

THE  
**AI**  
**REVOLUTION**  
**IN CHESS**  
JOSHUA DOKNJAS

**EVERYMAN CHESS**  
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# About the Author

**Joshua Doknjas** is a FIDE Master from Canada and the author of two opening books on the Sicilian Najdorf and Ruy Lopez. He enjoys playing, teaching, and writing about chess. Joshua is pursuing studies in cognitive science and has a keen interest in understanding how AI advancements have influenced modern chess. This is his third book for Everyman Chess.

**Also by the Author:**

*Opening Repertoire: The Sicilian Najdorf (with John Doknjas)*

*Opening Repertoire: The Ruy Lopez*

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# Introduction

Modern chess engines have been revolutionized since the arrival of AlphaZero, the AI engine that took the chess world by storm after mastering the game from scratch and defeating Stockfish in match play. AlphaZero popularized the idea of chess engines using self-play reinforcement learning to train a neural network, which detects patterns from the enormous amount of data generated in self-play. This pattern recognition ability, along with its searching algorithm, enables AlphaZero to steer the game towards positions where it has higher probabilities of winning. Once the approach taken by AlphaZero proved to be effective, a wave of neural network engines emerged and influenced top-level chess by unleashing countless new ideas in the opening and middlegame. Of these engines, the most notable is Leela Chess Zero (Lc0), which was launched in 2018 as an open-source project to follow in the footsteps of AlphaZero. Nowadays, any chess player can access AI engines that utilize neural networks on most online chess platforms, or by downloading the latest version of Stockfish – a hybrid engine that implements classical searching algorithms as well as a neural network into its architecture.

This book is about the impact AlphaZero, and subsequent neural network and hybrid engines, have had on modern chess. The world's best chess players spend most of their study time on opening preparation, working with the newest and strongest engines to prepare a robust opening repertoire and find new ideas which can be used to create problems for their opponents. Neural network engines have provided a fresh perspective on these tasks with their creativity and remarkable strategic understanding. My goal with this book is to provide readers with an understanding of how the recent AI revolution in chess has influenced preparation, opening theory, and middlegame understanding at the highest levels. Therefore, my work is based primarily on the analysis of top-level human games from 2018 to 2021. These games explore areas of chess that have developed significantly in recent years because of advancements in chess engines. Some correspondence games (where both players analyze with engines) and computer versus computer games are also examined to help illustrate a concept.

Throughout the book, I refer to “newer engines” or “neural network engines” as an engine that utilizes a neural network in some way. For example, AlphaZero, Lc0, and recent versions of Stockfish (Stockfish 12 and following versions) are all examples of newer engines. Despite the differences between these engines, their level of understanding is comparable for practical purposes because they reach a similar consensus on the vast

majority of positions analyzed. In contrast to these newer engines, an “older engine” refers to classical chess engines – ones that do not utilize a neural network, instead attaining their level of play solely through hardwired rules and brute force calculation of variations. For example, older versions of Stockfish (Stockfish 11 and previous versions) and other top chess engines before AlphaZero’s time. This distinction between older and newer engines is extremely important because there are major differences in understanding between the two. They disagree on the evaluation of many types of positions, as we see in the introductory game between Grischuk and Nakamura and over the next seven chapters.

I divided this book into three parts:

- ♠ Part One** discusses some of the latest developments in opening theory that neural network engines have had a major influence on. I selected three openings: the Grünfeld, the Catalan, and the Najdorf. The innovative ideas in these openings often carry over to other areas of the game in view of their deep strategic nature. In Chapter 4, we will explore some new opening systems, which are classified as AI-inspired openings because the AI engines have played an instrumental role in popularizing them.
- ♠ Part Two** focusses on dynamics and new ideas in the middlegame that neural network engines have drawn attention to. The three topics are pawn sacrifices, closed positions, and material imbalances. While the focus of these chapters is on the middlegame, I also analyze some details about the opening, especially if there was a new idea played under the influence of a neural network engine.
- ♠ Part Three** wraps up the book with a discussion on the dangers of using engines by examining cautionary tales from top level chess.

## A Clash of Styles

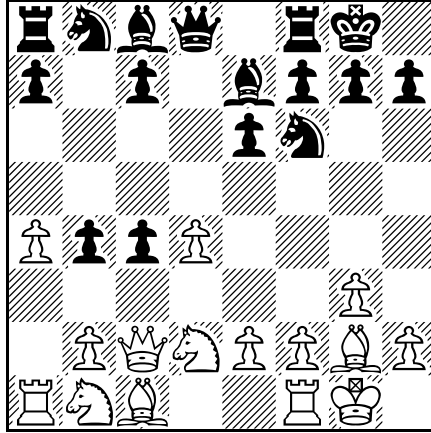
The following strategic masterpiece by Alexander Grischuk is relevant to several areas of this book, including Chapter 2: The Catalan and Chapter 5: Pawn Sacrifices. The game also foreshadows a central theme, namely, the clash of styles between the older and newer engines. Grischuk displays a deep understanding of White’s long-term compensation and shows that the older engines’ confidence in Black’s setup is entirely unjustified. His opening preparation and middlegame ideas are clearly influenced by the neural network engines; in fact, we will see a couple engine matches between Lc0 and an older version of Stockfish cited in the annotations.

**A.Grischuk-H.Nakamura**  
Moscow FIDE Grand Prix 2019

1 d4 ♘f6 2 c4 e6 3 ♘f3 d5 4 g3 ♙e7 5 ♙g2 0-0 6 0-0 dxc4 7 ♚c2 b5!?

A very ambitious and risky response to the Catalan. Nakamura had already played this line in several previous games with good opening outcomes, so it did not surprise Grischuk.

**8 a4 b4 9 ♖fd2**



**9...c6**

This line is a favourite of the older engines from the Black side, as they appreciate the extra pawn but neglect White’s long-term initiative.

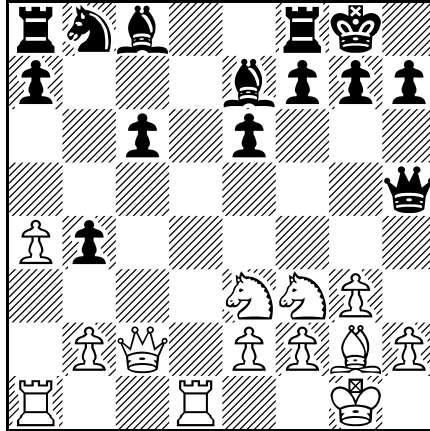
One of Carlsen’s unused ideas from the 2018 World Championship Match, 9...♗d5! will be examined at the start of Chapter 2.

**10 ♗xc4 ♜xd4 11 ♖d1 ♜c5 12 ♙e3 ♜h5 13 ♗bd2 ♗g4**

The alternative 13...♗d5?! does not create threats on the kingside, so White can immediately control some squares on the queenside. For example, 14 ♗b3 ♗xe3 15 ♗xe3 a6 (15...a5 16 ♗c4 and the a5-pawn will fall soon) 16 ♗c4 ♖a7 17 ♖ac1 with tremendous positional compensation for the pawn. One game between the older and newer engines continued 17...c5 18 ♗ba5 ♜g5 19 h4! (taking squares away from the Black queen) 19...♜f6 20 ♜e4 ♖c7 21 ♖d3 g5 22 h5 ♜g7 23 h6 and Black’s position was completely crushed in Lc0-Stockfish, TCEC 2019.

**14 ♗f3 ♗xe3 15 ♗xe3**

Grischuk notes in his annotations for *New in Chess Magazine* that the computer (older engines) gives “conflicting evidence” in these complicated middlegames, unable to reach a definitive conclusion. However, for him, it was clear that White can use his initiative to pose major objective and practical problems for Black. Despite the older engines’ confidence in Black’s setup, the level of understanding provided by human players and the neural network engines argue that the 9...c6 variation is highly dubious.

**15...a5**

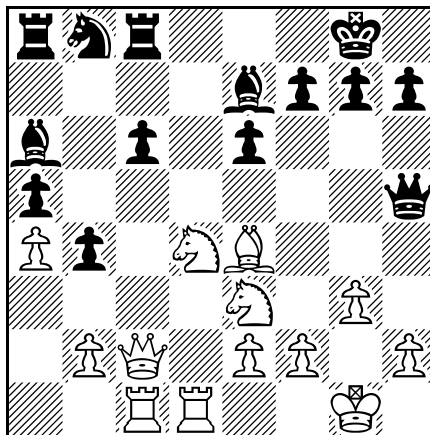
Another game between Lc0 and Stockfish saw 15...a6?! 16 ♖c4 a5 17 ♗fe5 ♙a7 18 ♚ac1 c5 19 ♜e4 ♙a6 20 ♘d2! ♚d8 21 ♘b3 with a crushing positional advantage in Lc0-Stockfish, TCEC 2019.

