

THE ORIGIN OF CHESS AND THE SILK ROAD

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The classical research about the origin of Chess concentrated on investigating written and archaeological evidence resulting in opinions about Indian/Persian¹ or Chinese origin of the game. The available evidence was, however, not sufficient for a convincing theory. So the question about the origin of Chess still has to be considered open. Some speculations assumed military, mathematical, or divinification models as the basis for the game. Most scholars of Chess history do, however, agree that the relationships to these models showed after Chess already existed. Another idea, which was part of some theories, was the assumption that Chess, with all its present complexity, was invented by a single person. But this is extremely unlikely.

A significant step towards the better understanding was the founding of the Initiative Group Königstein (IGK²) in 1991 and its seminars, in which the present Chess historians can present their research and opinions. Its member Gerhard Josten looked for evidence in the structure of Chess. He came up with three basic unique elements: the king, the pawns, and the officers (counters, pieces). His theory is that these elements stem from different sources and are combined into present day Chess. This was supposed to be done by either Silk Road merchants, who were waiting for better weather conditions in one of the major trading places like Kashgar in today's Southwest China, or by game enthusiasts in the Kushan Empire. The Kushans had some experience with merging elements from different cultures. Josten suggests that the king and its behavior is taken from the ancient Chinese game Go, the pawns come from Indian racing games and the officers are taken from divinification or astrological methods. I have added an alternative for the astrological roots of the officer-moves with the possibility that their moves are based on the images occurring within the game of Tic-Tac-Toe.

No matter which theory is valid, the importance of the Silk Road for spreading the game is undisputable.

Forerunners and the Chinese Variation

Board games are very ancient and can be traced back at least 4,500 years to the first city of Ur and Egyptian paintings. In the 19th century AD Stewart Culin created the theory that all board games had magical or religious origin. This is not evident, for instance, in the three-dimensional Tic-Tac-Toe (*Mill*), for which a board was engraved by Roman soldiers on the cobble streets of Old-Jerusalem.

The Egyptian game *Senet* was clearly a religious game. It was a racing game played on a 10x3 board. There is also a version with 8 linear squares followed by 4x3, the "twenty-game". The exact rules of either are not known, but boards have been found together with half-flat sticks, the forerunners of dice. The names or meanings of the squares had to do with the stations of the way to the empire of the dead. There are numerous references to *Senet* in inscriptions and papyrus scrolls. The use of *Senet* as an Egyptian glyph gives an indication of its importance. According to the Nordic poem, *The Edda*, the Germanic gods spent their free time in their residence *Asgard* playing board games, but *The Edda* was not written down until the twelfth century AD.

A possible forerunner of Chess is an Indian game, known as *Ashtapada*, which means in Sanskrit a square board of 64 squares, 8 rows of 8 squares. It was played with dice and pieces, a race game possibly going back to the fifth century BC. Chinese records mention its introduction from India to China as early as 220 BC to 65 AD, roughly during the early Han Dynasty.

The likelihood of a race-game being a forerunner of Chess is preserved in the promotion of a pawn to a piece when reaching the 8th row. Hinduism prohibits gambling. The revival of Hinduism during the Gupta Dynasty led to an enforcement of this anti-gambling policy in the 6th century AD. This is used as an argument by some scholars for supporting the idea of an Indian origin of Chess. It is stated that the suppression of dice forced the transformation of a race game into a strategic game. When I discussed this with some Indian historians during a visit to India, I got clarification that the gambling inhibition was local and did not apply to total India.

Chinese Chess today is played on a board with 9x8 squares or 10x9 edges. The pieces, inscribed draughtsmen, are placed on the edges and not on the squares of the 9x8 field. The use of inscribed draughtsmen instead of stand-up figures means an additional level of abstraction and would therefore speak against an origin in China. However, sources suggest that originally Chinese Chess was also played with stand-up figures. In the middle of the 10-row

field is a "river", which was added later, meaning originally that the board was 9x9, considering the edges, or 8x8 considering the squares. The number nine has a special importance in China. Ancient Chinese regarded odd numbers as being masculine and even numbers as being feminine. Nine, the largest single-digit, odd number, was taken to mean the ultimate masculine, and was symbolic for the supreme sovereignty of the emperor. It was sometimes combined with the number five to represent imperial majesty. Tiananmen Hall is 9 bays wide and 5 bays deep. The combination 9x5 also appears on the two halves of the Chinese chessboard (after inclusion of the river). The transfer to a 9x9 board from an 8x8 one, based on the imperial importance of the number 9 seems more likely to have happened than the other way around.

