



The Process of Decision Making in Chess

Volume 1
Mastering the Theory

Philip Ochman

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Volume 1- Mastering the Theory

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Dedicated to my chess students- your trust means the world for me. This book would not exist without you.

Contents

Foreword.....	5
Acknowledgements and contact info.....	6
Process chart.....	7
Illustration examples.....	8
Stage 1- Threats Analysis.....	11
Distant threats.....	16
Stage 2- Positional Evaluation.....	26
Full version.....	30
Space.....	30
Development.....	50
Quality of Pieces.....	59
Material.....	80
Filters.....	85
Short version.....	99
Stage 3- Tactical Evaluation.....	104
Final decision.....	120
Some words of encouragement.....	125
Appendix- Decision making work pages.....	126

- *Click on the page numbers to reach your destination*

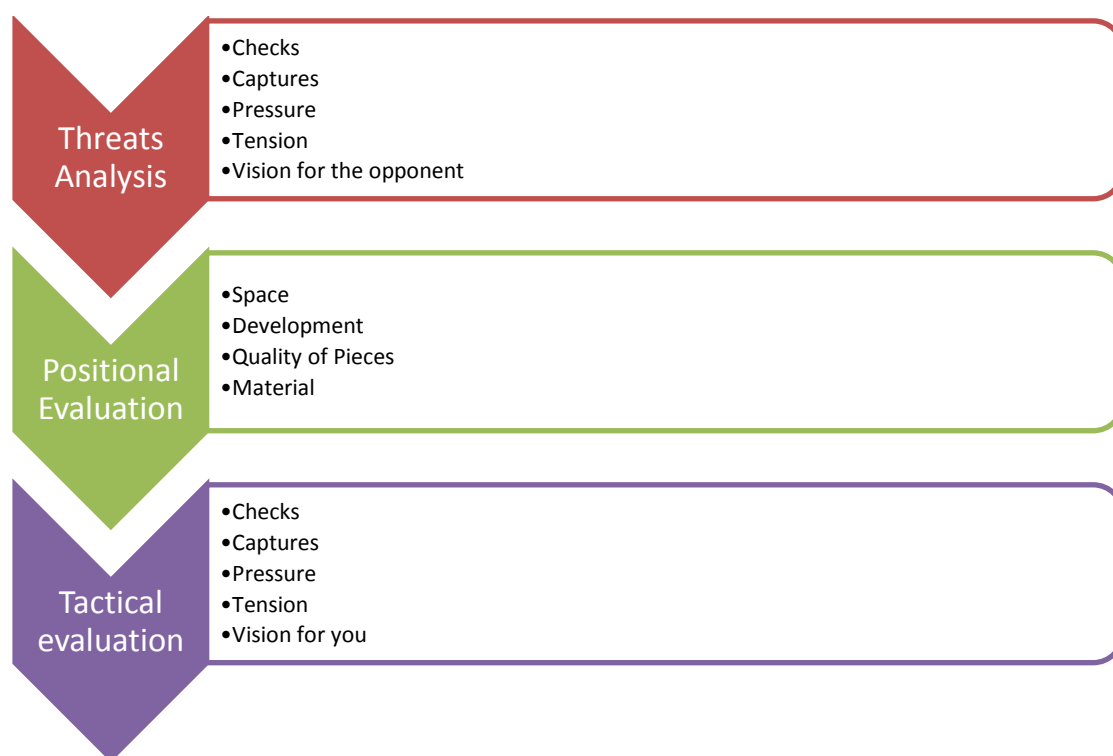
My dear student,

This guidebook will teach you how to make correct decisions in chess at every phase of the game, whether you are a total beginner or an expert.

Designed to support my online students in their studies, it includes all the material being taught at the first part of the way to improve in chess- creating a solid foundation in the process of decision making in chess, upon which all future knowledge is based.

Understanding how to make correct decisions in chess, what to take into account, how to approach different kinds of positions and how to focus on answering the requirements of the position, will then be used to study everything else in chess- from the opening, through the middle game and all the way to the endgame.

We will study the process of decision making in the following basic outline:



Building on this structure, we will learn how to fine-tune the system for every position and for every playing level.

Having read this book, you will acquire all the tools needed to break down the complex (and often difficult!) question of "what should I do in a given position?" into a number of much easier and simple questions; Combining the answers to these questions, you will come up with the right plan and find the best moves in every situation.

-Philip Ochman, Dec 2012

Acknowledgement

This book was originally pre- released exclusively for my online students. I would like to thank each and every one of you for sharing your thoughts about the book with me, and for your very kind reviews.

Thank you all members of my study group on chess.com for your support and enthusiasm, you guys are the driving force behind all my online activity as a chess coach.

Special thanks to Mr. Michael Shpizner and Prof. Arthur Marlin for your help in editing and linguistic advice. If any mistakes remained, it would be only my laziness to blame.

Contact information

You are more than welcome to contact me anytime by email: spochman@gmail.com , by message through [my online coach page](#) , by message on the [Ochman's study group wall](#), or via Skype (find me: philip.ochman).

