Issue 13 Spring 2003
US$5.00/CDN$7.50

Abstract Games

... for the competitive thinker

~ Go variants
~ Pagoda, a classic
~ New Grand Chess column
~ Emergo, Nine Men's Morris, Mancala, 3D Chess, and more!

Front Cover

The Quandary set shown on the front cover is the 1970 edition published by Spear's Games. It was reissued in 1993 by the same company. It is unknown who the designer was.

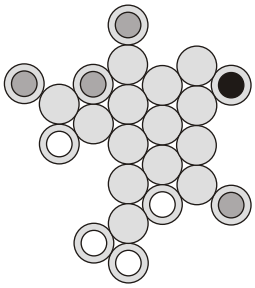
As you can see, the board is a very colorful 12x12 grid of squares. Eight different colors are used. At first glance it seems as if the coloring of the squares is random, but closer inspection will reveal that the distribution of each of the eight colors is fairly even. Each player has four pieces. The two sets of pieces are initially set up on opposite sides of the board. The particular starting squares are determined randomly, for which purpose a set of cards numbered 1-12 is provided with the set.

The players take turns to move one of their pieces one space, either straight forward or diagonally forward. The objective is to be the first to get one piece to the far rank. The interesting thing about Quandary is that the color a piece can move to is determined by the disposition of the opposing pieces: a piece can only be moved to one of the four (at most) colors that are immediately in front of the opposing pieces.

The only other game I know of with the same movement mechanism is Trippples, shown on the front cover of *AG7*. Like Trippples, precise long-range planning in Quandary appears to be nearly possible. It does seem like a good idea to pick one piece and race with it toward the goal. However, this plan will make the opponent's choices much easier since he only has to look at move options that will slow the advance of one piece rather than all four. Quandary is a very pleasant game to play. – KH

ZÈRTZ®

Problem by L. Lynn Smith



Standard game. Player 1 has no captured balls. Player 2 has 1 White, 2 Grays and 2 Blacks. Player 1 to move and win in three turns.

(See page 29 for solution.)

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Published by
Carpe Diem Publishing
Box 33018, 1583 Marine Drive
West Vancouver, BC, Canada V7V 1H0
e-mail: conniekerry@telus.net
http://www.abstractgamesmagazine.com

Subscriptions
Annual subscription (4 issues):
Canada CDN$35 (GST incl.), USA US$23, elsewhere US$26.
Back issues:
Canada CDN$9 (GST incl.), USA US$6, elsewhere US$7.
Airmail delivery included.
Checks/money orders payable to Carpe Diem Publishing (address above).
Visa/MC accepted online through Paypal.

Advertising
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ISSN 1492-0492

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A Note on Gender
Pronouns "he," "him," etc. have been used in many non-gender-specific situations. We realize that women play games, too, and this is merely to avoid awkward constructions such as "he/she."

Editorial

For a recent event I was asked to bring my favorite book. I found this to be a very difficult choice. Should I choose a classic, something by Dickens or Faulkner, or perhaps I should go with one of my beloved science fiction or fantasy novels? I was in a dilemma. The evening before I picked up Sid Sackson's *A Gamut of Games* to check something. I suddenly realized that this was my favorite book, a book that I taken with me wherever I lived and that I must have referred to at least several times a year since I first discovered it many years ago when I was in my early teens. I had read a few other game books before—George F. Hervey's *Card Games* was a favorite, and I loved Bruce Becker's *Backgammon for Blood*—but *A Gamut of Games* was a revelation. I still remember that trip to the library. I remember the television show playing that evening once I returned home and started reading Sackson's book for the first time. I remember copying out in longhand the rules to many of the games before I had to return the book to the library.

In any case, I went along to the gathering clutching my worn copy of *A Gamut of Games*. Someone had brought the complete works of Shakespeare. Someone else had a Bible. There was even a book on fly-fishing. Then I saw somebody with the Gormenghast novels by Mervyn Peake. "Now there's a choice!" I thought. But I remained secure in my selection. I had my picture taken with my book, and filled out a form explaining why it was my favorite book. That was easy. I wrote, "It's the greatest game book ever written. It changed my life."

Sadly, Sid Sackson died in November last year after a long illness. I did not know him personally, but he touched my life. Because of his book and also because of the many fine original games he published, surely he must have entered the lives of a great many people he would never actually meet.

One of Sid Sackson's original games is Focus. It introduced a stacking and movement mechanism that has since been copied in many different games. I would like to investigate Focus in this magazine, so if any readers know something about the strategy and tactics of Focus, please contact me.

In this issue we are proud to have two articles written by world-class players in their respective games, Manfred Nüscheler in Nine Men's Morris and John Vehre in Grand Chess. The latter, of course, is a game by Christian Freeling, as is Emergo, also covered in this issue. In the next issue will see the start of a short series on another of Christian's games, Havannah.

This issue also includes the article on Go variants that I had promised several issues back. Of course, we have previously had other articles about games that may be classified as Go variants, notably Anchor and Orbit, two games by Steven Meyers. Anchor and Orbit, nevertheless, depart from the classical Go model since they do not use the concept of liberties to define life and death. Within the next couple of issues we will return to the subject of Go-like territorial games.

We have so far covered four games in this magazine that originated in works of fiction. Three of them are in this issue. There are probably many more of these "fictional games." It would be very interesting to get some reader feedback on this topic.

Although there is nothing on the Simultaneous Moves Game Design Competition in this issue, rest assured that many entries have come in. We will start presenting the results of the competition in *AG14*. From what I have seen already there are many original ideas. It is going to be a lot of fun investigating them! In the meantime,

Happy gaming!

Notation

A standardized notation is used for all games when possible. In diagrams, squares are named using an algebraic system. Starting from the bottom left of the diagram, columns are identified by the letters a, b, c ... and rows by the numbers 1, 2, 3 .... A colon ":" is used to indicate captures. A threat to win, or check, is indicated by a "+" sign after the move.

Moves in Chess variants are indicated by the initial letters of the name of the piece moving together with the destination square. ("N" is used for knights, and sometimes the "P" for pawn is omitted.) Sometimes the start square is indicated to avoid ambiguity. Captures are noted with "x."

With Shogi variants we will follow the traditional Japanese way of identifying squares. From the top right, *rows* are a, b, c ... , *columns* are 1, 2, 3 .... If the value of a piece changes at the end of a move, we will use "=" and the new value; a plain "=" at the end of a move indicates a piece choosing not to promote. "+" is used for promotion in the Shogi variants (and Checkers variants). "x" indicates capture, and "x!" capture by *igui* in Chu Shogi.

Letters

Abstract Games *welcomes your views. We wish to reflect accurately the concerns and interests of the readership. Letters may be subject to editing for clarity and brevity.*

I did notice a couple of small problems with my Domain article in *AG12*. One problem is with the caption "A set of Domain tiles for one side" under the depiction of the tiles. Actually all the different tiles are shown, and the quantities given are for the whole set, not just for one side. The other problem is that you put my puzzle at the end of the article, which is all right, but in that case you should have specified that it pertains to the second version of the rules.

Larry Back, Canada

While reading the article on Entropy in *AG11*, I found a mistake in the score of the combination ABABABA. I found 37 instead of 27: $5x3 + 3x5 + 1x7 = 37$.

Michel Vidal, France

Yes, that is correct. Thanks! – Ed.

This is in response to comparisons between Glinski's and McCooey's Hexagonal Chess variants on page 20 of *AG10*.

The article says:

"McCooey argues that his game is closer to 'real' Chess. Setting aside the question of whether or not this is the best criterion for judging between the two games, we can look at the specific claims that McCooey makes."

First of all, in my discussions with Dave McCooey he has replaced the term "real chess " with "Orthodox chess". We all know that the Orthodox-ness of a Chess variant is secondary to its overall playability.

However, I would contend that it is Glinski's conformity to an Orthodox feature that has flawed his set-up. Glinski obviously began by copying the Orthodox feature of lining up the pieces against the back of the board. This led to his arrangement including space between his pieces and pawns, a feature that is horribly un-Orthodox. I find this feature alone to be too unlike Orthodox chess for me to consider this an ideal set-up. The 'breakthrough' concept for a Hexagonal Chess set-up, it seems to me, is the compact diamond configuration, discovered independently by both Richard Honeycutt and Dave McCooey.

David Pritchard comments: *"McCooey says that he does not understand why Glinski made his pawn captures 'straight' (they are not: they are demonstrably diagonal)."*

McCooey's meaning is clear to me in the context of the complete quote:

"What I do not understand, however, is why Glinski made his pawns capture 'straight' (i.e. like a rook instead of a bishop). All I can think of is that this 'straight' capture appeared diagonal to him on the board. It couldn't be that the true diagonal capture is unworkable."

David Pritchard comments: *"It could equally be argued Glinski's pawn capture is to an adjacent cell and therefore closer to chess than McCooey's."*

"Adjacent" is clearly defined in both Hexagonal and Orthodox Chess. Diagonally neighboring hexes are no more nor less "adjacent" than diagonally neighboring squares. Pritchard points out that Glinski's Pawns capture to orthogonally adjacent cells and correctly concludes that this does *not* make Glinski's Pawn capture more like Orthodox chess than McCooey's. It is illogical to conclude that this fact could be turned around. It is precisely because Glinski's Pawns capture to an orthogonally neighboring hex that they are *less* like Orthodox pawns than McCooey's (and Shafran's), not more.

Having played dozens of games over the past four years, I find the comparison of the various ratios of Pawns to pieces to be irrelevant. These numbers simply do not tell you anything about how either of these two games play or which one is really more like Orthodox chess.

I also find irrelevant the comparison of the distances the pawns have to promotion. As McCooey points out:

"I thought about the Pawn capture comparison... in particular the criticism about diagonal capture advancing the Pawn too quickly toward promotion. Well, it turns out that Glinski capture advances the Pawn too slowly *toward promotion: Consider a Pawn that makes* two *captures in a row in a zig-zag fashion so that it ends up on its original file. It ends up on the hex immediately in front of its starting hex. The same capture sequence in Orthodox Chess puts the Pawn two squares ahead of where it started. (My capture puts the Pawn three hexes ahead.)*

"The bottom line is that there is no capture rule that preserves this particular aspect of Pawn advancement on the Orthodox board. The hexagonal lattice simply does not allow it."

There are other features of the Glinski game that I find unorthodox and unattractive. In both Orthodox Chess and McCooey's Chess, opposing Pawn chains can be interlaced. This will not work with the Glinski Pawn capture.

In both Orthodox Chess and McCooey's Chess, Pawn chains can be crossed by a Bishop that operates on a different color than the Pawns. If you have a Glinski Pawn "chain" that zig-zags back to the same file, then Bishops can no longer pass through it.

The writer says that it has always been his contention that Glinski's game was the best thought out and most highly developed Hexagonal Chess. I ask that you provide the rationale behind this contention. I suspect that the real basis for the statement is a respect for the popularity and longevity of Glinski's variant, and nothing more.

I consider myself to be a neutral party interested in trying various Hexagonal variants. I suggest prospective Hexagonal Chess players actually play these games and decide for themselves. I did.

Tim O'Lena, USA

Mind Sports Olympiad

MSO6 was held at Loughborough University, England in August 2002. Only 500-600 players attended. Major tournaments were played in Chess, Go, Xianqi, Bridge, and Shogi, but some tournaments were cancelled. The committee did not get any sponsors, but is willing to try again next year.

A few results from games covered in previous issues of *Abstract Games*:

- Peter Henke won the Twixt World Championship, ahead of hot favorite Klauss Hussmans.
- I regained the LOA World Championship, but 2001 champion Koichi Nicolas did not participate.
- HexDame was again won by Mustafa Durdyev, before his brother Bachtiar Durdyev and me.
- Entropy was won by David Pearce, ahead of Peter Horlock.

Another abstract games festival, "The Other Game," in Eindhoven, Netherlands was cancelled. Again, the reason was not enough sponsors.

Fred Kok

It is sad that these over-the-board tournaments get little support. On the other hand, I would guess that play of abstract games through the Internet is still flourishing. Also, in 2002 the Essen Games Fair attracted close to 150,000 visitors! – Ed.

Game Review

The Antoni Gaudi Tile Game

Designed by Oriol Comas and Jep Ferret

This is a very attractive game based on the hexagonal tiling designed in 1904 by famous Spanish architect Antoni Gaudi for an apartment building in Barcelona. The game was produced in 2002 in honor of the 150th anniversary of Gaudi's birth.

There are 84 hexagonal tiles in the set. Each tile is divided into three segments. The segments are colored green, orange, or blue. In some tiles all three segments are different colors, while others have all three segments the same color, and others have two segments one color and the third segment a different color. However, there are also stylized representations of "animals" on the segments—starfish, conch and jellyfish, in each of the three colors. The segments from three different tiles will fit together to create a completed picture of one animal in a particular color.

There are two sets of cards, six for colors and six for animals. Before the game starts each player randomly draws an animal card and a color card, keeping the draw hidden from the opponent(s). The game can therefore be played by two to six players. The two cards that a player draws represent his objective in terms of building completed patterns of a particular color or a particular animal. Lastly, there are six sets of markers, one set for each player participating. These are used by the players to mark the scoring patterns they have completed.

A three-color tile is placed face up in the center of the table to start, and the remaining 83 tiles are placed face down and shuffled. The players take three tiles each from this pool. They take turns to place one, two or three tiles onto the table, drawing from the pool to complete their hand of three tiles after each move. Each tile played must continue the pattern of tiles already placed on the table, like dominoes, except the tiles must match in both animal and color. If two or three tiles are played they must touch each other, except that three tiles may not be played in a compact group. In addition, to place two tiles, a player must complete at least one animal pattern, and to place three tiles, the player must complete at least two animal patterns. Each time a player completes a pattern that is either his color or his animal, he puts a marker on it. The game ends as soon as the pool is empty, and one player has used up the tiles in his hand. The players score one point for every animal pattern on which they have a marker. An extra point is scored for each pattern that matches the player's objective both in color and animal. Note that a player does not score for patterns matching his objective that are completed by an opponent.

Although the rules state that each player should keep his objective hidden from the others, a player's objective can quickly be deduced from the placement of scoring markers. Nevertheless, we found it difficult to utilize the knowledge of an opponent's objective as most of our attention was taken by completing patterns in our own objective rather than spoiling an opponent's chances. It becomes even more difficult to play a spoiling game as the pattern on the table becomes larger and more complex. We only tried the game with two players. I can imagine that playing to prevent multiple opponents from scoring is impossibly difficult.

Gaudi reminded me of other gentle games we have

reviewed in these pages, such as Siesta and Ta Yü. It is an absorbing and beautiful game with somewhat the feel of a jigsaw puzzle. I hope to have the opportunity to try it with more than two players in the next month or two. I suspect that it will prove to be a relaxing social game. It is well worth trying to get hold of a copy if you would enjoy a tile game with an interesting artistic and local flavor. – KH

Publisher: CASA Consultors I Arquitectes SL, Passeig Cordelles, 16, 3r. 2a, 08290 Cerdanyola del Valles, Spain.
The Antoni Gaudi game can be obtained from http://www.gaudiclub.com/tenda/productes.asp?id_familia=0051&lang=eng.
Price: US$49/€49.

Guard and Towers

Designed by Christophe Endres and Robert Wirth

The set for playing Guard and Towers is solid and appealing. It has a thick wooden board and heavy steel pieces. It was a pleasure to use this equipment, particularly with the ring of metal on metal as the pieces are stacked up. Little things like this I find to be an important element of game enjoyment!

The board is a 7x7 grid. Two squares on opposite sides of the board are marked with crosses. Each player has one guard piece and seven tower pieces. The guards start on the marked squares, with their towers distributed around them. The objective is either to capture the enemy guard or to move one's own guard to the marked square opposite.

All movement is orthogonal and in straight lines. Towers may be stacked on friendly towers. A stack may be moved as a unit the exact number of squares in the stack. Stacks of towers may be broken up freely and reformed, bearing in mind that the movement range is determined by the number of towers actually moving. It is not permitted to move over an occupied square. A stack of towers can move onto and capture an enemy stack provided the attacking stack has at least as many pieces as the defender. Even a single tower can capture the enemy guard. The guard moves just one square at a time. It can capture a stack of enemy towers of any height.

The rules are simple. The movement mechanism is very reminiscent of Focus, whereas the objective has elements of Chess and The Jungle Game. Guard and Towers has a distinct, classical feel to it. My initial thought was that the game could be easily analyzed and that draws would be frequent, either by repetition or by stalemate. I have not found this to be the case in practice, although surely I am still a beginner at the game.

The strategy and tactics are interesting. I think I have determined that one tower and guard can usually defeat a lone guard. Also, two towers can usually drive a guard into the corner and win, provided the enemy guard can be isolated from defenders. An attacking stack often cannot be blocked by a single tower adjacent to it, as this blocker will simply be captured, and material is clearly important. However, interposing a stack of two or more towers adjacent to an enemy stack is an effective blocking technique. It appears to be dangerous to advance one's guard early in the hope of reaching the enemy goal. I suspect the attainment objective was added to the game at a later stage to decrease the number of drawn endgames.

Guard and Towers is a fine game. I feel drawn to investigate it further, which surely is a good sign. Consider adding this game to your collection if you enjoy beautiful equipment and wish to try a new game with a classic feel. – KH

Clemens Gerhards Holzwarenfabrik KG, Bergstrasse 29, D-56235 Ransbach-Baumbach, Germany.
Websites: http://www.Gerhards-Holzwaren.de and http://www.turm-und-waechter.de/. E-mail: info@gerhards-holzwaren.de.
Zillions implementation: http://www.zillions-of-games.com/games/guardandtowers.html.

Book Review

Playing with Pyramids

Andrew Looney, John Cooper, Kory Heath, Jacob Davenport, Kristin Looney.
Published in 2002 by Looney Laboratories Inc., PO Box 761, College Park, MD 20740, USA.

As Andrew Looney tells it in the introduction to *Playing with Pyramids*, he wrote a science fiction story in 1987 called "Icehouse." The characters in this story played a game. Readers pressured Andrew for more information, and the result was Icehouse the game. It turned out that the equipment for Icehouse lent itself to the design of many other games of different types. Twelve of these are given in *Playing with Pyramids*, and also on the website http://www.wunderland.com/icehouse/Default.html, but over 100 others are described at http://www.the-radix.com/0003.php. An Icehouse set seems to have something of the versatility of a deck of cards or a Chess set in the range of different games that can be developed with it. Some of the games in *Playing with Pyramids* are Icehouse adaptations of existing games—Zendo is the Icehouse version of Eleusis and Martian Backgammon is the Icehouse version of the classic race game—but the remainder seem to be quite original.

The basic unit of Icehouse playing equipment is the "stash," consisting of 15 pyramids, five each of three different sizes, the smaller pyramids able to be stacked inside the larger pyramids. Stashes can be obtained in many different colors. Often one stash per player is required to play a game, although sometimes more are required. Sometimes only stashes are needed, sometimes a Chess board or other additional equipment is necessary. Many of the games, also, are for more than two players. We had obtained three stashes, and there were only two of us, so that somewhat limited the games we could try. Short reviews are given below of Gnostica and Martian Chess. I have ordered more stashes so that we can play Homeworlds and Volcano, both of which look very good. The original game, Icehouse, a boardless strategy game of simultaneous movement, looks very interesting, although we will need a third person to play it.

Playing with Pyramids reminded me of the classic of game literature *Abbott's New Card Games* by Robert Abbott because of the range of different new games played with a single piece of equipment. I think Looney's book is an essential addition to the game book collection of anyone interested in new game ideas.

