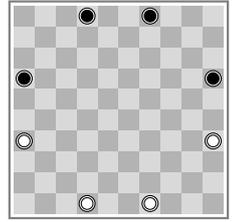


AMAZONS



2342

Walter Zamkauskas (1988)

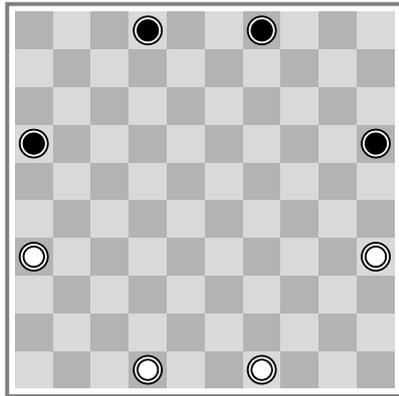
2343

The game is played on a 10×10 board with four pieces on each side, called *amazons*. Also neutral stones are used (at most 92), called *arrows* and shown as ■ in diagrams. The arrows can be of any type or colour; GO stones or poker chips are well suited.

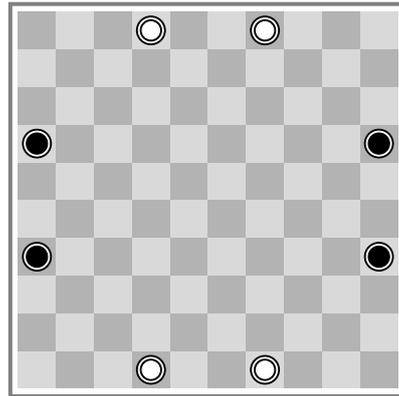
2344

2345

2346



initial position



alternative cross position

2347

White has the first turn. Recall that CHESS queens move in any of the eight straight directions, over any number of vacant squares. A turn consists of two actions, performed in this order:

2348

2349

1. **move**: make a CHESS queen move with an amazon of the player's colour;
2. **shoot**: make a CHESS queen move from that amazon's destination and place an arrow.

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2351

A player **loses** if unable to carry out a turn.

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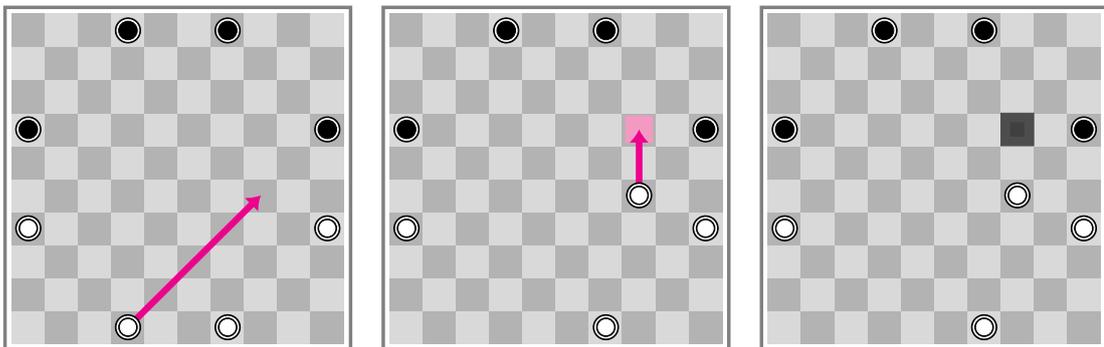
2353

Diagrams explaining the rules

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The following three diagrams show a possible first turn by White:

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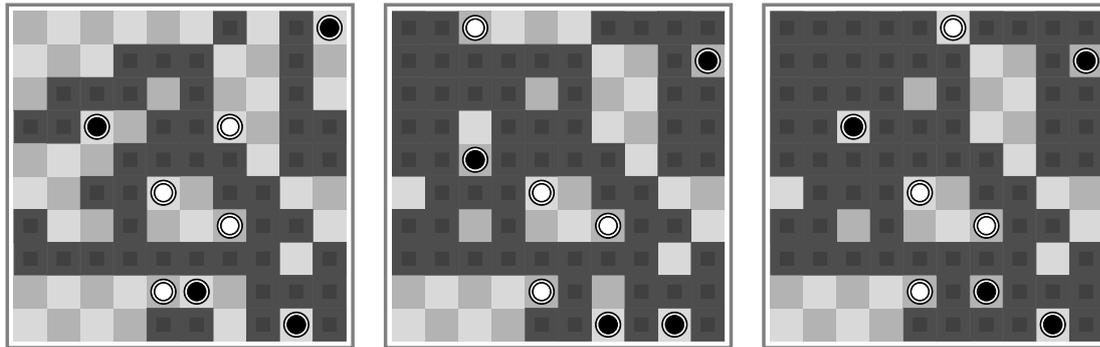


2356

An amazon moves like a CHESS queen, and shoots an arrow from its destination, also like a CHESS queen.

2357 In each turn, one arrow is added to the board, creating an obstacle for any amazon. Thus,
 2358 space available for movement is shrinking throughout a match, and inevitably at some point
 2359 one player will be either unable to move or unable to shoot, thereby losing the game.
 2360 However, in practice games aren't played until stalemate. As soon as the board is divided into
 2361 regions where amazons of different colours are separated, the remaining turns can be counted.
 2362 In other words, what matters are the territories belonging to each side. For beginners, it is
 2363 worthwhile to play their first games until the very end, i.e. one player being unable to move.

