Croatian Chess

and other variants

Mario Mlačak

Dedicated to Miranda.

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My most sincere gratitude to:

Valentina Štefanić
Kristina Mlačak
Slavko Štefanić

and many, many others.

Thank you all.

1 Introduction

Life's too short for chess.
~ Henry James

I was in my aunt's house, on the border of a small village. Through window walled garden and small brook was visible just behind the house. And hills in the distance. Early afternoon Sun was casting its orange rays into warm room. It was cold outside.

My cousin approached me with some nifty gizmo. He was a few years older then me and was already going to school.
"Here, look at what I got."
"What's that?"
"Chess set. Wanna try? Lemme show you."
"Sure."

It was small plasticky, fiddly thing designed to fit into winter's coat pocket, to be used on the go. Folding board was also used to hold all pieces in it. Each piece was as small as humanely usable. Each field had a hole in the middle. Bellow each piece there was small rod fitting into those holes. It was colored all in red and ivory.

Short lesson revealed it's not that difficult to grasp what's going on. Within minutes I picked it up. First match was, predictably, a complete disaster. On the second go my cousin forgot about a piece, and I grabbed his Queen gleefully. He surrendered.

After he left me with a new widget, I was intrigued. I wasn't about playing the game, though. I was more into redesign it. Could it be made better, more challenging, or just different?
'Why not make Knight jump longer, say 3 by 1 fields?'
'Hmmmm...'
'Nah, that would make jump too long for such a small board.'

Outside, Sun was shining red.

2 Prerequisites

This document describes new variants of chess, new pieces and rules. In this document I'll describe only even variants, since generating odd ones from there is an exercise in simplicity. Please, see 'Even variant', 'Odd variant' in the Definitions bellow.

In this document I'm assuming you have the complete prior knowledge of classical chess pieces and rules. If not, please visit Wikipedia entry on this subject at:
http://en.wikipedia.org/wiki/Chess_rules.

3 Definitions

Due to additional rules, some terms were added, while others have different meaning compared to texts about classical chess. All of these definitions retains meaning evinced here over all variants of chess.

3.1 Figure

Figure is any chess piece, except Pawn.

3.2 Moment

Moment is number of fields one piece must traverse to reach the other one. It includes all fields between the two pieces and ending field on which other piece is positioned. Sometime I'll use momentum as equivalent.

3.3 Activation of piece

Activation of piece is consequence of transferring moment to idle piece, thus capturing field which it occupied and making it move away.

3.4 Passive piece

Passive piece is any which can not be moved by its own, it requires other piece to move it. In other words, passive piece is one which must be activated before it can move. Currently Pyramid and Wave are passive pieces.

3.5 Active piece

Active piece is any which can be moved on its own. In classical chess all pieces are active.
Active piece can activate only own passive pieces.

3.6 Dormant piece

Dormant piece is any which can not be moved at all. Currently, only Star is such a piece.

3.7 Attacking piece rule

Attacking piece rule states that only pieces which can participate in check or check-mate are active pieces. No passive piece can attack opponent's King, nor cause check-mate.

3.8 Transferring piece

Transferring piece is passive piece which can receive moment from one piece and then transmit it to another piece. Currently, this is only Wave.

Transferring piece can activate all active and passive pieces, both own and opponent's. Transferring piece cannot interact with own or opponent's King at all.

3.9 Moment building

Moment building refers to movement of active piece which is autonomous, i.e. not caused by activation. Active piece in such a case with each passing field carries more and more moment, i.e. 1 more per field.

3.10   Moment spending

Moment spending refers to movement of piece which is caused by activation. With each passing field, piece carries less and less moment, i.e. 1 less per field.

3.11   Weightless piece

Weightless piece is one which does not spend moment it carries while moving. Currently, only Wave is weightless piece.

3.12   Board Size

Board size is total length of a board, horizontally or vertically. All boards of all variants are always square, so horizontal size is always equal to vertical one. Classical chess have board size of 8.

3.13   Even variant

Even variant is chess variant which board size is even.

3.14   Odd variant

Odd variant is chess variant which board size is odd. Generally, it is based on corresponding even variant which size is larger by one, but stripped of one file, both Queens, two Pawns and one rank.

3.15   Dividing line

Dividing line is (virtual) horizontal line dividing board into two halves. It is in-between ranks on even boards (i.e. even variants). It includes central rank at odd boards (i.e. odd variants), which is known as "no man's land".

3.16   Front rank

Front rank is rank of pieces immediately exposed to opponent. In all variants described here, it's rank of Pawns.

3.17   Back rank

Back rank is rank at the back of own army, not immediately exposed to opponent. In variants described here, back rank consists only of figures, not Pawns.

3.18   Side of board

Side of board is collection of all ranks from figures rank up to, but not including, dividing line.

3.19   En passant length

En passant length is length of Pawn move from its initial position. Its maximum value is determined by the size of board. In all variants Pawn can move up to the half of the board, i.e. up to but not including dividing line. So,

EPL_MAX = floor(BS / 2) – 2, where
EPL_MAX = maximum en passant length
BS = board size
floor(x) = smallest integer such that floor(x) >= x

3.20   Castling length

Castling length is length of King's move during castling. It is always between two and maximum castling length, which depends on board size and initial setup. King can move at most next to the King-side Rook, and one field short of next to Queen-sided Rook. So, for the standard initial setup,

CL_MAX = floor(BS / 2) – 2, if BS < 18
CL_MAX = floor(BS / 2) – 3, if BS >= 18, where
CL_MAX = maximum castling length
BS = board size
floor(x) = smallest integer such that floor(x) >= x

3.21   Castling rule

Castling is one ply move. It must be performed moving King and then appropriate Rook. No other piece, active or passive, might be moved in the same ply.

Castling rule from classical variant which forbids King and all fields over which King will pass, including destination one, to be under attack still applies.

Only difference between classical chess and variants described here is castling length.

3.22 Move

Move is action involving single piece which changes its position on board. No other attributes of piece are changed.

3.23 Activating move

Activating move is one where activation of piece happens, i.e. already moving piece transfers its own moment to idle one, thus making it move. Original moving piece stops its movement at position which was occupied by idle piece.

3.24 Assisted move

Assisted move is one which was caused by activating move.

3.25 Transferring move

Transferring move is one where transferring piece sends over moment it carries to idle piece.

This can happen only if moment carried is greater then zero. If transferring piece is carrying no moment (=0), then it cannot interact with any other piece at all.

Note that own active piece can't activate opponent's transferring piece. Of course, this is symmetrical rule, so opponent's active piece can't activate your own transferring piece. In both cases transferring piece is captured instead.

3.26 Ordinary move

Ordinary move is one which is not activating nor assisted move. It is a normal move of active piece from its residing

field into destination field. At destination field capture of opponent's piece might occur.

This is also known as normal move, because all moves in classical chess are normal, bar castling and promotion.

3.27   Capturing move

Capturing move is ordinary move in which opponent's piece is captured at destination field.

3.28   Launching move

Launching move is first move in a series of activating moves, i.e. one building moment.

3.29   Teleportation

Teleportation is move where piece leaves its location and appears on other, unrelated to rules describing normal, active or assisted, movement of piece.

King cannot teleport, it's illegal, forbidden move for it.

3.30   Teleporting move

Teleporting move is one which triggers teleportation. For instance, any move where destination field is occupied by Star is teleporting move.

This move is also known as "dive into (Star)" move.

3.31   Teleporting piece

Teleporting piece is one which causes teleportation. Currently, only Star is such a piece.

3.32   Portal fields

Portal fields are fields closest to teleporting piece to the left, right, up, down and diagonally. These fields are the same as King would be able to move to, should it replace teleporting

piece.

These fields are where pieces appears after teleportation. If none of those fields are empty, then no teleportation can take place, and it is illegal. If more then one portal fields are empty, then player can choose empty field on which piece will appear.

3.33   Step

Step is (virtual) move of advancing to legally nearest field. For instance, Bishop going from c4 to f7 will have to perform 3 steps: d5, e6, f7, checking before each if it is still legal to move any further, and then continuing to advance to next field.

3.34   First obstacle rule

First obstacle rule states that pieces which perform multi-step move must stop before own piece, at most at opponent's piece (thus capturing it) or at border of table, whichever comes first.

3.35   Jump

Jump is a move which is legal as long as piece can leave starting field and can occupy destination field. Starting and destination fields does not need to be neighboring, and any piece in between the two is irrelevant for move to be legal.

3.36   Jump fields

Jump fields are start and destination fields of any jump.

3.37   Jump sequence

Jump sequence is a move which consists of a sequence of jumps, in that starting field of next jump is a destination field of previous jump. Basically, steps of jump sequence are jumps. Jump sequence is constrained by First obstacle rule, that is, jump fields are subject to First obstacle rule.

That means, jump sequence can be held for as long as jump fields are available. If not, or action was taken (capturing opponent's piece, for example), jump sequence ends at last available field, or one where action took place.

3.38   Free piece

Free piece is a piece which is not bound by First obstacle rule and there are no other constraints on its movement, i.e. its' movement is constrained only by the boundaries of board. Free piece can continue its movement past pieces, own or opponents', without interaction. Currently, only Wave is a free piece.

3.39   Direction of move

Direction of move is ordered pair of horizontal and vertical coordinate differences between destination and originating field of single step. For instance, Bishop on g3 going to c7 will have direction of move (-1,1), provided that we use usual mathematical coordinate system where horizontal and vertical coordinates increase from left to right and bottom to top.

3.40   Opposite direction

Opposite direction is direction of move from destination to originating field. In example above, it would be from c7 to g3, thus (1,-1). It can be calculated from direction of move by simply flipping sign of both coordinate differences in ordered pair.

3.41   Continuation of direction rule

Continuation of direction rule states that piece when performing multi-step move must not change its initial direction of move.

3.42   Promotion

Promotion is action involving single Pawn which remains at the same position on board, but changes into more valuable

piece, usually Queen. Note that Pawn can be promoted only in piece which initially exists on board. For instance, when playing Odd Croatian Ties variant, Pawn can not be promoted to Queen, because there is no such a figure in initial setup on board.

3.43 Prohibited piece

Prohibited piece is one into which Pawn cannot be promoted. Those figures which does not exists in particular chess variant being played at the moment are temporary prohibited pieces, because they might not be prohibited in the next game, should players choose variant where they exists. Permanently prohibited piece is Star, that is to say, Pawn cannot be ever promoted to Star, even if Star exists on board, in variant being played.

3.44 Conversion

Conversion is action involving single piece which remains at the same position on board, but changes its color, therefore its owner.

3.45 Converting piece

Converting piece is one capable of converting opponent's pieces into own. For instance, Pyramid and Star are converting pieces.

3.46 Transformation

Transformation is either promotion or conversion.

3.47 Transforming piece

Transforming piece is one capable of performing transformation, i.e. promotion of own Pawns or conversions of opponent's pieces.

3.48 Action

Action is either move or transformation.

3.49　Ply

Ply is one turn of the player, i.e. one or more moves, possibly ending with transformation, of one and the same player, in one continuous stream of actions.
http://en.wikipedia.org/wiki/Ply_%28game_theory%29

3.50　Cascading ply

Cascading ply is ply which consists of at least two moves.

3.51　Check in ply rule

Ply is legal so long as own King is not put under attack after every action. It is illegal to put own King under attack, even if this treat is dealt with in upcoming actions in the same cascading ply. If all otherwise legal moves put own King under attack at any action, not just last one, the game is drawn.

3.52　Passive piece movement rule

Passive piece movement rule states that passive pieces after being activated continues to move according to rules of last active piece in cascading ply.

3.53　Moment conservation rule

Moment conservation rule states that in cascading ply sum of moments pieces spent must be less then or equal to moment build in launching move.

That is to say, all activated pieces, active and passive, combined together must not move further away then first piece moved building momentum. Naturally, all movements of weightless pieces are not taken into account.

3.54　Game

Game is a stream of plies between light player (challenges) and dark player (responses).

3.55   *Alternative pieces*

Alternative pieces are those not available in Classical Game of Chess, i.e. all new pieces described in this book.

3.56   *Stable figures*

Stable figures are those active pieces which does not move horizontally, vertically nor in any diagonal. These are Knight, Pegasus, Unicorn and Centaur.

4 Classical Game

A great war leaves the country with three armies - an army of cripples, an army of mourners, and an army of thieves.
~ German proverb

About classical chess is written really everything already, and I have nothing to add. Except for illustration of initial setup, so that you can accustom yourself with rendition of pieces used in this text.
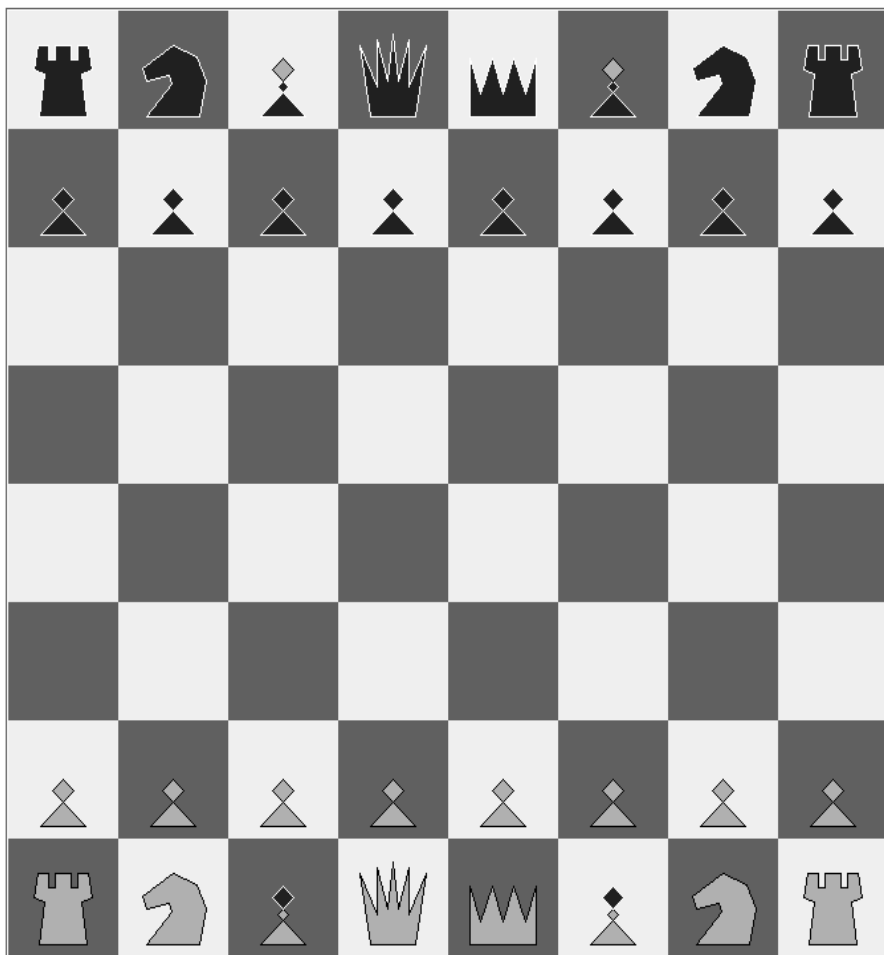
Note that in Odd Classical Game, since it's played on 7 x 7 board, there is no en-passant move. This is so because of very small board there is no room for a Pawn to perform 2-field initial move without, at the same time, preventing opponent to do the same at the same file.

5 Croatian Ties

Secrecy is the first essential in affairs of the State.
~ De Richelieu

Croatian Ties is chess variant which is played on 10 x 10 board, with silver and red fields and dark silver and dark red pieces. In algebraic notation, vertical files are enumerated from 'a' to 'j', and horizontal ranks are enumerated from '1' to '10'. A new piece is introduced, Pegasus.

5.1 Pegasus

Pegasus, the Winged Horse, moves similarly to Knight, only it can continue its jumpy movement until another piece is encountered, or it runs out of board. Note that once in movement, Pegasus can not change its heading. In other words, Pegasus is bound by both First obstacle rule and Continuation of direction rule.

Pegasus symbol in algebraic notation is 'G', to avoid confusion with Pawn.

In the example below we have Pegasus with all destination fields of valid moves marked with green squares. Illegal moves are denoted with black squares. Numbers in upper right corner of field enumerates direction of movement.
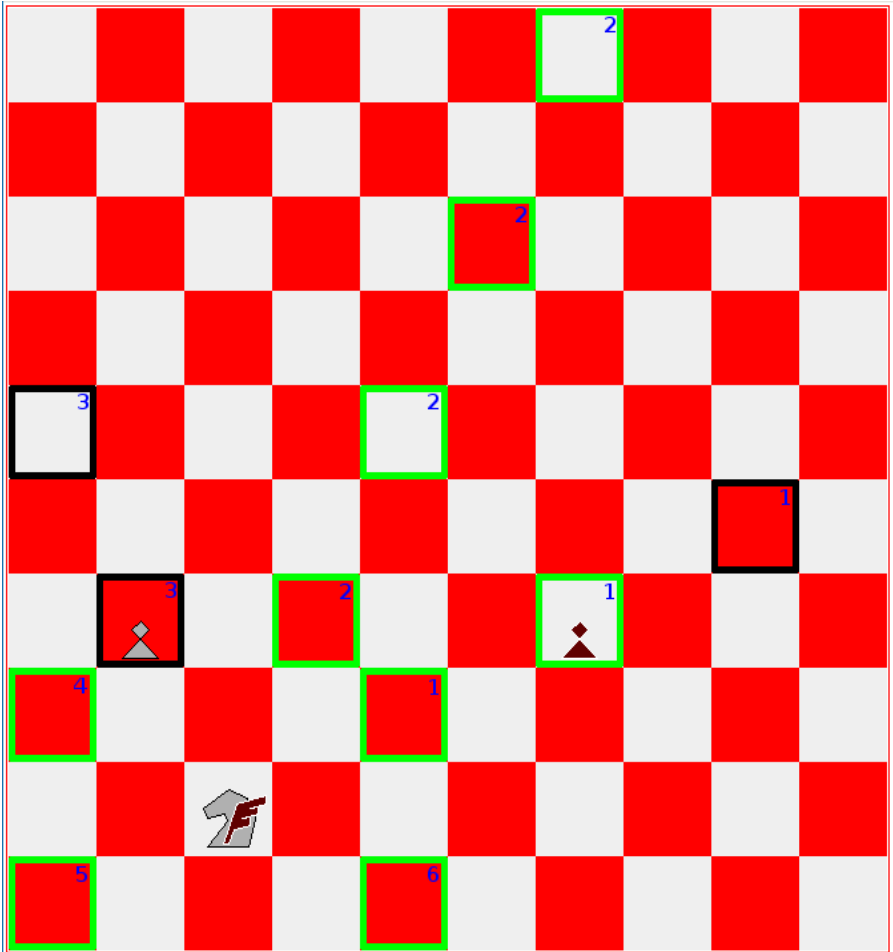
As you can already tell, Pegasus in this example can not move in direction 3, because first field in that direction is already occupied by own piece. For the same reason, it can't advance any further it the same direction, as well.

