



良景美聲皆所悅也

The Perfect Match: Landscape and Soundscape

坐擁海山之勝的中大校園，素以靈秀翠綠稱著，美景處處，千姿百態，叫人目不暇給。原來校園的「聲景觀」也不遑多讓，與風景互相輝映，更凸顯校園之美。大概大家會問甚麼是「聲景觀」？

The CUHK campus is known for its green and lovely landscape, but did you know that the soundscape of the campus is lauded too? What makes up the campus's soundscape?

積極的環境管理取向

「聲音是人生活體驗的一部分，我們聽到聲音的總體，是以人的期望和喜好為本，其中包含了厭惡和喜好的，天然與人所塑造的。」香港研究聲景觀的始祖、地理與資源管理學系林健枝教授說。「例如你到了茂密的樹林，會期望聽到蟲鳴鳥叫，枝葉迎風而動的聲音。再舉另一例子，走在街上，會看到不少人戴上耳機，聽着個人所愛的音樂，他們就是為自己創造一個聲景觀。」

從事環境管理研究三十多年的林教授說，以往管理聲環境的方向，主要是除去人所厭惡的噪聲，現在則是締造優良的聲景觀的時候。他指出：「過去是消極的做法。我做了不少關於噪音的研究，也曾出任環境保護署環境諮詢委員會委員及主席多年，看到政府為緩減噪聲花費不少，如興建隔音屏等。可是香港地小人稠，即使投放再多的資源，效果始終有其極限。」

把聲景觀應用於環境，就是積極的取向——加入美好的東西，以締造更美好的生活環境，概念猶如中醫學的固本培元。林教授說：「以鑽石山的南蓮園池為例，整座唐代風格的庭園鄰接龍翔道這條繁忙的道路，用了大量的噴泉及瀑布，流水淙淙，不但掩蓋了車輛的噪音，亦能讓人放鬆。風景與聲景的配合，恰如樂曲與歌詞，產生畫龍點睛之效。」

再說，加入聲景觀的元素並不一定需要龐大的額外支出，「只需在控制噪音的預算中撥出少部分，即會有意想不到的增值效益。譬如加入流水聲，或是當栽種植物時，選用較能吸引雀鳥生物的品種，也會有很好的收穫。」

香港聲景觀研究

林教授於十年前開始研究香港的聲景觀。他說：「聲景觀是一門結集聲學、地理、工程、美術、建築……等多個範疇的學問，發展空間很大。」像香港這樣高度稠密的都市，更是研究聲景觀的獨特場所，「因為香港人需要空間放下繁囂、充充電。聲景觀的研究有助設計更好的公園及城市空間。」

林教授從郊野公園着手，原因是「香港的郊野公園很特別，與市區相距不過咫尺，是人人都可享用的大眾資源。然而，也因為這樣，它混雜了多種聲音——人、蟲鳥、汽車、飛機……。聲音有兩個特性，其一，是好是壞，全視乎場合與聽者的感受。其二是掩蓋性，一種聲音會蓋過另一種，如市民到郊野公園燒烤時，即使有飛機掠過，也不會察覺。相反，要是特地到郊野公園走走，打算好好享受自然景色，自會認為飛機聲掃興萬分。」

人們在郊野公園會做些甚麼？香港人喜歡怎樣的聲景觀？為了尋求答案，林教授在園內放置儀器，二十四小時無間斷地進行數碼錄音，有系統地記錄郊野公園的聲音，再製成圖表，深入分析，希望有助設計出更讓人精神鬆弛和感到愜意的休憩勝地。

林教授洞燭聲景觀的重要，為香港環境管理研究開拓了新的領域。中大的聲景觀研究不但一枝獨秀，更廣為國際學術界所認同，有外國研究人員還向林教授商借聲音數據，也有英國研究人員主動找他，合作開展關於聲景觀的比較研究。去年12月於廈門舉行的國際城市環境論壇中，林教授宣讀了題為「聲景觀：管理城市聲環境的新方法」的報告，並獲大會授予最佳演講獎。

(續下頁)

A Proactive Approach to Environmental Management

'Sounds are part of the living experience. The sounds we hear are based on our expectations and preferences—both sounds we like and those we don't, natural sounds and man-made sounds,' said Prof. Lam Kin-che, pioneer of soundscape research in Hong Kong and professor, Department of Geography and Resource Management. 'For instance, if you are strolling in a forest, you expect to hear insects chirping, birds twittering and leaves rustling. You see people walking on the street with earphones on listening to the music they like. This is an example of people creating their personal soundscapes.'