2364



2365 A finished game: separated regions; no more possible interaction; Black is unable to move and loses.

2366

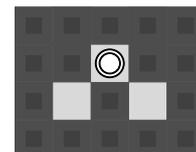


2367 A typical AMAZONS game can be roughly structured in three phases:
 2368 1. Early game: *mobility*. Getting amazons off the boundary, to positions of great flexibility.
 2369 2. Midgame: *tentative territories*. Areas take shape; mobility is crucial; invasions and swaps.
 2370 3. Endgame: *clear territories*. Local skirmishes at boundaries of regions.

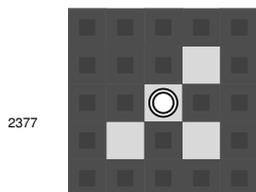
2371 As usual, the final stage is most accessible for analysis: by then, the board will be divided
 2372 into several separate areas of activity. Therefore, this guide begins with a closer look at the
 2373 endgame. After that, the building and reduction of territories is considered. The final topic is
 2374 mobility which is relevant throughout a game but especially in the opening.

2375 **Endgame**

2376 During play, it is reasonable to estimate territories by simply counting empty squares. However, sometimes not all those squares can be reached. The adjacent diagram shows the smallest position where this happens: the white amazon has two empty squares available, but nonetheless she is reduced to one final turn.

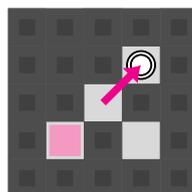


Only one turn.

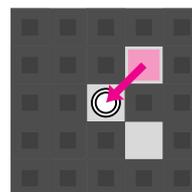


Three turns.

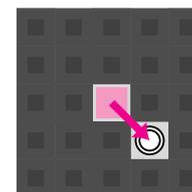
By contrast, this territory really is worth three points:



Turn 1



Turn 2

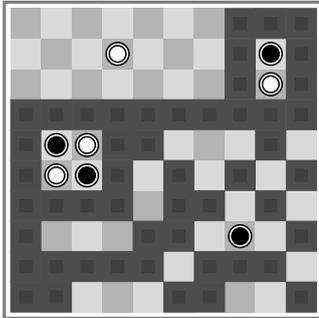


Turn 3

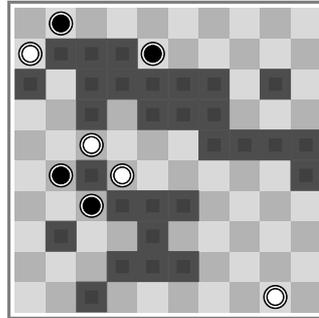
2377

Three endgame problems:

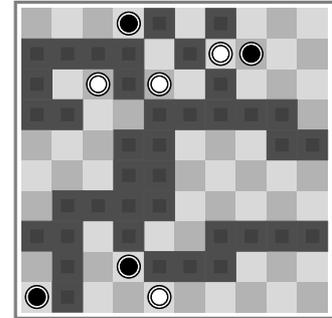
It is a fun challenge to figure out how many points an odd-shaped territory really has. In actual games, this type of combinatorial endgame is not very prominent. However, careful counting of actual territories, and estimates of tentative regions are essential for good play.



Problem 1. Black to play.



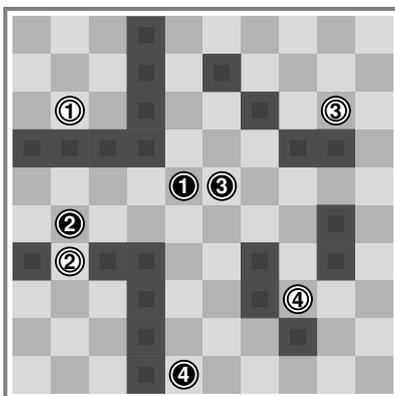
Problem 2. Black to play.



Problem 3. Black to play.

Territory

Potential and secure territory. The following artificial position contains four corner regions claimed by White but of very different quality:

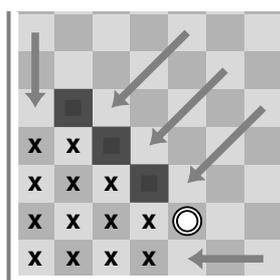


Both corners on the left side are secure white territories but the amazon ① is confined to her area and entirely *passive*. By contrast, ② can still participate in the game; she is *active* and called a *door-guard*, following Paul Yearout [A]. Note that if White intends to keep the lower left corner, then ② secures about five points.

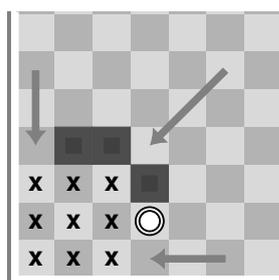
The top right corner is only potentially White's territory: ⑤ can invade and ③ can defend, so it depends on who is going to move first in this sector.

White cannot well turn the bottom right corner into a big, secure territory in just one turn. This corner has weaker potential for White than the top right.

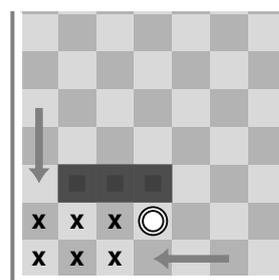
Building territory. The most efficient way to build territory is in the corners, for fewer arrows are needed to wall off a tentative region near the nooks. The following diagrams indicate schematically how a single amazon and three arrows outline a corner territory. Diagonal shapes are very efficient but leave more lines of attack.



