

# TURKISH GREAT CHESS AND CHINESE WHISPERS: MISADVENTURES OF A CHESS VARIANT

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A large chess variant with 52 pieces originally described in a 1800s Ottoman Turkish book as *şatranğ-i kabîr*, or great chess, appears under various names in a number of subsequent Western sources, including authoritative works on chess history and variants. Game rules as presented in the latter are seriously flawed though, with inaccuracies regarding pieces array and moves. Over a period of more than two centuries, baseless assumptions, misreadings of previous sources and outright errors gradually accumulating in the literature have changed the game almost beyond recognition. With some of the game’s aspects not covered even by the original Turkish source, reconstructed rules are suggested and discussed, as well as a reformed variant.

## Introduction

A chess variant with 26 pieces a side was described in a Turkish encyclopaedia, *Ad-Durar al-muntahabāt al-mantūra fī iṣlāḥ al-ğalatāt al-mašhūra*<sup>1</sup> by Abū’r-Rafīd Muḥammad Ḥafīd Ibn-Muṣṭafā ‘Āšir, published in AH 1221/CE 1806/7<sup>2</sup>, as *şatranğ-i kabîr*, or great chess.<sup>3</sup> A number of later sources, including seminal works such as e.g. Murray’s *History of Chess* (Murray 1913), describe the game under varying names. While all

<sup>1</sup> Written in Ottoman Turkish, the title of this work and the name of its author have been transcribed in various ways in later sources. Here, we are following the transcription conventions of the Deutsche Morgenländische Gesellschaft. The copy of this rare book used in this paper is from the Staatsbibliothek zu Berlin.

<sup>2</sup> 1805/6 in van der Linde (1874) and Murray (1913) seems to be a mistake.

<sup>3</sup> In the following, the common transcription form “shatranj” will be used except for direct citations from Ottoman Turkish or Arabic, in which the form *şatranğ* (based on the conventions of the Deutsche Morgenländische Gesellschaft, cf. note 1) is used, and quotations from other texts, in which the forms used by the respective authors appear.

descriptions are ultimately, though often indirectly, based on the Turkish book, within a period of a little more than two hundred years the original information was significantly corrupted.

### **Western sources: miraculous metamorphoses**

The earliest source in a European language is an anonymous German review of the Turkish book, serialized in the *Allgemeine Literatur-Zeitung* for 1808. The part of the review dealing with the “grosses Schachspiel”, or great chess (Anonymous 1808, pp. 485-486), describes the game thus: To the right of the king is a great vizier, and a small one to K’s left (an apparent technical mistake in the German text lists the queen separately from the “small vizier” but it follows from the further description that they are the same piece), then the gazelles<sup>4</sup>, and after the gazelles the rhinoceroses. Then come the horse, elephant and rook. Since in this way there are five more pieces on the back row, namely the great vizier, two gazelles, and two rhinoceroses, there are also five more pawns on the front row, and the number of pieces in the great chess is thus fifty-two. The great vizier moves like the usual vizier (queen), and also as the horse. Gazelles leap as the horses, only one field more, and the rhinoceroses move like the elephants and horses. An illustration of the three additional pieces is provided, and the additional information that the Turkish author had often played this game with his father, who was a master of it.

This description (which could be summarized as: baseline RBNRhGQKVGRhNBR; rhinoceros (Rh) moving as B+N, gazelle (G) as elongated N, great vizier (V) as Q+N), is obviously far from exhaustive, and an anonymous correspondent to the *Neues Hannoversches Magazin* (Anonymous 1809) asked for “short but clear instructions for the so-called great (Persian) chess” – probably misled by the Turkish author’s claim that chess (in general, not the large variant) was a Persian invention. Receiving no response, the (presumably) same correspondent wrote again to the *NHM*. This new submission (Anonymous 1810), a thoughtful analysis of the large game, raises several points which deserve attention:

First, and answering one of the questions by Anonymous (1809), the equivalence of the original’s “elephant” and European bishop (not rook) is

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<sup>4</sup> “Hirsche”, i.e. “deer” or “stags” in the German text. The more accurate translation of the piece’s name as “gazelle” was provided by Murray (1913) and has been followed by all subsequent sources, including the present text.

