

What is the cultural impact of playing cards in relation to design?

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Playing cards are known and used all over the world, having a rich history and many uses ranging from family games and casinos to sleight of hand magic. Through the ages many countries and cultures have influenced change in the dynamics and mechanics of playing cards. Within the body of this essay, I will be discussing how these changes have occurred and how culture, location and time period has affected the design of playing cards. Additionally, this essay evaluates how different cultures interpret and understand playing cards, through examination of cultures and time periods such as the Tang Dynasty in China and the Mamluk period in Egypt; and through discussing different manufacturing methods and processes for each culture, such as woodblock and chromolithography. In addition to ancient cultures this essay will provide an examination of modern influences such as being a catalyst to the creation of method cards and design tools. And how modern society has adapted the game or reevaluated the use of cards to fit societal and cultural norms.

Different cultures have influenced the design process as well as providing real-world applications such as props for magicians. This essay will display examples of key designers such as Owen Jones, who had a big impact on the modern interpretation of cards and their designs, and the influences from his world travels when looking at culture and architecture. Also, Jones was a figure head in promoting a new way of using cards by way of collectors due to interest in the back designs of cards. Jones was also a major contributing influence in the way cards are printed and created. This essay addresses modern studies that have uncovered the neural impact of cards and have demonstrated the positive impact for all ages, in relation to memory and general better quality of life for all.

Playing cards have been in the world for hundreds of years. Most historians would argue that they have been around since the twelfth century (AD1000), originating in China (Chatto, 2009), however, other research suggests that playing cards were created in the ninth century during the Tang dynasty (Hargrave, 2003). One of the first pieces of evidence towards the first card game and their creation comes from an ancient Chinese text, *Collection of Miscellanea at Duyang*, by Tang Dynasty writer and scribe Su E (Lo, 2000), a text which is often cited when looking into the origin and creation of cards. The game mentioned in the book is called the *game of leaves* (yexi xi). Although the evidence is limited, Dr Andrew Lo argues in *The game of leaves: an enquiry into the origin of Chinese playing cards*, that the game of leaves is a card game, stating that Yexi translates or means leaves or 'playing cards' (Lo, 2009). However, to prove the game of leaves is a card game, or the first card game is nearly impossible due to lack of source material and evidence that has decayed since the ninth century, and no longer exists. From what little evidence still exists all that is known about the game of leaves is it uses pages from a book used in a rudimentary board game using dice like objects, the leaves being referred to as pages, or cards. Not much else is known or proven about the rules and methods of playing the game of leaves (Lo, 2000). Playing cards and card games in the ninth century

were dissimilar to modern or traditional cards and were woodblock printed onto a paper like substance. The cards had printed images and instructions with forfeit like actions. The first dated and recorded instance of a game involving cards took place on the 17th July, 1294, recorded by the Ming Department of punishments (Hucker, 1958); two gamblers were found playing with paper cards, arrested with the nine cards they were using, in addition to the woodblock used in their creation (see fig. 1).



Fig.1: Chinese printed playing cards

The ninth century and onwards led the game to spread across the Asian continent, and then towards Europe, with Egypt adopting the card game in the 11th/12th century. Egypt was the creator of the oldest surviving playing cards, and these remain today as 5 fragments that look similar to scrap pieces of parchment. Four of these historic items can be found in the Keir Collection and the fifth card is held in the Benaki Museum, dating between 12th and 13th century. Some argue that these are not playing cards and just old parchment, however later evidence found in 1939, of a near complete set/pack of 15 century playing cards proves that the collection of five cards from the 12th century were indeed the first surviving playing cards as they were very similar in design, weight, and size (Mayer, 1971).

The fifteenth century cards were found in the Topkapi Palace in Istanbul and have been called Mamluk cards from the Mamluk era. They were composed of three different packs, said to be for replacing cards according to *The International Playing Card Society* (IPCS, 1972-1997). The pack contains a total of fifty-two cards. Similar to modern day cards, they also have four suits, polo-sticks, coins, swords, and cups with each suit housing ten Numeric cards and three court cards (royal cards). Each of these three 'royal' cards are called Malik (king), Na'ib Malik (viceroys king) and thani na'ib

(under deputy). The structure of these playing cards are very similar to the modern or traditional card packs that contain fifty-two cards and four suits, which suggests that the mechanics of the cards has been the same since the 12th century when cards were introduced to Egypt.