Professor Lam has been studying environmental management for over 30 years. He pointed out that the conventional approach to managing the sound environment is to rule out annoying noise. But now it is time to create a high quality acoustic environment, i.e., soundscape. He said, 'In the past, our approach was passive. I have done quite a lot of noise research. And I was the member and chairman of the Advisory Council on the Environment, Environmental Protection Department for years. I have seen the government invest a lot in noise control such as by installing noise barriers. Hong Kong is small and heavily populated, so there is a limit to what it can do for noise control, even if you allocate more resources for the purpose.'

(To be continued)

中大三大絕妙聲景

從事了多年的研究，林教授可有評定聲景觀的準則？他回答：「像剛才所說的，聲景觀的感覺因人而異。不過，也有大家認同的原則，就是聲景觀該配合現場環境和目的，也讓人感覺舒服。換句話說，就像樂章或畫作，很難客觀地列出怎樣才算是佳作，但好的作品還是會受到大眾的青睞。」

中大的聲景觀又如何？林教授說：「中大校園得天獨厚，遠離市區，又有綠樹圍繞，正是風景和聲景俱佳。」他認為未圓湖（左）、崇基教堂一帶（中）和新亞合一亭（右）的聲景觀最好，「未圓湖噴泉的濺水聲讓該處生色不少；崇基教堂後的順利橋一帶，除流水潺潺外，還孕育了多種生物，為聲景觀更添多樣性；合一亭則給人寧靜閒適的感覺，正如『天人合一』的意念，也引證此時無聲勝有聲的妙處。」

不過，優越的聲景觀卻也會遇上一些意想不到的問題，那就是這寧靜的校園，卻偏多斜道，所以每當重型車輛經過，造成的聲浪便格外礙耳。林教授指出，校園發展計劃倡議增闢露天廣場，讓學生交流聯誼。這些露天廣場難免會受車聲影響，但只要設計時多一分考慮聲景觀，即可有效解決問題。

聽過林教授的解述，大家每日穿梭於校園之際，也不妨試試多開放我們的感官，除了以目來觀賞，也用耳來聆聽，全盤欣賞校園的獨有聲景觀。



聲景觀的概念是由加拿大作曲家、作家及教育學者謝弗（Raymond Murray Schafer）率先提出。他於1969年成立

「全球聲景觀計劃」，從多角度探討聲音的環境，着重喚起大眾對聲音的意識，記錄環境中的聲音及其特色變化，並推動聲景觀作為應對噪音的措施。近十多年，聲景觀研究急速發展，成為環境研究的一個嶄新領域。

The concept of soundscape was first proposed by Canadian composer, writer, and educator, Raymond Murray Schafer. He founded the 'World Soundscape Project' in 1969. The project was concerned with all aspects of sound environments, with emphasis on raising public awareness of sound, documenting environmental sound and its changing character, and establishing the concept and practice of soundscape design as an alternative to noise pollution. Developing rapidly in the past decade, soundscape research is a new area in environment research.

資料來源 Source: *The Canadian Encyclopedia*

(Continued)

Soundscaping the environment is a proactive approach—creating a more pleasant and livable environment with quality sounds. The concept resembles the reinforcement of strength in Chinese medicine. Professor Lam said, 'Nan Lian Garden in Diamond Hill is a good illustration of soundscape. The Tang-style garden is surrounded by Lung Cheung Road, one of the busiest roads in Hong Kong. By using fountains and waterfalls, the garden manages to drown out traffic noise and create a relaxing atmosphere. The pairing of landscape and soundscape is like that of song and lyrics which brings synergy.'

To include soundscape in planning does not mean extra expenses. 'Setting apart a small portion of the noise control budget for soundscape will bring unexpected value-added benefits. Using the sound of running water or planting certain trees to attract song birds and animals are ways to create pleasant soundscape.'