Decision making process

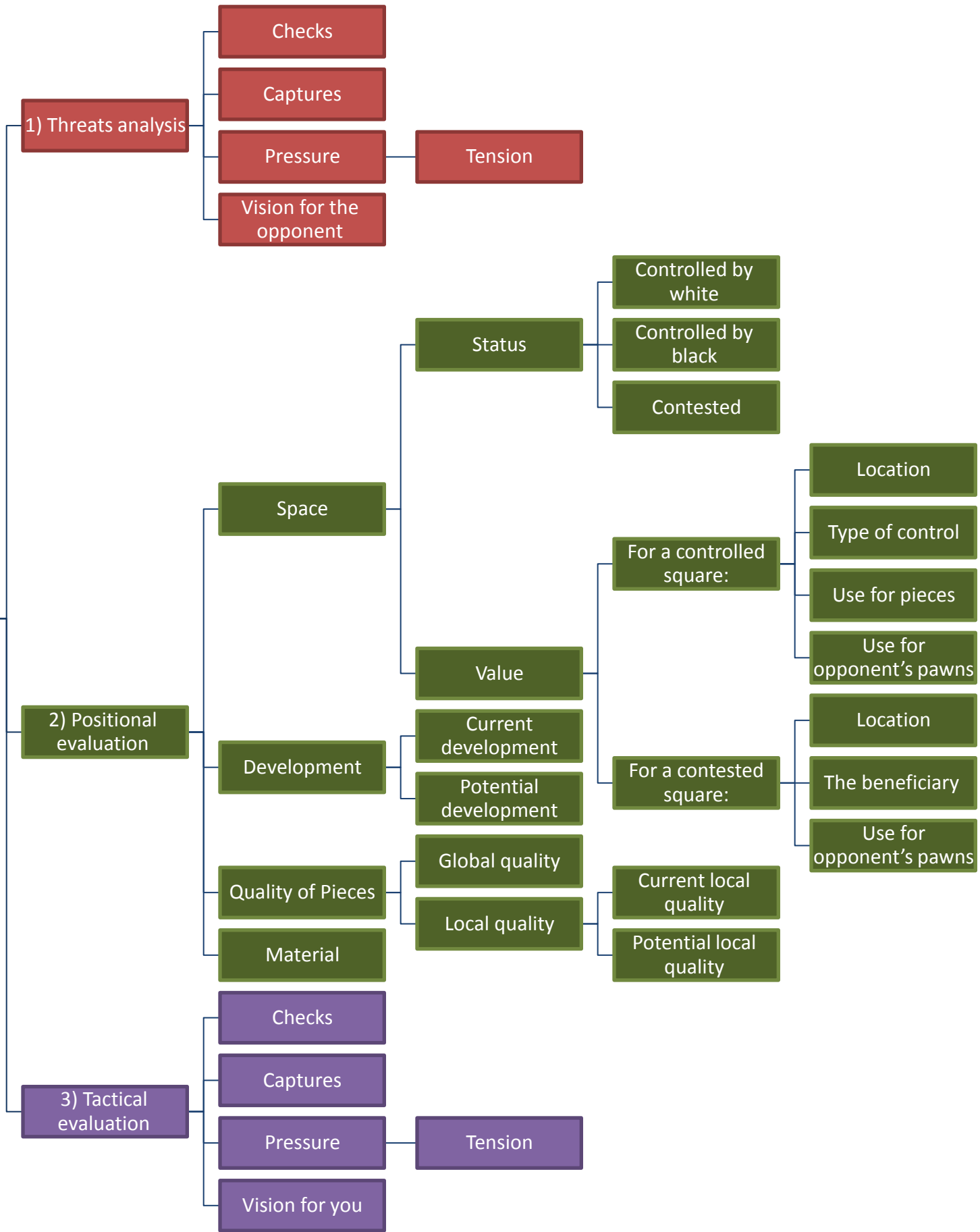


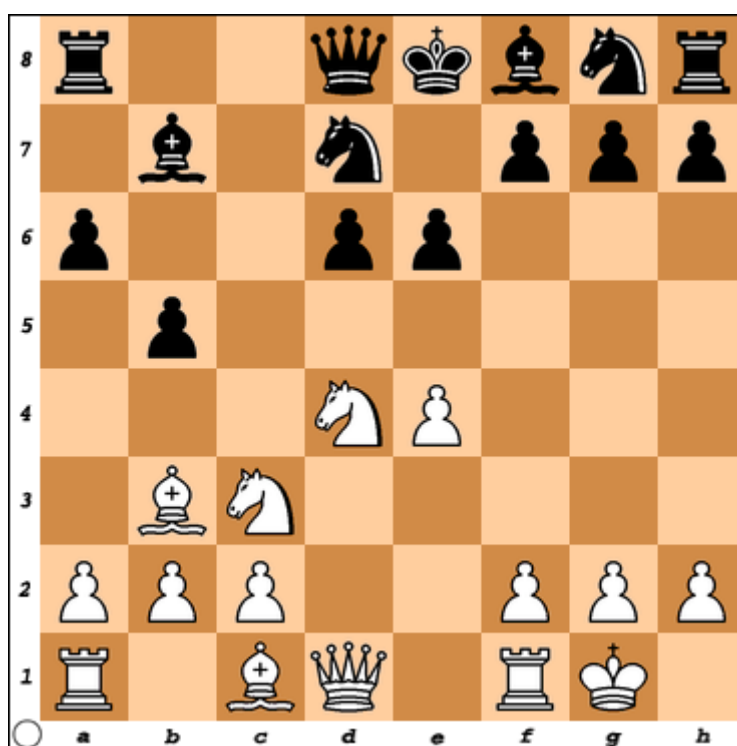
Illustration examples

Throughout the book we will apply every stage of the process on real positions, taken from the games of the top players in the world. The 3 case studies are sorted by the difficulty level of the decision, from beginner to advanced, and up to expert level.

In all examples the side with the move is shown by the color of the circle on the bottom left of the diagram.

Example 1- beginner level

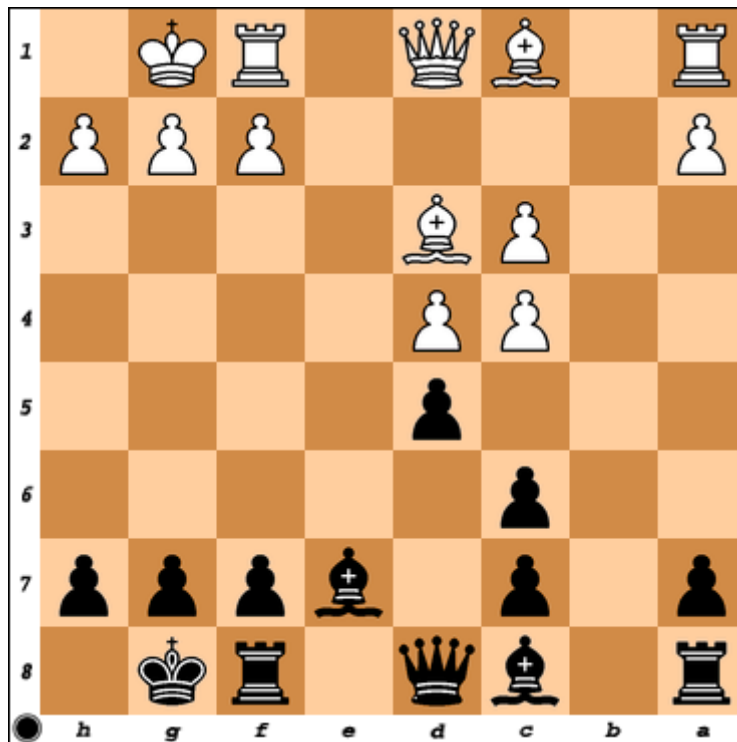
Zbynek Hracek- Alexander Wojtkiewicz, New York open 1995



Hracek is a veteran Czech GM (top rating of 2625 elo) playing white against Wojtkiewicz, a very colorful figure in the chess world (until his untimely death in 2006), student of Mikhail Tal. Nicknamed "Wojo", his games were so instructive they're still being studied today on number of famous video series. Wojo was a Polish GM with the peak rating of 2595.

