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Is Chess a Hybrid Game?

ABSTRACT

This paper proposes a consistent scenario for Chess birth and evolution. The reader should be forewarned: it is a personal view, therefore it bears a large dose of unavoidable subjectivity.

The Pawns are the crest which separates the East from the West in Chess ludic structure. The basic idea is that an eastern form of Chess was developed from the Liubo material and that several elements were later borrowed by Persians or Indians to complete their own form of harmless battle game, from an existing substrate fertilised by a stable Hellenistic influence and Roman contacts. In this process, I fully agree with Averbakh who affirmed that the history of chess cannot be studied without a proper knowledge of the history of other board games. Meanwhile, most of similarities and differences between the Chinese and the old Indo-Persian forms are given attempts of explanation.

INTRODUCTION

A natural tendency among games historians is to try to unroll the lineage of the board-games by unearthing the successive ancestors as if their history could simply be described by a succession of more and more evolved generations of games. Although it gives convenient schemes, often sufficient to sketch the history of a given game, I believe that in some cases, more complex relationships could have led to the invention of some of the most popular and successful brain games.

For instance, our Backgammon is most likely the fruit of the marriage between ancient Egypt and Mesopotamia. One ancestor would be the Egyptian Senet, played on a 3×10 board with strong cosmological connotations, a second one would be the Sumerian so-called Royal Game of Ur, soon modified in the 20 Squares Game. This latter game was played over a board with 3×4 cases plus a tail of 8 cases in a line. When the 20 Squares Game reached Egypt (circa 1800 BC), the inhabitants adopted the habit to use game boxes with a Senet and a 20 Squares Game represented on top and bottom sides. Many of such game boxes have been excavated and can be admired in several museums. A possible, logical, evolution was to use a single 3×12 board with some thickenings to highlight either one game or the other. Such a board has been found at Ak-hor and is depicted by Murray in his second book. The next step was obviously to play a


2 Harold James Ruthven MURRAY, A History Of Board-Games other than Chess, Oxford University
race game on that $3 \times 12$ board. That was what the Greeks did (probably) as well as the Romans (certainly)$^3$.

A comparable process could have occurred for Chess, that game deriving from the encounter of two influences, a Chinese Xiangqi and an Indo-Persian Chatrang$^4$.

Before going any beyond, we have to make clear that the Indian diced Four-Handed Chaturanga is not concerned by this discussion. It is really surprising that after the Murray’s bright and definitive demonstration$^5$, that the oldest reference for this game is from the 11th century AD, several famous game historians still keep considering it has the predecessor of the Two-Handed version. Not knowing about which new findings they base their assumption, I simply look at this Four-Handed game as a later and local variant of the regular Chatrang$^6$.

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$^3$ Later on, maybe to improve legibility of both paths for the opposite standing players, the middle row was omitted to lead to the game of Tables in Europe and Nard in Middle-East with a $2 \times 12$ cells.

$^4$I will use those two terms in the rest of the paper rather than Chess which could be ambiguous. It is somewhat arbitrary because we can not say that the modern Xiangqi remains unchanged since those remote times and because we can not be sure that the western branch was more Persian than Indian, then Chaturanga could have been used as well. However, that choice will not affect too much our discussion.


$^6$On this subject, it would be interesting to search if the Indian attraction for four players games can explain the birth of Pachisi from Nard which might be contemporary of the apparition of Four-Handed Chaturanga.
LOOKING FOR A SCHEME

It is widely accepted that the striking resemblance between Chatrang and Xiangqi is not fortuitous. Both games oppose two sides of 16 pieces each with the goal of killing a central King or any sort of supreme authority. In both games, the armies have a front row of mere Soldiers and a back row with Chariots at the aisles, Horses then Elephants beside, encircling the leaders. The moves of all these pieces, although presenting some interesting discrepancies, are very like in both Chess.

How such a kinship can be explained? Logically, four scenarios can be constructed.

