

多一點“有機”和 “可持續” 的生活模式 (上)

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人類活動正在破壞地球及地球上的種種生物，包括我們自己。我們可有辦法成為解決上述問題的一員，而不是問題的締造者？

地球是我們人類目前所知唯一的家。在地球表面上看，她是廣大無邊際的。然而，從太空中看回地球，她是美麗而細小的。

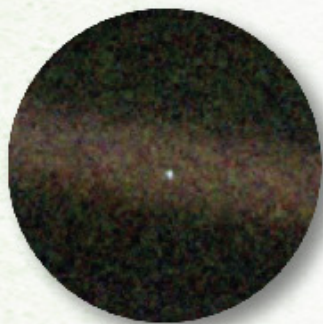
照片“地球上升”或稱“地出”(Earthrise)是在1968年聖誕前夕由“亞波羅八號”宇航員所拍攝的，從荒蕪的繞月軌道上看地球，這幅照片讓我們感受到她那優美迷人之處。

“Earthrise”照片來源：NASA, USA美國太空總署1968.



照片“滿地球”（Full Earth）也稱“藍色大理石”是在1972年由“阿波羅十七號”宇航員所拍攝的，這張“地球全身照”讓大家看清楚原來我們這艘“地球飛船”的大自然是多麼美麗，但她的空間和資源卻是多麼有限的。

“Full Earth”照片來源：NASA USA美國太空總署1972.



照片“暗淡藍點”（Pale Blue Dot）是於1990年由太空船“航海者一號”從四十億英里外所拍攝的。照片中的暗淡藍點讓我們看到，在這個浩瀚的太空中，我們的家是一個十分渺小、獨特和可能易於受損的地方。

“Pale Blue Dot”照片來源：NASA USA美國太空總署1990.

對地球、身處地球的人類和她的生物夥伴來說，假如這三張地球照片能張開我們的眼睛、打開我們的心扉、開放我們的思維，從而喚醒我們需要以可持續的生活態度去保護和愛惜這個微小而脆弱的家，他們的價值可能遠遠比為了探索太空而得來的科技發展的價值要高得多。

“有機”種植和“可持續”的生活模式

我發現很多澳門人對“有機”種植食物和以“可持續”的方式生活的概念並沒有十分清晰的理解。這些概念並不是純粹、字面上的意思，而是從西方引入的慣用語，但當中並沒有賦予其詳實的意思。他們被描述為具有中國鄉村傳統生活的特徵，而這些傳統生活在很多鄉村地方實踐了多年，至今在一些偏遠的鄉村地區仍可見。為闡明概念，我會以西方的術語作定義，以便更好地理解他們與中國傳統生活的關係。



“有機”種植

“有機”種植除了指以傳統的農耕方式種植食物和其他農產品如染料和衣物纖維如棉花外，它還規定不使用有機合成或非有機化學物（肥料、殺蟲劑或除草劑），同時也不會使用經過DNA重組的基因改造生物體（如基因改造種子）。那為甚麼“有機”種植是一種好的耕作方式？

我個人認為，化學肥料不是絕對的不好。只是它們是人工肥料且不可循環再生。其實同樣值得關注的是這些肥料，假如在使用前它們沒有被進行徹底的淨化和測試，它們可能會被合成化肥的殘留毒物污染。



合成化學除草劑和殺蟲劑潛藏着對人類和整個生態系統的更大的傷害性，因為它們其實是毒藥，有可能會毒害人類和其他動植物。同時，由於這些毒藥的化學成分有時仿似人類或動植物的荷爾蒙，而這些“假荷爾蒙”可引致人類和其他生物不正常的生長和發展，因此它們也可能產生不可預測的惡果。

我認為基因改造生物（GMOs）也不是絕對不好的。通常他們有抵抗疾病，增加產品運送復元能力，抵抗某些化學物和合符經濟效益等等的好處。一些基因改造生物（GMOs）甚至可生產相對穩定和花費不多的疫苗，可在世界上一些偏遠地方以低成本幫助人類和動物防禦疾病。同時他們可用來生產有用的混合物去醫治人類和其他動植物的疾病。

