

Ben Johnson

Perpetual Chess Improvement
Practical Chess Advice from World-Class Players
and Dedicated Amateurs

New In Chess 2023

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Foreword by Ben Finegold

Ben Johnson is a master of getting as much information as possible from his guests on the *Perpetual Chess Podcast*. The journey to chess improvement never ends, and Ben has spoken to so many over the years in his quest to find answers.

When I was teaching private lessons, I actually encouraged my students, if they could afford it, to seek advice from other chess coaches as well. One point of view isn't going to get you to the holy chess grail, but sometimes even one comment from a coach can stick out in your mind and let loose some epiphany that will allow you to improve at a faster rate.

I never tried to force my students to play openings I liked, but instead to find positions that speak to them and encourage them to try new things. Ben asks all his guests many questions about chess improvement, so, as a whole, if you listen to *The Perpetual Chess Podcast*, you can see the ideas of a whole bunch of chess aficionados, including GMs, IMs, authors, chess coaches, and chess historians, as well as adult improvers, who share their journey with Ben.

The main ideas I try to endear to my students are the following:

- 1) No matter the time control, use about 80% of your time;
- 2) Always figure out what the opponent's last move does to the position;
- 3) Look for loose pieces, especially on the fourth and fifth ranks;
- 4) Never be intimidated – never offer or accept a draw.

Some of my students followed those rules, but most broke them often!

This book should lead the reader to a bevy of new ideas and thoughts about the challenges and rewards of chess improvement. Chess is a lifelong passion, and improvement is always possible. One just needs to work, work, work, and the results will follow.

Ben Finegold
Atlanta, GA
July 1, 2023

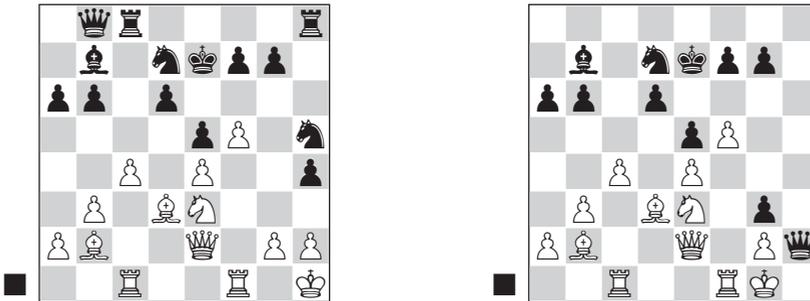
Preface

The incidental origins of the ‘Adult Improver Series’

‘Three years ago, when my rating dropped dangerously close to below 2100, I decided to do something about it.’ So began a Chess Reddit post that altered the course of the *Perpetual Chess Podcast* and, in a sense, my life.

Those words were written by CM Andrzej Krzywda, a then 38-year-old husband, dad, chess lover, and computer programmer who lives in Poland with his wife and kids. In that post, Andrzej described reaching a point of extreme frustration at his lack of chess improvement. Andrzej now realized that if he wanted different results, he needed to get serious about chess study. I relate to this feeling, and I suspect that many of you do as well.

Andrzej took drastic action. He ramped up his work with his coach and developed a consistent fitness routine despite disliking exercise. Shortly thereafter, Andrzej achieved a 2579 performance rating in a tournament and gained over a hundred FIDE points in mere months!



Banasik-Krzywda, Złota Wieża 2018

After getting serious about his chess study and doing regimented calculation training, Andrzej Krzywda had some great tournament results. In this position (left diagram), he was prepared to sacrifice a knight and two rooks for a classic checkmate, but his opponent resigned after 19... ♖g3+!! Play could have continued with 20. hxg3 hxg3+ 21. ♔g1 ♜h1+ 22. ♔xh1 ♜h8+ 23. ♔g1 ♜h1+ 24. ♔xh1 ♜h8+ 25. ♔g1 ♜h2# (right diagram).

In 2017, at the time I saw Andrzej’s post, the *Perpetual Chess Podcast* had been around for about a year and was starting to find an audience of

hard-core chess fans. At the time, I primarily interviewed titled players, authors, and content creators, and it had not occurred to me to feature the stories of amateurs. Nonetheless, when I saw what Andrzej had achieved, I felt I had to talk to him. When I emailed Andrzej, it turned out he was a regular listener to the podcast. His first message to me said, ‘It was my dream to be a *Perpetual* guest one day, but I thought it would happen three years from now at the earliest.’ Because my listeners were primarily adults, and since this interview would be less about ‘chess culture’ and more about tips for chess improvement, I decided to name this nascent series the *Adult Improver Series*.

To be honest, even though I loved Andrzej’s story, when I reached out to interview him I was unsure how much listeners would enjoy hearing the interview compared to the more typical interviews with Super GMs. But listeners loved Andrzej’s story. The *Adult Improver Series* was a hit! It is not shocking in hindsight, but it turned out that amateur chess players found other non-professionals more relatable than Super GMs. Chess can be a lonely pursuit at times, and listeners loved to hear the stories of their kindred spirits with helpful advice to share.