1) A westward birth followed by an eastward diffusion. An Indian origin of Chess is the dominating opinion among historians so far. It lies on the works of several famous scholars, Hyde (1694), Jones (1790), Forbes (1860), Van der Linde (1874,1881) and culminating with the never surpassed Murray and his monumental History of Chess, more than 900 pages of pure erudition, published in 1913. The most convincing arguments are the written texts in Sanskrit or Pahlavi which are the oldest known and accepted dealing with the game of Chess. This theory places the birth of Chatrang in North India around the 6th century AD and assumes that it was latter transmitted to China (around 800) along with other Indian cultural elements, possibly by Buddhist pilgrims. A sub-school is the one claiming a Persian origin for Chatrang, which is mainly supported by the fact that some of the older texts are in Pahlavi, even if they tell the story of an arrival from India (this could be a tale for fashioning the new game with the prestige of India) and also because the oldest known chessmen were excavated in Central Asia, then a Persian land.

2) An eastward birth followed by a westward diffusion. This option is often defended with such a polemic tone that it provokes its abrupt rejection by orthodox Chess historians. Nevertheless, many sinologists are more inclined to rely on such a scheme, following the most famous of them: Needham. It makes sense also, because a close examination of the structure of the Xiangqi - the move of the pieces, the marks on the board - suggests that the Chinese game would be of greater antiquity than the Chatrang. In other words, it is very difficult to convince that an evolution from Chatrang could have led to the Xiangqi characteristics. The absence of Chinese texts before the 6th or 7th century is disputed. They are texts dating from Beizhou period (557-581) which deal with a Xiangxi game. However, this Xiangxi is assimilated to an

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astronomical game and then, disputed. It has now been proved that board-game apparition in civilisations is very linked to other formalised activities such as divination, geomancy, astrology and other initiatory sessions\textsuperscript{11}. This is the case for Senet, 20 Squares Game, Awele, Liubo, precolombian American games, just to cite few examples, so why Xiangqi should be discarded?

3) A common ancestor for both Chatrang and Xiangqi. For differentiating from the previous cases, we must look for a seminal game at more or less the same “structural distance” to both successors. To have existed, such a game should contain the different germs which could have evolved up to Chatrang in one hand and up to Xiangqi in the other hand. That necessarily implies a time span of few centuries. No evidence of the existence of such a game has been found until now.

4) The development of two different war games with a mutual influence during their formation. The medium of such a coupling is well pictured: it is the Silk Road which was the theatre of many cultural and industrial exchanges between the Indo-Persian and the Chinese worlds\textsuperscript{12}. This theory, which implies a much more complex process than the three other ones, supposes the existence of a board game in China, an other one in the West and that both have evolved into a war game. Their evolutions would have been achieved with a strong correlation.

The reader will notice that this fourth scenario does not really exclude the first two ones. As a matter of fact it must be seen as an intricacy: neither an Indo-Persian or a Chinese-only origin can explain everything, both bearing probably some truth but both being definitively too simple to be convincing.

THE CHESSMEN

Let us start with the magic squares. Their properties have captured the interest of many early mathematicians in several civilisations. Is that a pure chance if China, India and Persia are among those most concerned? The relationship between magic squares and chessmen have been affirmed before. That assumption is making a lot of sense since mathematics as well as game boards dive their roots into divination and astrologic processes. Let us imagine someone wishing to define all different kind of basic moves with 1 and 2 steps possible on a grid surface. He will get to the following result, represented here below:

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\begin{array}{cccc}
E & H & X & H \\
H & V & G & V \\
X & G & G & X \\
H & V & G & V \\
E & H & X & H \\
\end{array}
\]

\textsuperscript{11} Wim VAN BINSBERGEN, Board-games and divination in global cultural history, a theoretical, comparative and historical perspective on mankala and geomancy in Africa and Asia, complete web-book available on the Internet, 1995-96 (http://www.geocities.com/Athens/Atrium/2327/gen3/mankala.html).

