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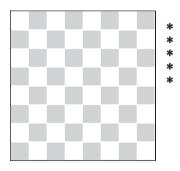
Explanation of symbols

The chessboard with its coordinates:



- □ White to move
- Black to move
- 🖄 King
- 響 Queen
- 🗏 Rook
- 🏂 Bishop
- 🖄 Knight

- \pm White stands slightly better
- \mp Black stands slightly better
- ± White stands better
- \mp Black stands better
- +- White has a decisive advantage
- -+ Black has a decisive advantage
- = balanced position
- ! good move
- !! excellent move
- ? bad move
- ?? blunder
- !? interesting move
- ?! dubious move
- + check
- # checkmate



Preview exercises, questions and quizzes have 1-5 stars next to the diagram to indicate the level of difficulty of the position. More stars indicates a higher level of difficulty.

Introduction

You must take your opponent into a deep dark forest where 2+2=5, and the path leading out is only wide enough for one. – Mikhail Tal

What is a Hidden Law of Chess? Chess is a game of perfect information, meaning that both players are perfectly informed of all the events that have occurred since the start of the game up to the present situation; there is no hidden information, as each player can see all the pieces on the board at all times. A small set of rules stipulates what both players can and cannot do, and they have a clear pre-determined objective. Naturally, the players try to fulfill their objective by optimizing the positioning of their forces.

Given the specific ruleset of chess, there are good and bad ways to play the game. With The Hidden Laws of Chess, I refer to the deeper patterns that underlie good play. This is sufficiently vague to give us many directions we can go in!

In this book we will cover a large variety of topics. Central is the theme of dynamics. We will discuss the intricacies of material (im)balance in chess. This includes flashy combinations, but also long-term sacrifices where we are looking for a multitude of ways to obtain compensation. There is also a full chapter that covers tools for calculation, which form the foundation of dynamic chess. Moreover, we cover and introduce several chess concepts, such as field of vision, the impact of error and the price of a move. These concepts seem to be borrowed from biology and economy manuals, but they have a distinct application in chess.

In Volume One, we studied pawn structures. It turns out that in different pawn structures, distinctive guidelines can be established. For a study of dynamics, we need a different approach. Dynamics cannot be characterized in terms of particular types of positions. Rather, dynamics are present in any position, albeit to a greater or lesser degree. Nevertheless, it is possible to make generalizations. Dynamic energy tends to be high in open positions with fewer or no (central) pawns, while dynamic energy is lower in closed positions with many (central) pawns. Still, these are not the type of generalizations that we are looking for in this book. We will rather discuss all sorts of positions and pay close attention to situations where dynamics give rise to new opportunities.

What are dynamics? If we want to understand dynamics, we need to do a broad study of imbalances. The meaning of dynamics becomes most apparent when contrasted to statics. Material and pawn structure can be regarded as *static forces*. Their presence on the board is persistent. Typically, having a significant material advantage should often bring victory. If you have more or higher-quality forces to work with, it should be a matter of time and technique before the static forces can be leveraged.

Why is pawn structure also characterized as a static force? Since pawns can only move forward and not sideways, deficiencies in pawn structures can be hard to correct. Isolated doubled pawns are an example of a static defect that can cause long-lasting problems. It is permanent static deficiencies that can easily be exploited by the opposition.

Dynamic forces on the other hand are impermanent. These forces comprise of aspects such as activity, harmony, coordination, and king safety. Dynamic forces have a fleeting character because their effects can be increased or decreased with every turn. For instance, the defending side can catch up in development, or a vulnerable king can find shelter. Together, the static and dynamic forces determine the evaluation of a position.

One way to look at dynamics is in terms of quality versus quantity. The most notable dynamic imbalance arises when one side sacrifices material. This gives the attacking player the burden of proof – the material disadvantage is static and hence permanent. So, the attacking side needs to regain the material immediately or search for long-term *compensation*. This is a subject that we will cover extensively in Chapter 4. Compensation can be found in a large variety of areas, such as superior pawn structure, the exploitation of weaknesses, vulnerability of the king, superior piece placement, etc. The attacking side claims that his or her pieces are of superior quality, despite the numerical material deficit. Remember: sacrificing material is not a big deal – your remaining pieces simply have to work a little harder!

Dynamics are the condition of generating energy on the chessboard. Pieces are cooperating with such harmony that they strengthen each other. The ancient Greek philosopher Aristotle asserted that, 'The whole is greater than the sum of its parts.' Or, in simpler terms: 2+2=5, as Mikhail Tal said so famously at the start of this introduction. When dynamic energy is high, the material balance on the board is no longer relevant. All that matters is the function that the pieces are currently performing on the board. If dynamic energy is high, material gain can be guaranteed, or the opposing forces may be so restricted that it will be impossible for them to become active.

Dynamics and statics are like yin and yang. Despite their contrarian nature, they are complementary. When dynamics and statics are in

balance, we often speak of dynamic equality: the dynamic energy of one side fully compensates for their static deficits. However, when static and dynamic forces are out of balance, one of the armies will be victorious. If the static forces are prominent, the defending side will slowly be squeezed and eventually go down without a real fight. There is little room for counterplay. On the other hand, if dynamic forces are prominent, the carnage will be swift. All the dynamic energy is bundled together, and the opposing army is quickly overwhelmed.

I am aware that I may have given rise to many different definitions or interpretations. Sometimes, it is difficult to put a concept into words, because words don't do full justice to the concept. Short formulations leave something missing, whilst long formulations can be messy and cumbersome. In such instances, examples can be more illuminating than definitions. Therefore, we will discuss a modern classic that perfectly encapsulates all the aspects of dynamics. It is a battle between two chess giants who embody dynamics in modern chess.

Game 1	
Levon Aronian	2802
Viswanathan Anand	2772
Wijk aan Zee 2013	

1.d4 d5 2.c4 c6 3.如f3 如f6 4.如c3 e6

The Semi-Slav has been a staple in Anand's repertoire for decades and he applied this opening particularly successfully in his World Championship Match against Vladimir Kramnik in 2008. Recently, the Semi-Slav started to resurge, and nowadays it is regarded as one of the most respectable answers to 1.d4.

