

## Transcript


When we think of icons, we usually think of images that closely resemble something like a photograph, an illustration or a diagram. This is fitting since the word icon comes from the Greek word “eikon” which means ‘an image’ made up of a two dimensional drawing or sketch. These visual depictions create a language used to communicate a meaning that is understood across time and culture.

On the opposite side of the spectrums are symbols. According to philosopher Charles Sanders Pierce, symbols are a shape or sign used to represent a product or idea. Unlike icons, symbols are more abstract in nature and have a stronger link with the interpreter than the object. The sign used does not resemble the object and the idea conveyed behind symbols are arbitrary. As a result, they must be agreed upon and then learnt through cultural and conventional use (Chandler, 2014).

Where icons can be thought of as “an alphabet for human thought, “symbols can be thought of as “an alphabet of human thought.” What is fascinating is how iconic systems historically transformed into symbolic writing systems. It is commonly believed that pictograms - illustrative icons representing a concept, object, activity, place or event - evolved into ideograms - graphical index that represent ideas-and then into logograms -graphical symbols that represents words. This was meant to create written languages like the Sumerians cuneiforms, the Egyptian Hieroglyphics, and the Asian characters. In this video, I will compare the transformations of these three writing systems in relation to the evolution of their education, social structure and culture.

In general, writing systems draw a distinct line between a civilized and an uncivilized society. As civilization advance and evolved, writing became a necessity. This is true of Sumerian cultures where the first true city originated toward the end of 400 B.C. Consisting of anywhere between 60,000 and 80,000 people, a standard writing system was created in 5000 BC based on a need to record economic and accounting transactions as the population evolved from farmers and hunters to business men.

One of the earliest purposes of their writing system, cuneiform, was the creation of lists. The simple act of recording objects in columns and rows influenced the cognitive structures of the culture in a profound way. Humans were now able to organize and analyze their considerably complex thoughts and concepts using graphical methods (Goody, 1977). They started off using pictographs of the objects, such as jars of oil or sheaves of wheat, to represent the specific number of these objects. Later they created a much more efficient method using an abstract tally system made by impressing a reed stylus on a clay tablet. The results are wedge shaped strokes that are used to represent a specific number of any object. Not long after, they started assigning symbols to groups of objects such as a ball (◀) for ten and a large wedge (⌢) for sixty. They were perhaps the first people to attempt to make the description of larger numbers easier and this abstraction allowed Sumerians to advance in Mathematics beyond the Egyptians, Greek and Romans. They developed the concept of fractions and place-value systems which are similar to the modern decimal system. Without the early use of cuneiform as icons, humans would not have the affinity to think in terms of tables, formulas, patterns, and recipes.

The act of using a pictorial language then became a historical record of the culture. For example, the semantic radicals in the Chinese language provided all kinds of information about the culture. The wood radical in the character for cups 杯 and the stone radical in the character for bowls 碗 indicated the type of materials the tableware was made from. The female radical in the character for surname 姓 alludes to a matriarchal society during the early times (Lau, 2012). In Egyptian hieroglyphs, the strong ties to their religion were seen in the order they placed the sign for god, where the symbol for God stands in front of other words like servant even though it's read the other way around  (Dorman, 2014).

As professor of literature, media and communication Jay David Bolter (2001) describes it, the writing systems that started off as pictographs are not so much an image of the physical but rather of the cultural landscape. This cannot be truer as each of the writing systems revealed “fragments of the conceptual world of the writer who produced it” (Bolter, 2001, p.60) The cuneiforms revealed the affinity of the Sumerian culture to solve practical problems with creative solutions. They derived the idea of square numbers and quadratic equations in order to maximize land measurements. The Egyptian's hieroglyphs showed its close connections in the art style with their culture and religion. Those that didn't stay closely bound to religious convention went through stages depending on the art style of the period: taut and slender, or sensuous and fleshy, or even bloated. The Chinese transformed their writing system into an art form that reflects the Chinese philosophy and their ideals. Chinese writing became a calligraphy that reflects one of balance: between black and white space, spiritual and physical, static and dynamic, conscious and subconscious, order and chaos. The Chinese aristocrats of the time spent a great part of their leisure time practicing this art form with the intent of expressing the innermost beauty of their soul in order to achieve a balanced lifestyle. According to historian and philosopher Reverend Walter Ong (1982), none of these pursuits would have been possible had the writing system not existed to free the mind of the conservative tasks or memory work. This freedom enables the human mind to achieve abstract concepts that gain greater depth as the individual achieves life experience.