\textsuperscript{12} Gerhard JOSTEN, “Chess along the Silk Road”, Cologne, 1998.
All moves are supposed to start on the central square. One can easily identify the moves of most chessmen from that diagram:

- **G**: represents the Governor or General (jiang, shuai), the central piece in Xiangqi which has no King strictly speaking. It moves 1 step in every orthogonal directions.
- **V**: represents its adviser or counsellor, let us name it the Vizier as in Chatrang. It is also present in Xiangqi. It moves 1 step in diagonal directions.
- **E**: represents the Elephant, a 2 step diagonal leaper, present in both games.
- **X**: is a 2 step leaper in orthogonal direction with no clear Chess connection for the moment.
- **H**: complements the full picture. We believe that this is really the “raison d’être” of this piece, the surprising Horse, jumping as our modern Knight since the mists of times.

That defines 4 of the 5 major pieces in Chess. The Chariot, the Rook ancestor, is missing. Therefore, some have presumed that the Chariot would have been a 2 step leaper in the first times. However, this is not attested nowhere. Even in the first sources, Indian, Persian as well as Chinese, the Chariot is clearly depicted as an orthogonal runner. We shall return on this with a better applicant.

For the moment, these possible moves are just forming some remarkable patterns with no particular ludic significance.

**IN THE EAST END OF THE ROAD**

The second stage of our reasoning is attached with the Liubo. This ancient Chinese board game was played in China from the 7th or 6th century BC up to the 12th century AD. It has been the subject of intensive research those last decades and recently, Röllicke has published an excellent synthesis of all modern knowledge and understanding\(^\text{13}\). The Liubo appears to have borne a strong mystical spirit and its board was at the same time a cosmological, a calendar and a divination instrument.

Although the rules are still largely unknown, some characters are surprising and intriguing: the board was heavily marked and 12 points were distributed around the periphery in relation with star houses. Also, it appears that the central square was commonly called “the water”. Each player was moving 6 stones (qi) as basic Pawns which could be promoted to an Owl (xiao) under obscure conditions. In addition, the material included sometimes 20 “fishes” (zinshi qi) which stayed in the water and had to be captured by the players. Therefore, the total number of pieces involved in that game could reach 32. Is this number a coincidence? It is a tantalising question...

My idea, very speculative I must confess, is that someone could have turned this race game into a confrontation game opposing in each side the 6 stones as Soldiers, with a notion of promotion during the course of the game, and 10 fishes as Officers. Intriguingly, the Cen Shun a short story from the Xuanguai lu, the first known Chinese text (circa 810) unmistakably dealing with Chinese Chess, mentions 6 Pawns. Also, to divide the two sides on a battlefield, the best was probably to convert the central water into a river in the middle.

Undoubtedly, the Officers merited some differentiation. The patterns evoked above could bring the background: one of each with 1 step, a couple of each with 2 steps. Then, both armies had:

- 6 Soldiers
- 1 Short Officer type 1, orthogonal
- 1 Short Officer type 2, diagonal
- 2 Long Officer type 3, orthogonal
- 2 Long Officer type 4, diagonal
- 2 Long Officer type 5, “hippogonial”

Short Officers were the less mobile on the battlefield. From a ludic - and a military - point of view, it makes sense to attribute the most important play to them. They ought to be protected: placing both men into a marked fortification had some sense. In mankind spirit, the orthogonal move takes precedence. That could be argued, but the diagonal always appears as deviate, cunning (see how long Chess has awaited a modern Bishop, as a real counterpart of the Rook). Then, the Commander - a King or an Emperor was probably disrespectful as old tales told us
was logically identified with Type 1. Giving this, the Type 2 could design a kind of Prime Minister, the one who rules in the dark.

Identify Type 5, with its aslant move, to an Horse seems rather natural. Seeing an Elephant into Type 4 is less evident. It is a very disputable choice. As a matter of fact, there is no proof that it was an Elephant at all in ancient times\textsuperscript{14}; and in modern Xiangqi, the xiang is an Elephant for the blue side only and is a Minister for the red side\textsuperscript{15}.

