Rise of a New Emporium," 172.

26   For art-historical studies of the Cathedral of Saint Nicholas see primarily Camille Enlart, *L'Art Gothique et la Renaissance en Chypre, Illustré de 34 Planches et 421 Figures* (Paris: Ernest Leroux, 1899), 2 vols; edited and translated by David Hunt as *Gothic Art and the Renaissance in Cyprus* (London: Trigraph, 1987), 222-245; and George Jeffery, *A Description of the Historic Monuments of Cyprus* (Nicosia: G.P.O., 1918, reprinted London: Zeno, 1983), 116-127. For more recent interpretations see Philippe Plagnieux and Thierry Soulard, "La Cathédrale Saint-Nicolas", in *L'Art Gothique en Chypre*, ed. Jean-Bernard De Vaivre and Philippe Plagnieux (Paris: Boccard, 2006), 218-237; and Arne Franke, "St Nicholas in Famagusta: A New Approach to the Dating, Chronology and Sources of Architectural Language," in *Medieval and Renaissance Famagusta*, ed. Michael J.K. Walsh, Peter W. Edbury and Nicholas S. H. Coureas (Surrey and Burlington, 2012), 75-91.

27   Though the century-long debate on the building's exact chronology continues, most scholars agree that a pre-existing church, possibly the Byzantine metropolis, was to be found on the construction site of Saint Nicholas, for which construction sums of money are left, naming the building as such, as per wills of 1298-1300 for the first time.

28   Franke, "St Nicholas in Famagusta," 82-83, 91.

29   Balard, Duba and Schabel 2012, 124-126.

30   Francesco Amadi, *Cronaca di Cipro*, published as "Chronique d'Amadi" in *Collection des Documents Inédits sur l'Histoire de France: Histoire Politique* I, ed. René de Mas Latrie (Paris: Imprimerie Nationale, 1891), reprinted in Κυπριολογική Βιβλιοθήκη 9, ed. Theodoros Papadopoullos, intro. Sylvain Beraud (Nicosia: Idryma Archiepiskopou Makariou III, 1999) 326-327. See also Florio Bustron, *Historia Overo Commentarii de Cipro*, published as "Chronique de l'île de Chypre" in *Collection des Documents Inédits sur l'Histoire de France: Mélanges Historiques, Tome Cinquième*, ed. René de Mas Latrie (Paris 1886), reprinted in Κυπριολογική Βιβλιοθήκη 8, ed. Theodoros Papadopoullos, intro. Gilles Grivaud (Nicosia: Idryma Archiepiskopou Makariou III, 1998) 194. See also Edbury, "Famagusta in 1300", 338 and 343.

31   On the church of Saints Peter and Paul see further in this article.

32   On Saint Francis see Michalis Olympios, "The Franciscan Convent of Famagusta and its Place Within the Context of Early-Fourteenth-Century Cypriot Gothic Architecture, Κυπριακαί Σπουδαί 73 (Nicosia: Etaireia Kypriakon Spoudon 2009, published 2011), 103-122.

33   Enlart, *Gothic Art*, 211.

34   Along with the Genoese and Venetian *loggias* already mentioned in the beginning of the 14th century, the Pisan *loggia* also featured in documents from 1307 to 1324 (Jacoby, "The Rise of a New Emporium," 158; Otten-Froux, "Les Pisans en Chypre," 129). Banking was a prominent Pisan activity in Famagusta. Numerous 'Pisan' bankers were in fact Florentines who had registered themselves as Pisans in order to enjoy lower taxation for business conducted in Cyprus (Jacoby, "The Rise of a New Emporium", 157-158; Otten-Foux, "Les Pisans en Chypre", 138). The 1333 will of Iohannes de Rau, member of a prominent Pisan family of bankers, conserves his close relations to religious establishments in Famagusta, among them the Hospital of Saint Stephen and the nunnery of Saint Claire (Otten-Froux, in "Les Pisans en Chypre," 136-137, mentions that this is the earliest mention to this establishment). Though Nicosia possessed a "Saint Peter of the Pisans" in 1367 (Otten-Froux, "Les Pisans en Chypre," 138), the sources have not thus far revealed a mention to a church in Famagusta owned by the Pisan community.

35   Amadi, *Cronaca di Cipro*, 326-327; Edbury, "Famagusta in 1300," 338.

36   Edbury, "Famagusta in 1300," 340-341.

37   Edbury, "Famagusta in 1300," 341.

38   Leontios Makhairas, *Χρονικόν*, translated as *Recital concerning the Sweet Land of Cyprus entitled "Chronicle"*, ed. R. M. Dawkins (Oxford: The Clarendon Press, 1932), vol. 1, 229; see also Edbury, "Famagusta in 1300," 340.