**16 ♘d4 ♙a6 17 ♚ac1 ♙c8 18 ♙f3 ♜g6**

Grischuk pointed out the following line from his analysis: 18...♜e5 19 ♘g4! ♜c7 20 ♜b3 ♙a7 21 ♙e4! creating the threat of ♗xe6, crashing through on the kingside. Black is forced to play a passive defensive move, such as 21...♙f8 and now 22 ♗xc6 ♗xc6 23 ♚xc6 ♜b8 24 ♜e3 ♚xc6 25 ♙xc6 ♚c7 26 ♗e5 sees White obtain a clear advantage.

**19 ♙e4 ♜h5 20 ♙f3**

Repeating the position once.

**20...♜g6 21 ♙e4 ♜h5**

We have reached a type of middlegame position that the older engines really struggle

with. White has clear long-term compensation, but there is no immediate way of breaking through. In such situations, they often overestimate the value of Black's extra material. On the other hand, the newer engines clearly see the strategic dangers in Black's position and find logical ways for White to make progress.

**22 ♖g2!**

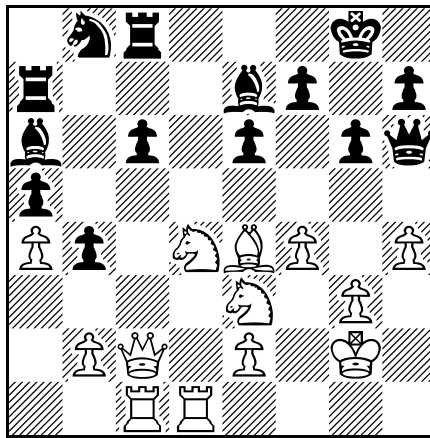
An excellent idea which was most likely prepared by Grischuk with one of the neural network engines. Over the next few moves, Grischuk slowly improves his position by gaining space on the kingside and taking away some squares from Black's queen.

Direct attempts give White significantly less:

a) 22 ♖d2?! releases some of the pressure on the kingside. Following 22...♙f6 23 ♘xc6 ♗xc6 24 ♙xc6 ♖ab8 25 ♙f3 ♕e5 threatens b2, with a satisfactory position for Black.

b) 22 ♖d2 makes more sense, but I don't think doubling rooks on the d-file is the best way to build up the pressure. One correspondence game continued 22...♖a7 23 ♖cd1 g6 24 ♗b3 (or 24 ♙d3 ♙g5 25 ♕c5 ♖ac7 is playable for Black) 24...♕e5 25 ♙d3 ♙b7 26 ♗c4 ♕c7 and it was difficult for White to increase the pressure in F.Burmeister-S.Zielinski, correspondence 2019.

**22...♖a7 23 h4 g6 24 f4 ♕h6**



Another correspondence game continued 24...c5 25 ♙f3 ♙b7 26 b3 ♙xf3+ 27 ♗xf3 ♕h6 28 ♗c4 ♕f8 29 h5 and White proceeded to open the h-file and launch a decisive attack in L.Parsons-U.Burgarth, correspondence 2019.

**25 ♗b3?!**

In view of the improvement on Black's 25th move, stronger was 25 ♗g4! ♕g7 26 ♗e5 ♖ac7 27 ♙f3 and now:

a) 27...h5 28 ♕e4 ♙f6 29 ♖c5 gave a clear edge for White in A.Cubides-S.Zielinski, correspondence 2019. A very unpleasant defence for Black lies ahead.

b) During the game, Grischuk spent a lot of time calculating 27...♙f6 28 ♕c5 ♙xe5 29 fxe5 ♗d7 30 ♕xa5 ♙b7 but could not find a strong continuation here.



**25...♔h8?**

It was essential to fight for activity and not give White the chance to build up his queenside pressure.

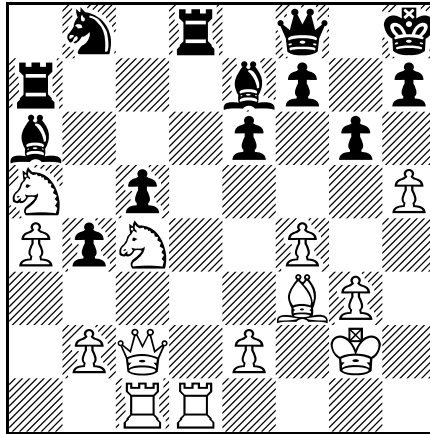
25...c5! allows Black to reach a satisfactory middlegame. For example, 26 ♖xa5 (26 ♖c4 ♜f8 27 ♗bxa5 ♙d8 is also not too concerning for Black) 26...♙xe2 27 ♜xe2 ♝xa5 should only be slightly better for White.

**26 ♙d3!**

Securing the c4-square for the knight.

26 ♗xa5 runs into 26...f5 27 ♙f3 e5! exploiting the poor minor pieces on f3 and e3.

**26...♙b7 27 ♖c4 c5+ 28 ♙e4 ♙a6 29 ♗bxa5 ♜f8 30 ♙f3 ♝d8 31 h5**



The h-pawn advance creates problems for Black on both sides of the board, and the challenges quickly become overwhelming.

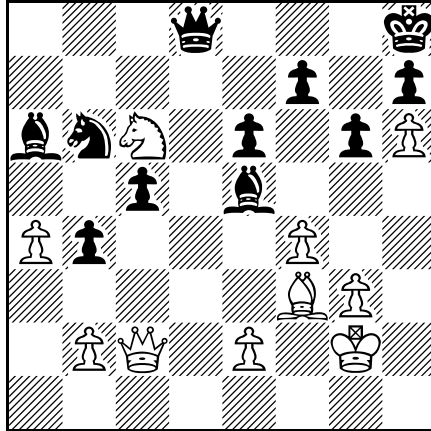
**31...♙f6**

31...g5 may have been a better defensive try, but after 32 f5 the situation remains dire.

**32 ♜xd8 ♜xd8 33 ♜d1 ♜d7 34 ♜xd7 ♗xd7 35 h6!**

Suffocating Black's kingside.

**35...♗b6 36 ♗e5 ♙xe5 37 ♗c6**



Grischuk wins the arising endgame without any difficulties.

37...♖c4 38 ♜xd8 ♜e3+ 39 ♜f2 ♜xc2 40 ♜xf7+ ♜g8 41 ♜xe5 c4 42 ♜g4 ♜d4 43 ♜e1 ♜f8  
44 ♜d1 ♜e7 45 e3 ♜b3 46 ♜c6+ ♜f6 47 ♜xb4 ♜b7 48 ♜e2 ♜a5 49 ♜d2 ♜b3+ 50 ♜c3 ♜c5  
51 a5 ♜e4+ 52 ♜xc4 ♜xg3 53 ♜d3 g5 54 fxg5+ 1-0

My work provides one perspective on chess engines, that is, the impact of neural network engines on modern chess. Among the many great resources available on chess engines, I personally found the perspectives given by the following two books to be very insightful:

1. *Game Changer* by Matthew Sadler and Natasha Regan. This work provides a thorough analysis of AlphaZero, including how the engine works, its thought process, and key themes from the matches between AlphaZero and Stockfish.
2. *Deep Thinking* by Garry Kasparov and Mig Greengard. This work provides a personal account of Kasparov's experiences with chess engines. The past, present, and future of AI are discussed throughout the book, including how AI in chess fits into the bigger picture of technological progress.

## How to Get the Most out of This Book

- 📖 Try reading actively. There are questions and exercises dispersed throughout each chapter, which aim to highlight an interesting concept or idea. Another suggestion is to spend a minute or two thinking about the diagrams that attract your attention. Diagrams often display an important moment that is worth spending some time on. Afterwards, you can compare your thoughts with the game continuation and my analysis.

- ♣ Avoid getting caught up in variations. Many games contain a thorough opening analysis in order to give a complete picture of the latest developments. However, it is not necessary to explore all these variations. Instead, some readers may prefer to focus on the main game and only examine variations that they are curious about.
- ♣ Take note of the key points at the end of each chapter. These points help to summarize some of the main topics which were discussed, so that some general conclusions can be drawn from the analysis. A few additional games are also provided in case readers wish to investigate a topic of interest more deeply on their own.

## **Acknowledgements**

I would like to thank my parents, brothers, and friends for supporting me throughout the writing process, as well as Byron Jacobs and the team at Everyman Chess for setting the project into motion.