established. While this might seem obvious to a modern reader, it was not necessarily so to the anonymous author in 1810, considering the sporadic German usage of “elephant” as one of the names for the rook (Wahl 1798, p. 186; Netto 1827, p. 23). Next, the description in Anonymous (1808) regarding the positions of the two pieces next to king is quoted and interpreted as “thus the vizier is always opposite the enemy queen”. While not explicitly mentioned in the original, this seems a correct assumption, considering the crosswise arrangement in a number of Asian chess variants, including Turkish chess (Murray 1913, 1915). Further, board size is discussed: With no firm data on the number of ranks, the author suggested a 13x9 board (using the Courierspiel 12x8 board as an analogue) for, in his opinion, a game on a 13x13 board would be too tedious until an attack was possible, and pawns would be of too limited mobility. Several objections could be raised to this argument: A Turkish and a European player’s concepts of “tedious” should not necessarily concur; it is possible that the Turkish game had an initial phase like the one described by Grimm (1865), with both players making a number of moves simultaneously until the first capture; finally, the number of leaping pieces permits attacks at the earliest stages of the game.

Another question asked by Anonymous (1809) considering the gazelle move was solved in a somewhat unexpected manner in the 1810 text. Indeed, “as the horse, only one field more”, could be interpreted in more than one way (see Table 1). Several sources understand this as referring to a 3-1 leaper (like Timur’s Chess or modern problemists’ camel<sup>5</sup>). Bland (1850), dealing with practically the same description of the camel move in Timur’s Chess, understood it in the same way (though not without some doubt<sup>6</sup>). Yet, Anonymous (1810) has the gazelle move as a 3-2 leaper (like a leaping Janggi elephant, or problemists’ zebra). This has its logic, and depends on how a knight’s move is understood: while a modern reader would be more used to its description as L-shaped, it consists of one diagonal and one orthogonal step in any order (see e.g. Markov 2015 and references therein); thus, a 3-2 leaper moving one step orthogonally and two diagonally is no less an elongated knight than a 3-1 leaper moving one step diagonally and two orthogonally. In our reconstructed rules (Appendix 1) we have adopted a camel-like move for the gazelle feeling that it makes the game

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<sup>5</sup> See e.g. Dickins (1971).

<sup>6</sup> Considering the phrase (Bland 1850, p. 12) “like the Pil [i.e. shatranj elephant] it can move on but few of the squares”, seemingly describing a colourbound piece, Bland’s interpretation must be correct.

more balanced – thus there are two types of colourbound pieces (Bs and Gs) on different colours<sup>7</sup>; also, 3-1 leaping gazelles on e1/13 and i1/13 protect the f and h squares from which an opponent’s gazelle can attack the king on g1/13, which is not the case if the gazelle is a 3-2 leaper.

	Board	Setup	Great vizier (V) move	Rh move	Gazelle move	Small vizier move	Elephant move
Original	13 files, number of ranks not mentioned	RBNRhGQKVGRhNBR, pawn position not explicitly mentioned, “front rank”	Q+N	B+N	Extended knight (EN)	Ortho Q	Ortho B
Anonymous (1808)	13 files, number of ranks not mentioned	RBNRhGQKVGRhNBR, pawn position not explicitly mentioned, “front rank”	Q+N	B+N	EN	Ortho Q	Ortho B
Anonymous (1810)	13 x 9 suggested	RBNRhGQKVGRhNBR, pawns on 2nd rank assumed	Q+N	B+N	EN understood as 1o + 2d (3-2 leaper)	Ortho Q	Ortho B
Schubert (1825a, b)	-	BRNRhGQKVGRhNRB	Q+N	R+N	EN	Ortho Q	Ortho B
Schubert (1826)	-	BRNRhGQKVGRhNRB	Q+N	B+N	EN	Ortho Q	Ortho B
v. d. Linde (1874)	-	RNBRhGQKVGRhBNR	? (“as N with more movement”)	B+N	EN	Ortho Q	Ortho B
v. d. Linde (1876)	13 x 10 suggested	RBNRhGQKVGRhNBR	“to the fifth field as a N” (4-1 leaper)	R+N	EN	Ortho Q	Ortho B
v. d. Linde (1881)	13 x 13	RNBRhGQKVGRhBNR, pawns on fourth rank	“leaping two more squares than the N” (4-1 leaper)	B+N	EN	Ortho Q	Ortho B
Verney (1885)	13 x 13	RNBRhGQKVGRhBNR, mirrored, pawns on fourth rank	“two squares farther than the ordinary N” (4-1 leaper)	B+N	EN	Ortho Q	Ortho B
Murray (1913)	13 x 13	RNBRhGVKQGRhBNR, pawns on fourth rank	1d + 3 or more o, non-leaping	B+N	EN understood as 1d + 2o (3-1 leaper)	Ortho Q	Ortho B
Gollon (1968)	13 x 13	RNBRhGVKQGRhBNR, crosswise, pawns on fourth rank	1d + 3 or more o, non-leaping	B+N	1d + 2o (3-1 leaper)	Shatranj ferz	Shatranj alfil
Pritchard (2007)	13 x 13	RNBRhGVKQGRhBNR, mirrored, pawns on fourth rank	1d + 3o, non-leaping	B+N	1d + 2o (3-1 leaper)	Ortho Q	Ortho B
Cazaux & Knowlton (2017)	13 x 13	RNBRhGVKQGRhBNR, mirrored, pawns on fourth rank	1d + 3 or more o, non-leaping	B+N	1d + 2o (3-1 leaper)	Shatranj ferz	Shatranj alfil
Reconstructed rules, this work	13 x 13	RBNRhGQKVGRhNBR, crosswise, pawns on second rank	Q+N	B+N	1d + 2o (3-1 leaper)	Ortho Q	Ortho B