The earliest mention of playing cards in Europe was 1371 in a Catalan language; it was evidenced to have been a well-known activity in Catalonia (currently a part of Spain) as their dictionary's and texts reference a word 'naip'. According to Denning (Denning, 2003) the only meaning for this word could have been 'playing card'. Historians argue whether playing cards came to Italy or Spain first, as both nations originally used the Egyptian playing cards (mamluk cards) before adapting the game style. Their adaptations were to simplify the card design for a wider use and for more people to use and enjoy, which in some ways defies the original use of cards from the Tang Dynasty (China) and Egypt. According to William Henry Wilkinson both civilizations that used playing cards, had used them as some form of currency and as a tool for gambling, in essence having a multipurpose. The European take on this was vastly different, as well as the way they presented the cards. Late 14th century Europeans changed the Mamluk court cards (Egyptian royalty) into representations of European royalty (see fig. 2).



Fig 2: Mamluk playing cards.

The original playing cards (between 9th to 12th century), originating from China had been created using the ancient method of printing called woodblock, using a wooden print block. The process starts with a block or log of wood, which would have been hand carved on one side, inked, and then pressed onto a surface, such as paper or parchment (Chesterman and Nelson, 2015). A modern variation of woodblock is called Lino print, which utilizes a similar method using a material that can be carved into, and the relief printed (Marshall, 2023). Beyond the 12th century, around the time the Chinese version of cards made their way to Egypt, a drastic change occurred in the design and function of the cards. The Egyptians altered the mechanics and design to align with their social norms and culture. Having a large population of people following the Islamic faith, would mean that the cards would become influenced by Islamic geometrics and architecture (Dummett, 1973). Simon Wintle claims that the Egyptian cards were hand drawn and painted, often using architecture in the designs, such as the border of the cards being the shape of a horseshoe arch, as seen in Islamic doorways and windows; the size of the painted cards would have measured at 252 x 95 mm. The suits of the Mamluk cards are coins, cups, swords, and polo-sticks, depicted as painted images upon cards, with other geometric patterns and often flowers and leaves placed in the remaining space. The mamluk cards also contained Calligraphic text along the top and bottom of the cards, consisting of rhyming aphorisms such as “with the sword of happiness I shall redeem a beloved who will afterwards take my life”; other Aphorisms of a different style existed such as “I am as a garden, the like of which will never exist” (Wintle, 2001).

The design of playing cards would later change after the European influence around the 1400s. Historic evidence is inconclusive as to whether cards came to Italy or Spain first, however both countries altered and manipulated the card design to fit their cultural norms. The suits on the cards were altered, such as changing the suit polo-stick to batons or cudgels, as the sport of polo was obscure to Europeans (Chatto, 2009). Another example of change was when cards reached Germanic countries from Italy and the suits were changed entirely, consisting of leaves (or shields), hearts (or roses), bells and acorns. This was said to represent coats of arms in European royalty crests, being a symbol of which most if not all could understand in Europe and would have seen on a regular basis. Around 1840 the suits started to become more like modern cards with hearts, spades, clubs, and diamonds added, having been influenced and altered by the Italians, Spanish, Germanic and French to fit European standards. Coming from the combination of Latin and Germanic symbols and suits for the cards, allowed the French to simplify and use the suits Trefles (clovers or clubs) Carreaux (tiles) Coeurs (hearts) and Piques (pikes). In England they called the clovers “clubs” and the pikes “spades”. Historians claim that this might have been due to the English using Latin based cards, then later

changing to the French edited cards with an English translation, giving the world the modern style of cards being 4 suits, hearts, diamonds, spades, and clubs. It has been said that the four suits represent the four major pillars in the economy of the Middle Ages; hearts would represent the church or religion, spades representing the military or army, clubs representing agriculture and diamonds representing the merchant class. The Europeans also altered the court cards (royal cards) to fit more European royalty titles, such as king and queen, and the lowest of the court cards being Knave, which translates to male child, which was later changed to Jack (Hargrave, 2003). The face cards (royal cards) represent a great person or figure from history: the King of spades David, which is said to be the second king of Israel who lived until 1000 BC: King of hearts Charles, which could potentially be either Charlemagne or Charles VII: King of diamonds Julius Caesar, leader of the Roman Empire from 49 BC to 44BC: King of clubs Alexander the Great, King of the Greek empire: the Queen of spades Pallas: the Queen of hearts Judith: the Queen of diamonds Rachel and the Queen of clubs Argine (Taylor, 2013).