5.e3 公bd7 6.皇d3 dxc4 7.皇xc4 b5 8.皇d3 皇d6 9.0-0 0-0 10.響c2 皇b7 11.a3 罩c8

We are witnessing the Meran Variation, in which play has been fairly standard up to this point. Interestingly, Anand intends to forego the preparatory move ...a7a6 and tries to free up all his pieces with ...c6-c5 on the next move.

12.@g5

Aronian opts for a very aggressive continuation. He immediately targets the vulnerable h7-pawn, and 12...h6 would be met effectively by 13. (2) ge4, creating a bind on the important c5-square. However, Anand has other ideas in mind.



12...c5!

Typical dynamic play. After Aronian has moved his king's knight for the second time, Anand takes the opportunity to remedy the static weakness of the backward c6-pawn and activates his pieces by means of a pawn sacrifice.

13. 🖄 xh7?!

Already somewhat inaccurate, as it allows Anand to launch an attack. From now on White needs to defend accurately to maintain the balance.

A) Obviously, 13. 2xb5? is bad since it would destroy all harmony in White's position: 13...cxd4 14.exd4 h6 15. 16. 2xf3 2d5. White's pawn structure is horrible, his pieces are ineffective and the king is vulnerable. Black has winning compensation;

B) 13.皇xh7+ is correct: 13... 當h8 14.f4 g6! 15.皇xg6 fxg6 16.公xb5 皇b8 17.公xe6 營b6 18.公xf8 公xf8, with a total mess. Sam Shankland has analyzed this position extensively in his Chessable course on the Semi-Slav, and he believes that Black is fine. However, with the extra material, White at least has some trumps of his own.



13...Øg4! 14.f4?!

The first real mistake, landing Aronian in a difficult position.

14.h3 was the only correct move. After 14... 魚h2+ 15. 哈h1 營h4 Black threatens a decisive capture on h3. However, White has the tools to maintain the balance: 16. 魚e4 魚xe4 17. 營xe4 f5 18. 營xe6+ 哈xh7 19. 營xd7 魚b8!? 20. 哈g1. The only move, since Black was simply threatening to capture on f2. If Black wants to, he can now force a draw by repetition with 20... 魚h2+.

14...cxd4 15.exd4?!

With the lack of harmony between White's pieces, as well as his vulnerable pawns, it is unsurprising that Black has an effective dynamic continuation. Anand now initiates a spectacular sequence of moves that defined the legacy of this game. The margin for error, a concept further explained in Chapter 2, is high in chess, so despite Aronian's previous inaccuracies, his position was still defendable. White could have played 15.公xf8 皇xf8 16.h3 dxc3 17.hxg4 ₩h4 18.g5 @c5 19.bxc3 響g3, when Black maintains excellent compensation for the severe material deficit. but with accurate defence White should hold.





A lovely sacrifice that further opens the position. After sacrificing a pawn, Black leaves the rook on f8 en prise, while also moving a bishop to an attacked square. To even consider such a move requires a lifelong devotion to dynamics. But this is only the beginning of the fun!

16.<u>ĝ</u>e2?

Aronian believes Anand's concept, giving him too much credit; now he is lost. It is clear that White couldn't take the rook. but he should have taken the piece: 16.dxc5 公xc5 17.h3 營d4+ 18.會h1 公xd3 19.公xf8. Black's pieces are coming in, but White is still up a lot of material. Aronian should have tried this, since there is no clear-cut win for Black here: for instance, 19...公df2+ 20.罩xf2 ②xf2+ 21.會h2 ②d3 22.②xe6! fxe6 23. 響d1! 響f2 24. 響g4 (with a cunning queen manoeuvre, White narrowly secures his king) 24... 響e1 25.響g3 響xg3+ 26.當xg3 a6. With his queenside inactive, White's position remains inferior, even in the endgame. However this is obviously defensible.

As White's defensive resources are very limited, we can't criticize Aronian too much for not trusting the capture of the piece on move 16. Instead, we should be grateful for his collaboration in this masterpiece. It does take some black magic by Anand though, with the most powerful spell being performed on the next move:



16...②de5!!

Dazzling dynamics! The knight lunges to a square that is attacked by both of White's central pawns. Moreover, the black bishop and rook continue to be en prise. Anand splendidly calculated all the possibilities and figured out correctly that White has no good reply. **17. 2xg4**

All captures deserve attention:

A) 17.fxe5 響xd4+ 18.當h1 響g1+!! 19.罩xg1 公f2# is the main point of Anand's combination. In chess, many beautiful variations will not manifest on the board. However, they will always find their way into the annotations of games;

B) 17.dxc5 營d4+ 18.含h1 ②f2+
19.罩xf2 營xf2 is winning for Black.
17... 盒xd4+ 18.含h1 ③xg4 19.④xf8



19...f5!!

The Wijk aan Zee chess

tournament is the most prominent annual tournament for Dutch chess fans, and I remember watching the live commentary at the time. The commentators were clearly rooting for Anand to find 19...f5, and when he managed to, everybody was just in awe.

The most difficult aspect of the move is even considering it in your list of candidate moves in the first place, since it offers the stranded knight on f8 two escape squares. The key idea is that Black prevents White's annoying check on h7. and Black now threatens to win with ... 響h4 on the next move. In an interview afterwards, Anand mentioned the striking similarities of his position to the classic game Rotlewi-Rubinstein, Lodz 1907. Indeed, the menacing bishops, queen, rook and knight fulfill an almost identical role. This splendid game was the culmination of Volume One, so in Part I we are

Epiphanies

continuing exactly where we left off.

20.公g6 響f6 21.h3 響xg6 22.響e2 響h5 23.響d3



23...**≜e**3!

A beautiful finishing touch. The lethal threat of 24... \Re xh3# can only be stopped at the price of a large amount of material. Only 23 moves have been played, but so much has happened! Anand's moves were spectacular and his precision was extraordinary. 24. \Re xe3 \oslash xe3 25. &xe3 0-1 As long as chess is played, this game will be remembered. When I think of the concept of dynamics, I have this game in my mind vividly!