Example 2- advanced level

Vassily Ivanchuk- Artur Jussupow, Novgorod 1995

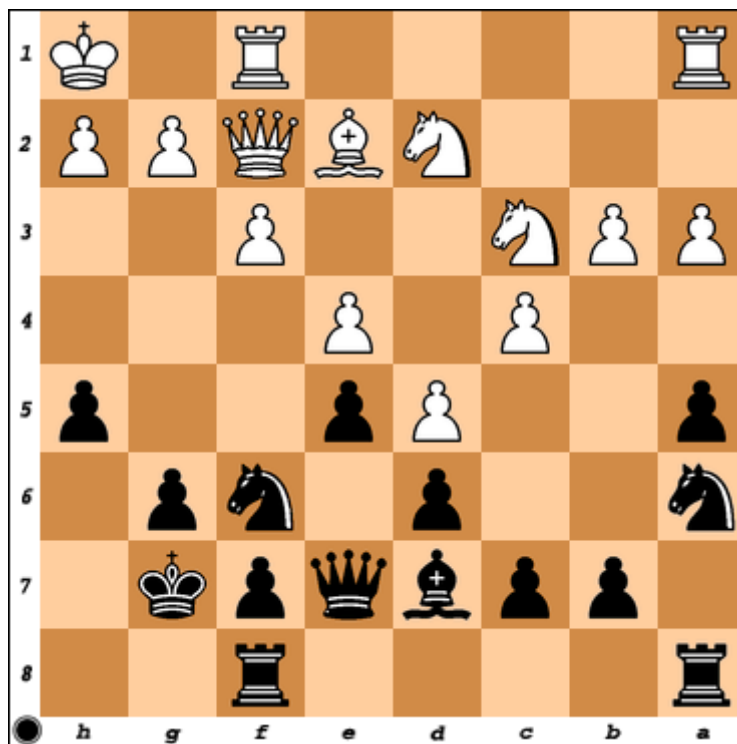


Vassily, a top international GM from Ukraine, has been in the chess elite since the early 90's, winning countless lucrative tournaments including 3 times in Linares, M-Tel, and Wijk aan Zee. One of the most unpredictable characters in the chess scene, he is often called "Chucky", and reached the peak rating of 2787.

Jussupow, a very talented chess writer and a Soviet Union born top international GM, is a long time veteran at the chess elite of the world. In 1979 he came second at the USSR championship behind the legendary Efim Geller. At his best, he reached the peak rating of 2680.

Example 3- expert level

Boris Gulko- Garry Kasparov, Novgorod 1995



Gulko is a strong veteran GM, holding a positive score against Kasparov. At his strongest, he reached 2644 rating elo. Garry, who doesn't need any introduction, is regarded by many as the all-time best in the chess world. His top rating was 2851.

Stage 1: Threats analysis

Before thinking of any plan for us in the position we must make sure it's safe enough for us to proceed with our agenda.

We are going to divide potential threats on our position into two types- immediate and distant.

To find immediate threats, before we think of our own move in a position where it's our turn to play, we will look at what the opponent could do if the position didn't change. In other words, we shall play in our mind a second move in a row for the opponent, and if we find such a move that we can't respond to successfully after it happens, in such a way that our position doesn't become worse than the starting position of the variation (in terms of space, development, quality of pieces, material) - it would mean that that move is a real threat to our position.

Since we found this threat in a position that didn't change for us, where the opponent imaginably played a second move in a row, now we can start thinking of solutions to that threat- what to change in the position so that the opponent's dangerous move will either be prevented or stop being dangerous.

Of course, if we found that we have a good response for every potential threat by the opponent, that doesn't make our position worse than it was in the starting point of the variation, it would mean that the discussed move isn't a threat.

How to do it?

In a position where it's our turn to play, we will imagine a second move in a row for the opponent, giving him another move without changing our own position. We are going to look at 4 different tactical motifs, from the most forcing one down:

- 1) Checks- any move our opponent can play (as a second move in a row) to create a check.

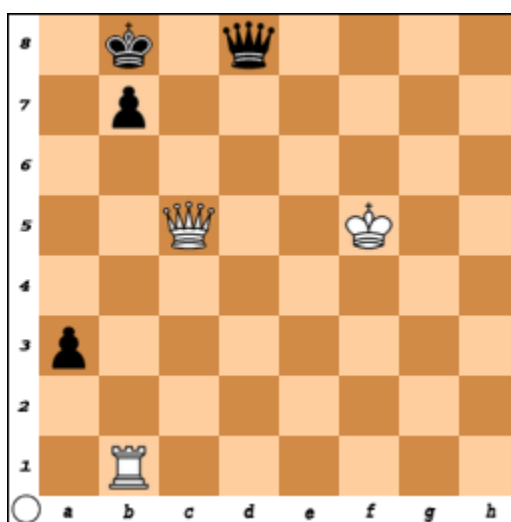


Diagram 1 –looking for checks we see Qd3+.

- 2) Captures- any move our opponent can play to capture our material, pawns or pieces.

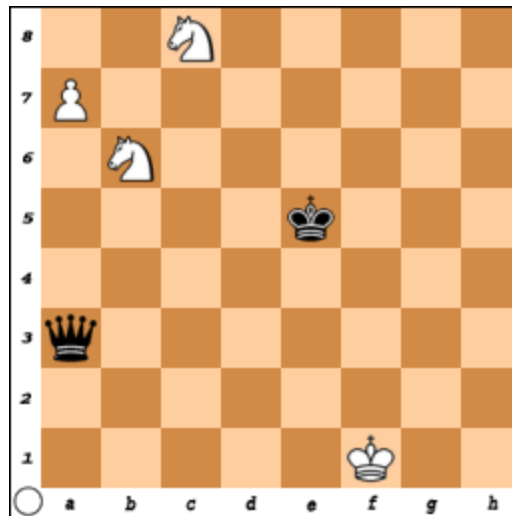


Diagram 2- looking for captures you spot Qxa7 which draws (therefore a8=Q is impossible since Qxa8 also draws). Dealing with this threat we find an easy win- Nc4+.

- 3) Pressure- any move by our opponent that attacks our material- either pawns or pieces (and played by his pawns or pieces).