The card values and the mechanics of the game also represent the way we see time and also measure it: for example there are 52 weeks in a year, and there are 52 cards total: there are 4 seasons, and in cards there are 4 suits: the 13 cards in each suit represents the 13 weeks in each season: 12 royals represents the 12 months in a year: and finally 2 red and 2 black suits symbolize the four solstices. Playing cards follow the Gregorian calendar exactly, which was a system of determining the date, introduced by Pope Gregory XIII in the year 1582 AD. Basing the math's on the movement of the earth around the sun, meaning that the Gregorian calendar is a solar based time measurement system (Cagle, 2021).

Modern playing cards are typically produced and manufactured in two colors, black and red, divided equally through the four suits, using red for diamonds and hearts, and black for clubs and spades; this is a common system that is used globally. However there have been other color systems used to help identify the card suits. The most common versions are allocating a color for each suit, red being for hearts, black for spades, green for clubs and blue for diamonds. These variations were introduced around 1900 and have been used to the current day. There are many different variations of the four colored card decks from around the world, all using different colors for different uses and games. These deck variations with four colors are called no-revoke decks and their purpose was for card games such as bridge, whist, or jazz, in hopes of reducing a player revoking a card (playing a card of one suit onto a card of a different suit out of turn) (Hargrave, 2003). Modern-day playing card colors are manufactured in red and black; this comes from years of creating them with the cheapest and most accessible dyes and inks, being the colors red and black. Black ink was created and made by mixing soot and linseed oil, and the red color was made by using cinnabar and linseed oil; these

colors and dyes were also widely used for their durability and would not fade when exposed to sunlight. The no revoke decks that used four colours were used less and were considered far more expensive due to the copper compounds used to create the blue and green dyes, which explains why they are less popular globally (IPCS, 1972-1997).

Playing cards became popular for the games and uses of cards, but also gained popularity and attention when designers and makers started creating beautiful back designs to the cards. Initially playing cards only had front designs, but later were created with front and back designs. There are two main reasons for this change, the first being that light would pass through the single sided design cards and would create an opportunity for people to cheat and see the opposition's cards. The second reason is branding a card pack and set so when used in competition or at a poker table other players couldn't bring their own cards along to cheat (Taylor, 2014). Having particular designs on the back allowed easy identification of the cards as well as a complex design which couldn't be easily copied or recreated for the purpose of cheating (Hargrave, 2003). One of the first companies among many to popularise the designing and printing of the back of playing cards was the Thomas De La Rue company. Up until 1828 the company had only printed newspapers, bookbinding and embossing onto leather. After 1828 the company strayed towards playing cards, production and printing. In 1831 the company gained their first patent for the print production of playing cards, producing its first playing cards in 1832. Since then, they have become known as the inventor of the modern English playing card. Before De Le Rue's company began printing cards, most if not all were created using woodblocks and hand colored using stencils, which is a long and costly production method. De Le Rue's new and improved method of printing included faster drying-colored inks and improved glazing technology, alongside the use of enameled paper. This increased production for the company significantly, increasing the popularity of cards as well as the company's global reach. The designer behind the new card designs was called Owen Jones, hired in 1844, and throughout his career ended up designing 173 designs for the back of cards, all ranging from florals and fruits, all the way to oriental designs and patterns. This has been said to spark the hype towards the design and collecting of playing card packs with designs on the back (Pugh, 2011).

Owen Jones was most famous for his book first published in 1856 called *Grammar of Ornament*. The book has been called a design masterpiece for its content of patterns, motifs, and ornaments. The content is mostly all illustrations that intend to explore design principles and concepts of textiles, decorative arts, and architecture from 19 cultural periods around the world. Jones has had a rich design career, mainly being labeled as an architect but is considered by many to be one of the most influential and widely known design theorists of the nineteenth century. A key time for Jones and his passion for pattern and design came from his time studying the Alhambra; a key structure and

monument that demonstrates famous Islamic architecture and design, being called one of the best-preserved palaces of the Islamic historical timeline. His time at the Alhambra was key in the development of his concept ideas and theories towards flat pattern, geometry, and polychromy, which would later become the basis for his later designs, ideas, and books. One example would be after returning to London from the Alhambra, he wanted to print his findings, however due to the lack of sophisticated color printing methods Jones had to improvise and work around the limitations of his time. This led him to collaborate with chemists and printers to uncover the use of Chromolithography to a higher degree, giving Jones a capacity to print his book *Plans, Elevations, sections and details of the Alhambra*. This book would be known as the first ever published book of significance to employ the use of Chromolithography (Jones, 2003).

