

The invention of writing has been critical to human advancement. In the ancient world, writing started as a tool to establish order, facilitating agriculture, calendars and business. However, the idea of writing transcended these practical uses. Writing is, as Voltaire put it, “the painting of the voice”. Once ideas and experiences can be “painted” into physical form, they may live for millennia. Through thousands of years of incremental advancements, from a notch on a stick to the full alphabet, writing has been a defining factor in the success of the human race.

First, it is important to establish what writing is, and at what point it was invented. Writing must be a graphic, phonetic representation of verbal communication<sup>1</sup>. This emphasis on the verbal element is crucial in distinguishing between visual communications and writing. For instance, pictography was used for millennia before the advent of writing. The reason pictography cannot be called writing is because it is a pictorial representation with the intention of transmitting ideas through resemblance or imitation, not through encoding phonetic information<sup>2</sup>.



*Quipu (wool), Peru 1430-1530*

The precursor to writing took the form of notches and knots. Although this bears little resemblance to a sophisticated writing system, these notches and knots fulfil one of the basic conditions of writing: they communicate an idea in a graphic (non-pictorial) way. They were ubiquitous in the ancient world as mnemonic devices to organise trade.

Ostensibly, knots appear primitive and limited. The Incan invention of the *quipu* in 1000 AD, however, illuminates the complexity of these systems. *Quipus* are rows of knotted and coloured strings which store a variety of information, from numbers to astrological

<sup>1</sup> FISCHER, S., 2001. *History of Writing*. London: Reaktion Books, p. 3

<sup>2</sup> *Ibid.* p. 5

maps<sup>3</sup>. The basic functions of these knots were the same as the first writing systems in Mesopotamia: to administrate and keep records. By using these systems, communities could predict and plan into the future, resulting in more effective farming practices and higher yields.



*Bulla (clay), Israel 597-587 BCE 1*

This was being done in Mesopotamia around 8000 BCE with the use of tokens. These were small clay discs with perforations, indentations and painting, indicating number and type of commodity exchanged<sup>4</sup>. Impressive innovation began around 3500 BCE when these tokens were kept in clay envelopes called *bullae* which were marked with reed-shaped indentations and designs from a cylinder seal. These marks seem to indicate a sophisticated accounting system which describes in detail the

information within. Visually unimpressive, these bulky clay spheres were a critical step towards the development of cuneiform. Archaeologist Schmandt-Besserat theorizes that cuneiform is directly derived from the bullae pictograph<sup>5</sup>. Despite the independent development of global writing systems, they clearly share common motivations. Civilisation had developed the need for records which could contain more information than humans alone could remember. This is shown by how agriculture became dependent on numerical systems. By creating numbers, farmers could monitor harvests and administrate accounts. More importantly, number notation leads to the artificial division of the day. Once ancient civilisations were able to equally segment time, working schedules could be created which could increase harvest efficiency and allow a society to thrive.

<sup>3</sup> Zepp, Raymond A. "NUMBERS AND CODES IN ANCIENT PERU: THE QUIPU." *The Arithmetic Teacher*, vol. 39, no. 9, 1992, pp. 42–44. JSTOR, [www.jstor.org/stable/41195349](http://www.jstor.org/stable/41195349). Accessed 6 Mar. 2021.

<sup>4</sup> MAIOCCHI, MASSIMO. "WRITING IN EARLY MESOPOTAMIA: The Historical Interplay of Technology, Cognition, and Environment." *Beyond the Meme: Development and Structure in Cultural Evolution*, University of Minnesota Press, Minneapolis; London, 2019, p.400. Accessed 6 Mar. 2021.

<sup>5</sup> Ibid. p.401

In Mesopotamia, the world's first two writing systems emerged nearly simultaneously. The first was developed in Uruk, the capital of Sumer which was twice the size of classical Athens. Mesopotamians had already been using forms of proto-writing and logonumeric systems to administer the city.

Advances were made in Mesopotamian pictography by combining two pictures to form a new meaning. For instance, 'plough' and 'man' could mean *ploughman*<sup>6</sup>. This advance rapidly expanded the 'alphabet' and allowed people to read for the first time.

Still, a major condition of a writing system was missing: systemic phoneticism. Sumerian symbols were still using a system-external referent<sup>7</sup>. Whereas in developed writing systems the symbol gives direct instructions for the pronunciation of the word, Sumerian symbols were semantically linked to the object themselves and did not yet encode phonetic information. A radical change in thinking, and the invention of writing, happened in 3700 BCE prompted by the need to expand the written lexicon and reduce ambiguity. This was cuneiform, a logosyllabic system created with wedge-shaped reeds pressed into wet clay. Sumerian is a monosyllabic language which is often ambiguous due to its many homonyms (*their*, *there* and *they're*, for example). To illustrate, the word *mu* means plant; it also means year and name. In this way, the symbol for *plant* came to lose its meaning as a *representation* of a plant, and rather conveyed a *phonetic* message to mean any of these words. This is known as the rebus principle.