Let's go on a brief tangent and turn to the most beautiful word in the English language, *epiphany*. An epiphany is an illuminating realization. It is the moment when words are rearranged in such a way that their meaning gives rise to a new perspective. An epiphany occurs when novelty, logic and bewilderment are operating in perfect harmony.

Have I ever experienced any epiphanies in chess? For my work as a chess columnist for a Dutch newspaper, I need to keep up with recent developments in the chess world. Hence, I scroll the discussion website Reddit from time to time, since developments and interesting opinions by important figures are presented there almost instantaneously. You might think that this website is not the best place to find wisdom. After all, during the Carlsen-Niemann controversy, many users truly believed the absurd 'prep leak theory'. This theory entailed that Magnus Carlsen withdrew from the 2022 Sinquefield Cup because one of his seconds had supposedly leaked his preparation to Hans Niemann. Still, wisdom can be attained anywhere, and I recently discovered a wonderful new perspective on the game of chess on this website.

In one thread, a member was discussing the differences between chess and shogi (Japanese chess). In shogi, you can deploy pieces you have captured from the opponent into your own army, akin to the chess variant crazyhouse. Hence, the board will continue to be occupied by pieces and you will never reach an endgame. Therefore, shogi is a more tactical game than chess and players are more reliant on calculation rather than strategy or knowledge. The member argued that his discovery of shogi showed him the 'flaws' in the game of chess. He established that the power ceiling in shogi is higher, since he can still make sense of the moves of grandmasters like Caruana or Svidler in chess, but when a shogi professional is playing, it looks like a totally different game. Then came a response with a thoughtprovoking perspective:

Chess is not hard because good moves are hard to find ... Chess is hard because bad moves look good too, and you're tricked into playing them.

This is a marvelous way of looking at the game of chess. It is also a perspective that I hadn't thought about before, so all the ingredients of an epiphany are present! Indeed, when we look at the games of top players, most moves often seem to be perfectly within reach of our own capabilities. However, when we start playing ourselves, everything suddenly becomes fuzzy. We are attracted by the wrong moves, we think that there is compensation when there is none, we are missing refutations, and we fail to allocate the right amount of time to calculating the most promising candidate moves.

How can we differentiate between good moves and bad moves when they all look the same? Mastery of this task requires a lifetime. Anyone who thinks that chess is easy is in dire need of an epiphany.

I hope you will encounter some novelty, logic and bewilderment in this book. And perhaps, if the stars align, the material presented in it may even give rise to an epiphany. But let's not get ahead of ourselves and engage in wishful thinking.

Have a great read!

Nick Maatman Groningen, October 2024

CHAPTER 1

Calculation

Chess is an extremely concrete game, and much more so than we thought twenty years ago. – Maxime Vachier-Lagrave

Thinking in chess comprises of two essential elements. There is *calculation*, which we will discuss in this chapter, and there is judgment, which gets attention in the next chapter. Calculation is the art of contemplating moves. It is the process of considering options and ways for your opponent to react to your moves. If I do this, then he does that. Then I answer thus and he will be shaking his head.¹ When you are calculating, you are building trees of possible variations.

In the introduction, we established that what makes chess difficult is not the process of finding good moves, but rather the differentiation between good and bad moves. Calculation is our main tool to effectively make such differentiations. By contemplating several moves down the road, we can figure out which paths lead to trouble and which path leads us to the promised land.

A critical facet of calculation is visualization. Visualization is the process of imagining pieces on places on a chessboard on which they are currently not standing. Visualization is a vital process that is developed during play and by practicing calculation in exercises. An effective method of training visualization during practice is by solving exercises without touching any pieces. This way, you can mimic the experience of a real game. When submitting a solution, ideally you should force yourself to consider the major defensive possibilities, and you should have all your follow-up moves ready.

Another facet is the order of attention. This is the process of deciding upon which candidate move deserves attention first. How should we decide which moves deserve our attention and which moves should be disregarded? This is far from a trivial question to answer. To a certain extent, it is a mystery why we think what we think. We have very little control over what thoughts will appear next in our brain. So, if our thoughts are so hard to control, then how can we make any progress at all? This is where pattern recognition comes into play. Our thoughts

¹ Renowned chess coach and grandmaster Jacob Aagaard originally wrote in Excelling at Positional Chess, 'If I do this, then he does that. Then I answer thus and he will be shaking like a leaf in fear.'

are a product of our experience. By feeding the mind with high-quality information, we increase the likelihood that it will produce the right solutions to our problems.

While pattern recognition forms the foundation of our chess thinking, there is a tool at our disposal when we have to decide upon the order of what to give attention to. Some moves are naturally more worthy of our consideration than other moves. During calculation, our main focus should be on forcing moves. Forcing moves are moves that force a reaction by the opponent. Typical forcing moves are checks, captures and threats. The benefits of forcing moves are that they limit the possible reactions available to our opponent. The opponent is forced to react to a check, adhering to the rules, he will lose material if he does not come up with an adequate response to a capture, and if the opponent fails to react to a threat this may also lead to heavy material loss or a quick checkmate. Since the opponent only has a limited number of options in response to a forcing move, the task of calculation becomes more manageable. If the tree of variations has few branches, it will be easier to calculate deeper into each branch.

Between the three types of forcing moves, there exists a hierarchy, with checks being the most forcing and threats being the least forcing. In this chapter, we will cover each type of forcing move separately and assign them to levels:

Level 1: Checks Level 2: Captures Level 3: Threats Level 4: Improving moves

About the fourth level: we will get to that in due time. All positions in this chapter are particularly suited for calculation and can be treated as exercises. We will develop our *tactical awareness* by delving into positions where tactical opportunities are ubiquitous. We will train our visualization by diving deeply into variations. And finally, we learn how to build trees of variations with very few branches by focusing on forcing moves. Let's have a discussion of all four levels separately.²

² In his book Improve Your Chess Calculation, the renowned chess coach RB Ramesh adds a fifth category called 'pawn breaks'. I like this addition, but we will stick to the basics in this chapter. American author Charles Hertan even wrote an entire book on the subject of forcing moves. He divided the material into several chapters, including the subject of promotion-based combinations. A pawn promotion can also be regarded as a forcing move, because it leads to a large gain in material. Still, the simple distinction between checks, captures and threats already gives us plenty to think about!