Chess Pieces and Boards

The oldest clearly recognizable Chess pieces have been excavated in ancient Afrasiab, today's Samarkand, in Uzbekistan. These are seven ivory pieces from 762, with some of them possibly older, meaning that they stem from the 6th to 8th century AD. It is not clear whether one of the pieces can be identified as a Queen. Otherwise, the occurrence of the 6 different pieces within a sample of seven out of the total 32 pieces is statistically surprising. The pieces today are kept in a downtown museum in Samarkand.

Some other old pieces, possibly Chess pieces, are the occasionally named Chess pieces of an elephant and a zebu bull kept in Tashkent. They were excavated in Dalverzin-Tepe, an ancient citadel of the Kushan Empire now in Southern Uzbekistan, and stem from the 2nd century. The Russian Chess history expert Linder feels that they are not Chess pieces, but belonged to a forerunner of Chess [Linder 1994]. They could mean an earlier than previously assumed existence of Chess. Second, there is a piece in the Metropolitan Museum in New York from the 6th or 7th century, bought in Baghdad around 1930, representing an elephant out of dolomite stone of 2-7/8 inch height [Gunter 1991]. An ivory piece, probably a Chess piece from the 6th century, has been excavated recently at a Byzantine palace in the ancient city of Butrint in Albania. This modifies the theory that Chess was moved to the West by the Arabs in favor of Christian/Byzantine involvement.

Written Reports

The oldest known Chess books or parts thereof are in Arabic, written about 850 AD. Before that, there are only incidental possible references to the existence of the game in Arabic, Persian, Sanskrit, or Chinese literature, but there is no complete

description of the game, nor an indication that rules had stabilized. The earliest mentions stem from around 600 AD. Chess or *Chaturanga*³ have not been mentioned in an otherwise very complete travel report by the Chinese Buddhist monk *Fa Xian*, who traveled through India at the beginning of the 5th century AD. The total number of Persian references to Chess from around 600 is two out of a total of five works of middle-Persian secular literature which are known to have survived from that period. Very little is known about Chess in India for about half a millennium after that. It is not clear whether the Chess mentioned by the Persian sources was a game for two or for four players, whether it was played with dice, and what moves were allowed. The conclusion by Murray [Murray 1913] and Eales [Eales 1985] is that before the 7th century, the existence of Chess in any land is not demonstrable. Eales mentions that the compiler of a 12th century Chess manuscript wrote "It is universally acknowledged that three things were produced from India: the game, the book *Kalila wa Dimna* (a book of literary fables) and the decimal numbers (including the Zero)."

Ann C. Gunter [Gunter 1991] reports about one of the surviving texts in Middle Persian, The Explanation of Chess and Invention of Backgammon (Wizarishn i catrang ud nihishn i new-ardashir). In a said competition between the great Sassanian ruler Khusraw I, who ruled from 531 until 579, and the Indian King Dewisharm, Dewisharm sent a Chess game to Khusraw requesting that Khusraw's wise men explain the rationale of this game. The wise man Wuzurg-Mihr explained the rationale of the game and then proceeded to a challenge of his own to the Indian ruler. This supposedly was the invention of Backgammon (called *nard* in the literature), and the invention of present day dice (the numbers of which correspond to cosmological principles of the then common Persian religion, Zoroastrianism). Dice were, however, already known by the ancient Egyptians and certainly not invented as late as Khusraw I's time. It has not been possible to locate Dewisharm, and to find out which of the kingdoms that existed after the fall of the Gupta Dynasty that he ruled.