Corner size about 15,
with five lines of attack.



Corner size about 9,
with three lines of attack.



Corner size about 6,
with two lines of attack.

2388

2389 In the opening, it is rarely advisable to sketch smaller territories such as the middle and right-
 2390 hand positions above: recall that the game begins with 92 empty squares and in each turn, one
 2391 more square will be blocked off. Assuming an even and extremely close game taking 88 turns,
 2392 each amazon would have moved $88/8 = 11$ times on average.

2393 However, note that consigning an amazon to a very early territory of 12 points might still not be
 2394 worth it: the manpower shortage can easily lead to losses much larger than the initial gain.

2395 On the other hand, one should try to set up prospective, large territories.

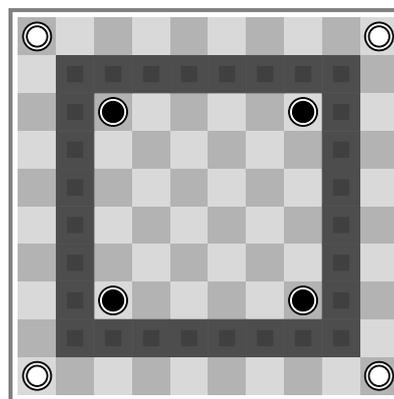
2396 One aspect of efficiency in the game is that it is best to have one amazon for each of your areas,
 2397 except for very large territories. It is better if your regions are connected instead of separated
 2398 because then you can decide which amazon to keep for securing duties and which ones to send
 2399 out into the field.

As in other territory games, central areas are important, even though they are harder to harder to form. The adjacent artificial position allows a stylised comparison:

White's boundary territory: 32 squares,
 Black's central territory: 32 squares.

When it comes to securing territories, amazons on the first or second lines (counted from the nearest boundary) are boundary-oriented whereas amazons on the fourth or fifth lines are central. This often makes the third line, and especially the 3-3 squares pivots and particularly flexible regarding territory-building.

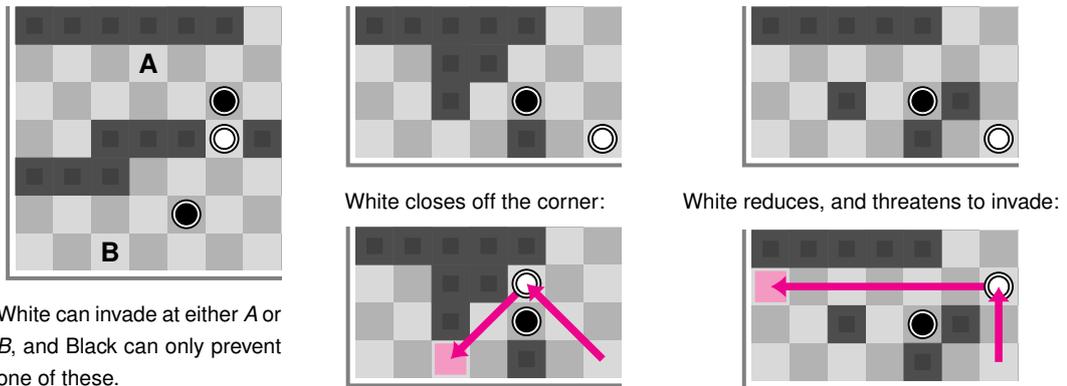
2400



2401 **Dealing with opposing territory.** There are three basic ways for how to tackle not yet fully
 2402 secure territory of the opponent. Often, these are just threats to be taken into account—a typical
 2403 move could consist of a positional threat against an opposing amazon together with a territorial
 2404 threat to invade.

- 2405 1. *Invalidate*: get an amazon into the potential area of the opponent, wreaking havoc.
- 2406 2. *Close off*: shut off the region, thus denying it to either side.
- 2407 3. *Reduce*: shoot an arrow inside the area, reducing it by one point.

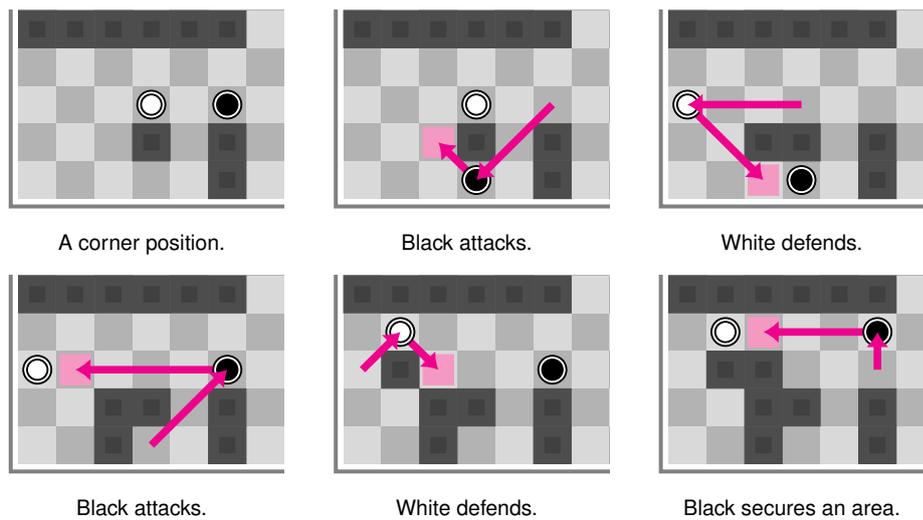
2408 Note that shooting an arrow inside an opposing territory is a weak use of the action! If possible,
 2409 this action should be spent elsewhere, at a location with positional effects. If forced to shoot a
 2410 reduction arrow, try to find a location that will impede the opponent's movement in that area.