Pegasus can capture opponent's Pawn in direction 1 in two-step move, because first field in that direction is empty. Obviously enough, after capturing dark Pawn, Pegasus can't advance in the same direction.

And finally, once Pegasus is set to direction 2, it can advance to the border of board, since there are no obstacles. Note that in this multi-step move it can not change its direction in the middle of the move. For instance upon reaching second field in that direction, Pegasus can't change its heading, and end up near dark Pawn.

5.2 Initial setup

Initial setup for Light player is (mirrored for Dark one):
PPPPPPPPPP
RGNBQKBNGR, or more conveniently, as in this screen-shot:
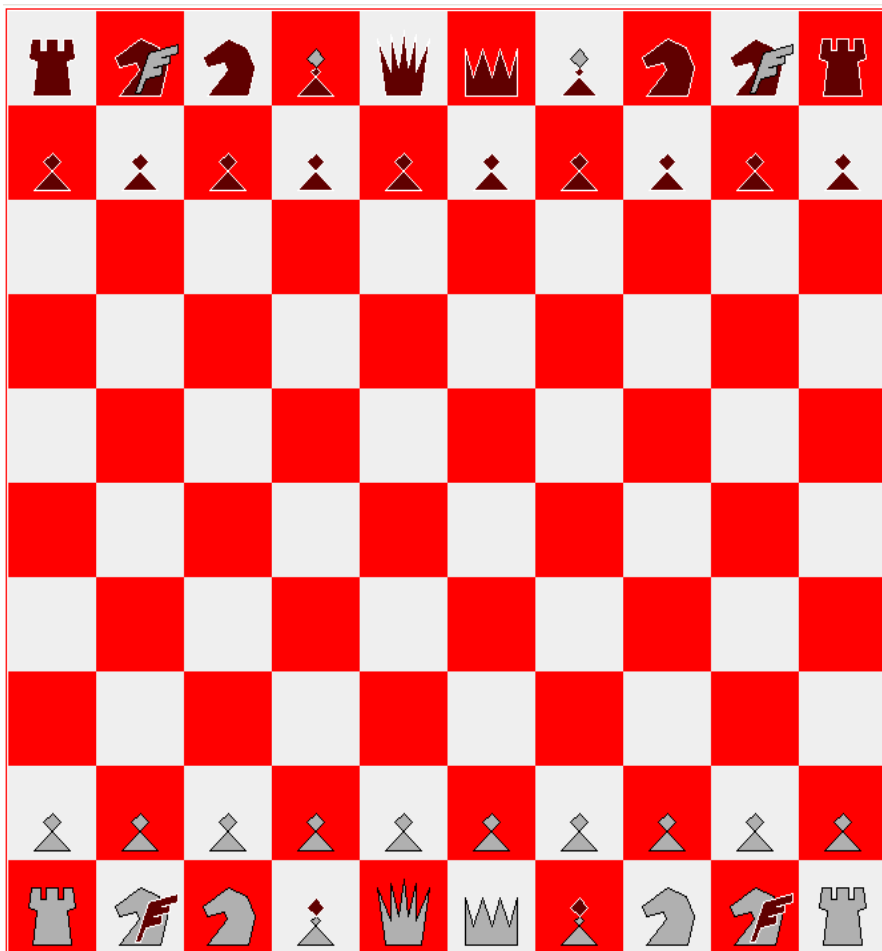
5.3 En passant
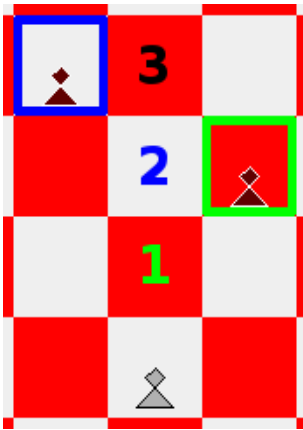
Due to larger board, Pawn can have longer move from its initial position, i.e. it can feature 1, 2 or 3 step initial move, provided that there is no obstacle between originating and destination field in form of own or opponent's piece.

In this example suppose that light Pawn is positioned at its own initial position. It can then move to any field marked with 1, 2 or 3. Should it move to field numbered 3, both dark Pawns can capture it, ending in corresponding field diagonal to their starting location, with the same color. Thus, nearest dark Pawn, on green field, after capturing light Pawn, will end up on field numbered 1. And second dark Pawn, on blue field, after capturing light Pawn will end up on field numbered 2.

5.4 Castling

Castling is basically the same as it is in classical chess, only with additional choice of shorter or longer King's move to either side. That means there still must be observed rule which prohibits King and all fields over which it will move being under attack when preforming castling. And, of course, both King and Rook which performs castling must not move before castling takes place.

In example above, King can move to green or blue fields at player's own volition. Appropriate Rook can then move to either green field (if King was moved to blue one) or black field (if King moved to green field). Note that King must not be checked, and

black and green fields on side where castling happens must not be under attack. Should player decide in favor of long castling, thus sending King to either blue field, that field then must not be under attack as well.

6 Mayan Ascendancy

The world has achieved brilliance without wisdom, power without conscience. Our is a world of nuclear giants and ethical infants.
~ Omar Nelson Bradley

Mayan Ascendancy is chess variant which is played on 12 x 12 board with yellow and blue fields and with dark yellow and dark blue pieces. In algebraic notation, vertical files are enumerated from 'a' to 'l', and horizontal ranks are enumerated from '1' to '12'. A new piece is introduced, Pyramid.

6.1 Pyramid

Pyramid is Passive piece bound by First obstacle rule, Attacking piece rule, Passive piece movement rule and Moment conservation rule.
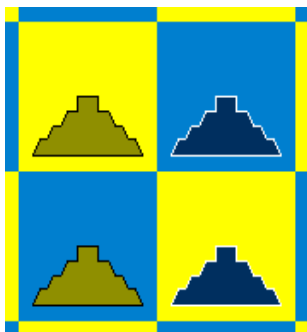
That is to say, Pyramid:
- must be activated to move
- must stop at first piece it encounters
- does not attack King, can't check nor check-mate
- moves as last active piece in cascading ply
- can't move further away then momentum it received when it was activated

Pyramid can also transform other pieces, own and opponent's. It can promote own Pawns, but only on opponent's side of board. It can convert any opponent's piece, except opponent's King, only on own side of board.

Transformation is done by touching either piece which Pyramid is about to transform, or field on which such a piece resides.

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Pyramid then leaves board, as if it has been captured. Promotion is then done in an usual way. Conversion is done the same way as promotion, except opponent's piece has been "promoted" to the same type of piece with different owner.

In algebraic notation, symbol for Pyramid is 'A', to avoid confusion with Pawn.

In next example fields marked with blue squares are legal moves for Queen, red marked fields are not legal. Numbers in upper right corner of fields enumerates direction of movement.
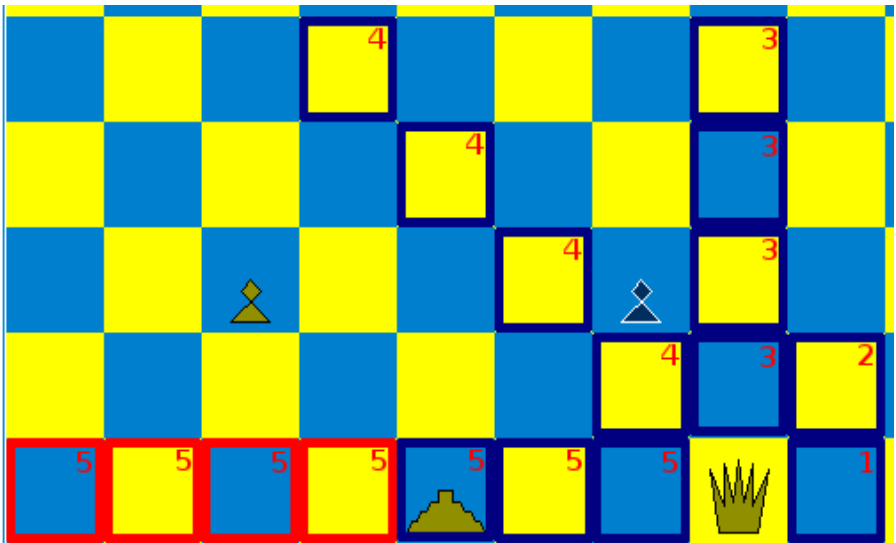
Should, in this situation, player decide to move Queen to field currently occupied by Pyramid, two things would happen. First, Queen would take position occupied by Pyramid. Next, Pyramid would have to move to new location, taken into account that Queen moved 3 fields, and so Pyramid could also move at most 3 fields.

This situation is depicted in second picture. Queen has taken over previous Pyramid's field. Pyramid in "in the air", ready to commit its movement. Note that Pyramid must move as if it is Queen, since Queen was the last active piece which transferred its

moment to Pyramid. Note also that fields further away then 3 steps are out of reach for Pyramid.
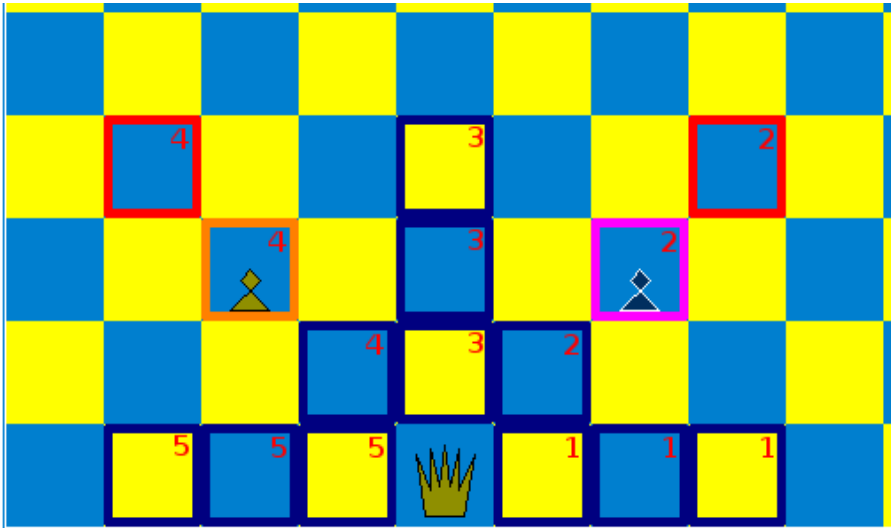

All legal moves for Pyramid are marked with blue and purple. All illegal moves are marked red and orange. As it is usual, numbers in upper right corner of fields enumerates direction of movement.

Since this example is happening on light side of board (notice left and bottom border!), Pyramid also could apply its transformational powers, and convert dark Pawn on purple field. Again, light Pawn is on own side of Board, so it is illegal for Pyramid to promote own Pawn at orange field. Should this be view from dark player's perspective, then Pyramid could promote own Pawn on orange field, but in that case it couldn't convert dark Pawn on purple field.

6.2 Initial setup

Initial setup for Light player is (mirrored for Dark one):
PPPPPPPPPPPP
RGANBQKBNAGR, or more conveniently, as in this screen-shot:
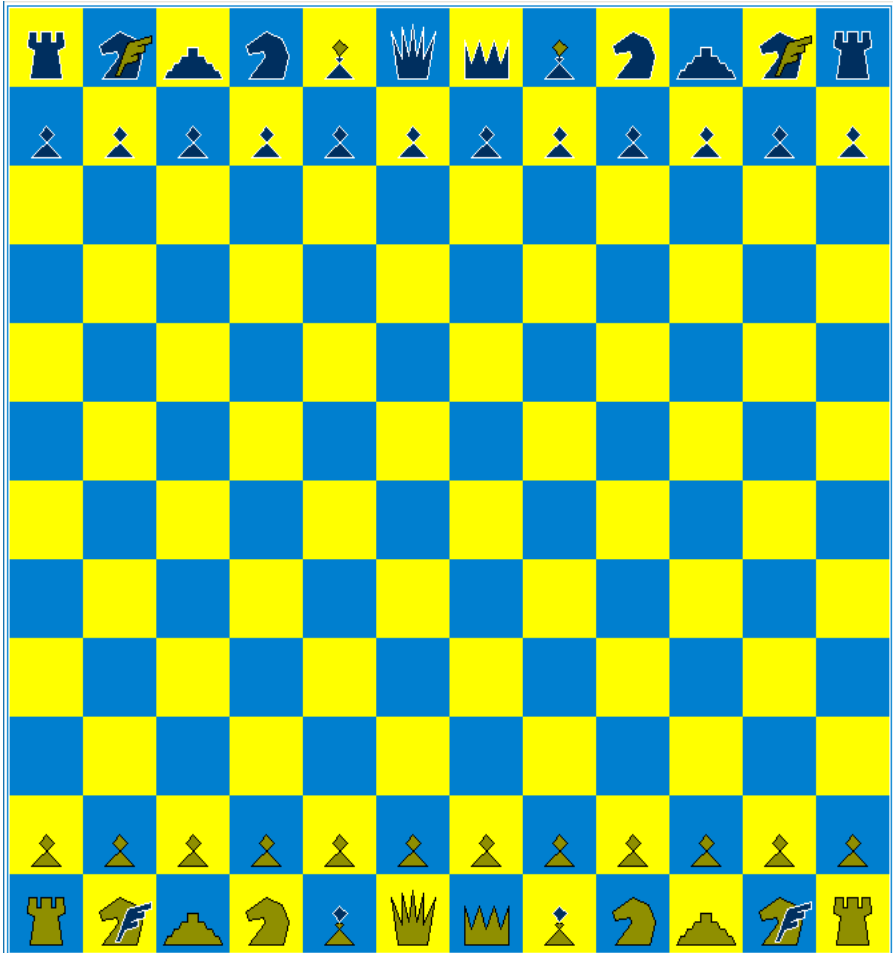
6.3 En passant
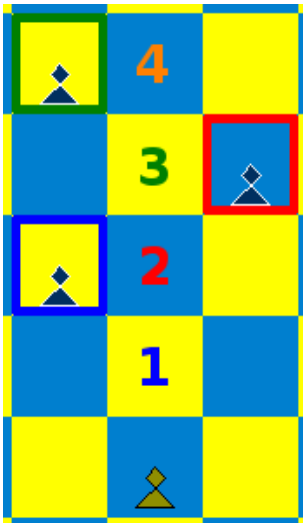
En passant is basically the same as is in classical chess and Croatian Ties variant. The only difference is longer legal advancement of Pawn from its initial position, i.e. up to 4 fields.

Opponent's Pawns performing en-passant capture still must move immediately after Pawn leaved its initial position, just as in classical chess and Croatian Ties variant. They must land on field diagonal to own position, towards initial position of Pawn being captured. This is shown in color-coded example on the left, e.g. red marked dark Pawn must end up on field marked 2, also in red.

6.4 Castling

Castling is the same as it is in classical chess and Croatian Ties variant. Only difference is that, due to larger board, King is able to move further away from its initial position, i.e. up to 4 fields.

As always, King is able to move up to the King-sided Rook, and 1 field short of next to Queen-sided Rook, i.e. on any of fields enumerated 1 to 8. Appropriate Rook then must move next to King, closer to King's initial position.

Of course, it still applies castling rule which demands that King, its destination field and all fields it passes over must not be under attack. Also, old castling rule, which demands that King and appropriate Rook must not move prior to castling, must be observed as well.

7 Age of Aquarius

The greatest difficulty with the world is not its ability to produce, but the unwillingness to share.
*~ Roy L. Smith*

Age of Aquarius is chess variant which is played on 14 x 14 board, with light yellow and light green fields and light tan-gold and dark green pieces. In algebraic notation, vertical files are enumerated from 'a' to 'n', and horizontal ranks are enumerated from '1' to '14'. A new piece is introduced, Unicorn.
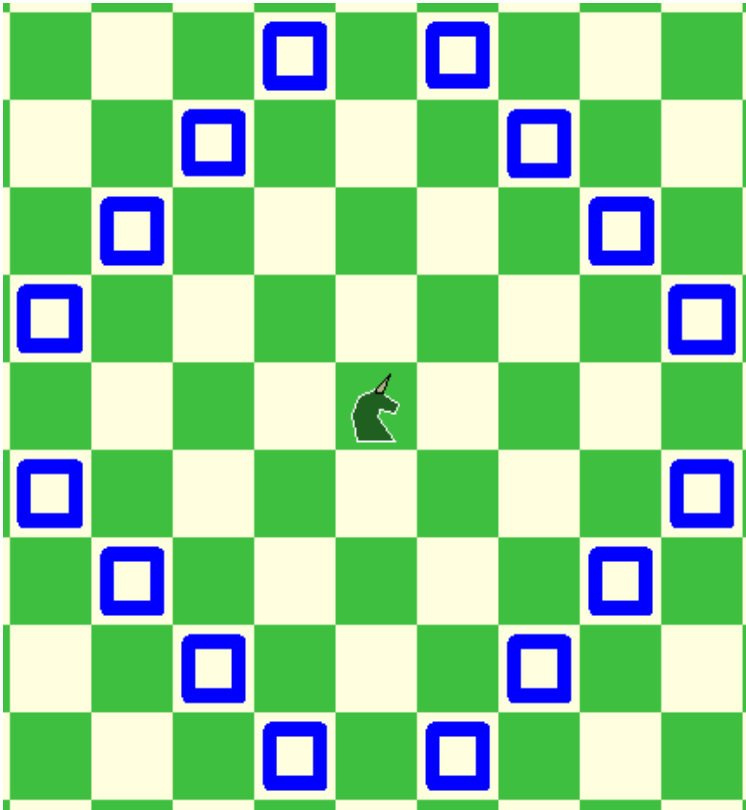
7.1 Unicorn

Unicorn is ordinary [Active piece](#), very similar to Knight. In fact, only difference is that movement of Unicorn depends whether it is positioned on field in its own color, or is it on field in opposite color.