Another significant time in Jones' life was working with the De La Rue company, in which he designed a wide range of products such as playing cards, menus, stamps and diaries, in which his designs are still used and printed to this day. The book, *Grammer of ornament* was originally sourced from his collaboration with Henry Cole (Director of Kensington Museum – currently called the V&A), and was a collection of work that demonstrated Ornamental art. Jones and Cole feared that students and others would simply copy the work held in the collection rather than using it as a catalyst for their own design, leading Jones to create the *Grammer of Ornament* book, which would be Jones' long lasting design legacy, categorized as a design sourcebook. The book contained 20 chapters, the first 19 being characterised as historic and geographic, taking imagery from cultures and locations such as Turkish, Persian, and Moresque (Alhambra). The 20th chapter encapsulated principles around nature and the idealising of nature rather than just being a copy, entitled *Leaves and Flowers From Nature*. During Jones' time creating the book '*Grammer of Ornament*' he was employed at the De Le Rue printing company between the years 1844-1863, where he designed playing cards among other printed items. The way the card designs are described is varied from fruits and botanicas through to oriental design and Islamic art and architecture. His inspiration came from his years of travel as well as reference to his book *Grammer of Ornament*, looking at pattern and design from multiple cultures and countries, and their unique style. Jones took the parts that he found best and adapted them into his design practice and process of production. Held in the British Museum is a group/ collection of 65 card back designs by Jones (see fig 3). All of the 65 designs were created using Chromolithography, which is a process I use in my own practice, in addition to color lithography. Both very similar processes, their intended purpose is for high detail printing, with accuracy as well as the use of printed color. Chromolithography is better mainly for greater access to more colors as well as the colors being more vibrant, however this requires more plates for each color, making it a longer and more time costly approach. The process is a method that Owen Jones helped to create and develop

after his travels to the Alhambra, when he wanted to publish and produce his findings of the Islamic artwork and architecture.



Fig 3; Owen Jones playing card designs

One of the key parts to distinguish different playing cards with different formatting is the design and layout of the suit symbols and numbers, alongside any other card décor that may be on the front. The most common in the west is the Anglo-American pattern, where the rank of card is positioned on the opposite corners of the card, (can also be in all four corners but this is less common for official

decks for competitions or casino-based games). The other key feature is the symbols (pips) which are on the card, for example the 5 of hearts would have 5 heart pips on the card, telling the observer the value of the card without having to read the numbers, and the ace would have one large pip as the value is only 1. On the royal cards (court cards) the images often are reversible, meaning the king, queen or jacks face will be on both the top and bottom half on the card in the reflection style, allowing the card to be viewed from either direction. The other interesting thing about the court cards is the way of printing that has become somewhat of a normality or tradition. The jack of spades, jack of hearts and king of diamonds are all drawn in profile, while the remaining court cards are drawn from a front facing angle. The only main difference between card brands that use the Anglo-American pattern style is the joker card, in which one of the two cards would be brighter and more flashy than the other. Some say this in case there is a missing card within a pack and the joker can be used to replace it by drawing the value on the card; the joker that is more colorful is used for the court cards and the less colorful one is for the numerical cards. David Parlett, a card game historian claims that joker cards were added to card packs during the time of 1850 (Pugh, 2011).

A study conducted by the University of Wisconsin-Madison in 2014 found that card games are closely linked to increased brain volume and improved memory. The study involved a group of 329 people with an average age of 60 who were considered at risk of developing Alzheimer's, in addition to other variations and similar diseases/illnesses. While the study was conducted the group was subject to tests and MRI scans on the brain, looking at those who had read books, playing cards and puzzles and how their memory and cognitive functions were affected. The results showed that the group who had performed games and read books/ reading material had healthier MRI scans, and their long- and short-term memory had been improved also including better general thinking and cognitive ability with long term effects. The study considered a few factors, with a key one researched being the social element of cards. Playing cards fall into a number of social skills such as obeying rules, turn-taking, patience and honest play; these added to the study information at the end as the group who had increased social interaction and played with a larger pool of players did better when it came to memory and cognitive function. The games improved their confidence and allowed each of the group individuals to feel appreciated and equal to the other people in the study, allowing room for small competition of skill in the card games. The study also uncovered that playing cards helped to include everyone, even those who had given up on life and people, and who had set social barriers for themselves. This helped less social people to feel wanted and needed without giving these individuals the burden of social interaction in activities they may not be comfortable being part of. The conclusion of the study was that card games not only improved and increased

cognitive function but also had a positive impact on wellbeing and mental states of the group well after the study had concluded.

