The Terracotta Warriors of Xian



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Ir. Tham Kum Weng worked in JKR for 18 years. He has been a C&S consulting engineer for the past 24 years. His current focus is on engineering inspection, assessment and evaluation of structures and bridge engineering. ing-Ma-Yong, the Terracotta Warriors Museum, is located in Xi Yang Village, Lintong Country, 35 kms east of Xian in the Shaanxi Province of China. It is, literally, a collection of "funerary life-sized statues of soldiers and horses", representing the army of Qin Shi Huang Ti, the first Emperor of China.

My wife and I visited this 1987 UNESCO World Class Cultural heritage site in April 2016, some 40 years after it was first discovered by local farmers (the Yang families) in 1974 while digging wells in search of water. The discovery of pottery fragments and ancient bronze weapons led to intensive excavation efforts and textural research.

By 1979, three excavation pits (Pits 1,2 and 3), with a total area of over 2,000 sq metres of about 8,000 terracotta sculptures of armed warriors and horses and 100 chariots buried there, were opened to the public as an onsite museum. Continued excavation and archaeological research are still in progress at this site, 1.5 kms east of the emperor's mausoleum. The Emperor's tomb remains largely sealed up and unexplored and is

marked by a solid triangular shaped mound. The biggest, Pit 1, is 230m long and 62m wide. It depicted the terracotta warriors and horses (about 6,000) and 40 woody chariots, in battle formation. The curved steel roof trusses span the width, with a hinged joint at the apex. I imagine it would have been a significant engineering feat to design and install the roof trusses over such precious relics with limited available space for any temporary support.

The discovery in 1974 revealed the resplendence and the intrigues of an old dynasty in the Warring States Period which marked the start of a united imperial China some 2,200 years ago. In my primary school history lessons then, I had learnt of Emperor Qin's many achievements and exploits. He united China and established the Qin Dynasty. He standardised Chinese writing, the currency system and weights and measurements as well as fixed carriage axles at six feet. I learnt that he built the Great Wall but I did not learn about his obsession with the construction of the terracotta warriors mausoleum that was of such world-shaking proportions.

Emperor Qin was born in 259 BC as Ying Zheng and inherited his father's throne at the age of 13. Despite his courage and insight, he ruled with an iron fist, prosecuting large numbers of scholars and destroying much of ancient Chinese culture, especially Confucian writings. He died at the age of 49 and the Qin Dynasty (221-207BC) ended two years later through a peasant rebellion (210BC).

According to historians, Emperor Qin began the construction of the mausoleum when he came to the throne. Work continued for 38 years, a massive undertaking that involved 720,000 conscripts at the peak of its construction.

I wonder what changes there would have been, in terms of human and cultural dimensions, if Emperor Qin had lived longer.