Now, we need to address the mysterious and missing Type 3. In the frame of a Chinese design, not only the Chariot can be a candidate but the Cannon as well. Moving orthogonally, the latter needs to leap over a piece to capture its enemy. One can imagine that this peculiar move is a trace, a memory of a simpler ancient move which was a mere 2 step leap. A 2 step leaper would have been a weak piece, much weaker than the Horse, but twice stronger than the Elephant! It is very likely that Cannons were present in early Xiangqi where they were actually rock-slinging machines (as they are depicted on bronze pieces unearthed in Kaifeng). Also, they are clues that Catapults were meant in the Cen Shun\textsuperscript{16}. However, nothing is known of their early move. My idea is that the Cannon was the 2 step orthogonal leaper in the original game.

Once that is presumed, it is natural to think that a couple of Chariots constituted the remaining two pieces to fulfil the total of 10 fishes. This is the weakest point of my argumentation because it would be easier to find a relationship with western orthogonal game pieces as it will be discussed below. The Cen Shun insinuates that the Chariot was moving forward only, possibly like the Lance in Japanese Shogi. Was the Chariot invented in the West and then borrowed by Chinese to replace an older, more limited, form? Nevertheless, orthogonal sliders are found in many board games of many civilisations from Nordic lands (Hnefatafl) to Malaysia (Apit-sodok), so they could have been in the mind of Chinese designers as well.

Set of Xiangqi pieces found in Kaifeng (circa 1105).

\textsuperscript{14} Peter BANASCHAK, 1997 (note 10).

\textsuperscript{15} In addition, it should be added that it has been the most variable character of all Chess evolution and History everywhere: it became a Camel in India where it also changed place with the Chariot sometimes; in other parts of India, then in South-East Asia, then in Japan it adopted a 5-direction short range step; it has been replaced by a Bishop, a Fool, a Courier, a Flag-bearer in Europe, changing his move for a diagonal runner.

\textsuperscript{16} Peter BANASCHAK, “The Eastward Diffusion of Chess: Why this History cannot yet be written”, in: Preprint from Schach im abendländischen Mittelalter und in der Frühen Neuzeit. [...] The Collected Papers of the 5th Symposium of the INITIATIVE GROUP KÖNIGSTEIN held Hamburg November 1999, Seevetal 2000, & with few changes in title and contents “Chinese-Western contacts and chess”, on IGK web site (see note 1).
All what has been developed so far in this paper indicates the possibility of a proto-Xiangqi which has a major difference with the modern game: it has 6 Soldiers instead of 5 and 1 Advisor instead of 2. Surprisingly, this looks exactly as Himly’s proposed reconstruction of early Xiangqi over a 11x11 board (reproduced by Pritchard). However an implementation over a regular 9x9 board is possible.

![A proposed Proto-Xiangqi reconstruction with 6 Soldiers](image)

**IN THE WEST END OF THE ROAD**

It is now time to look towards West. It is generally believed that the Greeks have played the first war games, according to Murray’s classification, where only strategy is involved without any random intervention. One of them was the Polis, the “town”, opposing two players having a large number of gaming counters (of two colours) on the cases of a board. The game consisted in trapping an opposite man between two of his own to capture it. Alas, no more details are known about the rules. Roland May suggested that the idea of town implied a notion of gathering forces as a ludic transcription of the phalanx, whose strength in attack and defence lied within its cohesion

Later on, we know that the Romans played Latrunculi. Many boards have been found by archaeologists, often in the limes, the empire borders which is interesting because it shows that the soldiers in garrison were particularly induced to play. The size of boards seems to have varied, however the 8x8 was the most frequent.

Again, the rules did not reach us but more literary references allow more precise reconstruction. Roland May affirms that each side had 3 types of men: calculi, milites and ladrones where Schädler disagrees and sees here poets’ attempts to avoid repetitions. Anyway, both authors imagine orthogonal moves for the pieces and capture by trapping the opposite man between two. A curious Roman word in Latin references is mandra who, according to Austin (1934-35), pointed out a front line stopping the enemy progression. The player had to break the enemy mandra to invade and ravage the opposing side. We are going to come back on this point soon.

History teaches us that the Alexander’s expedition in Asia (334-323 BC) was followed by a strong Hellenistic influence which lasts in Middle-East for centuries.