Gnostica
I particularly wanted to try Gnostica as a couple of correspondents told me that it was similar to Realm, a game we covered in *AG9*. Gnostica utilizes one stack per player, plus a deck of Tarot cards. The cards form the board upon which the pyramids are

maneuvered. Pyramids can also exist in empty spaces next to cards, called "wastelands," but any pieces that get further isolated from the layout of cards are removed from play and returned to their owner. A pyramid on its side can point to the adjacent space in any of four directions, while a pyramid on its base pointing upward indicates the space it is resting on.

A player scores one point if his pieces only are in occupation of a suit card from Ace to 10; two points are scored by exclusive occupation of a court card; three points are scored for exclusive occupation of a Major Arcana card. Gnostica has an interesting system for game resolution. On his turn a player may declare this move to be his last. If at the end of his next turn, he is scoring nine points, he wins the game; if he is scoring fewer than nine points, he is eliminated from the game. Coincidentally, Pagoda, a game described in this issue, has a similar mechanism for resolving a game. In our Gnostica games with two players we were wary of announcing a win in the next turn because of the danger of sabotage by the opposing player. I can see that this would be much more of a risk with a greater number of players.

Each suit allows one to perform a certain action. Cups allow one to create a new piece on the board or a new card territory; wands allow one to move a card or a piece, coins allow one to grow in value a piece or a card territory; and swords allow one to attack. Each of the Major Arcana has a specific ability that is usually a combination of two such actions in one turn.

The players each hold a hand of six cards. On a turn a player may either play a card from the hand or pick a card on the board that contains his pieces. When playing a card from the hand, any of the player's pieces on the board may perform the action designated by that card; when a card on the board is selected, any of the player's pieces on that card may perform the action designated by that card. The only way of replenishing the hand to six cards is to take a turn to discard and draw from the stock.

The game is complex to explain, and indeed the many rules are difficult to get used to without constant reference to the book. In our games the playing area spread little from the initial layout of nine cards, and the battle was fought essentially within this limited space. With more players, however, I can understand that the initial layout would not provide enough space for players to accumulate points, and they would have to extend the board. Gnostica definitely does share something of the feel of Realm. Like Realm, there appears to be the same dilemma between creation and growth on the one hand and movement and attack on the other hand. Unlike Realm a player's hand may dictate the most effective strategy. Gnostica is a challenging and interesting game.

Martian Chess

The first thing to note about Martian Chess is that it is not a chess-type game at all. Instead, the objective is to accumulate points by capturing pieces. We played the two-player version, utilizing a 4x8 board. Each player "owns" half of this board. A player may only move pieces on his half of the board. Pieces may cross over between the two halves, but a piece moved over to the other side can now be moved only by the opponent.

Each player starts off with an array of the three sizes of pyramid on his side of the board. The largest pyramids move like Chess Queens; the medium size like Chess Rooks, but only one or two squares at a time; and the smallest size can move one square diagonally in any direction. Obviously the color of the pieces is irrelevant since ownership is determined by location. The game ends when one player cannot perform a legal move, usually because there are no more pieces on his side of the board. At this time, the player with the highest score of captured pieces wins, counting the small pyramids as one point, the medium pyramids as two points, and the large pyramids as three points.

Play of this game can be very confusing initially. One is apt to forget that a piece moved over to the other side to effect a capture may simply move straight back to recapture. It is probably bad positioning, therefore, to have two large pyramids on the same file, since whatever you can capture with the foremost, the opponent can capture the other large pyramid right back. Also, there may be a tendency among Chess players to feel reluctant about moving the larger pieces into opposing territory. Nevertheless, it is captured pieces that count, not pieces on the board, and a large pyramid on the other side may prove to be a useful target. In fact, if you are ahead, shifting pieces into the opposing camp as quickly as possible is an effective endgame strategy since the game ends as soon as you cannot move. Martian Chess is a mind-bending game, and for this reason I do not think we enjoyed it as much as Gnostica. Nevertheless, it is certainly an original game with novel tactics and strategy. Greater familiarity with the game would obviously help us to over come the disorientation!

So there it is. We will no doubt be trying several more of these games with pyramids. If it sounds interesting, I recommend that you first get the book. Then, when you have decided which games you want to try, you can order the required number of stashes. You may even be able to make your own pieces or press-gang pieces from other sets, depending on the particular game you want to play. After all, each stash costs US$8, and Volcano requires six of them! You may even wish to investigate some of the other games produced by Looney Laboratories. We will probably review some of these in future issues. For now, there is an interview below with the prime mover in this game phenomenon. – KH

Interview with Andrew Looney

by Clark D. Rodeffer

AG: How did you get involved in gaming?

AL: I've been playing games all my life. Gaming was (and still is) a common activity in my family, and it had a big impact on me. My mom got us started playing games at a very young age, because she knew that playing a board game was a great way to keep a group of kids occupied, entertained, and even educated. She's a huge Scrabble fan, for example, which she'll quickly point out is a great way to build vocabulary and learn spelling. But even before we could read, she was teaching us games like Sorry, Mousetrap, and Booby-Trap. As I grew older, I got into the games my older brothers were playing, like Chess, Risk, Monopoly, Hearts, and so on. My brother Jeff, in particular, took great delight in kicking my butt at Chess, but at least I got to play a lot, and I certainly learned from the experiences.

I also got into computers very early on. My dad worked at NASA, and I got to play text adventures and that ASCII-based Star Trek game on the mainframes at his office. I started writing my own primitive computer games as soon as he started building our first home computer. This was back in the mid-to-late 1970's, when no one had a home computer yet. I can remember being called a liar by kids at school who refused to believe I was writing programs on a computer we had a home. But anyway, ours was a game-playing family.

AG: How did gaming as a family eventually lead to game design?

AL: Not in any direct way, that's for sure. Until just a few years ago, gaming was strictly a hobby. In college, my grand scheme

was to get a job in computer programming (where the money was) and pursue a free-lance writing career in my spare time, developing my craft and my body of work until (and if) I could make it as a writer and retire from programming. That plan basically worked, except that I became a game designer instead of a writer. But if you know the story of how I came to invent Icehouse, you know how the one led to the other.

AG: What is the story behind Icehouse?

AL: I've told this story so many times I'm tempted to just point you to the first page of *Playing with Pyramids*. Basically, I was a trying to become a writer, but instead became a game designer when the fictional game I described in a short story turned out to be the thing about the story that everyone liked the most.

AG: The BBC Hitchhikers Guide *calls Icehouse "A Boardless Abstract Strategy Game System." What are four or five games that showcase the possibilities of playing with pyramids?*

AL: The top five I'd recommend are IceTowers, Zendo, Volcano, Martian Chess, and Homeworlds. All of these, and seven more which are just as different from these as these are from each other, are included in our book, *Playing with Pyramids*.

IceTowers is very easy, yet strategically compelling, and very fast because it's played without turns. It has the real-time fun of the very first pyramid game (which is called Icehouse, and which is also in *Playing with Pyramids*), but without the complexity that made the original game inaccessible for many players.

Zendo is an addictive thinker's game in which a group of "students" attempt to guess the master's riddle by building arrangements of pyramids called Koans. Zendo is arguably the most popular Icehouse game at this time, so much so that we're currently working on a standalone edition of the game.

Volcano is a nifty little game of capturing pyramids by erupting them onto other stacks. Volcano is one of my personal favorites because it has a very tidy footprint and only requires the attention of the person whose turn it is. This makes it an excellent game for those who like to multi-task. I enjoy playing a game of Volcano on the side while simultaneously playing another game with equivalent downtimes. Volcano is also my first choice for something to play in a restaurant while waiting for the food. The only downsides are that it requires a whopping six stashes of pyramids (a standard set includes four stashes, which are currently sold individually). Also, it's nice to have a little 5x5 board for this game, but except for a few prototypes we use ourselves, we haven't begun manufacturing these (yet).

Teach a Chess fan to play Martian Chess and get ready to watch his head explode. It's just enough like Earth Chess to seem familiar, but at the same time it's so different that you have to abandon your previous ways of thinking about the game. Everyone starts with a random assortment of colors, because color is meaningless—it's where the pieces are on the board that matters. You can only move a piece in your quadrant, and you can only capture a piece in an enemy quadrant. And you can play with four players!

Homeworlds is to Chess as Star Wars is to the Battle of Hastings. If a pyramid is played standing up, it represents a nearby star system. Pieces placed lying down are starships, which can move between the star systems, form colonies, and of course, attack each other. A ship's type is determined by its color; ownership is indicated by the direction it's pointing in. Thus, a featureless tabletop becomes a section of the galaxy, in which the players fight an epic battle between Good and Evil.

AG: How can your games be used in an educational setting?

AL: I'm many things, but I'm not a teacher so this question is hard for me. I guess my first thought is that the best way to teach with games is just to play the games and let the lessons teach themselves.

Our card games are probably the items in our catalog with the most obvious teaching potential. Icehouse and Fluxx have more subtle educational value. One teacher told me that Fluxx is great for instilling the importance of following instructions, and math teachers will love version 3.0 because of the new card X=X+1. Although it's brand new, Nanofictionary has been getting great responses from English and creative writing teachers. I've heard of a number of schools (including Rice University) that have used Chrononauts in history classes. Homeworlds is a great example of politics and diplomacy in action, since it's vital you figure out what each player's true motivation is, and convince others to follow your intuition. Zendo is a lesson in logic, complete with an in-game teacher, so it's hard for me to see how one could add another layer of education to that. As I like to say, I learn by playing.

AG: Where can AG readers find more games to play with Icehouse pyramids?

AL: Finding games is easy! Check out the Sortable List of Icehouse's Cool Kindred (S.L.I.C.K. at http://www.icehousegames.com), an ever-growing database of Icehouse games. You can also join our e-mail discussion list to hear about new games as they are being designed.

AG: Proton, in my opinion, is pure genius. It's the ultimate in portability with a built-in "save game" feature. It's strategically rich, and for those who are interested in more depth Proton can be played on a level comparable to other connection games like Trax or Knots (except within the confines of a 15-puzzle). But Proton can also be played on a simpler level—just try to move the goal pieces closer together and use ratios to try to force them to meet on your terms. And the pricing can't be beaten.

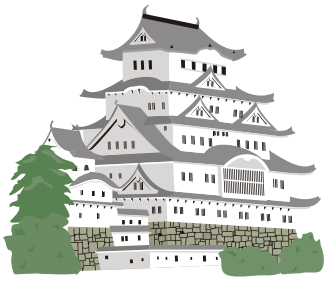
AL: I couldn't agree with you more! I remember calling myself a genius on the night I thought up Proton. I always keep a copy in my pocket when we go to an amusement park. It's the perfect game to play while you're waiting in line for a roller coaster. [My wife] Kristin usually beats me, though.

AG: What about your other abstract games like Q-Turn and Cosmic Coasters? Why have they not attracted the attention they deserve?

AL: I think it's because, in general, there are a lot more people who crave lightweight party games, like Fluxx, than there are who want serious abstract strategy games. I'd have to say Q-Turn is our least successful release. I'm still proud of it, but it's received some pretty unfriendly reviews. I do have to admit, all that rotating can get tiresome, and the game play can stall with four, particularly if some players are serious must-win type gamers. I've found it's best with kids, or with only two players. But it too has fans. I remember one telling it me it was the perfect game to play in a bar. On the other hand, that was before I invented Cosmic Coasters, which I think is even better for that.

Another issue with Q-Turn has been the production cost of the nickels. Ironically, although the game was inspired by the option of getting custom-made wooden nickels produced cheaply, they haven't proven to be cheap enough to make for a cost-effective product. So, we're taking it out of our main catalog and will be featuring it now only in the "short run depot" section of our e-store.

AG: Andy, thank you for introducing the Looney Labs game line. I wish you the best, and hope that AG *readers will explore your web site and try your games.* ■



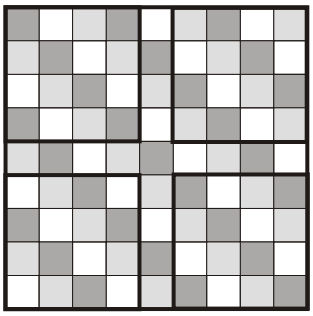
Pagoda

A forgotten classic of pattern forming

by Derek Carver

Pagoda, a game invented by Valentin Sienna, was published in 1973 in an attractive edition by F. X. Schmid. It is true to say that the majority of abstract games involve moving pieces (sometimes with differing abilities) around a board in order to achieve some defined objective. Pagoda is totally different in this regard. In his turn, as opposed to moving his men, each player introduces a piece onto the board, with the aim of aligning four pieces of his own color into a prescribed pattern called a *building*.

The board comprises a 9x9 grid of squares, which are colored Red, Green and Black. The top row is BRGBRGBRG, the next row GBRGBRGBR, and the next RGBRGBRGB. This sequence is then repeated for the next six rows. In the published version the central row and column are outlined, forming a cross in the middle of the design. This is purely a 'visual aid' when forming your building patterns, especially Pagodas.

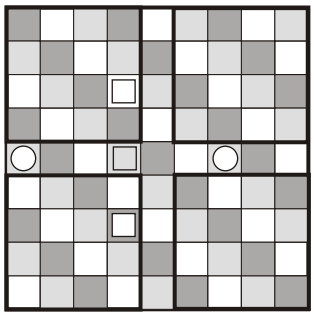


Pagoda board

Each player starts with seven square pieces, called *stones*, and seven cylindrical pieces, called *columns*, in his color, red or green. The players take turns to move. In the original rules it does not specify whether Red or Green moves first, so we must assume that it does not matter. In a turn a player may do one of the following:

- Place one of his stones on a vacant square on the board or remove one of his stones from the board.
- Place one of his columns on a vacant square on the board or move one of his columns already on the board to another square of the same color.
- *Demolish*, or remove from the board, as many of his stones as he wishes in a single move. A player may only demolish when (a) all of his stones are on the board, and (b) he was not the most recent person to demolish.
- *Tear down* any of his opponent's *illegal buildings* (see below), removing the captured pieces from play for the rest of the game.
- *Take* an opposing piece if he has two pieces equidistant from it in the vertical direction and two pieces equidistant from it in the horizontal direction. Setting up this situation is like calling "check" in Chess. Unless the defender removes the target piece (if a stone) or moves it (if a column), it can be taken next turn. A piece that is taken is removed from play for the rest of the game.

Note: Taking or tearing down is not compulsory.

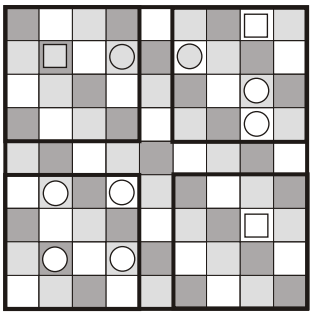


After Red (the white pieces) creates this position, Green (the grey piece) must remove the stone or Red may take *it next turn.*

Illegal buildings are as follows:

- *Ruin* – A building comprising entirely of columns.
- *Fence* – Three pieces of the same color that are equally spaced in a row or column.
- *Wall* – Four pieces of the same color in a row or column, irrespective of spacing.

It should be noted that a player will register the possibility of his opponent constructing a wall or a fence and will purposely take advantage of these "lost" squares when constructing his own buildings.



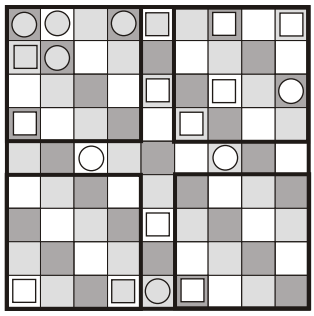
Examples of illegal buildings

The *scoring buildings* are as follows:

- *Hut* – Four pieces of the same color on adjacent squares, forming a square.
- *House* – Four pieces of the same color separated by 1-3 squares, forming a square.
- *Castle* – Four pieces of the same color separated by 4-7 squares, forming a square.

Tower – Two adjacent pieces on one side of the board and two adjacent pieces on the opposite side of the board, thereby forming an extended rectangle across the board.

Pagoda – Four pieces forming a square on diagonal lines (or, rather, a diamond), with two of the pieces on the central row and two of the pieces on the central column.



Examples of scoring buildings

Generally, a player only scores for *one* building, obviously his most valuable. The exception to this rule is when a player has two or more buildings that have pieces in common. In this case, all count, with the stone(s) common to each building being counted once for each building they are members of.

If a player has a completed a building, either his first or a later building, he can then state that the game will end next turn. At the same time he declares the value of his scoring building(s). The opponent then has one turn to try to better that score. The player with the highest score at the end of the opponent's turn wins.

The score of a building is calculated depending on the four stones or columns from which it is constructed, as follows:

- ***Columns*** 0 points
- ***Stones*** *Hut* – 1 point each on opponent's color
  House – 5 points each on opponent's color
  Castle – 10 points each on opponent's color
  Tower – 11 points each on opponent's color
  Pagoda – 15 points each on opponent's color.

Stones on a player's own color are worth double the points above. Stones on black squares have no value. If a building is constructed exclusively of stones, each stone is worth double.

When a match comprises several games, only the points of the winner are recorded, not the difference between the players.

Alternatively, a game can come to an end if a player elects to resign. In this case, the most valuable building of the opponent counts. If he has not yet completed a building, each stone he has on the board on the opponent's color counts 10, and each stone on the player's own color counts 20. If a match is played over several games, 10 being the suggested number, resigning at the right moment when one's opponent has only a low-scoring building can be a useful tactic.

Theoretically, a game can end in an agreed draw, though this is an extremely rare occurrence. This is most likely to happen when both players have lost so many pieces that they cannot make a scoring building.

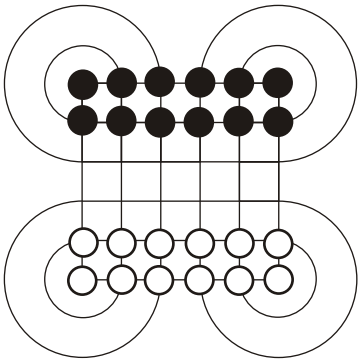
The rulebook gives simple tactical hints:
(1) Squares on the perimeter and on the central cross are the strongest as they can be used in Towers and Pagodas, respectively.
(2) The colored squares are stronger than the black squares. You should always try to place stones on their own color.
(3) It is a normal tactic to threaten to form a building, the intention being to force your opponent to place his pieces disadvantageously so that he is unable to defend against the building that you had in mind all along.
(4) One should never overlook the benefit of a timely resignation—assuming a match is being played as opposed to a single game. ■

Information about Pagoda is difficult to track down. It is not even included in the encyclopedic online Luding database. Nevertheless, when the game was first published, it was reviewed in Games & Puzzles*, achieving the coveted six out of six rating. Also, it is included in David Parlett's* Oxford History of Board Games*, although the correct rules would be impossible to reconstruct from Parlett's description. If any readers know anything about the history of Pagoda or its strategy and tactics, please contact me. It is one of those games that for many years I have meant to investigate. Now is the time!*

Below is another game that I have wanted to look into. It is a traditional game from the Indonesian island of Java. It can be played on Ludoteka at http://www.ludoteka.com/surakarta-en.html. There is also a Zillions implementation. We have put a board for playing Surakarta with small game pieces or coins on the back cover of this issue. Surakarta is attractive because of its unusual and colorful board design and its, presumably, unique form of movement. Once again, if any readers are acquainted with its strategy and tactics, please contact me. – Ed.