Joshua Doknjas,  
Canada,  
January 2022

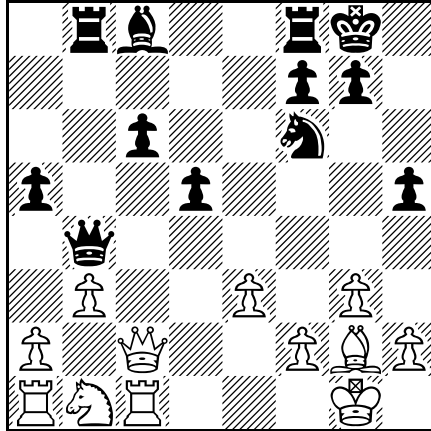
## Chapter Two

# The Catalan

The Catalan is a very popular opening systems at all levels. It can lead to tense middlegame/endgame positions full of piece maneuvers and long-term strategic ideas, or sharp pawn sacrifices and messy complications, depending on how both sides approach the opening.

The first game of the chapter sees Carlsen employing a fascinating new idea, deviating from Grischuk-Nakamura in the Introduction to win an excellent game over Ding Liren. Afterwards, Carlsen revealed that this idea had been prepared for his 2018 World Championship Match against Caruana. One of Carlsen's seconds for the 2018 Match, Daniil Dubov, has introduced several creative pawn sacrifices in the Catalan/QGD/Slav systems, and we will examine a couple of them throughout the chapter.

At the top level, two players who have made the Catalan a major part of their repertoire are Ding Liren and Anish Giri. In fact, we will see an interesting clash of ideas between these two players in Game 17, where Giri neutralizes White's positional pressure with deep preparation from the neural network engines. The ...h5-h4 advance in the diagram below closely resembles some of the themes in the Grünfeld chapter with reversed colours.



We will also get a first look at material imbalances in this chapter, as Games 14 and 19 see one side having a rook and bishop for a queen. The older engines tend to overestimate the value of a queen, which can lead to a very interesting difference in understanding with the newer engines.

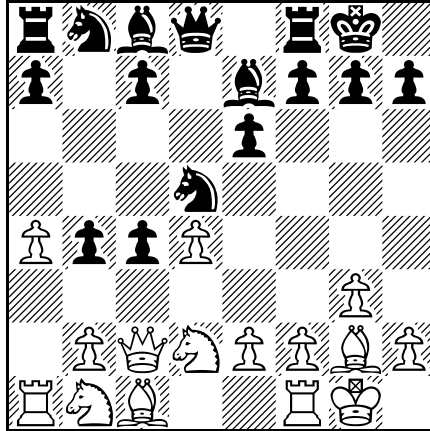
### Carlsen's Match Preparation

Carlsen's Black games in the 2018 World Championship Match against Caruana all started with 1 e4, where he defended the Rossolimo and Sveshnikov Sicilians. This meant that his preparation against the closed openings was yet to be revealed. One year later, Carlsen had the chance to employ an unused idea from the match and score a crucial win, his first classical win ever against Ding Liren.

*Game 10*  
**Ding Liren-M.Carlsen**  
 Croatia Grand Chess Tour 2019

**1 d4 ♘f6 2 c4 e6 3 ♘f3 d5 4 g3 ♙e7 5 ♙g2 0-0 6 0-0 dxc4 7 ♚c2 b5 8 a4 b4 9 ♘fd2 ♘d5!**

Carlsen revealed after the game that this concept (9...♘d5 and 11...♙a6!) was prepared for the 2018 World Championship match. The older engines' preference of 9...c6 was seen in the Introduction game between Grischuk and Nakamura. In contrast to this approach, 9...♘d5! leads to positions where Black is the one sacrificing a pawn in return for quick development and an initiative.



**10 ♖xc4 c5 11 dxc5 ♕a6!**

The first new move, ignoring the c5-pawn and instead focussing on developing the queenside. This idea arguably revives the entire 7...b5 variation from a practical standpoint, as Black had been suffering in previous games.

**12 ♖e3!**

Immediately exchanging off Black's d5-knight is by far the most challenging of White's options.

**12...♗d7 13 ♖xd5 exd5 14 c6**

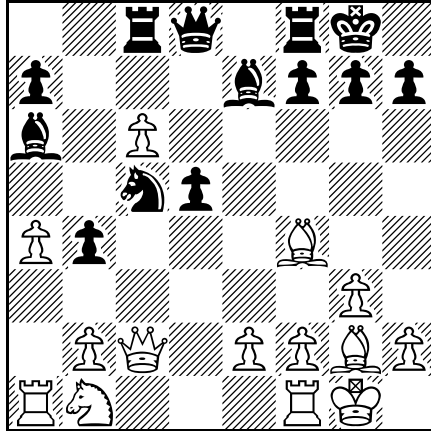
14 ♕xd5? grabbing the pawn leads to a severe lack of development. Black can continue energetically by playing 14...♖c8 15 c6 ♗e5 16 ♖d1 ♖xc6 (disregarding White's threat) 17 ♕xf7+ ♗xf7 18 ♖xd8+ ♕xd8 followed by ...♗d4 with an extremely scary position for White due to the kingside light-square weaknesses.

**14...♖c8 15 ♕f4**

15 ♖d1 ♗e5 16 ♖xd5 (16 ♕xd5?! transposes to 14 ♕xd5 above) is a better way of capturing the d5-pawn compared to the previous note's 14 ♕xd5? However, Black still obtains sufficient compensation because of his active pieces. For example, 16...♖xc6 17 ♖d1 ♖c8 18 ♗d2 ♖c5 19 ♖xc5 ♕xc5 followed by ...♖d8, when White will have some difficulties developing the queenside pieces.

**15...♗c5**

So far, Ding has played the most critical test of Carlsen's line, but here he doesn't find the most challenging continuation. This is hardly surprising because of the unusual and sharp nature of the position.



**16 c7**

Avoiding the complications after 16 ♖d1, but this also gives up a lot of White's chances for an advantage.

After 16 ♖d1 d4 White has:

a) 17 ♙f3 ♜e6 18 ♚e4 ♙f6 19 ♞d2 ♜e8 with a dynamic middlegame that could easily swing either way.

b) 17 ♙e5 d3 18 exd3 ♙xd3 19 ♚c1 ♜e8 20 ♞d2 ♙e2 with another concrete and double-edged middlegame.

c) Gelfand's 17 h4! is an extremely critical test of Carlsen's system because the control over the g5-square is a very useful asset. Play continues 17...♜e8 (17...h6 18 ♙f3 ♜e6 19 ♚e4 and White had a clear advantage in J.Johansen-D.Morgan, ICCF 2020; it is important to note that 19...♙f6 is met by 20 ♙e5 and 20...♞g5 is not possible) 18 ♞d2 ♙xe2 19 c7 and now:

c1) 19...♚d7 20 ♜dc1 ♞d3? (20...♜xc7 needed to be tried) 21 ♙c6! and Black's kingside counterplay was extinguished after 21...♚h3 22 ♙xe8 ♞xf4 23 ♚e4 in B.Gelfand-B.Deac, Bucharest (rapid) 2019.

c2) Stronger was 19...♜xc7 20 ♙xc7 ♚xc7 21 ♜e1 d3 but after 22 ♚c4 it is difficult to hold everything together because White has many ideas, such as ♚xb4 or ♙f1 next.

**16...♚d7 17 ♞d2 g5!**

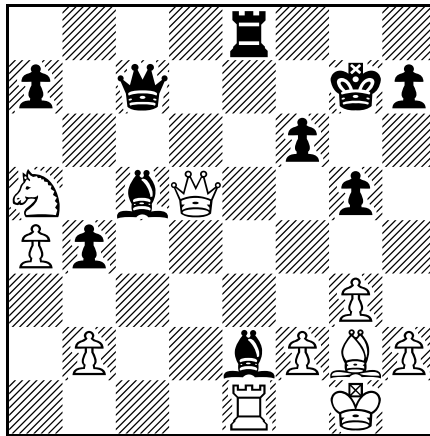
17...♙xe2 may lead to some piece coordination issues for Black. For example, 18 ♜fe1 ♙d3 19 ♚d1 g5 20 ♞b3! and White ends up with a clear advantage after 20...♞xb3 21 ♚xb3 gxf4 22 ♚xd3 due to the weakened kingside pawn structure.

**18 ♙e5 f6 19 ♙d4 ♜xc7 20 ♚d1 ♞e6 21 ♞b3 ♙c4 22 ♞a5**

Not a mistake, but the game starts to drift in Carlsen's favour after this.

Safer was 22 ♙e3! preserving the bishop and freeing the d4-square for the knight. An equal endgame arises after 22...d4! 23 ♞xd4 ♞xd4 24 ♙xd4 ♜d8 25 ♙e3 ♚xd1 26 ♜axd1 ♜xd1 27 ♜xd1 ♙xe2 and Black should hold fairly comfortably.