Level 1: Checks

Part of the difficulty of chess is to know what sort of moves to look for in any given position. Very strong players can rely on their intuition to guide them. When Magnus Carlsen plays, it is fascinating how quickly and accurately he grasps what is going on. His enormous experience allows him to unconsciously separate the wheat from the chaff - he only considers moves that are worth considering. We, students of the game, look for shortcuts. We would love to be able to calculate like Carlsen, and we'd like to improve our calculation with as little effort as possible. Unfortunately, such shortcuts do not seem to exist. Magnus Carlsen does not really look differently at a position than any ordinary player. Methods such as the one Kotov proposed in Think Like a Grandmaster are rarely applied effectively. Chess thinking is chaotic. We jump back and forth between all sorts of possibilities, always in self-doubt.

Calculation is a skill that can be learned. Intuition, on the other hand, is developed by experience. Even though effective methods to guide our thinking have not been established in chess, that does not mean that we cannot rely on protocols. The concept of a forcing move has a very clear definition. It is a type of move that limits the opponent's possible or sensible answers. Forcing moves keep our calculation task manageable, despite the exponential nature of the game.

We will start with the most forcing move of all: the check! A check is an ideal threat: we threaten to 'win' the game on the next turn. The opponent is bound by the rules to defend against the check. A check can only be responded to in three ways: a capture, a block or interference, or a king move. So a check severely limits the opponent's legal possibilities. Because of their forcing character, checks are a formidable tool in our calculation tool kit. They allow us to build a tree of variations with few branches. Let's start with a classic miniature.

Game 2 Richard Réti Savielly Tartakower

Vienna 1910

Nowadays, this provocative knight move is the epicentre of the Caro-Kann. It has completely dwarfed out the old main lines with 4....皇f5. 5.營d3?!

Only 5.⁽²⁾xf6+ is a challenging reply. Black's response 5...exf6! gives rise to interesting dynamics, and we will give it more attention in Chapter 6.

5...e5?

Completely unwarranted. Tartakower is known for his chess wisdom, providing us with many fascinating aphorisms. Yet, here he goes against the common wisdom that one shouldn't open the position when behind in development. Instead, 5...公xe4 6.豐xe4 營d5 was one way to equalize.

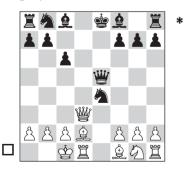
6.dxe5! ₩a5+ 7. Ձd2 ₩xe5

As MVL said, chess is a concrete game. We can throw around as much chess wisdom as we want, but what truly matters is whether the variations are working out or not. Here, Tartakower would be completely fine if Réti defended the knight with a move like 8.f3. However, Réti had seen deeper... **8.0-0-0!**

A nice piece sacrifice. Réti prioritizes development. What does he have in mind?

8...∕⊙xe4?!

Tartakower accepts the invitation. Obviously, 8...豐xe4 fails to 9.罩e1. However, Tartakower's capture seems playable on the surface.



Question: How should White take advantage? (Hint: look for forcing moves!)

A Level 3 solution, a threat, would be 9.罩e1!?, threatening to win back

the piece. After 9... £f5, White has the powerful move 10.g4!, chasing away the bishop. Now 10... £g6 is met by f4-f5!, winning on the spot, while 10... £e6 allows White to regain the piece with a sizable advantage. Nevertheless, we are still at Level 1, so we should look for checks. What checks does White have available?

9.**鬯d8+**!!

Tartakower must have fallen from his seat. Réti sacrifices a full queen to unleash the power of his rook and bishop. Now the tree of variations is like a Bonsai – both narrow and short.

9...∲xd8 10.∦g5+

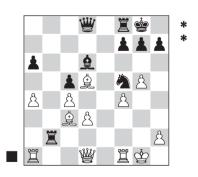
A double check is even more forcing than a check, because it can only be met by a king move; interferences and captures no longer work. Now there are two options: 10....\$e8 runs into 11.\$\$\vec{1}\$d8#, while in the game Tartakower allowed an even more splendid finish:

These variations were not particularly difficult to calculate. The line that started with 9. 28 d8+!! was only three moves deep and there was only a single fork in the calculation tree. The difficulty was rather to sense that an opportunity was there. Once the move 9. 28 d8+ enters our mind, we should be able to solve the problem rather easily. Here, pattern recognition also comes to the rescue. Perhaps you hadn't seen this classic example before, but you saw a similar

combination somewhere? I can recall seeing similar combinations with 營d8+ where there was still a black pawn on c7, so the king could only return to e8. Even remembering such a pattern helps. Knowing the pattern can remind us that this queen sacrifice can be a possibility! Then we have to apply concrete calculation to make sure that 10.... \$c7 can also be refuted. A skeptic might claim that the above position can only be solved by means of pattern recognition. So if you haven't seen this pattern before, it would be impossible to find.³ I want to be more optimistic and make the claim that a trained eye can also spot forcing moves that emerge from patterns outside the scope of common chess education. Let's move on to another example.

Game 3

lan Nepomniachtchi	2771 2839
Magnus Carlsen	
Chess.com 2023	



Question: Can you figure out the best move in this position? Try to take all the relevant branches into account.

Did you find the solution to this problem? Then you did better than Magnus Carlsen, who missed this golden opportunity. In the game, he continued by sacrificing the exchange:

This was nevertheless the secondbest way of proceeding, but now it is White who has the advantage. Later, Nepomniachtchi even had a winning advantage, but the game ended in a draw.

Obviously, Carlsen wasn't notified that something special was available in this position. For some reason, the move 24... ¥xg5+!! didn't enter his field of vision, a concept that we will revisit. So even one of the best chess players in history can benefit

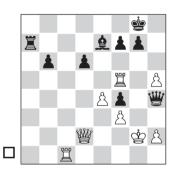
³ This form of reasoning notably fails to an infinite regress. There must have been someone who discovered this type of queen sacrifice first! After all, in the year 1910 there were no computers to provide guidance.

from paying some more attention to forcing moves.