Surakarta

The board for playing Surakarta is shown on the back cover of this issue. Each player has 12 pieces, which are arranged on the points of the two ranks closest to him, as shown in the following diagram.



After deciding in some suitable way who is to move first, the players take turns to move one of their pieces. There are two types of moves:

Non-capturing move

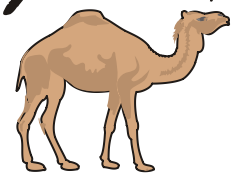
A piece is moved one space in any direction, orthogonally or diagonally.

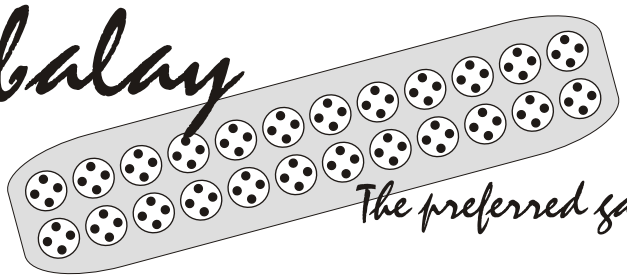
Capturing move

On the board it can be seen that there are two circuits, a green outer circuit and a blue inner circuit. A capturing piece moves along a line of the board to enter a corner loop; having traversed the loop, it reenters the board and may then travel across the board to enter another corner loop; and so on. When it reaches an enemy piece, it may displace the enemy piece, capturing it and finishing the turn. All points of the board traveled over to reach the enemy piece must have been vacant—it is not permitted to jump over pieces, either enemy or friendly. A piece must traverse at least one corner loop in order to make a capture. A piece may travel over the same vacant point more than once in its journey.

The objective of the game is to capture all the opponent's pieces. Presumably draws can occur by repetition of moves or stalemate. – KH

Layli Goobalay





The preferred game of the camels

by Ralf Gering

Somalia has a fascinating culture, which combines influences from Black Africa, Arabia and even India, as shown by the wide range of Somali board games. Somalia's national game is Shax, a Morris variant that was introduced to the Horn of Africa more than 2,000 years ago, perhaps by Egyptian or Greek traders who were searching for a source for incense. Shantarad and Koruböddo are Somali variants of the Arabic game of Seega. Deleb is a variant of Backgammon. Tamman is related to the Hindu game of Pachisi. Two mancala variants are played in Somalia: Bosh which bears resemblance to Indian mancala games and Layli Goobalay which is more akin to the Black African multiple-lap variants.

Somali was not a written language until recently and, even today, there appears to be no official orthography. For that reason, and because there are so many phonetic differences, even in the same area, Layli could also be spelled Laylo, Layla or Leyla. The name of the game could be translated as *"exercise with circles."* It is believed that a clever player will possess more camels, one of the most precious things one could own in Somalia:

Layli Goobalay
Nin grad liyi
Geelu kugu
yuus

(Oh, Layli Goobalay! The most intelligent men and the camels prefer you. – Somali proverb.)

Although the "board" of Layli Goobalay merely consists of holes dug in the ground, and the "seeds" are dry camel dung, a closer look reveals that Layli Goobalay is indeed a challenging game.

The following rules are mostly based on the ethnological article of G. Marin, who described the game in 1931 for the first time outside of Somalia. I also want to thank the Somali Jama Musse Jama, who provided me with additional information. Jama teaches Ethnomathematics at Pisa University, Italy, and has written a computer program playing the game.

Rules

According to G. Marin, Layli Goobalay was played on a board that consists of two parallel rows of up to 12 holes on each side. Far more common has become today a board of the size 2x6. A board of 2x8 holes is also used. Since the smaller boards lead to comparatively simple games, I will base this article on the 2x12 board. At the start of the game each hole contains four balls of camel dung. The starting position is shown above. A player controls the 12 holes on his side of the board.

Each move a player empties the contents of one of his holes that is not an *Uur* (see below) and distributes one ball in each of the following holes in a *clockwise* direction (as observed by G. Marin) around the board. In some parts of Somalia the game is played in an anti-clockwise direction.

If the last ball is dropped in an occupied hole, the player takes its contents, including the last dropped ball, and continues to distribute the balls in a clockwise direction. The move ends only if the last ball is dropped in an empty hole.

If the last ball is dropped into an empty hole on the player's own side, he captures this last ball together with the contents of the opposite hole if it contains one, two, or four or more balls.

If the opposite hole contains three balls, one of these is put into the hole in which the last ball was dropped, so that each hole has two balls. These two holes now form an *Uur* ("pregnancy"), and both belong to their creator. An *Uur* hole may never be emptied by either player. Balls must be added to an *Uur* hole during the normal course of distribution. However, if the last ball is dropped into an *Uur* hole, the move ends. The creator of the *Uur* owns all balls that are dropped into both of its holes during the course of the game. Each player may create one or more *Uur*'s during the game.

Nothing is captured if (1) the last ball is dropped into an empty hole on the player's own side, and the hole opposite is empty, or (2) the last ball is dropped in an empty hole on the opponent's side. Such moves are called *abar* ("famine").

The game is over when one player has no legal move left. Each side then counts the balls he has captured together with the balls in his *Uur*'s and any balls remaining on his side of the board outside of *Uur*'s. Sometimes towards the end of the game the balls continue to circulate in a repeating pattern. No rule is given by Marin for such a case, but according to Jama Musse Jama the remaining balls are divided between both players, as in Oware, the national game of Ghana. The player who captures most balls wins.

Strategic Hints

Uur's are important traps because it is possible to capture balls even when the opponent is playing. An early *Uur* should decide the game. Even later on it might be a good idea to sacrifice some balls in order to make an *Uur*. The further an *Uur* is to your opponent's left, the more valuable it is for you.

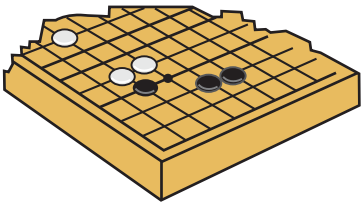
Forcing the opponent to make an *abar*, while capturing stones oneself, is also a strong technique.

Often the game is won by the player who moves last, even if he had captured fewer balls hitherto, because he is the one who wins the remaining balls outside of *Uur*'s. Therefore, players often try at the end of the game to keep balls on their own side, to protract the game, so that the opponent becomes the first who is unable to move.

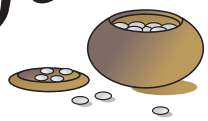
Notation

The holes on each player's side are numbered from 1 to 12 from the player's right. Captures are marked with 'x,' and 'U' means creation of an *Uur*.

(Continued on page 14.)



A Family for Go



by João Pedro Neto and Bill Taylor

There is a small number of old traditional abstract games that still catch the attention of millions of people around the world. The best known of these are Checkers, Mancala, Chess, and Go. The first two refer more to a family than a single game. There are many old variants based on the same ideas that have spread around the world, Mancala in Africa and Checkers in the West and Arab world. But Chess and Go refer to specific games.

Chess has undergone an historical evolution since its beginnings in India and China around the sixth century, through the Islamic world, and finally into the checkered boards of Medieval Europe. Now, at the beginning of the 21st century, Chess has been regulated by FIDE for about 150 years. However, any curious reader knows that there exist many variants of Chess: Giveaway Chess, Progressive Chess, Capablanca Chess, and so on. The 1994 *Encyclopedia of Chess Variants* by D. B. Pritchard describes hundreds of variants. The definitive, but never finished, Chess Variants website (at http://www.chessvariants.com) contains thousands of variants!

Go has been played for almost three millennia. It is older than Chess, and has suffered less change throughout its history. Also, if the same curious reader tries to find information about Go variants, he will not be overwhelmed by countless games and themes. Moreover, of the few variants of Go that exist, probably less than 50, many of them are not playable—they are more proposals for games than actual fun games. Why is this so?

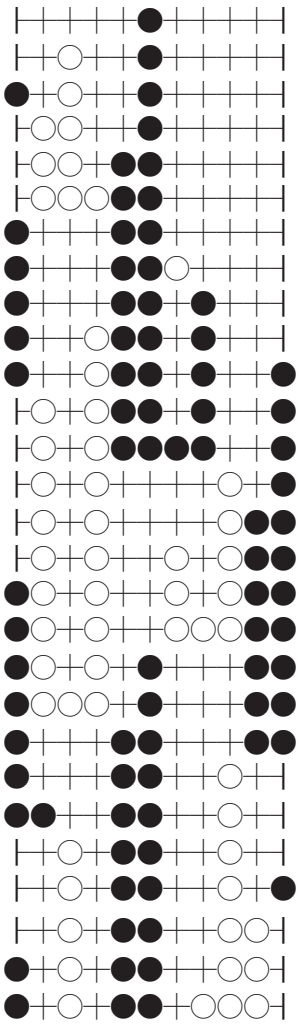
Some people insist that Go is less historically contingent, more structural or mathematical, meaning that it would be easier to find similar games in different cultures. In fact, this is not so, while checkers, race games and *n*-in-a-row games do seem to have appeared independently in many cultures. Chess has more elaborate rules, which include a piece-capturing sub-goal. This might be irrelevant, but it might indicate more scope for the imagination.

The aim of this article is not to compare strengths and weaknesses of these two great games, but to present some playable variants of Go, which in our opinion are very hard to find. We have chosen a small set of games, leaving the remaining few behind, with the justification that is easier to pick a game to play from a small number of good options than from a greater number of average choices. Some good games were left out because they have already been presented in *Abstract Games*, such as Anchor (*AG5*) or Gonnect (*AG6*). The latter is a very good alternative Go variant, giving a tactical goal that can be used to increase the drama and interest in the opening stage, as well as a "cold" post-endgame stage, adding extra layers to Go.

Linear Go, or Alak

This is pseudo-Go played on a line. A. K. Dewdney proposed this idea in his book *The Planiverse*, which is a science fiction book about a two-dimensional universe. In 2001 Alan Baljeu perfected the game. Black and White alternate in placing stones on a line of *n* cells. If placing a stone thereby removes all the Go liberties of any group of stones of the opposite color, those stones are immediately removed. However, it is legitimate (and usually very beneficial!) to play a move that leaves a group of your own stones without liberties, whereupon they stay on the board. It is illegal to place a stone where one was removed immediately before. Placing a stone is compulsory when legal, and the game ends when the player having the move cannot legally place a stone. The winner is the player with the most stones on the board at the end of the game.

Since Alak is one dimensional, an entire game can be represented with a sequence of lines. Here is a sample game:



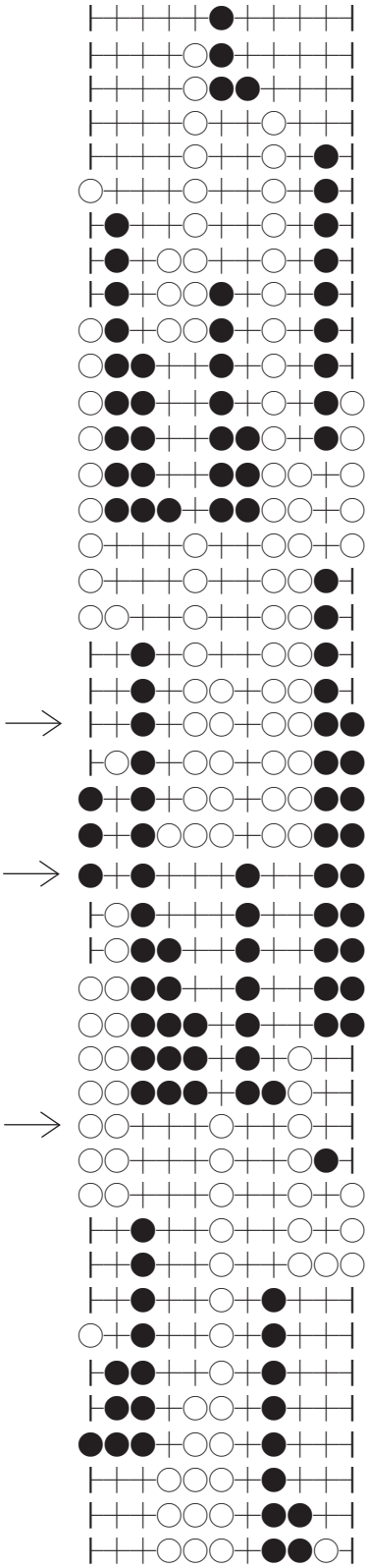
Black resigns, since after any black stone drop, White protects his related group by dropping on the other empty cell. Therefore,

White wins 6-5.

It seems as if it is a bad move to play on the fourth point from the edge of an empty end, as the opponent can hop under it:

It is bad now for Black to play on either of the rightmost points for the same reason that White won the sample game.

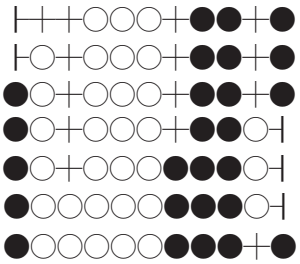
Here is a long game ending in a tie.



Black has obtained a good position on the right end.

White forces Black to abandon the strong right position.

Similarly, White loses his "safe" end.

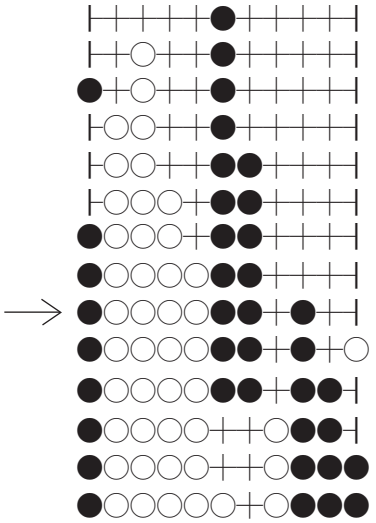


As well as a game ending in a tie, it is theoretically possible to have a draw by endless repetition on boards of length seven or more. We have never seen this happen, however.

In endgames, if you have half or more of the cells occupied from one end, and safe, you should win. Here is an example:

There is almost no way Black can force White to take him off, except as the last move, so White is bound to win here, whatever else is to the left.

Here is another sample game:



Black plays a nice trap.

Black wins by capturing all the white stones!

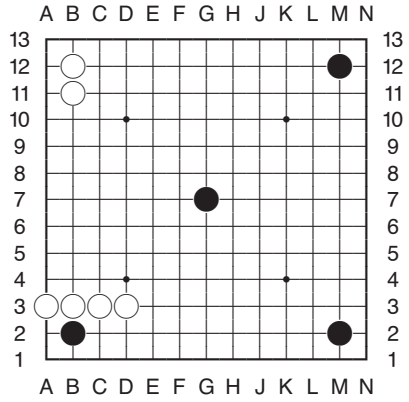
As a final note, naturally one might play this game on any length board. There is a tendency to think that for sufficiently long boards it would always be drawn by endless repetition, as it is so easy to remove pieces. However this seems not to be the case, and indeed we think we may be able to prove a theorem that either player may force the game to end if he chooses. Naturally this would not prove that optimal play would always result in a terminated game, but it *is* highly suggestive.

Progressive *Atari* Go

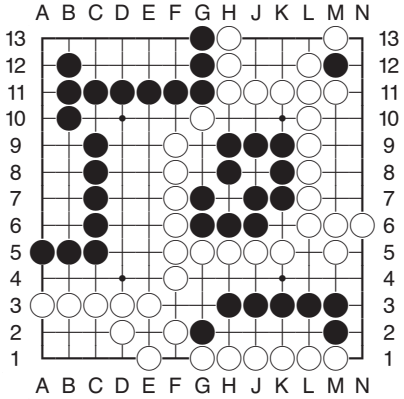
This game is Go with the progressive 1234... game mutator. This means that on the 1st move Black plays one stone; on the 2nd move White plays two stones; on the third move Black plays three stones; and so on. Passing is still permissible.

To improve the game, an extra rule is added: "When an *atari* occurs, the sequence stops." These simple additional rules create a very nice game full of new threats and tactics. Here is an example position after move 4.A3 B3 C3 D3:

Note: The games in this article are scored with Chinese rules. In other words, a player's point count is the total of territory plus stones on the board at the end. Captured pieces are ignored.

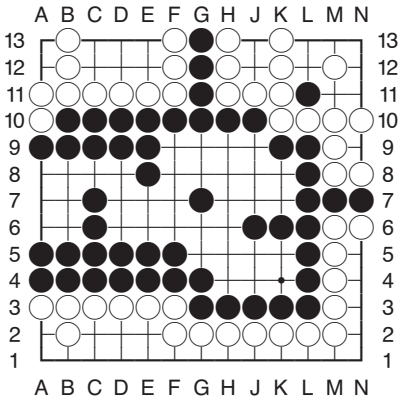


Another position is presented below. At turn 11, Black wasted a huge number of moves to make a small group (despite the fact that it was inside White's territory). A careful turn 12 for White settled the game for a White win.



1.M12, 2.B3 C3, 3.B11 C11 L3, 4.D3 L11 M11 L12, 5.H3 J3 K3 D11 E11, 6.L7 L8 L9 L10 M6 N6, 7.G2 M3 C7 B12 G12 G13 F11, 8.D2 L6 K11 H11 J11 H12 H13 M13, 9.A5 B5 C5 C6 C8 C9 B10 G11 M2, 10.F5 F6 F7 F8 F9 G10 G5 H5 J5 K5, 11.G7 G6 H6 J6 J7 K7 H8 K8 H9 J9 K9, 12.A3 E3 F2 F4 E1 G1 H1 J1 K1 L1 M1 M5.

A complete game sample follows. Black starts with a handicap stone at G7.



1.G7 L11, 2.C3 C11, 3.C5 C7 C9, 4.D3 E3 D11 E11, 5.G3 G4 G10 G11 E5, 6.F2 G2 H2 J2 K2 L2, 7.H3 J3 K3 L3 D5 F5 E9, 8.A3 B3 B2 M2 M3 M4 M5 M6, 9.L4 L5 L6 L7 M7 N7 B5 G12 G13, 10.F3 N6 K10 L10 M10 N10 K11 K12 K13 M12, 11.A5 B9 D9 K9 L9 E10 F10 H10 J10 K6 L8, 12.A10 B11 B12 B13 H12 H13 J11 M9 N8 F11 F12 F13, 13.C6 E8 J6 B10 C10 D10 A4 B4 C4 D4 E4 F4 A9, 14.M8 A11 H11.

White wins 85-84. Notice that on move 13, J6 is necessary, for otherwise White would be able to create a group with two eyes inside Black's area. It is this extra move that reduces Black's count by one and allows White to win! It is surprising how often the game result is very close, in spite of the large numbers of placements in the final stages.

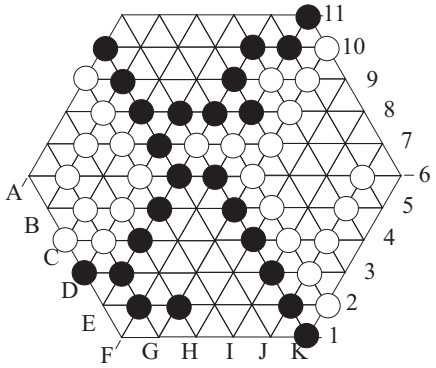
Although we have not tested them, many variations are possible:

/ Different progressive sequences, such as 1222..., 1357..., etc.