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The Seleucids dominated Syria and Iran until they were overpowered by the Parthians in 129 BC who perpetuated the Greek cultural prestige. More important, the eastern provinces of Bactria and Sogdiana seceded and formed a Graeco-Bactrian kingdom which pushed far into the Ganges valley. To illustrate the syncretism between Greek and Indian cultures, let us remember that Menander (160-140), king of Kabul, converted to Buddhist and became known as Milinda. In the 1st century BC, the Kushan kings used the double title of basileus and maharadja and their coins depicted Zeus associated with the Buddha! Later, the Parthian empire cultivated contacts, not always hostile, with the Romans. It has been asserted than the Roman and Gallic legionaries captured after the Carrhae disaster (53 BC) were sent eastward and fought along with the Xiongnu to defend the fortified city of Zhezhe (located in modern Kirghizstan) besieged by the Chinese Former Han troops. This relationship with the West, Roman then Byzantine, never interrupted, and continued under the Sassanian empire which ruled a great Persia from Syria to the Oxus and the Indus valleys and was the dominant power in Middle-East until the Muslim conquest in 7th century. Then, we have good reasons to believe that Polis or Latrunculi were not unknown in these regions.

Up to now, we concentrated our observation on the major pieces. We should not forget to examine the Pawns, which could be the cornerstone of Chess origin: they are very different in Chatrang and in Xiangqi. For both, they move 1 square forward however they take 1 square diagonally forward in Chatrang, while in Xiangqi they capture as they move. Again, it is difficult to be convinced of an evolution, whatever its direction, explaining one type of Pawn deriving from the other. The Indo-Persian sort is the most elaborated. Also, it corresponds to a game where the Pawns are present to form a full line. I am convinced that this is not fortuitous. My deep intuition is that peculiar Pawn move in Chatrang - transmitted without modification to us - which can form very efficient self-protected chains could derive from a local evolution of the Graeco-Roman battle game. It could be a survival of the manda.

If I dare go any further, I will assert that the King is also a probable genuine Indo-Persian piece. The Chinese counterpart is limited to orthogonal moves only and his confined to the 9-points palace. Then, the Xiangqi is a pleasant circling and blocking game. On the contrary, in Chatrang, the King can really lead the battle and his supposed weakness is much relative if one reminds that Queen and Bishops were not extant in early Chess. A seducing hypothesis will be to confirm that a kind of Latrunculi had been transmitted to those regions with, at least, 2 types of men: Pawns and Kings.

The Pawn promotion to a Vizier is another typical characteristic of Indo-Persian Chess. Such a process is the good answer to their final arrival on the last row where they get pinned down. A Xiangqi-like solution allowing a side walk was not an acceptable alternative since it was not enough to efficiently chase an unbound

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20 This is maybe not a definitive argument as the Korean variety (Changgi) allows its “King” to move diagonally, though inside the marked lines of the palace only.

21 Even more speculative would be to think to 3 types of men, adding the Chariot: calculi, milites, latrones? Men moving orthogonally as modern Rooks have been often proposed in Polis or Latrunculi reconstruction. Therefore, such an idea should not be discarded.
King. This promotion mode (on final row) is very clever and intimately attached to the western style of Pawns and Kings.

As said before, the most favourite Roman board was the 8x8. This board was also known in India where it was named Ashtapada, which meant “8 feet or 8 fields”. This Sanskrit word is found as early as the 4th or 3rd c. BC in the Vinayapitaka and point to a gaming board having 8x8 cells22. Religious texts, Buddhist or Jaina, warn wise men against gambling, so it is interpreted that this board was used for a gambling game with dice. There is nothing to indicate that pawns or checkers were employed. Much later, the word Ashtapada was used in a sense of board for several games, Chess but also Nard. Noting that several cells were cross-cut as for several spiral race game boards (Siga, Ashta-Changa, Ashta-Kashte, Saturankam,...), Murray became convinced that the original Ashtapada was also a race along a spiral path. However, caution must be applied here. A careful reading of both Murray’s books shows that he was somewhat speculative here, although his theory is supported by his unquestionable authority23. Whatever it was exactly, this game was also known to the Persians which call it Hast-Pay as it is attested in the Xusraw Kawâdân ut rêdag, a small Pahlavi treatise (7th c.) about princes’ education under the Sassanians.