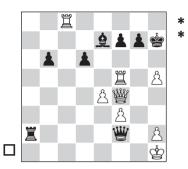
Are moves like 24... gxg5+!! even outside the scope of the best players in the world when they receive no notification? That is not necessarily the case. In the following famous game, Carlsen uncorked an even more beautiful queen sacrifice:

Game 4 Magnus Carlsen Sergey Karjakin

World Championship Match, New York 2016



Needing just a draw to defend his World Championship title, Carlsen is in an amazing situation. White is technically winning due to his material advantage and, most importantly, it is hard to foresee how Karjakin can obtain any chances to turn the situation around. Nevertheless, Carlsen now opts for a continuation that appears unnecessarily risky at first glance. But nothing is risky in chess if you calculate well! We will explore the topic of risk in chess further in Chapters 3 and 4. 47.豐xf4!? **三a2+ 48.**當h1 豐f2 Black has suddenly obtained a strong threat of his own with 49...豐g2#. **49.三c8+** 含h7



Question: Carlsen just abandoned all the defences in front of his king to go all-out on the attack. What did he have in mind here?

50.₩h6+‼ 1-0

Mind-bogglingly beautiful! The queen is put en prise on a square where it can be captured in two different ways, but both captures allow a checkmate on the following move: 50...gxh6 allows 51.罩xf7#, while 50...含xh6 51.罩h8 is also checkmate.

This position might go down as the most splendid final position in a World Championship Match of all time, since it will be difficult to surpass this feat. The best calculators in the world can trust in their ability even when the stakes are highest. It requires extraordinary board vision and imagination to even contemplate moves like 50. Wh6+!!, especially several moves in advance.

Exchange sacrifice

Like a pawn sacrifice, an exchange sacrifice is a relatively small investment. Even after a rook is exchanged for a minor piece, both sides are still playing with the same amount of 'wood'. It's just that a rook is supposedly of higher quality. What you are looking for if you want to sacrifice an exchange are positions in which the minor pieces thrive, and the rooks suffer. Typically, this is the case if there are still many pawns present on the board. so that the rooks fail to find open lines. The quality of the pawn structures very much comes into consideration when positional exchange sacrifices are evaluated. By inflicting damage to the opposing structure, the minor pieces often obtain strong squares, and the rooks will have a hard time defending the weaknesses. Of course, when we think of positional exchange sacrifices, there is no rendition more iconic than the exchange sacrifice of a rook for a knight on c3 in the Sicilian.

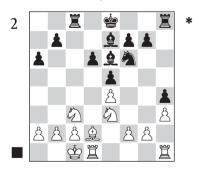
Game 34

Arturs Neiksans	2590
Alexander Donchenko	2602
Club League, France 2022	

1.e4 c5 2.②f3 d6 3. 愈b5+ ②d7 4.d4 cxd4 5.豐xd4 a6 6.愈xd7+ 愈xd7 7.②c3 e5 8.豐d3 罩c8 9.②d2 愈e6 10.②f1 愈c4 11.豐g3 h5 12.③e3 h4 13.豐f3 愈e6 14.h3?! Neiksans shows a little too much respectfor the black h-pawn. Did he get preview access to Chapter 6? He should have prioritized immediate development with 14. 2d2, followed by castling queenside.



An excellent move, and highly instructive. Black may have a weak square on d5, but after the exchange of queens White has some difficulties protecting the e4-pawn. **15. ^wxf6 ^(b)xf6 16. ^(c)d2 ^(c)e7 17.0-0-0?** A clear mistake that allows Donchenko to take control of the trajectory of the game. Overprotecting e4 with the 'ugly' 17.f3 was necessary.



17...**¤xc**3!

A fantastic positional exchange sacrifice. What makes this version

so special is that it happens after the exchange of queens, and it doesn't even spoil White's queenside structure.

18. âxc3 2xe4 19. âe1 âg5!

Another lovely move that is a vital part of Black's concept. Black is going to exchange his bishop for the knight, thereby forcing a recapture by White's f-pawn. This trade makes Black's dominant central knight virtually unassailable.

20.b3 d5 21.\$b2 \$xe3 22.fxe3 f6



This is a good moment to take stock. How should this position be evaluated? Materially, Black has a pawn and a knight for a rook. In itself, this is insufficient compensation, especially in an endgame. Moreover, White's pawn structure looks relatively healthy. So what assets does Black have to compensate for the material deficit? Firstly, the knight on e4 is an absolute monster. It can't be expelled from its post, and it is currently completely dominating White's bishop. Secondly, Black has an amazing pawn structure. His pawns control a lot of space, they are flexible, and they are

severely limiting White's options. In fact, White's only available pawn break is c2-c4, but this will come at the cost of a pawn. However, most importantly, White's rooks have very little space to work with. Rooks need open files to be effective. As long as Black is able to maintain the closed nature of the position, White's rooks will be powerless and can't live up to their full potential. It is critical that, while White has a hard time creating counterplay, Black has clear ways to improve his position. His positional compensation is in fact so strong that he is probably technically winning.

23.a4 🔄

23...b6! would have been even more classy, to prevent White from fixing the queenside.

24.a5 g5 25.≝f1 🖄g6 26.≜b4 f5



27.c4?!

At last, Neiksans is running out of patience and he tries to open some files. This decision comes at the price of a second pawn, and thus Black now obtains sufficient material compensation for the exchange. Instead, White should have adopted a waiting strategy. However, this is incredibly difficult psychologically. In light of a waiting strategy by White, Black's conversion wouldn't be straightforward, since any attempt to further expand the pawn formation on the kingside would allow White to open the position and give the rooks some fresh air. **27...dxc4 28.bxc4 29.Ig1 2b5 30.Id5 61.Igd1 2c6 32.I5d3 Ie8 33.2e1**



33...f4!

Black's pieces continue to be very stable and Donchenko is now ready to expand further.