**Table 1:** Turkish Great Chess setup and pieces movement after the sources discussed in the text. Rh: rhinoceros; G: gazelle; V: Great vizier (Great ferz); Q: (Small) vizier/ferz.

<sup>7</sup> The original board, of course, was most probably unchequered.

Anonymous (1810) provided a plausible explanation for the unusual position of the bishops: otherwise the knight and the rhinoceros, also moving as a knight, “could come to collision on their first moves”. (Additionally, with Bs on the c and k files – and 3-1 leaping Gs – all colourbound pieces would be on the same colour). He also briefly discussed the possibility that Q and Bs might have their old shatranj move (dismissing it, and rightfully so, in our opinion), and introduced castling (K to d or j; R to e or i). Indeed, it is rather likely that the original game had some form of castling, or K’s privileged move, but the possibilities are numerous. Grimm (1865), describing chess in Syria (and adding that the same rules were used “here in Constantinople”) wrote on castling: “I have heard different opinions. Most do not know at all what that means. Some castle in two moves, so that with the first the king moves two or three steps towards the rook and with the second the rook leaps over the king, and some even in three moves. First, the king moves to e2 or f2, second, the rook moves, third, the king takes a knight’s leap behind the pawns. Everyone agrees though that castling is only possible in the beginning” – “the beginning” being, Grimm explains, the initial phase of the game prior to the first capture. The third way of “castling” was also described by Grimm (1851), with the additional remark that “if once checked, either before or during these three moves, he loses the faculty of the Knight’s move”. Falkener, in his brief description of Turkish chess, said that “in castling, the King can be placed on the Rukh’s square, or on any within that distance” but also that “the King [...] can take one Knight’s move at any time of the game, but only one” (Falkener 1892, p. 196)<sup>8</sup>. A later account on Turkish chess, quoted by Murray’s *History*, says: “Castling is carried out in two moves (not necessarily consecutive, I think), K first passing to Kt sq.; in so doing either K or R may leap over intervening Bishop, but not over both Q and B on Q’s side. The R then moves to K sq., or on Q side to Q square. The first take is a bar to Castling, as also, of course, is the fact of the K having moved” (Murray 1913, p. 359).

Each of these, or some other option, could have been the norm in Turkish Great Chess. While effectively creating a variant that most probably had little in common with the original game, the analysis by Anonymous (1810) is valuable, and topics raised in it would pop up in later works.

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<sup>8</sup> One form of 19th century Persian chess (Murray 1913, p. 358) had the king’s N move and castling (short only) as well, and a late 19th century game from the Levant quoted by the same author (Murray 1913, p. 360) has Black castling on the fourth move and making a king’s N move on the 26th.