39   I have not yet been able to locate this citation in the primary sources. It is used without reference in Balard, "Famagouste," 282.

40   Makhairas, Χρονικόν, 330-331; Balard, "Famagouste," 283.

41   Nicola de Martoni**.** *Nicolai de Marthono, Notarii, Liber Peregrinationis ad Loca Sancta*, ca.1395-1396 [*BN*, MS.6521]; edited as "Relation du Pèlerinage a Jérusalem de Nicolas de Martoni, Notaire Italien", ed. Léon LeGrand, *ROL* (Paris), 3 (1895), reprinted Brussels, 1964, pp. 566-669 [Cyprus pp. 625-638]; text on Cyprus translated in Cobham, *Excerpta Cypria* (pp. 22-28), p.22.

42   Martoni in Cobham, 23.

43   Piloti in Enlart, *Gothic Art*, 455; see also Balard, "Famagouste," 286.

44   Enlart, *Gothic Art*, 214; Balard, "Famagouste," 287.

45   Enlart, *Gothic Art*, 459.

46   Enlart, *Gothic Art*, 246.

47   Michael Walsh, "Martyrs and Mariners: Some Surviving Art in the Church of Saints Peter and Paul, Famagusta," in *Mediterranean Studies* 15 (Philadelphia: The Pennsylvania State University Press, 2006), 24.

48   Jeffery, *A Decription of the Historic Monuments*, 152; Walsh, "Martyrs and Mariners," 24.

49   Edbury, "Famagusta in 1300", 343.

50   Enlart, *Gothic Art*, 246; Walsh, "Martyrs and Mariners," 24.

51   Walsh, "Martyrs and Mariners," 26-29.

52   Walsh, "Martyrs and Mariners," 29-31.

53   Benjamin Arbel, "Cypriot Population under Venetian Rule 1473-1571: A Demographic Study," in *Μελέται και Υπομνήματα*, I (Nicosia: Idryma Arhiepiskopou Makariou, 1984), 184.

54   Bustron, *Historia*, 411-416; Enlart, *Gothic Art*, 446; Arbel, "Urban Assemblies," 206.

55   Enlart, *Gothic Art*, 461; Arbel, "Cypriot Population," 198.

56   Enlart, *Gothic Art*, 461-462.

57   Enlart, *Gothic Art*, 245 and 462.

58   Enlart, *Gothic Art*, 67-68.

59   Mas-Latrie, *Histoire*, 184; Enlart, *Gothic Art*, 457.

60   Bustron, *Cronaca*, 436-437 and 445-446.

61   Richard Cocke, "Doge Agostino Barbarigo and the Image of Cyprus," in *Zeitschrift fur Kunstgeschichte* 67/3 (Berlin: Deutscher Kunstverlag, 2004), 423.

62   For the infamous "Cornaro murders" of November 13, 1473 which took place in the Royal Palace and the Citadel of Famagusta see Georgios Boustronios, *Διήγησις κρόνικας Κύπρου αρχεύγοντα από την εχρονίαν αυνς' Χριστού*, published in *Bibliottheca Graeca Medii Aevi* II, ed. Constantine Sathas (Venice, 1873, reprinted Athens: Vas. N. Gregoriades, 1972), 490-493. See also *The Chronicle of George Boustronios, 1456-1489*, transl. intro. R. M. Dawkins (Melbourne: Melbourne University Press, 1964), 38-40; *George Boustronios: A Narrative of the Chronicles of Cyprus, 1456-1489*, transl. and intro. Nicholas Coureas (Nicosia: Cyprus Research Center, 2005), 131-134; Boustron, *Historia*, 438-440; Enlart, *Gothic Art*, 464.

63   Louis de Mas-Latrie, "Documents Nouveaux servant de Preuves à l'Histoire de l'Île de Chypre sous le Règne des Princes de la Maison de Lusignan," in *Collection des documents inédits sur l'Histoire de France: Mélanges Historiques*, IV (Paris: Imprimerie Nationale, 1882),

472; Enlart, *Gothic Art*, 466-467.

64   Bustron, *Historia*, 453; Enlart, *Gothic Art*, 464.

65   Mentioned as such as number 11 on Stephano Ghibellino's map of the siege of Famagusta, for which see further in this article.