34.exf4 exf4 35.Ġa3 Ġf5 36.Ïd8 Ixd8 37.Ixd8

Typically, exchanging a pair of rooks favours the side that is ahead by an exchange. Unfortunately for White, here Black has made so much progress already that it is to no avail. White's king is idle on the queenside and Black can soon start mopping up White's kingside. White's remaining rook has no weaknesses to target since everything in Black's camp is so well protected. 37...∅g3 38.¤f8+ ģg6 39.¤g8+ ģh6 40.¤h8+ ģg7 41.ዿc3+ ģf7 42.¤h7+ ģg6 43.¤g7+ ģh6 44.¤g8



A rook and bishop aren't strong enough together to deliver a perpetual, so Black can start collecting pawns now. 44... &xg2 45. $\Xih8+ \&g6$ 46. $\Xig8+$ &f5 47. $\Xif8+ \&e6$ 48.&f6 g4! 49.hxg4 h3 50.g5 h2 51.g6 h1 \circledast 52.g7 &c1+ 53.&b4 &d2+ 54.&c3&d6+ 55.&b3 &d5+Donchenko has calculated every-

thing perfectly. The bishop returns to stop White from queening and the ensuing endgame is hopeless. **56.\$b2**

White resigned before allowing Black to clinch the game with either 56...\$d7 of 56...\$e7. This game is a perfect example of how a pair of rooks can have diminished value. In a closed position with long pawn chains, the rooks have limited space to operate, while the minor pieces aren't restricted as much. Donchenko managed to keep full control over the position by keeping everything protected. The conversion was slow but inevitable, since White never managed to find adequate counterplay.

Despite it not being an all-time classic, the next game is one of the best games that I have ever seen. Highly sophisticated play in the opening is followed by multiple exchange sacrifices.

Game 35	
Vladimir Kramnik	2795
Luke McShane	2713
London 2012	

1.d4 d5 2.c4 c6 3.එf3 එf6 4.එc3 a6 5.g3

The Chebanenko Slav has somehow gone completely out of fashion. Presumably, the main reason is that 5.c5 is supposed to give White a small but stable advantage. This space-grabbing pawn push is only viable because Black can no longer recapture with the a-pawn after the ...b7-b6 pawn break. After 5...b6 6.cxb6 營xb6 7.公a4 營c7 8.g3, White has an easy game. Black struggles with a vulnerable backward pawn on c6 and has nothing in return. **5...dxc4 6.a4 e6 7. 22 c5**

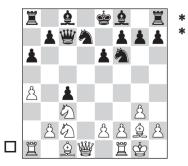


8.0-0!?

This essentially transforms the opening into a real gambit, as White will no longer have prospects of recovering the pawn anytime soon. The endgame variation after 8.dxc5 is more common, and in Volume One of this series we discussed the intriguing game Prohaszka-Ernst, Groningen 2010, with this line. **8...cxd4 9.** (2) xd4

In Catalan-like positions, White often recovers the pawn with ②e5xc4 or 營c2/a4xc4, but none of these approaches are possible now. 9...②bd7?!

An inaccuracy that will be the source of McShane's difficulties in this game. Instead, 9...皇e7 seems best. Black emphasizes the development of his kingside and remains flexible on the queenside. After 10.a5!? 0-0 11.公c2 營c7 12.皇e3 皇d7!? 13.皇b6 營c8 14.公e3 皇b5 White has sufficient compensation for the pawn to maintain the balance, but definitely not more than that. Black went on to win after wild complications in Cheparinov-Eljanov, Reykjavik 2013. **10.公c2 營c7**



Question: The first instructive moment of the game. In return for the pawn, White has a lead in development. Currently, Black has no clear weaknesses in his position that can be exploited. How can White transform his lead in development into something tangible?

11.<u></u>ĝf4!

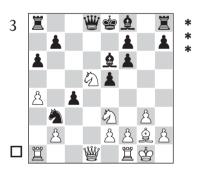
In such positions, you can always count on Kramnik's sublime understanding of pawn structures. Here, he is luring Black's central pawn forward.

11...e5 12.<u>ĝ</u>d2

On the surface, White's bishop sortie appears to be a tremendous waste of time. Firstly, Black's push with ...e6-e5 opens up space for his light-squared bishop, and secondly, White's bishop on d2 doesn't look particularly inspiring. What is Kramnik counting on? He claims that Black is now overextending himself and that the holes on d5 and f5 can be exploited later. **12...4C5**

McShane feels that he is obliged to postpone the further development of his kingside. Simple development is indeed no longer possible: after 12... 皇e7 13. ②e3 0-0 14. ③cd5 ④xd5 15. ③xd5 營d8 16. 皇a5!, Black's position falls apart. This variation nicely illustrates the weakness of d5 and also showcases that the darksquared bishop has some potential on d2. **13. @g5!** Fantastic. Now that Black can no longer recapture on f6 with the knight, Kramnik moves his bishop for the third time in a row. 13....皇e6 14.皇xf6! gxf6 15.公d5 營d8 16.公ce3

Kramnik's choice is completely natural, but the machines recommend the ingenious 16.營e1!? 罩c8 17.罩d1 公xa4 18.公c3 營a5 19.兔xb7 罩c5 20.e4 公xc3 21.bxc3 罩c7 22.兔d5, with a sizeable positional advantage. Black's bishop pair is neutralized, the presence of his extra pawn isn't noticeable, and White can continue to harass the vulnerable light squares in Black's position. **16...公b3**



Question: Kramnik's imaginative play has granted him complete control over the important d5-square, Moreover, Black's pawn structure has been fractured, which discourages kingside castling in the future. Still, Black isn't without trumps of his own. He possesses the bishop pair and remains a pawn ahead. McShane's last move is sensible. The knight stands on a rare outpost on b3, directly attacks the rook in the corner, and takes away the important c1-square from White. It is not easy to suggest a powerful course of action for White. After the passive 17. Ξ b1 or 17. Ξ a2, Black can continue to hang on to the extra pawn with the natural 17... Ξ c8!. Is there an alternative continuation for White?

17.a5!!



This thrust with the a-pawn must have come as a shock to McShane. Kramnik leaves the rook hanging in the corner and at the same time pushes the pawn to a square where it can be captured. The merits of the pawn thrust are twofold:

1) White now has access to a4;

2) He carves out the b6-square as an outpost.

Kramnik has put McShane in a predicament: does he tolerate White's rook on a4, after which White can finally start rounding up the c4-pawn, or does he part with his active knight? Note that Kramnik is by no means winning yet. We already discussed in Chapter 2 that the margin for error is high in chess. So far, McShane has only committed a single inaccuracy, with 9...²bd7, and therefore he doesn't 'deserve' to be lost. Still, Kramnik manages to find moves that exert maximum pressure on his opponent.