Next to mention the game is an anonymous text on chess history serialized in the 1813 *Der Sammler*. The part dealing with the “grosstes Schachspiel im Orient” has the setup as BRNRhGQKVGRhNRB; with the great vizier moving as “our bishop, rook and knight, a way of play usual in Russia as well”, and the Rh as R+N (Anonymous 1813). A mostly identical text by F. T. Schubert was published twice in 1825, in *Morgenblatt für gebildete Stände* (Schubert 1825a) and within Schubert’s *Vermischte Schriften* vol. 3 (Schubert 1825b), so the anonymous 1813 work could be Schubert’s as well. The description deviates from the previous works in two aspects: interchanged positions of bishops and rooks, and move of the rhinoceros as knighted rook instead of knighted bishop. A plausible explanation, considering the discussion by Anonymous (1810), is that Schubert misunderstood the elephant to be equivalent to the rook. Incidentally, a Russian translation of Schubert’s text (Schubert 1826) has the Rh move as B+N (elephant designating a bishop in Russia to this day) but still has the bishops in the corners.

It took nearly half a century<sup>9</sup> until the game was mentioned again, this time by A. van der Linde – who does not seem to have been familiar with any of the German sources quoted above. He tells of the discovery in the Berlin Royal Library of “a Turkish book printed in Constantinople in 1805-6” (Van der Linde 1874, pp. 130-132), providing a summary of the pages dealing with chess made by F. Dieterici. The brief description of the “great chess” deviates from Anonymous (1808) in two aspects: position of N and B is interchanged (i.e. RNB as in orthochess), and the move of the great vizier is described as “like the knight with more movement” (“wie das Pferd mit mehr Bewegung”) – a vague and essentially meaningless description which seems to be a misinterpretation of the additional N move of the great vizier (Q+N) compared to the small one (Q). Setup – for one side, and without the pawns – is provided in a table (Van der Linde 1874, p. 115); note that, unlike all other games in the table, board size is not mentioned for the Turkish game.

While providing no further comments in his 1874 work, van der Linde dealt with the game again in two later books, each time adding details which seem to be mere speculations. Thus, *Leerboek van het schaakspel* (Van der Linde 1876, p. 281) has the number of squares as 13x10, the rhinoceros move as

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<sup>9</sup> A very concise version of Schubert’s information (with Rh=R+N) found its way into the entry on chess in Pierer’s *Universal-Lexikon* from its first (Pierer 1835, p. 381) to fifth (Pierer 1871, p. 46) edition.

R+N, and the great vizier move as a 4-1 leaper in modern terminology<sup>10</sup>. The 13x10 board might be an attempt to bring the pawns closer (cf. Anonymous 1810), the rhinoceros R+N move an influence from Schubert's works, and the extended knight move of the great vizier an attempt to rationalise the vague description from 1874: apparently, while not entirely satisfied with it, van der Linde neither doubted the accuracy of his informant's translation, nor asked himself why a piece moving like an elongated knight (and weaker than the "small vizier", or queen), would be named "great vizier".

Finally, *Quellenstudien zur Geschichte des Schachspiels* (Van der Linde 1881, p. 267), while keeping the same move for the great vizier<sup>11</sup>, reverts to the B+N move for the rhinoceros, and – obviously under the influence of Alfonso's great chess – assumes a 13x13 board with pawns on the fourth rank (again, an apparent, and unnecessary, attempt to bring the pawns closer) for the Turkish variant. Like in the previous two works, knights are between the rooks and bishops, as in orthochess.

Verney's *Chess Eccentricities* introduced the game to English readers (Verney 1885, pp.177-178), quoting van der Linde's 1881 description but adding yet another conjectural detail: on Verney's diagram, queens (and "great queens") are on the same file, facing each other. Seemingly, since van der Linde's 1881 diagram shows only the first four ranks of the board, Verney simply arranged the black pieces to mirror white, following the logic of orthochess.

Murray's *History of Chess* contains a brief description of "*Shatranj al-kabīr* (Great chess)", introducing the original names for the rhinoceros and the piece called "Hirsch" (or translations thereof, including "stag" in Verney 1885) in all the secondary sources quoted so far, and translating the latter more accurately as "gazelle" (Murray 1913, p. 346). Thus, Murray might have had access to the original work but his description deviates from it and seems to be mostly based on van der Linde's 1881 work: board 13x13, pawns on fourth rank, setup RNBRhGVKQGRhBNR (note that, contrary to all previous sources, the "Great Ferz" is on the K's left and the queen on the right). Murray apparently follows van der Linde (1881) in giving the

<sup>10</sup> More precisely, van der Linde said that the great vizier moved like aanca in "Grande Acedrex", described on the previous page (Van der Linde 1876, p. 280) and defined the latter's move as "to the fifth square like a knight" ("in 't vijfde veld als een paard") – apparently erroneously (see e.g. Cazaux and Knowlton 2017).