66   Enlart, *Gothic Art*, 454-455.

67   Boustronios in Sathas, 542; Boustronios in Dawkins, 59; Boustronios in Coureas, 173; Bustron, *Historia*, 454-457.

68   Boustronios in Sathas, 542-543; Boustronios in Dawkins, 59-60; Boustronios in Coureas, 174.

69   Bustron, *Historia*, 458; see also Brunehilde Imhaus, "Venice-Cyprus: Between Commercial Relations and Political Strategies," in *Cyprus: Jewel in the Crown of Venice* (Nicosia: Anastasios G. Leventis Foundation, 2003) (21-30), 26.

70   Enlart, *Gothic Art*, 452-453. See also Tassos Papacostas, "Echoes of the Renaissance in the eastern confines of the *stato da mar*: Architectural evidence from Venetian Cyprus," *Acta Byzantina Fennica* 3 (Helsinki: Finnish Society for Byzantine Studies, 2010), 144-149.

71   Enlart, *Gothic Art*, 452-453.

72   See Papacostas, "Echoes of the Renaissance," 159-164.

73   While Enlart clearly shows Renier's coat of arms in his sketch of the Palazzo's façade (*Gothic Art*, 467), he mentions in describing the building that no coats of arms can be seen on its facade (*Gothic Art*, 468).

74   Enlart, *Gothic Art*, 462-463.

75   For which see Lorenzo Calvelli, *Cipro e la Memoria dell'Antico fra Medioevo e Rinascimento. La Percezione del Passato Romano dell'Isola nel Mondo Occidentale* (Venice: Istituto Veneto di Scienze Lettere ed Arti, 2009).

76   Enlart, *Gothic Art*, 462-463.

77   Enlart, *Gothic Art*, 461.

78   Hill, *History*, III, 759; Cocke, "Doge Agostino Barbarigo," 423.

About the Author

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Book Review:
O'Rourke, Karen. *Walking and Mapping: Artists as Cartographers.*
Cambridge, Mass.: The MIT Press, 2013

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"The heel attacks the ground, the sole of the foot is pressed down flat, the heel takes off and is followed by the toes, the lower limbs move forward and then totally extend. (…) The pelvis rotates vertically, shifting its weight to the free side, the knee flexes, the pelvis turns to the side, the lower limb rotates one way, the waist in the opposite direction." (27-28) A complex and sophisticated combination of muscular actions and skeleton movements hides behind what we usually perceive as a simple routine everyday practice—the practice of walking. And the fact that the above-described body mechanism only refers to the movement of a Western subject wearing city shoes and walking on level ground, further reveals the unnoticed bodily complexity of putting one step in front of the other. (28) Walking literally embodies the process by which "the live being recurrently loses and reestablishes equilibrium with its surroundings." (28)

It is thus not a surprise that walking has been so extensively, imaginatively, and passionately engaged in understanding, measuring and recording personal surroundings—in short, in mapping them. The exquisite study *Walking and Mapping: Artists as Cartographers* (2013) by Karen O'Rourke, focuses on the topic and walks us through a highly fascinating path of older and contemporary artistic projects that have brought together walking and mapping, they thereby engaging the body and subverting a more conventional scientific understanding of cartography. The book itself is a map drawn by the author, who not only manages to capture "traces of many ephemeral works," (246) "charting ultimately the cartographic jungle and mapping the mappers," (xvii) as she herself states, but also suggests fascinating connections

between the different projects, drawing connecting paths among them and towards the political, philosophical and social parameters evoked by the various artists cited. It follows upon publications with similar concerns like philosopher Edward Casey's *Earth-Mapping: Artists Reshaping Landscape* (2006) but the perspective is clearly from an artist's point of view. An artist herself, O'Rourke has not only engaged in a comprehensive reading of the artists' statements and intentions regarding their works but has even participated in quite a number of the performances and events she discusses in the book. This actually accounts for her lyrical narrative depictions which manage to transmit the atmosphere of the events and capture the embodied experiences shared by the participants, her accountings offering the reader a genuine insightful perspective on them.

The range of projects the study explores is notably wide. The classic references to the Surrealists, psychogeography and the Situationists are all well presented, but the book stands out for its meticulous focus on an outstanding number of contemporary works which experiment with many different kinds of media. "Nowadays the convergence of global networks, online databases, and new tools for location-based mapping coincides with a renewed interest in walking as an art form," (xvii) the author notes. Like walking, mapping is an embodied experience carried out from a particular point of view that "makes possible both the finiteness of my perception and its opening out upon the complete world as a horizon of every perception." (xviii)

And it is this point of departure that defines many of the author's readings on the artists' works and why the book bears a special merit for architects and urban planners, one that relates beyond the obvious connections between architecture and art. Perception, understanding and appropriation of urban space are recurrent themes of interest, each becoming a question asked in various ways through consideration of the many different projects detailed. A few selected examples can demonstrate in detail the architecture-related topics exlored in the artists's works.