Hong Kong Soundscape Research

Professor Lam has been studying Hong Kong's soundscape for 10 years. He said, 'Soundscape is a discipline that intersects with other areas including acoustics, geography, engineering, art, architecture. There is plenty of room for the development of

soundscape.' Being a densely populated city, Hong Kong is a very special case for the study of soundscape. 'Hong Kongers need restorative environments to escape from urban stress and to revitalize. Soundscape research is useful for designing better urban parks and communal spaces.'

Professor Lam started his research with country parks. 'Hong Kong's country parks are very unique. They are close to urban areas and they are public resources for everyone's use. This means that the soundscape of country parks comprises the sounds of people, insects, birds, vehicles, and aircrafts. Sound has two special features. First, the context and the listeners' perceptions decide whether the sound is pleasant or annoying. Second, one sound covers another. While barbecuing in a country park, people may not notice the sound of aircrafts, whereas if they are there to appreciate the natural environment, they may feel their enjoyment spoiled.'

Professor Lam installed recording equipment in country parks to find out what people did there and what soundscape Hong Kongers preferred. He recorded systematically around the clock and archived the sounds in country parks. The data gathered were made into charts for further analysis. The research output helps the government to better plan for restorative urban places.

Professor Lam's insight into soundscape opens up a new area of environment management in Hong Kong. CUHK's soundscape research not only plays a leading role locally, but also enjoys international recognition. Overseas researchers have requested Professor Lam to share his sound data. Researchers from the UK have invited him to conduct joint research on comparative soundscape. At the 2010 International Congress on Urban Environment held in Xiamen, China in December 2010, Professor Lam received the Best Presentation Award for his paper on 'Soundscape: A New Approach to Managing Urban Acoustic Environment'.

Three Best Soundscapes on Campus

What are the criteria for a pleasant soundscape? He said, 'As I explained, soundscape is people-centred. However, there are some general practices, i.e., the soundscape should fit the context and purpose, and make people feel comfortable. It is like a piece of music or painting. It is difficult to list the criteria for quality. But excellent works are widely appreciated.'

So, how about the soundscape of CUHK? Professor Lam said, 'Our campus has the luxury of being far removed from the city centre and surrounded by greenery. Both our landscape and soundscape are excellent.' He named Lake *Ad Excellentiam* (left), the areas around Chung Chi Chapel (middle) and

the Pavilion of Harmony (right) as having the best soundscapes on campus. 'The fountain at Lake *Ad Excellentiam* rejuvenates the surrounding areas. In the area around Chung Chi Chapel, there are sounds of running water, avifauna and fauna enriching the soundscape. The Pavilion of Harmony gives the feeling of quiet and comfort, thus most aptly illustrating the beauty of silence and the concept of "union of man and nature".'

Yet a superior soundscape may come with unexpected problems. Our quiet and hilly campus happens to have a fair number of slopes, where heavy vehicles can sometimes be heard cranking up their engines to negotiate the gradient. Professor Lam pointed out that the Campus Master Plan recommended more open spaces for students to interact and meet friends. Such activities will be affected by passing vehicles. A way to solve the problem is by incorporating soundscape considerations while designing open areas.

Following the explanation of soundscape by Professor Lam, members of the University are encouraged to open both eyes and ears while commuting on campus. This will no doubt enrich your experience of the CUHK campus. ✨

以溝通完善交通

Better Transportation through Communication



中大校園建於海拔五米至一百四十米不等的山坡上，上山下山遂成為大學成員每天不可或缺的活動。建校以來，大家都依賴校巴作為校園內主要的交通工具。大學明年將恢復四年學制，並增添三千名本科生，加上新增設的第三十九區，對校巴服務需求，以至校園整體交通系統都構成壓力。為此，大學特成立了校內交通專責小組及籌劃專責小組，從去年中開始諮詢教職員和學生，收集意見，以完善交通系統，應付驟增需求。

領導籌劃專責小組的協理副校長馮通教授指出，交通系統規劃的大前提，就是根據校園總體規劃所定的方針，確保校園的可持續發展，以及推廣健步校園文化。

籌劃專責小組審視了校巴的使用情況，經過統計，並歸納收集意見後，得出下列建議：

減少跨區活動

如果行程在同一區段之內，無須校巴服務。反之，若跨區之間有多趟行程，對校巴服務的需求就會十分迫切。減少跨區活動的一個簡單方法，是按區策劃活動。例如日後一年級生的上課地點會盡量安排在即將落成的兩座綜合教學大樓及崇基學院。