Furthermore, raising your rating as a working adult can be challenging, so listeners enjoyed hearing from people who showed that chess improvement as a working adult was possible. And as the *Adult Improver Series* continued, I eventually found out that while an 1800-rated dad who gained two hundred rating points in a year may not be able to beat a 2700 Super GM at chess, more people may listen to his interview!

Bringing it forward

These days, the *Adult Improver* episodes have become among the most popular episodes of *Perpetual Chess*, and for better or worse, the term ‘adult improver’ has become a part of the chess lexicon. While I was initially somewhat reluctant to discuss chess improvement in almost every weekly episode, I have come to appreciate the wide variety of approaches people take to improve their chess skills. As I type this, in May 2023, I have conducted forty-one *Adult Improver* interviews with people with a wide range of chess backgrounds. My guests included a fast-improving young woman who recently discovered chess via the hit show *The Queen’s Gambit*, as well as a grandmaster who spent more than a decade chasing chess’s highest title while working full time.

Speaking of grandmasters, in addition to the *Adult Improver Series*, I have also picked the brains of some of the chess world’s best players and most accomplished trainers about improving at this often fascinating and confounding game. If we take Malcolm Gladwell and K. Anders Ericsson’s

famed ‘10,000-hour rule’ and multiply it over the a hundred plus people I have interviewed (some of them multiple times), we are potentially drawing on more than one million hours of collective chess experience! So much great advice has been shared on *Perpetual Chess*, that the sheer volume can be overwhelming.

And let’s be real; my guests don’t always agree on best practice methods. NM Vinesh Ravuri reached 2200 while barely studying openings. On the other hand, acclaimed author and IM Willy Hendriks argues convincingly that studying openings is actually underrated for club players! Where does that leave you, the reader? Should you study openings or not? Debates such as this permeate the chess discourse, and we will share multiple views on them throughout the book while also endeavoring to land on some shared truths. In addition to insights shared by dedicated amateurs, throughout the book, you will find advice shared by YouTube presenters like IM Levy Rozman, elite players like GM Judit Polgar, and world-class trainers like GM Jacob Aagaard.

My own chess story

I want to be clear before we take the journey through this book together: I am not a super-improver. In fact, when I launched *Perpetual Chess*, I had nearly given up on my own chess improvement. I loved (and continue to love) chess, but my original goal for the podcast was to hear some fun stories and learn more about the personalities behind the famous chess moves. Podcasts are an excellent medium for connecting people, and I felt that they would be a good format to share some of chess’s vast folklore.

And I am proud to say that the podcast has succeeded in this regard. For example, it has been a privilege to hear first-hand reports from those who attended the ‘Match of the Century’ between Bobby Fischer and Boris Spassky in 1972. Future grandmaster and World Championship Candidate GM Johann Hjartarson described what it was like to attend the match as a nine-year-old boy who was starting to gain interest in chess. He grew up in Reykjavik, Iceland, which saw an explosion in the popularity of chess after the city hosted the match. Dr. Frank Brady, the renowned Fischer biographer, attended the match as a reporter and excitedly told me (Episode 202):

The place was incredible. There were hundreds of journalists and reporters. There were so many [press] conferences and interviews; it was like being in Lisbon during World War II.

Some of my favorite stories on the podcast have been tales of emigration. With its global popularity, chess can be a vehicle to start a new life, especially for those who fled Communist regimes. GM Vlastimil Hort, a world-class player at his peak, memorably recounted escaping Czechoslovakia and gaining entry into Germany in 1985 (en route back from the 1985 Tunis Interzonal tournament) by inserting a \$200 bribe into his passport before he handed it to a border agent. GM Alex Yermolinsky and GM Gregory Kaidanov also each told memorable tales of moving to the U.S. and relying on chess players to make connections, get acclimatized, and eventually form permanent homes here. I wanted to share these types of stories when I started *Perpetual Chess*, and they are still among my favorites. But it is also fun to get chess improvement tips from so many legends, and it fascinates me how many different perspectives on chess improvement one can hear from pros and amateurs alike.

Bringing it back to my own game, the *Perpetual Chess* community has inspired me to resume working on my own chess. I do a little bit of chess every day, work with a coach, and in total I spend five to seven hours per week working to improve my own game. For a working dad with many interests outside of chess, this feels like a big commitment, so I am constantly amazed at the many chess enthusiasts putting in significantly more hours than I do. I think it's important to have reasonable goals, and mine remain fairly modest, but I enjoy keeping chess improvement as a part of my daily routine.

And for every Andrzej Krzywda, there are ten folks like me. We are chess amateurs who work hard but struggle to improve. In fact, Andrzej himself has periodically struggled to maintain the regimen he showcased around the time of our interview, and at times family and work have taken priority for him again. This book aims to instruct and inspire, but the fact of the matter is that reading it won't automatically boost your rating. Hard work does not guarantee rating gains in today's competitive chess climate. 'The truth hurts,' as GM Ben Finegold likes to say.