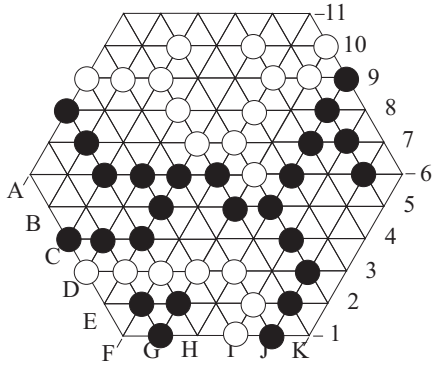
/ The restriction that none of the stones of the same series may be dropped to join the same connected group (including each other).

Progressive HexGo

HexGo, while mathematically appealing, tends not to make an interesting game, because of the lack of cuts and cross-cuts, and because move sequences tend to be more like that of Hex than Go. However, the progressive transformer turns this into quite a playable game. It could also be played "*atari*" style (see above), but this seems less compelling than at square progressive Go, perhaps because it takes more moves to surround and capture groups in a short move series. Here are two sample games.



1.F10 2.F9 G9, 3.E10 E9 F8, 4. G8 G7 E7 F7, 5.D8 E8 D7 E6 F6, 6.G6 H5 I4 J3 K2 G10, 7.F11 C6 G5 H4 I3 J2 K1, 8.B8 C7 D6 D5 D4 J6 J5 J4, 9.A10 B9 C8 D3 E5 E4 E3 F2 G2, 10.C4 A9 C5 B6 B7. Black wins 48-43

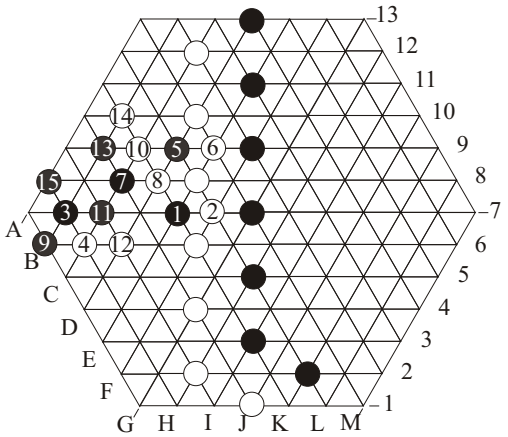


1. F6, 2.C9 F9, 3.C6 D6 E6, 4.D8 E7 F7 G6, 5.A8 B7 G5 H5 H6, 6.A9 B9 F3 G3 H3, F8, 7.H9 H8 H7 J3 J2 J1 I4, 8.D3 E3 I2 I1 C10 E10 G10 G9, 9.C4 D4 E4 E5 I7 J6 F2 G2 G1!, 10.Resigns. Black's cunning placement in move 9 had been quite overlooked by white!

HexGonnect

Another way to play Go on a hexagonal board is to use the Gonnect rules, making HexGonnect. Here is a position where Black is able to create a safe structure under White's area of influence.

"I do not live to play, but I play in order that I may live, and return with greater zest to the labors of life." – Plato



White's move 14 has three purposes: keep the initiative, squash Black's group, and kill D9. Black's move 15 is the winning move. It was very tempting to move C5 first, but that would have been disastrous as Black cannot make another eye down there even with the move. White's A8 reply would have killed off the invasion.

In the real game White also attempted an invasion of Black's territory on the right, but unsuccessfully. It is much harder to invade and make life in HexGo, because of the difficulty of surrounding single points for eyes, and the lack of cuts to gain traction. Black was very lucky to succeed on the left!

Dagger Go

This is a variant of handicap Go described by Henry Segerman. Black has a stronger handicap option in that he may play his handicap stones later in the game rather than at the start. It has been generally agreed in the past that such "daggers" are far too powerful—worth far more than two regular handicap stones due to their ability to kill otherwise perfectly sound groups.

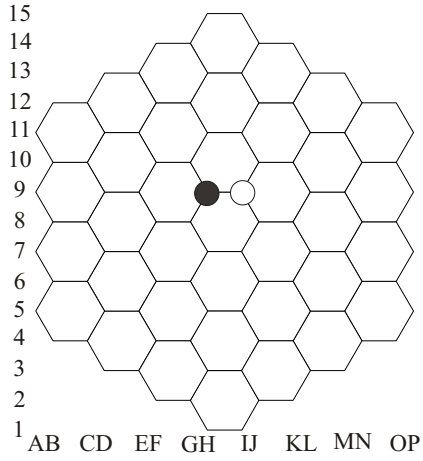
A more reasonable handicap, worth perhaps closer to two standard handicap stones, and making a more natural game, might perhaps be called "blunt daggers". These are extra free moves, playable any time *except* that the two stones played simultaneously must not orthogonally touch *any other stone* on the board, including each other. This means regular live groups are usually still alive, so the handicapped player does not need to be watching his back all the time! We have not played Blunt Dagger Go, but suspect it would be a very playable game.

Simultaneous Capture Go

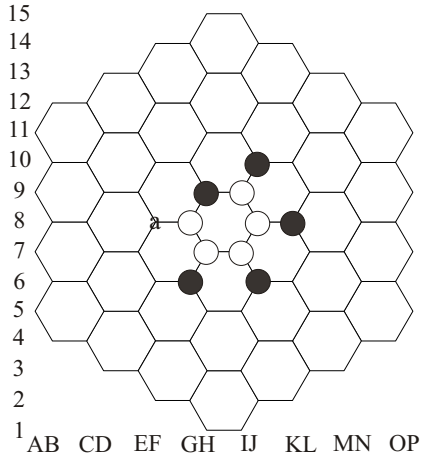
This is a very interesting "serious" Go variant. If a stone is placed making a capture, but in doing so its own group's liberties are thus removed, then *all* groups without liberties, of either color, are removed simultaneously. This makes for a very playable game, rather similar to regular Go for the most part, but intriguingly different. There are no normal *ko*'s, for example, but similar repetitive situations can arise. It is also a very "natural" variant—maybe even more natural than the original!

Rosette

If we use a tessellation of hexagons and play Go on the intersections, we get a three-liberty Go game. This game tends to be much less strategic and more tactical. The number of liberties of each piece is less, so an attack on any individual piece or small group is more urgent. Three moves are enough to capture one isolated piece. A stone in *atari* cannot escape that easily, since making an extension provides that piece with only one extra liberty, not two as in Go, so the opponent can maintain the threat. *Atari* races are very common. Indeed, it is possible for either player to ladder the other whenever two stones are in contact, and in a moderately-sized space this acts as its own ladder breaker! Go played in this way is a very unstable game.

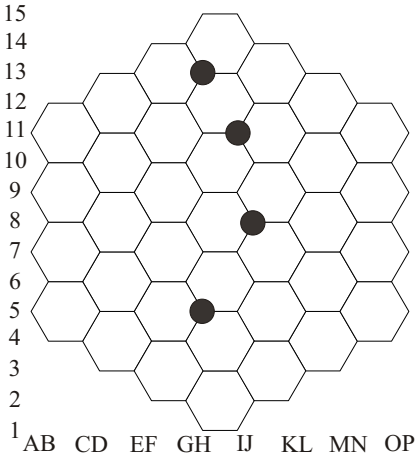


After 1.H9 I9 Black can capture the white stone!



A black stone at 'a' wins this circular capturing race! Perhaps "ladders" should be called "spiral staircases" in this game!

Because of this, it seems that in general stones can be further apart than at regular Go, yet still effectively connected. For example:

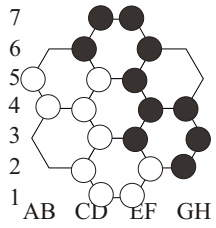


As long as there are no enemy stones in the immediate vicinity, each pair of neighboring black stones is unbreakably linked. From this one can see it might be a very fast-moving game, but also

highly tactical, as the exact placement of an enemy stone could be vital in maintaining these connections.

A game called Rosette, invented by Mark Berger in 1975, is based on this concept, but with an attempt to reduce the excessively unstable nature of the game. He defined a *rosette* to be a ring of six stones of the same color surrounding a hexagon. A rosette is deemed to have two eyes implicitly. This dilutes the excessively tactical character of three-liberty Go. Another game based on this concept is Freeling's Medusa, in which it is also possible to move stones.

Since Rosette is still a tactical game, boards should not be too big, or interest might be difficult to keep in the early stages. As rosettes to some extent counteract the tactical nature of pure three-liberty Go, however, maybe it is not so vital to play on small boards. Here is an example endgame on a small board:

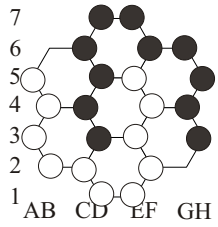


1.E3 C4, 2.E5 D5, 3.E7 D3, 4.C6 F2, 5.F4 B4, 6.H3 C2, 7.G4 D1, 8.G2 E1, 9.F6 A5, 10.D7.

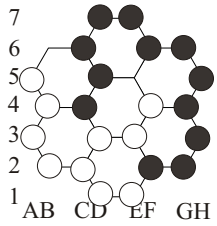
This position is a bit tricky for White. B6 would be a loss, as would G6 or H5, too. White should play 10....A3, with the assurance that Black has the same problem, meaning that Black must reply 11.G6, then 11....B2, 12.H5 B6 and the game is a tie: 12-12!

This feature may be named "Race to Rosette." As the rosette nullifies a *seki*, it becomes important to make one before the opponent—at least in these small games.

Here is a true *seki*. Both players have played 11 stones. Neither dares to move:



This is *not* a *seki*, though superficially like one:



(A White stone was captured). Black will win whoever has the move—White cannot play at either empty point, but Black can play at E5. Black has won the "Race to Rosette."

Conclusion

These seven games show some different playable approaches to the game of Go. Chess, Checkers, and Mancala became extended families of games as a result of centuries of conscious innovation or as a result of accumulated errors in communicating the rules as the games spread.

In fact, little has changed. Nowadays, information can still be miscommunicated, and players will still try to improve existing games. This process of game evolution will continue to enlarge the Chess, Checkers, and Mancala families, and perhaps the small Go family will yet prove to be prolific. ■

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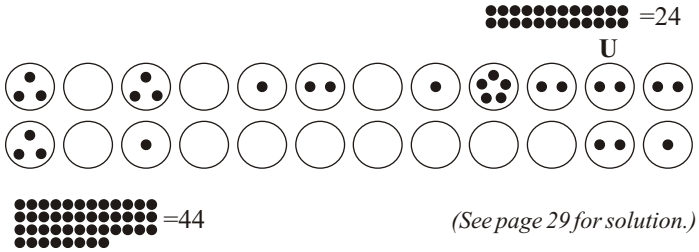
Variations on Go: http://www.di.fc.ul.pt/~jpn/gv/gv.htm.
Medusa: http://www.mindsports.net/Arena/CompleteGames/Territory/Medusa.html.

(Layli Goobalay continued from page 9.)

Endgame Problem



(See page 29 for solution.)

North has captured fewer balls, but has recently made an *Uur* and has the better endgame position. What is the best move if South is to move. What is the best move if North is to move? ■

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Marin G. *Somali Games*. In: *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*. Vol. 61: pp. 499-511, 1931.

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A footnote was omitted from Ralf Gering's Vai lung thlân article in AG12*: lung = stone; thlân = grave; "vai" may mean "foreign" or may be short for "vai phei," the name of the old Kuki clan. – Ed.*

The Grand Chess Corner

by John Vehre

Several weeks ago after finishing play in the 2001 Grand Chess Cyber World Championship, Christian Freeling wrote an e-mail to me, indicating that "The Grand Chess Corner" in *Abstract Games* was now vacant. He wondered if taking over the column was something that I might be interested in doing. I have to admit to a little trepidation about this since although I have had several years experience with a Correspondence Chess column for the Correspondence Chess League of America (CCLA), it has been a long time since I have written anything on Chess, and I definitely felt rusty. However, I am one of those people who really finds it hard to say "No," and after mulling things over a bit decided to accept the challenge a Grand Chess column would offer.

Writing a column devoted to Grand Chess really is a challenge. Unlike Orthochess you do not have precedent to fall back on and cannot cite endless example games, either in the openings or later in the game. Nor is there Grandmaster writing on the basic principles of play. So be warned: all opinions, good or bad, are those of the author, who is anything but a Grandmaster, and definitely should be taken with a grain of salt.

For my part, I first became acquainted with this Chess variant in the mid 1980's during one of my periods of disillusionment with Orthochess. One of my Correspondence Chess opponents recommended that I might want to look into the Knights of the Square Table (NOST) organization for other Chess-related strategy games. I took his advice and, remembering being intrigued by the description of Capablanca's Chess in Edward Lasker's *Chess Secrets I Learned from the Masters*, decided to see if I could find anybody interested in playing this game. While nobody played the Capablanca variant at that time, apparently there was a fellow who did play something called Grand Chess, which was very similar. I decided to give it a try and that game with Wayne Schmittberger was my introduction to Grand Chess. This loss turned out to be rather famous, finding its way into a number of different publications, including most recently Pritchard's *Encyclopedia of Chess Variants*.

I eventually overcame my disillusionment with Orthochess and would not return to Grand Chess for 15 years, but in the interest of not making this overly long, that will be a subject for a later column!

As for where this column is going, the basic style will probably be very similar to what I did for the CCLA. This will include an introductory prose piece with an annotated game. Of course, I welcome reader input and games. Readers are encouraged to contact me at my email address: jvehre@who.rr.com or my snail mail: address of 6565 Heller Rd., Greenville, OH 45331, USA.

Pawns, the Soul of Grandchess?

I guess there is no better place to start a discussion on the strategy of Grand Chess than with the lowly pawn. The Great Eighteenth Century Chess Champion Andre Danican Philidor is often quoted as saying that the Pawn is the soul of Chess. There is no question that he often overstated his case, making the pieces subservient to the Pawns both in his writing and his actual play. He even had such notions as Ng1f3 actually being a weak move in double King Pawn openings since it blocks the advance of the *f*-Pawn. Still, despite these quaint notions Philidor did lead the way to the development of positional play in Chess. Nowadays, very few players would disagree that the understanding of good Pawn play is important in Chess strategy, and many books have been devoted to this subject.

Grand Chess is a different game, but Pawn play may be even more critical in it than regular Chess. If one considers the basic rules and setup of Grand Chess, the first obvious difference between it and Chess is the fact that a Pawn has to make one less move to promote. True, it can only promote to what has already been captured, but there is a good chance that something big will have been exchanged by the time a Pawn reaches the 8th rank.

The basic rules also allow you to promote your Pawns on the 8th, 9th or 10th ranks at your discretion. One obvious consequence of this is that a passed Pawn is a much more dangerous weapon. Just consider any basic King and Pawn vs. lone King ending. Because you can promote on the 8th rank, there is no stalemate defense for the weaker side, and unless that side can actually capture the Pawn the defender will lose all those types of endings, even fighting against the *j*- and *a*-Pawns! Rook and Pawn endings are also affected by this rule, to the point where you probably in most cases want to have your Rook in front of the passed Pawn rather than behind it as old Siegbert Tarrasch recommended in his writing!

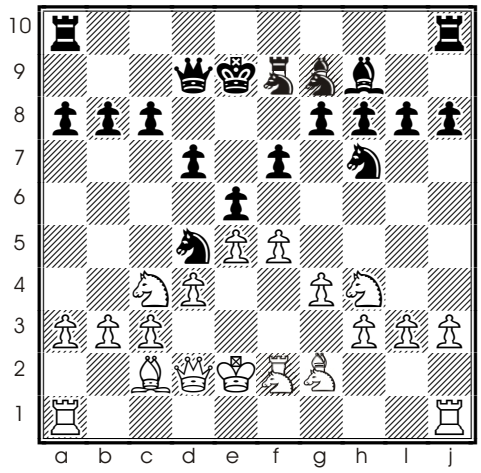
The following game that was played in the finals of the 2001 Cyber Grand Chess World Championship shows the Pawns playing a decisive roll in the battle. Wayne Schmittberger first uses his Pawns to make a breakthrough on his opponent's left flank. This attack includes two under-promotions that although not decisive do end up drawing most of Black's forces to that sector of the board. Unfortunately for Black this leaves his King exposed and denuded of defenders. Wayne deftly takes advantage of this with a very nice Knight sacrifice to wrap up the game.

Wayne Schmittberger probably is well known to readers of this magazine, and has contributed articles dealing with Shogi variants. He is a specialist in big-board variants, and has twice won the Cyber Grand Chess World Championship tournament sponsored by the Dutch Internet website Mindsports. Nick Antonas hails from eastern Tennessee, and is a high Class A/low expert rated player in over-the-board Chess.

White: R.Wayne Schmittberger
Black: Nick Antonas

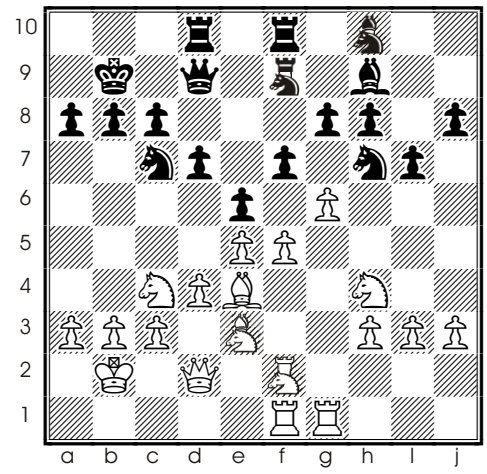
1.e5 e6, 2.Nc4 Nc7, 3.d4 Nh7, 4.Nh4 d7, 5.g4 f7 *(This is a rather passive move, and on general principles it is a good idea in Grand Chess to keep open diagonals for your Bishops. Because the minor pieces are rather far from the center in comparison with Chess, it often takes them a couple of moves to fully develop. Making it even tougher by blocking them in with your won Pawns is not the way to go. Better is 5....g7, copying White's play. The safest way then would be for White to play 6.Bd3 Bd8, 7.Kd1 Kd10, 8.Kc2 Kc9, and only now 9.f5. Playing 6.f5 directly can be a little awkward as Black can get a pretty active position with 6....exf5, 7.gxf5 [7.Bf5 may be slightly better.] 7....Bg5, 8.Bf4 Bxf4, 9.Cxf4*

Nd5, 10.Cg2 Cg7. Black's Cardinal threatens to further harass White's Queen while taking up a nice position along the c1-j8 diagonal.) **6.f5 Bg5** *(Black plays this idea anyway, but since the Cardinal cannot come out with tempo later on, it does not make as much sense, and ultimately Black's pieces are driven back with further loss of time. 6....i7 seems more in harmony with how he has set up his Pawn chain. If nothing else, 6....i7 would make White think about how he would want to react to a subsequent Black capture on f5.)* **7.Bf4 Bxf4, 8.Cxf4 Nd5, 9.Cg2** *(diagram).*



