

# Commentary: What did astronaut, Olympic, United Nation, and Washington Post talk about?

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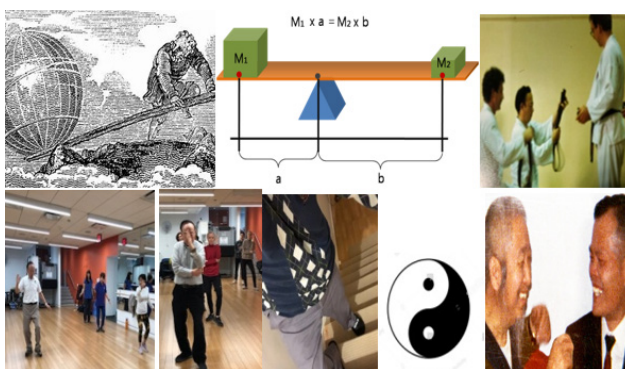
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## Introduction



**Figure 1** (a) Space Astronaut Liu Wang demonstrated “single whip” with Horizontal direction “moment of inertia” due to gentle turning angular momentum, which is counter the Vertical direction weak gravity in of the Space Station. Tai Chi uses the single axis turning as if the Earth rotates around the Sun generating its own gravity. Astronauts who spent month time under a low gravity Space Station need some exercise to strengthen their cord muscles. To save the equipment payload expenditure, the Tai Chi seems to be good choice. When two open arm of the single whip is closed, the right fist will touch left palm and we have the standard Tai Chi Solute; (b) Olympic Game 2008 Demo in Beijing Summer Olympic Game 2008 Hundreds players 24 forms in synchronized movements standing on square lattice for showing; (c): “Harold Szu, a tai chi instructor and scientist at the Naval Research Lab gives a demonstration on Freedom Plaza Wash DC [Wash Post May 7 1990].”



**Figure 2** (a) Archimedes in Greek said giving him with a long enough stick, he can lift up the Earth (by the same leverage effect 1<sup>st</sup> kind). (b) CMC-37 posture is called “Playing Banjo” left-hand formed a tiger-mouth (turning opponent arm inside out) is applied near the right shoulder-arm pit near the opponent body weight  $M_1$  as the “Fulcrum point” while my right-hand is the downward “Effort,”  $M_2$  that will be amplified by a factor of 5 ratios of leverages “ $b/a \cong 5$ ”. (c, d) Harold Szu received black belt at Naval Research Lab, (d) taught Tai Chi Quan in local organizations, (e) applying Tai Chi principle to walk down stair case avoiding accidental fall down in Tai Chi balance (Force: white, & non Force: black) at every step down as the first step, (f) Chen Man Chien 鄭曼青 July 29, 1902, - March 26 1975, 73 years old, due to accidental wooden alcohol poison) and sharing laugh with Ben Lo (Ben Lo (1927 - 2018, 91 years old San Francisco- The Tai Chi Chuan Study Center (<https://youtu.be/zU-Bej5ZAVI>)).

Tai Chi Quan is useful for (1) self defense, (2) avoiding accident fall, as well as (3) preventing dementia. Nonetheless, people attract to Tai Chi are due to the beauty and elegance of their movements. The beauty is in the eye of beholder and the elegance may be due to three causes (1) Accepting gracefully the incoming strike and let it be in its own over-doing direction (e.g. black circle), so that you will be in advantage on a stable position, while the opponent will not be. (2) Your own movement will be single axis turning around as if nothing happened to you (e.g. white circle). (3) Take the advantage of the see-saw pivotal point near your opponent, so that you have the longer stick end amplified your torque. Tai Chi diagram has been adopted in a National Flag, e.g. South Korean.

Tai Chi Chuan has been a martial art\*. For example, Tai Chi Apps (1) white stork cools its wings, can be applied to de-choking; and (2) Playing banjo can ward-off against our heart using the see-saw up-lifting principle; as well as, (3) mindfulness walking meditation by putting all the weight on one foot at a time & breathing in and out slowly, which can avoid dementia by strengthen cerebellum brainstem with full bodyweight (Use it or Lose It) Historically speaking, about half Century ago, Mr. Cheng Man-Ching (CMC cf. Fig.2, also known as Professor of NYU Athletics), (, has simplified his teacher Mr. Yang (105 postures Fig.1, b) during China Tsing Dynasty as a martial art called Tai (great)- Chi (extreme) 太極 (the relationship of Yin and Yang) Chuan (fist). Originally, Yang has 105 forms, taking half hour to perform, it's ¼ forms, about 37 postures, 5-8 minutes known as CMC-37 Forms to match modern day tempo. YouTube References on Page 5; Page 7 has 3 sheets of flow chart of 37 postures Sensei 鄭曼青 shared laughing moment together with his students Benjamin Lo (1927-2018) Pedagogically speaking, Ben Lo said to me once “My name is Ben Lo, your (horse) stance is too narrow for skinning horse, must be bending low (implied that if you wish to be stable and developing your internal strength).” Furthermore, he summarized Tai Chi Quan in 5 letters: RSTUV stands for: “Relax, Single Weight (see-saw leverage), Turning, Upright and Virginia Hand (implied a relax pointed fingers hand”<sup>1-3</sup>

Tai Chi used the largest spinal cord muscle group which gives a powerful internal force, and won't let peripheral muscles to block the coming out of the internal fore. Finally United Nations (UN)

Educational, Scientific and Cultural Organization (UNESCO) have formally accepted Tai Chi. Dec. 2020, as *World Intangible Heritage*. <https://www.youtube.com/watch?v=n-zgUET6dsQ&t=69s>.

### Sample of Certificate



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### Conflicts of interest

The Authors declare that there are no conflicts of interest.

### References

1. To read further: Benjamin Lo: <https://www.youtube.com/watch?v=zU-Bej5ZAVI>, <https://www.youtube.com/watch?v=o8pCHvGVNf0>;
2. **ChenMan-Ching**: [https://www.youtube.com/watch?v=iL8SFY7Li\\_8](https://www.youtube.com/watch?v=iL8SFY7Li_8); <https://www.youtube.com/watch?v=dhkbHVg8RqY>, [https://www.youtube.com/watch?v=sy5\\_d5Qubf8](https://www.youtube.com/watch?v=sy5_d5Qubf8)
3. Harold Szu, cf. <https://www.youtube.com/watch?v=8Th2yqWt5mM> and [https://www.youtube.com/watch?v=I\\_SITy1ArXk](https://www.youtube.com/watch?v=I_SITy1ArXk)