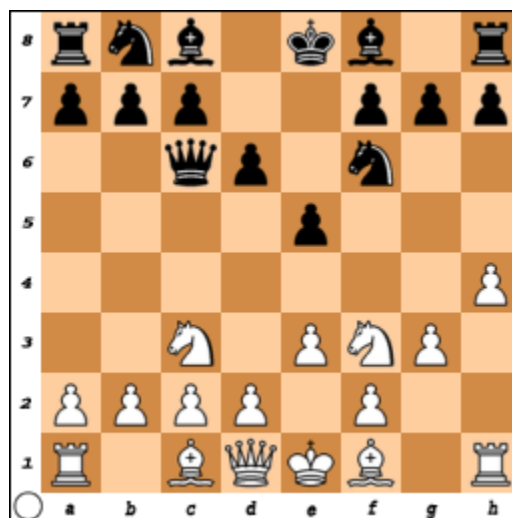


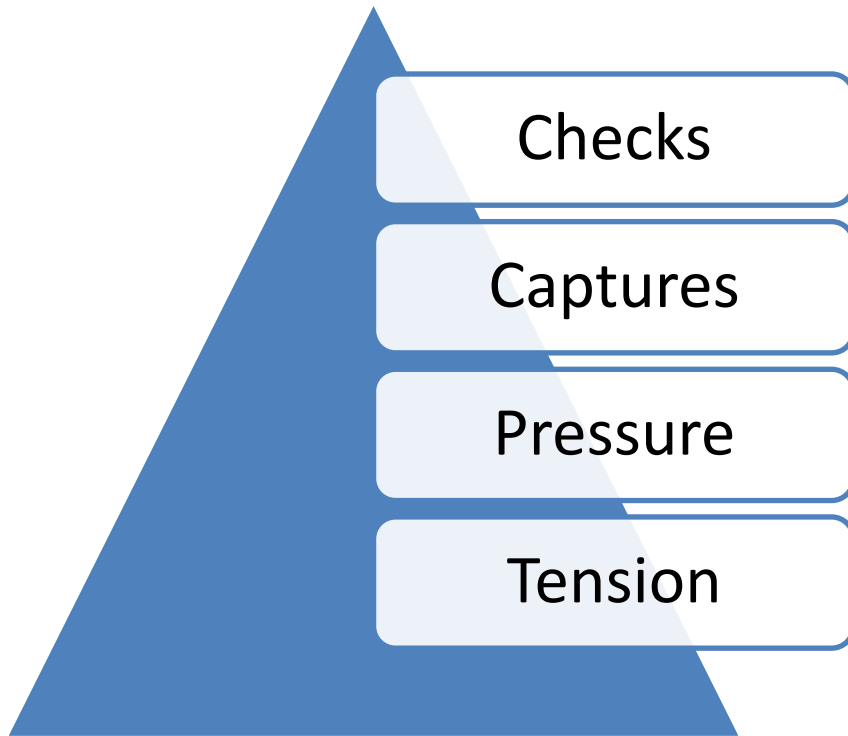
Diagram 3- looking for ways black can create pressure we find the deadly pin Bg4.

- 4) Tension- a sub-criterion of pressure, any move by the opponent that creates pressure and a mutual possibility to capture. This move not only puts pressure on the opponent's material, but now also what moved to create this pressure is also under pressure.



Diagram 4- before making a move we look at black's option to create tension with c5.

Going by this order is important for two main reasons. First- we learn more about the tactical nature of the position from the most forcing lines. Second- being ok in the most forcing line doesn't guarantee you're ok in the less forcing lines too, but it teaches you about the robustness of your position.



For each move in each type of tactical motif, once we found a move for the opponent to fit into the definition of that motif we will ask the question whether it's dangerous for us or not. And again, if you can find a good response to that move by showing the arising tactical variations and proving you're doing ok in all of them, it will mean the move is not a threat.

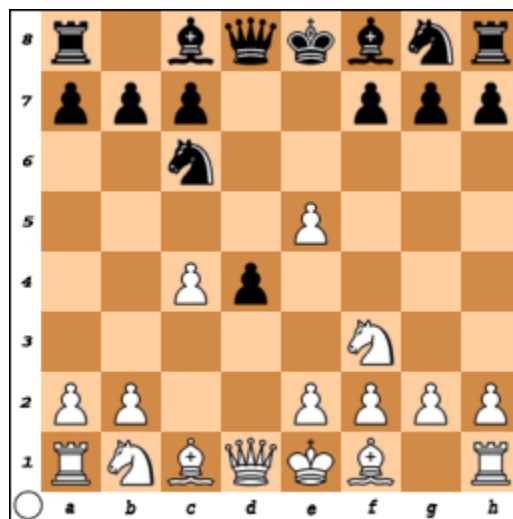


Diagram 5- potential threats- checks: Bb4, captures: Nxe5, pressure: d3, Bg4, Bf5, Be6, f6, Na5, tension: none. Now, which are dangerous?

Analyzing variations

When we analyze the arising tactical variations, we must calculate them all the way to the end, starting with the most forcing choices for us and the opponent. We must cover all of the opponent's possible choices at each stage he has them (for example- if the opponent has more than one way to recapture).

We will continue calculating looking deep into the variation until we reach the point of quiescence- the end of the variation, where neither you nor the opponent has any working tactical continuation.

The decision whether a move by the opponent is dangerous for us or not should be done at the point of quiescence. Only there we stop calculating and analyze the position, looking at changes from the starting position for both sides in space, development, quality of pieces and material (same criteria as in positional evaluation, which will be explained here later).

Any threats found should be kept in mind for the second stage of our process of decision making, where we will find solutions to those threats.

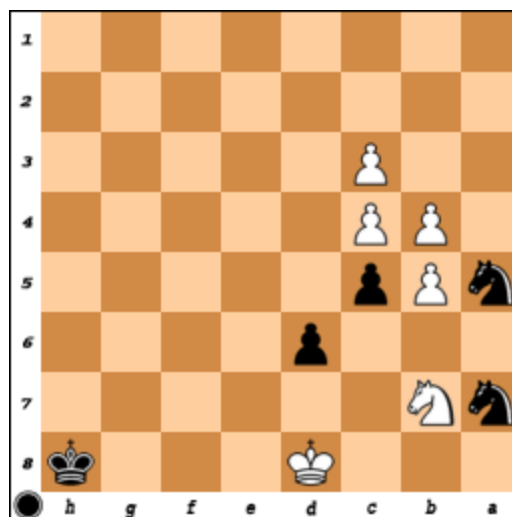


Diagram 6- looking deep into the variations in all the lines until the point of quiescence makes this position a fine example that not always the most forcing line is the best one. There is only one move for black to draw, and it's not the obvious $Nxb7+$ which quickly loses for black. Only move to keep an equal position here is $Nxc4$, but to find it, or to believe my claim to be true, you must fully analyze 3 variations until the point of quiescence.

Distant threats

Not all of the opponent's threats are in the immediate time frame. Some could be in the foreseeable future (two moves from now), and some can be even farther away yet still be unavoidable and dangerous.

After looking at the immediate threats, we will search for any distant threats that might exist in the current position.

To accomplish this goal we are going to use **vision**- imagining the "dream position" for the opponent (in this part it's for the opponent, when we will reach the third stage of the process of decision making we will do the same for us).

What is a dream position?

A dream position is where it would be best for the opponent to steer his game to. We are going to imagine a sequence of up to 5-6 moves for the opponent, without changing our position, to try and see what the opponent is trying to reach in this position. We are going to look at potential attacks he can create, pieces he can mobilize to help any kind of attack, starting pawn-storms, breakthroughs, improvements of pieces or setting the ground for tactical variations.

After we reached this "dream position" for the opponent, we will determine whether this sequence of moves can be dangerous for us, and look at our resources to deal with it. In vision we aren't calculating concrete variations, but looking at concepts alone. In this stage these are concepts of attack for the opponent, and ideas of counterattack and defensive resources for us to deal with it.

