**Power of Tech: Words for Culture**

When we think of the oldest civilizations in the world, few would think of the ancient Australians. Most would think of Egyptian, Greek, Indian, Persian, and Chinese. This is, in no small part, due to the fact that these can all be considered surviving civilizations. Each of these civilizations have groups of people that identify and are willing and able to trace back the cultural lineage to as early as 7000 BCE. Why have these cultures endured, while others have become just case studies in history books? A large part has to do with the existence of a persisting language. Let us explore the history of the Chinese language, and how technology may have helped preserve it.

It is commonly accepted that the Chinese civilization is one of, if not the oldest existing culture in the world. That in itself is impressive, but the fact that the Chinese civilization was able to do so is nothing short of a miracle. China, one of the bloodiest areas of the world, has seen countless battles, many on bewildering scales especially when taking into context the total population at those points in time. Five of the ten deadliest battles in history started in China. These battles were fought for politics, and resources, but at the root of it all is the fact that China consisted of many cultures, with different traditions and languages.

Even now, China is home to up to 200 dialects, that are classified into seven groups: Wu, Gan, Xiang, Min, Yue, Hakka, and of course mandarin (Wallacker, 1987). Many of these dialects sound very different from the others, and would normally be considered a wholly different language if not for the fact that they share the same written characters. Though people in different regions might not understand each other’s speech, they can communicate through writing. This is thanks to the 1st emperor of China – Qin Shi Huang. Though a tyrant, Qin Shi Huang was also a man of foresight. He knew that in order to unify all of China, China needed to share a common language.

To understand how this was achieved, it is necessary to first understand a bit about the Chinese language. Modern Chinese is still considered a logographic language – which is a system for which every symbol either represents a word or a minimal unit of meaning – but it was truer for Old Chinese where the characters were evolved from a pictorial representation of an object (Boltz, 2000). Here are a few examples.

Given the pictorial nature of logograms, a character system underwent koineisation – a koine language, is a “common” shared language between two or more dialects. As such, even regions with different spoken languages could communicate on a basic level through the written characters. When we think of writing, we imagine words on paper. According to Professor Timothy Hugh Barrett of the School of Oriental and African Studies, London, paper played a pivotal role in early Chinese written culture, and he states a "strong reading culture seems to have developed quickly after its introduction, despite political fragmentation”. The importance of the paper to Chinese culture is further reinforced by the fact that paper is one of Chinese culture’s Four Treasures of Study: Brush, Ink, Paper, and Inkstone.

Prior to the invention of paper, writings and drawings were first made on animal bone or turtle shells, followed by wooden tablets (Loewe, 1997). By the late Shang period (approx. 1260 BCE), bamboo strips arrived on the writing scene. While better than bones, bamboo scrolls was still relatively heavy and unwieldy, which were not optimal for transporting. Later on, silk, which was light and malleable was also introduced as an alternative writing medium, but was not commonly used due to prohibitively high costs (Chavannes). As such, bamboo strips remained the main writing medium until the invention of paper, around 105 CE. The invention of paper is commonly attributed to Cai Lun who was the director of the Imperial Workshops in Luoyang during the Han dynasty. Though modern machinery has advanced greatly since Cai Lun’s time, the basics of paper making remains the same: fibres suspended in water, drained then dried into thin sheets. Paper was relatively cheap to produce, easy to transport and had a great balance of light weight durability. The invention of the paper allowed for faster, widespread development of literature, as well as culture. This is an advantage China kept for centuries before the technique of paper making spread to the rest of the world.

With that said, if you know Chinese history, you will probably have noticed that the Qin dynasty was only around for 15 years, from 221 BCE to 206 BCE, hundreds of years prior to the invention of paper. So how did Qin Shi Huang unify Chinese culture? Well while Cai Lun is officially recognized as the inventor of paper, in reality, he most likely just contributed a major improvement to the paper making process. In recent years, there has been ample archaeological evidence that paper have existed alongside of the brush as early as 230 BCE. Unfortunately, no surviving writing on paper have been found as of yet. So it is likely, but not proven, that the Qin dynasty had the assistance of paper for their ambitious plan to unify the written language.

In any case, Qin Shi Huang had unified China through military might, now the Prime Minister Li Si, was tasked with to unify China through culture. Li Si began by quashing intellectual dissent by burning books and only allowing state run schools to educate political scholars. He also implemented common unit of measurement, common currency, and of course, common written character system. Li Si formalized the Small Seal Script as the official character system. The Small Seal Script is less pictographic than many of the other systems of the time, and due to the success of the implementation, the small seal script is seen as the direct predecessor of modern Chinese (DeFrancis, 1986). In fact, the Small Seal script continues to be practiced in the present age in calligraphy and in the making of seals.