Sloan [Sloan 1985] bases his theory about Chinese Chess origin on two Chinese poems, one stemming from the 2nd century BC. Since Chess is often wrongly confused with the far older *Go*, this could also be the case here (or a mixup with another board game).

The Sinologist Joseph Needham and Pavle Bidev, both part of the Initiative Group Königstein, have, based on the theory about religious roots for all board games, suggested that the historical Chess of 7th century India was directly descended from a divinatory game (or ritual) in China. Bidev

suggests that Chess has its roots in the cult of the Chinese god *Thai Yi*. Needham has shown that there are references to an "image-game" (*hsiang chhi* is elephant-game or image-game) in works of the 6th century, devised by the Emperor Wu Ti (561-578) from the Northern Chou-Dynasty. The emperor even gave lectures on the game to his staff. It was, however, not Chess since according to early sources it had as its pieces the sun, the moon, the stars, and the constellations, meaning that it was in all likelihood a complex astrological ritual. Interesting in Chinese Chess is the 3x3 fortress, an exact image of Tic-Tac-Toe.

Indirect Evidence

There is an analogy between the Indian army and the Chess army. Chinese armies did not have elephants, or only very occasionally had a limited number in the southwestern part of the China.

The earliest Chess terms appear in Sanskrit, the Persian and Arab versions are very similar. Whyld points out the fact on the IGK website (<http://www.netcologne.de/~nc-jostenge>) that the first Chess terms mentioned appearing in Sanskrit is not convincing. He also mentions the fact that in the story of Chess moving from India to Persia it is said to come from *Hind*, a name which was not used for India until after the 11th century AD.

Davidson [Davidson 1949] studied the "Geography of Chess". Starting with India he finds four major radiations: A northeast radiation into China, between 800 and 1000 AD along the Silk Road; a southeast radiation into Burma and Indo-China, between 800 and 1100 AD; a westward radiation into Persia and the Arab countries, between 600 and 800 AD, reaching Spain before the 1008 battlefield will of the Count of Uregel, which directed the inheritance of his Chess-pieces; and a northward radiation into Siberia, between 1400 and 1500 AD.

Gerhard Josten from the IGK bases his "merger theory" on three elements in the structure of Chess. The element of hunt games is represented by the king, the element of divination counters for the moves by the officers and the element of race games by the pawns.

The imprisonment of the king occurs in a similar way in the Chinese territorial game *Go*, called *Weiqi*⁴ in China, which means this element likely comes from China. *Go* is played on a 19x19 board by placing alternately black and white pieces on the board. Horizontal and vertical connections of pieces of the same color form chains. The number of empty fields neighboring any members of a chain horizontally or vertically give the degree of freedom of the chain. A chain, including one consisting of a single piece, without any degree of freedom

is taken prisoner. The situation of one piece taken prisoner could be the one which was applied to a mated king in Chess.

Josten believes that the officers have their origin in old divination techniques, but in difference to other authors he believes that the divination techniques apply only to the officers and not to the complete game of Chess. Based on the fact that the geometry of the Babylonian astrolabe allows all of the important types of moves of the Chess officers and the external kinship of the astrolabe to the Byzantine Chess board, Josten states that the Babylonian astrolabe is an adequate ideal for these pieces. Supporting the astronomical/astrological connection is the 19th century theory that all board games have religious roots. Chess has been from the beginning a game for intellectuals and astrologists were considered in ancient times part of the intellectual elite. In antiquity, the stars were looked at as either images of gods or subjects with which the gods chased around. This is the justification for astrology and possibly for an early use of the game of Chess to obtain oracles. The astrolabe constitutes an analog computation device⁵, consisting of various rings movable against each other. The user found the altitude of the sun or stars by means of a graduated circle on one side of the device and then turned to the other side to perform his calculations on the movable star map, a two-dimensional representation of the three-dimensional heavens. The straight line moves occur in these operations, the knight move is a combination of both. These methods are also indicated in ancient astroglyphs from Chaldaean times.