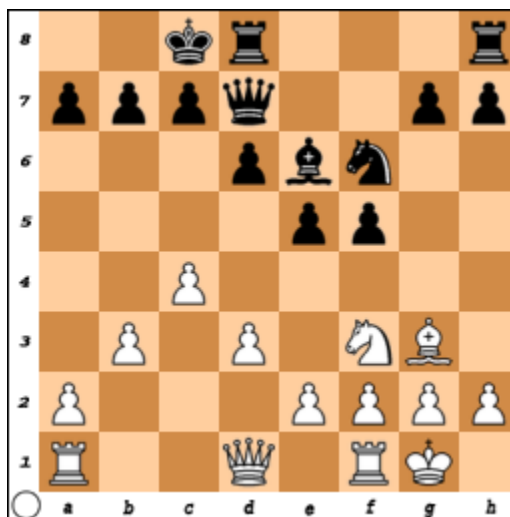


Diagram 7- looking at potential distant threats, we use vision to imagine the future dream position for black to decide whether we are under some distant unavoidable threats, and what are our resources to deal with them. In the given position it's clear that black is going for a kingside pawn storm, possibly supported by both rooks. We reach this conclusion after looking at other long term plans for the opponent and selecting the ones who look most menacing to us.

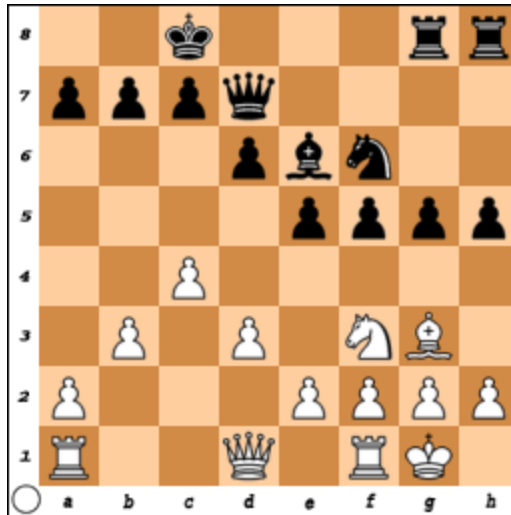


Diagram 8- using vision, we played here 3 moves for the opponent (making it total 4 moves in a row, since originally it's our turn to play). Reaching this position we ask if it's dangerous for us. Here, the answer is a clear yes. Now we will go move by move and try and find resources for us to deal with this plan.

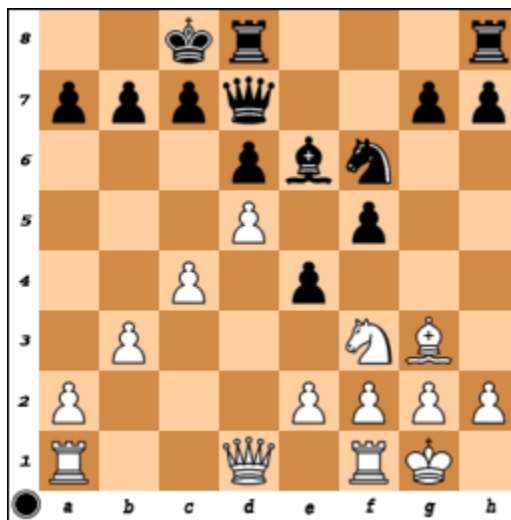


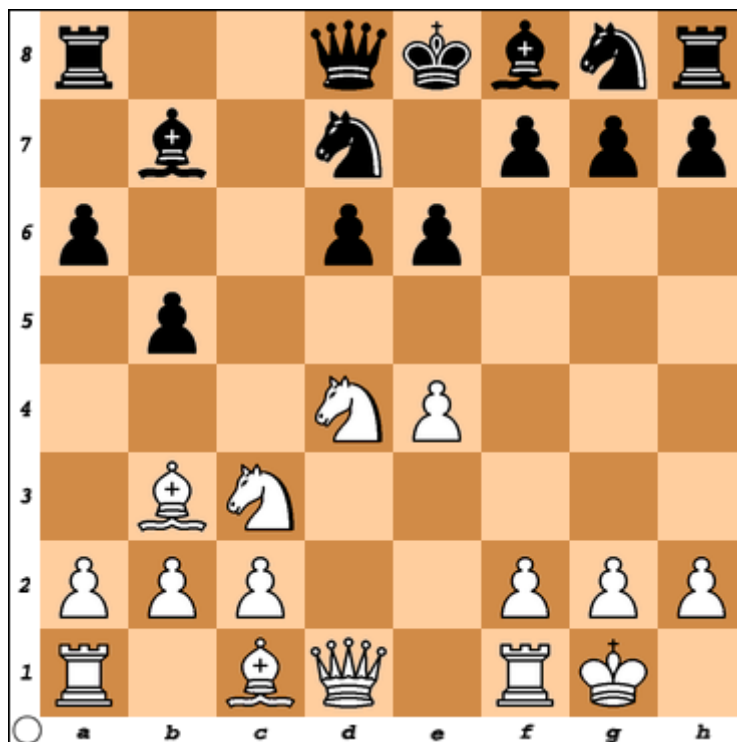
Diagram 9- going back, we found some defensive resources for white. In diagram 7 it's white to play, and after using vision we found a dangerous long term plan for black on the kingside. Thematically, here is an example where a flank attack is successfully met with a counterattack in the center. Starting from the position on diagram 7: d4!...e4, d5! And the game is totally equal, and the kingside pawn storm was successfully prevented.

Conclusions

Having completed this stage of threats analysis, we will move on to the second stage of the process of decision making in chess- positional evaluation. Whether the opponent has threats or not- that's going to determine the way we handle that second stage. We will either continue with our own agenda if we are safe, finding answers to the requirements of our position, or, if we are in danger we will choose the best responses to the threats we found.

Example 1- beginner level

Zbynek Hracek- Alexander Wojtkiewicz, New York open 1995



Stage 1: threats analysis

Remember, we are looking at threats by the opponent, in a position that doesn't change for us (the opponent got the second move in a row). If we do find a real threat, we will know what has to be changes in our position (it's us to play) to deal with it and compare the solutions in the next stage- positional evaluation.

Checks

None.

Captures

No good captures for black, Bxe4 fails.

Pressure

- ❖ e5: only helps white, after Nf5... Qc7 white improves his position.
- ❖ Nc5- white is not worse than he is now after the f3 response (protecting the e4 pawn a second time, as it's attacked twice).
- ❖ Ngf6- again, f3 works the same.
- ❖ Qb6- Be3 and white wins a tempo.
- ❖ Rc8- no real threat to use the pressure on the c3 knight.
- ❖ B4- white improves after Na4 (or Nce2).

- ❖ D5- loses material for black in the most forcing line, the d5 pawn is under-protected.
- ❖ F4- also loses material, the e6 pawn hangs.
- ❖ Qh4- white is doing great after f3, protecting the e4 pawn.