To help the reform of the writing system to exclusively use Small Seal, Li Si created a primer known as *Cangjiepian*, or *Three Chapters*, which is a collection of over 3000 characters, organized into 4 character phrases that are easy for children to recite and memorize. Furthermore, some sections of the collection collated the characters based on semantic fields, or words associated such as synonyms and antonyms, as well as characters with the same radicals. *Cangjiepian* was carved into steles – which are stone tablets that are taller than they are wide, and copied onto bamboo strips, and perhaps even paper, and sent all over China.

Though the Qin dynasty lasted only a short 15 years, and Qin Shi Huang himself only lived for 11 years after unifying China, the impact of the decisions made then cannot be overstated (Wilkinson, 2000). Different writing systems continued to be used in various regions after the introduction of an official character system, but it did mean that every region also recognized the Small Seal script. In fact, the actions of Li Si was such a cultural success that the People’s Republic of China copied those same tactics for the Cultural Revolution after the PRC took over China. Officially, simplified Chinese was introduced to help make the language easier to learn, which does make sense. Due to its logographic origin, instead of learning a limited alphabet to create words, Chinese requires learners to memorize thousands of individual characters. However, the move to simplified Chinese served a secondary function to culturally differentiate the People’s Republic of China from its predecessor the Republic of China. With the progress of technology the ease and low cost of creating and distributing writing drastically shortened the timeframe required to change the writing system of China. What had taken centuries to change, took just the better part of a decade with the PRC. This illustrates the power of technology. When applied appropriately, technology allows language and culture to surpass the limitation of natural life. And the ability to faithfully replicate as well as transmit information allows for greater area of influence than any individual can hope to otherwise achieve.

**References:**

Boltz, W. G. (2000). The invention of writing in China. *Oriens extremus*, *42*, 1-17.

Chavannes, E. Chinese Books Before the Invention of Paper. *The Open Court*, *1906*(10), 6.

DeFrancis, J. (1986). *The Chinese language: Fact and fantasy*. University of Hawaii Press.

Egerod, S. C., (2013, October 07). Chinese Languages. Retrieved from <https://www.britannica.com/topic/Chinese-languages>

Loewe, M. (1997). Wood and bamboo administrative documents of the Han period. *New Sources of Early Chinese History: An Introduction to the Reading of Inscriptions and Manuscripts*, 161-192.

Wallacker, B. E. (1987). The Languages of China.

Wilkinson, E. P. (2000). *Chinese history: a manual* (Vol. 52). Harvard Univ Asia Center.

Unable to cite formally due to lacking information.

<https://www.omniglot.com/chinese/evolution.htm>

<http://www.ancientscripts.com/chinese.html>

<https://www.ancient.eu/article/1120/paper-in-ancient-china/>

<https://www.todaytranslations.com/language-history/chinese>

<https://www.learnchinesehistory.com/chinese-writing-history/>

<https://www.britannica.com/topic/Chinese-languages>

<https://en.wikipedia.org/wiki/Dynasties_in_Chinese_history>

<https://en.wikipedia.org/wiki/Qin_dynasty#Philosophy_and_literature>

<https://en.wikipedia.org/wiki/Chinese_calligraphy#Ancient_China>

<https://en.wikipedia.org/wiki/History_of_paper>

<https://en.wikipedia.org/wiki/Qin_Shi_Huang>

<https://en.wikipedia.org/wiki/Seal_script>

<https://en.wikipedia.org/wiki/List_of_varieties_of_Chinese>

<https://en.wikipedia.org/wiki/History_of_the_Chinese_language>

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<https://www.maxpixel.net/static/photo/1x/Santorini-Sea-View-Greece-Sea-Homes-Summer-Oia-2197996.jpg>

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<https://get.pxhere.com/photo/water-reflection-tower-landmark-tourism-place-of-worship-grave-temple-mosque-india-tomb-agra-taj-mahal-1160894.jpg>

<https://upload.wikimedia.org/wikipedia/commons/thumb/b/bc/Fortaleza_de_Bam%2C_Ir%C3%A1n%2C_2016-09-23%2C_DD_09.jpg/1280px-Fortaleza_de_Bam%2C_Ir%C3%A1n%2C_2016-09-23%2C_DD_09.jpg>