As an alternative possibility to the divinification I offer, the game of Tic-Tac-Toe could be viewed as providing the roots for the moves of the counters. Tic-Tac-Toe is played by 2 players, e.g. Black and White, with a set of pieces of equal value each, on a 3x3 board. The players move alternatively with the goal to get three of the own pieces in one horizontal, vertical or diagonal row. In the following diagram, that goal is achieved by occupying the points 1, 2, 3, or the parallels; the points 1, 4, 7, or the parallels; or the diagonals 1, 5, 9, or 3, 5, 7:

1	2	3
4	5	6
7	8	9

Tic-Tac-Toe was played at least 3000 years ago. It is also called "Three Men's Morris", where "morris" is a corruption of merels, the Latin word for counters [Pritchard 1994]. From a game-theoretic point of view, it is always a draw and is trivial. A more challenging extension was played extensively⁶. The placing of the following

piece of the same color (2 moves ahead) is either vertical, horizontal, diagonal or in diagram (1) the point 8 following the point 1, or equivalent sequences this is similar to a knight's move in Chess. Thus all move sequences of the pieces in Chess are represented.

The pawns and their idea almost certainly come from India. Most of the ancient board games seem to have been racing games played with dice or its forerunner, sticks with one flat side, which were thrown and the number being determined by the number of resulting flat sides being up or down.

Ashtapada is an ancient Hindu race game played with dice on an 8x8 board, which later might have become the Chess-board. The method of play for *Ashtapada* has been forgotten. It seems logical that there has to be an incentive for succeeding in a race, which is given by the conversion of a pawn into an officer, when the pawn reaches the last row⁷. To change a gambling game into a strategic race game requires some strategic possibilities to block or speed up the race, such as opposite pawns and the possibility to take an opposite piece by a diagonal move.

A challenge for this theory is to explain the use today, and in the total history of Chess, military names for the officers with no previous names for these pieces being known. Also in the early Arab sources the king is not imprisoned but killed.

As far as the area of origin is concerned, Josten points to the Central Asian Kushan Empire, a culture that had intensive contact with the Near East, India, and China. It would have combined various elements from games from these regions in one game. The Kushans, called "the forgotten Kushans" by some scholars, ruled from about 50 BC until about 200 AD a big empire, which included a substantial part of India, and included the excavation place where the above mentioned 2nd century AD "Chess-pieces" were found. The Kushans, having become affluent by trading on the Silk Road, were privy to cultural mergers as shown by their contemporaneous tolerance of Buddhism and Zoroastrianism, as well as their gold coins displaying Greek, Roman, Iranian, Hindu and Buddhist deities.

Josten's hypothesis about the Kushan origin from the days of the Kushan Empire would imply a lack of reports about Chess for about half a millennium before 600 AD, which might be explained as having been a maturing period. The two pieces from Dalverzin-Tepe could support the theory.

Another thought would be that Chess emerged on the Silk Road, when merchants were idly waiting for better weather conditions for travel, and playing board games. A key place of this type was Kashgar in

today's far western China, which also belonged for a time to the Kushan Empire.

Historic Views

There are a number of books on Chess history, in particular the scholarly studies written by H.J.R. Murray [Murray 1913] and Richard Eales [Eales 1985]. The German book by H.F. Maßmann [Maßmann 1839] dismisses older legends about the origin of Chess, like the one that Palamedes of Euboa invented it during the 10-year siege of Troy in order to help avoid boredom among the Greek soldiers. Maßmann is of the firm opinion that Chess was invented in India and came from there via Persia and the Arabs to the West. The beginning of historical research about the origin of Chess is a 1694 publication by Thomas Hyde, *De Ludis Orientalibus*.

Hyde states the facts implicit in older Arab sources, leading to his conclusion that Chess originated in India and then traveled by way of Persia and the Arab world to western Europe and on the Silk Road to the East. The myths and legends before Hyde are all not historical, but all of them, except those of obvious later invention, point to Persia or India as the country of origin.

