

News
Buddy

80後「城市農夫」創業研「魚菜共生」

80s Hong Kong Man Becomes "Urban Farmer" to develop "Aquaponics".

原
文

下文摘錄自2023年10月11日香港《文匯報》：

80後港男樂梓健(Ray)為了一圓農夫夢，毅然減薪創業，成為「城市農夫」。這位熱衷學習新科技的農夫與團隊研發「魚菜共生」自動化系統，透過人工智能(AI)、IoT技術及大數據分析調節環境，種植出食用花及微菜苗，專攻酒店及食肆。他有份成立的初創企業於Pre-A輪已獲近3,500萬元投資，最近計劃於東盟及中東大展拳腳，冀把港產技術推向國際市場。

Ray讀大學時主修商業，畢業後於設計業及製造業工作，在逛超市時，他覺得蔬菜賣得很貴，遂想自己種菜，於是於2013年起開始業餘耕種。「我發現土耕菜味道好，但成本高難以scale up(增大)；水耕菜成本低，但淡而無味。」後來他了解到有「魚菜共生」技術，故跟朋友遠赴美國三藩市學習，才知道這技術可

以商業化。

2019年，Ray索性與兩位拍檔成立FullNature Farms，以「魚菜共生」水耕技術種菜。「魚菜共生」是指在同一套系統中進行種植及養魚，利用魚兒產生的肥料，供給蔬菜養分，並透過控制溫度和濕度等，縮短和穩定蔬菜生長周期。

其團隊初期從內地購買器材組裝，因產品不是度身訂做，發現問題多多未符合實際所需，所以聘請理大的工程團隊研發自動化技術，透過物聯網收集系統水位、水流、溫度、pH值、水中營養度等數據，並以AI作分析，同時有LED燈發出適合光譜助植物生長。設立自動化系統後，不需人手長期監控，系統更會主動提示，例如水流漸少，可能是氣泵損壞，其團隊可及時修正。

創業初期，主要為海外買家，也有內地客戶每星期到港購買有機菜。後來遇上疫情，正當

Ray苦惱之際，有本地酒店主動聯絡他，希望可以購入食用花及微菜苗，公司因而開拓到新市場。Ray表示，所有系統均自行研發，加上直接跟廠房合作確保系統質素，種植成本大降，故可媲美內地菜的價格。

Ray透露，其公司會積極開拓海外市場，如跟馬來西亞洽談技術轉移，更已經與中東沙特阿拉伯投資者簽訂合作備忘，計劃於當地開設魚菜共生室內農場，「當地只得入口菜，價格比香港的高級超市的定價還要高。我們看到當中的機遇，會跟當地公司成立合資公司，以魚菜共生技術種植水耕沙律菜。」

此外，公司正跟本地大學合作，研究在魚兒身上的益菌對植物的生物反應，冀可優化系統。

FullNatureFarms現有14名員工，當中3位為智障者，他們負責種花、摘花等簡單工序。Ray指，其表哥是智障者，令他特別明白智障者的



◆ FullNatureFarms的自動化設備。 資料圖片

困難，創業後想幫助他們就業，遂跟匡智會合作，從中揀蟀。為免他們經常做重複性工作而感到乏味，公司近日委派他們參與其他工序，增加工作樂趣。

譯
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In order to fulfill his dream of becoming a farmer, Ray, a Hong Kong man born in the 1980s, has taken a pay cut to start his own business and become an "urban farmer".

He and his team have developed an automated system called "aquaponics", which uses artificial intelligence (AI), IoT technology and big data analysis to regulate the environment and grow edible flowers and micro-vegetable seedlings, specializing in supplying hotels and restaurants. The startup he co-founded has received nearly \$35 million in Pre-A round financing, and recently plans to expand into ASEAN and the Middle East to promote Hong Kong-made technologies to the international market.

Ray majored in business at university and worked in the design and manufacturing industries after graduation. When he was shopping in supermarkets, He realized that vegetables were very expensive, so he wanted to grow them by himself, and started hobby farming in 2013. "I found that soil-grown vegetables are tasty but costly to scale up, while hydroponic vegetables are

low-cost but bland and tasteless," he said. Later, he learned about aquaponics and went to San Francisco with a friend to study the technology. It was during this time that he discovered the commercial potential of this technique.