With such a strong cultural background associated with play over a 8x8 board, it is not really surprising that western players identified it with the Xiangqi board. With 9x10 intersections, it is very similar to the 8x8 cases as soon as one makes abstraction of the separating river. Not only the river, but all other markings like the palaces (if they existed) were therefore victim of that assimilation. The resemblance of their supposed battle game with the oriental Proto-Xiangqi game would have helped the identification and adoption of the rest of the troops. Then, the players tried to reproduce the battle with the 32 pieces on their 8x8 board. The warfare character of the game should have strongly impressed the Persians. The Afrasiab set (first undisputed known chessmen, 7th c.24) shows armoured Pawns, Horses depicted as Knights (already !), battle Elephant and Chariot. Even the Vizier is an intriguing flat-headed fighter mounted on a kind of feline mount. Indeed, carving piece seems to have been the habit in use in Persia and later for all western derivatives in Muslim land as well as in India, whereas all known Chinese pieces were always flat like coins. It has been suggested that the Xuanguai lu evokes three-dimensional gold chessmen but no such pieces have been found so far25.

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23 All the reported spiral games are played over odd boards. It can be verified that such a game over an even board would be very confusing. There is no evidence at all of such rules in the ancient literature for the Ashtapada. Finally, all representations of 8x8 cross-cut boards are rather recent and these markings are found in most modern Indian board games (as in Pachisi) then, are they merely decorative or have they a “forgotten purpose” as Murray thought ? In the latter case, have we really understood that purpose?


The arrangement followed some logic: they kept the Commander and his Counsellor, here a King and his Vizier, at the centre, the Chariot at the angles and Horses and Elephants in between. This was fulfilling the first row already and since the Cannons were not immediately connected with an accepted division of the army, they were simply ignored and the corresponding pieces assimilated to 2 supplementary Pawns. Therefore, a complete Pawn line was obtained, and I suspect that this line was also found in anterior board-games in these western countries.

It can be thought that playing inside the squares rather than on the intersection points influenced the way the chessmen moved. It gave more freedom, allowing Elephant and Horse to jump over an occupied case. This play style is more difficult to accept, psychologically, on a grid where the player who moves his piece two steps does it naturally point by point and is stopped if the intermediate location is occupied.

While buildings this argument, I admit to face a problem with the pieces found at Dalverzin-Tepe, an ancient citadel of the Kushan empire, in modern Uzbekistan. They seem to represent an Elephant and a humped Bull. The puzzling fact is that they are dated from the 2nd century of our era, then about four hundred years before the earliest date advanced for Chess apparition. Some historians believe that they can be toys or amulets which is quite possible. Also, it has been noticed that there is no Bull in the chessmen line-up. Nevertheless, I feel a vague

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26 One can note that the Japanese Shogi which is played onto squares has a jumping Horse.

27 Isaac LINDER, The Art of Chess Pieces, HGS publishers, Moscow, 1994
resemblance with the flat headed Vizier found in Afarsiaab and in Saqqizabad, Iran. Then, the mystery remains and would be useful to have another dating expertise on this unique pieces.

CONCLUSION AND CAUTION

The idea behind this paper is that Chess would be an hybrid game combining western characters inherited from Graeco-Roman or Indian games with some eastern elements which have led to Xiangqi from their own side. Others before me have suggested links with board games such as the Liubo, the Polis or the Ashtapada. What I have tried to do here is to draw a consistent frame which could explain most characteristics of both Xiangqi and Chess ludic structures. The argument which is developed in this paper is highly subjective. It aims at raising open discussions with researchers and enthusiast amateurs passionate by Chess history. Since my opinion has evolved and changed directions several times in the past last years, fluctuating with the rich and numerous contacts I had got, it is possible that I revise these views in future. I give an appointment to interested readers on our web site for an up-to-date vision.