<sup>11</sup> This time defined as "leaping like the giraffe in Timur's game" (in fact a non-leaping piece with a different move), the latter as "like the gryphon in Alfonso", and that one as "leaping two squares further than the knight".

“Great Ferz” the move of the giraffe in Timur’s Great Chess but correctly describes the latter as non-leaping, “slant move compounded of a diagonal move of one square, followed by a straight move of three or more squares” (Murray 1913, p. 344).

Writing more than half a century after Murray, Gollon (1968) dedicated a chapter to the game (“Shatranj Al-Kabir (Great Chess)”; all the variations of “Turkish Great Chess” described by Gollon are different games, and not Turkish). While mostly following Murray in his description, Gollon gave the bishop and queen their old shatranj moves for no apparent reason and without any explanations<sup>12</sup> but – somewhat illogically – kept the modern bishop (plus knight) move for the rhinoceros nevertheless. Like all sources after Murray (1913), Gollon has the “Great Ferz” on the K’s left instead of right, but at least provides the (correct, we believe) crosswise arrangement: GF on f1, h13; F on h1, f13. Gollon suggested rules on pawn promotion, stalemate and bare king (see discussion in Appendix 1), and provided a sample game under those.

Ironically, the latest source available so far<sup>13</sup>, *A World of Chess: Its Development and Variations Through Centuries and Civilizations* (Cazaux and Knowlton 2017) follows Gollon in the shatranj-like moves of B and Q, Murray in the position of the great vizier (“Grand Ferz”) on f1 rather than g1, and Verney in the mirrored array (even though Gollon’s crosswise arrangement is mentioned), thus combining the worst choices of its predecessors. In an endnote (Cazaux and Knowlton 2017, p. 360, note 30), the possibility that B and Q modern moves might apply is discussed – and discarded, and it seems that in their discussion the authors mixed up the Turkish encyclopaedia containing the description of great chess with a slightly earlier Turkish manuscript on chess problems discussed by Murray, “MS. Landberg, Berlin” (Murray 1913, p. 357)<sup>14</sup>. Two centuries after the publication of its original description and its German review, Turkish Great Chess was hardly recognizable anymore.

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<sup>12</sup> One possible explanation would be mistaking the “1221” (AH) date in Murray (1913) for 1221 CE, thus seriously misjudging the game’s antiquity.

<sup>13</sup> Pritchard’s brief entry on Turkish Great Chess (Pritchard 2007, p. 245) combines the information in Verney (1885) and Murray (1913): Great Ferz moving “one step diagonally then three orthogonally [omitting Murray’s “or more”], cannot leap”; mirrored setup with GF on K’s left (for White).

<sup>14</sup> Murray (1913) indeed believed that the manuscript included problems with the old shatranj moves but later reversed his opinion (Murray 1915, p. 159).



## The original source

A study of the original Ottoman Turkish text by one of us (SH) provided the following results:

Compared to its first German review (Anonymous 1808), the text contains no additional information on the game's rules. The setup (Bs between Rs and Ns, great vizier on K's right) is confirmed. The description of the great vizier's move can indeed be interpreted as Q+N. Number of ranks and pawn position are not explicitly mentioned (pawns on "front" rank) but the mere absence of additional explanations seems to indicate a 13x13 board and pawns on second rank. Rules on pawn promotion, stalemate, bare king or king's privileged move / castling are not mentioned, the author probably regarding them as common knowledge (presumably following those for the 64 squares game, whatever they were). Thus, the available information is sufficient to demonstrate flaws in later literature but not to play the game.