In 2019, Ray and his two partners set up FullNature Farms to grow vegetables using aquaponics. "Aquaponics" refers to growing plants and raising fish in the same system, using the fertilizer produced by the fish to supply nutrients to the vegetables, and shortening and stabilizing the growth cycle of the vegetables by controlling the temperature and humidity.

The team initially purchased the equipment from the Mainland and assembled it. However, they encountered numerous problems as the products were not tailored to their specific needs and did not meet their practical requirements.

So, they hired PolyU's engineering team to develop the automation technology, which collects data on the system's water level, water flow, temperature, pH value, and nutrient levels in the water through the Internet of Things(IoT), and analyzes them with AI, while LED lights emit a suit-

able spectrum to help the plants to grow. With the automated system in place, there is no need to monitor the system manually, and the system will even provide proactive alerts, for example, if the water flow is diminishing, it may be due to the damage of the air pump, so that the team can rectify the problem in a timely manner.

In the early days of the business, there were mainly overseas buyers, but there were also mainland customers who came to Hong Kong every week to buy organic vegetables. Ray said that all the systems are self-developed, coupled with direct cooperation with factories to ensure the quality of the system, the cost of planting has been greatly reduced, and therefore can be comparable to the price of vegetables soled in the Mainland.

Ray revealed that his company will actively explore overseas markets, such as negotiating with Malaysian companies for technology transfer, and has signed a memorandum of understanding with a Middle Eastern Saudi Arabian investor to set up an aquaponics indoor farm there, "where only imported vegetables are available, and the price is even higher than that of high-end supermarkets

in Hong Kong. Seeing the opportunity, we will set up a joint venture with a local company to grow hydroponic salad greens using aquaponics technology," he said.

In addition, the company is collaborating with a local university to study the biological response of beneficial bacteria in fish to plants, with a view to optimizing the system.

FullNatureFarms currently employs 14 people, three of whom are mentally handicapped, and they are responsible for simple tasks such as planting and picking flowers. Ray said that his cousin is mentally handicapped, which made him understand the difficulties of the mentally handicapped, and he wanted to help them get a job after he started his business.

Therefore, he collaborated with the Hong Chi Association to find suitable individuals for recruitment. In order to prevent them from getting bored by doing repetitive work, the company has recently assigned them to participate in other processes to make their work more interesting.

◆ 琬琰

世人夢想能長生 怎料長生亦有憾

長生不老，是不少古代帝王的夢想。畢竟江山如此多嬌，確實有教人徘徊不去的理由。不過在中國民間故事裏，長生，除了是道家修仙的志業、善者的報償，有時也被呈現為一個無法實現的願望，折射出人的虛妄。秦始皇派徐福攜數千童男童女尋訪仙山，最終一無所獲；嫦娥即使成功飛升，卻是「碧海青天夜夜心」，寂寞地在月宮裏追悔莫及。

古今中外不乏長生幻想

當然，無人知曉真正的長生究竟如何，但這並不妨礙說故事的人繼續編故事。長生的話題之所以能一寫再寫，多少是基於人對於無盡的時間的興趣。

《莊子》云：「吾生也有涯，而知也無涯。以有涯隨無涯，殆已！」人類的生命是有盡頭的，最多不過百年。如果擁有無限的時間，那麼就可以做很多很多事情。好人在話本的仙界裏快樂地生活下去，固然是皆大歡喜的結局；然而，在當代的流行文化裏也有不少故事是由不快樂的長生者開始的。

例如，荷里活電影《吸血迷情》裏，就強調容易意外地變成吸血鬼後，雖然擁有永恒的生命，但卻時時被空虛和無聊所淹沒，自厭並渴望着寂滅。而韓劇《鬼怪》的主角金信，最初之所以要尋找人類新娘，也全是為了早日結束無限循環的生活——當管家和認識的人陸續去世，擁有不死之身的他唯有搬去別國重新開始，等待另一輪無聊的重複。「逝者如斯夫，不捨晷刻。」雖然長生者擁有無窮的時間，卻無法令時間停止或倒流。在這一點上，長生者所累積的遺憾或許比凡人更多。

在漫長的時間中旅行，目送友人一一離開，會是怎樣的心情呢？近期動畫化的日本漫畫《葬送的芙莉蓮》寫的正是這個問題。

在故事的開端，精靈魔法使芙莉蓮與另外三位夥伴一起完成了十年的冒險之旅，並約定在五十年後重聚，再共看一次流星雨。對人類來說很長的十年，對於長壽的芙莉蓮來說只佔生命中很小部分，五十年之約也是輕鬆簡單。半個世紀後，芙莉蓮一一送別老病的夥伴，與徒弟重訪舊日冒險之路。她偶爾被眼前之事勾起前塵，方發現自己在十年之旅中錯過了許多東西，並明白到當年微不足道的「短暫」旅行，原來在不知不覺之間已改變了她的生命。