22...♘xd4 23 ♖xd4 ♙g7 24 ♜fc1 ♙xe2 25 ♜xc7 ♖xc7 26 ♜e1 ♙c5 27 ♖xd5 ♜e8!



**Exercise:** White needs to exchange the queens and get rid of some of Black's pressure, but should this be done with ♖b7 or ♖c6?

28 ♖b7?!

Unfortunately for Ding, after the queen trade, the knight turns out to be misplaced on b7.

**Answer:** 28 ♖c6 would have given White an improved version of the game because the knight is more useful on c6. 28...♖xc6 29 ♘xc6 ♙h5 30 ♜c1 prepares to win the a7-pawn, so Black should continue energetically with 30...♜e2! 31 ♜xc5 ♜e1+ 32 ♙f1 ♙e2 and the endgame is equal after ...♜xf1.

28...♖xb7 29 ♘xb7 ♙f8 30 ♙c6?!

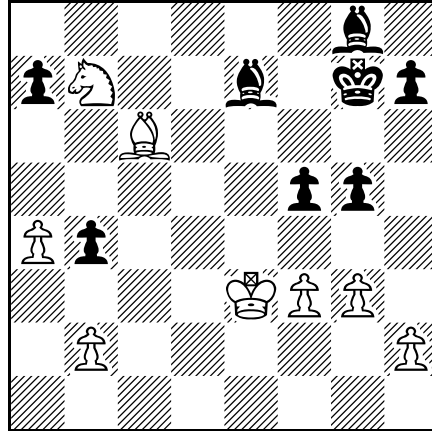
Alternatively:

a) 30 ♙f1 is met by 30...♙h5 31 ♜c1 ♙f3 and the two bishops dominate the knight.

b) However, there was a strong defensive resource in 30 ♘d8! and although White's position still looks unpleasant after 30...♜xd8 31 ♜xe2 ♜d1+ 32 ♙f1 ♙c5 the opposite-coloured bishops provide reasonable drawing chances.

30...♜e7 31 f3 ♙c4 32 ♜xe7+ ♙xe7 33 ♙f2 f5 34 ♙e3 ♙g8!





**Question:** What is the purpose of 34...♙f8?

**Answer:** The immediate 34...♙f6?! runs into 35 ♖d6. By retreating the bishop to g8 first, Carlsen threatens ...♙f6 next and ♖d6 won't come with tempo.

34...h5 is also good for Black, just gaining space on the kingside.

**35 ♙d3**

The knight cannot easily escape: 35 ♖a5 ♙d8! 36 ♖b7 ♙f6 37 ♖d6 and now there is a nice idea with 37...f4+! 38 gxf4 gxf4+ 39 ♙xf4 ♙xb2 followed by advancing the passed b-pawn.

**35...g4!**

Gaining space on the kingside and fixing the h2-pawn.

35...♙f6?! would be inaccurate here. The king on d3 makes it more difficult for Black to advance his b-pawn. For example, 36 ♖d6 ♙xb2 37 ♖xf5+ ♙f6 38 ♖e3 followed by exchanging bishops with ♙d5.

**36 ♖a5 ♙c5!**

A couple of moves ago, ...♙f6 was the main threat, targeting White's queenside. Now ...♙c5-g1 is the idea, going after White's kingside.

**37 ♖c4 ♙g1 38 ♖e3 ♙e6 39 fxf4 fxf4 40 ♙e2 h5 41 ♙d5 ♙d7 42 ♙b3 ♙xh2 43 ♙f2 h4 44 gxf4 ♙e5**

The powerful two bishops and passed g4-pawn decide the game in Carlsen's favour.

**45 ♖c4 g3+ 46 ♙g1 ♙f4 47 ♙d1 ♙c6 48 b3 ♙h6 49 a5 ♙e4 50 ♙f1 ♙g7 51 ♙g1 ♙f6 52 ♙f1 ♙e6 53 h5 ♙d5 54 a6 ♙d4 55 ♙g4 ♙c3 56 ♙e6 ♙c2 57 ♖a5 ♙c7 58 ♖b7 ♙d3+ 59 ♙g1 ♙xa6 0-1**

## The Open Catalan

The newer engines have a better understanding of how to create problems for the opponent in the tense middlegames that arise from the Open Catalan. In game 11, Giri employs a fresh, AI-influenced setup, first unbalancing the pawn structure with 11 ♖c3 and then playing 14 ♗e5! to enter a complicated middlegame full of strategic ideas.

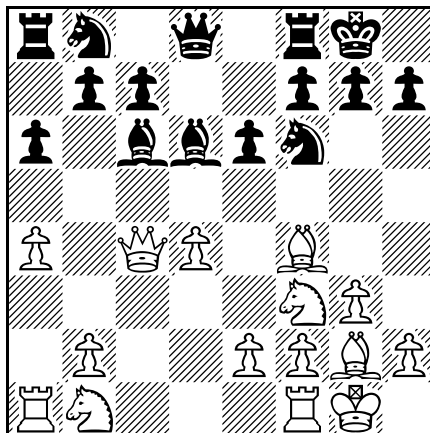
As usual in modern chess, engines often severely underestimate the practical difficulties that a new idea can pose. The engine is unable to convey which side gets to have all the fun, or how one side's position is hanging by a thread and could collapse after one wrong move. Therefore, understanding the engine's suggestions and reasoning through its proposed variations is essential. In this example, the engines confirm that Black's setup is fully sound and solid, but it is much more difficult for him to find a productive plan or create active play. Wang Hao tries to equalize concretely out of the opening but this approach backfires as Giri creates tremendous positional pressure.

### Game 11 A.Giri-Wang Hao FIDE Candidates 2020-21

**1 d4 ♘f6 2 c4 e6 3 ♗f3 d5 4 g3 ♙e7 5 ♙g2 0-0 6 0-0 dxc4 7 ♚c2 a6**

The Classical variation of the Open Catalan remains as solid as ever. It leads to a completely different type of game than the double-edged 7...b5, which we have already seen in Grischuk-Nakamura and Ding Liren-Carlsen.

**8 a4 ♙d7 9 ♚xc4 ♙c6 10 ♙f4 ♙d6**



The tournament situation certainly influenced Giri's opening choice. This game was played in Round 9 of the 2020 Candidates, when Giri had 4/8 and needed to start winning to have any hope of catching Nepomniachtchi (who had 5/8 points).

**11 ♖c3!?**

Playing for a win by heading for an unbalanced pawn structure and a complicated middlegame, where the game will not simplify quickly.

The main line 11 ♖c1 provides good chances of obtaining slight positional pressure but may not be the best attempt at playing for a win because there is a risk of the game fizzling out early on. Following 11...♗bd7 (11...a5 12 ♖c3 ♗a6 is another solid setup) 12 ♖c3 ♕e7 is the main line, trying to play ...e5 and equalize. There are also many playable alternatives that could also be considered. Now:

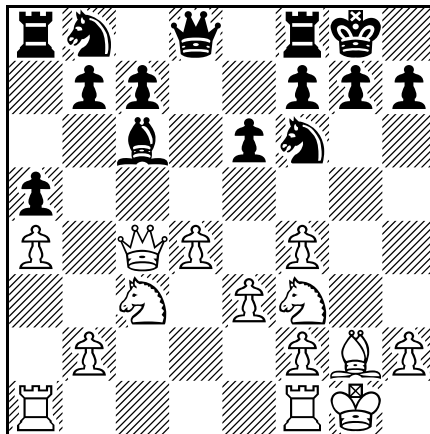
a) 13 ♖e1 ♕xf3 14 ♕xf3 ♕xf4 15 ♖xf4 c6 with a solid position. White may be able to create some slight pressure, but practice hasn't really supported this. For example, 16 a5 e5 17 dxe5 ♗xe5 18 ♕g2 ♖fd8 19 ♖ed1 ♗g6 20 ♖a4 ♗f8! 21 ♖xd8 ♖xd8 22 ♖a3 ♖d6 23 ♕h3 ♗e6 and Black was fine in G.Gajewski-P.Leko, Germany 2019.

b) 13 a5 ♖fe8 14 ♖e1 ♕xf4?! (14...♕xf3! 15 ♕xf3 ♕xf4 16 ♖xf4 c6 leads to a very solid position which is certainly not an ideal opening for a crucial game with the White pieces) is a slightly dubious move order and it was expertly exploited by White in R.Wojtaszek-D.Navara, Prague 2021. The key point is 15 ♖xf4 ♕xf3 16 ♖xf3 recapturing on f3 with the queen and the bishop stays back safely on g2. Play continued 16...c6 17 ♗a4! (17 ♖ed1 e5 18 d5 e4 quickly led to simplifications and a draw in P.Harikrishna-W.So, Riga 2019) 17...e5 18 dxe5 ♗xe5 19 ♖c3 ♗d5 20 ♖c5 and Wojtaszek obtained a clear advantage in the endgame.