In algebraic notation, symbol for Unicorn is 'U'.
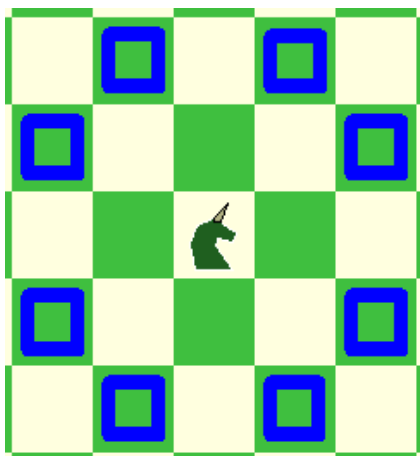
Unicorn, when positioned on field in opposite color of its own, moves exactly as old-fashioned Knight. All legal moves for Unicorn at opposite color field are shown in blue, in picture at left.

Unicorn, when positioned on field in the same color, moves similarly to Knight, but in much longer jumps. Again, legal moves of Unicorn at same color field are marked blue, in the picture bellow.

Note also that just as Knight jumps directly to new location, regardless of what pieces might lie in-between, so does Unicorn in all cases, jumps to destination field no matter what lies between and whether it's jump is short or long one.
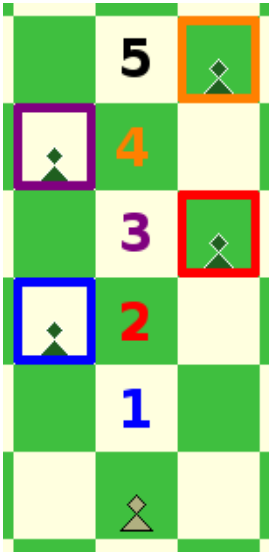
7.2 Initial setup

Initial setup for Light player is (mirrored for Dark one):
PPPPPPPPPPPPPP
RGAUNBQKBNUAGR, or more conveniently, as in this screen-shot:
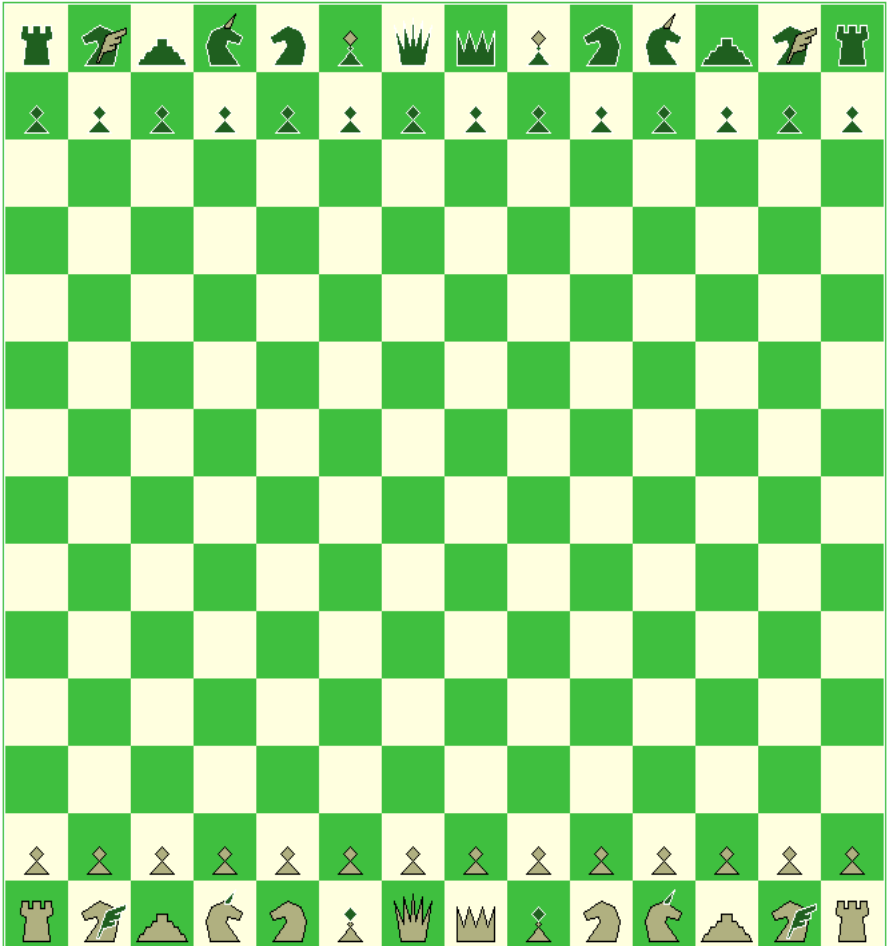
7.3 En passant

As you come to expect, en passant is virtually the same as is in previous variants. The only difference is longer legal advancement of Pawn from its initial position, i.e. up to 5 fields.

7.4 Castling

Castling is the same as it is in previous variants. Only difference is that, due to larger board, King is able to move further away from its initial position, i.e. up to 5 fields.

8 Miranda's veil

*Under all that we think, lives all we believe, like the ultimate veil of
our spirits.*
~ Antonio Machado

Miranda's veil is chess variant which is played on 16 x 16
board, with light yellow and dark violet fields and light pink and dark
gray-violet pieces. In algebraic notation, vertical files are
enumerated from 'a' to 'p', and horizontal ranks are enumerated from
'1' to '16'. A new piece is introduced, Wave.

8.1 Wave
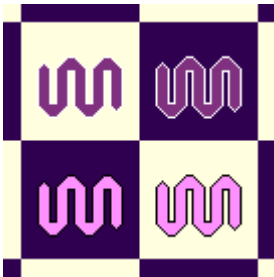
Wave is [Passive piece](#) bound by [Attacking
piece rule](#) and [Passive piece movement
rule](#). That is to say, Wave:
- must be activated to move
- does not attack King, can't check nor
  check-mate
- moves as last active piece in
  cascading ply

Wave is also [Weightless piece](#), [Free piece](#), [Transferring piece](#)
and, as such, Wave can:
- move to any field regardless of amount of momentum it was
  given
- move to any unoccupied field regardless of any pieces in-
  between
- transfer moment it carries, if it's larger then 0, to any piece,
  own or opponent's, except Kings. If there is no moment
  carried, then no interaction with other pieces can take place
  at all.

Wave is momentum bearer. Wave does not spend momentum
it was given for moving around. Wave, when encounters another

piece, can continue movement as if it does not exists. Thus, only borders of board can stop Wave from advancing any further. It is up to player to choose whether Wave interacts with other piece. Wave can not interact with Kings, neither own nor opponent's.
Interacting with other pieces, i.e. transferring moment Wave carries to other piece is done by capturing field occupied by idle piece, assigning moment Wave carries to it, and then piece in question is obligated to continue movement, taking into account how much momentum it was given to.

In algebraic notation, symbol for Wave is 'W'.
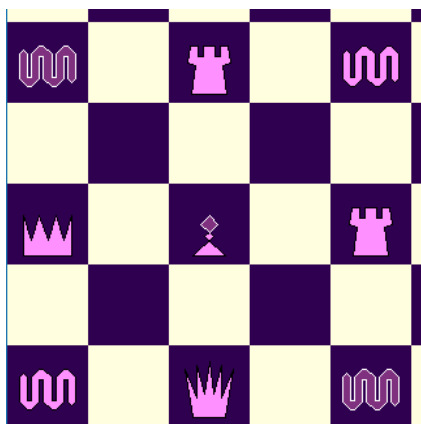
In the contrived example on left dark Waves could be captured by light Rooks, Bishop and Queen. Light Waves could be activated by the same figures, in which case any of them would receive momentum of 2. Note that once activated, any light Wave isn't bound by amount of momentum it's carrying, so it could cascade movement through dark Waves, which then could either extend the cascade or deliver momentum to any light piece, except King.

I'll use short algebraic notation, to speed things up a bit. Please refer to chapter Algebraic notation for details.

For instance, one chain could go like this: Qa1~Wa5~**W**c5~Re5~Wb5.

Note that last Wave in chain received no momentum from Rook, because that was spent by said Rook for movement. So, that last Wave couldn't interact with any other piece, e.g. couldn't activate Rook by doing We3.

Could you find all possible, legal chains shorter then 5 moves?

One of the consequences how rules are designed is that it's possible not only to chain moves, but to do so back-and-forth, including activating the same piece multiple times during the same ply. Lets take a look. Suppose that you need light Wave from e5 moved to field d2. Easy (target Wave moves has been italicized): `Qa1~We5~`*`We1`*`~`**`W`**`c3~Be1~`*`Wd2`*.

Another consequence of rules is that it's possible to arrange endless chains. For instance:
`Qa1{~Wa5~`**`W`**`e5~Wa5~We5~`**`W`**`a5~We5}...`,
and now complete sequence in curly braces repeats itself on and on.

There is no safety mechanism build in game mechanics. It's up to game participants, tournament judges, chess association to come with agreement which will regulate this. It is customary, on tournaments at least, to have some variation on "50 moves" rule. In this case, it might expire in just one ply.

Note also that shouldn't I insist in writing dark Wave symbol in bold letter, the whole chain could have been written as:
`Qa1{~Wa5~We5}...`.

8.2 Initial setup

Initial setup for Light player is (mirrored for Dark one):
PPPPPPPPPPPPPPPP
RGAUWNBQKBNWUAGR, or more conveniently, as in this screen-shot:
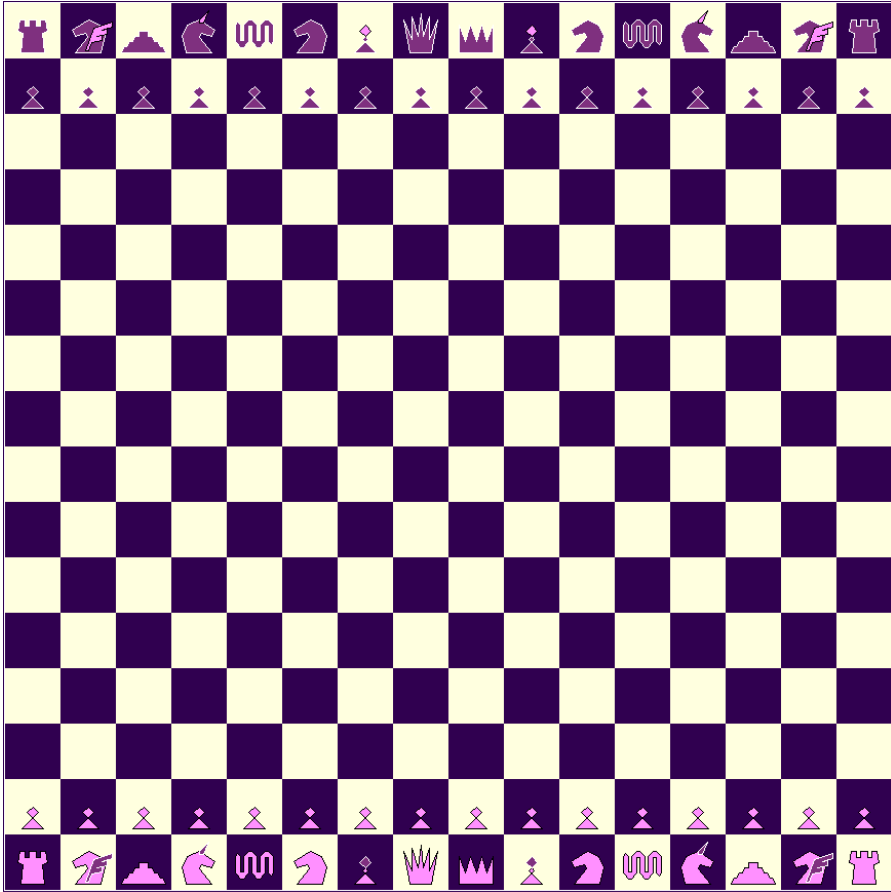
8.3 En passant

At this point I firmly believe there is no need to illustrate to you how en passant is performed, or castling, for that matter. The only difference from previous variants is longer legal advancement of Pawn from its initial position, i.e. up to 6 fields.

8.4 Castling

Castling is the same as it is in previous variants. Only difference is that, due to larger board, King is able to move further away from its initial position, i.e. up to 6 fields.

9 Nineteen

The truth is at the beginning of anything and its end are alike touching.
~ Yoshida Kenko

Nineteen is chess variant which is played on 18 x 18 board, with light gold-yellow and white fields and gold-yellow and dark gray pieces. In algebraic notation, vertical files are enumerated from 'a' to 'r', and horizontal ranks are enumerated from '1' to '18'. A new piece is introduced, Star.

9.1 Star

Star is a [Dormant piece](#), [Teleporting piece](#), [Converting piece](#), [Prohibited piece](#), which is to say:
- doesn't ever move
- teleports own pieces which dived in on own side of board
- teleports and converts own pieces which dived in on opponent's side of board
- Pawn can never be promoted to Star

Teleportation is triggered by piece diving into Star, i.e. when piece moves onto field which is already occupied by Star. King cannot teleport, it is illegal for King, own or opponent's, to dive into Star.

Own pieces which dive into Star on own side of board are teleported. Own pieces which dive into Star on opponent's side of board are teleported and converted.
Rule is symmetrical, it works on our opponent as well. Opponent's pieces which dive into Star on his/her own side of board are teleported. Opponent's pieces which dive into Star on our side of board are teleported and converted.

Pieces, after teleportation, appears on portal fields next to Star of opposing color to one where teleportation was triggered. If there is empty portal fields around both destination Stars, player can choose at which Star piece will reappear. If there is more then one portal field empty, player can choose on which one piece will reappear. If there is no empty portal fields around those two Stars, teleportation is illegal and thus forbidden.

Piece after teleportation cannot continue its movement, no matter how much moment it was carrying when dived into Star.

Stars are set up as follows: light Stars are located at lower right and upper left corners, dark Stars are located at lower left and upper right corners, when viewing with initial ranks of light figures at bottom and dark figures at top. See initial setup bellow for illustration of this.

One consequence of rules above is that Star is a figure which cannot be captured nor converted, just as King is. Any piece which would attempt to claim field occupied by Star, would be teleported (if on own side of board) or teleported and converted (if on opponent's side of board).

In algebraic notation, symbol for Star is 'T'.

In next example, I'll use short algebraic notation, to speed things up. For details, please see chapter Algebraic notation.

Star in lower right corner has all of its portal fields occupied, and is effectively blocked, i.e. no piece can reappear in it's vicinity. Thus all pieces which dives into either dark Star must reappear near Star in upper left corner, either on field a17 or b17, depending on the preference of the player.

Should it be light player's turn, he/she might consider using Queen to dive dark Root into lower left Star, like this: Qc3~Wb1~[**R**a1*Ra17].
Note that, since dark Rook dived into Star on the light side of board, it gets converted as well into light Rook.

Another possibility for light player is a light Rook to dive into Star, presumably in the lower left corner (by simply doing Ra1*a17). Since that Star is on the light side of the board, light Rook in this case just gets teleported.

Should said Rook dive into Star on the upper left corner, it would end up as a dark Rook, teleported to either dark Star, because Star on the upper left corner is on the opponent's, dark side of board.

Dark player, if it would be his/her turn, has also a few possibilities. One would be to use Rook in the lower left corner to

dive light Queen into Star, like this: [**R**b1-b3]~Wc3~[Qa1*b17]. Note that light Queen dived on light side of board, and thus was just teleported to a new location.

However, dark player could use the other Rook to the same end, but with vastly different results. For instance, Rook in upper left corner could dive light Queen into Star at upper right corner, which would then not just teleport light Queen, but also convert it, because upper right corner is on dark side of board: [**R**b18-b3]~Wc3~[Qr18***Q**b17].

There a few other options for both light and dark player. Can you find them all?

9.2 Initial setup

Initial setup for Light player is (mirrored for Dark one):
PPPPPPPPPPPPPPPPPPPP
TRGAUWNBQKBNWUAGRT, or more conveniently, as in this screen-shot:
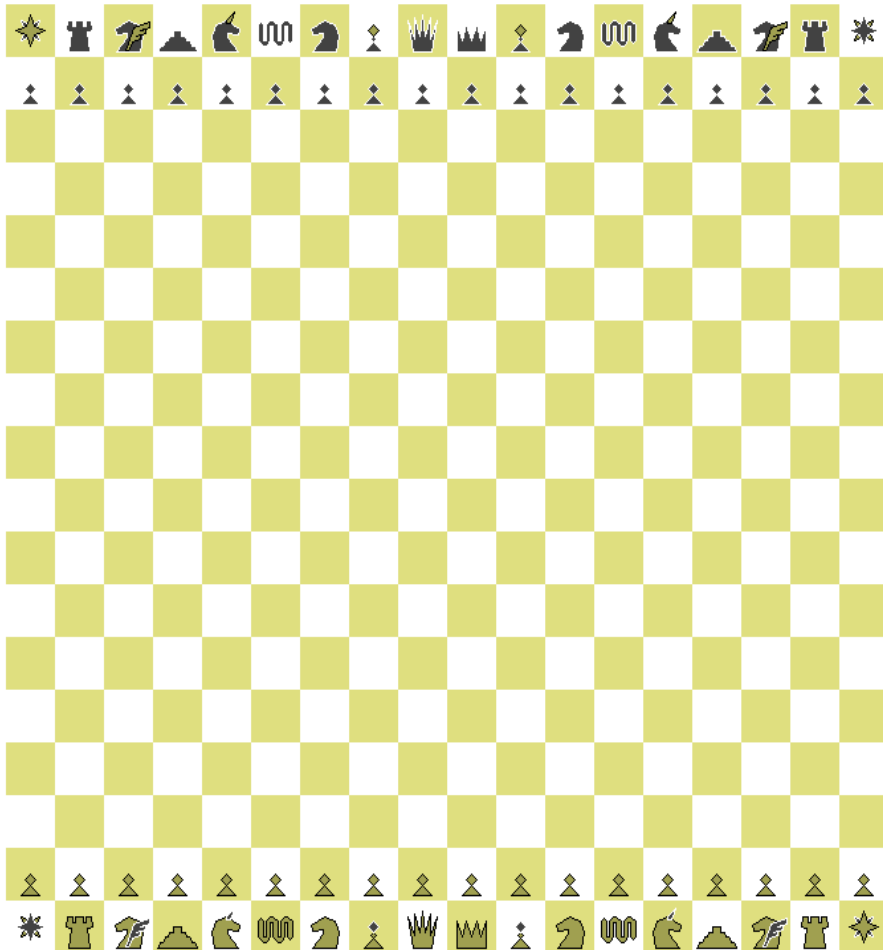
9.3 En passant

En passant is the same as it is in previous variants with the only difference being longer legal advancement of Pawn from its initial position, i.e. up to 7 fields.

9.4 Castling

Castling is the same as it is in previous variants. Due to Stars being positioned in the very corners of board, Rooks didn't move relative to King, compared to their initial position in Miranda's veil variant. Therefore, King is still able to move only up to 6 fields, not 7 as you'd expect from larger board.