Position after 9.Cg2

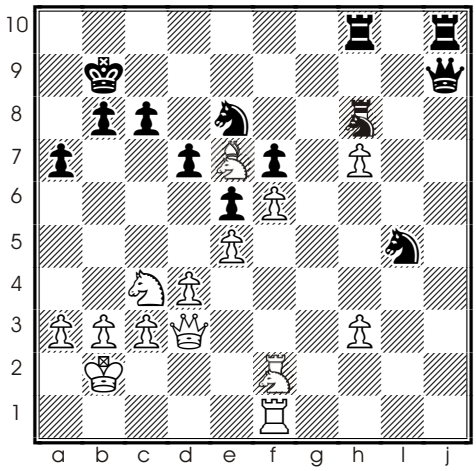
9....Cf8 *(I don't like this Cardinal move, and it does nothing to upset the trend of play, which is gradually going against Black. More adventurous souls might consider 9....Md8, 10.Be4 Mb7, 11.Bxd5 exd5, 12.Cxd5 Mxb3, 13.Qc2 Mb7, although 14.Rjb1 throws cold water on the idea. Less promising is the trade 14.Cxb7 axb7, which although it gives White a nominal material advantage of Marshall against Cardinal, leaves Black with some unnecessary trumps. The half-open* a*-file and the advantage of a Bishop vs. Knight, which is almost a material advantage in Grand Chess, give Black good chances. Since Black has put so much effort into his Knight outpost on d5, another adventuresome move worth considering is 9....Ce8 in order to support this Knight. Black can hold onto d5 since if 10.Be4 Cc7, 11.Bxd5, he can reply 11....exd5, when 12.Ne3 can be met by 12....Cb5+ followed by c6. Black can even play 11....Cxd5, 12.Cxd5 exd5, 13.Ne3 c6, 14.c4 Qb7 and has decent counter play in return for his Pawn weaknesses. Hanging in the air now is the threat of Ng5e4, which is not a pleasant prospect for White. White may not want to capture the Knight, although 10.Nd6 f6 can be messy in its own way. Probably best is simply 10.f6, gaining space. The Black gamble 10....Nhxf6, 11.exf6 Cg3+, 12.Kd3 c6 is now interesting, but Black really is not well developed enough to take advantage of White's temporarily disorganized position. From a material perspective, the imbalance of being down a Marshall and a Pawn for a Cardinal and a Knight is not necessarily a decisive disadvantage, maybe the equivalent to being down a Pawn. Black also might be able to erect a mass of Pawns in the center, which also could promise a bit of compensation for the material disparity.)* **10.Be4 Nc7** *(Black really does not have many alternatives to this meek retreat. 10....c6 maintains the Knight outpost temporarily, but White would have the advantage after 11.Nd6, followed by c4, driving off the Knight, and with a later d5 Black's stonewall Pawn chain would come under pressure.)* **11.Kd1 Kd10, 12.Kc2 Kc9, 13.Kb2 Kb9, 14.Ce3 i7 15.Raf1 Rad10?** *(Both sides are nearly done with their respective mobilizations. White has a space advantage, but Black still has a pretty solid position. However, with this and the next several moves Black starts to drift and is obviously at a loss for a plan. This Rook move is a bit too mysterious for me, and I do not really see the point. More logical seems 15....Rae10 or perhaps more accurately 15....exf5, and only later Rae10, depending on how White recaptures. Against the most natural recapture 16.gxf5 a Black 16....e6 promises adequate counter play. 16.Bxf5 looks better, contemplating g5 and g6, and should guarantee White a better position.)* **16.g5 Rjf10, 17.Rjg1 Ch10, 18.g6** *(diagram).*



Position after 18.g6

18....Ng9 *(Black is definitely hunkering down and perhaps hoped to be able to counterpunch later if White overextends himself. 18....fxg6 leads to interesting complications that look favorable for White. For instance, the variation with the cross capture 19.fxe6 Mxf2, 20.Rxf2 Rxf2, 21.Qxf2 g5 allows White to introduce a dangerous Knight sacrifice: 22.exd7 gxh4, 23.dxc8(B)+ Qxc8, 24.Qxh4. With the threats of Bf5 and Nb6 hanging in the air, White has a strong initiative and two Pawns for the sacrificed piece. This no doubt is more than enough compensation for the slight material deficit. If White doesn't trust this line, the simple 19.fxg6 Mxf2, 20.Rxf2 Rxf2, 21.Qxf2 Ng9, 22.Ni6 also looks promising.)* **19.f6 Bj7, 20.j5 a7** *(Black must still be waiting on events? I have to admit playing like this takes more patience and nerve than I have! White in the meantime is using the time given to him to build up a powerful Pawn steamroller on his right flank.)* **21.i5 Ka9, 22.i6 Bi8, 23.j6 Kb9, 24.j7 Bj9, 25.g7** *(Nick's play during this part of the game reminds me of the movie "Raging Bull." The fighter portrayed in that movie had to have the living daylights beaten out of him before he was able to motivate himself to put in his best performance during a bout. Wayne puts in an upper right cross to the jaw with this Pawn thrust!)* **25....Ni10, 26.Nj5** *(White is prepared to make a sacrifice on i7 to complete his breakthrough. This is not a particularly difficult idea to find, although the various complications that are the consequence of this combination are quite intricate and are what makes this game especially noteworthy.)* **26.…Ne8, 27.gxh8(B) Nxh8, 28.Nxi7 Bi10!** *(Black is making a virtue of necessity, and this could actually turn out to be a clever defense if it is followed up correctly. Taking the Knight, on the other hand, is quite bad since after 28....jxi7, 29.h5 White will be able to secure his powerful Pawn chain. There is then no hurry to capture the i7Pawn as this Pawn is dead meat anyway and will not be running away. The two protected passed connected Pawns that will appear after the i7 Pawn disappears will be tough to stop. Once White captures something big and moves both of his*

passers to the 7th rank, it will mean a big material advantage for him. Less accurate is the tempting 29.Cxi7 Nxi6, 30.Cxg8, hoping to get a big piece in hand right away for promotion. Unfortunately, 30....Cj8 muddies the waters somewhat, but 31.Cxi6 Cxi6 [worse is 31....Cxd2, 32.Mxd2 when the h Pawn costs big material] 32.j8(C) leads to a position where White will be a clear Pawn up anyway and should likely win in the long run, although the technique required to bring home the point will need to be of a higher order.) **29.Nxg8!?** *(The Knight insists on committing hara-kiri, and this time the right of seppuku cannot be denied! However, as exciting as the second Knight sacrifice is, its outcome would not be entirely clear if Black had defended better, and 29.h5 might have been a better way to continue.)* **29....Bxg8, 30.Rxg8 Cxg8, 31.Bh7 Cxh7, 32.ixh7 Nxj7, 33.Cxj8 Rj10?!** *(White's combination has been completed, and he has a Cardinal and two doubled passed Pawns, one on the 7th ready to Queen, for a Rook and a Knight. This in a material sense is rough parity, although perhaps more important is the piece placement which still favors White. Black has not had much luck with his Rook moves in this game, and this one is rather lame, driving the Cardinal to where it wants to go anyway. He really needs to keep a better eye on that passer, and playing a Rook to h10 immediately looks better. Now White has to consider what he will need to do about such moves as Ni9 or Ng9, which simply threaten to remove the mighty mite at f7. With ordinary play the Pawn looks doomed: e.g., 34.Ri1 Ni9, 35.Ri7 Rh8, 36.Ci6 Rdh10, and Black can pile up more attackers on h7 than White can bring to defend it. 34.Ci6 looks better, to meet 34....Ni9 with 35.h8(R), which would lead to a Pawn-up position for White. Black can instead blockade with 34....Nh8, when White could consider the sacrifice 35.h5 Nxi6, 36.hxi6 Mg9, 37.Ri1, and his passed Pawns should at least win a Rook back. Black does not have to take the Cardinal, and 35....Ri10 is an alternative, although 36.Qh6 introduces tactical ideas like Cg7 into the picture. Still, the whole thing looks messy after 36....Rdg10, and it probably is anybody's game. One final variation for White worth considering is giving the Pawn up to activate the Cardinal: 34.Ci7 Rxh7, 35.Cg8 Mh8, 36.Ce7 puts the piece on a nice perch in the heart of Black's position, but this maneuver has taken time, the black pieces now look well placed on Black's left flank, and I do not think Black stands any worse. After 36....Qh9 the position may even favor Black!)* **34.Ci7 Rdh10, 35.Cg8 Mh8, 36.Qd3 Ni5, 37.Ce7 Qj9?** *(diagram).*



Position after 37....Qj9?

(No doubt Nick thought the front h*-Pawn was going to fall with his method of play, and he would have as a bonus control of the open* j*-file. Unfortunately for him, he failed to notice how lonely his King was becoming! Admittedly, White's next move is hard to spot and hindsight, which is always 20/20, would suggest that 37....Qd10 would have been a more testing defense. Now this is a good place to take a quiz and don't cheat and look ahead! Can you guess White's next move?)* **38.Nb6!** *(This nice shot is the beginning of the end for Black. His position is hit with so many telling blows that even the "Raging Bull" could not find a way to fight back!)* **38....Nd10** *(Black is mated after 38....axb6, 39.Cd8+ [the reason for suggesting 37....Qd10 in the last note.] 39....Ka10, 40.Qa6+ Qa9, 41.Qxc8+.)* **39.Rg1 Ng6** *(The Rook was threatening to invade at both e8 and e9 with deadly effect. Black tries to throw a body in the way, with what looks like a win of time. White, however, has another surprise up his sleeve!)* **40.Rxg6! fxg6, 41.f7 Qxh7** *(Equally hopeless is 41....axb6, 42.f8(R) Mxf8, 43.Mxf8 Qj1, 44.Cd8+, mating.)* **42.f8(B) Qxh3, 43.Qe4 b7, 44.Nxc8 Black Resigns.** *(To quote the Borg, "Resistance is futile." Life is rather short after 44....Ka8, 45.Cb10+ Kb8, 46.Bd6+ Kb9, 47.Qb7+ Kc10 ,48.Ne9 mate.)* ■

So begins our new series of Grand Chess columns. In addition to his being the winner of the 2001 Grand Chess World Championship, John has an impressive record in the conventional game, especially in Correspondence Chess. For about six months in 1984, John was the highest rated APCT (American Postal Chess Tournaments) player, and since 1995 he has been a CCLA (Correspondence Chess League of America) Senior Master.

John even met his wife Beth while giving Chess lessons. Her two godchildren, around 7 and 9 at the time in 1996, had been beating her, and she wanted revenge! (She did win 2 out of 3 the next time she visited them in Portland Oregon!) John and Beth have a son Alex, almost 3.

By profession, John is a librarian. He is currently Director of the Greenville Public Library in Greenville Ohio, USA.

Very many thanks to Tony Gardner for carrying the Grand Chess column splendidly for 10 issues. Here is Tony one last time below to wrap up the problem-solving competition. – Ed.

Grand Chess Problem Solving Contest

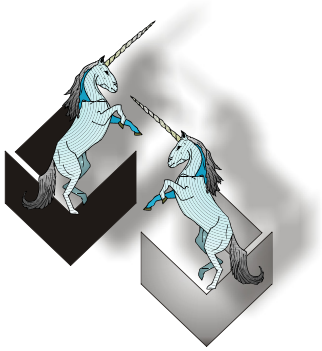
Andrew B. Perkis has scored 40 points, and wins first place in the Grand Chess Problem Solving Contest. Hats off to Andrew, who will receive four complimentary issues of *Abstract Games*. Vincent Everaert, Jorge Gomez Arrausi, and Fred Kok tied behind him with 25 points each, and will share the combined second- and third-place prizes (one complimentary issue of *AG* each). Thanks to all who participated in the event.

Solutions

Problem 11: 1.a8=M Bb2, 2.Kxb2 Kf6, 3.Mxg8 Ke5, 4.Qxe7 Kd5, 5.Md8.
If 4....Ke, 5.Qe4.

Problem 12: Andrew demonstrated that this problem is a mate in 7, rather than 8, as previously given, so I had to modify analyses in two lines (the first and last).
1.Me7 Kc5, 2.Rc1 Kb6, 3.Rb1 Ka6, 4.Mc7 Ka5, 5.Mc5 Mb5, 6.Rxb5
If 3....Kc5, 4.Mc7 Mc6, 5.Mb5. If 3....Mb5, 4.Md5 Kc6, 5.Rxb5 c7, 6.Me5 Kd6, 7.Rd5. If 4....Ka5, 5.Rxb5 Ka4, 6.Mb6 Ka3, 7.Ra5. If 5....Ka6, 6.Mb4 Ka7, 7.Ra5. If 2....Mc4, 3.Rxc4 Kd6, 4.Mc7 Ke5, 5.Mc6 and 6.Rc5. If 3....Kb5/6, 4.Mc7 Ka5, 5.Mb9, 6.Rc1, and 7.Ra1.

– Tony Gardner



The History of 3D Chess
Part Four: Star Trek 3D Chess
The Kobayashi Maru Variant

by L. Lynn Smith

On September 22, 1966 the Star Trek episode "Where No Man Has Gone Before" was first aired. It contained a scene with Spock and Captain Kirk playing a strange-looking Chess game on different levels. Those staggered levels and attack platforms have been fuel to the imaginations of many 3D Chess developers ever since. It has also been one of the primary forces in increasing the interest in 3D Chess. When "3D Chess" is mentioned to the average person, he or she will probably think automatically of this Star Trek prop.

In 1976 I received the *Star Fleet Technical Manual* as a graduation present and was thrilled to see this playing field featured near the back. But its two pages of intricate diagrams and minute description left me without enough game rules to fully appreciate this playing field. So, for years, I attempted to devise some sort of playable game. Several other 3D Chess developers did their best to extrapolate on the rules given in this early publication, but I must confess, I was always left with a sense of unfulfilled potential. This just made me more determined to develop a set of rules myself.

The original rules were really extremely vague. I will recap them here for the reader:

"Each piece moves exactly the same as in conventional chess except that such moves have tridimensional freedom to the extent of available consecutive squares.

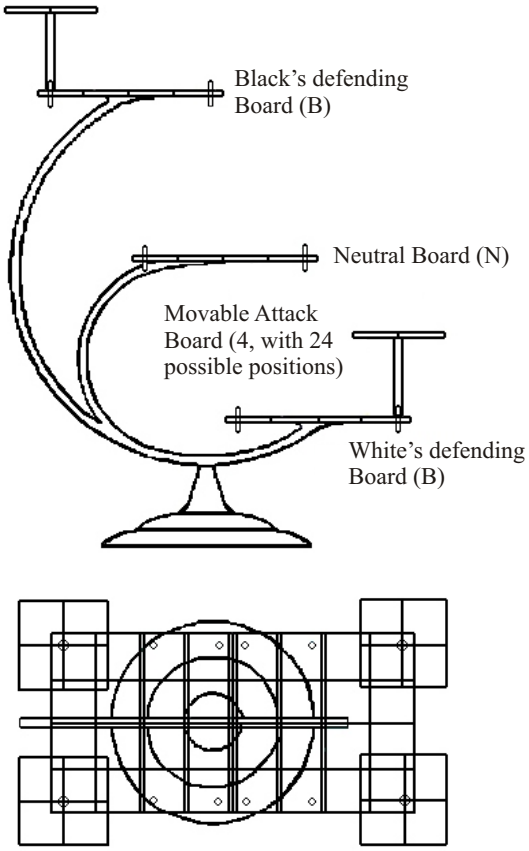
"16 of the 24 squares are movable in 4 groups of 4 squares each. They may be moved to one adjacent pin position at a time provided they are either vacant or occupied by only one of the player's pawns and such action constitutes a move in regular turn. An occupied attack board cannot be moved to an invert pin position."

From this sparse fare, developers have forged their rules.

The playing field consists of three 4x4 boards called *Fixed Levels* arranged in a staggered pattern, so that the first rank of each higher level is above the third rank of the level below. They are commonly referred as White for the lower, Neutral for the central and Black for the upper.

In addition, there are four 2x2 boards called *Attack Platforms* which can be placed above or suspended below the four corners of each Fixed Level. This allows one cell of the Attack Platform to be oriented orthogonally above or below one cell of the connecting Fixed Level. In the *Star Fleet Technical Manual*, the Attack Platforms are shown in the up positions on the first rank of the White Fixed Level and the fourth rank of the Black Fixed Level. The Black pieces are arranged on the Black Fixed Level and Black Attack Platforms to mirror those of White.

I do not think it is necessary to describe the exact initial setup of the pieces in the original rules, as they differ from the arrangement in the Kobayashi Maru variant. Interested readers may refer to the *Star Fleet Technical Manual.*

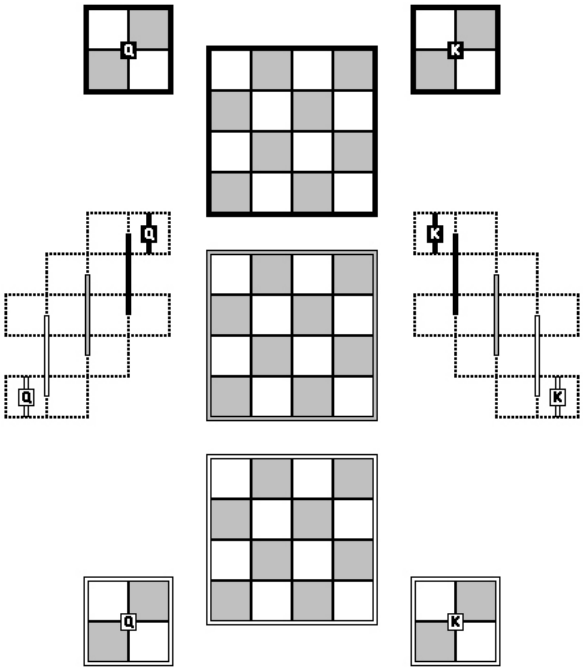


Side view and overhead view of ST3D Chess Board

There have been several attempts to establish coherent sets of rules on this basis. The most widely published are those developed by Andrew Bartmess. It is a good game about which, hopefully, I will be able to devote a future article. Because one of the few commercially-offered playing fields did not have inverted pin positions for the attack boards, there were other variant rules created which took into account this restriction. Let us face facts: fans were determined to play!

One of the main stumbling blocks was the availability of a proper playing field. I made one out of cardboard, which lasted a few years. I made another from plexiglass and aluminum tubing. Franklin Mint manufactured a set, which you can still find on eBay for upwards of US$150. If you do not want to make or buy a set, you can play the game by computer. I wrote a Zillions implementation of the game, which I think plays very well.

In fact, I have been constructing graphics for use in a future program since the personal computer became available. The difficulty was representing a 3D space in a 2D medium. After almost a decade of doodling, I arrived at the following:



2D Representation of ST3D Chess Board

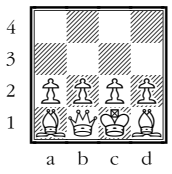
The patterns to the sides show possible positions of the Attack Platforms. Note that this arrangement shows a starting position in which White's Attack Platforms are down and Black's are up. (This is a little different from the previous diagram, which shows all Attack Platforms in the up position.) I noticed that the Attack Platform points created an interesting pattern when viewed in this way, and I began to visualize a new set of rules. I could easily see the orthogonal and diagonal slides within this pattern. Having experience with solving the Knight's Tour puzzle, I could now apply the movement of the Knight to this pattern. I arrived at the concept of allowing the power pieces to command the Attack Platforms, although this would seriously deviate from the original rules. Well, the point of a variant is to create a new form of play.

Without further ado, I will present here the rules to the Kobayashi Maru Variant of Star Trek 3D Chess. First, let me explain the title of my variant. I arrived at the name "Kobayashi Maru" for several reasons. It originated in the Star Trek movie "The Wrath of Khan" and denoted the no-win battle simulation that every officer had to experience at the Star Fleet Academy. I believe that the name was originally a homage to a Japanese film director. This phrase was subsequently picked up by programmers and used to denote a clever fix or cheat: "How did you get our computers back up?" "I *kobayashi maru'd* it." So, I chose this for the title of my variant, both for its implication of the 'no-win scenario,' and because this variant represented both a clever fix *and* cheat on the original rules.

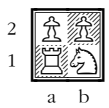
Setup

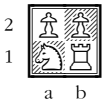
The most basic change from the original rules was to place White's Attack Platforms in the down positions initially. This was to balance the playing field. The starting positions of the pieces are also different from the original rules for this same reason.