Since I do not consider myself a chess improvement exemplar, I look at my role in this book as a conduit to convey the best advice shared on the podcast. Consider me a tour guide who can take you to the star attractions, such as sharing what former World Champion GM Viswanathan Anand said about getting nervous during tournament games. But I also want to take you to the dark alleys of chess improvement discourse and give an unfiltered perspective on the challenges of making progress. Trees do not grow to the sky, and sooner or later all of our ratings will peak. Sometimes they will do so despite our studying chess for hours a day. And, of course,

we are all busy. We've got jobs, kids, bills, relationships, and many things to prioritize over chess.

But luckily, there is so much to love about chess besides chess improvement. The game's 1600+ year history bridges generations, continents, and conflicts. The feeling of seeing a beautiful, unexpected move or tactical motif cannot be measured by rating. My wife, kids, and dog don't care what my rating is, but it helps my mental health to have a hobby that I love and that I know I will enjoy playing into my fast-approaching golden years.

Over the six-plus years of doing *Perpetual Chess*, I have been privileged to speak to legendary players, trainers, and chess authors alike. It's about time someone compiled all of the great advice from the podcast! Of course, the improvement tips alone won't make you a better player, but if you can put into practice all of the advice in this book about competing, reviewing games, studying tactics, openings, and much more, then, to paraphrase Jim Carrey in *Dumb and Dumber*, I am saying you've got a chance!

This book consists mainly of four sections. Part I covers what I call the 'four pillars of chess improvement'. They are: 1) playing serious games, 2) reviewing them, 3) doing tactics, and 4) finding a community. In Part II, I waded into murkier waters and discuss the many other ways you can spend your chess study time. Topics include working on visualization, different philosophies about studying openings, the pros and cons of playing speed chess, and more. Part III is devoted to how to approach the game away from the board. In that section, we discuss goal-setting, principles of deliberate practice, tournament routines, and some of those pesky healthy habits that are hard to maintain. Part IV gives you a quick tour of the major tools for chess improvement. You might be familiar with some of them, but I hope there are some fun stories and helpful recommendations in that section. Feel free to skip around the book and read what grabs you.

Thanks for checking out *Perpetual Chess Improvement*, and I hope you will find it helpful.

Ben Johnson
Lawrence Township, NJ,
September 2023

How to read this book

How to read the words

Before we get to the main event, I thought it might be helpful to share a few words about how *Perpetual Chess Improvement* is structured, with special attention to how the chess diagrams are presented.

This book is written both for avid listeners of *Perpetual Chess* and for those who have never heard a *Perpetual* word. For longtime listeners, the book is intended to help distill a lot of the advice you have heard and to help you recall a few insights that you may have forgotten.

For those who are not regular listeners of the podcast, I forgive you. In fact, this book may save you a lot of listening because it is intended as a TLDL ('too long didn't listen') summary of some of the best chess improvement advice that has been given on the podcast. Many insights are quoted verbatim from the podcast interviews, but I also relied on independent research and reading at times. And, of course, the many quotes are cleaned up of filler words, and I occasionally altered a word or two in a quote to more clearly express what I believed to be the intent of the speaker.

The book is written as if you will read it cover to cover, although I have heard a rumor that not everyone finishes reading every chess book that they purchase. That's okay. In fact, I encourage you to buy as many unread copies of this book as you like. Failing that, feel free to jump around to the sections of the book that interest you most. Chess, and even chess improvement, is a dazzlingly rich subject. In the course of trying to improve at this silly game, one often learns about topics such as neuroscience, health and mindfulness, and other topics that are even farther afield.

Despite the wide array of subjects that chess improvement touches, you may occasionally find some overlap of topics within chapters. I try not to outright repeat myself, but you will find mentions of game analysis in the tournament section (in addition to the game analysis section) and mentions of Chessable in the 'openings' section, and, of course, in the Chessable section. Apologies for any repetitions, but do know that I aim for brevity in this book. After all, I know you also have other chess books to read!

The book is also written primarily to be consumed as that rare chess book that can be read in bed or even listened to in the car if you have purchased the audiobook. Think of the diagrams as a bonus feature that augment the book. They also can be skimmed through if desired. The primary value of the book is envisioned to come from the stories and lessons shared rather than the chess demonstrated. But I was pleased with the quality of the positions I discovered, as well as those that were shared by players whose stories I discuss.

How the diagrams are presented

The chess positions that are presented throughout the book are largely either related to the material presented or from the games of the guests I am quoting. Sometimes they clearly illustrate a concept that was discussed, but in other cases, they are mainly used to help you associate a story being told with the chess game it references. Rather than presenting the positions as puzzles, I have revealed the many excellent moves on display right away. I considered sharing the puzzles, or the solutions, as separate sections but ultimately decided I did not want to distract the reader too much from the chess improvement advice shared in the book, which I hope provide the primary value. Although the positions in the book are presented as excerpts, one can find the complete games on page 220.