10   Hemera's Dawn

Then assuredly the world was made, not in time, but simultaneously with time.
~ St. Augustine

Hemera's Dawn is chess variant which is played on 20 x 20 board, with darkish red-brown and gray fields and bright red and dark gray pieces. In algebraic notation, vertical files are enumerated from 'a' to 't', and horizontal ranks are enumerated from '1' to '20'. A new piece is introduced, Centaur.

10.1   Centaur

Centaur is active piece which moves similarly to Unicorn, only it can continue its jumpy movement until another piece is encountered, or it runs out of board. Note that once in movement, Centaur can not change its heading. In other words, Centaur is bound by both First obstacle rule and Continuation of direction rule.
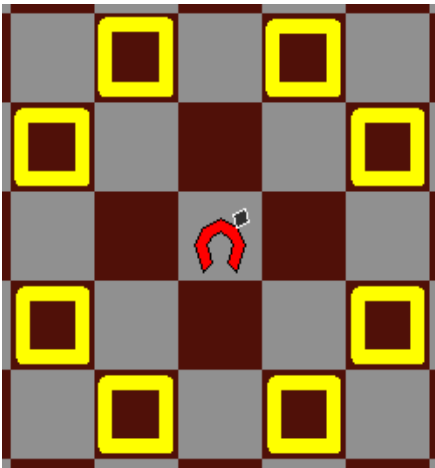
In algebraic notation, symbol for Centaur is 'C'.

If located on opposite color field, Centaur moves in short jumps, just like Knight, as is marked yellow on the picture on the left.

If located on own color field, Centaur moves in long jumps, as marked yellow on the next picture bellow.

Note that in either case, Centaur, just as Knight and Unicorn, moves directly from starting location to destination field. No pieces in between those two fields can alter or suppress its movement by its presence alone.
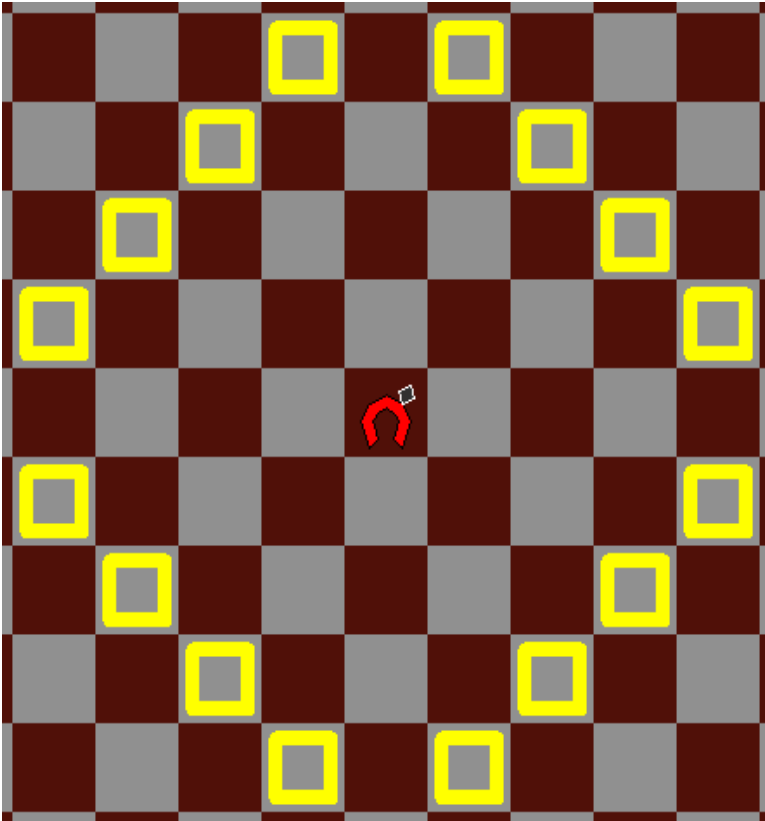
Due to its movement comprised of alternating long and short jumps, Centaur conforms with Continuation of direction rule on both of them, independently. That is to say, at the beginning of movement, player can choose one direction for long jumps, and one direction for shorts jumps. Direction for long jumps is chosen independently of direction for short jumps, and vice versa. Player can then, in a single move, advance Centaur only in those two chosen alternating directions, for as long as it is legal, i.e. it must conform to First obstacle rule, own King must not be left under

attack, ...

During it's movement Centaur will alternate field color from which it'll start it's next jump. Thus, it'll also alter in longer or shorter jumps, depending on color of field from which Centaur starts it's next jump in sequence.

Those alternating jumps comprise a sequence in which destination field of last jump is starting field of the next jump. Regardless of chosen directions, First obstacle rule is applied to those starting/destination fields. So if any of those is owned by opponent's piece, Centaur can capture that piece, but must stop it's movement on owned field. Similarly, Centaur can't claim field if it is owned by own piece, except if it's passive, in which case Centaur must stop its movement at field owned by said passive piece.

In the example below, dark player has chosen first to move to field 3 fields to the right and 2 fields above starting field, to the field marked by 1. This was also choice made for long jumps in this move for Centaur. Next, dark player choses to move Centaur 2 fields to the left and 1 field up from its new starting location, to the field marked by 2. This also represents choice for all other short jumps of this Centaur in this move.

Now that we have both directions chosen, Centaur can be moved only In those 2 directions, no other directions can be selected in the same move. In the example above, that would mean moving from field marked by 2, which is the same color as dark Centaur, therefore long jump is in order from there. Since direction chosen for long jumps is 3 fields right and 2 fields up, we will end up on field marked 3. Field 3 is field of opposite color, thus short jump must be performed. Direction chosen for short jump is 2 fields to the left and 1 field up, so we will end up on field marked 4. From there, long and short jumps can be performed in alternation for as long as it is legal.
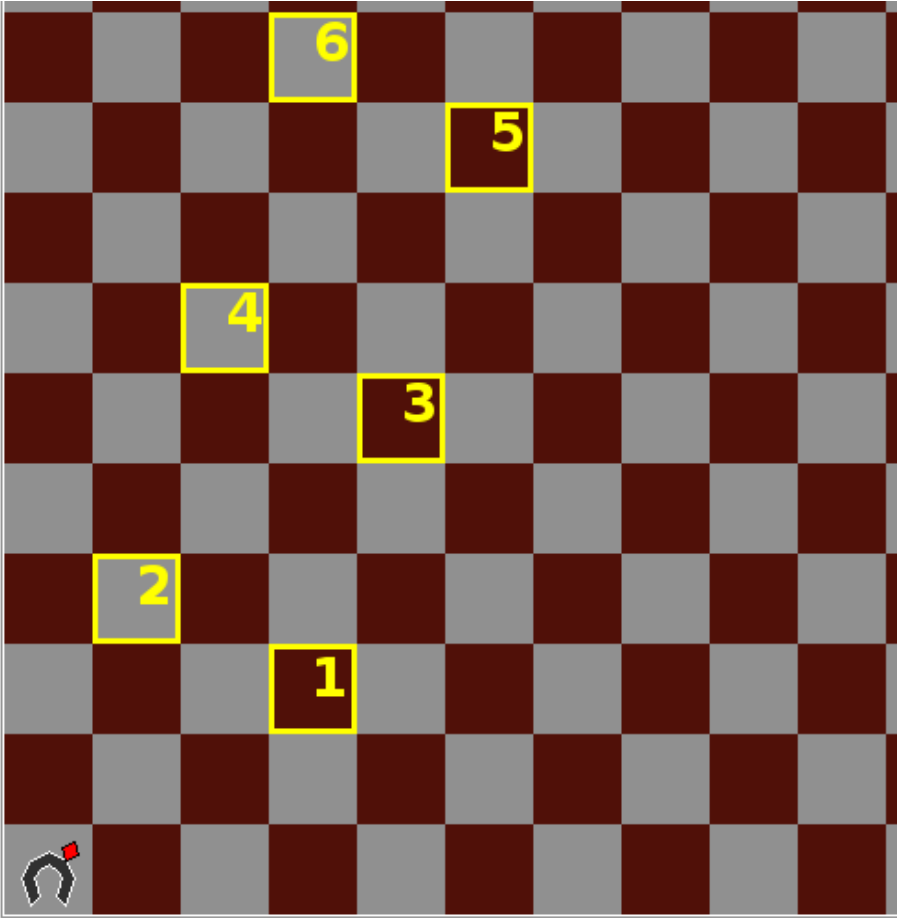
Note that fields on which First obstacle rule are applied are all marked yellow. For example, if light piece would be located on field 3, dark player could capture it with Centaur, but Centaur would have to end its movement at that field. Similarly, dark piece on field 5 would preclude dark Centaur to move past field 4. Exception to this is if that dark piece happens to be passive, in which case Centaur could activate it, but then Centaur would have to end its movement on field 5 previously occupied by dark passive piece.

10.2   Initial setup

Initial setup for Light player is (mirrored for Dark one):
PPPPPPPPPPPPPPPPPPPPPP
TRGAUWCNBQKBNCWUAGRT, or more conveniently, as in this screen-shot:
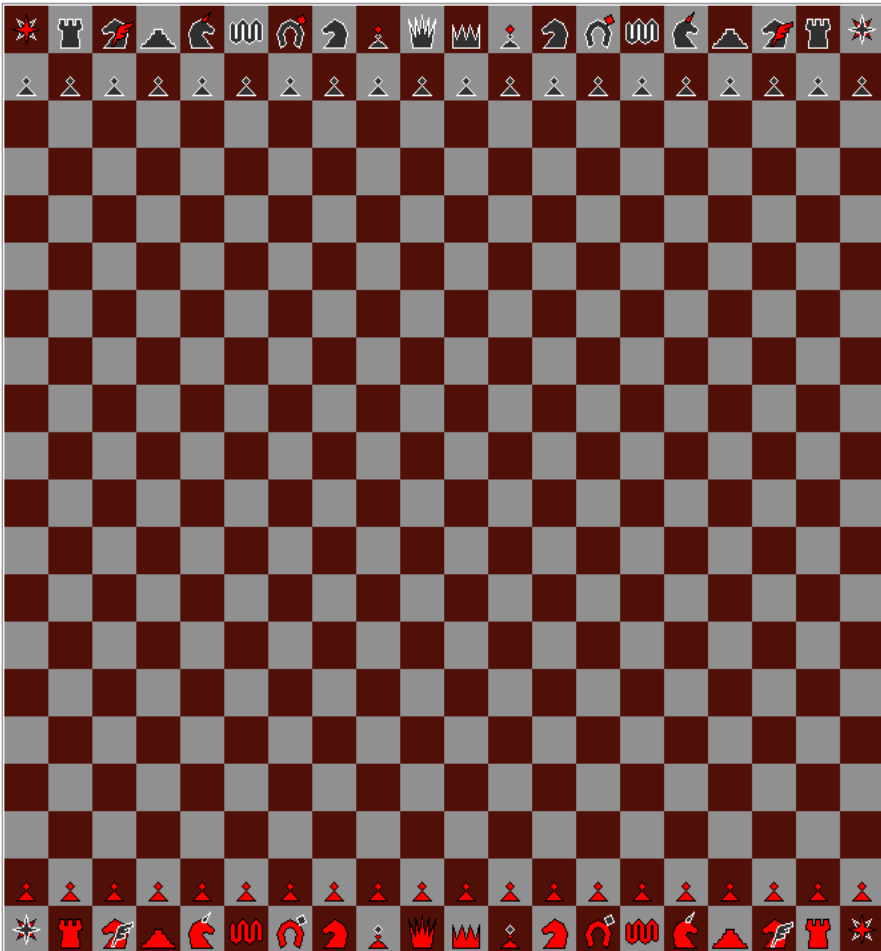
10.3   En passant

En passant is the same as it is in previous variants with the only difference being longer legal advancement of Pawn from its initial position, i.e. up to 8 fields.

10.4   Castling

Castling is the same as it is in previous variants. Due to Stars being positioned in the very corners of board, King is able to move only up to 7 fields, not 8 as you'd expect from larger board.

11   Tamoanchan Revisited

I dream, therefore I exist.
~ August Strindberg

Tamoanchan Revisited is chess variant which is played on 22 x 22 board, with bright cyan and blue fields and light green and dark blue pieces. In algebraic notation, vertical files are enumerated from 'a' to 'v', and horizontal ranks are enumerated from '1' to '22'. A new piece is introduced, Serpent.

11.1   Serpent

Serpent is active piece, which can move in two different ways.

In algebraic notation, symbol for Serpent is 'S'.

During field color change move, Serpent can change color of field on which it is located, by moving to one of fields to the left, right, up or down from it's original location, as depicted on the left.
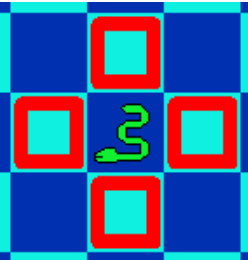
During field color change Serpent cannot attack opponent's King, activate own passive figure, … Serpent can participate in cascading ply with such a move though, but only as an last activated piece.
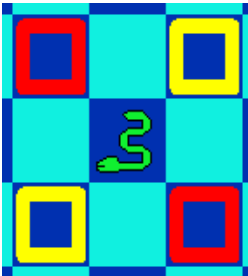
Other way of movement is on diagonal fields to originating one, as it is depicted on the left. Thus Serpent's movement is preserving color of field on which it is located. Unlike any other piece, however, Serpent must change its direction of movement after every field of advancement. Serpent also cannot return to field visited in last step.

Therefore, only two fields to which Serpent can move are lower left and upper right, if previous step was in upper left or lower right directions. Similarly, only two only two fields to which Serpent can move are upper left and lower right, if previous step was in lower left or upper right directions. In the second picture on left, these alternating fields are marked red and yellow. Thus, after any red field, Serpent must move to any yellow fields, and vice versa.
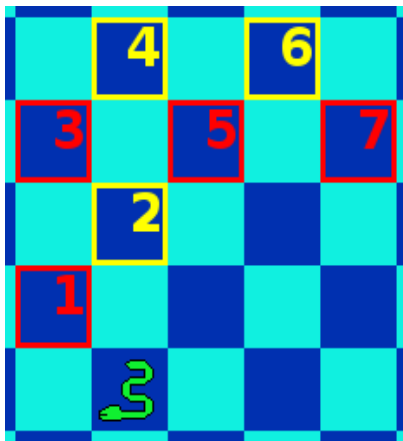
For instance, in the example on the left, should player choose to move Serpent to upper left field (marked 1), he cannot advance Serpent in the same direction past this field. Player could then choose either lower left or upper right field from field 1. In this example, choice was obviously upper right field, marked 2. Of course, after second advancement, player must change direction of movement, as well as after all the other, subsequent steps. All fields are marked with colors corresponding to direction colors in second picture on the left on previous page.

Serpent must also obey First Obstacle Rule. That is to say, to move to next field, that one must be empty, or occupied by opponent's piece, or by own passive piece. If destination field is empty, Serpent can continue movement as usually, if it's not, it must stop at captured field.

In one move, Serpent cannot advance more then one third of board length. In case of Tamoanchan Revisited variant, that means no more then 7 fields, regardless of directions chosen.

Note that while Serpent cannot return to previous field in last step, it can return to any field visited in a move, if it's not immediately preceding current field. For instance, in previous example, standing on field 3, Serpent cannot return to field 2, it was visited in last step.

However, field 2 can be visited from field 5, because field 2 in that case is not immediately preceding field 5.
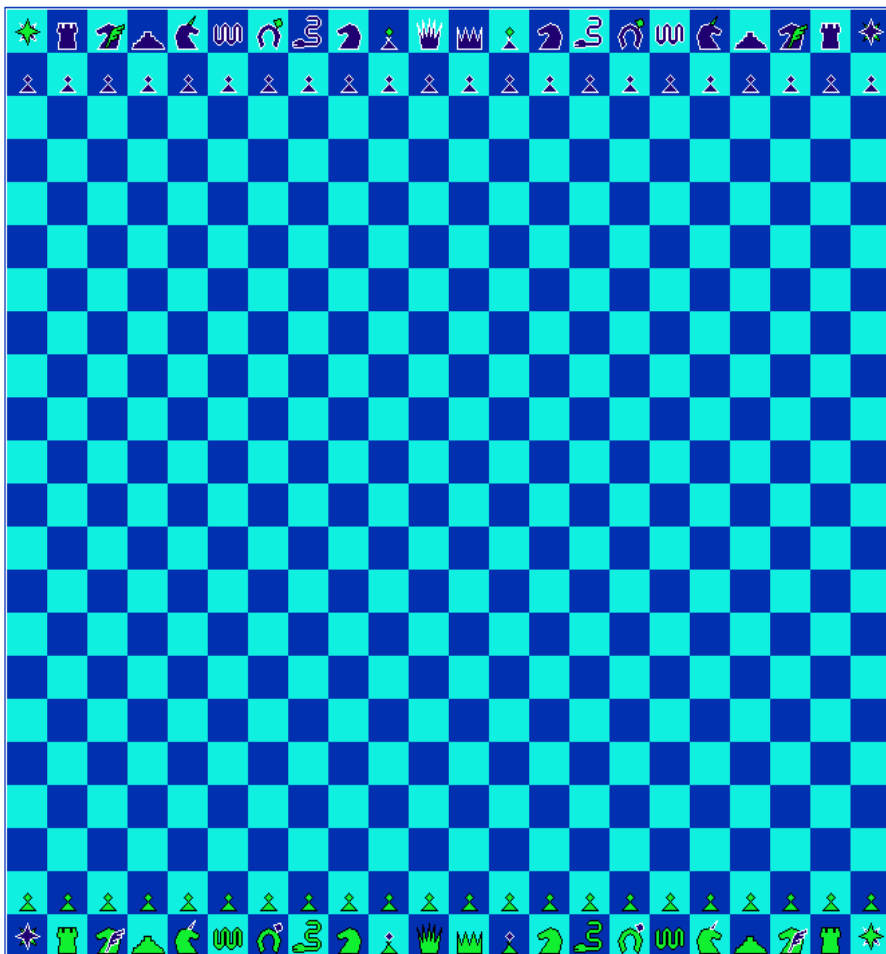
11.2   Initial setup

Initial setup for Light player is (mirrored for Dark one):
PPPPPPPPPPPPPPPPPPPPPPPP
TRGAUWCSNBQKBNSCWUAGRT, or more conveniently, as in this
screen-shot:

11.3   En passant

En passant is the same as it is in previous variants with the only difference being longer legal advancement of Pawn from its initial position, i.e. up to 9 fields.