**11...♕xf4 12 ♖xf4 a5**

12...♕xf3 13 ♕xf3 c6 14 a5! with some long-term weaknesses on Black's queenside.

**13 e3**



**13...♗a6**

Continuing with the plan of fighting for the b4-square, though the alternatives are playable as well:

a) 13...♕xf3 still seems a bit too early in view of 14 ♕xf3 c6 15 b4! Black is still quite

solid after 15...axb4 16 ♖xb4 ♜a7 but White can play for a small edge by putting pressure on the b7-pawn.

b) 13...♞bd7 keeps the a6-square open for the rook. I imagine that Giri intended to play in similar fashion to the game with 14 ♞e5! (14 ♞h1 ♜a6! 15 ♜g1 ♜b6 16 ♞e2 ♞e4 led to a complicated middlegame in L.Aronian-W.So, Saint Louis 2018, and one that should be fine for Black) 14...♞xg2 15 ♞xg2 and White has good chances of obtaining slight, long-term pressure in the following sample line: 15...♜a6 16 ♜fd1 ♜b6 17 ♞d3 c6 18 h3 followed by ♞h2 and ♜g1, while Black is lacking a clear plan.

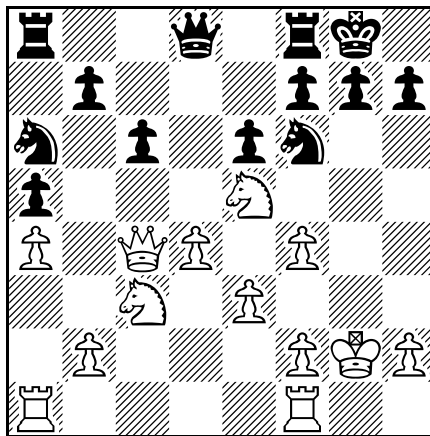
#### 14 ♞e5!

Instead of allowing ...♞xf3, Giri forces the exchange of light-squared bishops.

14 ♜ac1 ♞xf3! 15 ♞xf3 c6 16 ♞h1 ♞b4 and although ideas of creating kingside pressure still exist for White, I think it is much preferable to have a knight on e5 rather than the bishop on f3.

#### 14...♞xg2 15 ♞xg2 c6

15...♞b4 16 ♜ac1 c6 is a very natural and solid approach. I am sure that Giri was expecting this pawn structure and knew how to create long-term difficulties for his opponent. For example, 17 ♞e2 ♞e7 18 h3 followed by fighting for the g-file and gradually making progress on the kingside. Although Black's position is extremely solid, the most important thing is that the position will remain complicated for a while and not quickly fizzle out to a draw.



**Question:** What is White's plan in this position?

**Answer:** White should slowly build up pressure on Black's kingside by pushing the h-pawn and putting the major pieces on the g-file. It may not look like much now, but these small incremental improvements could lead to some real pressure. Meanwhile, Black is struggling to find a plan and in the game, Wang Hao rushes with ...c5.

**16 h3!**

Giri prepares to play ♔h2 and put his major pieces on the g-file. The older engines have a much more difficult time finding a productive plan for White.

16 ♔h1 was seen in V.Fedoseev-I.Salgado Lopez, internet 2021, and also makes a lot of sense. It is instructive how Fedoseev managed to continuously improve his position while his opponent couldn't do much: 16...♘d5 17 ♖g1 f6 18 ♘d3 ♜f7 19 ♗e4 ♔h8 20 ♖g3 ♜e7 21 ♜ag1 ♗db4 22 ♗xb4 ♗xb4 23 ♜f1! ♘d5 24 ♜g2 and White succeeded in bringing his major pieces to the g-file and soon provoked major weaknesses on Black's kingside.

**16...♜b6 17 ♜e2 c5?**

A direct attempt at equalizing the game, which demonstrates the strength of Giri's preparation. One of the main points of this line is that Black cannot equalize directly, so Wang Hao should have agreed to Giri's terms of playing a slow, maneuvering, and complicated game.

17...♗b4 18 ♖g1 followed by ♔h2 when there are ideas of doubling rooks on the g-file and pushing the h-pawn. Black's setup is extremely solid, but the game remains tense and complicated.

**18 ♜fd1**

The forcing 18 ♜b5 leads to an endgame where White has an extra pawn after 18...♜b5 19 axb5 cxd4 20 bxa6 dxc3 21 axb7 ♜ab8 22 bxc3 ♜xb7 23 ♜xa5 ♗e4 followed by ...♜c8 and ...f6 with reasonable drawing chances. Giri prefers to create long-term, strategic problems for his opponent and keep most of the pieces on the board.

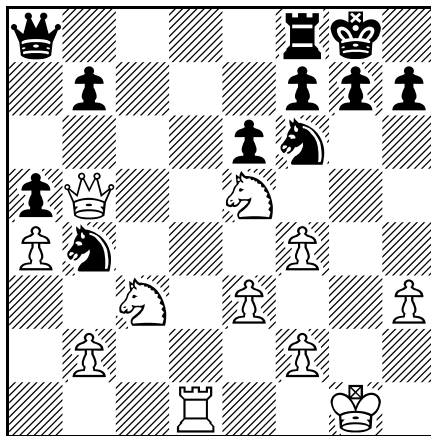
**18...cxd4**

18...♜fd8 19 ♜b5 ♜c7 20 ♜ac1 is very pleasant for White. Even so, perhaps it was better than opening the d-file.

**19 ♜xd4 ♜ad8 20 ♜xd8 ♜xd8**

20...♜xd8 21 ♜b5 ♜c7 22 ♗c4 wins the a5-pawn.

**21 ♜d1 ♜a8 22 ♔g1 ♗b4 23 ♜b5!**



Pressuring Black's queenside pawns and tying down the queen to a8.

23...♘bd5 24 ♘xd5 ♘xd5 25 ♖c1 h6

25...♗d8 also deserved attention, preventing White's queen from invading on d7.

26 ♗d7 ♘f6 27 ♗d6 g6?

A severe weakening of the kingside, Black needed to look for counterplay:

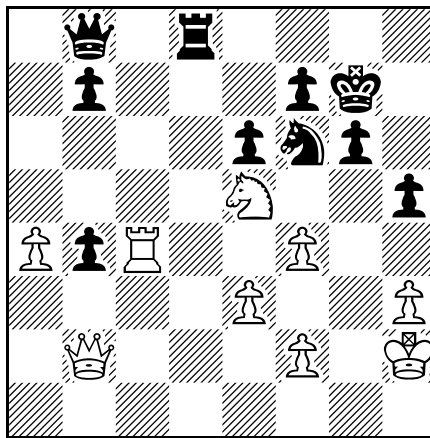
a) 27...♘d5 28 f5! ♗d8 29 ♘d7 would also have been very problematic.

b) However, Wang Hao could have created some fighting chances by freeing his queen with 27...♗e8! 28 b3 b5 obtaining some queenside counterplay.

28 b3 h5 29 ♖h2 ♖g7 30 ♗d4 ♗d8 31 ♗b2 ♗b8 32 b4?

32 ♗c3 picks up the a5-pawn and keeps everything under control.

32...axb4 33 ♖c4?!



Consistent with Giri's previous move, but there is a very unexpected opportunity for counterplay here which was missed by both players.

**Exercise:** Can you spot Black's idea for counterplay?

33...b3?

**Answer:** 33...♗d1! Targeting White's unprotected back rank and activating the major pieces was the best try for counterplay.

Some sample lines:

a) 34 ♗xb4 ♗d8 (setting up ideas with ...♘g4 and ...♗h4) 35 ♗xb7 ♘g4+! 36 ♘xg4 hxg4 Threatening ...♗h4. And if 37 ♖c7 then 37...♗f6 and ...♗d2 next.

b) 34 ♖xb4 ♗d6! 35 ♖xb7 ♗d5 leads to a draw by perpetual: 36 ♖xf7+ ♖h6 37 ♖xf6 (37 ♗b7 ♖h1+ 38 ♖g3 ♖g1+ and White has nothing better than repeating the position with 39 ♖h2 because of 39 ♖h4?? ♗xe5! 40 fxe5 g5 mate) 37...♖h1+ 38 ♖g3 ♖xh3+! 39 ♖xh3 ♗h1+ 40 ♖g3 h4+ 41 ♖g4 ♗g2+ 42 ♖xh4 ♗h2+.

34 ♖b4 ♗a7?

The absolute last chance for Black was again based on activating the major pieces with 34...♖d6! intending ...♖d1 or ...♖d2 next. However, White will have an extra a-pawn on the queenside, making it unlikely that any of the resulting endgames can be saved.