作為食物，除食用後有人對基因改造食品有敏感反應外，直到目前並沒有其他跡象顯示其害處。最重要的是我們需要把基因改造食物作適當的標籤，以便消費者可選擇食用與否。他們其他的弊端則與那些以農耕技術(如選種)改變遺傳材料的生物體的弊端差不多，如雜交水稻。但一般來說，他們都是以單一品種或幾種同時培植，而不主張物種多樣性，這樣做會增加所有農作物被同一疾病

蹂躪的可能性。此外，由於種植的種子須每年購買，所以這些以農耕技術改良的“培育品”要比傳統的農作物品種少了持續性，因為傳統的農作物種子每年可儲存下來，留待下一種植季節再栽種。

“可持續”的生活模式

“可持續”的生活模式是指不依靠暫時性來源（非再生）的燃料、食物、衣服或建築材料等生活，而是以使用可再生資源的方式生活，使代代可持續使用到未來。例如：廚餘可用作製造肥料，剩餘的食用油可用作製造生物柴油燃料，太陽能熱水器是電熱水器簡單的替代品。

“可持續”的生活模式意味着假若有效的話，寧願採用自然療法和傳統草本醫藥，而不選用“西方”醫療技術。這也意味着為了人類和他們的生物伙伴可繼續生存下去和活得好些，我們不要改變或破壞地球的生態環境太多。故此，若從人類的角度看，這意味着不要因人類的活動而導致人類走向滅亡。若從地球和生物圈的其他物種來看，最簡單的解決方法會是人類的滅絕！而較難去做的解決辦法是人類須學會以“可持續的”生活態度與他們的生物伙伴和地球一起生活，因為地球是我們與他們共享的唯一的家。

本文的第一部分在此完結。下一期刊登的第二部分，將與大家分享最近本人在澳門嘗試實踐“有機”種植和“可持續”生活模式的經驗和感受。我還會介紹如何使用器皿種植有機食用香草，並提供一份您可與家人和朋友一同分享的、用新鮮香草製作的希臘沙律簡單食譜。下期見。



（作者：來自美國的生物學退休教授）



Living in More “Organic” and “Sustainable” Ways (Part I)

Human activity is damaging the Earth, and the living things on her, including ourselves. Can we find a way to be part of the solution instead of the problem?

As far as we know, Earth is the only currently accessible home for our species. The Earth looks large and boundless to an individual human on its surface. However, from space, the Earth looks beautiful and small.

The “Earthrise” photographed by the Apollo 8 Astronauts on Christmas Eve, 1968, made us aware of the attractive beauty of the Earth as seen from the desolation of lunar orbit.

The “Full Earth”, also called “Blue Marble” photographed by the Apollo 17 Astronauts in 1972 opened our eyes to the limited and beautiful nature of our “Spaceship Earth”.

The “Pale Blue Dot” photographed by the Voyager 1 spacecraft from a distance of 4 Billion Miles in 1990 made it clear that our home is a very tiny, unusual, and potentially fragile place in the vastness of space.

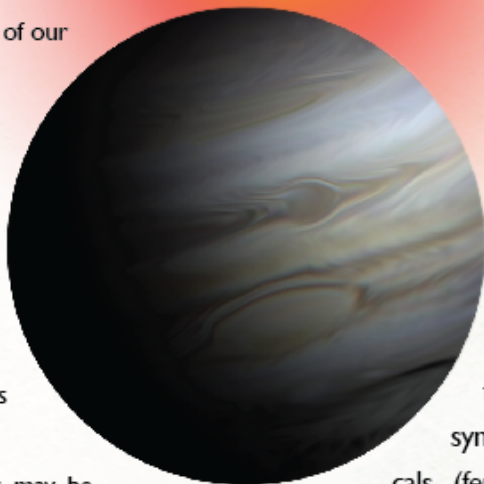
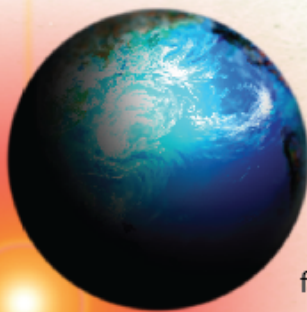
Those three photographs may be worth far more to the Earth, her human inhabitants, and their fellow living things, than all of the technological advances attributed to our quest to explore space, if they can open our eyes, hearts, and minds to the need to protect and nurture our tiny fragile home, by living in a sustainable way.