No other ways to create immediate threats (including tension).

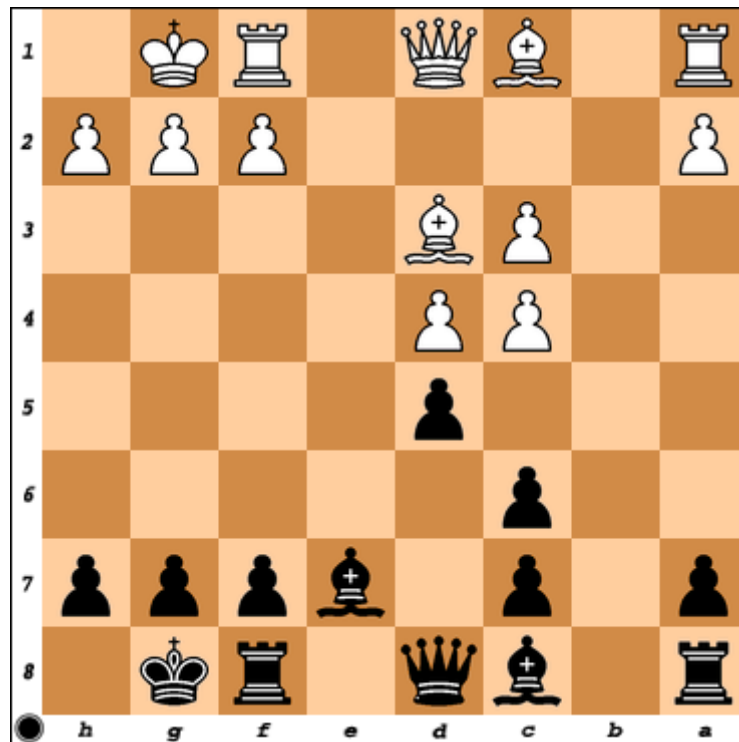
Vision for the opponent

- ❖ On the queenside- advancing the a6 pawn to a5-a4 is impossible, b5 will hang and after its capture a4 is impossible.
- ❖ In the center- nothing we haven't discussed as part of the immediate potential threats.
- ❖ On the kingside- black can dream of some kind of pawn storm with h5-h4-h3, maybe support the g pawn to advance as well with Be7. White shouldn't worry about black reaching this dream position though, since black's king is clumsy in the center, which can be opened by white.

Overall- white is safe to go on with his agenda not worrying about threats in this position.

Example 2- advanced level

Vassily Ivanchuk- Artur Jussupow, Novgorod 1995



Checks

- ❖ Bxh7- doesn't work after Kxh7, no strong continuation for white.

Captures

- ❖ Bxh7- already discussed.
- ❖ Cxd- not dangerous, we simply take back with the c6 pawn and black is ok.

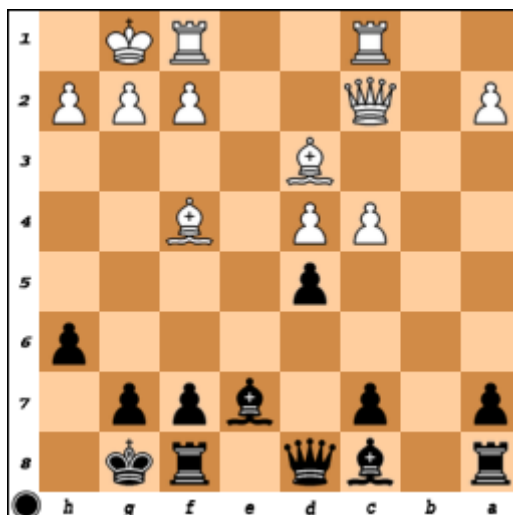
Pressure

- ❖ Qa4- easily answered with Bd7.
- ❖ Re1- can be ignored, no real threat to take on e7. We can also easily over- protect the e7 bishop.
- ❖ Qc2- an easy response is h6.
- ❖ Qh5- not dangerous after g6, which can also start the maneuver Bf6-g7 here for black.

No other ways for white to create any potentially dangerous pressure or tension.

Vision for the opponent

- ❖ On the queen side- no way for white to reach any remotely dangerous looking setup.
- ❖ In the center- cxd followed by Qc2 (black plays h6 not to lose material), Bf4, Rc1, c4- eventually threatening cxd and a threat to the c7 pawn:



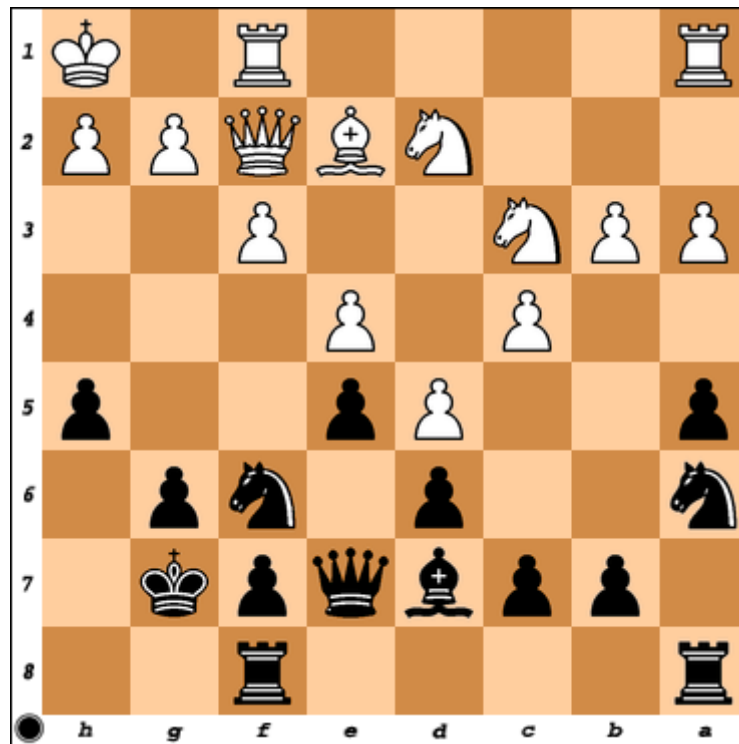
Even this position, where white got 5 moves in a row envisioning his dream position, is absolutely ok for black. After dxc and regardless of white's way to recapture (nothing else is better for him than to recapture on c4) black continues with Bd6 and it's about equal. It's clear that black has many resources to deal with any plan in the center for white in the original position.

- ❖ On the kingside- no dangerous setups or sequences are available on the kingside for white. We already discussed way of creating immediate pressure on h7, there were no continuations to that. Advancing pawns combined with any pieces transferred to the kingside doesn't create any real threats.

Overall- white has no threats in this position.

Example 3- expert level

Boris Gulko- Garry Kasparov, Novgorod 1995



Checks

None.