A word on rating guidelines

The two largest chess sites, Chess.com and Lichess.org, use fairly different rating scales, both for playing and within the ‘puzzle ratings’ which are on their own generous scales. In chess discourse, this has led to a fair amount of confusion about which rating system someone is referring to when giving a rating-based recommendation. **When I give a rating guideline in the book, such as ‘Those rated below 1500 should not spend more than 20% of their study time on openings,’ I am referring to the 1500 rating for Chess.com Rapid/US Chess/FIDE before 2024.** I realize that these rating systems are not identical, but they are reasonably close, and no rating guideline that I give in the book is exact in any case.

A few words on the recommendations given in this book

The attentive reader may note that Chessable is a longtime sponsor of *The Perpetual Chess Podcast* and that I recommend some Chessable courses in the course of this book. I also recommend some books produced by my publisher, New in Chess (as well as many books by other publishers). Both of these companies are now owned by Chess.com, a site whose features I also discuss at some points in the book. I am aware that some may

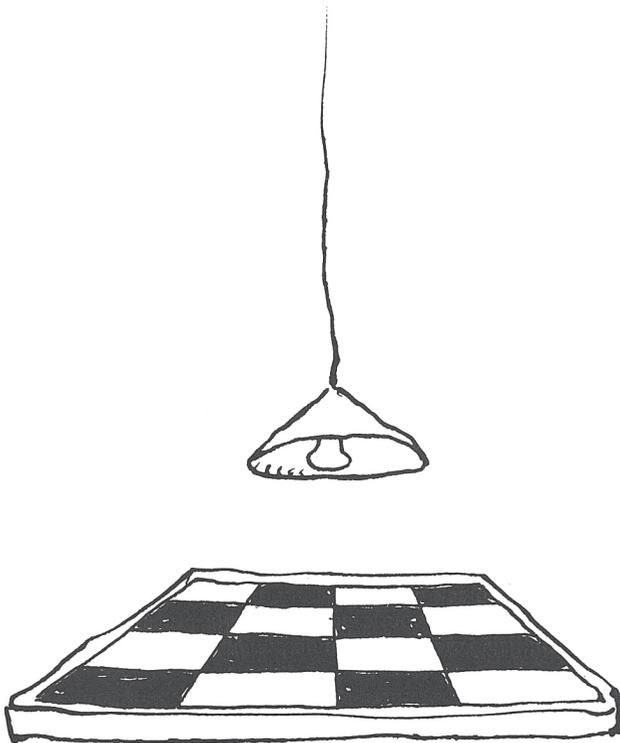
see a potential conflict of interest in my giving recommendations, but ultimately I should only be judged on the quality of the recommendations themselves. If I recommend bad books, courses, and website features based on financial interest, I do not expect to have an audience for long. But I acknowledge that conflicts of interest are difficult to avoid entirely in the small chess world, and I leave it to the reader to judge whether I am 'captured'.

With this preamble nearing its conclusion, I think you are ready to turn this page and read this actual book. As a staunch chess bibliophile myself, I am quite honored that New in Chess considered this worthy of publication and that you (presumably) thought this book might be worthwhile. I hope you will find the insights, the stories, and, of course, the chess valuable. Here it comes!

Ben Johnson
Lawrence Township, NJ,
September 2023

PART II

Other aspects of chess you may also want to work on (with your abundance of free time)



Introduction to Part II

Well, we knew that agreements on methods to improve wouldn't last. Here in Part II, we get to the fun stuff. Disagreement! Let's argue and throw some chess pieces at each other! Alas, the differing opinions about improvement methods are often unspoken, and I don't make it a habit to argue with guests on the podcast. Guests have shared a wide range of advice regarding how people improved their chess games. It is not unheard of to hear one strong player recommend a particular study method on *Perpetual Chess*, and then for a subsequent guest to unknowingly suggest the opposite. Let's delve into some implicit debates that have simmered beneath the surface of six years of chess talk on *Perpetual Chess*.

Chapter 5 – 'I love openings, but my coach keeps telling me to spend less time on them.' Let's settle this once and for all, is studying openings overrated?

Chapter 6 – Former World Champion Magnus Carlsen made endgame study a point of emphasis from a young age and developed legendary endgame acumen, but other grandmasters never prioritized them and relied more on learning experientially. Must you know endgames?

Chapter 7 – I know people used to read many chess books and will wax nostalgic about them at any opportunity, but with all of these modern tools, do we still have to 'study the classics?'

Chapter 8 – While we are talking tactics, in addition to solving 'traditional tactics', do I need to work specifically on 'visualization' and board recognition? What about endgame studies? Judit Polgar loves them, and she seems to be good at chess!