校巴路線編號

為校巴路線編號，各有固定路線和站點，既可避免重複，又能把大學站乘客分流，舒緩該站擠迫狀況。另外也將增設往來第三十九區的校巴路線。

增設港鐵出口和校巴總站

池旁路及車站路一帶將成為學習及學生活動的樞紐，加上校巴將分多線行駛，故大學建議在港鐵大學站北端，增設一個港鐵出口和校巴總站（圖）。現已取得港鐵同意，並將在年中動工。

五旬節會樓（低座）及大學體育中心的兩個下行校巴站相距不遠，將會合併，移往善衡書院出口附近。

道路改善

鑑於池旁路使用量高，建議改之為單向行車。何添樓/許讓成樓/崇基學院行政樓交匯處地面標示易引起駕駛者混淆，須改善該處之安全措施。另擴寬梁錫瑤樓外之道路，使由中央校園前往聯合書院或逸夫書院的車輛，無須向右大拐彎。

馮教授強調，校園交通與全體中大同仁息息相關，所以，他自去年11月起，先後主持了十二場交流會，分別向各書院師生和職員講解校園交通規劃的原則和建議，又增設「校園交通」網站（www.cuhk.edu.hk/campus-transportation/chinese），上載相關資料，廣納意見。馮教授說：「用家的意見十分重要，有聯合同仁在交流會上提出把士林路改為單向行車，小組將檢討這建議的可行性。」

籌劃專責小組正整理搜集的意見，並將於5月提出最後方案，屆時再公布細節。

The CUHK campus is built on hilly terrain of altitudes varying from 5m to 140m. Most staff and students commute to and from the campus or within it on a daily basis. Since the establishment of the Sha Tin campus, CUHK members have relied heavily on shuttle buses for commuting purposes. However the new Area 39 and the additional 3,000 undergraduates under the new 3+3+4 academic structure in 2012 will pose new pressures on shuttle buses and the existing campus transport system as a whole. The University has set up the Task Force on Campus Transport and Task Force Subgroup to consult staff and students since July 2010 on how to improve the transportation infrastructure to accommodate the influx.

Prof. Fung Tung, Associate Pro-Vice-Chancellor and convener of the Task Force Subgroup, pointed out that the planning principles for the future transport system will comply with the Campus Master Plan, that is, building a sustainable campus and promoting a pedestrian friendly campus.

After conducting surveys on shuttle bus usage and consolidating the views gathered, the Task Force Subgroup's recommendations are as follows:

Reducing Inter-zonal Movements

If trips are confined to a single zone, bus service is not needed. Conversely, if there are a lot of inter-zonal trips, the pressure on bus service will be high. To reduce inter-zonal activities, a simple solution is to plan activities according to zones. For example, most classes for Year 1 students will take place in Two Integrated Teaching Blocks (to be completed soon) and on Chung Chi College campus.



(建議方案 proposal only)

Numbering of Bus Routes

Bus routes should be numbered and buses should have fixed routes and stops. This helps to prevent redundancy and to divert passengers, thereby alleviating crowds at University Station. There will also be service to Area 39.

Opening New MTR Exit and Bus Terminus

The area around Pond Crescent Road and Station Road will become a hub for learning and student activities. Bus services will be offered by different routes. Thus the University is proposing to add a northern exit for the MTR University Station and an additional bus terminus (figure). The MTR has consented to opening the exit and construction will begin in mid-2011.

As the downhill direction bus stops for Pentecostal Mission Hall Complex (Low Block) and University Sports Centre are quite close to each other, the two stops will be merged and placed at the S.H. Ho College entrance.

Road Improvements

Due to heavy usage, it is proposed to convert Pond Crescent to one way. Complaints from vehicle drivers have been received on the confusion of the road intersection of Ho Tim Building/Hui Yeung Shing Building/Chung Chi Administration Building. A plan is proposed to improve safety measures at this intersection and reduce confusion for drivers coming from different directions. It is proposed to widen the road along Leung Kau Kui Building so that vehicles going from central campus to United College and Shaw College do not need to make a big right turn.