Captures

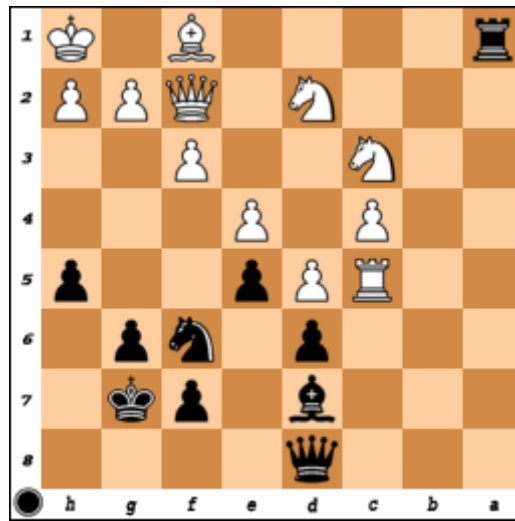
None.

Pressure

❖ B4- ...axb, axb...Nxb4, Rxa8...Rxa8, Rb1:

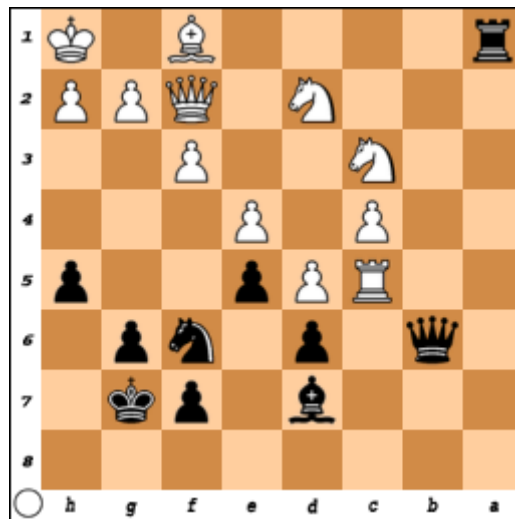


...Na6, Rxb7...Nc5, Rxc7...Ra1+, Bf1...Qd8 – now the rook is trapped and must capture on c5:

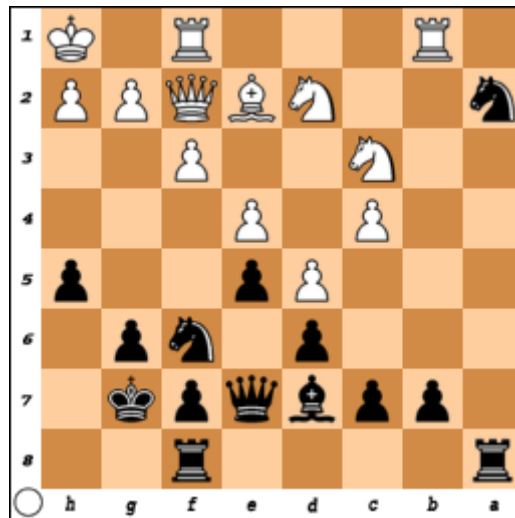


Does white simply get 2 pawns and a minor piece for the exchange sac, which is more than enough (after ...dxc5, Qxc5)? Not at all!

...Qb6!! And black is better:

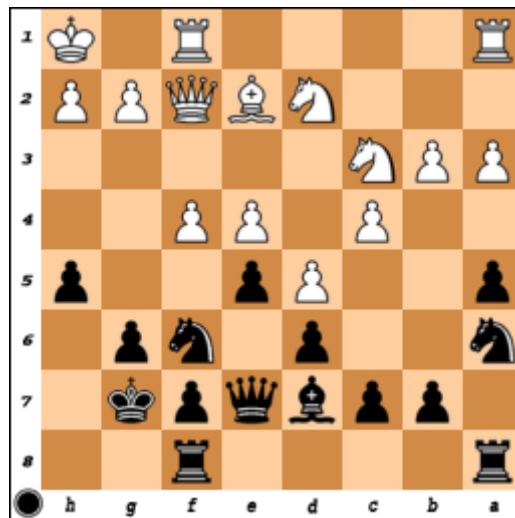


We can also see that if instead of Rxa8 white went immediately Rb1 it wouldn't have been better, after ...Na2! :



And black is better with threats of his own.
Overall, b4 isn't a threat.

❖ F4-



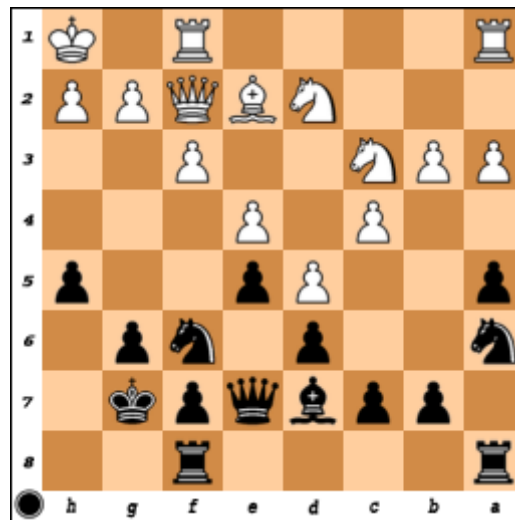
Black isn't in danger after ...exf4, Qxf4. The arising variations are safe for black, and Qxf6 isn't a threat since it's not dangerous.

❖ G4- only benefits black, since he's better prepared to use the h file for his rooks after the most forcing line hxg.

No other potentially dangerous ways for white to create pressure or tension.

Vision for the opponent

The original position:



- ❖ On the queenside- preparing better for b4 doesn't help white. Black can always play Rfb8 and not care about white capturing the a pawn (his a file pawns will be doubled, weak, and eventually a5 will be recaptured with the rook) or advancing to b5 (black just plays Nc5 and doing great).
- ❖ In the center- no serious possibilities for white, c5 is inaccessible and well-guarded. Any preparation for f4 also doesn't help make it dangerous (g3 fails to Bh3 breaking white's coordination).
- ❖ On the kingside- no dangerous build- up or pawn storm is possible for white.

Overall, there are no real threats for black to worry about in the given position.

Stage 2: Positional evaluation

In this stage the goal is to come up with a plan and a candidate move to answer the requirements of our position.

The only reasons for a certain move must be to answer the requirements of our position, without any other influences on our objective judgment such as memorized positions, past experience with certain moves, playing style, mood or anything else. Only one guiding line should stand before us- **answering the requirements of the position.**

Positional evaluation breaks down the strategic part of the game into 4 criteria: space, development, quality of pieces and material. The order is not accidental; each criterion is the basis for the next one. We enable best development by controlling the right space. We allow good quality by correctly developing the pieces.

Material is somewhat of an outsider in this field. As important as it is, it's last in the order of criteria and not by chance, because we care about material last. We play squares and positions in chess, and the result isn't determined by the amount of material for each side.

Motivation

In order for us to find the correct plan and moves in a given position we need to understand the requirements of the position. In each of the 4 criteria of positional evaluation we will study how to determine which side has the advantage, and accordingly deduce the requirement for that criterion.