Chapter 9 – I love to stay up until five a.m. playing blitz chess online. I know that this nasty habit could lead to mood swings, job loss, divorce, and, worst of all, possible loss of rating points. But does blitz chess help my chess?

Chapter 10 – I read Chapter 3, so I know I am supposed to do tactics, but should I be repeating the same tactics, à la the famed Woodpecker Method, or should I move on to new ones?

Honestly, I could include a few more debates, but let's turn the page and get to the essential ones.

CHAPTER 5

The perpetual debate: do amateurs overemphasize opening study?

Opening understanding comes before memorization.

– GM Surya Ganguly, *Perpetual Chess*, Episode 242

The terms of the argument

When it comes to chess improvement for amateurs, there is no subject as contentious as that of the proper role of opening study in one's training plan. The debate centers around whether or not 'openings are overrated', as has been stated by many a trainer, seemingly since the invention of chess. Note that the whole debate primarily applies to amateurs, especially those below the rating of 1500 or so, and that openings are unequivocally important as your rating ascends into the 2000s and beyond. By the time one becomes a Super GM, opening work often rightfully takes up the bulk of one's study.

The reason that many trainers warn novice students not to overemphasize openings is that they see so many newer players obsess over them. And an advantage or disadvantage obtained in the opening by a player rated 1200 is unlikely to determine the outcome of the game. More likely, the game will be decided by a mistake or several mistakes later in the game.

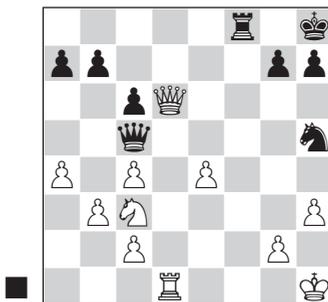
Nonetheless, many newer players love to study openings and often devote an outsized percentage of their chess time to studying them. In a reaction to the overemphasis by newer players, many trainers preach that one should refrain from studying openings. Long-time listeners of *Perpetual Chess* may recall that I was once strongly in the 'openings for amateurs are overrated' camp, but over time I have realized that the debate is more nuanced, and I have softened my stance.

In addition to the strong arguments advanced both in favor and against amateurs studying lots of openings, I have interviewed improvers who have had success with wildly varying approaches to opening study. That is why this topic makes for a timeless debate!

Succeeding with minimalist opening repertoires

USCF National Master Vinesh Ravuri could be the poster boy for demonstrating that one can achieve a rating of 2000 USCF with minimal opening study. In Episode 106, Vinesh espoused a tactics-heavy approach

and mentioned that he did not study openings very frequently while climbing the rating ladder. Vinesh advised, ‘if you are below 1600, you could play whatever you feel like... just don’t get blown to pieces in the opening.’ For Vinesh, this meant emphasizing so-called ‘system openings’ like the Colle, where you often put your pieces on the same squares, almost regardless of your opponent’s setup. Vinesh felt that playing such an opening freed him to spend his study time in chess on other aspects of his game, like tactics. ‘It was just everyday tactics. I didn’t even do that much endgame and absolutely no opening. Just tactics.’

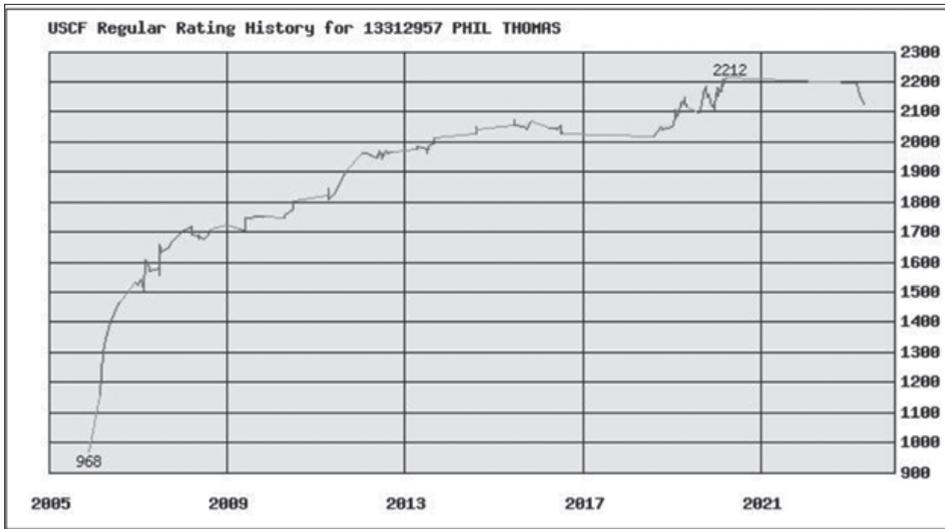


Mitkov-Ravuri, Pro Chess League 2018

Vinesh Ravuri’s unique hyper-focus on tactics was an effective approach for him. He pulled quite a few upsets in the 2018 and 2019 Pro Chess League. In this case, GM Nikola Mitkov overlooked a deflection tactic when he went pawn-grabbing with **23. ♖xd6** (diagram). After **23... ♜f1+!**, Nikola had to play **24. ♜xf1** and surrender his queen to avoid checkmate on g1. Vinesh went on to win the game.