11.4   Castling

Castling is the same as it is in previous variants. Due to Stars being positioned in the very corners of board, King is able to move only up to 8 fields, not 9 as you'd expect from larger board.

12   Conquest of Tlalocan

The human mind is inspired enough when it comes to inventing horrors; it is when it tries to invent a Heaven that it shows itself cloddish.
~ Evelyn Waugh

Conquest of Tlalocan is chess variant which is played on 24 x 24 board, with bright cyan and red fields and light green and dark red pieces. In algebraic notation, vertical files are enumerated from 'a' to 'x', and horizontal ranks are enumerated from '1' to '24'. A new piece is introduced, Shaman.

12.1   *Shaman*
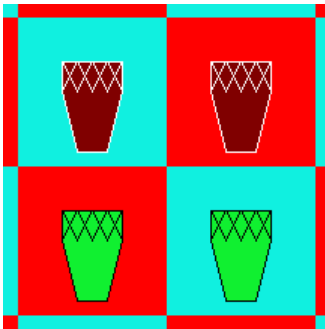
Shaman is active <u>Transforming piece</u>, bound by <u>Continuation of direction rule</u>, and, to a degree, <u>First obstacle rule</u>.

Shaman symbol in algebraic notation is 'H', to avoid confusion with Serpent.

Shaman can transform other pieces, own and opponent's. As it is with all transforming pieces, Shaman can promote own Pawns, but only on opponent's side of board. It can also convert any opponent's piece, except opponent's King, only on own side of board.

Normally, Shaman moves as a combination of upgraded Unicorn, and somewhat restricted Rook. This means that available fields depends if colors of Shaman and its' current field are aligned or not. If they are not aligned (for instance, because dark Shaman is positioned onto light field), Shaman movement is a bit more constrained. This is illustrated bellow:
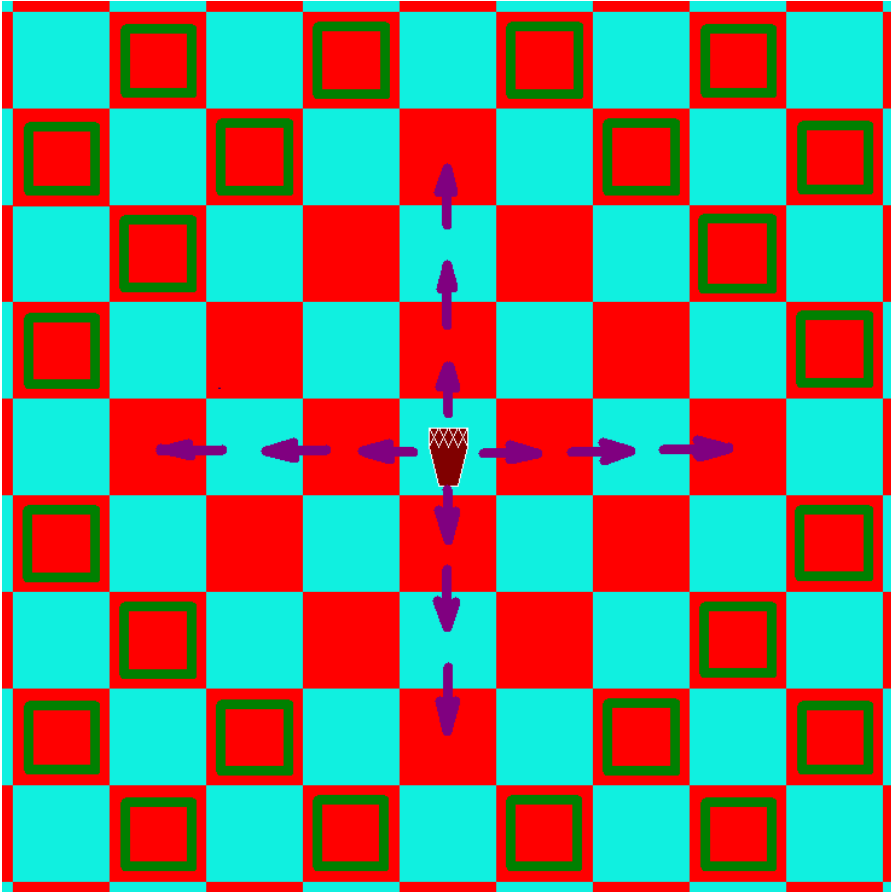
Note that all diagonal fields, marked with green square, are immediately available to Shaman, access to any of them does not depend if any other neighboring field is occupied or not.

On the contrary, fields positioned vertically or horizontally to the Shaman are accessed by carefully observing First obstacle rule, i.e. access to any field is granted only if all previous fields were empty.

Pattern of movement is similar if colors of Shaman and fields it occupies are the same. Fields to which Shaman can jump now are further away, and there are more fields accessible via First obstacle rule, i.e. positioned vertically or horizontally to the Shaman. This is

depicted bellow:

61
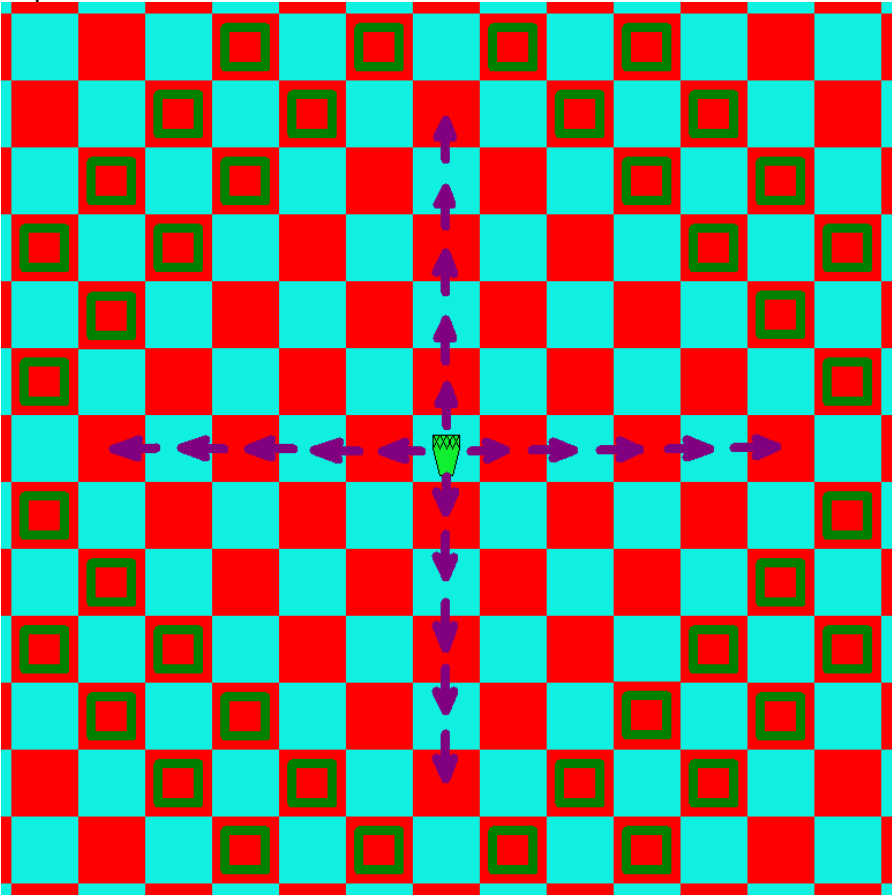
Shaman can also participate in trance-journey. Trance-journey is a move initiated when Shaman is activated.

Shaman can be activated in all usual ways. As a special exception, Shaman can be activated by Pyramid (a piece which normally can't activate other pieces) directly, i.e. without an intermediation of Wave. And, of course, Shaman can be activated by other Shaman which is already taking trance-journey.

During trance-journey Shaman moves similar to Queen, only it is not bound by First obstacle rule. That is to say, Shaman can move to any field positioned diagonally, horizontally or vertically from it, regardless if any neighboring field is occupied or not.
This is illustrated in a picture bellow:
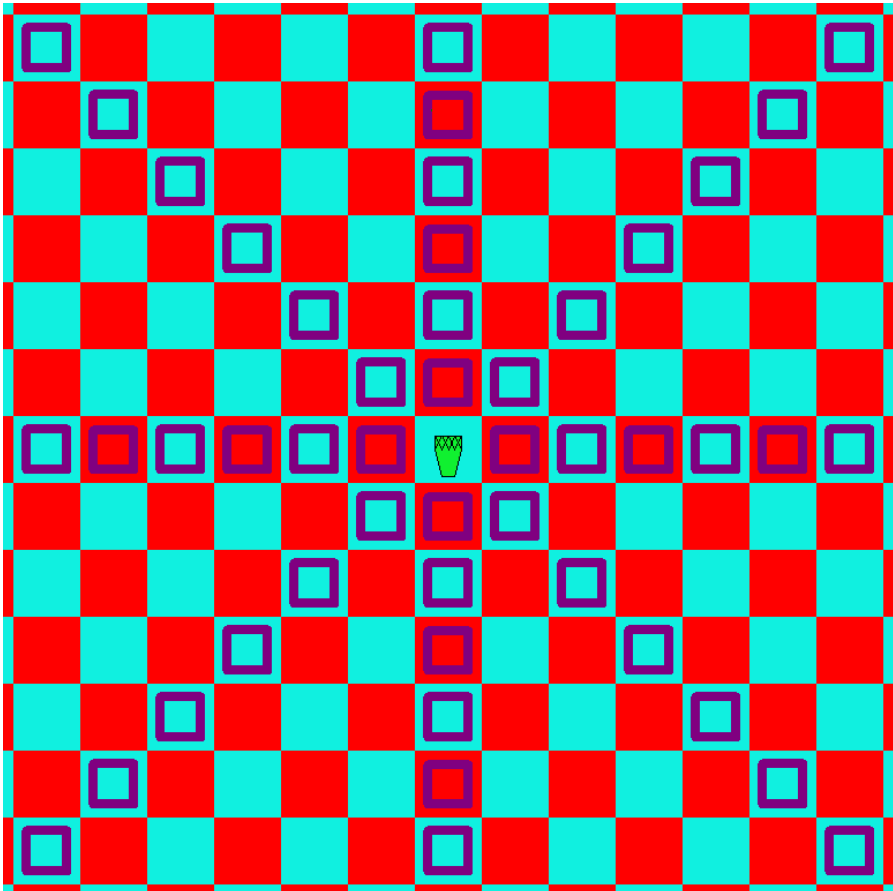
Since Shaman, during trance-journey, always do only 1-field jump, there is no momentum passed to it when Shaman gets activated, and no difference to what fields are accessible. Even more, Shaman can be activated even if remaining momentum is 0, with all fields accessible as usually.

However, during trance-journey Shaman cannot:
- capture any opponent's piece
- check nor check-mate opponent's King
- transform any piece, own or opponent's

During trance-journey Shaman can activate any piece, own or opponent's, provided it's not King. This is also the only means for a Shaman to activate another Shaman, thus induce trance-journey.

Stars (and Monoliths, which will be introduced later) also are not possible to activate, but this is due to movement mechanics, rather then a hard rule. Specifically, moving into field occupied by Star (or Monolith) would result in a piece dive into Star (or Monolith) and be teleported away.

Note that piece activated by Shaman in trance-journey would always receive momentum of exactly 1. This is so because any field is directly available to Shaman in trance-journey, and so it was just 1 long jump from starting location to destination field, that is, to activating piece.

12.2   Initial setup

Initial setup for Light player is (mirrored for Dark one):
PPPPPPPPPPPPPPPPPPPPPPPPP
TRGAHUWCSNBQKBNSCWUHAGRT, or more conveniently, as in this
screen-shot:
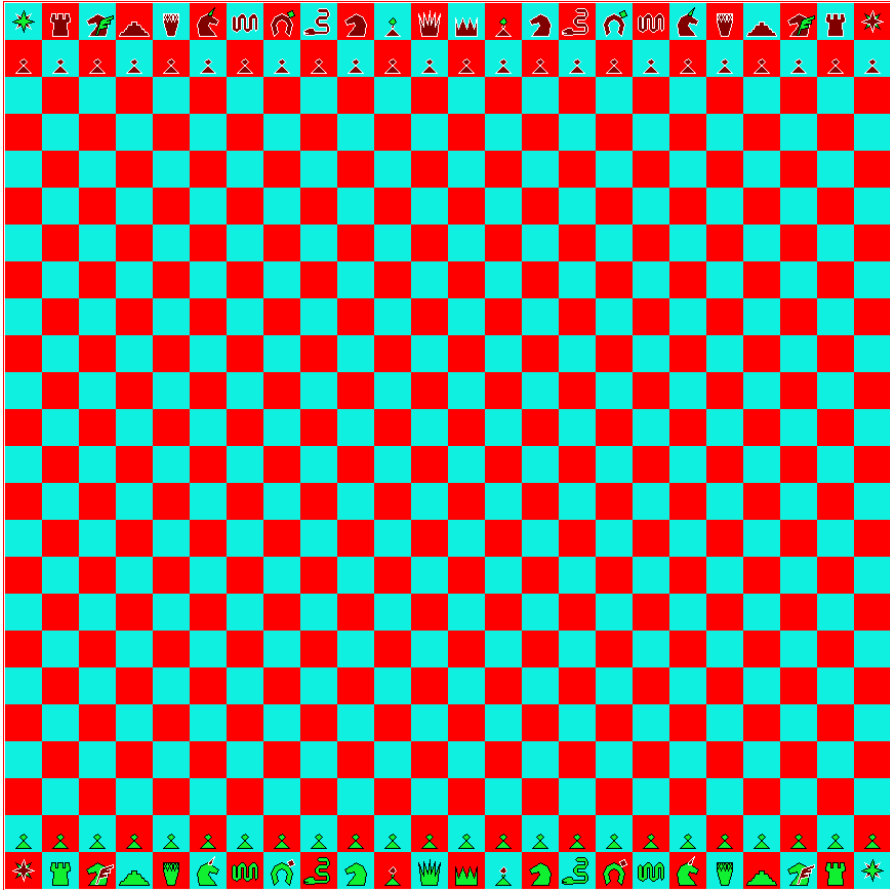
12.3 En passant

En passant is the same as it is in previous variants with the only difference being longer legal advancement of Pawn from its initial position, i.e. up to 10 fields.

12.4 Castling

Castling is the same as it is in previous variants. Due to Stars being positioned in the very corners of board, King is able to move only up to 9 fields, not 10 as you'd expect from larger board.

13   Discovery

I don't believe in God but I'm very interested in her.
~ Arthur C. Clarke

Discovery is chess variant which is played on 24 x 24 board, with light (pastel!) yellow and gray fields and darker gray and dark teal pieces. In algebraic notation, vertical files are enumerated from 'a' to 'x', and horizontal ranks are enumerated from '1' to '24'. A new piece is introduced, Monolith.

13.1   Monolith
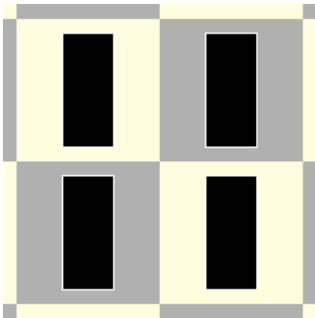
Monolith is Active piece piece, bound by First obstacle rule but not bound by Continuation of direction rule. Monolith is also Teleporting piece, Converting piece, Prohibited piece, which moves as extended version of King.

Monolith is no ordinary piece, because it does not belong to any player, and both players can always move all Moniliths present on board.

In algebraic notation, symbol for Monolith is 'M'. When recording moves of Moniliths, it is recommended always to record both start and destination fields.

Monolith can't attack, can't capture opponents pieces, can't participate in check, double-check or check-mate.

When moving Monolith to a field occupied by a piece, Monolith can:
- teleport own pieces, regardless where they were initially positioned on the board
- teleport and promote own Pawns, but only on opponent's side of board

- teleport and convert opponent's pieces, but only on own side of board.

Teleported (and optionally converted) pieces, including own promoted Pawn, can reappear near any Star, subject to player's volition, regardless of color and position of that Star, provided there is a room for a piece on portal fields of that Star. As always, if there is no empty portal field near any legal destination, then teleportation is blocked, thus illegal.

In non-conforming variants which feature Monoliths, but no Starts, teleported pieces appear near the other Monolith (one that did not trigger teleportation), on its' portal fields, if there is a room for a piece.

Monolith is a Teleporting piece, so it can't be captured. Any such an attempt, i.e. moving a piece onto field already occupied by Monolith, would end up in piece diving into Monolith (just like diving into Star), and be teleported to any Star. Additionally, piece teleported from a Star can now reappear not only near opposite colored Star, but also near any Monolith.

Monoliths always come in pairs, not in 2 pairs, as is usual for all pieces, except King and Queen. At the beginning of match, one is situated on a light players' side, while the other is seated on mirrored position on dark players' side. Note also that Monolith is a prohibited piece, that is to say, Pawns can't be promoted into Monolith.

Monoliths, in contrast to all other pieces, are not positioned in the first and last 2 ranks, which normally at the beginning of match contains all light and dark pieces. Monoliths are, instead, initially positioned "in the field", i.e. in the middle of board, one on the light player's side and the other on dark player's side. I'll refer to Monolith on light player's side as light Monolith, and conversely, dark Monolith would be one initially positioned on dark player's side of board. As already mentioned, these colors don't have anything to do with piece side i.e. owner of it. Monoliths do not belong to any player, and both of them can move any Monolith at any time in game.

Light Monolith is positioned on field no more then board size / 11 from the left, and no less then 7 / 22 board sizes from bottom. Dark Monolith's position is mirrored from light one, i.e. dark Monolith

is positioned on field no more then board size / 11 from the right, and no less then 7 / 22 board sizes from top.

On Discovery board, this rules gives as 2nd field from left/right, and 8th field from bottom/top. That is to say, light Monolith is to be found at Mb8, while dark one is initially at **M**w17.

Monolith is always represented as a vertical rectangle whose horizontal size compared to vertical one is of 4:9 ratio. Note that Monolith is always colored black with white border regardless of colors of other pieces or the board.

Monolith moves horizontally or vertically and then diagonally, at maximum 1 + no more then board size divided by 11. On Discovery board which measures 24 x 24, that would be no more then 3 fields. That is to say, Monolith on Discovery board is, for a single move, confined inside 7 x 7 box. Note that Monolith can only once change its direction of movement from horizontal / vertical into diagonal.