17...**¤c**8?

A clear mistake that immediately puts Black on the brink of defeat. The psychological pressure inflicted by Kramnik is getting to McShane's head, who refuses to capture the offered material. But this is a clear concession. Rather than standing passively on b1 or a2, the white rook can now contribute actively to the game via the a4-square.

There were two viable alternatives:

A) 17...②xa5?? is not one of them, as it loses on the spot to 18.豐a4+ ②c6 19.③xf6+! 豐xf6 20.皇xc6+;

B) 17...公xa1 is obviously critical: 18.營a4+! (White needs to insert this check to limit Black's activity) 18... 盒d7 19.營xc4!?.



analysis diagram

This was probably Kramnik's intention. The knight remains trapped in the corner. 19...罩c8 20.營h4. Black gets no time to

breathe. The knight can't escape from the corner because the check on f6 would be devastating. Nevertheless, Stockfish manages to save Black's position in typical computer-like fashion with 20...罩c6! 21.罩xa1 f5! 22.響h5 罩g8!? 23.④b6 □h6! 24.響f3 f4! 25.公xd7 響xd7. After a series of only moves, Black has neutralized White's initiative and achieved dynamic equality. One can't fault McShane for being unwilling to enter this rabbit hole. The impact of error is tremendously high in these positions, and after a single misstep Black will be blown off the board;

C) The active 17... &c5! may be the most practical solution: 18. Ξ a4 \textcircleda xa5! (now that $\basel{Baseline}$ an option, Black can capture) 19. \baseline c1!? Ξ c8 20. Ξ xa5! (White can still pose problems by insisting on this exchange sacrifice) 20... \baseline xa5 21. \baseline xc4 24. \baseline xc4. Practically speaking, White's position is still somewhat easier to play, but Black should hold with accurate defence.

18.**⊒**a4 ⊘d4

18...②xa5 doesn't work here because the black king can't flee via f8: 19.罩xa5! 豐xa5 20.②xf6+ 含e7 21.②ed5+ 含d8 22.b4!! cxb3 23.豐xb3 and White has a raging attack.

19.②b6

The outpost that White carved out on his 17th move is now occupied by the forward knight. The tables have turned: this time around, it is the black rook on a8 that is under attack, while the black c-pawn is finally doomed. **19...27**



20.¤xc4!

The rook continues its march. Have you ever seen a rook so selfless? Now it gives itself up for Black's light-squared bishop, after which Black surrenders complete control over the light squares.

20... âxc4 21. Dexc4

Let's take stock of the situation. How should we evaluate this position? Rather than taking the pieces at face value, we should look for the functions they fulfill on the board. The black pieces make a dreadful impression. The rook on c7 is dominated by the white knights, the rook on h8 can hardly become active, and the bishop on f8 has no clear target. On top of this, the black king can never find shelter and the black pawn structure is in ruins. The only black piece that looks active is the knight on d4, but once we realize that even this piece can be easily kicked out by White's e-pawn, we figure out how desperate Black's situation is. White, on the other hand, has no

weaknesses, his pieces are active, and they are coordinating well. White only needs to incorporate the f1-rook in the game and then the black position is bound to collapse.

21...∂b5 22.₩b1

Simple but elegant. The d1-square is freed for the rook and the queen will target the vulnerable light squares.

22...讏d4 23.罩d1 讏c5 24.e3 Prophylaxis. Kramnik is in no rush

to convert his advantage. 24...皇e7 25.豐f5 當f8 26.皇d5 當g7 27.豐g4+ 當h6



28.e4

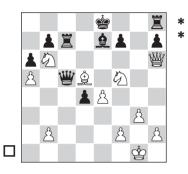
Another neat move. At this point, everything is winning, but Kramnik now tries to finish matters quickly. Mate with 2c4-e3-f5 is threatened, while the defending knight on d4 can always be eliminated with Ξ d1xd4. **28...**2d**4 29.**2e**3 f5!**

It is respectable how much resistance McShane manages to put up from this dreadful position. If it wasn't for Kramnik's exquisite technique, McShane would have come close to saving the game.

30.৺h3+ ঔg7 31.ጃxd4!

Another lovely exchange sacrifice. Note how Kramnik shows a total disregard for material. **31...exd4 32.** (2) **xf5+** (2) **f8**

33.₩h6+ �e8



Question: Let's test your ability to calculate once more. How should White proceed?

34.<u>흹</u>xf7+!

As if Kramnik hasn't sacrificed enough already. At last, a pseudosacrifice to decide the game.

34…ṡd8

35.₩g7 If8 36.公xd4 Ic6 37.公xc6+ bxc6 38.₩g4

After all the ramifications, White is now the one who is up material, while his attack continues.

38...當c7 39.營d7+ 當b8

The king is running for the hills, but never really finds shelter. The knight that is secured by White's a-pawn is too strong.

40.響d2 當c7 41.響d7+ 當b8 42.當g2! 息d6 43.b4! 營d4 44.響xc6 當a7 45.當h3 營d1 46.心c8+ 罩xc8 47.響xc8 營f1+ 48.當g4 h5+ 49.當xh5 Black resigned. Five pawns behind, further resistance is pointless. A series of exchange sacrifices proved to be too much to handle for Black as his king never found security.

Piece sacrifice

Things get serious if we start talking about piece sacrifices. Unlike the exchange sacrifice, a piece sacrifice no longer implies that both sides play with the same amount of wood. So when a piece is invested, the remaining pieces need to work a lot harder to make up for the deficit.

Sacrificing a piece for positional compensation feels highly risky. Even if you get multiple pawns in return, it usually feels as if the extra piece is just more powerful. Once the later stages of a game are reached, the pieces will start coordinating and the extra pawns can no longer be protected eventually. So, if you consider a positional sacrifice, there needs to be enormous positional compensation. Let's see what this may look like.