From the perspective of the first rank of the White Fixed Level, the White pieces are arranged thus:



The Left and Right Attack Platforms are occupied, respectively:





The Black pieces are arranged on the Black Fixed Level and Black Attack Platforms to mirror White.

Because the Attack Platforms are to be commanded by the power pieces, having them balanced would greatly improve the opening game.

Notation

To explain the rules fully, it will be necessary to establish some form of notation for position in this playing field. The Fixed Levels will maintain their standard reference of White, Neutral and Black. The Attack Platforms will be referred to by their starting positions: White King's Attack(WKA), White Queen's Attack (WQA), Black King's Attack (BKA) and Black Queen's Attack (BQA). The cells on each Fixed Level and Attack Platform will be the given standard alpha-numeric references, as above.

The position of the Attack Platforms will be noted by their relation to each Fixed Level. For example, Na1u would mean the up position of cell a1 on the Neutral Fixed Level, and Bd4d would mean the down position of cell d4 of the Black Fixed Level.

The Fixed Levels are considered to be two cells apart, with the Attack Platforms occupying one cell above or below.

Piece Movement

The movement of the various pieces can be broken into three categories: Movement on Fixed Levels and Attack Platforms, Movement From and To Attack Platforms, and Movement Between Fixed Levels.

Movement on Fixed Levels and Attack Platforms

Each piece will maintain its standard Orthochess form of movement upon both the Fixed Levels and Attack Platforms. This will be repeated here for clarity.

The Pawn will step forward without capture or forward diagonally with capture. It is allowed to perform a one-time forward two-step move, providing it has not moved previously and both cells are vacant. Since the Attack Platforms will be commanded by the other pieces in the game, Pawns that are relocated by an Attack Platform move are not themselves considered to have moved. This two-step move is necessary for Pawns to be able quickly to secure Attack Platform points on their Fixed Levels. The *en passant* rule applies.

The Rook slides orthogonally, and the Bishop slides diagonally. The Queen combines the powers of both Rook and Bishop. The King steps orthogonally or diagonally. The Knight performs its familiar L- shaped move of two orthogonal cells followed by one perpendicular orthogonal cell.

It may be obvious to readers that the Attack Platforms offer a very restricted environment for movement, especially for the Knight. In fact, it is impossible for the Knight to move upon a single Attack Platform. This is solved by the next category of movement.

Movement From and To Attack Platforms

Pieces change levels only by way of the Attack Platforms. These moves can be from or through the cells of Attack Platforms, but the Attack Platform is essential to such a move. I arrived at this rule by the logical assertion that the purpose of the Attack Platform, and its movement, was to transfer pieces throughout the playing field. The Fixed Levels become isolated and areas of strategic focus.

The reader may already have realized that the Attack Platforms can become horizontally connected. For example, Attack Platforms at Wa1u and Na1d would be horizontally connected. Pieces would be able to move from one to the other, each according to their standard move restrictions. Here, the Knight is able to perform its simple leap.

The cells of an Attack Platform are considered to be orthogonally adjacent to the cells of the Fixed Levels that are above and below their positions. WQA located at Na1d would have the following connections:

- Orthogonal: WQAb1-Wa2, WQAb2-Wa3/Na1
- Diagonal: WQAa1-Wa2, WQAa2-Wa3/Na1, WQAb1-Wb2, WQAb2-Wb3/Nb1
- Triagonal: WQAa1-Wa1/Wa3/Na1, WQAa2-Wa2/Wa4/Na2, WQAb1-Wb1/Wb3/Nb1, WQAb2-Wb2/Wb4/Nb2

For strategic reasons, and to fully exploit the 3D environment, only the orthogonal and triagonal moves will be used when changing levels. The triagonal move allows for access to all the cells of the Attack Platform, while the orthogonal move is extremely restricted, but allows for multiple changes in levels.

White Pawns move upward only, Black Pawns downward only. Pawns move without capture orthogonally. Pawns capture triagonally forward. Using the above example of positions, a White Pawn on WQAa1 could move without capture to WQAa2 or capture Na1; a Black Pawn on Na1 could move without capturing to WQAb2 or capture WQAa1. An unmoved Pawn can make a two-step orthogonal change in levels, if there are two vacant cells available for such a move.

Rooks slide through orthogonally connected cells. Using the above example of positions, a Rook on Wa2 could step to WQAb1; on Wa3 it could slide through WQAb2 to Na1.

Bishops step triagonally. Using the above example of positions, a Bishop on Wa2 could step to WQAa2; on Na1 it could step to WQAa1; on Wb4 it could step to WQAb2.

The Queen moves as the Rook or Bishop; the King makes single-step moves the same way.

The Knight has the greatest freedom of movement on the playing field. It must move from or through the Attack Platforms to change Fixed Levels. Its leap is the familiar L- shape. Using the above example of positions, a Knight on Wa1 could leap to WQAb2; on Wa2 it could leap to Na1, through the cell WQAb1 or WQAb2; on Nb1 it could leap to WQAa2. If WQA were at Na4d, a Knight on Wa4 could leap to WQAb1. If BQA were located directly above or below WQA, a Knight on WQAa1 could leap to BQAa2 or BQAb1. If WQA were located at Wa1u and BQA were located at Na1d, a Knight on WQAb2 could leap to Na1.

Castling

The standard rules for castling apply. The King and the target Rook cannot have been moved. In addition, the target Attack Platform must also have not have been moved.

King's Attack Castle

With both the King's Bishop and King's Knight cells vacant and not attacked, the player may move the King to the King's Knight space and the Rook to the King's Bishop space

Queen's Attack Castle

With the Queen, Queen's Bishop and Queen's Knight cells vacant and not attacked, the player may move the King to the Queen's Knight space and the Rook to the Queen's Bishop space.

Pawn Promotion

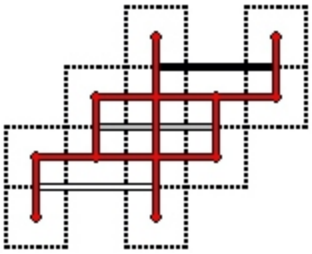
White Pawns promote upon reaching the far rank of the Black Fixed Level, or the far rank of an Attack Platform that is located at one of Black's starting points. Black Pawns promote upon reaching the far rank of the White Fixed Level, or the far rank of an Attack Platform that is located at one of White's starting points. Promotions can be to the Rook, Bishop, Knight or Queen.

Attack Platform Movement

The Attack Platforms are moved according to the pieces that occupy them. In this variant, empty Attack Platforms and those occupied only by Pawns are not eligible for movement. Attack platforms with several pieces can be moved if all the pieces belong to that player. Attack Platforms remain on their starting side of the playing field: WQA and BQA will occupy only the a1 and a4 points; WKA and BKA will occupy only the d1 and d4 points. When an Attack Platform is moved, its pieces must maintain the same orientation with respect to the players.

Rook-commanded Attack Platform Movement

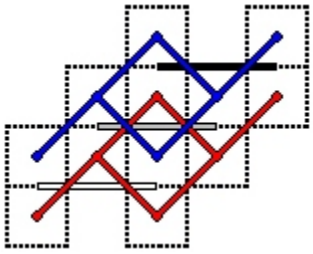
An Attack Platform is considered Rook-commanded when there is the presence of a Rook and no enemy pieces on the platform. It may move in an orthogonal manner upon its appropriate side of the playing field. It can only move to and through adjacent and vacant Attack Platform points. Thus the points at Ba1u and Ba4u are not considered adjacent and direct orthogonal movement between them is not allowed. The Attack Platform points that are orthogonally adjacent are as follows:



Bishop-commanded Attack Platform Movement

An Attack Platform is considered Bishop-commanded when there is the presence of a Bishop and no enemy pieces upon the platform. It may be moved diagonally upon its appropriate side of the playing field. It can only move to and through adjacent and vacant Attack Platform points. The Attack Platform points that are diagonally adjacent are as follows:

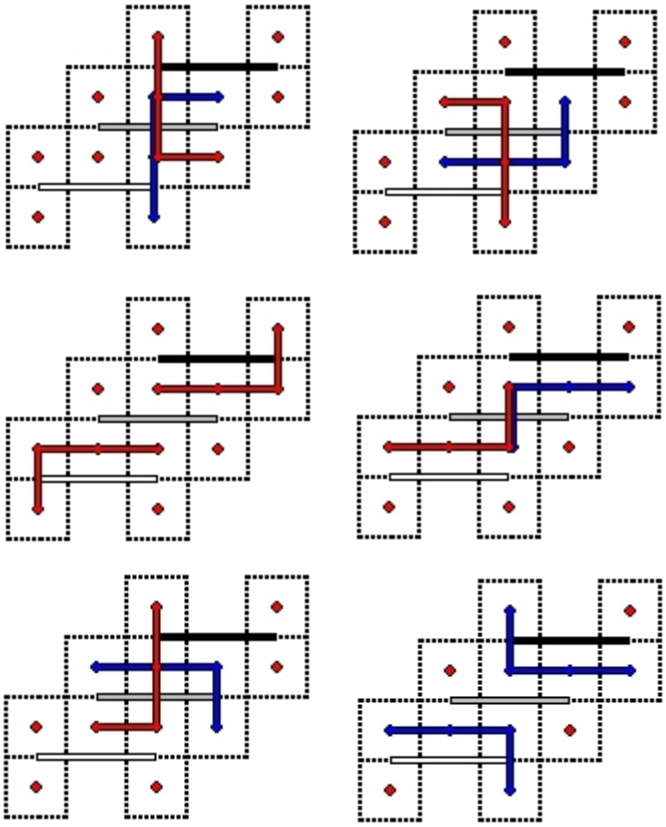
:



Knight-commanded Attack Platform Movement

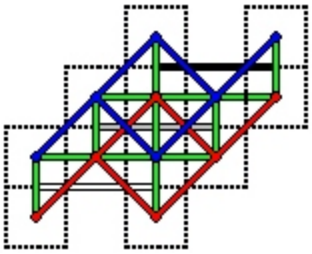
An Attack Platform is considered Knight-commanded when there is the presence of a Knight and no enemy pieces upon the platform. The platform may move on its appropriate side of the board and only to vacant Attack Platform points. It moves in the same way as

the standard Knight's move, but to different Attack Platform locations. Thus it may move up one point and across two points or up two points and across one. It is not affected by occupied points between its start and destination.



Queen-commanded Attack Platform Movement

An Attack Platform is considered Queen-commanded when there is the presence of a Queen and no enemy pieces upon the platform. The platform may be moved according to the rules and restrictions of either the Rook-commanded or Bishop-commanded platform.



King-commanded Attack Platform Movement

An Attack Platform is considered King-commanded when there is the presence of the King and no enemy pieces upon the platform. The platform may be move one adjacent and vacant Attack Platform point either orthogonally or diagonally, provided this does not leave the King in a state of Check.

At set-up, each Attack Platform is considered both Rook-commanded and Knight-commanded and may move according to either piece as long as they are occupying the platform. Multiple royalty adds to the movement power of the Attack Platform. So, an Attack Platform occupied by the King and, let us say, a Knight may move either as King-commanded or Knight-commanded.

Remember this: no Attack Platform may be moved by a player which is empty or occupied by any opposing pieces, nor can two Attack Platforms occupy the same Point.

The Problem of the Stranded Pawn on the Attack Platforms

By now, the reader may have surmised that normal movement of the outside Pawn on the Attack Platforms appears impossible. There are several responses to this:

- The presence of this Pawn guarantees control of the Attack Platform.
- The Pawn still maintains its ability to capture to the Fixed Levels.
- When the White-controlled Attack Platforms are moved to the [B]4u positions, all Pawns on the second rank are immediately eligible for promotion. Likewise, when the Black-controlled Attack Platforms are moved to the [W]1d positions, all Pawns on the first rank are immediately eligible for promotion.
- The Pawn may still move and attack to a future adjacent Attack Platform.

The Problem of the Stranded Pawn on the Fixed Levels

The reader may also have noticed that White Pawns in the second and third file of the fixed levels can be moved to the fourth rank, thus ending further progress. However, these Pawns can potentially attack a square on an Attack Platform located at the fourth rank. For example, with an Attack Platform located at Wd4u, a White Pawn located at Wc4 will attack its a2 square. This could potentially force an opponent to retreat or avoid such an Attack Platform placement. The situation is the same, of course, for Black

Examples of *En Passant* Capture

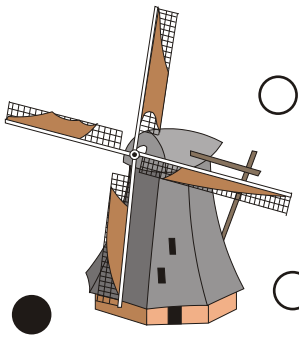
1. An Attack Platform with a Black Pawn located at its b1 location and a Knight located at b2 moves to the Wa4u point. This sets up the potential of a future Attack Platform move to Wa1d and thus becoming a direct threat on the White King. So White moves the b-file Pawn to the fourth rank and threatens the Black Knight, thus initially denying Black the opportunity to capture it at the third rank. So *en passant*, the Black Pawn moves to Wb3 and captures the White Pawn at Wb4.

2. An Attack Platform with an unmoved Black Pawn on b1 is located at Na4u, another Attack Platform is located at Na4d. Na4 and b1 of Na4d is vacant. A White Pawn has just been moved to Nb3, so Black moves the Pawn at b1 of Na4u, two spaces through Na4 to b1 of Na4d, attempting to deny White the capture. White may immediately reply with Nb3 to Na4, with capture of the Black Pawn at b1 of Na4d.

Sample Game

1.P-Wb3 BQA-Ba1d, 2.P-Wc3 BKA-Bd1d, 3.B-Wc2 P-Nd2, 4.P-Wd4 N-Nb3, 5.N-Wd2 N-BKAa2, 6.K-OO *(White castles on the King's side by moving the King to WKAa1 and moving the Rook on WKAb1 to Wd1.)* **6....P-Bb2** (*Up to this point, White has played a defensive game while Black opened with several aggressive moves.)* **7.N-Wc4 B-Bb3, 8.WQA-Wa4u** *(White's Queen Attack is now very strong.)* **8....P-Bc2, 9.N-Nc2 P-Na2, 10.N-WQAb1 P-Bb1, 11.P-Wb4 B-Bb2, 12.Q-Wb3 Q-Bd2, 13.B-Wb2 P-Na1, 14.K-Wc1** *(With the a1 and d1 points of the White Fixed Level secured by the two Bishops, removing the Knight threat to the King, White can feel free to return the King. This will be significant in the endgame.)* **14....P-Nd1, 15.P-Wa3 Q-Bc1, 16.NxN RxN** *(This exchange of Knights restricts the two Attack Platforms to orthogonal movement. Attempts to improve*

(Continued on page 24.)



Nine Men's Morris

by Manfred Nüscheler

Rules

Nine Men's Morris, hereinafter referred to as "Morris," is a game for two people. You need a board, shown below, and nine white stones and nine black stones.

At the beginning of the game the board is empty. One player uses the white stones, the other the black stones. The player with the white stones begins the game. The players take turns to make a move. It is compulsory to make a move each turn.

A turn consists of placing a stone on a vacant point where the straight lines of the board meet or intersect. A *mill* is a straight line of three stones on adjacent intersections, either horizontally or vertically. When a player forms a mill, he may capture an opponent's stone by removing it from the board.

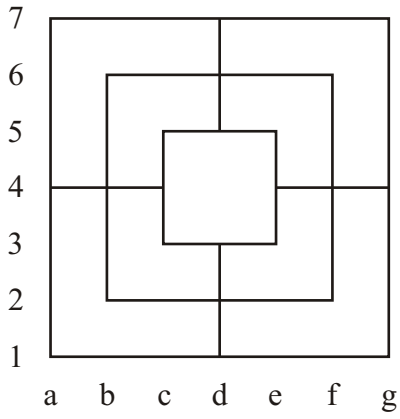
After all stones have been entered to the board a turn consists of moving a stone to an adjacent vacant intersection along a line of the board. The objective is still to create mills and capture enemy stones. A player may break up a mill by moving one of its stones away, with the objective of moving the stone back at a later turn to recreate the mill and capture another enemy stone.

When a player is reduced to three stones, his move consists of moving one of his remaining stones to *any* vacant intersection, still with the objective of creating mills and capturing enemy stones. When a player is reduced to two stones, he has lost the game. A player also loses if he is trapped and has no legal move.

Note that during any phase of the game, if a player has a choice, no stone may be captured and removed from a completed enemy mill. However, if all enemy stones are in completed mills, the player can choose any stone to capture.

If for 50 full moves (i.e., 50 moves by White and 50 moves by Black) no stone is captured, the game ends undecided, as a draw.

A grid notation is used for the moves, as shown below.



Nine Men's Morris Board with grid notation.

History

Scientists have found out that Morris was possibly already played 3500 years ago because of boards found at the Ancient Egyptian temples at Kurna. (Although it is possible that Morris boards were scratched into the temple stones at a later date.) Morris is probably much older than the venerable game of Chess.

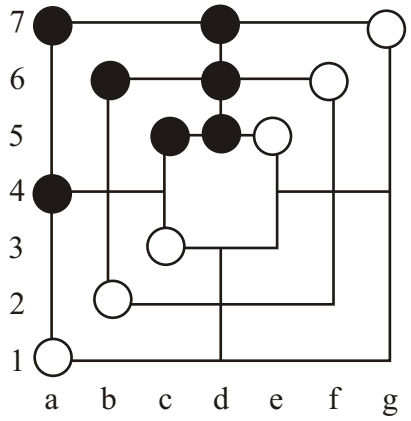
Morris is well known in China. Already by about 1500 years ago 21 books had appeared on the topic in China. (See P.J. Blumenthal, "Das Mühlespiel und seine vielen Erfinder," PM Magazine, Hamburg and Luzern, 6/1989, p. 37.)

Morris became known almost the whole world over. From the 12th to the 18th Century Morris was the most popular game in Europe and was played at all the royal courts. Only as recently as about 200 years ago did Chess start to displace Morris in popularity.

The mental challenge of Morris should not, nevertheless, be underestimated. It attracted the attention of German Chess world champion Emanuel Lasker about 70 years ago and was featured in his book *Brettspiele der Völker* (Berlin, 1931).

In 1994 the ETH database was completed in Zürich, which contains the approximately 10 billion Morris positions relevant for actual play. The game was shown to be a draw with perfect play. It was also confirmed that Black has the easier game. In fact, the advantage of Black in Morris is larger than the advantage of White in Chess. Nevertheless, Black can still do no more than draw if White plays optimally.

In 2000 Peter Stahlhacke from Cologne provided a Morris database with all possible positions. He found that the following position is the longest won game. White only wins after 165 full moves if black plays optimally.



Longest game. White wins after 165 full moves.

The best Bernese Morris player can draw against this Morris database in practically all games, with either white or black stones.

Morris has thus been solved by computer. According to Dr. Chrilly Donninger, programmer of Nimzo, one of the world's best PC Chess programs, Morris is thus dead and uninteresting (*Computerschach und Spiele*, 6/99).

Nevertheless, well played Morris games last sometimes over

100 full moves before reaching a conclusion. Many Morris games are, however, decided after at the most 20 moves. The ability to place the first nine stones faultlessly, which is more difficult than one would think, almost guarantees at least a draw.