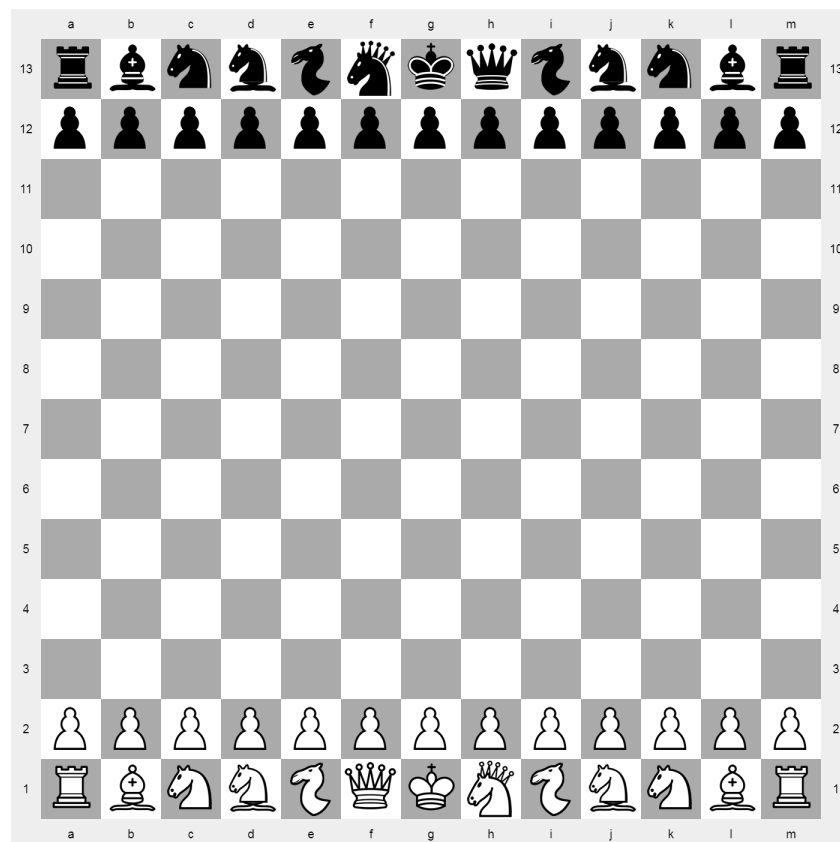
## Summary and conclusions

Turkish Great Chess rules as presented in some of the most authoritative works on chess history and variants, e.g. Murray's *History of Chess*, Gollon's *Chess Variations*, or, most recently, Cazaux and Knowlton's *A World of Chess*, are seriously flawed, with some of the most severe deviations traceable to A. van der Linde's works, published between 1874 and 1881. Information from earlier sources, including the original Ottoman Turkish description, while setting the record straight to a large extent, is still insufficient to actually play the game. Consequently, reconstructed rules are suggested and discussed below.

### *Appendix 1. Reconstructed Turkish Great Chess rules*

With information even in the original source insufficient to play the game, we suggest a reconstructed set of rules, with a discussion of the conjectural points:

Game played on a 13x13 board, with the following initial array (Fig. 1): RBNRhGQKVGRhNBR (a1-m1 and m13-a13, i.e. Qs and Vs crosswise). Rhinoceroses (d1/13, j1/13) move and capture as orthochess B+N, great vizier (h1, f13) – as Q+N, gazelles (e1/13, i1/13) – one step diagonally, followed by two orthogonally, leaping over pieces (3-1 leapers). No castling, instead K can leap as N once during the game (not necessarily on first move). With this move, it can cross check and capture an opponent's piece (but not give check to the enemy K). The privilege is lost after the K is checked (but can still be used to escape that first check). Pawns move and capture as in orthochess except there is no double initial move. Promotion to any captured piece; if none available, pawn must stay on the 12th rank, nevertheless giving check. Win by checkmate, stalemate or baremate (i.e. a bare K, with all other pieces including pawns captured, loses the game



**Figure 1:** Reconstructed Turkish Great Chess: initial array.

unless able to capture the opponent's last piece on the next move resulting in a draw).

### *Discussion*

1. Board and initial array: The original source does not explicitly mention the number of ranks but, with no evidence to the contrary, we assume it was equal to the number of files, i.e. a 13x13 board<sup>15</sup>. The resulting large distance between the pawns is not necessarily a problem, and is seen in several large Indian variants described by Murray (1913), the largest of them played on a 14x14 board (with pawns still on the second rank). While the original board was very probably monochromatic, the diagram on Fig. 1 uses a chequered pattern for convenience, considering the large board and the number of diagonally moving pieces. With a1 black as in orthochess, all corners are black as well (obviously, following the orthochess white right corner square rule would result in all corners white). Position of bishops on the b and l files follows the original description<sup>16</sup>; the crosswise arrangement assumed by Anonymous (1810) and Gollon (1968) has parallels in a number of eastern variants and is adopted here as well. With no evidence to the contrary, we assume pawns were on the second rank, as in several large Indian variants.