Playing cards have been proven to have many benefits on areas such as education, emotion, and cognition, improving areas such as math and social skills. Dr. Wilona Annunciation, an MD, Consultant Psychiatrist says “playing cards can help us rejuvenate and positively impact our mental health in ways more than one”. She states that playing cards trigger the release of dopamine hormones as well as serotonin, affecting the brain’s reward systems, happy emotions and feeling. Annunciation mentions that playing cards can also develop long lasting positive attitudes and the motivation to take on challenging tasks. Many studies have proven and lean towards the argument that engaging in fun learning activities improves the long- and short-term memory, creating better skills in memory retention, additionally helping with memory application and access to learnt knowledge. This links heavily with studies on brain connections and neurons, and how playful games connect neurons from one topic to another through playing the game. In addition to conversation and social interactions during games, this also relates when looking at card games that require a level of observation skill, with the memory of the cards in the game, and the observation of emotions and facial expressions of other players (Sofia, 2019).

In modern society and through history humankind has had the want and need to develop, create, and improve most objects, tools, and technology, and when looking at playing cards we can see the modern development of the cards, one prime example is method cards. The method cards do not follow the game side of playing cards, however they do use the key shape and principle of the cards linking and working together, using these cards more as a tool than a leisure game or activity. Method cards are described as a way of exploring new approaches to a design. The main company that produces these cards is called *Ideo*. The company first started to develop and create the cards in 2003 and have been a massive success in the art and design industry. *Ideo* (8/11/2023) describes the cards as tools to showcase methods. The pack comes with 51 cards and can be bespoke or customised to the user’s preference. The concept is that by using all or some of the 52 cards, the user will be able to look past their creative block, adding a new way of looking at a design problem, to inspiring a team or to just provide a new approach to design practice. Method cards are useful in my own practice when looking at a problem, and needing to think outside the box, reordering thought processes and finding a solution by looking at a problem differently when my own way of working isn’t necessarily effective or the most efficient use of my time (Ideo, 2003).

Card manipulation is a section of magic that deals with slight of hand and playing card tricks. Around the 15th century magicians began to popularise the idea of magic with playing cards, as at the time

they were inexpensive and easy to obtain. The concept of using playing cards for magic quickly caught on and has become one of the biggest forms of magic to the current date. The way that sleight of hand works is the performer makes movements and changes to the deck as well as individual cards unknown to the audience. This can include moving, removing, or adding cards in different orders to appear like the performer is psychic, or by changing the colour of the cards and design by swapping decks without the audience noticing. There are many forms of card magic that have been created and adapted since the beginning; most focus on the design of the card to help with the illusion as people have seen or used cards before. Some types of magic with cards include close-up, parlour and street magic.

In conclusion, this essay has demonstrated and uncovered that there has been a massive cultural impact on playing cards in relation to design. Through thousands of years of cultural adaptation and influence from time periods such as Tang Dynasty in China, Egyptian Mamluk period and central Europe Middle Ages to modern/ current time. Throughout history playing cards have seen changes in design, manufacturing, and mechanics of the game, from processes such as woodblock and lithography up to high-level electronic printing. In addition, the purpose and uses of cards have changed drastically, straying away from the original intention of playing cards being a game or having monetary value. Into tools used in design and the design industry such as method cards and business cards. Whilst also being used in magic and performances.

Originating in China, and traveling into Egypt and later through central Europe, each country and continent has manipulated the game to fit the norms; changing symbols and patterns to fit the current needs and trends. Examples of their sources of influence come from places such as royalty, nature, architecture or other games and sports. Additionally, the target market has changed from originally just being royals and nobles, into a game which can be used universally between all ages and backgrounds. As well as becoming a cheaper and more sustainable product, that is used all over the world. Furthermore, card games have been declared as having a positive impact on memory and neurology. Including general improved brain function and helping people with memory, or learning issues, in addition to dementia patients; playing cards can help prevent dementia and similar memory and function illnesses and diseases.

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