Li [Li 1998] refers to a publication by Irwin, read in 1793 in Dublin [Irwin, *An Account of the Game of Chess, as Played by the Chinese*, Transactions of the Royal Irish Academy (Dublin 1793), pg. 53-63]. According to this paper, Chess was invented by the Chinese General Han Xin to mentally occupy his troops during a long winter reciprocal surveillance in 204-203 BC. Li describes in detail how he believes Han Xin decided on the layout and moves, which eventually led to the Chinese form of chess. Han Xin died in 196 BC. Li mentions that there are citations in Irwin's paper, but he does not give any. I agree with other authors that a paper written 2,000 years after the fact does not constitute proof.

Josten points to the history of the British colonialism in India. The majority of India was under the control of the East India Company in the first half of the 19th century. As a result of revolts in 1857 the Company was dissolved and India was placed under the direct control of the British Crown. In 1909 Britain granted India some self-government. Josten suggests that the researchers Thomas Hyde and H.J.R. Murray, who were active during the 19th and early 20th century found willing ears with their claim of an Indian origin of Chess. This of course neglects the contributions of the early German researchers who reached similar conclusions to the British ones.

Summary

Unfortunately, written references to Chess or its development have not been found yet from before the two Persian records of about 600 AD. It is very unlikely that Chess, almost as it is played today, suddenly came into existence, invented by one person. The idea of it being a combination of elements from other board-games has merit. Since almost all known board games have religious backgrounds the astrological component is entirely possible, even though I prefer the version that all elements come from other games, e.g. Tic-Tac-Toe, as the basis for the counters. Kushan as the area of origin is highly possible, especially because of the 2 excavated debated pieces from the second century AD, which were found in the area of the Kushan Empire.

The books are by no means closed. In my opinion, the Chinese origin is the least likely one from the ones discussed. Josten's hypothesis is very intriguing but still needs some more work. The theory about India being the original country seems to hold together but will probably have to give in to another theory because of the lack of reports about follow-up within India during the next 500 years after 600 AD.

References

- [Davidson 1949] Henry A. Davidson, A Short History of Chess, New York 1949, 228 pages.
- [Eales 1985] Richard Eales, CHESS -The History of a Game, New York 1985, 240 pages.
- [Gunter 1991] Ann C. Gunter, Art from Wisdom: The Invention of Chess and Backgammon, in Asian Art, Winter 1991, pg. 7-21.
- [Li 1998] David H. Li, Who? Where? When? Why? How? The Genealogy of Chess, Bethesda, MD 1998, 383 pages.
- [Linder 1994] I.M. Linder, The Art of Chess Pieces, Moscow, "H.G.S." publishers, 1994, 288 pages.
- [Maßmann 1839] H.F. Maßmann, Geschichte des mittelalterlichen vorzugsweise des deutschen Schachspiels, Quedlinburg und Leipzig 1839, 222 pages.
- [Murray 1913] H.J.R. Murray, A History of Chess, Oxford University Press 1913, 900 pages.
- [Pritchard 1994] Pritchard, David: The Family Book of Games, Time-Life Books, 1994, 200 pages.
- [Sloan 1985] Sam Sloan, The Origin of Chess, Copyright Sloan Publishers ISBN 0-9609190-1-5, 27 pages.

Notes

1. The idea of Persia being the country of origin appears to be only a slight modification of the theory about Indian origin and is therefore not separately considered.
2. <http://www.netcologne.de/~nc-jostenge>
3. Indian name for Chess and/or a fore-runner
4. "the surrounding game"
5. The invention of the astrolabe is usually attributed to the Greek astronomer Hipparchos, at around 170 BC. This would mean a relatively late appearance of the astrolabe in Chaldaean astronomy.
6. I saw for instance an engraving of a corresponding board in the cobblestones of Old Jerusalem. Boards of this Tic-Tac-Toe expansion can also be found in some Roman museum collections.
7. There is no conversion in Chinese Chess.