The relatively few serious Morris players left in the world can meet through the medium of the Internet, through sites such as http://groups.yahoo.com/group/themorrisclub/ and http://de.geocities.com/manfred43_99/onlinemuehle.html. International trends can be seen clearly. Germany has the most strong players overall, although the very best Morris players in the world come from Switzerland. Serious opponents can also be found in Canada, the former Yugoslavia, and Austria. Worldwide, there are, unfortunately, only a few really good Morris players.

Tournaments

In Berne, Switzerland the Mühlespiel Verein has organized tournaments with between four and 24 participants since 1979. In Berne, in 1993, the Federal Muehlespielcup took place; and again in Berne, in 1996, the EEK Muehleturnier was held, with approximately 100 participants.

Since 1999 the German Morris Association has held tournaments on the website http://www.funcity.de. Recently, also they have held tournament on http://games.orf.at/muehle/index/main?tmp=12574, called Live-Muehleturniere, with 8-20 participants.

In Bönen, near Dortmund, in 2000, there was a Morris tournament with 640 participants. Bönen does not even have a Morris association any more, and the purpose of the tournament was to raise money to renovate the sails of their old windmill.

I have played in more than 3000 Morris games online on seven different web sites. I have won over 90% of my games (about 3000 victories, 250 draws and 20 defeats). The fact that any player can win so consistently is evidence of the depth of Morris.

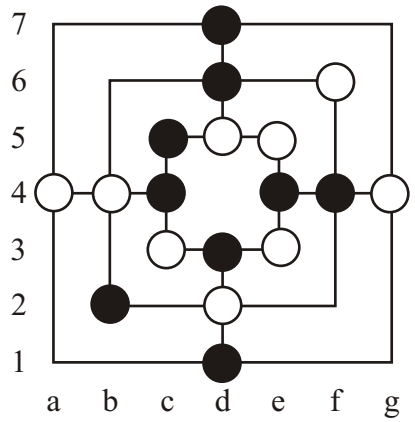
Any one who possesses a computer can play against innumerable Morris programs, even without an Internet connection.

Nearly all the best Morris programs and databases in the world were put together either in Germany or Switzerland, although an unknown programmer from Asia has written a good heuristic Morris program. The best heuristic Morris program available on the market is that of Richard Fischer. This program, Muehle 24, can be purchased for Fr. 20 from Langrietstr. 10, CH-8212 Neuhausen, Switzerland. If you play the Muehle 24 and win at least seven points in 12 games (two wins and 10 draws, for example), then you would be ranked among the best players in the world. There is more information at http://de.geocities.com/manfred43_99/sogewinntmanmuehle.html.

Sample Game

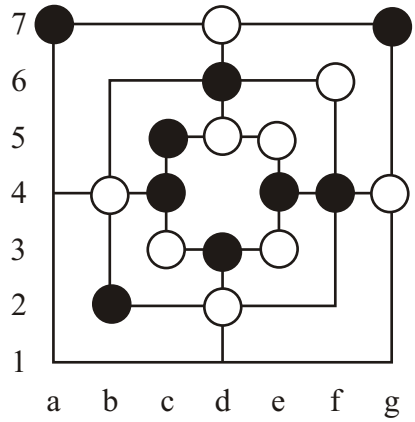
White: Muehle 2.3 (version 10.6.1998, for Windows)
Black: Manfred Nüscheler
Played: August 21, 1998
Defensive variant

1.d2 d6, 2.b4 f4, 3.e5 d3, 4.e3 *(White neglects to defend.)* 4....e4, 5.g4 b2, 6.f6 d7! *(Black forces an advantageous inside square with three T-points.)* 7.d5 c5, 8.a4 c4, 9.c3 d1 *(Diagram. Black has an indirect threat has on the efg4-Line. This small advantage leads to victory within 30 moves.)* 10.a4a1 d7g7! *(Blocks the White stone on g4. It is only a question of time before White is forced to move it.)* 11.a1a4 d1a1, 12.b4b6 b2b4, 13.d2f2 d3d2, 14.e3d3 a1d1, 15.d3e3 d2d3, 16.f2d2 d1a1, 17.d2f2 a1d1, 18.f2d2 b4b2! *(The only profitable move for Black.)* 19.b6b4 d1a1,



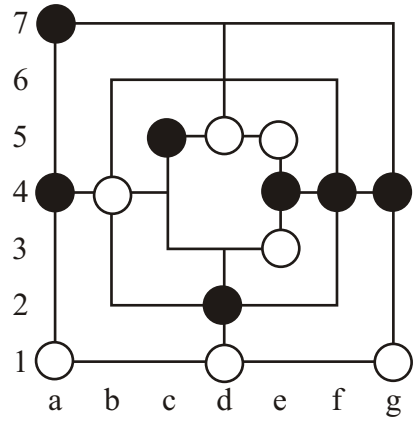
Position after 9....d1. End of first phase.

20.a4a7 a1a4, 21.a7d7 a4a7 *(Diagram. White is forced to move.)*



Position after 21....a4a7

22.b4a4 c4b4, 23.c3c4 d6b6:d7, 24.f6d6 g7d7, 25.a4a1 b4a4! *(9:8 for Black with an open mill. Black is already clearly in the lead.)* 26.c4b4 d7g7, 27.d6d7 b6d6, 28.d2d1 d3d2, 29.g4g1:d2 g7g4:d7, 30.d1d2 d6d7, 31.d2d1:d7 b2d2! *(Diagram. Terminates the White game. Now the game is definitely won for Black. The rest is a formality.)*



Position after 31....b2d2!

32.e3d3 f4f6, 33.b4c4 a7d7, 34.c4b4 f6f4:d5, 35.e5d5 f4f6, 36.b4c4 f6f4:d5, 37.d3e3 f4f6, 38.c4b4 f6f4:b4, 39.e3d3 c5c4, 40.d3e3, and the computer resigns.

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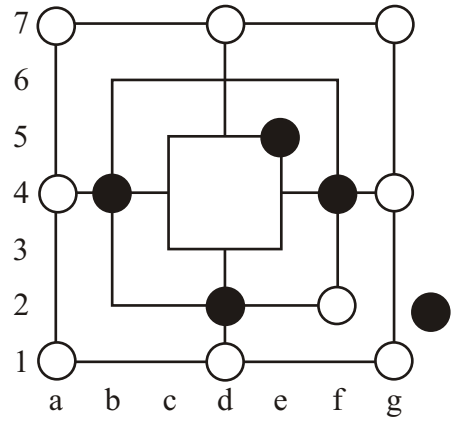
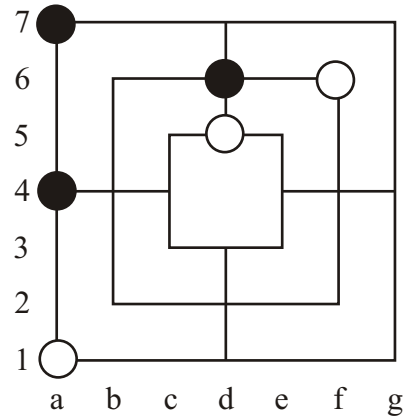
Other links for Morris online.
http://de.geocities.com/manfred43_99/onlinemuehle.html.

Problems

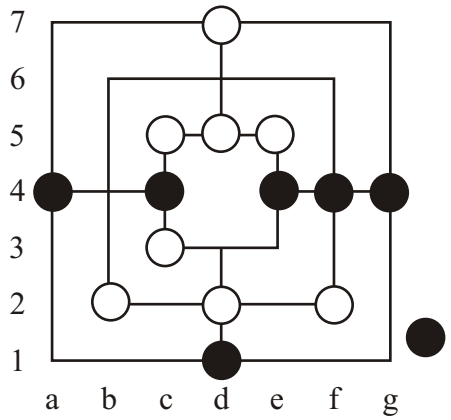
1. Black has sacrificed four stones to reach this position. Now Black to place the last stone and win.



2. White to play and win in four moves.



3. Black has sacrificed two stones to reach this position. Now Black to place the last stone and win.



Manfred Nüscheler is 46 years old and a journalist. With Hans Schürmann he wrote a book about Morris called So gewinnt man Mühle *(Ravensburg: Maier, 1980). He has been a Morris Grandmaster (WMD-Urkunde) since 1995. The same year he became Morris World Champion (WMD-Urkunde). Manfred can be contacted at Manfred Nüscheler, Bernastrasse 65, CH-3005 Bern, Switzerland, e-mail: m-nuescheler@datacomm.ch. More information can be found at the following websites: http://de.geocities.com/manfred43_99/blue.html, http://de.profiles.yahoo.com/manfred43_99, http://www.recordholders.org/en/records/roller1.html. – Ed.*

(Star Trek 3D Chess continued from page 21.)

the maneuverability of these will now dominate the game. Since White has foregone any development of the King's Attack, it appears that the game will be played on this side of the field.) **17.Q-WQAb1 BQA-Ba4u, 18.NxP(Na1) B-BQAb1, 19.Q-Na2 Q-BKAa1** *(This is a strong move for Black: it makes a threat on that side of the field that White must recognize. Nevertheless, White does have the d1 point of the Fixed Level fairly secure, so Black will have difficulty following through with this threat.)* **20.Q-Nb2 P-Ba2, 21.R-WQAb1 K-Bb4, 22.R-Wd3 P-Bd2, 23.P-Na3 PxP** *(This Pawn exchange has tilted the balance of power to White.)* **24.QxP(Na3) B-BQAa2, 25.N-WQAb2 BQA-Ba1d, 26.Q-Nb2** *(White makes a very defensive move. Black is now in a very bad position. If Black responds RxN, White will reply QxR, and Black soon faces an Attack Platform with two Queens on the Fixed Level. And the Black King is isolated from any possible escape. The BKA is full, and it would take several moves to relocate and/or vacate a cell.)* **26....P-Bc1** *(Black hopes for a simple escape.)* **27.WQA-Ba4d B-Ba1** *(Again, Black hopes to open the field, and White takes advantage of this error.)* **28.QxR K-Bb3, 29.WQA-Ba4u,P(WQAa2)=Q B-Bb2** *(Black makes a threat on White's Queen located at BQAb2, but it is in vain.)* **31.Q-Ba4+ K-Bc3** *(Notice how nicely the Queen is able, by that triagonal step, to take advantage of its defending Rook.)* **32.Q-Bb4+ K-Bd3, 33.Q(BQAb2)xB BKA-Wd1u+** *(As White prepares the killing blow, Black makes one last effort to divert White's plan.)* **34.KxQ NxP(WKAb2), 35.QxP(Bd2)++.**

Does White's move on turn 32 allow the King an easy capture of that Queen on Bb4? Let's look at that exchange: ***32....KxQ, 33.QxB+ K-Bc4, 34.R-Ba4+ K-Bd3, 35.Q-Bb3++.***

Would Black have faired better with a different Attack Platform move on turn 33? Black's fate remains the same: **33.... BKA-Nd1+, 34.KxQ...., 35.QxP(Bd2)++.**

Perhaps Black would have been better off with the following move on turn 27: **27....N-Bd3, 28.WQA-Ba4u,P(WQAa2)=Q K-Bc3** *(Black attempts to make for BKA, but White will dash these hopes.)* **29. Q-Ba4 N-Bb4.** *(Black has merely extended the game.)*

These rules and playing field offer the most lively games of any 3D Chess. It also allows for easy pin of that slippery 3D King, which is often a problem in 3D chess. I also believe that these rules offer one of the fastest forms of Fool's Mate of any 3D Chess: **1.WQA-Wa4u BQA-Ba1d, 2.WQA-Ba4d++.** ■

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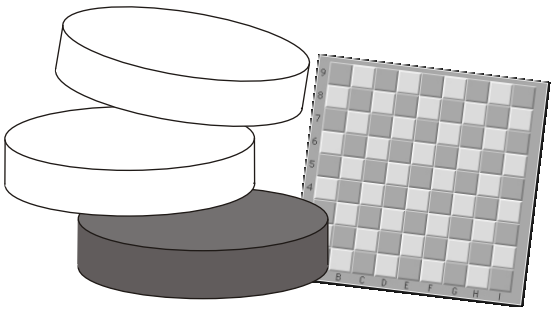


Emergo

~the final stage in the evolution of column checkers

by Christian Freeling

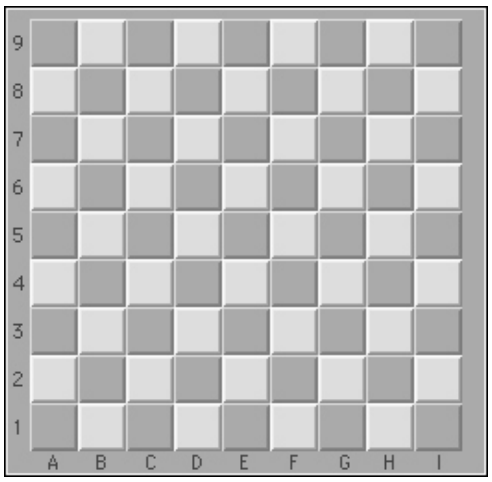
A quintessential game is a game in which the rules are completely contained in its basic idea. The Anglo-American game of Checkers is quintessential in the realm of checkers games. So is the game of Go in the realm of territory games. Emergo is the quintessential *column* game.

Emergo has no initial position, no forward orientation and no promotion. Its mechanics as well as its strategy and tactics are all self-contained and have *nothing* in common with Checkers-type games. To emphasize this, I suggest the use of Backgammon men: they stack far better!

General

Emergo, derived from the Latin "Luctor et Emergo," meaning "I wrestle and arise," is a joint effort of Ed van Zon and me. It was Ed who got me interested in column games in the first place. I would like to give a general idea of what the game is about, explaining the rules along the way.

Emergo is played on the dark squares of a 9x9 checkered board with dark corners, with two contrasting sets of 12 men.



The board is initially empty and players in turn place a man on one of the squares, subject to certain restrictions. This is called the *entering stage*.

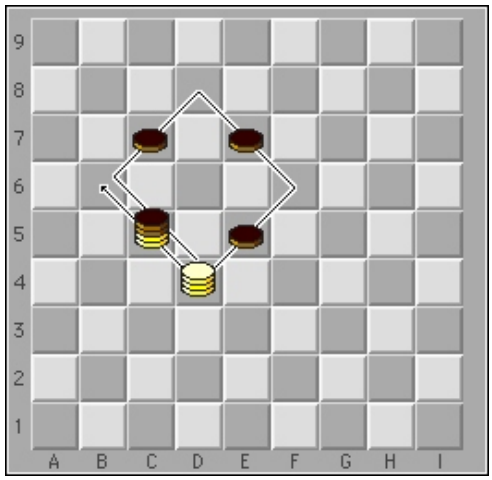
Captures are possible in the entering stage, and they take precedence over entering a man. It is possible, therefore, that one player must enter while the other is forced to make one or more captures. This may result in a situation where one player has entered his last man, while the other player still has several men 'in hand.' These men must be entered as one column, called the *shadowpiece*.

Thus, the players always finish the entering stage on successive turns. This marks the beginning of the next and final stage, called the *movement stage*.

Mechanics

A piece in Emergo can be a single man or a column. A column may be of a single color, or black on white, or white on black. The mechanics of the game simply do not allow men of one color to become stacked *between* opponent's men. The top color determines the owner, and the top column is called the *cap*.

Making a capture takes precedence over moving a piece. In Emergo a piece captures the *top man* of an adjacent opponent's piece by jumping it and landing on the square immediately beyond, taking the top man along underneath as a prisoner. If a captured man happens to be the last man of the opponent's cap, then the capturing player liberates his imprisoned men. Multiple captures are possible, and majority capture is in fact compulsory. In the course of a capture a piece may visit the same square more than once as well as jump the same piece more than once. However, successive jumps over the same piece are not permitted.



The diagram illustrates the last rule as well as the precedence of majority capture: White must capture 5 men *clockwise*. Anti-clockwise capture would render only four men.

Examples

The following examples do not represent game situations. To illustrate the mechanics of movement and capture, and a basic strategic implication, I will treat what is clearly still the entering stage as if it were the movement stage.

A simple form of capture is to have two columns *leapfrogging* as in Diagram 1. If White moves c3b2, Black must capture to c3, after which White must capture to d4, and so on. In such a free run, the bigger piece wins: White, on successive moves, jumps to d4, f6 and h8. The last jump liberates the two original prisoners together with the three men Black was forced to additionally capture. This results in the position of Diagram 2.

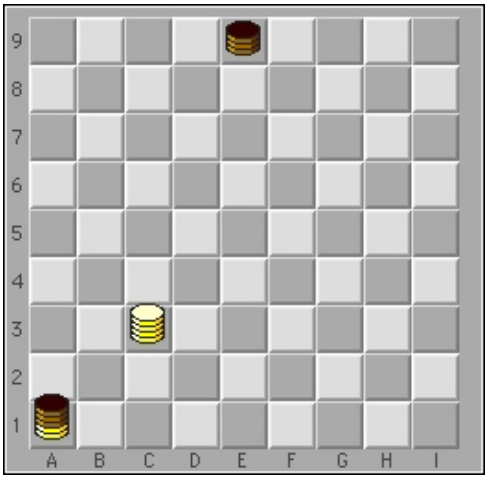


Diagram 1

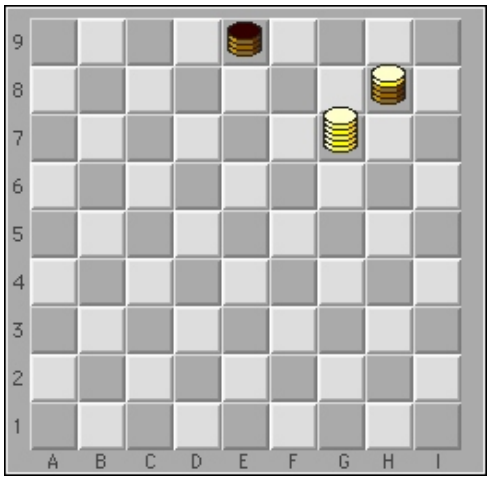


Diagram 2

Black next can liberate the three prisoners, together with a fourth one White is forced to capture, by moving e9f8 (g7:e9) f8g7 (h8:f6) g7:e5, but he has had to sacrifice one man to a large column.

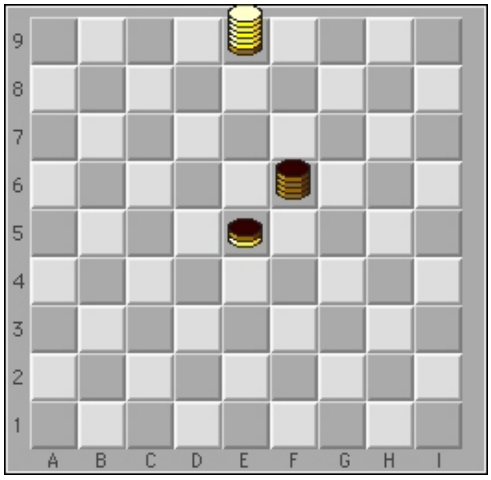


Diagram 3

To win he must eventually liberate it, which means that the piece must be jumped five times in the course of the rest of the game. Any prisoners it may make in the process are useless in achieving that goal!

The life-cycle of a column

Take a look at the White column in Diagram 1. In Diagram 2 it has transformed into a one man cap with three prisoners. In Diagram 3 it has vanished altogether, and the prisoners it held have been liberated.

A liberated column always starts out at its strongest. Getting involved in captures, it will see an increasing number of prisoners held by a decreasing number of guards. At a certain point, depending on the size of the cap and the nature of the position, it will become a liability to its owner. If it cannot be defended, it should, as a rule, be sacrificed as soon as possible, lest the opponent feeds even more men to it, to liberate an even larger column.