This unique characteristic is perhaps a reason that Sumer was the birthplace of writing. The phoneticisation of cuneiform accommodated a massively expanded number of words. To a rapidly growing industrial city such as Uruk, its uses were endless. Cuneiform's unique sexigesimal numerical system, now being immortalised in clay administrative documents, allowed for time to be segmented

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<sup>6</sup> FISCHER, S., 2001. *History of Writing*. London: Reaktion Books, p. 34

<sup>7</sup> *Ibid.* p. 30

into 24-hour cycles. This had a profound impact on how agriculture operated in Sumer, as farmers could project the number of workers they needed and calculate compensation<sup>8</sup>.

The vast collection of cuneiform tablets which explore astrology reflect the educational aspect to writing. Finally, human memory had become limitless and history, traditions, ideas of religion and cosmology could be made permanent. Cuneiform is arguably Mesopotamia's most important invention. Not only did it have a transformative effect on Sumer's neighbouring civilisations, but it is heralded as the inspiration of later systems, such as Egyptian and Phoenician<sup>9</sup>.

The second earliest writing system was developed just a few hundred years later in neighbouring Egypt. Believed to be a gift from the god Thoth, writing was appreciated as a sacred tool in 4<sup>th</sup> millennium Egypt. Until the 20<sup>th</sup> century, it was assumed that, due to proximity of time and location, hieroglyphics were directly evolved from cuneiform. This theory has recently been discredited, as a dissection of the Egyptian writing system reveals a completely different set of grammatical rules. The key difference between the two is Egypt's logoconsonantalism (characters representing a consonant sound) and Sumer's logosyllabicism (characters representing a syllable sound), a consequence of the nature of each language. However, perhaps the Egyptian writing revolution was inspired by their literate neighbours, adopting the Rebus principle in order to facilitate the move from pictographic communication to a writing system<sup>10</sup>.

An intriguing feature of Egyptian writing tradition is its ability to evolve to suit its use. Hieroglyphs were typically reserved for religious or royal inscriptions. The most ubiquitous script was hieratic, a cursive version of hieroglyphics which administrators used for letters and accounts. From this, demotic script

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<sup>8</sup> MAIOCCHI, MASSIMO. "WRITING IN EARLY MESOPOTAMIA: The Historical Interplay of Technology, Cognition, and Environment." *Beyond the Meme: Development and Structure in Cultural Evolution*, University of Minnesota Press, Minneapolis; London, 2019, p.400. Accessed 6 Mar. 2021.

<sup>9</sup> FISCHER, S., 2001. *History of Writing*. London: Reaktion Books, p. 54

<sup>10</sup> Ibid. p. 38

emerged, which Herodotus called *demotikós* or ‘the script of the people’. It was an even more informalised, ligatured and stylized interpretation of hieroglyphics which propagated in the Nile region in 1000 BCE<sup>11</sup>.



*Behistun Inscription, Iran 522–486 BCE*

This presents another interesting distinction from cuneiform. Cuneiform was a singular script used by many Mesopotamian languages. Egyptian script was a singular language represented by three unique writing systems. Egypt’s writing revolution was similar to the one in Sumer. It was an unparalleled administrative tool which organised agriculture and society. However, it spawned a

unique social phenomenon. A new social class of scribes was created, opening up a bureaucratic avenue through which one could gain wealth and status. More so than in other Mesopotamian civilisations, the skill of creating and deciphering this complex writing system was a means of reinforcing the Egyptian principle of *ma’at*: the idea that the gods created a rigid societal order to bring harmony. The distinction between the upper classes and the lower ones was now even more pronounced. With the growing use of hieroglyphics in religious ceremonial items, the illiterate class were not afforded the same spiritual care as the ruling class. Scribes used hieroglyphs in the Book of the Dead and on the walls of tombs to guide the wealthy dead through the afterlife, reinforcing ideas of divine right to rule. Writing also was a convenient tool to extoll a ruler’s victories and virtues. In 522 BCE, King Darius I of Persia commissioned a 5½ m relief of himself vanquishing his enemies alongside thousands of lines of Babylonian, Elamite and Old Persian script<sup>12</sup>. This detailed his ancestry and claim to the throne 100m up a cliff face. Clearly,

<sup>11</sup> FISCHER, S., 2001. *History of Writing*. London: Reaktion Books, p. 42

<sup>12</sup> Olmstead, A. T. “Darius and His Behistun Inscription.” *The American Journal of Semitic Languages and Literatures*, vol. 55, no. 4, 1938, pp. 392–416. JSTOR, [www.jstor.org/stable/3088120](http://www.jstor.org/stable/3088120). Accessed 6 Mar. 2021.

ancient rulers, much like modern ones, could appreciate the value of words to reinforce their political agenda and circulate propaganda.