35 ♖xb3 ♗xa4 36 ♖xb7 ♗e8 37 ♖a7 ♖d5 38 ♗b7 ♘e4 39 ♘xf7 1-0

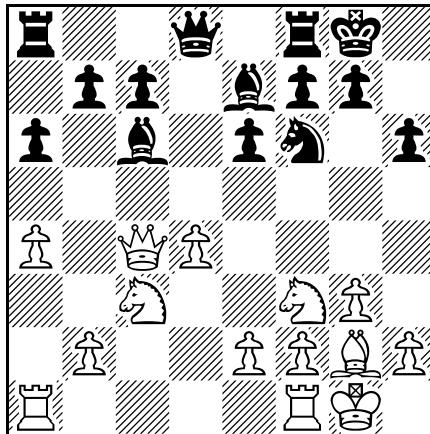
The following game surveys some of the latest developments in the main line of the Open Catalan. Grischuk gets a slight edge out of the opening and shows that White can gradually pose problems for Black's extremely solid setup. In contrast to some of the more unbalanced positions we have seen, the influence of AI engines is not as obvious in the resulting slow, maneuvering middlegames. However, they have much clearer picture of the long-term goals both sides are trying to achieve, which can be very helpful for human players who want to understand the subtleties of these lines.

*Game 12*  
**A.Grischuk-L.Dominguez Perez**  
 FIDE World Cup 2019

1 ♘f3 d5 2 g3 ♘f6 3 ♖g2 e6 4 0-0 ♖e7 5 c4 0-0 6 d4 dxc4 7 ♗c2 a6 8 a4 ♖d7 9 ♗xc4 ♖c6 10 ♖g5

10 ♖f4 ♖d6 11 ♘c3 was seen in the previous game.

10...♗bd7 11 ♘c3 h6 12 ♖xf6 ♗xf6



13 ♖fd1

White has also experimented with other move orders, such as 13 a5 or Sam Shankland's 13 e3!? against Karjakin in the 2021 World Cup. The general plan remains the same, to reach a very slightly better middlegame with chances to outplay the opponent.

13 b4 used to be the main line, but the arising simplified positions have not given

White anything in practice lately. Play continues 13...♙d5 14 ♘xd5 exd5 15 ♖b3 c6 16 e3 ♙d6 and White will push b5 at some point, creating a potential weakness in Black's position. However, one small weakness shouldn't be enough to create serious winning chances, for example, 17 b5 (or 17 ♖ab1 ♗e7 18 ♖fd1 g6 19 ♘e1 ♙g7 with balanced chances in W.So-A.Giri, Saint Louis 2019) 17...♖b6 18 ♖ab1 axb5 19 axb5 c5 20 dxc5 ♙xc5 and Black's control over the a-file compensated for the isolated d5-pawn in R.Langeveld-N.Daubenfeld, correspondence 2020.

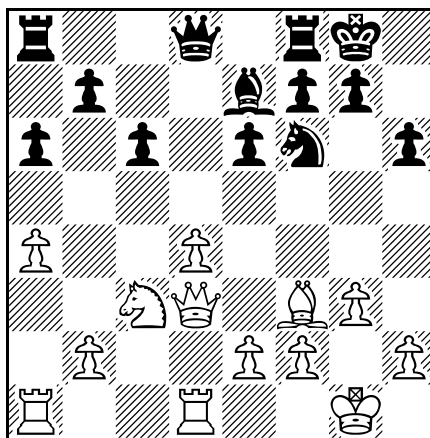
### 13...♙d5

A logical approach but not the best attempt at solving Black's problems. Either of the alternatives would be slightly preferable:

a) Later, Dominguez switched to 13...a5 14 ♘e5 (a similar idea to the previous game, White wants to preserve the knight and trade bishops instead) 14...♙xg2 15 ♙xg2 c6 16 e3 (16 ♖b3 ♖c7 17 ♖ac1 ♖fd8 18 e3 ♙b4 was very solid in P.Harikrishna-L.Dominguez Perez, Budva 2019) 16...♙d6 (16...♙b4 17 ♖ac1 ♗e7 18 ♘e2 and White will maneuver the knights around, perhaps with ♘f4-d3, hoping for some slight pressure) 17 ♗e2 ♗e7 18 ♘c4 e5 19 d5 quickly developed into a major advantage for White in D.Dubov-D.Gukesh, Sochi (rapid) 2021.

b) 13...♖d6!? is the least natural of Black's options, though a couple strong players have given it a try. An important difference between this move and 13...a5 is that Black is staying more flexible with his pawn structure, so it is possible to play ...c5 in some lines. Following 14 e3 (14 ♖d3 ♖fd8 15 e4 ♖b4! 16 ♖c2 and in Q.Le-L.Aronian, Moscow (rapid) 2019, Black has a very solid setup after 16...a5) 14...♖fd8 15 a5 ♖ac8 16 ♗e2 Black's position is perfectly fine, but it feels like White has the easier game because of the extra queenside space and the idea of playing e4 at any moment.

### 14 ♖d3 ♙xf3 15 ♙xf3 c6



In these relatively quiet positions, the difference in understanding between the older and newer engines is not so obvious, but I have found that the older engines struggle to



find a clear plan for either side in these types of positions. The newer ones have a much better idea of how White can make small improvements and create problems for Black to solve.

### 16 ♖g2

The series of small improvements begins. Alternatives:

a) In the rapid portion of the match, Grischuk tried 16 e3 when Black has:

a1) 16...a5 17 h4 h5 stopped both of White's flank advances, so Grischuk switched to fighting for the centre with 18 e4 g6 19 ♖e3 ♗e8 20 ♖g2 ♖g7 21 ♗d3 ♖b6 22 ♗ad1 ♗ad8 23 e5 ♗d7 24 ♗e2 and had built up an excellent position in A.Grischuk-L.Dominguez Perez, Khanty Mansiysk (rapid) 2019.

a2) 16...♗a5 17 ♗b1! (an alternative knight maneuver is 17 ♗e2!? intending ♗c1-b3 or ♗f4-d3) is a strong knight maneuver to the c4-square. Another one of Grischuk's games continued 17...♗b4 18 ♗a3 ♗xa3 19 ♖xa3 ♗ad8 20 ♖g2 ♗fe8 was seen in A.Grischuk-D.Navara, Hamburg 2019, and now instead of the immediate 21 b4, better is 21 ♗ac1 e5 22 b4 creating slight pressure.

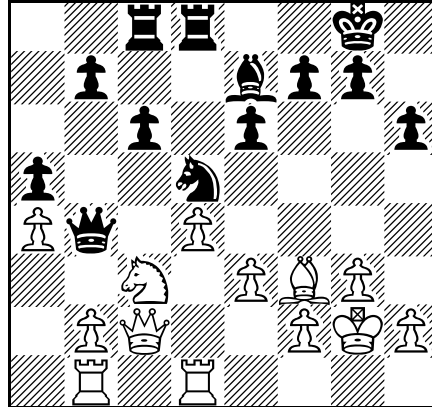
b) The newer engines suggest that a more ambitious plan is playable as well with 16 e4!? when Black can try:

b1) 16...♗c8 17 h4 ♖b6?! made it too easy for White to obtain a crushing space advantage after 18 a5! ♖c7 19 e5 ♗d5 20 ♖c4 ♗fd8 21 ♖g2 ♗b4 22 ♖e2 ♗f8 23 h5 and White had completely clamped down on Black's position in T.Srinath-J.Filipek, correspondence 2020.

b2) 16...♗a5 17 e5 ♗d5 18 h4! gaining kingside space is very useful, especially because White may try to create play on the b1-h7 diagonal. For example, 18...♗b4?! 19 ♖e2 ♗fd8 is too slow because of 20 ♗e4! with the dangerous idea of playing ♗b1 and ♖e4) 19 ♗e4 (but not 19 h5?! ♗b4 20 ♖e4 ♗d7 and Black created good play against the d4-pawn in V.Dragnev-H.Raja, Sitges 2019) 19...♗b4! (19...♗ac8 20 ♖f3 followed by pulling the bishop back and playing ♖e4) 20 ♗xd5 cxd5 21 ♗g2 followed by f4-f5, though Black should be able to create sufficient play on the queenside along the c-file.

### 16...♗a5 17 e3 ♗fd8 18 ♖c4 ♗ac8 19 ♗ab1 ♗d5

19...♖b4 20 ♖xb4 ♗xb4 21 ♗a2 ♗d6 22 b4 with a pleasant slight edge in the endgame.  
20 ♖b3 ♖b4 21 ♖c2 a5



**Question:** How can White create pressure in these types of positions?

**Answer: 22 h4!**

Advancing the h-pawn is very useful to gain space and pose Black some problems on the b1-h7 diagonal, which becomes relevant in another 10 moves. Grischuk's play throughout the middlegame is very instructive, creating small problems for Dominguez to solve and never allowing him to fully equalize.