Every column goes through this same cycle of birth, involvement and death, except for the columns that occupy the board at the end of the game. Win or draw, they made it!

Why is Emergo "spiraling upward"?

Every time a single man is captured, the number of pieces decreases by one. Since there is no way to *increase* the number of pieces, a game of Emergo shows a steadily decreasing number of pieces with a steadily increasing average height.

Strategy in the movement stage: feed, decapitate, bury!

In checkers-type games, barring combinations, it is usually better to capture than to be captured. In Emergo things are quite different because the only way to create a column of your own color is *to have the opponent capture your men first, and then liberate them*! This is called a *feeding combination*.

You are always looking for a weak piece (a cap of one or two), preferably one that has already made prisoners. Next, you look for ways to *feed* as many additional men as possible, of course making sure beforehand that you can *decapitate* the column afterwards. That way, the liberated column is maximized.

This big new column can now be employed to capture as many men as possible, while keeping the number of guards as high as possible. It is good to realize that guards are usually captured one by one, but that a multiple capture by a big piece adds several prisoners at once! This is called *burying*. If you bury all opponent's pieces, you win.

Strategy in the entering stage: the move and the shadowpiece

Strategy in the entering stage is a chapter in itself because in the entering stage there is a placement restriction aimed at preventing unconditional *feeding*. You may not by placement force your opponent to make a capture, unless he, on his previous move, has already put himself in that predicament by attacking one or more of your pieces. Being able to feed in the entering stage thus depends on your opponent's willingness to attack! Now, who would want to attack?

From White's point of view keeping *the move*—the right to go first in the movement stage—is most important, because it provides the first opportunity to feed unconditionally! On a board full of weak pieces, it is often possible to find ways to force your opponent into building a nice big column that cannot escape decapitation. This is the first blow, so to speak, from which the opponent must try to recover, usually by a similar attempt but under more dangerous conditions, because of the big piece(s) now present. So White usually prefers a calm and flat entering stage, with the occasional block or exchange, should Black attack, but always bent on keeping the move. Attacking is not attractive for

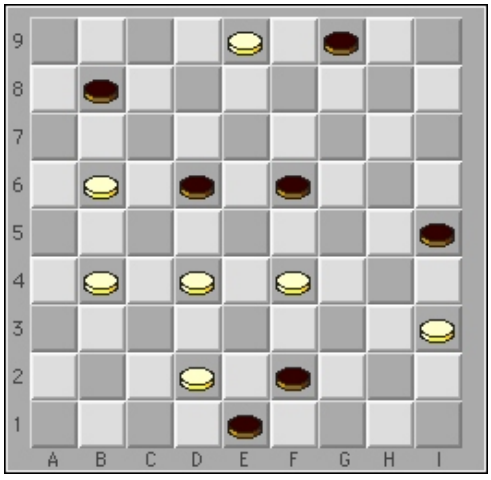
White: for one thing, Black might allow the capture by entering elsewhere and take over the move!

A 'flat' scenario is not very attractive for Black. If he attacks in a way that avoids a simple block or a simple exchange (an art in itself), things may go either way: he may take over the move, or add to the shadowpiece. The latter happens, for instance, if White allows a capture by entering elsewhere. Black's shadowpiece then becomes a column of two. Subsequent attacks by Black may raise it further, although White should have at least equal play because Black's attacks allow him to feed and decapitate already.

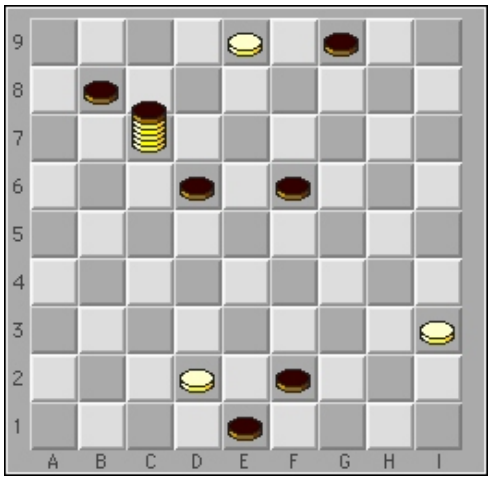
Spectacular as it sometimes is, attacking in the entering stage remains a very dangerous undertaking. Experienced players, playing Black, tend eventually to return to a more careful approach in which placement aims at preventing White from performing *too large* a feeding combination, so that Black can ride out the storm.

An example of attack in the entering stage

In this example Black decides to attack at e1 on his 7th move, on the reasoning that choice of capture would prevent decapitation.

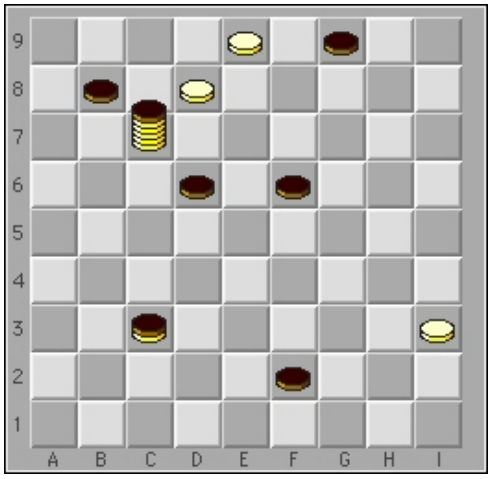


He overlooks White's reply at h4, which forces him to take the majority capture i5:g3:e5:c3:a5:c7.

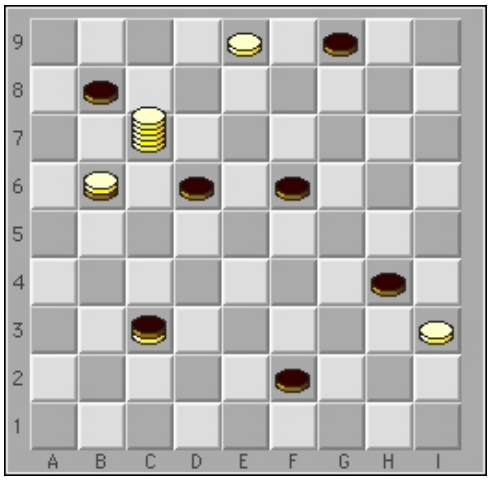


White now enters at d8 and black is forced to capture e1xc3.

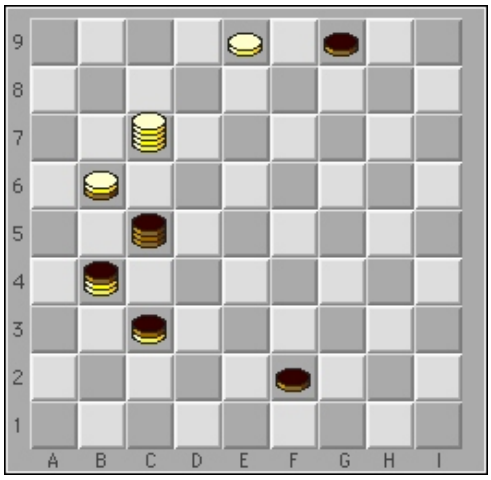
"It's a fascinating game, and it satisfies a facet of the human personality—it's creative, scientific, and artistic."
M. Tinsley, Former World Draughts Champion



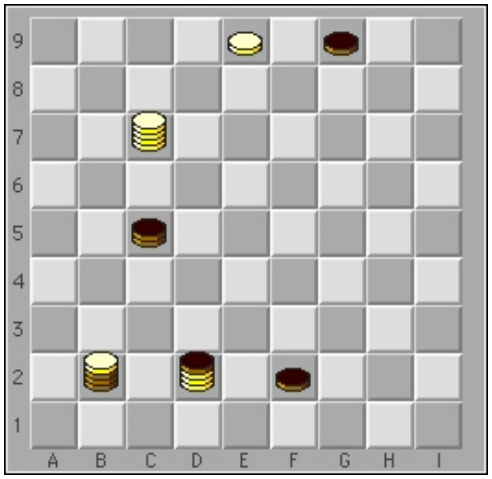
White next liberates a column of five, d8xb6, threatening to bury one or two men already. Black resorts to a feeding combination of himself by entering at h4. He may feed because he is under attack.



White must take the majority capture i3:g5:e7:c5. And Black can trim the big column by one, at the same time liberating a column of three: b8:d6:b4.



That one, in turn, is trimmed by White: b6:d4:b2. Then Black has the final capture b4:d2.



Black's column of two and shadowpiece of two are outweighed by White's column of four, especially as an instrument to liberate the three prisoners at d2. Admittedly White's weak piece at b2 is more isolated and thus more vulnerable, and Black will certainly enter around it as much as possible to make sure he can capture it eventually, but as a whole the position appears favorable for White. The combinations following the Black attack at e1 should give you some idea of Emergo tactics.

A fine print rule

Apart from the general restriction on entering, White has an additional restriction: he may not *on his first move* enter on e5. Doing so would of course block Black's access to the center. White therefore usually enters *adjacent* to e5 (d46, f46), to prevent Black from entering there.

Draws

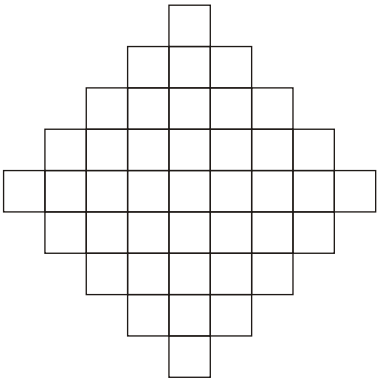
Emergo is a pure elimination game. The *only* way to win is to capture all the opponent's pieces. Leaving the opponent without a legal move, for instance by blocking his last piece, is a *draw*. Draws may also occur by 3-fold repetition or mutual impotence.

On Bashne and Lasca

Despite the fact that Emergo came last, Bashne and Lasca are hybrids between Shaski and Checkers on the one side, and Emergo on the other. In my opinion, Lasker made a bad game by improving on a really bad game. One way to discover this for yourself is to play Emergo, ideally against a stronger player, on the MindSports site at http://www.mindsports.net/Arena/Emergo/. In fact, playing Emergo is the *only* way to discover the game, because you cannot possibly imagine what is awaiting you. I have refrained from presenting a multitude of fancy examples because tactics can be mindboggling, and combinations can run many moves deep. This makes them hard to follow on paper, especially as most readers will not (yet) be familiar with the game's simple and transparent strategy and thus lack the very instrument to instantly understand the nature of a position. ■

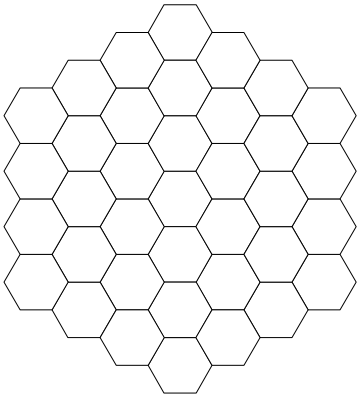
Despite Chistian Freeling's sliding-scale classification from checkers variants at one end through Lasca and Bashne to Emergo at the other end, I still like to think of Emergo as a checkers variant. The reason for this is, as I have argued in a previous issue, that the defining characteristics of a checker-type game are (1) capture by jumping, and (2) compulsory capture. It is these two elements that give checkers variants their particular combinatorial richness. Emergo is clearly a checkers variant from this perspective, as is Camelot, and even Zèrtz. Christian argues very persuasively in favor of Emergo rather than Bashne and Lasca. Nevertheless, I think that the older column checkers games still have something to offer the traditionalist who prefers *forward movement and promotion. Bashne, in addition, still has a number of practicing expert players and a body of game analysis. But if I personally were now to take up a column checkers game with the aim of playing seriously, I think it would be Emergo.*

It is probably worth noting that Emergo has also been played on the following topologically equivalent board:



Now the pieces may occupy every square, and movement and capture must proceed orthogonally. I prefer this arrangement to playing on one color of a checkered board—somehow it seems more logical. For that matter, any *checkers-type game could be played orthogonally on every square of a suitable board.*

Emergo has also been played on the following board, in which case it is called HexEmergo:

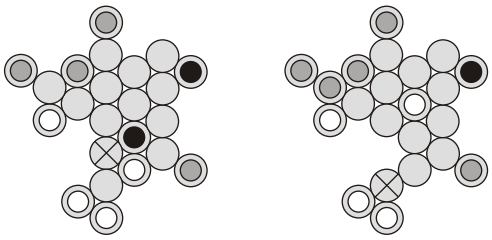


The number of spaces has been reduced to 37 from 41, but there are still 12 pieces on each side, and the rules for HexEmergo are identical to those for Emergo. Again, the first piece cannot be entered onto the central space.

Interestingly, when HexEmergo was first introduced, it completely displaced the original game. Subsequent experience showed that White could use the first-move advantage to force play in the entering phase and keep the first move at the beginning of the next phase. This could well be a winning advantage. The same is not true of the original version because the square game has fewer combinatorial possibilities for the first player to exploit. The square game is once again the standard version, and HexEmergo is played less. There is much more on this topic at the website that Christian cites opposite.

In the next issue we start a short series on Havannah, a well known and enduring connection game by Christian Freeling. – Ed.

Solution to Zèrtz Problem



Solution to Layli Goobalay Problem

South to move: 10/9*/1U/8/12/1/11. North must play into South's *Uur*, so South wins by one point. *If 1 (instead of 9), then 11U/2/1/1, and South wins. *North to move*: 1/12/4 (x2)/10(x3)/1, and North wins by two points.

Solutions to Nine Men's Morris Problems

Problem 1: 9....d6! wins, because White cannot move.

Problem 2: 1.d5f4 a7f2, 2.f6g4 d6e4, 3.f4g1 a4d1 *(or some other move)* 4.a1g7:d1 wins.

Problem 3: 9....a1!! *(Black wins the game. The remainder is a formality. 9....b4:d7? or c3? would be only a draw.)* 10.d5d6 g4g1:d6, 11.d2d3 g1g4:f2, 12.b2b4 g4g1:e5, 13.c5d5 g1g4:d3, 14.d5d6 g4g1:d6, 15.b4g4 d1d2, 16.c3d1 a4b4, 17.d7a4 b4b2, 18.a4f2 c4c3, 19.g4b4 g1g4:d1 wins.

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The Dinner Party That Time Forgot

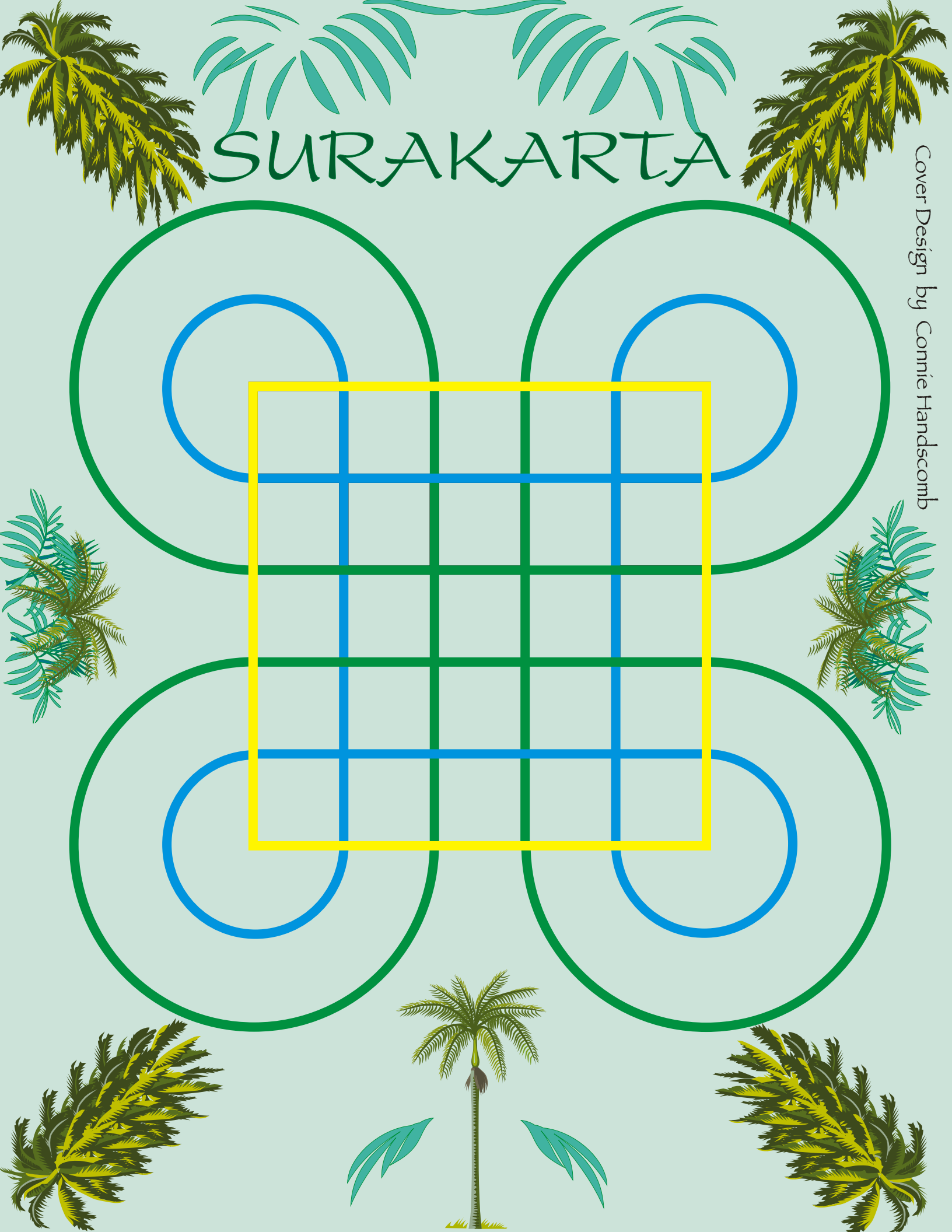
One of my more brilliant maneuvers in this lifetime has been to arrange a dinner party for friends, and then forget to let some of them know I'd revised the date of the function. It was somewhat embarrassing to have to tell these gentlefolk (on the morning they assumed they'd be well fed later in the day, no less) to come fashionably late—by about two weeks or so. Or at least until I found out from the other friends what the rearranged date actually was, since I myself hadn't a clue when it was supposed to be—I'd not remembered to diarize it!

This charming blunder ranks alongside another. A while back I was making a call to My Beloved. I was at home alone at the time, and immediately upon dialing, I was surprised to hear his cellphone ringing in another room. Oh my gosh, he forgot his phone today, I thought. I hung up on my call, and rushed to answer his. Hello, hello, I said into the handheld unit. There was no one speaking back to me. It took me a few moments to realize what had happened: that it had been ***me*** calling ***me***. I had been calling myself and, wonder of wonders, hadn't even the wit to realize it.

At moments like these I know it is time to step back....and breathe. *Very deeply.* In an age of highspeed communication access, things like this shouldn't happen. Paradoxically, it's exactly because of the lightning-quick universe we've created for ourselves that they do. Quality time was never meant to mean being able to squeeze in fifteen minutes on a park bench in the sun to have a quick bite at lunchtime, I'm sure it wasn't. Yet time and again, I am not only pleased to have been able to do this, but also consider it a major coup.

I wasn't always this way. And it's likely this is a passage in my life which shall shift directions soon enough. In the meantime, I wonder if the games I am currently playing with my spouse appeal to me as they do because I have labeled them"very efficient."

~ *Connie Handscomb*


SURAKARTA
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