Defy being pushed around! *Do not stubbornly cling to your territories.*

This is a familiar principle: if you react obediently to threats all the time, then you will lose. Instead always ponder if a frightful looking move really is forcing, and how you can resist. In AMAZONS, this applies particularly to reduction threats. Here is a small scale example:

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Assume that White insists on defending the corner territory. Dutifully replying to Black's threats, the area has shrunk to a measly six points. Adding insult to injury, Black is now able to establish a larger area with just one more move!

For comparison: if White would have played first in this position, the territory would have been at least twelve points. In other words, the reaction to Black's initial attack should be a White move somewhere else on the board, worth at least seven points.

Versatility is a virtue—threats and counter-threats often lead to exciting territorial swaps!

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Material advantage vs. territory size. A question that comes up in many games is: Just how much secure territory is it worth giving up an amazon for? What about more than one piece? The answers, of course, depend strongly on the actual position. Getting a feeling for this matter

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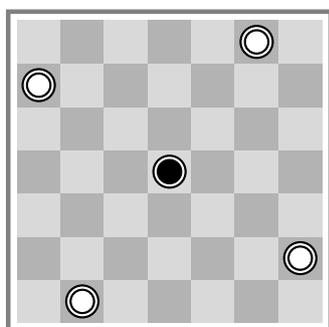
2428 comes with experience. There is one obvious relation: the more turns have been played, the
 2429 smaller an area can be in order to claim it with good confidence.
 2430 In areas with pieces of both sides, it is generally advisable for the majority to surround the
 2431 opposing pieces: try to force opponents to edges or walls where they have less mobility.
 2432 The three problems below explore this question further, in extreme situations. You can easily
 2433 adapt the positions and create follow-up problems. Let me finish the topic with these wise
 2434 words of Matt Rudda: 'Judging whether an area is worth fighting for dominance of is a key
 2435 skill.'

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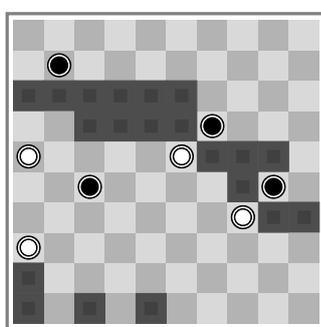
Material advantage vs. territory size:

The first problem in this set is a puzzle: how many turns do you need to isolate the black piece? This is an interesting mini-game in itself. In the other two problems, Black has a large, secure territory, and White needs to isolate the lone black amazon as quickly as possible.

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Problem 4. White to play.



Problem 5. White to play.

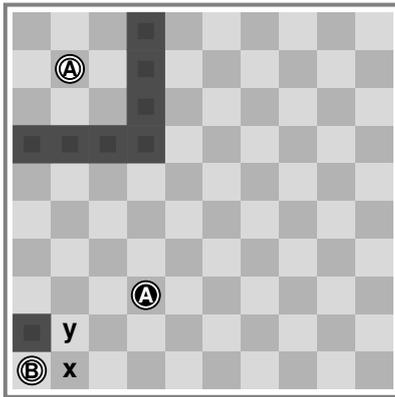
Problem 6. missing!

Mobility and flexibility

2439 Amazons have up to eight directions of movement. In her starting position, any amazon has
 2440 five directions available, and only three of those lead towards the interior of the board. Here is
 2441 a rough classification of amazons according to the number of available directions:

2442 0: isolated/dead, 1,2: threatened, 3,4: restricted, ≥ 5 : mobile/free.

2443 The degree of mobility of an amazon is not just determined by directions; it is also important
 2444 how far she can travel. One could simply count the number of possible destinations; for starting
 2445 amazons, this number is 21. On an empty board, an amazon at the boundary has 27 destina-
 2446 tions, versus 35 for an amazon on one of the four central squares. As the following diagram
 2447 shows, all those numbers are just guidelines, and they are always trumped by the actual board
 2448 position:



Consider this irregular position:

Ⓐ can move in all directions but only reach eight squares. This piece is passive and irrelevant for the remainder of the game.

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Ⓑ can reach 18 squares but has only two free directions. Black may isolate the amazon in the corner by moving Ⓐ to x, and shooting ■ on y.

The concept of pinned pieces, i.e. impeded movement, is familiar from CHESS. An amazon is *pinned* if it cannot move away, for example because it is a door-guard for an important region. It is *shot-pinned* if it may move but doing so requires to shoot at her former position. This comes up regularly, and means that arrow placement is forced. The two right-most white amazons in Problem 5 are shot-pinned, for example. However, afterwards the piece is usually free, and it is often worthwhile to spend a turn enabling this freedom.

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The opening is very much about mobility: the starting positions at the edges are weak, and it is urgent to move one's amazons towards the centre. Moreover, it is easy to press opposing pieces still on their initial spots, restricting their mobility even further.