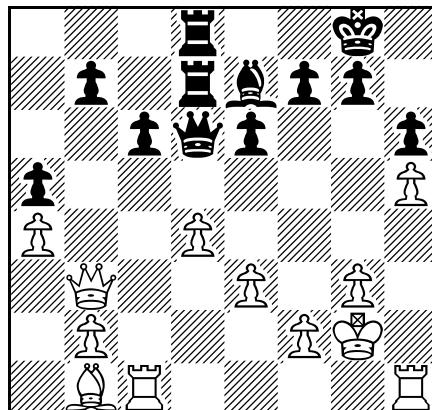
22...♘f6 23 h5 ♖c7 24 ♘e2!

Maneuvering the knight to d3, where it controls several key squares.

24...♙b6 25 ♘f4 ♘d5 26 ♖bc1 ♙d6

26...♘xf4+ 27 gxf4 reaches the same pawn structure as the previous game. White will try to create play on the g-file or break with f5 at some point.

27 ♘d3 ♘b4 28 ♙b3 ♖cd7 29 ♙e4 ♙c7 30 ♖h1 ♘xd3 31 ♙xd3 ♙e7 32 ♙b1 ♙d6



The control over the b1-h7 diagonal is an important asset that White should use immediately.

**33 ♖c2**

In view of 33 ♖c2 ♗d5!, first activating the rook with 33 ♖c5! ♗c7 34 ♖c4 was a very strong idea. Following 34... ♗d6 35 ♖c2 ♗d5+ 36 e4 ♗d6 37 ♖d1 White has great central control and an advantage.

**33... ♗f6**

33... ♗d5+! 34 ♖e4 ♗xe4+ 35 ♗xe4 ♗b4 leads to a very solid endgame.

**34 ♖c5**

Avoiding simplifications with 34 ♗h7+ ♗f8 35 ♗e4 leads to sharp play after 35... ♗b4 though it should be more in White's favour due to Black's passive pieces.

**34... ♗xc5**

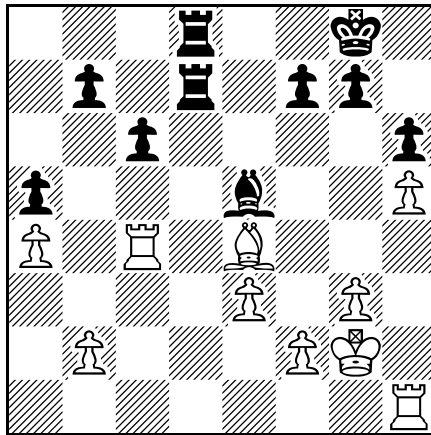
The immediate 34...e5! would have solved Black's problems. Dominguez goes for the same idea in the game but then Grischuk has time to quickly activate his pieces.

**35 ♖xc5 ♗d5 36 ♖c4 e5?!**

Grischuk activates his bishop and targets a major weakness in Black's position after this.

Passively waiting with 36... ♗e7 is not an attractive option, though it may have been the best try to hold the game.

**37 ♗e4 ♖5d7 38 dxe5 ♗xe5**



**39 b4!**

Grischuk sets his sights on the backwards b7-pawn. The long endgame that follows switches from winning for White to drawn after both rooks are exchanged. However, after having defended for so long and playing with little time on the clock, Dominguez slips and loses the game.

**39...axb4 40 ♖xb4 ♖a8 41 ♖hb1 ♖a7 42 ♗f5 ♖e7 43 ♗c8 c5 44 ♖b5 ♖c7 45 ♗xb7 ♖xa4 46 ♗d5 ♗f8 47 f4 ♗c3 48 e4 ♗d4 49 e5 c4 50 ♖b8+ ♗e7 51 ♖1b7 ♖a7 52 ♗c6 f5 53 ♖xc7+**

♙xc7 54 ♖a4 ♗a7 55 ♗b4 ♙c7 56 ♚f3 ♚e6 57 ♙c2 ♖a7 58 ♗a4 ♖b6 59 ♚e2 ♚d5 60 ♙xf5  
 ♗a7 61 ♗xa7 ♙xa7 62 ♚f3 ♙c5 63 ♙h7 c3 64 ♚g4 ♙f2 65 ♙g8+ ♚c6 66 ♙b3 ♚d7 67 ♚f3  
 ♙e1 68 g4 ♙d2 69 ♚e4 ♚e7 70 ♚f5 ♙e3 71 g5 hxg5 72 ♚xg5 ♙d2 73 ♚g4 ♙e3 74 ♚f3 ♙d2  
 75 h6 gxh6 76 f5 c2?

Giving up the c-pawn is the decisive mistake, but it was anyway very difficult for Black to construct a proper defence with such little time left.

77 f6+ ♚f8 78 ♙xc2 ♙c3 79 ♚f4 h5 80 ♙d1 h4 81 ♙g4 ♙a5 82 ♚f5 ♙c7 83 e6 ♙d8 84 ♙h5  
 h3 85 ♙g4 h2 86 ♙f3 ♚g8 87 ♚g6 ♚f8 88 ♙c6 1-0

### QGD/Catalan Hybrid

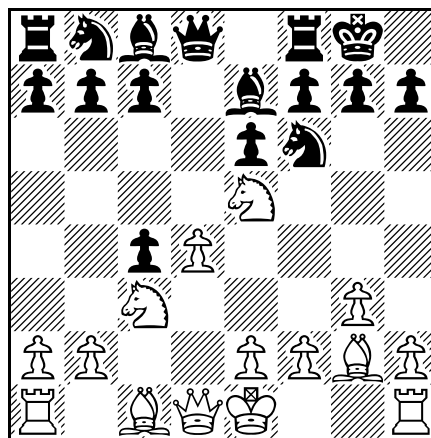
Daniil Dubov is well-versed in QGD/Catalan/Slav systems, including the QGD/Catalan hybrid (a setup that can be reached through the QGD or Catalan move order) which he has employed a number of times with the White pieces. It was interesting to see what he had in store when he faced it on the other side of the board in the 2020 Russian Team Championship.

*Game 13*  
**A.Goryachkina-D.Dubov**  
 Russian Team Championship 2020

1 ♘f3

The QGD/Catalan Hybrid can be reached through many different move orders, such as 1 d4 ♘f6 2 c4 e6 3 ♘f3 d5 4 ♘c3 ♙e7 5 g3 0-0 6 ♙g2.

1...♘f6 2 c4 e6 3 g3 d5 4 d4 ♙e7 5 ♙g2 0-0 6 ♘c3 dxc4 7 ♘e5



A tabiya of the QGD/Catalan Hybrid. There are 3 lines that Black can play at this point and we will examine some interesting developments in each of them.

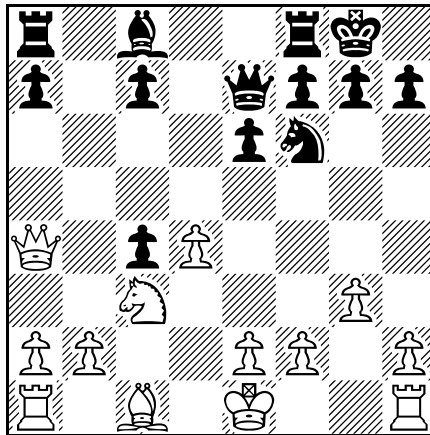
7...♖c6

The other lines are:

a) The sharp 7...♖d6 will be looked at in the next game.

b) 7...c5 8 dxc5 ♖xd1 9 ♘xd1 ♙xc5 is the most common line at the top level. White has tried many different moves here to create problems for Black, but let's just take a look at one of Dubov's games in the sharpest line of this endgame: 10 ♘e3!? c3 11 bxc3 ♘bd7 12 ♘d3 ♖b8 (12...♙e7?! 13 a4 ♖b8 14 a5 creates unpleasant queenside pressure; developing the c8-bishop will be a major challenge) 13 ♘c4 b6 14 ♙f4 exploits the awkward positioning of the b8-rook and leads to very forced play. D.Dubov-S.Karjakin, internet (rapid) 2020, continued 14...♙b7 15 ♙xb8 ♙xg2 16 ♙d6 ♙xh1 17 ♙xf8 ♙xf8 18 f3 ♙g2! (the only move, threatening to escape with the bishop via h3) 19 ♘f4 ♙h1 looks silly to put the bishop back on the square it came from, but there is still the threat of escaping with ...e5 followed by ...♙g2-h3. An interesting ending arose after 20 ♙f1 b5 21 ♘b2 e5 22 ♘fd3 ♙a3 23 ♘d1 e4 24 ♘3f2 ♙xf3 25 exf3 exf3 26 ♖b1 and Dubov eventually overcame Karjakin's defence in a tense endgame.