Adult improver Philemon Thomas had a longer road to the USCF Master title than Ravuri, but took a somewhat similar approach to openings. He approached openings differently depending on whether he played White or Black. When playing White, Philemon generally just tries to keep things ‘solid and flexible’ and is not ‘engrossed with the theory’ (Episode 173). ‘I just want to get to a playable position where I don’t have any weaknesses, and then... we can battle in the middlegame.’

With Black, Philemon conceded that he does take a more theoretical approach. After all, by the time you reach the level of USCF Master, the advantage of moving first as White starts to play a more significant role: ‘I do know some theory. I know nearly every line of the French, and then, as Black against d4, I play the Slav Defense. I keep it very solid, try to equalize, and then I’ll start my “boa constrictor”.’ In reading these insights, I hope one can appreciate Philemon’s palpable enthusiasm for chess.



A prodigy's rating graph will often look like a Bitcoin chart circa 2017. It goes straight up very quickly. But I am more inspired by the story that a rating graph like that of Philemon Thomas tells. He eclipsed a 2200 rating (and earned the USCF Master title) 14+ years after his first tournament!

Wait, is studying openings actually underrated?

Counter to Philemon, Vinesh, and the advice of many chess trainers, there are some people who think studying openings as a way to improve is underrated. One such example is IM Willy Hendriks. Willy is a chess trainer, historian, and iconoclastic thinker who has written a few fantastic chess books. In his second book, *On the Origin of Good Moves*, Willy espouses the possibly heretical viewpoint that openings are a great thing to study, even for club-level players. So naturally, when I got the opportunity to interview Willy, I asked him about it. Willy mentioned that openings have always been an important point to study, going back to the days of Gioacchini Greco in the 17th century. Willy also pointed out that studying openings is easier than ever these days. In episode 182, Willy explained why this is the case:

It has to do with today's opportunities to play online, which make studying openings very rewarding. When I was growing up, you might have two opening books, and you would study them completely, and then you had to wait maybe half a year for the opportunity to play it. But today, with so many opportunities to play online, you can study an opening, play it in your online games, look at the games, and see how well you did. So there is a feedback relationship between studying and playing. And I think that's a big difference compared to earlier times.

Willy raises a valid point about the increased opportunity to practice an opening. And it is through such practice that one can learn the typical themes of an opening.

IM Greg Shahade is another proponent of extensive opening study. Greg points out that a key difference between trying to improve calculation and trying to memorize openings is that when he attempts to learn an opening, he will learn that opening. ‘I am just going to learn it!’, Greg exclaimed. On the other hand, Greg conceded that improving other facets of the game can be quite challenging! ‘It’s just hard. It’s hard to get better at chess! But openings are great because it’s easy to get better at openings. It’s like the easiest thing you can do. You just have to memorize stuff.’

One thing that struck me about Greg’s opening philosophy was his long-range view. Chess players can often feel like they should rush to learn everything, or they approach an upcoming tournament as if one is cramming for a test. But as he explained in Episode 213, Greg was not in a hurry:

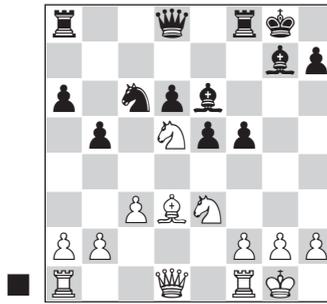
If you learn a good opening and stick with it, there’s no reason you ever have to stop playing it. So it’s important to be patient. Understand that it’s a long journey, and the more you play, the more experience you will get. And that’s a good feeling. It’s such a good feeling when somebody plays something against you. You learn it. You study it. And then the next time somebody plays against you, you know what to do.

As a very strong player, Greg does have some advantages over most amateurs. Greg has a very good memory and also will naturally understand most of the moves he memorizes, For those of us who are not International Masters, one should not memorize moves if they don’t know why the moves are played.

GM Surya Ganguly is an accomplished player and popular Chessable author who has worked both as a trainer of amateurs and on the preparation team of former World Champion, Viswanathan Anand. Surya has called memorizing a move without understanding why it is recommended ‘a cardinal sin’. In the Chessable age, committing this sin is easier than ever. When I interviewed Ganguly in 2021, he drew on his own experience working with Anand to explain his thinking (Episode 242):