In the chapter "A Form of Perception or a Form of Art," the analysis of the *Here While We Walk* (2006) performance describes, for instance, a group of people moving within the limits of an elastic band in Paris. The group walked through small side streets, a park, an expanse of open ground near a building project, and an industrial loading dock on the banks of Seine. As O'Rourke—who participated—explains, the moving group of people, without speaking, formed a mobile architecture in which the individual parts worked together to create an overall shape, a fluid configuration that was arrived at by subtle negotiation. "Both the walkers, who were busy concentrating on being 'here' while walking, and the passers-by, whose remarks were met by silence, perceived the urban landscape differently." (45) Crossing through it required a conscious understanding and embodied perception of other people's movements, an interaction among all the bodies, which also had to take under consideration the body of the city and its constantly shifting urban settings. The performance clearly hints at the need for the cultivation of a heightened perceptivity regarding the subtle urban nuances that we tend to ignore in our everyday routine use of space, but which give a city its unique character.

Of particular interest from an architectural perspective are also references to artists and artists' groups challenging or questioning architectural qualities and preconceived urban norms in their walking-mapping projects. The Grenoble-based group Ici-Même [Gr], e.g., in 2009 organized the *Workshop "En marche"* in Paris, a transect walk through the 15th arrondissement of the city. The artists drew a straight line on a city map and asked the participants to follow it as closely as possible. As the path did not correspond to any existing street, this required that the participants enter buildings in search of a path leading to the next blocks or tramp through tiny courtyards. (88) They were thus forced to explore in an active embodied way the physical boundaries and the porosity of the city in search of channels for passage, and to question and test the limits between public and private spaces.

The Italian group Stalker has been inspired by similar urban quests. Since 1995, when most of its members were architectural students, they have taken people on walks through "urban voids," crossing Rennes, Milan, Miami, and Berlin to propose "a reverse reading" of the architectural network. Rather than building urban blocks, they document the marginal, nonfunctional zones that separate them. They have expanded their architectural urban research even further, organizing urban walks in which they spent four days walking around the periphery of Rome, taking photographs and keeping a diary, firmly believing that this what architects should be doing. (234)

Upon our looking further into real-time artists' projects, the ephemeral nature of the city's ever-shifting sensory landscape emerges. Developed conjointly by designers and engineers in Göteborg, Sweden, *Sonic City* (2002-2004) encouraged people to explore city sounds through improvised movements. The project used real-time interactions between the users who were wearing headphones and their surroundings, to create music. Paths through the city became musical compositions as the listeners wandered through the shifting urban environment. The system retrieved information about their actions and their whereabouts and mapped them to real-time processing of urban sounds. The result was music heard through headphones. When wearing this system, urban atmospheres, random encounters, and everyday activities all participated in creating music for walking. The most interesting of outcomes, though, was that when the prototype was tested, users "felt that the city was more in control of the music than they were and tried to regain this control by actively seeking appropriate urban contexts or by modulating city input with their body posture." (132) In this way what seemed at first to be frustrating led "to new kinds of improvised behaviors and creative use of physical space." (132)

The feeling that the city is more in control over our behavior was also the focus of *The Choreography of Everyday Life*; a comment on how our everyday movement is highly choreographed whether we realize it or not. Artist Teri Rueb began with the conviction that our behavior in the city reflects the cultural, social, and political forces embodied therein and that it reveals an increasing awareness of the ubiquity of video surveillance. Collaborating with choreographers and dancers allowed her "to juxtapose the notions of formal choreography and dance with the highly scripted nature of our everyday movement in the built environment." (134)

Whether hinting towards an alternative understanding of the subtle urban interactions among a city's various inhabitants with the city's physical appearance and sensorial presence or questioning the ambivalent nature of different cities' spaces, the selective examples and many more projects studied by the author reinforce the need for an appreciation and 'measuring' of place through the body, an understanding that valorizes a user's appropriation of space and carefully examines receptivity towards artists', architects', and urban planners' designs. Philosopher Paul Ricoeur's famous warning towards all planners on "just how great an abyss can separate the rules governing the rationality of a project from the rules governing the receivability of its outcome,"[1] rightly comes in mind. From an architectural perspective the lessons to be learned from the artists' intentions and their respective experimentations are potentially invaluable.

Notes

1   Paul Ricoeur, "Architecture and Narrative," in *Identity and difference: integration and plurality in today's forms, cultures between the ephemeral and the lasting,* tr. Huw Evans (Milano: Electra, 1996), 71-72.

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