有別於一般熱血的魔法冒險之旅，《葬送的芙莉蓮》以「追憶」為核心，時時流露出惆悵的氛圍。時過境遷的恍然與情動，這不禁使人想起岩井俊二的《情書》中那一場失之交臂的初戀。「此情可待成追憶，只是當時已惘然」，而較為積極的是，當錯過的已然錯過，一切不可能重來，芙莉蓮可以做的，是珍惜眼前的生活，延續勇者夥伴精神，傳承給下一輩。



◆ 相傳秦始皇曾派徐福尋訪仙山。圖為畫家筆下的秦始皇。

資料圖片

分號扮「無名英雄」有妙用但不宜多用

在動作電影中，主角有時遇到特別危險或難完成的動作場面，會由替身上場，替身可稱為「無名英雄」。

分號「;」（Semicolon）則是文章中的無名英雄，原本是主角的短號和句號本可自己上場，讓這個替身完全沒有「戲份」，可是為了更好的效果，替身總有它的表現時間。

分號是加速了的句號

文章由段落構成，在每一段內，再細分的單位便是句子。把句子串連起來往往是最能體現文章邏輯的部分，例如Because和While之類的字把兩句連成好像一句。標點符號「串連三兄弟」在第一句完了後便可站出來，告訴讀者這句和上一句是有關係的。

英國人叫句號為Full Stop，而美國人叫它為Period，在此用Full Stop比較貼切。它是一個完完全全的停頓位，好處是看文法時每一句是一個獨立單位，壞處是句子的停頓位真的是個休息，剛才的連接字有點太過「大鑼大鼓」，出現得多，也就重複太多。

也許你不知道，很多美國人視短號為「加速版的句號」，這個用法是錯的，卻又常常出現。真正的「加速句號」是分號。有一本書叫Men Are from Mars, Women Are from Venus，這書是說男人和女人大不同，內容很有趣。不過這是書名，硬說是例外我也勉強接受。可是用在連起兩個句子上，便應該用分句：Men Are from Mars; Women Are from Venus。

分號在取代句號時，它有停頓；但對短於一個Full的Stop而言，分號是低調的连接詞。剛才的例子是內容上並列且不同的情況，其實分號也可用作遞升的展示：Steak is good; Kobe would be better, 牛排很好，神戶牛更加好。

可是分號不可在同一篇文章內多次出現。用回電影作誇張比喻，如果女主角由替身多次代為做危險動作，難免「崩崩」，觀眾就會看到

危險一出現，女主角便變成一個陌生男人。在同一篇文章中，分號代句號最好只出場一兩次。

分號也是高大的逗號

The nine planets of our solar system are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, and Pluto. 有小朋友說我錯，我再細看文法真的沒有錯，原先排於末尾的冥王星不再是行星，它只是矮行星。如此開個玩笑，相當於王祖藍便不是位明星，他是矮明星。

即使八大行星這樣大的體系，逗號Comma仍應付得綽綽有餘，聽起來逗號似乎不用「替身」。

Jimmy after you read the message. Please bring me Men Are from Mars, Women Are from Venus, Guns, Germs, and Steel, and the Good, the Bad, and the Ugly.

究竟一共有多少東西？不如我用分號取代逗號的方法再來一次。

Jimmy after you read the message. Please bring me Men Are from Mars, Women Are from Venus; Guns, Germs, and Steel; and the Good, the Bad, and the Ugly.

其實是兩本書和一部老電影。如用在商業文書會加上分行和點項：Jimmy after you read the message. Please bring me: 1.Men Are from Mars, Women Are from Venus; 2.Guns, Germs, and Steel; and 3.the Good, the Bad, and the Ugly.這樣便清楚顯示出三個東西。

當然，即使所列的項目內並不涉及逗號，每列的文字內容也十分長，比較「高大」的分號，活像書架(Book Stand)，大一點比較令人更安心，但是短少項的列便不宜讓高大的分號搶過風頭。

分號是位「無名英雄」，也沒逃過英雄氣短；除了以上兩個替身崗位，它也沒有其他工作了。

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