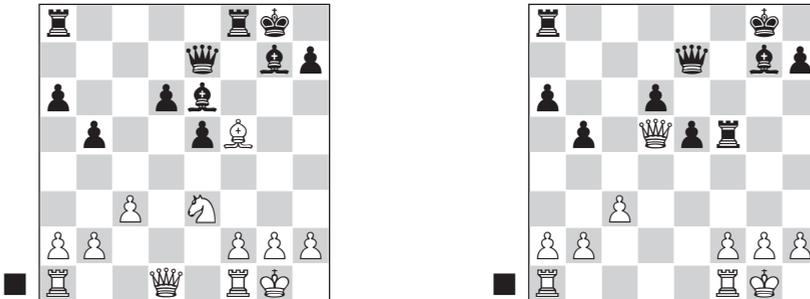
If you memorize something without understanding, it has got a very short span in your mind. It will fade away. It’s not just about chess, practically about

anything. That's why... during my school days, I would prepare for exams, and if I would just remember something for the sake of writing it in the exam, I would forget it as soon as the exam was over. In fact, even now, before a game, if I'm preparing something very quickly and just scanning through the computer lines, I will probably remember it for the game. But after that, I will have just no recollection. So I wanted to emphasize understanding. This is how I work on openings. Even during the World Championship match, when I'm explaining certain ideas to Grandmaster Anand, we will never just give some random computer lines but actually try to explain the ideas. This is how I personally also prepared openings... I always say that 'understanding comes before memorization.'



Berg-Johnson, New York 2022

In a 2022 tournament game, I was reminded why knowing the 'why' in an opening line is important. In a theoretical Sicilian Sveshnikov I played 16...♘e7??, not remembering that Black should play 16...♖h8 or 16...♙a7. It turns out that the 'why' for both of those moves is that they prevent the opening trick I walked into. At least I could take comfort that grandmasters Pentala Harikrishna and Pascal Charbonneau both had made the same mistake some years ago.



Berg-Johnson, New York 2022

After 16...♗e7, White can play 17.♗xe7 ♖xe7 and then go 18.♙xf5! (left diagram), taking advantage of the unguarded a8-rook. White wins this rook after 18...♙xf5 19.♗xf5 ♖xf5 20.♕d5+ (right diagram). This is why instead of 16...♗e7, Black should either play 16...♖h8 (avoiding the ♕d5 double attack idea), or 16...♖a7 (getting the rook off the diagonal). In the game, I realized my mistake, so I played 18...♙f7 and was lucky to eventually escape with a draw.

Few would argue with Ganguly's advice in principle, but with so much chess to study, there is a constant temptation to take shortcuts. But what Ganguly told me is supported by science. In *Make it Stick: The Science of Successful Learning*, Peter C. Brown writes, 'It's true, if you're just engaging in mechanical repetition, you will quickly hit the limit of how much you can learn. However, **if you practice elaboration, there is no known limit to how much you can learn. Elaboration is the process of giving new material meaning by expressing it in your own words and connecting it to what you already know.**'

For less knowledgeable players, ensuring understanding will require constant diligence and much of what feels like extra work. So whenever I am tempted to auto-pilot through memorizing a move that I don't understand, I remember Ganguly's words and look for an explanation of the move.

Here is what to do when you don't understand a move in the opening:

- 1) Look for an explanation in the book, Chessable course, or annotation;
- 2) If that doesn't work, try a 'null move' to see the other side's intended next move. In Chessbase or in a Lichess study you can skip a side's turn by pressing 'x'. This will show you what a side would play if they got to move a second time in a row. If your engine doesn't allow that, try to make an irrelevant move to see the engine response, and hope to discern the plan behind the move you didn't understand. There will likely be times when you are still confused by a move even after these steps;
- 3) If there are grandmaster games available within an opening, you can play through them to try to see a plan in action;
- 4) Ask someone! Flag the position for your coach, crowdsource it in a forum or on social media, or on Chessable, you can even leave a comment for the author on the opening page;
- 5) If you are lucky enough to finally figure out the reason for the move, be sure to make a note so that you can remember what you learned and thus won't have to repeat this process again for the same move in the future!

change behavior. Clear writes: ‘A bright-line rule refers to a clearly defined rule or standard. It is a rule with clear interpretation and very little wiggle room. It establishes a bright line for what the rule is saying and what it is not saying.’ By committing to exactly nine games, Alex avoids any slippery slopes or ‘just one mores’. This clear guideline is much more effective than saying, ‘I’ll play a little bit each day.’ And limiting the number of games has the benefit of potentially amplifying the seriousness of your approach to each game.

As legendary 2012 World Championship finalist, GM Boris Gelfand memorably told me in Episode 200, when you limit your play, you are able to cultivate the mindset that ‘Each and every move is very important!’

In summation

- Blitz is fun!
- If you are somewhere below a 1400 rating, it probably isn’t the best way to help you improve your game.
- The stronger you are, the more helpful blitz is as a training tool, especially for learning openings.
- Blitz can be addictive, so it can be helpful to put ‘bright lines’, i.e. clear rules, in place around when to play and how to respond to feelings of ‘blitz tilt’.
- Bullet chess is an amplified version of blitz – less helpful and potentially more addictive. So if you play bullet, you should probably maintain no illusions that it will help your chess.