Growing “organically” and living in a “sustainable” way

I have found that the concepts of growing food “organically” and living in a “sustainable” way to be concepts that are not understood very clearly by many people in Macao. They are not absolute or literal terms, but are idiomatic terms which have been imported from the West, without much detailed meaning. They describe many features of traditional living practiced in most of rural China until fairly recently, and are still practiced in isolated villages and regions. So, for clarity, I will define the Western terms, so their relationship to traditional Chinese living can be better appreciated.

Growing “organically”

Growing “organically” means growing food, and other farm products such as dyes and fiber for clothing like cotton, by traditional agricultural methods, with NO synthetic organic or inorganic chemicals (fertilizers, pesticides, or herbicides) used, and no DNA Genetically Modified Organisms (GMOs) used. So why is growing “organically” a good approach?





In my opinion, chemical fertilizers are not necessarily bad. They are simply less natural and sustainable. There is also possible concern that the chemicals may be contaminated with toxic residues left over from the chemical synthesis if they are not adequately purified and tested before use.

Synthetic chemical herbicides and pesticides are potentially more harmful to humans and the ecosystem, since they are in fact poisons, and may be toxic to humans, plants and animals. They may also have unexpected adverse effects, since they sometimes mimic natural human, animal or plant hormones, and can cause abnormal development in humans and other organisms. GMOs are also not necessarily bad. They usually provide advantages in disease resistance, shipping resilience,

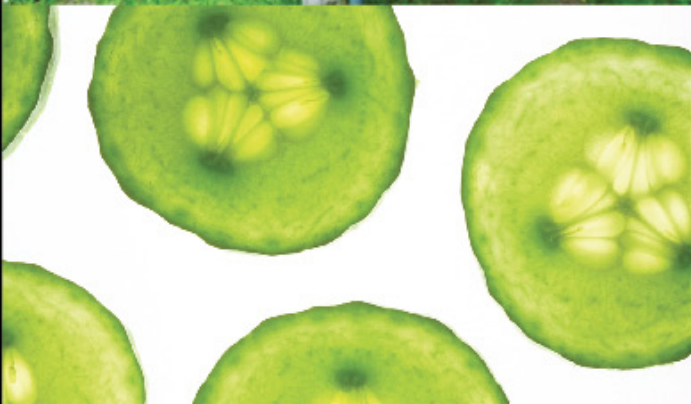
chemical resistances, or other features which make them worth producing economically. Some can even produce stable and inexpensive vaccines to help prevent human or animal disease in isolated parts of the world at low cost, and are used to produce many useful compounds to treat human, plant, and animal diseases.

Unless the person eating the food has an allergic reaction to the GM products, none have been shown to be harmful as foods. The most important need is that GM foods be properly labeled so the consumer can choose to eat or not eat them. The other disadvantages are similar to those for other agriculturally engineered organisms such as F1 Hybrid rice. They usually encourage monoculture of one or a few types, rather than diversity, making devastation

of the entire crop by a disease more likely. In addition, the seed usually must be purchased each year, which makes these engineered organisms less sustainable than traditional crop strains, which can be grown repeatedly by saving seeds each year to plant the next growing season.

Living in a “sustainable” manner

Living in a “sustainable” manner means to live in a way that can be continued for many generations into the future, not depending on temporary sources of fuel, food, materials to make clothes, or building materials. For example, food waste can be used to make compost, and waste cooking oil can be used to make bio-diesel fuel. Solar water heating is a simple alternative to electric water heating.



Living in a “sustainable” manner means to use natural healing methods and traditional herbal medicine rather than more technological “Western” medical methods, whenever they are effective. It means to not modify or destroy the living environment of the Earth too much for humans and their fellow living things to continue to survive and thrive. Therefore, from the human perspective, it means to not cause human extinction due to human activities. From the perspective of the Earth and the rest of the biosphere, the simple solution would be the extinction of humans! The difficult solution is for humans to learn to live in a sustainable manner with their fellow creatures, and with the Earth as their common and unique home.

This is the end of Part I of my article. Next issue, in Part II, I will share my recent attempts at “organic” and “sustainable” action in Macao and my experience on how to grow cooking herbs organically in containers. I will provide a simple recipe for a fresh Greek salad using herbs for you to share with your family and friends. See you next issue.



(Author:A retired Biology professor from America)