Independently from the literary revolution happening in Mesopotamia, China too was developing new ways to communicate visually. In the Far East, the first signs of writing can be seen in the oracle bones of the Shang Dynasty in 1400 BCE<sup>13</sup>. These were large, flat animal bones which rulers would inscribe with a question for the gods using pictographic characters. Once they had carved their query about war, agriculture, or hunting into a bone, a diviner would apply heat and interpret the resulting cracks in the bone as mystical answers. This being the first archaeological evidence of a Chinese proto-writing system, one can assume that the practise of writing was a highly sacred and ceremonial practice in ancient China.



*Oracle Bone, China 1200BC-1050BC*

A proper system of writing soon followed with the arrival of *wén*, or unit characters. Similarly to Sumerian, ancient Chinese was a highly monosyllabic language which means that, like cuneiform, *wén* often created entire words using only one morpheme (a unit of language that cannot meaningfully be further divided). However, the Chinese encountered the same problem that had troubled the Egyptians and Sumerians: ambiguity. The *wén* system was both homophonic and polyphonic, meaning one phonetic pronunciation could mean many words, and also many words with similar meaning could be visually represented by the same *wén*<sup>14</sup>. Therefore, in a manner similar to the Egyptian use of determinatives to clarify meaning, *zǐ* were invented. *Zǐ* were compound characters

<sup>13</sup> Flad, Rowan K. "Divination and Power: A Multiregional View of the Development of Oracle Bone Divination in Early China." *Current Anthropology* 49, no. 3 (2008): 403-37. Accessed March 6, 2021. doi:10.1086/588495.

<sup>14</sup> FISCHER, S., 2001. *History of Writing*. London: Reaktion Books, p.192-197

containing both a *wén*, as well as another logogram (written character) to identify the phonetic or semantic intentions of the writer.

In this manner, the writing system hailed as ‘the Latin of the Far East’ was born. A religious comparison can certainly be drawn; Latin was responsible for the dispersal of Christianity across Europe, and Chinese writing was the vessel for propagating Buddhism across Asia. Much like the influence of the Roman alphabet in Europe, Chinese *hánzi* characters permeated the entire Far East, creating the basis for most modern Asian alphabets including Japanese and Korean<sup>15</sup>. In 221 BCE, the Qin Dynasty launched the world’s first attempt to standardize a country’s writing system with the intention of reinforcing their own political and social power. The Great Seal Script was simplified into the Small Seal Script which forms the basis of the modern Chinese logographical lexicon.

This was not the last attempt by a Chinese government to extend state power into writing. After the fall of the Manchu regime in 1911, the new republican government installed the National Phonetic Alphabet, a campaign which had first gained momentum in the Ming Dynasty in 1368 with interest in phoneticism generated by Jesuit priests preaching from Latin texts<sup>16</sup>. When Mao came to power in 1949, he proposed *pinyin*, a system of romanticized Chinese writing which he believed would increase literacy across China, as the current system was highly complex. This was ultimately quashed by scholars, but a radical new system was introduced: Simplified Script. This significantly decreased the strokes in each character and reduced them to unidentifiable derivatives of what they previously had been. Confusingly, in the Cultural Revolution of the 1960s, the Red Guards denounced *pinyin* as foreign interference, posing a dilemma for modern China with three equally reasonable, but very different scripts<sup>17</sup>. While this

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<sup>15</sup> Ibid. p. 177

<sup>16</sup> Ibid. p. 168-169

<sup>17</sup> PAN, LIEN-TAN. “LA REFORMA DE LA ESCRITURA CHINA: SU ROMANIZACIÓN: Serie De La Lingüística China 2.” *Estudios De Asia y Africa*, vol. 46, no. 2 (145), 2011, pp. 407–435. JSTOR, [www.jstor.org/stable/23043363](http://www.jstor.org/stable/23043363). Accessed 6 Mar. 2021.

certainly does not resemble the development of writing in its original, 'ancient' sense, China's constant reinvention of their own writing system by the state highlights an important motive in producing such a tool. When a state is able to control how its people express themselves through literature or record their own history, it can intimately place itself into the personal realm. The tradition of writing is inextricably linked with a civilisation's identity, therefore 'modernizing' writing through sweeping reforms allows governments to redefine cultural identity and erase heritage: a useful display of power for any tyrannical state.

The invention of writing provided perhaps the most useful tool in human history. Its uses go beyond its practical employments in agriculture and administration. Writing represents humanity's first attempt to create a legacy, narrate its history, and spread ideas. The unique nature and usage of each writing system shows how entwined it is with cultural heritage. From the painstakingly rendered hieroglyphs decorating a pharaoh's tomb, to the profound artistry of Chinese calligraphy, writing is an extraordinary mesh of utility and creativity. In the ancient world, it allowed civilisations to flourish, religion to proliferate and history to be preserved.

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