Professor Fung emphasized that campus transportation is an issue that is closely connected to all stakeholders of the University. He has held 12 information sessions on the planning principles and recommendations for campus transportation for Colleges, staff and students since November 2010. A website on 'Campus Transportation' (www.cuhk.edu.hk/campus-transportation) has been set up to update CUHK members on the latest developments and to collect views. Professor Fung said, "The views of users are very important. A colleague at United College proposed to convert the traffic on Residence Road to one way during an information session and the Task Force Subgroup will investigate the feasibility of this proposal."

The Task Force Subgroup is now tallying views and comments gathered. The final plan will be submitted in May and details will be announced in due course. *

搶救珍貴土沉香 Saving the Precious Incense Tree

去年12月20日早上，校方發現一棵種植於方樹泉樓的十一米高土沉香遭非法砍伐（右圖），一截高約八米、直徑十五厘米的樹身被砍去，但疑因太重難以搬運，被棄於附近。事件已經交由警方跟進。

據校園樹木受損紀錄，是次土沉香受損的面積屬歷來最大。物業管處園藝組同仁先固定樹身，然後小心處理受破壞部分，既要療傷活命，也要顧及外觀。修補工序殊不簡單，且看他們怎樣為土沉香療傷（見以下組圖）。

園藝組同仁將定期觀察修補後的土沉香狀況，目前倖餘的樹幹生長正常。為免同樣情況再次發生，大學同仁如發現樹木遭破壞或砍伐，請即通知保安組。

On 20 December 2010, an 11m-tall incense tree (*Aquilaris sinensis*, right) near the Fong Shu Chuen Building had part of its body illegally chopped off. A section of the tree trunk, 8m-long and 15cm in diameter, was abandoned near the scene, probably because it was found to be too heavy for moving. The case has been referred to the police for investigation.

The damaged area of the incense tree is the biggest ever recorded on campus. Colleagues of the Landscaping Section of the Estates Management Office tried to save the tree's life by first stabilizing it, and then treating the 'wound' carefully while also taking care of its appearance. It was no easy job (see photos below).

The Landscape Section will monitor the incense tree regularly after the treatment. The remaining part of the tree seems to be normal. To avoid tree vandalism, members of the University who come across such incidents are urged to report them to the Security Unit. ✨



- 1 把「傷口」修平，移除腐木並噴上消毒液，乾透後，再塗環氧樹脂（褐黃色）作為黏合劑。
Smoothing the wound. Removing the rotten wood and spraying with sterilizer. After it dries, epoxy (yellow-brown in colour) is applied as an adhesive.
- 2 按土沉香的樹形，切割發泡膠作填補。
Cutting styrofoam for filling according to the shape of the incense tree.
- 3 把環氧樹脂開拌成泥狀，固定發泡膠及填補其他較幼的隙縫。
Diluting the epoxy to give it a mud-like consistency for keeping styrofoam in place and filling small crevices.
- 4 再以環氧樹脂開拌白英泥沙及色粉，調至近似樹色，均勻塗上。
Applying a mixture of epoxy, white cement and pigment matching the colour of the tree.

土沉香是受保護樹木，可以用來製成香料及藥物。香港早期曾廣植土沉香，然後製成香料，運銷中國、東南亞，甚至遠及阿拉伯等地。有說「香港」這個名字即源起於此——運送香料的港口。時至今日，這個行業早已式微。

中藥常用的沉香，有治療胸腹脹痛、嘔吐呃逆的功效。沉香是由土沉香的樹脂製成，大量抽取土沉香樹脂的方法有兩個，其一是利用天然真菌入侵樹幹，其次是割開樹皮，讓樹脂不斷積聚，數年後才收集。只是砍下樹幹，無法取得樹脂。

Incense trees are protected tree species and can be used to make incense and medicine. Previously, they were widely grown in Hong Kong for manufacturing incense to be sold on the mainland, Southeast Asia, and Arab countries. It is said that the name 'Hong Kong' originated from the word 'incense' whose Chinese name is the same character for 'Hong'. In other words, Hong Kong is a port for transporting incense. But this industry has died out many years ago.

'Chen xiang', a common Chinese medicine, relieves chest and abdominal distention, vomiting and belching. 'Chen xiang' is produced from the resin of incense trees. The resin can be extracted in large quantities by natural fungal infection or by external wounding. Sustainable harvesting of the resin of one tree can be induced by opening a wound into the bark, and with the resin collected a few years later after accumulation. Resin cannot be extracted simply by chopping off the tree trunk.