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Tempo. As in many games, carrying out a move with tempo means that the other player has to react. Such a threat is usually either the isolation of a piece or the invasion of a territory. As mentioned above, it is a good habit to try and resist, for example with a counter-threat of equal measure.

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Efficiency. Another standard heuristic is to strive for the achievement of several goals with a turn. For example, you should consider the full-board position for your turn: try to block multiple opposing amazons at once, if possible. This can be a good way to start building a tentative territory. Even though it may not be safe until much later, the opponent will have to spend more actions to do something about it.

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Flexibility. Throughout the game, but especially in the opening, a very important consideration is *flexibility* of both forces. Here are some aspects directly related to flexibility:

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1. all your amazons are mobile and inter-connected, so they can support each other;
2. every important region of the board can be reached by one, better two, amazons;
3. every amazon, including those defending territories are active.

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Mutual support may be necessary because a single amazon may be overloaded on duties, for example blocking off an opposing amazon while peeking into an area the opponent is building up. Being able to send another amazon to help where needed is clearly an expression of flexibility.

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Dually, restricting the opponent's flexibility is equally valuable. Note that flexibility is a concept relating all four amazons, unlike mobility which is a property of individual pieces. Here are diagrams explaining flexibility:

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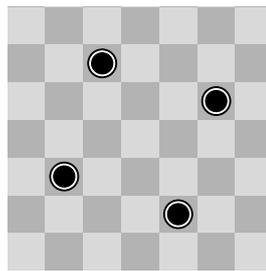
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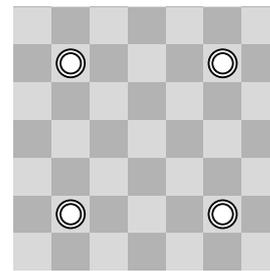
Place amazons on different lines!

Amazons should occupy different ranks, files and diagonals, if possible. The black amazons see 8 diagonals, the white ones only 6. It is even worse for rows or columns, with 4 against 2.

2480



very flexible

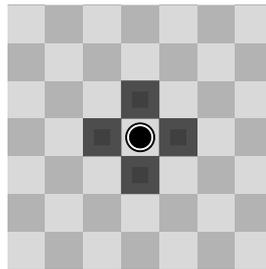


much less flexible

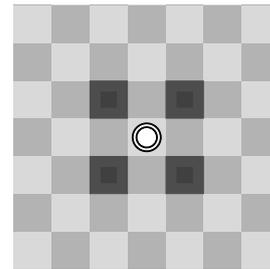
Long diagonals are flexible.

As observed by Matt Ruddy in [B], diagonals can be better than rows and columns. This is because moving on a long diagonal covers more space, thus allowing to change areas more quickly.

2481



more flexible



less flexible

It is often useful to shoot the arrow next to the amazon just moved, whether for building territory or for restricting the mobility of an opposing piece. However, this inevitably reduces the mobility of that amazon, shutting off one direction. Such trade-offs between short and long term gains are typical for AMAZONS.

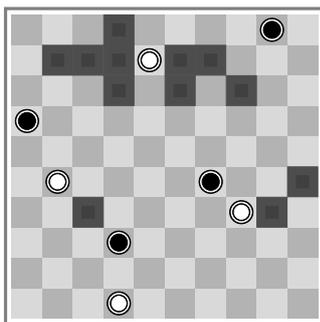
Ideally, one's own amazons should cover the board evenly—crudely speaking, one amazon in each quarter. Clustered amazons tend to be less flexible and are more prone to be permanently confined to one region, likely rendering one of them superfluous.

2489

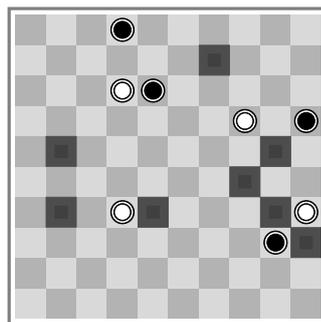
Three positional problems:

In each of these problems, one or more amazons are threatened to become cut off. How should the player react?

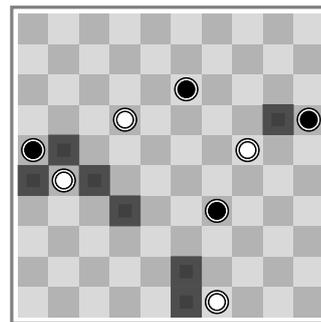
2490



Problem 7. White to play.



Problem 8. White to play.



Problem 9. Black to play.