Historical precedents for the opposite do exist – the 8x8 *šatranġ as-su'dīya* and 10x10 *šatranġ at-tāmma* (Murray 1913), or the latter's 10x8 version (Somogyi 1959), not to mention Alfonso's great chess which most probably influenced the array in van der Linde (1881). Yet, these are shatranj variants with relatively weak pieces, and our experiments with this and other large chess variants showed that leaving empty ranks between the pawns and the powerful long-ranging pieces behind them deteriorates the game.

2. Movement: In agreement with most sources, we opt for a 3-1 leaping move for the gazelle, which is thus equivalent to Timur's chess and problemists' camel, and is represented accordingly on the diagram (Fig. 1). Description of the great vizier's move in the original, as well as the piece's name, seems to point at a Q+N move clearly enough. Thus, the great vizier is analogous to “ферзь всяческая” (universal queen), or problemists' amazon. Simultaneous occurrence of “normal” Q and a Q+N piece is by

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<sup>15</sup> Any other number probably would have been mentioned.

<sup>16</sup> Indeed, this array leaves d2 and j12 unprotected.

no means exceptional to Turkish Great Chess and is known from several Indian large variants described by Murray (1913)<sup>17</sup>.

3. K's privileged move: probably the least historically accurate of our rules. The original game might have featured a K's N leap, some form of castling, both, or none, which might have been restricted by first check, first capture, or first move – or not (see our comments on Anonymous 1810 above). Since castling (as a single move) seems to be a relatively late addition to Turkish chess, we opted for a K's N leap only. Rules regulating the king's leap vary significantly between the traditional variants featuring it: crossing check or capturing by that move might be allowed or not, privilege might be restricted to the first move or not, and is most often lost after the first check – but, in some variants, can still be used to escape that first check. We opted for maximum freedom for K (in an attempt to compensate for the numerous powerful pieces and the large board), allowing it to capture and cross check. This, however, necessitated an additional rule, namely: K cannot give check by the N move. It would only be relevant in the hypothetical situation when one king has lost the privilege and other still retains it; without it, some rather absurd situations would be possible<sup>18</sup>.

4. Pawn promotion: with no information on promotion in the Turkish game, we had to choose between two options recorded for chess in Syria in the 18th and 19th centuries: promotion to Q only (Stamma 1745) or to any captured piece (Grimm 1851); opting for the latter. The additional rule, pawn remaining on the penultimate rank if no piece available (but still giving check) is adopted – and adapted – from traditional Indian variants (where the promotion is further restricted to the file piece): see e.g. Murray (1913), or, more recently, Saxena (1998)<sup>19</sup>. Thus, the repeated claim by Cazaux and Knowlton (2017) that in Indian chess a pawn unable to promote stays on the last rank is an error: such a rule did exist in Europe though, leading, again, to absurd situations (Allgaier 1819, pp. 17-19). In any case, such a situation is highly unlikely to occur in Turkish Great Chess, and the rule is added here for the sake of completeness.

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<sup>17</sup> Russian four-handed fortress chess (on which see Petroff 1850, Markov 2015), has an extra R, N, and B for each player: a dismantled superqueen. Russian and Turkish chess had both experimented with a superqueen (Murray 1913).

<sup>18</sup> Carrera's discussion of the "Vantagio del Rè Cauallo" (Carrera 1617, pp. 264-265) is applicable here as well.

<sup>19</sup> The latter source, describing traditional Indian "Desi" chess, clearly has the modern moves for B and Q. Thus, "old moves" in *The Classified Encyclopedia of Chess Variants'* description of Desi Chess (Pritchard 2007, p. 264) is a mistake.

5. Stalemate and baremate: both stalemate and baremate were wins in the rules provided by Stamma (1745). Gollon (1968) suggested the same rules (although probably for different reasons), and they are adopted here. The additional rule (barring the other K as well on the next move resulting in a draw) was the norm in shatranj (Murray 1913). Again, any of these situations is highly unlikely to occur in actual game.