This is illustrated in the picture, below. All possible moves for Monolith on Discovery board are depicted as colored arrows. All possible moves on a particular field are represented as arrows leaving that field, which depends on previous direction of movement.
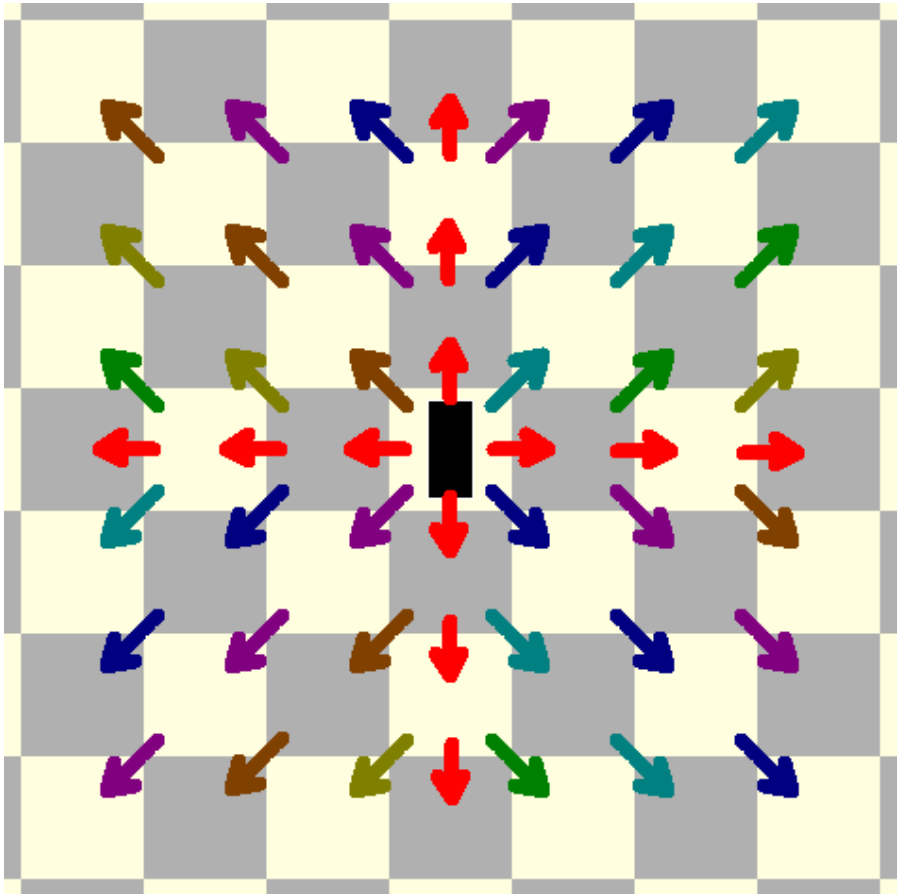
For instance, if first field visited by Monolith was right, then Monolith could choose among 3 directions: staying on a present right course, thus following the red arrow, go diagonally up, thus following the green arrow or choosing diagonally down, thus following magenta arrow.

Note that once Monolith changed direction, it can't change it back. In previous example, should Monolith after first move to the right choose to go diagonally upwards, it has to follow that direction from now on.

Lets take a closer look at interactions between Monolith and other pieces. Suppose we have Monolith squeezed between light Pawn and dark Rook, like this:
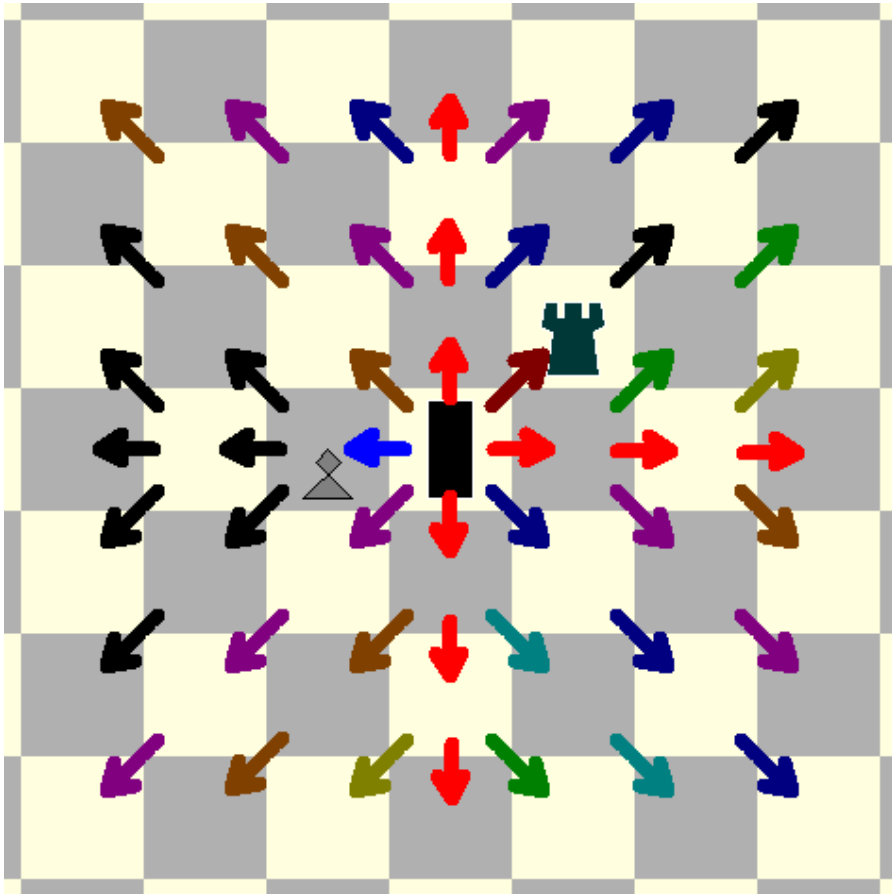
What can we say for certain is that fields beyond those two pieces are not reachable, and are marked with black arrows. Everything else depends on who is on the move, and on which side of the board action takes place.

Lets take a look at light player first. Should this be on his, i.e. light side of board, light player could teleport own Pawn, and convert dark Root. On dark side of board, light player could teleport or

promote own Pawn. However, dark Rook would be out of reach, since Monolith can't capture pieces at all, and piece is somewhat protected against conversion on own side of board.

Dark player on light side of board would be able to teleport own Rook, but light Pawn would be out of reach. On own, i.e. dark side of board he would be able to, again, teleport own Rook, but also to convert light Pawn.

13.2 Initial setup

Initial setup for Light player is (mirrored for Dark one):
PPPPPPPPPPPPPPPPPPPPPPPPP
TRGAHUWCSNBQKBNSCWUHAGRT, or more conveniently, as in this
screen-shot:
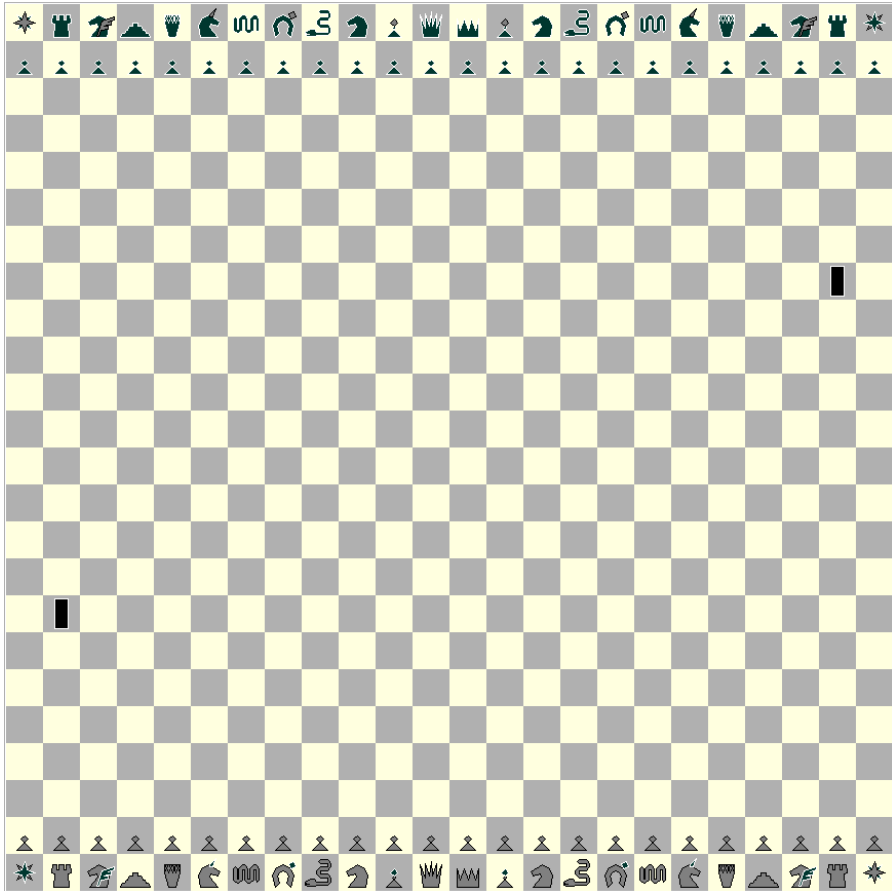
13.3   En passant

En passant is the same as it is in the very previous variant, since size of the board did not changed, i.e. up to 10 fields.

13.4   Castling

Castling is the same as it is in the very previous variant, since size of the board did not changed, i.e. King is able to move only up to 9 fields.

14   One

God is not external to anyone, but is present with all things, though they are ignorant that he is so.
~ Plotinus

One is chess variant which is played on 26 x 26 board, with white and dark magenta fields, with pink and dark magenta pieces. In algebraic notation, vertical files are enumerated from 'a' to 'z', and horizontal ranks are enumerated from '1' to '26'. A new piece is introduced, Starchild.

14.1   Starchild
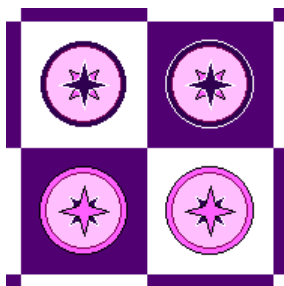
Starchild is an <u>Active piece</u> piece, bound by <u>First obstacle rule</u> but not bound by <u>Continuation of direction rule</u>. Starchild is also a <u>Transforming piece</u>, which moves as an extended version of King, slightly different then Monolith.

In algebraic notation, symbol for Starchild is 'I', i.e. capital letter 'i'.

Starchild, similarly to Monolith, can't attack, can't capture opponents pieces, can't participate in check, double-check or check-mate. Starchild can activate any piece, own or opponent's, except Kings.

Starchild moves similarly to Monolith, only it starts with diagonals, and can change its direction of movement only once into horizontal or vertical.
The same limitation as to Monolith applies to Starchild as well, it can move at maximum 1 + no more then board size divided by 11. On One board which measures 26 x 26, that would be no more then 3 fields. That is to say, Starchild on One board is, for a single move, confined inside 7 x 7 box.

Starchild can activate any other active and passive piece, own or opponent's, except Kings. This can be done on the whole board, regardless of relative positions of to be activated piece and Starchild. Activating piece is done in a usual way, with distance Starchild traveled to activated piece being momentum passed onto activated piece.

Starchild moves in diagonals first, then it can change direction into right, left, up or down, depending on diagonal taken. Once direction is changed, Starchild must stay on it. This is depicted below, where arrows leaving field denotes legal moves from that field:
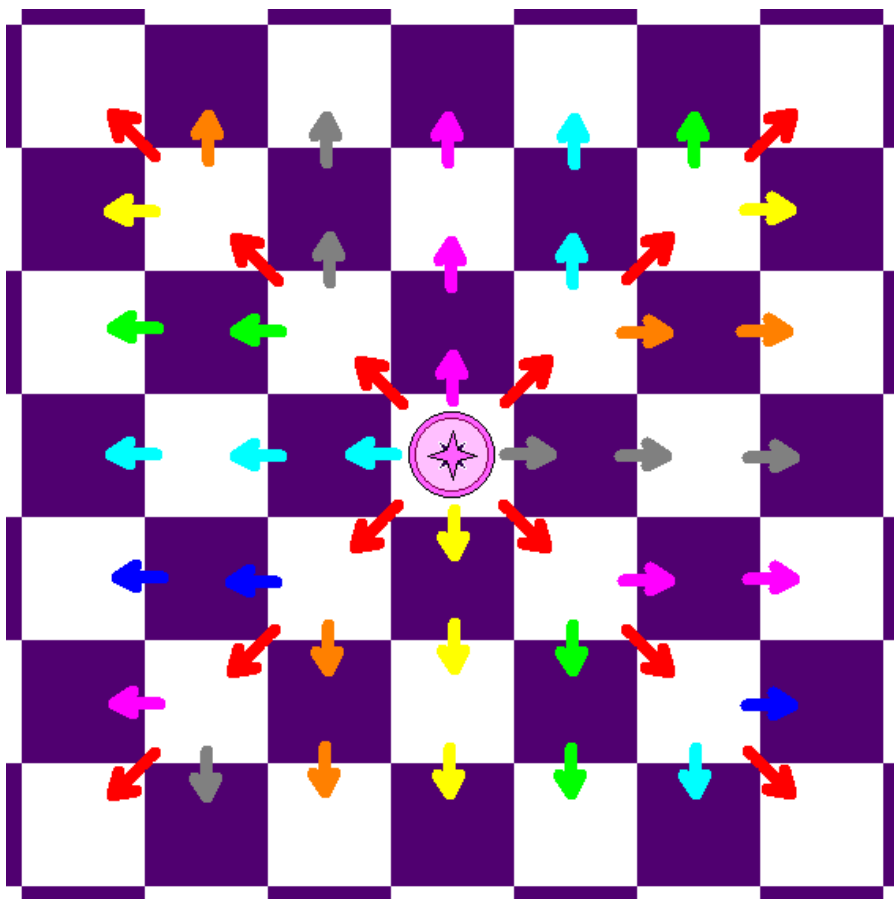
Of course, as it is with any piece bound by [First obstacle rule](#), any field occupied would prevent Starchild from leaving it any further. This is illustrated bellow.
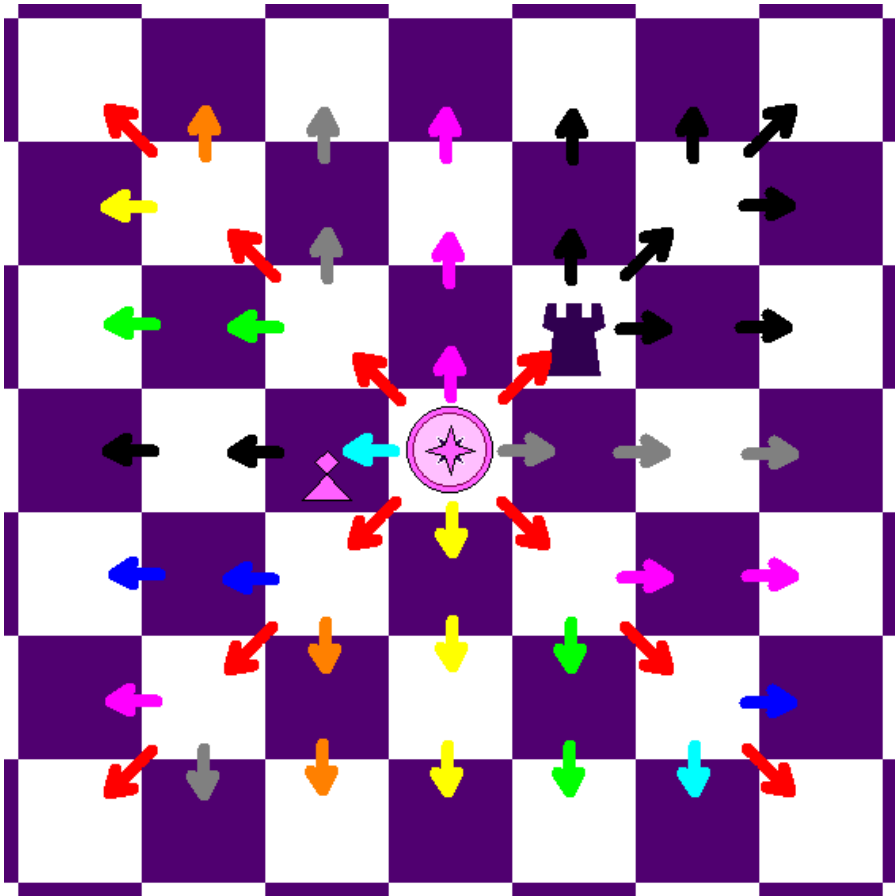
Black arrows in this picture points to unavailable fields.

Starchild could activate any of those 2 pieces, and move it away by 1 field, since both pieces are immediate neighbors of Starchild. Note that both pieces, Rook and Pawn, are active, and when activated, they both move according to their rules of movement.

Starchild can also take star-journey. This is a move initiated by Starchild diving into Monolith, but instead of teleporting to Star, Starchild continues its movement from there (field of Monolith) without movement limitation, i.e. without, on One board, being confided to next 3 fields.

During star-journey, Starchild moves exactly in the same way as it would otherwise, i.e. along selected diagonal, which can change once for horizontal or vertical path, depending on diagonal initially taken.

Of course, all other rules still apply, most prominent one being First obstacle rule. That is to say, Starchild still can't continue its movement past other pieces, it has to stop prior to that, or it can activate piece encountered, if this is not own or opponent's King.

Starchild can summon captured pieces, without sacrificing itself, or any other piece. This can be done on the whole board, regardless of relative positions of Monolith, Star and Starchild.

Summoning is initiated by Starchild diving into Monolith, star-journey to and dive into other Monolith, then being teleported to Star on player's side of board. Player can then choose any captured piece to appear on portal fields surrounding Starchild, i.e. on immediate neighboring field up, down, left, right or diagonal to Starchild, if that field is empty.