Game 36	
Nick Maatman	2373
Lennart Dek	2292
Club League, Netherlands 2022	

1.d4 d5 2.ŵf3 ŵf6 3.c4 c6 4.ŵbd2

A cunning sideline. I will show its ingenious point after the next move. This line has brought me two convincing victories against two International Masters. However. if Black is well-prepared, it is completely harmless. In the Dutch League, team captains have full agency over the line-up, without any restrictions. Therefore, preparation is not very valuable, because you would need to prepare for many possible opponents. Hence, these tricky sidelines can be quite effective. Only the most dedicated players will have some ideas ready. It turns out that Dek is one of those dedicated players, since he came to the board extremely well-prepared.

4... ĝf5 5. 2h4 ĝe4!

The most critical move, which nowadays has become the main line. White has no hope to play for an advantage here. So when playing 4.公bd2, White is essentially gambling that Black doesn't know 5.... 全e4. The main point of 4.公bd2 is that the natural 5.... 全g6? runs into a devious trap: 6.豐b3 豐b6





7.營h3! with the double threat of both 8.營c8+ and 8.公xg6, which would force an awkward recapture: 7...心bd7 8.心xg6 fxg6 9.e3, and White is significantly better. **6.營b3 心bd7 7.f3 dxc4 8.營xb7**



8...≜d5!?

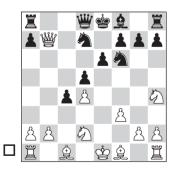
A fantastic concept. On the surface, this move seems ridiculous, since the natural 9.e4 makes the bishop look stupid. At this point, I saw Black's idea coming, but it was already too late to adjust my sails. **9.e4 e6!**

The point of Black's play. Obviously, Dek had no intention to move the bishop another time. What is the idea behind Black's concept? After a subsequent capture on d5, Black will take back with the c-pawn, solving his structural issues while creating a lovely pawn phalanx. White, on the other hand, will be left with a bad pawn structure and terrible pieces. Both knights are awkwardly placed and in particular the knight on h4 is a problem piece. Still, Black only has one pawn for the piece and lacks any real opportunities for a direct attack. Therefore, Black's compensation is purely positional in nature.

10.exd5?!

Not the most accurate. I should have delayed the capture.

A) Declining the piece sac with 10. 魚xc4? is bad. Here 10... 罩b8 looks attractive, but even more powerful is 10...心xe4! 11.fxe4 魚xc4 12.心xc4 彎xh4+ 13.含f1 罩d8 14.彎xc6 魚e7, with a great position for Black. White's king is permanently weak, while the black king will simply castle on the next move;



Question: Is the compensation sufficient or even more than sufficient?

Out of all the piece sacrifices that we discuss in this book, Dek's sacrifice is the most positional in nature. By no means can he expect to recover the piece anytime soon. In terms of material compensation, Black only has a single pawn in return, so the investment is significant.

In this case, a large number of positional considerations are in Black's favour. The main positional compensation is the discrepancy in the quality of the pawn structure. White's pawns do not control any important squares or restrict the black pieces. Moreover, they are scattered in three islands. leaving the isolated pawn on d4 permanently vulnerable. Furthermore, the pawn on f3 is making a particularly terrible impression, completely ruining the coordination of White's knights. Black's pawn structure on the other hand is completely sound. He has no weaknesses, everything is nicely protected, and the forward pawn on c4 is doing an amazing job of restricting White's pieces. White is currently also suffering from issues that are dynamic in nature. First of all, the knight on h4 is in immediate danger of getting trapped, and secondly the queen on b7 also has to tread carefully. White's forces completely lack harmony and it will require several moves to restore their coordination.

With all these positional factors adding up in Black's favour, you may presume that Black is winning. Nevertheless, a full piece is still a hefty investment. So if White manages to stay out of trouble in the near future and to coordinate his forces, he is by no means out of contention.

Still, Black is the one who is playing for an advantage and White needs to defend accurately if he wants to achieve equality.

Dek continues in strong fashion. I would love to finish my development, but the threat of 13...c3! forces me to react. **13.a3 2a5 14.b4 cxb3**



15.<u>₿</u>b2

I was reasonably satisfied by the recent developments. At the cost of a pawn, Black's threats have been averted and his activity on the queenside has slowed down. There is some semblance of hope for White to achieve coordination. Instead, 15. \[]b1! was also worthy of consideration. White simply intends to round up the b3-pawn soon. For example: 15...0-0 16.皇e2 e5 17.當f2! 皇c3 18.②xb3 皇xd4+ 19.皇e3, and with the board getting emptier, White may have survived the worst.

15...0-0 16.≗d3?

A very irresponsible move. Of course, White would love to finish his development, but I completely underestimated my opponent's reply. 16.罩d1 was mandatory, which frees up the king from its defensive duties. Now there are many possibilities. A sample line is 16...e5! 17.dxe5 罩e8 18.含f2 營c7 19.罩c1 谷c5 20.營e2 d4! 21.谷c4 盒c3 22.罩xc3! dxc3 23.盒xc3 g6!? 24.盒d4. White's position remains bad, but there should be some chances to hold.



16...e5!

When encountering this move, I immediately regretted what I did on my last move. Now, ...e5-e4 comes with tempo.

17.0-0-0

Pure desperation. I was hoping that the black pawn on b3 would provide my king with some shelter. However, in chess there is little room for hope. It's a concrete game. Dek shows that Black has a very straightforward way to attack my king and he conducts the final phase perfectly.

17...exd4 18.魚xd4 鬯c7+ 19.當b2 公c5!

Very effective. I am forced to give up my strong central bishop and the black queen will penetrate decisively on the dark squares. 20. 皇xc5 響xc5 21. 皇f5 罩fc8 22.罩c1 營d4+ 23.當b1



23...**¤c2! 0-1**

A lovely finish that forces a quick checkmate. My opponent played an impressive game. His concept in the opening was fascinating and all of his moves that followed were the first choice of the computer. Dek received the brilliancy prize for his efforts, and this was welldeserved.¹⁵ Piece sacrifices for positional compensation are quite uncommon, but whenever they manifest effectively, the consequences can be illuminating.

¹⁵ Over the span of seven games in the highest division of the Dutch league, the brilliancy prize went to my opponent three times... is this the soccer equivalent of an 'assist', or am I just scoring own goals?