If in a certain criterion we learned that the opponent has got the advantage, the requirement would be to decrease it. If we are the ones to have the advantage in a specific criterion- the requirement would be to increase it.

In each criterion separately we will go over this process of evaluating who has the advantage, drawing out the requirements, and suggesting moves to answer these requirements.

Eventually, after we finished processing each criterion, we will end up with a list of moves, each answers one or more requirements. From that list we will choose the one move that answers the most number of criteria in the best possible way.

Later we will also discuss cases where the final choice isn't trivial.

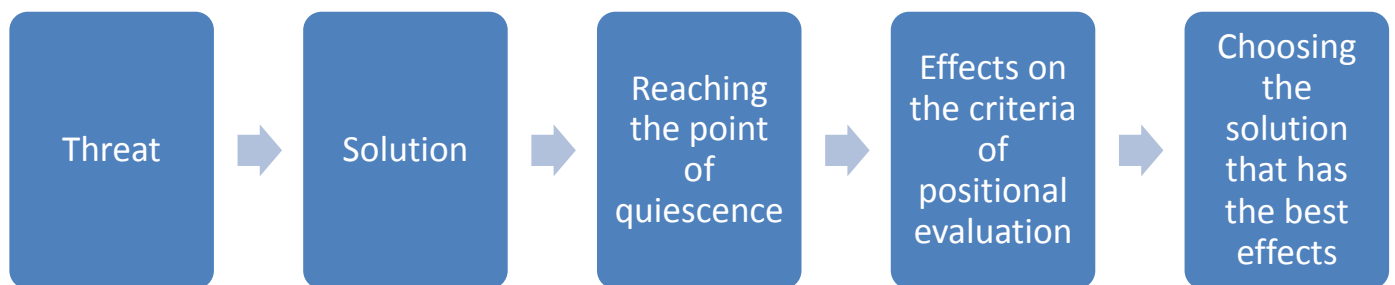


Approaching positional evaluation

The way we will use this stage of decision making depends on the results of the previous stage, the threats analysis.

If we are safe in the position, and there are no threats against us, we will go through the full process described above, finding out requirements and offering solutions in form of moves.

But if there are threats against us, we can use a "shortcut" version of positional evaluation. In that case, we can first suggest solutions to the threats, making sure they really either prevent the threats or make them not dangerous. Then, to choose the best response to the threats, we will compare them by looking at the effects of each solution on the criteria of positional evaluation, making this comparison once we reached the point of quiescence for each solution's variations.



Of course, even if there is a threat we can go on through the full process of positional evaluation and we should still reach the same conclusion, investing more energy in the process.

The difference between the two is that in the first option, which is the more thorough, we study the position in depth, going through a constructive method that assures us we will reach the best answer if done correctly. The "shortcut" method, used when there are threats against us, doesn't guarantee we will find the best solution as we depend on our own ability to look at all the possible answers to a certain threat. This is the reason that in the "shortcut" version of positional evaluation we must be thorough scanning the board for all the possible ways to respond to a threat.

Still, the "shortcut" version is absolutely ok to use when we are under threat, as the selection of moves is already very narrow- only moves that answer certain threats. For that reason, in case we aren't under threat, we will use the regular method, not the "shortcut" version, as there could be a much bigger number of options for us to choose from and our selection of moves can be very wide.

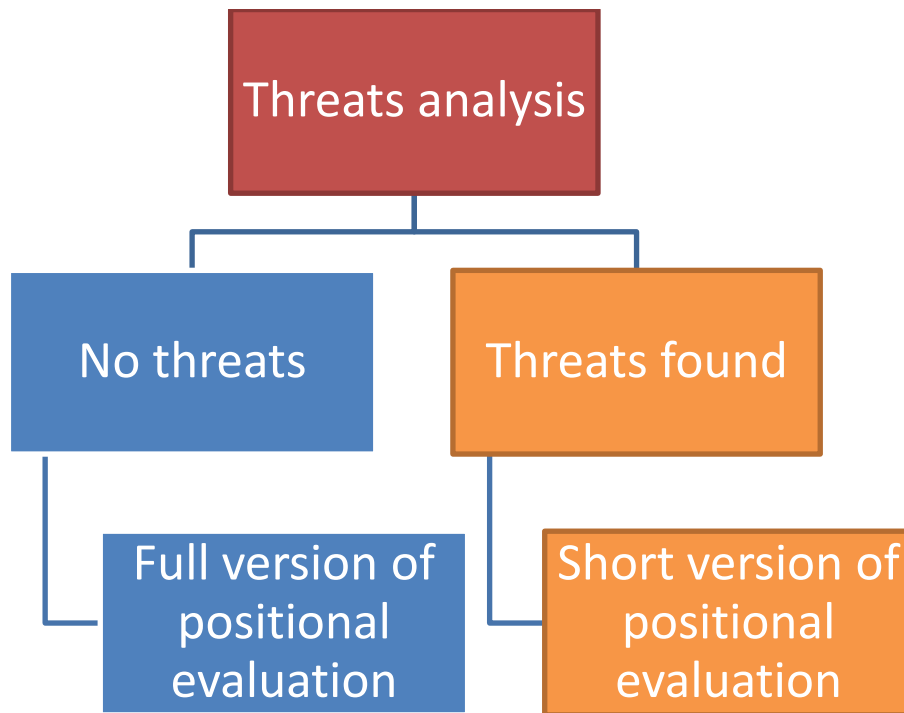


Diagram 10- this position is a typical case of when to use the short version. Here we must decide which reply would be best to the existing threat by black (...e4), and there are at least 3 moves to evaluate here. We will reach the point of quiescence in each arising variation, and only then compare between all the solutions based on the positive/negative changes that happened to each criterion of positional evaluation (space, development, quality of pieces, material).

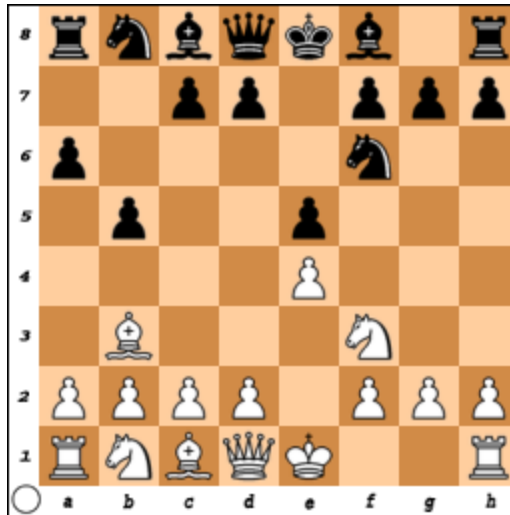


Diagram 11- a typical position for the full version of positional evaluation. No threats by black (calculate what happens if $Nxe4$ here), purely a strategic position.

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