In a situation bellow, positioned in lower-left corner is dark Star, surrounded with Monoliths, light Knight and Starchild.
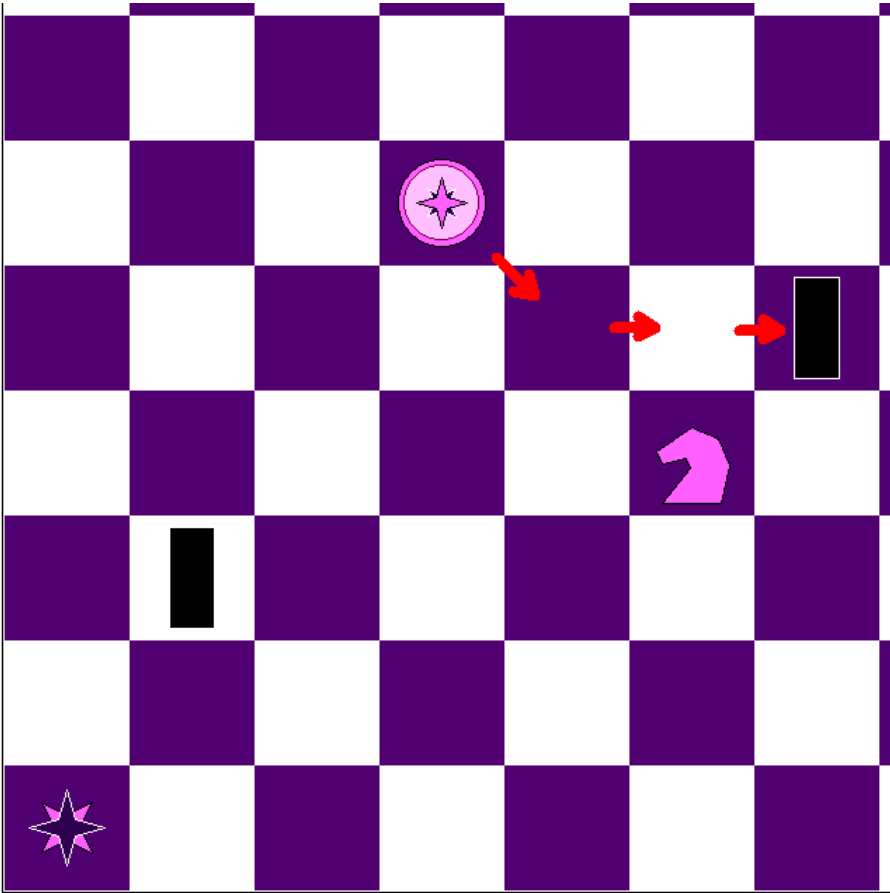
Starchild in such a situation could reach both Monoliths. Both Monoliths are fair destination to initiate teleportation or star-journey. To summon piece, however, initiating star-journey from Monolith next to light Knight, won't do.
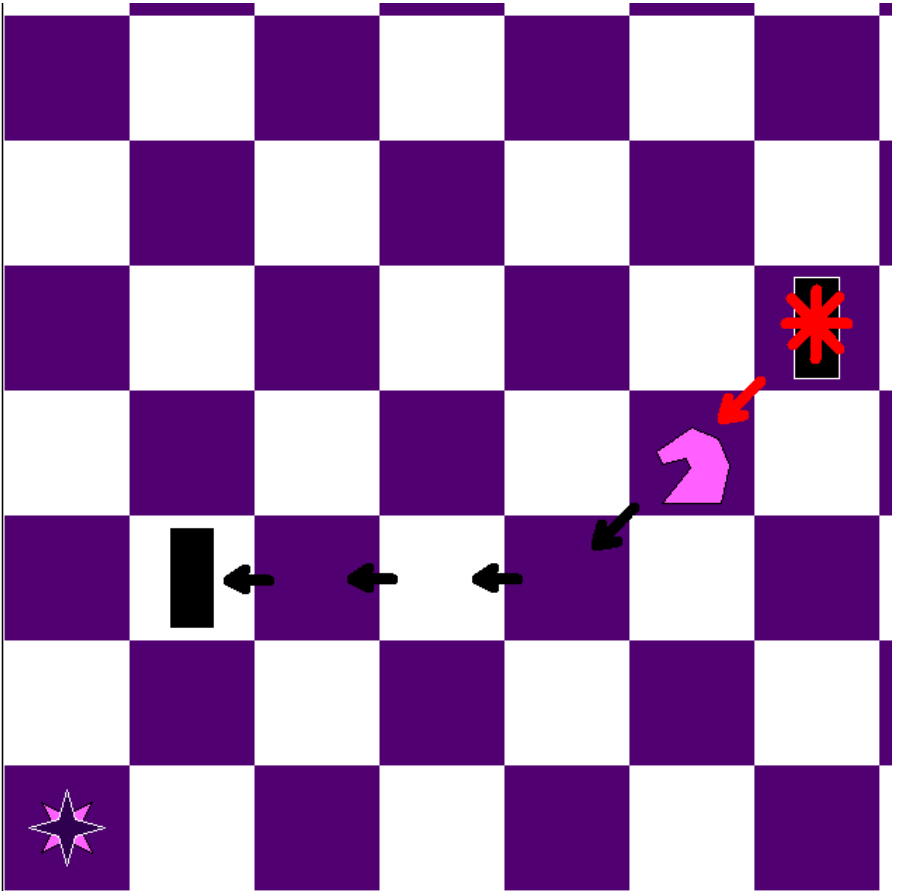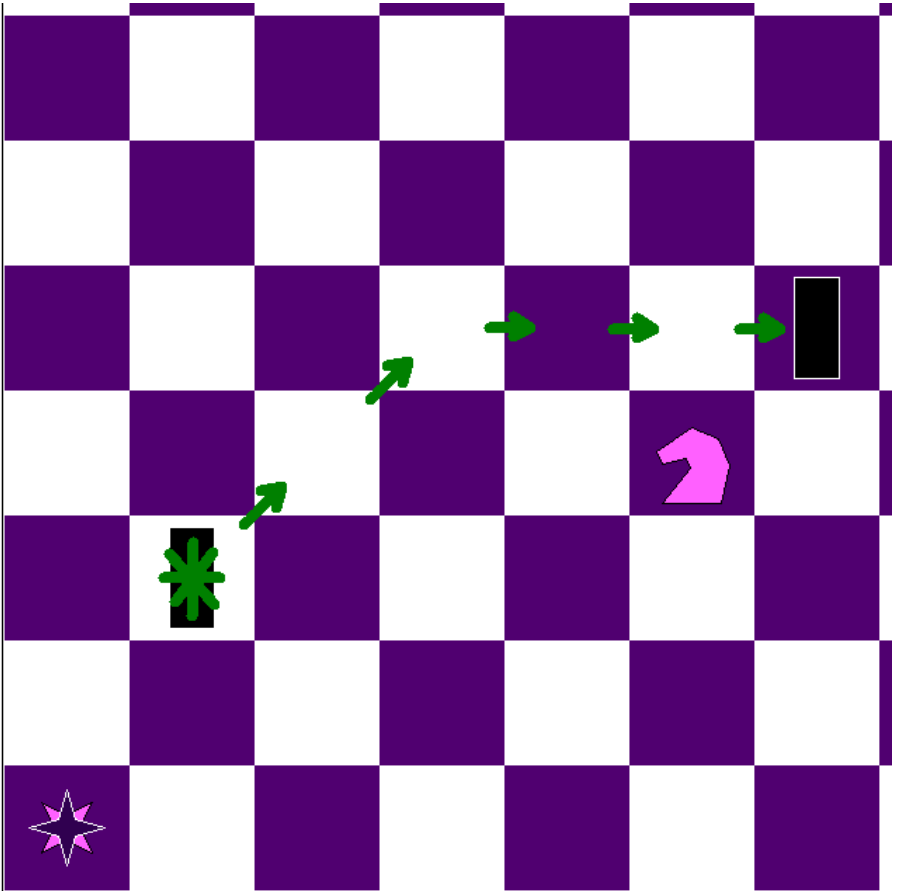
This is because path from initial Monolith to other one must be clear. In our case light Knight is obstacle preventing successful completion of star-journey. As usual, black arrows marks unavailable fields.
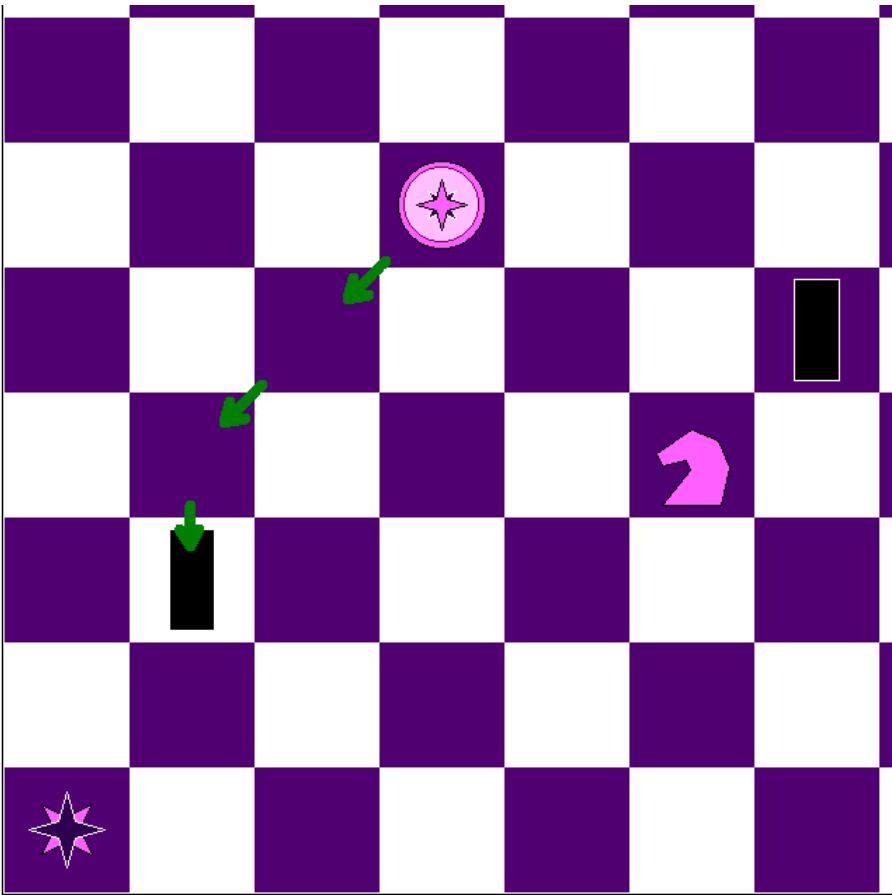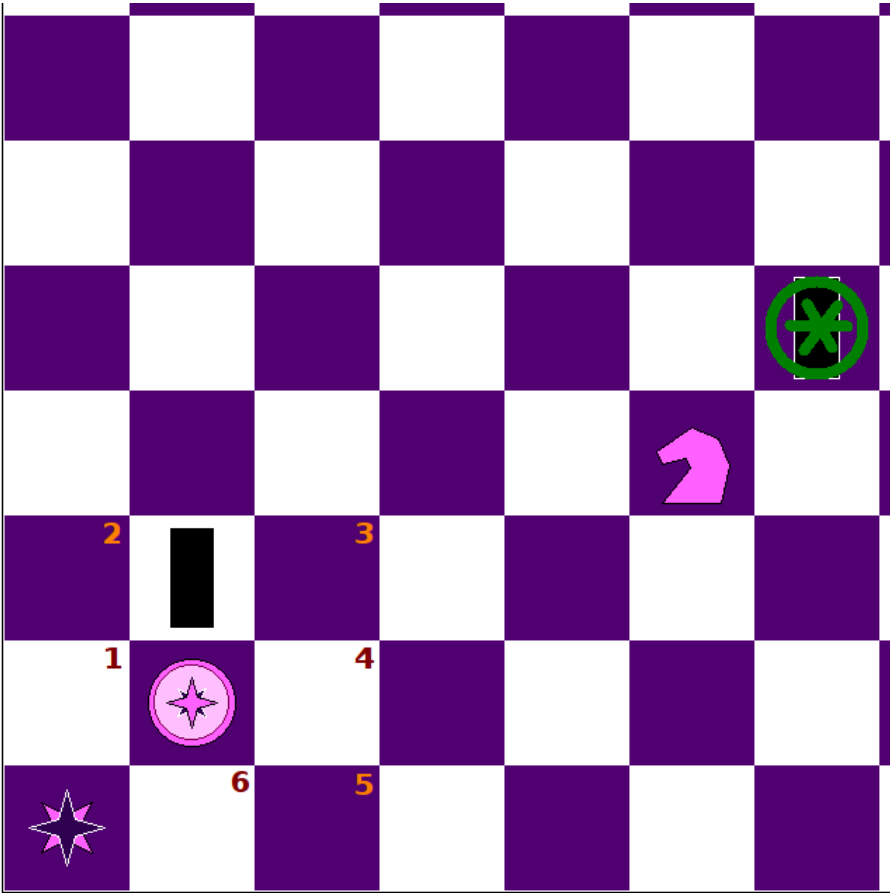
Initiating star-journey from the other Monolith, closer to the Star, is much more fruitful.

This is so because Starchild, just like Monolith, does not cover the same path, does not cross the same fields, if starting and destination fields are swapped.

Now that Starchild completed star-journey, it can finally teleport to Star, mind you, on own side of board. Suppose that Starchild teleported to b2 field, as depicted above. Portal fields surrounding Starchild which are empty and so can be used to hold summoned piece are numbered 1 to 6. Again, only captured pieces can be summoned.

14.2 Initial setup

Initial setup for Light player is (mirrored for Dark one):
PPPPPPPPPPPPPPPPPPPPPPPPP
TRGAHIUWCSNBQKBNSCWUIHAGRT, or more conveniently, as in this screen-shot:
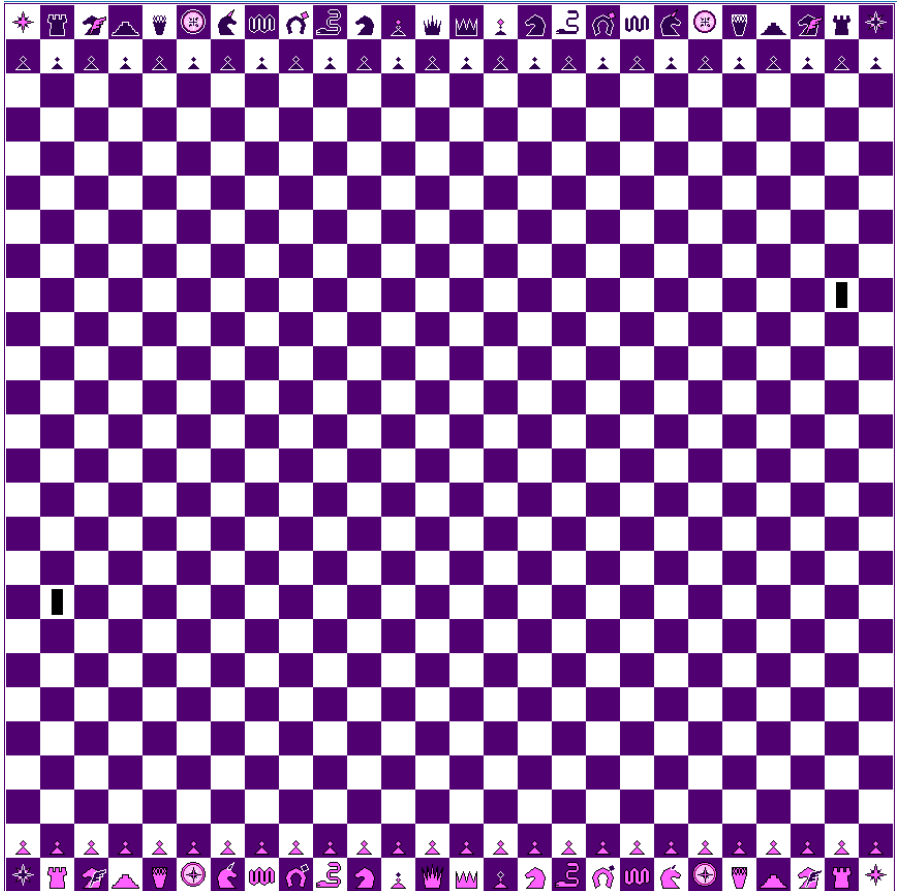
14.3   En passant

En passant is the same as it is in previous variants with the only difference being longer legal advancement of Pawn from its initial position, i.e. up to 11 fields.

14.4   Castling

Castling is the same as it is in previous variants. Due to Stars being positioned in the very corners of board, King is able to move only up to 10 fields, not 11 as you'd expect from larger board.

15   Practical issues

With variants featured here there are a few practical issues which are considered bellow.

15.1   Size matters

Sheer size of largest boards is quite an obstacle, in non-virtual world at least. For instance, One variant is of size 26 x 26, which does not sound like that much, and looks acceptable on most hi-res computer rigs. In print, story is much more different, with most screen-shots rendered mushy, with most pieces unrecognizable.

In physical world, if you consider building a physical board with, say 5 cm x 5 cm fields, which would be normal size, resulting board would measure 130 cm x 130 cm. Even if you consider field size of only 3 cm x 3 cm, that would result in a board of 78 cm x 78 cm size, still quite a lot. Playing it would mean quite a stretch for its participants, literally!

Remedy for such a problem might be to accept a challenge as it is, to confine oneself to virtual, computer generated, world, or to play some of non-conforming variants.

15.2   Universal board

There is another, quite annoying issue, namely, with each new variant, board is slightly enlarged, and another piece is added to the mix. However, colors are changed as well, rendering existing boards and pieces useless. This is quite ok for a virtual world of computer graphics, where computer does not care, nor is of any concern what colors are used to render boards and pieces of different variants.

In physical world having to strictly conform to colors defined for each variant would mean to have to make almost 800 pieces and 11 boards (22 if you want to play Odd variants as well) of virtually the same sets.

It's more practical, if not that much aesthetic, to have only 1 board (2 if you like Odd variants) and only 1 set of pieces, even if it still contains 104 pieces. Such an universal board could be colored in duo-tone, as all previous variants are done. In such a case last variant, One, is quite nice role-model.