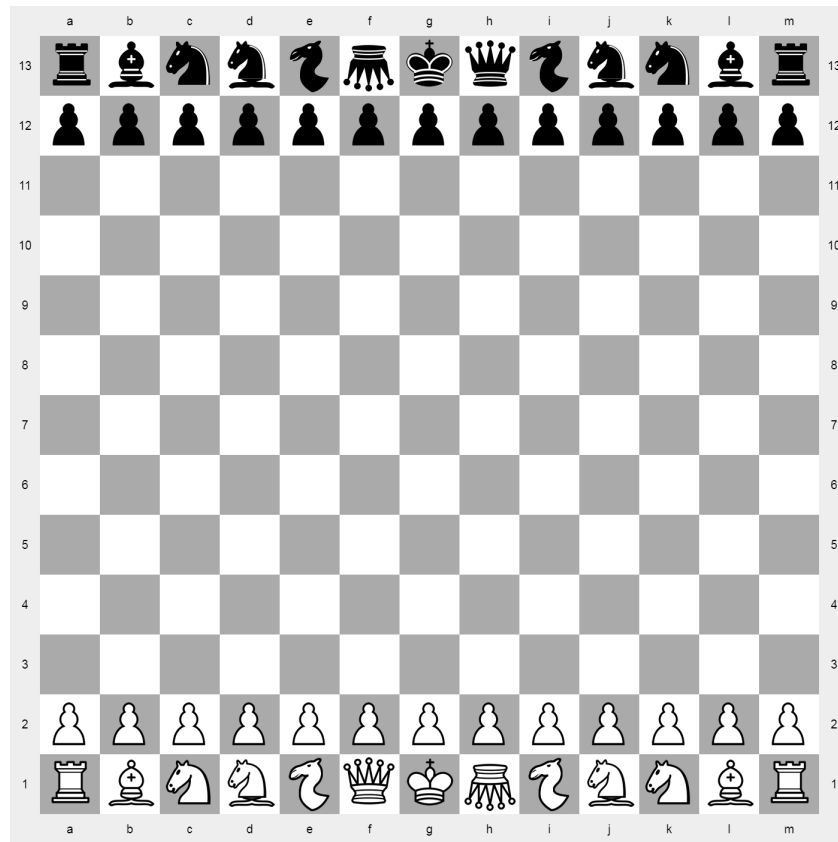
### *Appendix 2. Reformed Turkish Great Chess rules*

Philidor, quoted by Coxe (1784), was of the opinion that a queen moving additionally as a knight “spoils the game”, and while he meant chess on 64 squares as played in his time by Turks and Russians, this seems to be valid for great chess as well. Capturing the opponent’s great vizier while keeping one’s own influences the game’s outcome so strongly that it easily becomes an end in itself. The reformed rules suggested here remove the all too powerful superqueen and introduce several other changes:

Same board and array as for the reconstructed rules, except the great vizier on h1/f13 is replaced by a “short”, or “Mongolian” queen (Fig. 2) moving as K+R, or Shogi Dragon King, thus keeping the original concept of two differently moving queens but reducing the strength of one for a more balanced game<sup>20</sup>. Like in the reconstructed variant, pawns have no double move but promotion is unrestricted as in orthochess. Stalemate is a draw, bare king rule does not apply. K’s leap is replaced by castling that follows all orthochess conditions with the following exception: When castling, K moves any number of squares up to and including the R square and vice versa – but K and R must exchange positions (i.e. Kh1&Rg1, Kml&Rg1, Kkl&Rh1 etc. but not e.g. Kil&Rj1). This, in effect, is a modified version of castling in 19th century Turkish chess as reported by Falkener (1892).

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<sup>20</sup> The following subvariants are possible: orthoqueens on both sides of K, resulting in a perfectly symmetrical array; short Qs on both sides – symmetry, and further strength reduction compensating for the powerful B+N pieces; or – again keeping the original idea of two different queen-like pieces but reducing their strength even further – a K+R piece on h1/f13 and a K+B piece on f1/h13. Yet another option would be making the piece on h1/f13 a K+R+N compound (i.e. knighted short queen, or short superqueen), keeping the original number of leapers. One could try out the reconstructed version with a short superqueen as well.



**Figure 2:** Reformed Turkish Great Chess: initial array, with short queen (K+R) or short superqueen (K+R+N) on h1/f13.

### *Acknowledgements*

C. Braunsburger-Härtel for providing the scans of the Ottoman text in the Staatsbibliothek zu Berlin; V. Simeonovski and B. Nikolova for help with literature; Google Books, the Internet Archive and the John and Sue Beasley WebSite for freely available sources used in this study. Diagrams prepared using Board painter by Musketeer chess (<http://musketeerchess.net/tools/boardpainter/>). GM thanks T. Benova-Markova for help with trying out the two variants discussed in the paper.

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