Openings

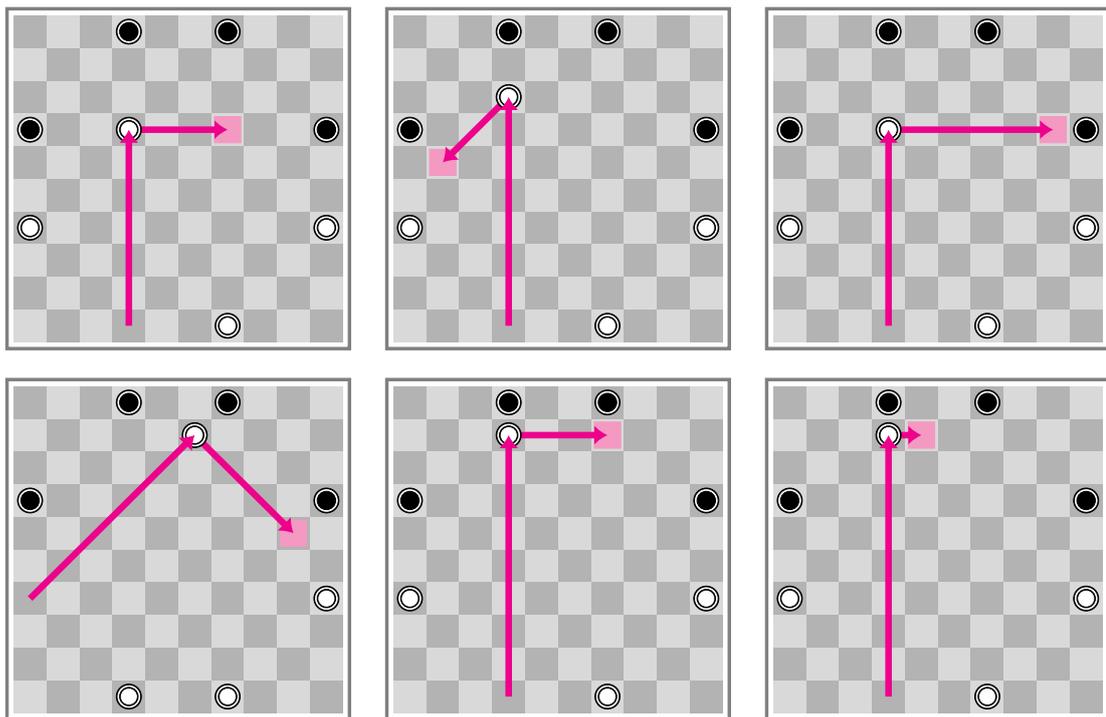
I don't think there is any opening theory yet. The fundamental in the beginning is to increase the mobility of one's own amazons and trying to make that very goal hard for the opponent.

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This means to (a) move one's amazons off the edges, towards the centre, (b) shooting arrows to hamper the opposing pieces or (c) shooting so as to prevent the opponent from besetting your amazons.

In particular, shoot in such a way as to not hamper your own pieces. Also, it is often advantageous to move a piece still on its original spot rather than moving an amazon which already moved another time. This is only a rule of thumb: moving the same amazon twice or more early on is sometimes useful. But such a maneuver comes with a positional loss because it means other pieces sits longer at the boundary than necessary.

The following turns have been popular, for obvious positional reasons:



Strategic concepts

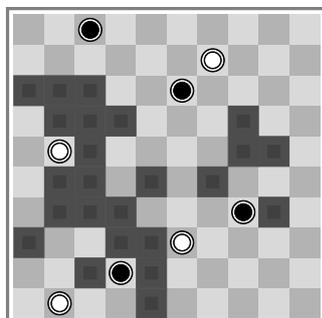
Now that we have discussed the endgame, territories, mobility and flexibility, we can mention overarching strategic concepts in AMAZONS. Broadly speaking, throughout a match players have to evaluate *territorial* and *positional* aspects, individually and against each other.

1. constructive territorial action: lay out, build or defend own territory.
2. destructive territorial action: invade or reduce opponent territory.
3. constructive positional action: relocate own piece, increasing mobility or flexibility.
4. destructive positional action: hampering opponent mobility, e.g. isolate a amazon.

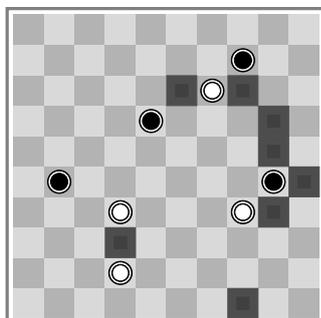
Ideally, each turn achieves more than just one of the goals. The double action nature of turns often enables this.

Three global problems:

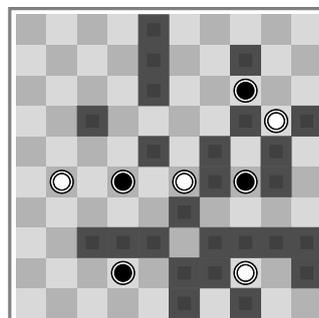
Consider the whole board and find a good move.



Problem 10. White to play.



Problem 11. White to play.



Problem 12. Black to play.

Historical and other remarks

This game was invented by Walter Zamkuskas from Argentina in 1988 with the title *Juego de las Amazonas* (The Game of the Amazons). Today called AMAZONS, it is a modern classic. Even though the theme is merely hinted at, it may have contributed to its popularity: the game can be seen as a contest between two tribes of bow fighters competing for clan territory.

AMAZONS is one of the rather few territory scoring games and, in my opinion, the most prominent one after GO. (Note that I file the goal of getting most stones on the board as ‘chain-scoring’, as this is generally not really about building territories; see page 174.) A GO player will notice the similarities but there are also a number of important differences: movement instead of placement; isolation of opposing amazons but no capture.

What is special about AMAZONS? This is one of the first games to feature double action turns. The game is highly accessible for new players because the movement rules are easy to learn, and the movement and shooting pattern is familiar from the CHESS queen. Each side having only four pieces makes for quick starts. The double action turns add a lot of complexity which however is not in the way of a new player. Throughout a game, each side has to balance many competing aspects (constructive and destructive moves), and the game has considerable strategic potential. Moreover, the game is old enough to safely say that it has stood the test of time. The existence of a theme adds to the game’s appeal.