However, most languages did not stay in their iconic form for long. “Historical evidence does indicate a tendency of linguistic signs to evolve from indexical and iconic forms towards symbolic forms” (Chandler, 2014). The reason being that society started moving towards more intangible topics of thought such as emotions and religion. For this reason, writing systems were abstracted. Even the highly artistic form of the Egyptian hieroglyphs of 3200 BC were eventually simplified and abstracted to create the more cursive hieratic glyphs and the more secular demotic glyphs by 2900 BC. The close connection of Egyptian hieroglyphs with the art form of its culture made this writing system time consuming, cumbersome and complicated to create these detailed logographs and ideograms. Originally found on common items like pottery, they eventually were only used for recording unique events or individuals on more permanent mediums like the stone walls of temples and tombs, the metallic surfaces of statues, or the wooden faces of implements. Only the few required of the profession, such as the craftsmen, officials and priest, understood the reading and writing of these hieroglyphs and the Egyptian hieroglyphs came to divide the Egyptian society between the high and low usages of languages.

The hieroglyphs that were segregated from the masses became confined to the temples in the later period of Egyptian culture. What started off as a pictorial language in the beginning is now referred to as “writings of God’s words”, and this segregation was one of the causes that led to the demise of Egyptian hieroglyphs. The other was the political unrest in the country. When Egypt became dominated by a Greek dynasty in 305 BC, Greek culture and ideals were mixed in with Egyptian culture. The result was an introduction of many new hieroglyphic signs. Many of which were complicated and never circulated beyond the privileged few. So the Egyptian hieroglyphs never got an opportunity to evolve past the complex hybrid of pictograms, ideograms and rebuses. Soon after, the Roman Empire took control of Egypt in 30 BC and closed all the temples by 391 AD. This essentially ended what remained of the hieroglyphic language and now the inscriptions are merely a symbolic representation of pharaonic civilization. A few hieroglyphs became the basis of 8 symbols that survived through the Greek alphabet and became the symbolic phonetical alphabet system that we recognize today.

Of all the writing systems, the most symbolic is the modern day alphabet. Originating from Semitic people around 1500 BC, the alphabet is a system of writing derived out of orality (Ong, 1982) and has lost all connections with things. The association of every unit of sound to a simplified symbol gave humans the ability to represent any word from merely the sound. This transformation of sound into purely spatial components can be acquired by even the youngest of learners and can be used to write words from languages that are not known - such as Chinese words written with the English alphabet. The transcendence of any writing system into a functional language depended on moving away from direct representation of meaning towards the representation of sound. This importance was alluded to by Bolter even for more pictographic languages like Chinese when he stated that the transformation from the pictogram to a logogram depended on the correspondence between the pictures for the objects and the name of the objects. It is through this realization that picture elements can be identified with sounds that a more symbolic, phonetic writing system developed. In order to understand the evolution of the Chinese writing system, let’s take a brief look at its origins.