THE MONGOLS AND THE SILK ROAD

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The Mongols reached Europe in 1221, on a reconnaissance of the western extent of the Eurasian steppe, the land on which Mongol armies could most easily support themselves "wherever a horse is able to tread." Their force was a detachment of the great army Chinggis Qan (Genghis Khan) was leading through Central Asia, eastern Iran, Afghanistan, and into India. The detachment crossed northern Iran, wintering in Azerbaijan (1220-21), passed the Caucasus mountains, spent the next winter in the Crimea, explored the Volga region, and returned to Mongolia; it fought winning battles all along the way, including one against an alliance of Turkic Cuman nomads and Russians. The incursion came to the notice of Europe, but since such nomad disturbances in that region were a common occurrence, and because the new intruders had withdrawn, apparently for good, it made little impression.

In 1236-42 the Mongols returned, acting on the knowledge gained on their previous expedition: that the steppe extended into the North Pontic region (Ukraine and Crimea), that their armies could therefore sustain themselves all the way—the horses eating grass and the soldiers eating horses—and that the local inhabitants were incapable of serious resistance. This time the Mongols came in great force, with at least twelve *tümens* (divisions of, nominally, 10,000 men), judging by the number of commanders, mostly princes, mentioned. They overwhelmed the Cumans, Russians and Hungarians, and defeated a large army of Germans and Poles. And although the Mongols shortly abandoned Hungary (probably indefensible by a nomad-based garrison), they based a large army in Ukraine and on the Volga, conscripting many of the Cumans and monitoring their Russian vassals, and conjoined to it further forces in North Central Asia (approximately Kazakhstan), creating the sub-realm of the empire that came to be known in the West as the Golden Horde. This threatening new power caught the attention of Europe: the Mongol empire now had a presence and a frontier in Eastern Europe.

In the Middle East, Mongol task forces, beginning in 1229, established bases in Azerbaijan, and from them intimidated or forced into vassal status the Trebizondian Byzantines, Anatolian Seljuks and Cilician Armenians, among all of whom Westerners, mostly Italians, had an important commercial presence. The European Crusaders on the Levant coast too now had a new, Mongol near-neighbor in Iran and Anatolia. In 1256, these Mongols were heavily reinforced by contingents sent to exterminate the (original) Assassins, subjugate or destroy the Caliphate in Iraq, and extend the empire to the southwest. Although Syria and Egypt were successfully defended by the Mamluks, the Assassins were wiped out, as was the Caliph. Baghdad was wrecked, and much commerce that had been focussed on it now shifted north to Tabriz and Trebizond.

There were many other Mongol armies: nomad forces, Mongols and especially Turks, (which included soldiers, their families, and the domestic animals needed for their support) all across Inner Asia, in North China, and in Mongolia proper; and troops drawn from conquered or vassal settled peoples: Chinese, Iranian, Russian and many others, usually based on farmlands in their home countries, although some were sent abroad on expeditions. For instance, Chinese artillerymen or garrison troops to Iran, or Russians to China. Through the reign of Möngke Qan, (1251-59), all of these forces, from the Ukraine to Manchuria, were controlled from the Qan's camp, usually somewhere in Mongolia, via the *yam* service, the Mongol pony-express, which connected all of them, and passed, in part, along the Silk Road. In most local matters, however, these armies constituted components of the regional establishments set up by Chinggis in favor of his dynastic family. The establishments now, by the mid-thirteenth century, impinging on Europe from the Western steppe and the Middle East were governed, respectively, by Batu and Hülëgü, both grandsons of Chinggis. Each commanded a regular army of fifteen *tümens*: for instance, Hülëgü's order of battle at the siege of Baghdad included fifteen commanders. Since these commanders led *tümens*, each composed of ten regiments (*hazara*), the military component of each establishment included 150 high officers and their (often multiple) wives. To these were added many administrative officials and their wives. And finally, there were the leader's guards, at least a *tümen* of them (Qubilai, according to Marco Polo, had 12,000 guardsmen, rotating on duty in units of 3000).

These leaders had both imperial and personal interests. The imperial interest, which was shared by the commoners, was Chinggis Qan's project of world-conquest. This project developed from Chinggis' understanding of nomad society and culture, and appraisal of the balance of power at the