There is a little bit different approach, with fields and pieces colored according to first variant in which they appeared. Such an universal board would look like this:
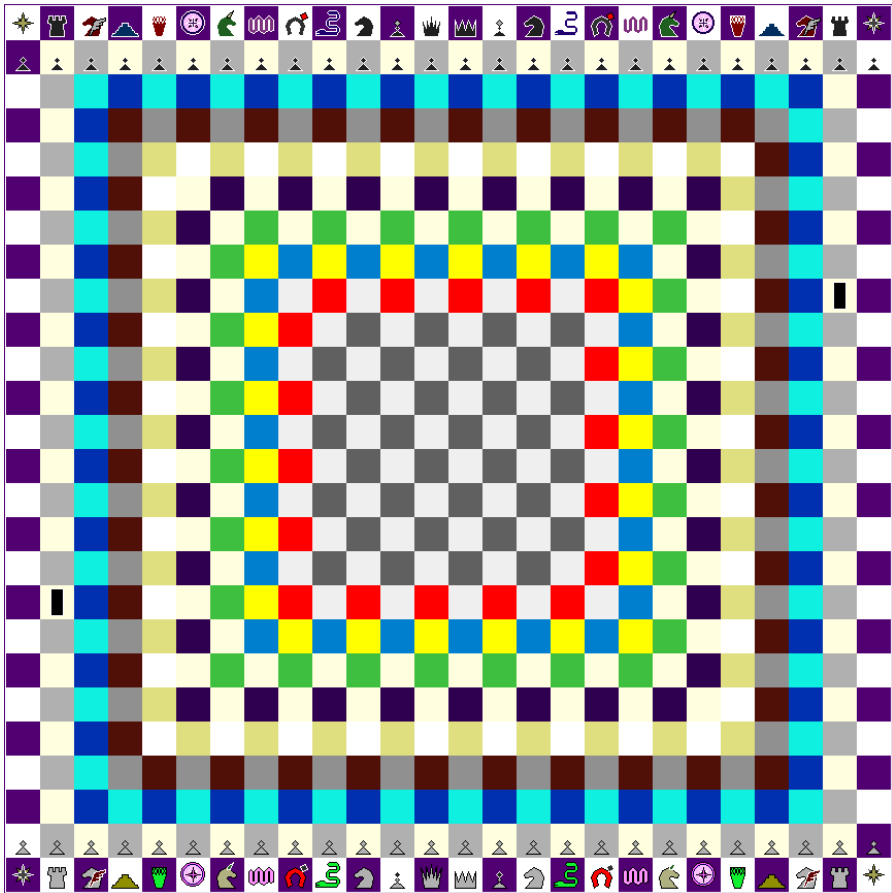
One thing to consider is color of actual light field. In all

variants, lower right field is defined to be light one. All reference light fields are marked with black square in it, in the next picture:
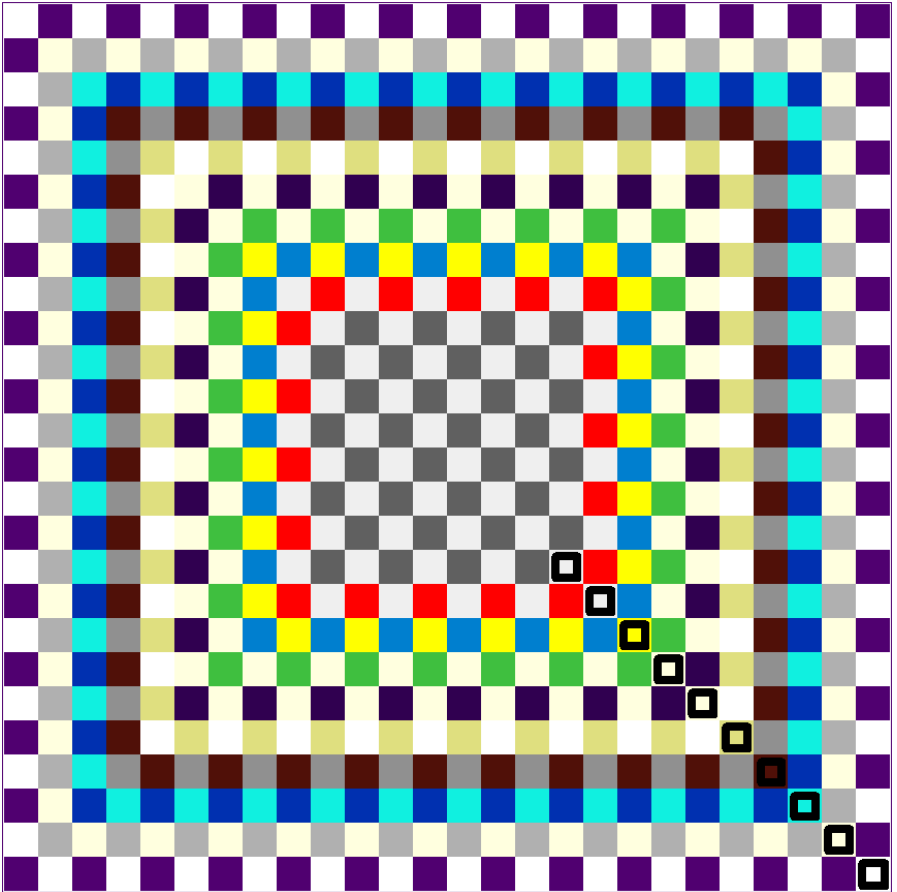
Another benefit of having a colorful board is that it's much easier to figure out what pieces are available, and where to place them, should one decide playing any smaller variant.

Same-color squares denote placement of board for a particular variant. All pieces in colors contained within that square are present in that variant.

For instance, if Nineteen variant is to be played on universal board, that would look like in image bellow:
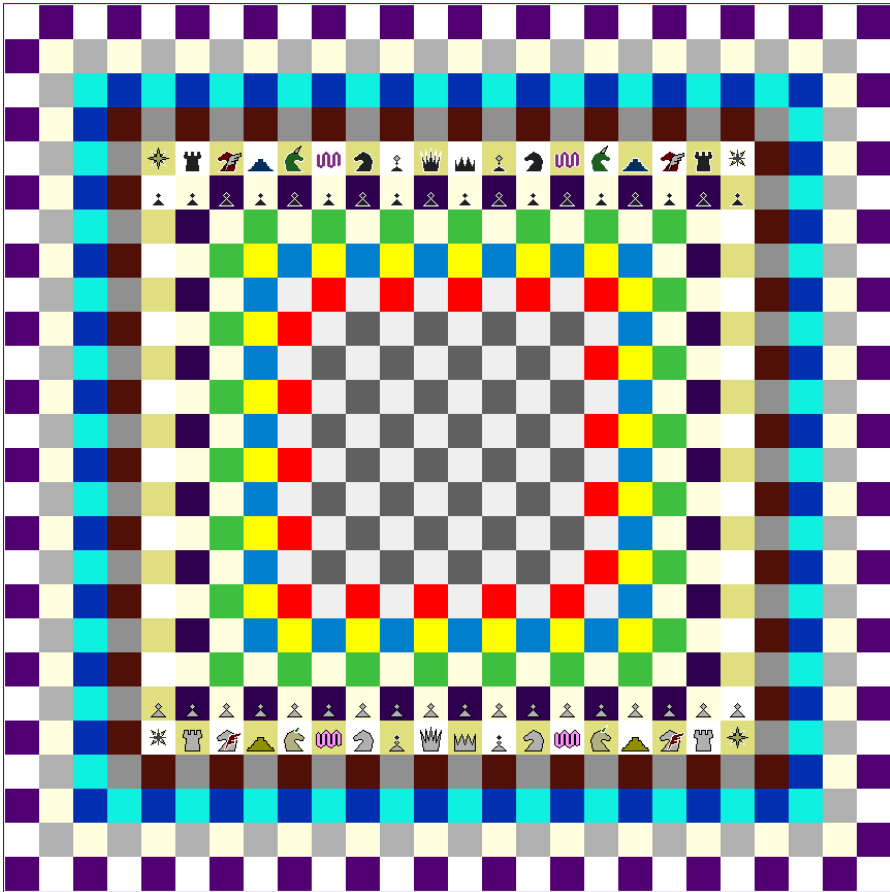
There is a sole exception to this rule because Conquest of Tlalocan and Discovery variants share the same board size. Here, I opted to support the latter, and forego the former.

This isn't an issue, for instance transparent paper with Conquest of Tlalocan colored fields in right spots could be placed over board, when that variant is being played.

Another possibility is to divide Discovery colored fields, lets say, diagonally and then color one half in Conquest of Tlalocan colors, while keeping the other half in original, Discovery colors.

15.3   Non-conforming variants

Non-conforming, or alternative, variants provide a way to taste later variants on smaller boards, with fewer pieces, thus in a much less demanding setting.

Non-conforming, or alternative, variants are those which utilizes boards and pieces described in this book, but mixes them differently then shown here. For instance, one such a variant could use Mayan Ascendancy board with Pawns, King, Queen, Knight, Pegasus, Unicorn, Centaur and Pyramid, i.e. giving up on Bishop and Rook, utilizing Unicorn and Centaur instead.

This brings us to one important aspect of alternative variants, all of them must have one and only one King on board. All other pieces are dispensable. Queen should be considered singular figure, that is one which appear only once in particular color.

There are some names for variants which share similar characteristics. For instance,

- Stable variants are all those which feature all Stable figures
- Universe variants are all those which feature Pyramid, Wave and Star
- Peasant variants are all those which feature any other piece, such as Knight, instead of Pawn
- Asymmetrical variants are all those which King side pieces does not correspond to Queen side pieces, either because pieces are ordered differently, or completely different pieces are used altogether
- Castling variants are all those where King can castle with some other piece besides, or instead of, Rook
- Populated variants are all those which feature more then two ranks of pieces. Ranks might contain pieces ordered differently, or asymmetrically, or different pieces might be used for different ranks
- and so on …

16 Algebraic notation

In this document algebraic notation used is an extension of already existing rules, which you might access here: http://en.wikipedia.org/wiki/Algebraic_chess_notation. Added are new markings for conversion, cascading moves in a ply, diving into Star, and some ambiguous (or even would-be ambiguous) moves are codified more precisely, like promotion.

Basic idea behind all changes in this notation was that all ordinary moves are coded as described by rules at link above. All other actions with side-effects (promotion, conversion, teleportation, capturing, castling) have to be noted in a context-free manner. That means, they have to have explicit and unique mark, even if that could be devised from context. I also adopted practice to write a bit more of information and spacing then it's absolutely necessary, to improve legibility.

16.1 Pieces

Pieces are noted with capital English letter, as follows:

Piece	Symbol
Pawn	P
Knight	N
Bishop	B
Rook	R
Queen	Q
King	K
Pegasus	G
Pyramid	A
Unicorn	U
Wave	W

Star	T
Centaur	C
Serpent	S
Shaman	H
Monolith	**M**
Starchild	I

I wrote all dark player's pieces in bold letters. While not necessary for normal moves, it is useful in long-winded plies, where player is moving opponent's pieces.

Although Monoliths does not belong to any player, to increase their visibility, I always record them with bold letter, i.e. **M**.

16.2   Boards

Boards are unique for each variant. In table bellow it's summarized all variants and field notification ranges, both horizontal and vertical. Fields are denoted in an usual way, with the only difference being expanded range of numbers for files and small English letters for ranks. Numbers and letters always starts with '1' and 'a' respectively, but their ends depend on size of board:

Board	Ranks		Files	
	Start	End	Start	End
Odd Classical Game	1	7	a	g
Classical Game	1	8	a	h
Odd Croatian Ties	1	9	a	i
Croatian Ties	1	10	a	j
Odd Mayan Ascendancy	1	11	a	k
Mayan Ascendancy	1	12	a	l
Odd Age of Aquarius	1	13	a	m
Age of Aquarius	1	14	a	n

Odd Miranda's Veil	1	15	a	o
Miranda's Veil	1	16	a	p
Odd Nineteen	1	17	a	q
Nineteen	1	18	a	r
Odd Hemera's Dawn	1	19	a	s
Hemera's Dawn	1	20	a	t
Odd Tamoanchan Revisited	1	21	a	u
Tamoanchan Revisited	1	22	a	v
Odd Conquest of Tlalocan	1	23	a	w
Conquest of Tlalocan	1	24	a	x
Odd Discovery	1	23	a	w
Discovery	1	24	a	x
Odd One	1	25	a	y
One	1	26	a	z

As noted elsewhere, odd variants are made from regular ones simply by dropping one empty rank, and a file which contains both Queens and two Pawns.

16.3   Ordinary moves

Ordinary moves are noted as piece followed by destination field. Should move have some side-effects, appropriate symbol is added after destination field, followed by target piece. Target piece might be piece chosen as promotion reward, teleportation result, captured piece, … If there is need to disambiguate move, then starting field is added to the mix, right after the moving piece. All this might be represented as:

[<piece>] [+ <starting field> + '-'] + <destination field> {+ <side-effect symbol> + <target piece>},

where square brackets denotes optional components, and

curly braces denotes optional components which might be present more then once.

<side-effect symbol> is one of:

Side effect	Symbol	Target piece
Promotion	=	Piece chosen as promotion result
Conversion	%	Converted piece
Capturing move	×	Captured piece
En passant	:	Captured Pawn
Teleportation	*	Teleported piece + reappearance field
King-sided Castling	$	Piece castled
Queen-sided Castling	&	Piece castled
Summoning	<	Summoned piece

Target piece is mandatory for all side-effects.

For instance, ordinary move might have been Bh5. Symbol for Pawn 'P' does not have to be used, e.g. e5.

For capturing, usual '×' is employed after the destination field and accompanied with symbol of captured piece, e.g. Rg5×**N**. En passant is noted with ':' instead of '×', e.g. g6**:P** . Usage of captured piece's symbol is mandatory.

Disambiguating moves is done with long algebraic notation, i.e. the one where after piece comes starting field accompanied with destination field separated by '-', e.g. Nf3-g5. If used within cascading ply, it must be enclosed in square brackets, e.g. [Bc3-e3]~Af4.

For promotion after the destination field '=' symbol is used followed by promotion target piece, e.g. `e1=`**Q**. Another example would be `Qe3~[Ae8=G]`. This example requires light Pawn to be located at e8 before shown ply, and e8 field to be on dark side of board, which is satisfied only on Mayan Ascendancy board.

Conversion is the same as promotion, only symbol used is '%' instead, e.g. `Qe3~[Ae7%R]+`. Of course, this example requires dark Rook to be positioned at e7 prior to this ply. And, as you can see by the check mark, opponent is placed under check at the end of ply. This requires dark King to be placed on the same rank or file as the converted Rook, i.e. at rank 7 or at file e, without intervening piece in between the two.

Castling is noted as ordinary move of King, followed by mark, either '$' for King-sided castling, or '&' for Queen-sided castling, and symbol of piece involved in castling (Rook in conforming variants), e.g. `Kl1$R` for King-sided castling, `Kd1&R` for Queen-sided castling.

In non-conforming variants where more then 1 Rook is available for castling on one or the other side of King, then originating field of Rook is also noted. For instance, if in Discovery variant Unicorn is replaced with Rook, and King is performing Queen-sided castling with newly placed Rook, that would be noted as: `Km1&Rf1`, while ordinary Queen-sided castling would be `Km1&Rb1`.

16.4   Plies

Plies have condition at it's end, if applicable, which denotes status of opponent's King:

Condition	Symbol
Check	+
Double-check	++
Check-mate	#

16.5   Cascading plies

Cascading plies are build by sequencing ordinary moves in order in which they were carried out on board. Symbol used to separate distinct moves is '~'.

Square brackets are used to delimit move if it is disambiguating, i.e. one which contains starting position, to avoid confusion between cascading symbol '~' and separator between fields of the same move '-'. Square brackets are also used if move have side-effects.

For instance, simple cascading ply might be: `Rb2~Wb7~Qf3`. Disambiguating moves within cascading plies must be written in square brackets: `[Rh2-b2]~Wb7~Qf3`. Moves with side-effects must also be written in square brackets: `Rb2~Wb7~[Ae7=G]`.

Separator	Symbol
Fields	-
Moves	~
Star-journey	>

Star-journey is denoted with ordinary move leading to first Monolith, then '>' sign, then another move to second Monolith. All together would look like:

<ordinary move> + <Monolith> + '>' + <ordinary move> + <Monolith>,

where both Monoliths are mandatory.

For instance, this might be one of star-journeys taken: `Id5M>Ie7M`. As always, should any move within that ply have side effects or needs disambiguating, that move have to be enclosed in square brackets, like in this case: `[Ib5-d5M]>Ie7M`.

16.6   Diving into Star, Monolith

Diving into Star or Monolith is denoted by '*' after the

destination field of a regular move, accompanied by field of reappearance. If piece was also converted, this is noted by inserting converted piece symbol before the reappearance field. All this might be represented by:

<ordinary move> + <piece which is dived into> + '*' [+ <converted piece>] + <reappearance field>,

where square brackets denotes optional components.

Should one of moves within cascading ply be diving into Star or Monolith, it has to be enclosed in square brackets.

Simple example: Ra1**T***b18. Note that you might have to disambiguate move: [Ra3-a1**T**]*b18.

Cascading example: Rb2~Wc2~[Qd2**M***b17].

Example with conversion: [**R**b17-b2]~**W**c2~[Qr18**T*****Q**b16].

Star-journey, when used in conjunction with diving into second Monolith, thus inducing teleportation, is denoted as a combination of both moves. That would be, for instance, like this: Id5**M**>Ie7**M***Ib25T.

Note that should Starchild teleport near Star on own side of board, it could also summon captured piece. For instance, that might look like: Id5**M**>Ie7**M***Ib2**T**<U, provided that Unicorn is available in the variant being played and had been indeed captured prior to summoning.

17   Examples

17.1   Example 1

Suppose light player found himself in situation like this:
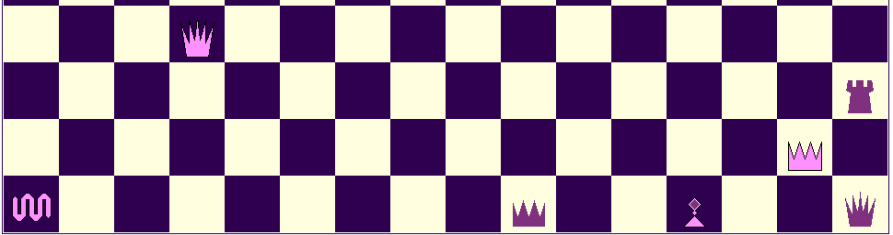
Now it's high time to save King, since it's in check, and overwhelmed. Retreating is, however, a very bad idea:

```
1. Kn2  Rn3+
2. Km2  Qo2+
3. Kl1  Qk2#
```

However, there are a few other, so far unused, light pieces. Note that after Queen activates Wave, it's not legal move for Wave to activate Bishop. Problem is that light King after such ply would still be in check from dark Queen, and that must be addressed first.

Activating dark Queen, moving it out of check zone is, however, a totally different story:

```
1. Qa1~Wp1~Qm1×B+    Kj2
2. Qm1×Q            ...
```

Note that even though light player played with dark Queen in first ply, it was still moving according to rules for dark Queen, that is, among others, capturing light pieces.

Note also that only legal move for dark Queen in hands of light player is m1, thus sacrificing light Bishop. All other moves legal for dark Queen would still leave light King in check, which is, of course,

forbidden after light player's ply.

Table of Contents

"No FPS and racing sim [is a real challenge]. That is for dummies. This will make players of the game into new super-geniuses. Challenge to the max ... how much combinations there are in that [last variant] with teleportation, unicorn, pyramid, winged horse [Pegasus] and wave. How much more challenging it is compared to classic [chess]. Just Croatian [Ties] doubled number of possible combinations..."

Slavko Štefanić [via e-mail]