Like the Egyptians, the Chinese writing system started as hieroglyphs but transformed from a more complex, inconsistent ancient writing system to a more simplified, normalized modern writing system. Originating as inscriptions on oracle bone in 1711 BC, the ancient character’s size, position, form, complexity and textual format were not consistent. It wasn’t until the unification of China during the Warring States Period from 475BC to 221BC that the variant forms were eliminated and the character’s position, square shape and form became consistent. The character strokes were still long, curved and complicated; and as a result, the growing number of administrative documents became too time-consuming and cumbersome to scribe with a seal script. This dissatisfaction initiated the largest transformation of Chinese character structure from the iconic or pictographic appearance to the more symbolic or logographic appearance of modern Chinese characters. Referred to as the clerical script, the curved strokes in the seal script became straighter, the number of strokes was reduced, some components were merged into one and other components were simplified. Unlike the Egyptian writing system, the Chinese characters survived largely because this transformation allowed a larger population of lower status scribes to utilize the script for practical uses instead of solely for religious and artistic purposes. However, the complexity and the overwhelmingly large number

of the characters in the writing system still kept a majority of the population illiterate. As a result, this divided the country into a caste system which kept the elite in control and the peasants under submission. It wasn't until 1949 when educational reforms further eliminated 1027 character variants and reduced the number of strokes in 2235 characters out of the original 3000 characters (Yin, 2006). The "regularization", "normalization" and introduction of a phonetic alphabet (pinyin) made the Chinese written text much more accessible and easier to learn. It is to no surprise that the literacy rates increased by an average of 4 million people per year starting from 400 million illiterate people in the country (Zhang, 1997).

The other reason that contributed to the survival of the written Chinese language is the association with the orality of the culture. This is because phonetically based systems simplify the language by borrowing existing written symbols with the same sounds for new words rather than creating new symbols. This evolution is a result of the Rebus Principle. Although this principle may create confusion when many different meanings come to share the same written symbol, the Chinese came up with an ingenious solution by adding a semantic radical that accompanies the phonetic component in order to differentiate the meaning but keep the sound. For instance, when the phonetic component is combined with the semantic radicals as shown, the following meanings are created:

With only 18% of Chinese characters being meaning based and 80% of the others being phonetically based, this gives the Chinese language the capability to create up to 54, 678 currently existing characters according to the according to the Great Compendium of Chinese Characters or "Hanyu Da Zidian" (汉语大字典; Hànyǔ dà zìdiǎn). With only 900 characters, an individual can understand up to 90% of written prose. This makes the language more accessible to the masses and has kept one of the oldest forms of writing still in existence for 6000 years and counting. Learning such a language still takes approximately twenty years to master. The Chinese government understood that simplification was a necessity for increasing the literacy rate in a society using a logographic language and attempted to ease the transition by further simplifying 20% of its characters (Yin, 2006). In addition to increasing literacy rates, this simplification allows the language to transcend political borders in the current globalized world. This strengthens their foreign influence as well as bringing about a cultural awareness of Chinese society. This is one of the reasons that the Chinese shared many of the same written characters in the past with countries like Japan, Korea, and Vietnam and this is also one of the reasons that there are currently 40 million foreigners studying Mandarin around the world.

Icons and symbols have been part of the collective subconscious of the human race since our ancestors started drawing on cave walls. Their meaning transcends cultures, time and space. They have the potential to be a universally understood language that connects the past with the future. A picture is, after all, worth a thousand words and the same picture can depict the same meaning thousands of years later as shown by the Chinese language. In fact, a Chinese person from the Han dynasty can still read twentieth century Chinese. Such languages not only enable collective thought but are a powerful aid to human thinking as they strip information down to the bare minimum so that they can deliver concise information effortlessly and instantaneously while defying language and cultural barriers. The survival of such a language requires its symbolic

counterparts. The evolution from icon to symbol had impacts on how we think, communicate and live (Ong, 1982). Symbols allow the development of ideas in ways that icons do not. Symbols can be combined in ways that create new ideas beyond the literal meaning of icons. New words can be created by combining current words or by creating homophones. By drawing from the symbolic nature of the language, written languages like Chinese (Hànyǔ 汉语) can keep the necessary symbols relatively low while adapting to the changing needs of the culture. This is the power logographic written systems possess.

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