There are two games which might have shaped the creation of AMAZONS although they probably didn’t. First, the obscure BLOCKADE from 1972 (Frank Ullmann and Tom Werneck) has a mechanism related to arrow-shooting; however, each player has just one piece moving like the Chess king, and neutral markers are placed anywhere; the board is a specially designed grid. And the 1979 pen and paper game CLOSING IN by Sid Sackson plays a little like single-piece AMAZONS where moving and shooting are combined. In the other direction, VELETAS (Luis Bolaños Mures, 2013) is certainly inspired by AMAZONS: in an interesting inversion of Zamkuskas’ game, the moving pieces of VELETAS are neutral but the arrows shot in each move belong to the players.

Literature

[A] Paul Yearout: *Amazons*, Abstract Games Magazine 16 (Winter 2003), 2 pages.

[B] Matt Rodda: *Strategy in the Game of Amazons*, BoardGameGeek:Amazons:Files (2014), 10 pages

<https://boardgamegeek.com/filepage/109107/strategy-game-amazons>.

Solutions to the problems

2548

1. White has 20 moves left. Black longest sequence of moves is *h3-g3/j6; g3-e1/c1; e1-f2/e1; e2-g3/e2; g3-i3/g3; i3-j2/f5; j2-i1/h1; i1-j2/i1; j2-h4/j2; h4-h3/h4; h3-i3/h3; i3-j4/i3; ...*missing a single empty square (**d1**). These are altogether 21 turns, so Black wins. 2549
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2. *b5-b6/b5*. (Problem by Paul Yearout 2003 from [A].) 2551
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 - 1... *c6-b7/c6* 2. *b6-a6/b6, h1-d1/c2* 3. *a6-a7/a6, a9-a10/a9* 4. *a7-b8/a7*. Each player now has 29 possible moves left. With White to go first, Black wins. 2553
2554
3. Analysis of territories: White has 10 (left) and 11 (bottom). For the latter, note that ● **d2** will at some point have to retreat into the black area but she can do this with **d2-e3/c1**, forcing White to cover with ○ **e1-d2** and leading to 8 + 3 points of White territory. Black's area sizes are 1 (bottom left), 3 (top left), 15 (centre right). The top right corner is open. In the position, White has 21 secure points and Black has 19. 2555
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The top right: if White intrudes with **g9-h10**, Black replies with **h9-i9/i10**, and likewise **g9-h8, h9-i9/i8**. In any case, Black will get 4 points in the top right. This makes the open border between ● **d10** and ○ **e8** the most urgent zone. The winning move is *d10-e9/f8*. 2559
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[Comments by Ralf Gering in a mail from 24/09/2019: Ich bezweifel, dass die Analyse der Stellung überhaupt korrekt ist. Nach g9-h10/j8 und h9-i9/i10 folgt h10-h9/i8, wodurch j7 nicht mehr besetzt werden kann. Gewinnt nicht Weiß jetzt? Ich sehe nicht, dass Schwarz oben rechts 4 Punkte haben soll.](#) 2562
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4. I am not sure whether 7 or 8 turns are needed. [Any input welcome!](#) 2565
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If the white pieces start in the corners, then it takes at least one turn longer. 2567
5. Black has 28 secure points in the upper area and 44 points in the lower area. With 20 turns played, the expected area for each piece in a long game is $(100 - 20 - 8)/8 = 9$. The three black amazons on the upper side contribute 28/3 points each, which is looking good. The only question is if the remaining black piece can contribute as well: if she gets to make eight turns, then Black wins: these turns will lead to the placement of $2 \cdot 8 = 16$ arrows in the lower area, reducing it to $44 - 16 = 28$ points. 2568
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Next, the white pieces on **a4** and **a6** are totally free to move and shoot, whereas the other two white amazons are shot-pinned: they will have to shoot at their departure squares. *a3-e3/f3*: this move restricts Black's freedom indirectly but severely. Note how it allows access of all white pieces towards the left. 2572
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[Ralf Gering: Bist du sicher, dass Weiß mit a3-e3/f3 gewinnt? Schwarz könnte z.B. mit c5-c2/b2 antworten und damit drohen, einerseits nach rechts auszuweichen oder durch c2-X/c2 b1 zu isolieren.](#) 2575
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6. xxx 2577
7. The white amazon on **e9** is in danger, as she will be closed into a tiny territory once **e8** is blocked. There is no equivalent counter-threat, so White should rescue this piece. The only line of movement is along the e-file. The most attractive turns seems to be: 2578
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e9-e6/h9: obtaining great mobility, denying the diagonal to Black's **i10** and threatening to shut her in; 2581
e9-e4/i8: blocking the longer diagonal for Black's **d3** and cutting off the column of **i10**; 2582
e9-e7/b7: immediately threatens to confine Black's **a7** to a six point region with **b5-b6/a6** next. 2583
8. White's amazon **j4** is threatened to become isolated with **j7-j5/i5** or, even worse, **d10-g7/i5**. One option is to rescue her; however, there is no really good spot along her diagonal of freedom: on **d9**, she has little mobility and is hemmed in by White **d8**; on **h6** or **g7**, she has decent mobility but stands next to White **h7**; this might make **f8** the best option with at least an open file. 2584
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An alternative is to set up a counter-threat, and Black **j7** looks like a good target. For example, **h7-i7/i8** which has better mobility but slightly worse position than **h7-i8/i7** (if the black amazon tries to escape upwards, then White **i8** is better situated to shut her in). A worse move would be **d4-i9/i8**: not only does it fail to capture the black amazon (she can make trouble by moving to **i7**), it abandons the excellent position in the lower left quadrant. 2588
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9. Black's **a6** is threatened to be isolated in the next turn. Black could rescue her but that would convey a big area to White in the lower left corner. Instead Black plays **g4-e2/c4**. If now White carries out the threat with **d7-b7/a7** (as happened in the game), then the three white amazons **b5, b7, g1** are awkwardly positioned. Black plays **f8-c8/c6**, putting pressure on two white amazons and having the initiative (Black won this game). 2592
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10. Analysis: two white amazons and a black one populate the lower left, and White will make more points there (approximately 6 : 3). This also means that White is one amazon short in the other, larger area. On the other hand, White's amazons are well-positioned to make territory and it is White's turn. 2596
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White played **f3-h3/i3**, immediately claiming the lower right corner. A play in this area is probably urgent because Black's **h4-g3/g2** would have turned the tables, and likely won the game for Black. 2599
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11. White could encircle Black's **i5** with a move such as **d2-g5/h6**. But this neglects the territorial balance, and Black would gain the upper hand with a move like **b5-c5/d5** (slightly better than **b5-d5/c5**), claiming a huge upper left area. Note how, in this development, ill-placed the white amazons are to reduce or invade that region. 2601
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The game move was White **d4-d8/e8** (other moves are conceivable as well, I would have preferred **d4-d7/d8** for higher mobility). Evaluating this move from the strategic principles, the white amazons are nicely spread across the board, with three of them (**d2, d8, h4**) in good places to make territory. 2604
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12. Black (gzero-bot) played **d2-b2/e2**. I would have taken the corner with **d5-c6/b6**. The game move makes it impossible to secure the corner, though. 2607
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Patterns