<https://c.pxhere.com/photos/c1/53/shanghai_skyline_city_architecture_asia_skyscrapers_china_skyscraper-716747.jpg!d>

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<https://upload.wikimedia.org/wikipedia/commons/5/5c/Raising_an_army.jpg>

<https://upload.wikimedia.org/wikipedia/commons/thumb/a/a9/Map_of_sinitic_languages_full-en.svg/800px-Map_of_sinitic_languages_full-en.svg.png>

<https://upload.wikimedia.org/wikipedia/commons/c/ce/Composite_kaifeng_stone_inscriptions-1-.JPG>

<https://upload.wikimedia.org/wikipedia/commons/thumb/2/27/Qinshihuang.jpg/468px-Qinshihuang.jpg>

<http://www.ancientscripts.com/images/chinese_stages.gif>

<https://www.google.ca/url?sa=i&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwifodjEkKLcAhVwFzQIHSqtChEQjRx6BAgBEAU&url=https%3A%2F%2Fpixabay.com%2Fen%2Fphotos%2Fparchment%2F&psig=AOvVaw2DSXCDUHOA8QCtYFEumFwM&ust=1531779217142427>

<https://upload.wikimedia.org/wikipedia/commons/d/df/Four_treasures_of_the_study_%28chinese_calligraphy_set_to_the_uninitiated%29%2C_Gurgaon%2C_near_Delhi.jpg>

<https://upload.wikimedia.org/wikipedia/commons/3/3f/OracleShell.JPG>

<https://upload.wikimedia.org/wikipedia/commons/3/32/Manuscript_from_Shanghai_Museum_1.jpg>

<https://upload.wikimedia.org/wikipedia/commons/3/3a/CMOC_Treasures_of_Ancient_China_exhibit_-_Pi_Pa_Xing_in_running_script.jpg>

<https://upload.wikimedia.org/wikipedia/commons/5/56/Making_Paper_4.PNG>

<https://upload.wikimedia.org/wikipedia/commons/thumb/7/76/Ming_Dynasty_wood_carving_books_in_Tian_Yi_Chamber_colllection.JPG/800px-Ming_Dynasty_wood_carving_books_in_Tian_Yi_Chamber_colllection.JPG>

<https://www.flickr.com/photos/mikemcd/6152430416> Michael McDonough *Forbidden City (Beijing, China)*

<https://upload.wikimedia.org/wikipedia/commons/6/66/Qin_dynasty_%28Chinese_characters%29.svg>

<https://c.pxhere.com/photos/c1/6f/terracotta_army_china_xi_an_soldier_statue_buried-1268749.jpg!d>

<https://cdn.pixabay.com/photo/2017/02/09/19/18/chinese-2053280_960_720.jpg>

<https://upload.wikimedia.org/wikipedia/commons/thumb/c/ce/China_Qin_Dynasty.jpg/610px-China_Qin_Dynasty.jpg>

<https://www.pexels.com/photo/beautiful-fire-flame-266614/>

<https://upload.wikimedia.org/wikipedia/commons/f/fa/Classicchineseinstrumentscale.jpg>

<https://upload.wikimedia.org/wikipedia/commons/thumb/6/64/Qin_Coin.png/649px-Qin_Coin.png>

<https://upload.wikimedia.org/wikipedia/commons/thumb/3/3f/CMOC_Treasures_of_Ancient_China_exhibit_-_stone_slab_with_twelve_small_seal_characters.jpg/629px-CMOC_Treasures_of_Ancient_China_exhibit_-_stone_slab_with_twelve_small_seal_characters.jpg>

<http://www.beyondcalligraphy.com/images/small_seal_yi_shan_tablet_fragment_16.jpg>

<http://www.chinaknowledge.de/Literature/Science/Images/liushazhuijian_cangjiepian.jpg>

<https://www.flickr.com/photos/speakingoffaith/2699125332>.

<https://upload.wikimedia.org/wikipedia/commons/thumb/9/92/China_blank_map.svg/705px-China_blank_map.svg.png>

<https://upload.wikimedia.org/wikipedia/commons/thumb/6/6c/EN-QIN260BCE.jpg/651px-EN-QIN260BCE.jpg>

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<https://upload.wikimedia.org/wikipedia/commons/thumb/2/28/Timeline_of_Chinese_History.jpg/800px-Timeline_of_Chinese_History.jpg>