8 ♙xc6 bxc6 9 ♘xc6 ♖e8 10 ♘xe7+ ♖xe7 11 ♖a4



11...♘d5!?

Dubov has played the QGD/Catalan hybrid with the White pieces a lot in faster time controls and likely came across 11...♘d5 in his preparation, so he decided to give it a try as Black. This idea had already been tried a couple years earlier by some strong players, but without much success in the opening.

By far the most popular approach to the position is 11...c5 12 dxc5 ♖xc5 13 ♙e3 ♖c7 and now 14 0-0-0! has become extremely popular since Caruana used it against Nakamura in the 2018 Sinquefeld Cup. Ironically, Caruana mentioned after the game that it was an idea suited for one game and didn't expect it to become fashionable. 14...♘g4 (14...♙b7 15 f3 ♘d5 16 ♙d4 ♖fd8 and in D.Navara-M.Karthikeyan, Caleta 2020, White could obtain some slight pressure after 17 ♘xd5 ♖xd5 18 ♙c3 followed by trading rooks on

the d-file and bringing the h1-rook into the game) prepares to take on e3 and weaken White's pawn structure. The game continued 15 ♖d2 ♗xe3 16 fxe3 ♜b8 17 ♜hd1 a5 18 ♙b1 leading to a complicated strategic battle in F.Caruana-H.Nakamura, Saint Louis 2018, but one where it should be easier to play as White.

**12 ♜xc4**

Accepting the pawn sacrifice is critical, although it gives Dubov a way to activate his c8-bishop.

12 0-0 a5 13 ♜xc4 (declining the pawn sacrifice with 13 ♜e1!? may be the topic of future discussions in this line) 13...♙a6 transposes to 12 ♜xc4 a5 13 0-0.

**12...a5!**

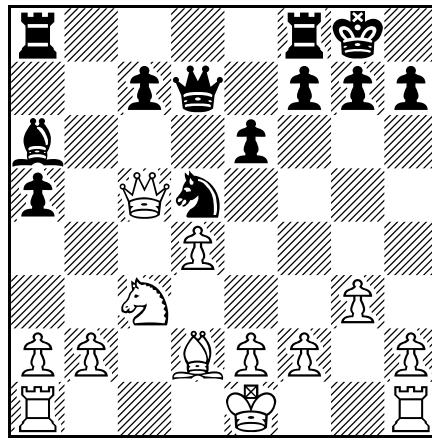
Intending ...♙a6 when the bishop exerts unpleasant pressure along the a6-f1 diagonal.

**13 ♙d2**

Goryachkina keeps her king on e1 to protect the e2-pawn.

Alternatively, 13 0-0 ♙a6 14 ♜a4 ♜fd8 15 ♜e1 ♜b4! (the exchange of queens leads to a satisfactory endgame for Black) 16 a3 ♗xc3 17 axb4 ♗xa4 18 ♜xa4 ♜xd4 19 ♜xa5 ♜xb4 and F.Bindrich-L.Nisipeanu, Magdeburg 2019, quickly ended in a draw.

**13...♙a6 14 ♜c5 ♜d7**



The modern engines argue that Black has full compensation for the sacrificed pawn. The opposite-coloured bishops are very useful for Black because they increase attacking opportunities in the middlegame, as well as drawing possibilities in the event of a queen exchange.

**15 f3**

15 ♜c1 ♜fb8 (15...a4?! 16 f3 ♜fb8 17 ♗d1 f5 18 ♙f2 saw Black lacking compensation in V.Malakhov-E.Bacrot, Zagreb 2018) 16 b3 ♗xc3 17 ♜xc3 (17 ♜xc3 a4 liquidates the queenside and leads to an equal position) 17...♜b5 18 ♜xc7 ♜xd4 19 ♙e3 and now:

a) 19...♜e4? 20 0-0 and the back rank situation makes things very unpleasant for Black because he cannot play actively with his major pieces. After 20...♜bb8 21 ♜fc1 h6 22 f3

White had an extra pawn and an excellent position in G.Oparin-R.Buhmann, Skopje 2019.

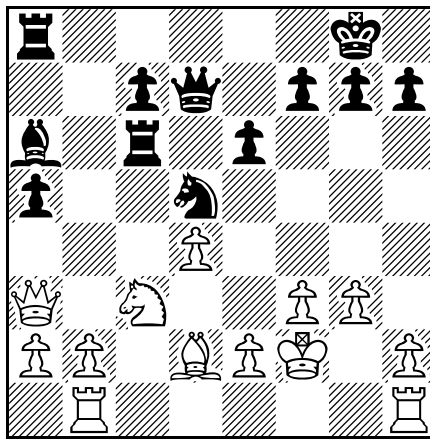
b) 19...♖f6! 20 0-0 ♔d5 (controlling the d-file and opening the a6-f1 diagonal for the bishop) 21 ♖c6?! ♕c8! is an important point which is possible here with the Black queen on f6, helping to prevent back rank mating ideas.

**15...♖fb8 16 ♖b1 ♖b6 17 ♖f2**

17 ♖xa5 would probably be met by the same idea that occurred in the game, 17...♖c6 (freeing the b6-square for the knight) 18 ♖a4 ♖b6 19 ♖c2 ♖c4 and ...♖xd4 can be played next.

**17...♖c6 18 ♖a3**

18 ♖xa5?! ♖e8! threatens to create a discovery on White's misplaced queen by playing ...♖xe2 or ...♖d3 next.



**Exercise:** How should Black keep up the initiative?

**Answer:** 18...♖b6!

Rerouting the knight with tempo. Dubov's idea is to activate his pieces by chasing the queen on a3.

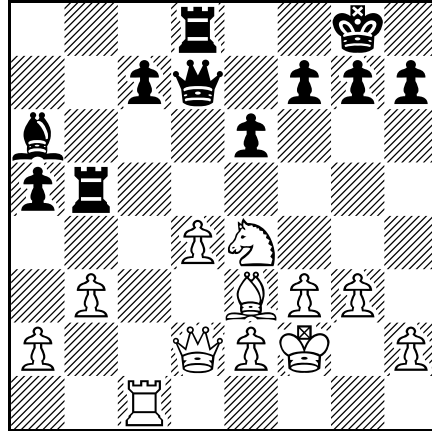
**19 ♖e3 ♖c4 20 ♖b3 ♖b6 21 ♖c2 ♖ab8 22 b3?!**

Goryachkina decides to sacrifice the exchange and remove Dubov's powerful knight on c4, but there was a defence based on the idea of activating her own knight.

22 ♖e4! ♖b4 (threatening ...♖xe3 and ...♖xd4 mate; 22...♖xb2?! is well met by 23 ♖c5! ♖c8 24 ♖d3) 23 ♖c5 ♖xe3 24 ♖e4! allows White to hold her position together after 24...♖d6 25 ♖xe3.

**22...♖a3 23 ♖d2 ♖xb1 24 ♖xb1 ♖d8 25 ♖e4 ♖b5 26 ♖c1?!**

26 ♖c3 would have been better preparation against 26...e5. Following 27 dxe5 ♖d5 28 g4! there are much better defensive chances than in the game.



### 26...e5! 27 dxe5

27 ♗g5! still would have kept some chances alive, but now Dubov's major pieces enter the game with a devastating impact.

### 27...♖d5 28 ♔c2 ♜h3! 29 ♖h1?

The rook is completely tied down on h1, so 29 ♗g1 was a better try. However, 29...♖xe5 30 ♗f4 ♖e7 followed by ...♖de8 and ...♗b7 is extremely difficult for White.

### 29...♖xe5 30 ♜xc7 ♖de8 31 ♗f4 ♖5e7 32 ♜xa5 ♗xe2! 33 ♘g5 ♜d7 34 ♖e1 ♜d4+ 35 ♗g2 h6 0-1

The following game features a material imbalance (queen for rook and bishop) where there is a clear difference in understanding between the two types of engines. Modern engines argue that Black must be accurate from the start to avoid potential long-term weaknesses. Meanwhile, the older ones hardly show any fear and are confident in the solidity of Black's position.

One important conclusion to draw from this game is the difficulties of analyzing such an opening from the Black side. Engines can often be misleading, suggesting equality everywhere, when it is actually very important to be precise right from the start.

*Game 14*  
**P.Prohaszka-K.Wang**  
 Charlotte Spring GM 2021

1 d4 d5 2 c4 e6 3 g3 ♘f6 4 ♗g2 ♗e7 5 ♘f3 0-0 6 ♘c3 dxc4 7 ♘e5 ♜d6!?