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Each player has only four pieces but due to combined movement and shooting, the number of possible turns is very high. Some types of double actions occur repeatedly and deserve their own terminology:

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- *Backshot*: An amazon moves somewhere and shoots at the spot it came from.
- *Screen*: A piece moves somewhere and shoots at an adjacent square.
- *Dual move*: If both movement and placement provide clear, separate advantages.

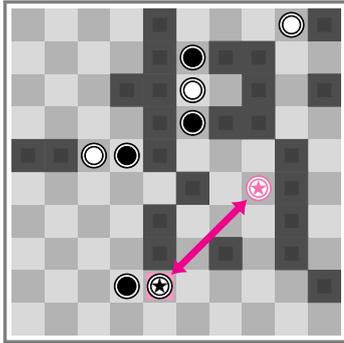
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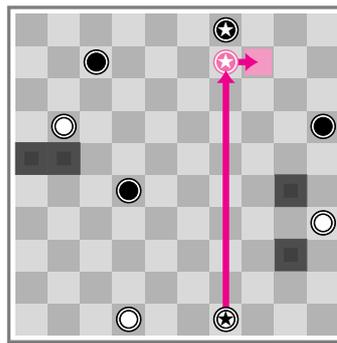
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These types are not mutually exclusive.

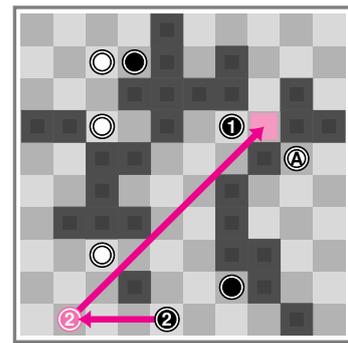
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Backshot



● screens ●



A dual move.

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The backshot diagram shows a typical use case: the marked white amazon is defending the lower right area. By moving, in order to prevent another intrusion, it has to shoot in order to close the hole it has created—turning the relative seal (amazon as block) into an absolute seal (arrow as block).

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The middle diagram is a standard opening screen: it restricts the marked black amazon from five to three directions of movement (of which the ones along the edge are not very attractive). This is a good way to develop one's own pieces while putting pressure on the opponent.

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In the right-hand diagram, Black wants to protect the top right area—White Ⓐ could seal it off, denying it to either side. However, instead of using the nearby ⓑ, it is much more effective to move Ⓒ, going for a dual move: securing the black area as well as invading the lower left corner.

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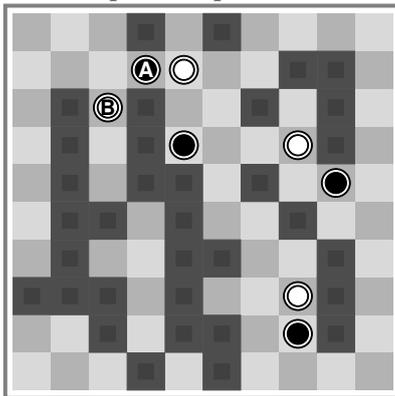
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An example for a pin:

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● pinning ●

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The marked white amazon is pinned for the remainder of the game because it defends a territory of 13 points. Therefore, the marked black amazon secures an area of 11 points in the top left corner as long as it does not move away.

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