CHAPTER 15

How should we study chess? Deliberate practice and chess study

Learning is deeper and more durable when it's effortful. Learning that's easy is like writing in sand, here today and gone tomorrow.

– Henry Roediger III, Mark McDaniel, Peter Brown, *Make it Stick*

The history of deliberate practice in chess

With an elegant and fairly accurate rating system and the fact that no knowledge of other fields is required for excellence, chess has long been inextricably linked to the concept of deliberate practice. The term 'deliberate practice' was popularized by psychologists K. Anders Ericsson, Ralf Krampe, and Clemens Tesch-Romer in a landmark 1993 paper called *The Role of Deliberate Practice in the Acquisition of Expert Performance*. Author Malcolm Gladwell expounded on this subject in his best-selling 2008 book *Outliers*, and in the subsequent years, the term has penetrated deeply into the cultural lexicon.

Ericsson and his colleagues originally defined deliberate practice as 'effortful activity designed to optimize improvement.' They argued that 'Elite performance is the product of a decade or more of maximal efforts to improve performance in a domain through an optimal distribution of deliberate practice.' Their research touched on many subjects, including music and chess, and cited the Polgar sisters and Bobby Fischer as chess exemplars of deliberate practice. They wrote that the success of the Polgars 'shows that the level of performance can be dramatically accelerated through systematic training initiated prior to evidence of talent.'

Although the concept is often mentioned on *Perpetual Chess*, in reading Ericsson's paper, I am not certain if Ericsson's 'deliberate practice' framework is the best methodology regarding how adults should study chess for a couple of reasons:

- 1) A lot of the paper is related to 'nature vs nurture' debates regarding how determinative genetics are for future elite performance in different domains. While I find this a fascinating topic, I am not sure how relevant it is for an adult trying to go from 1600 to 1800 in chess.
- 2) The paper primarily looks at how adolescents and teens acquire skills rather than how adults do so.

- 3) One of the best chess players ever clearly states that he was not a fan of deliberate practice; more on this shortly.

Nonetheless, when chess players cite deliberate practice, they are likely invoking the spirit of ‘effortful practice’, rather than looking to follow a verbatim definition from a thirty-year-old paper. But to begin the discussion, let’s look at the pillars of deliberate practice according to Ericsson, Krampe, and Tesch-Romer.

The components of deliberate practice

You can get more granular if you like, but the principle four components of deliberate chess practice, based on Ericsson’s paper, are:

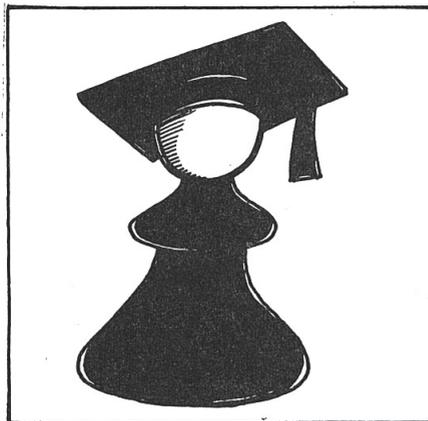
- 1) **It should be effortful.** Blitz on your phone on the toilet just doesn’t count!
- 2) **It should be targeted.** It should work on a specific skill. In chess, one might work specifically on calculating or regenerating and writing down your opening repertoire to help you remember it in the future.
- 3) **One should receive immediate feedback.** Whereas in the old days, this could have been a friction point for a self-learner studying chess, an engine or answer key can often provide the feedback needed.
- 4) **One can perform the same task repeatedly.** Obviously, whether we are talking about online blitz, playing training games from a specific endgame or opening, or some version of The Woodpecker Method, it is easy to apply this principle to chess.

As you might imagine, these components still leave plenty of scope for diversity within a chess training regimen. In order to make a more targeted training routine, it is helpful, first, to think about how we might learn differently as we age.

Fluid and crystallized intelligence

When I asked Christopher Chabris about what general information chess players should know about aging and cognitive decline (Episode 187), he began reassuringly, ‘It’s not all bad news for aging.’ Dr. Chabris went on to explain that according to the literature on intelligence, there are two types: fluid and crystallized. According to Dr. Chabris, fluid intelligence is your ability to manipulate information in real time. It also is heavily linked to working memory and the ability to hold information in the brain while thinking. Dr. Chabris said, ‘Calculation is the epitome of fluid

intelligence, since it involves keeping straight a lot of information at once. It probably peaks around age twenty-five and slowly declines from there.’ Crystallized intelligence encompasses accumulated knowledge. Dr. Chabris continued, it encompasses ‘knowledge or skills or formulas or procedures that you can apply to do more things. A classic example from outside the chess realm would be vocabulary.’ When it comes to chess, crystallized intelligence sounded more like it encompassed skills like opening knowledge and ingrained chess patterns. Dr. Chabris concluded, ‘I think our ability to learn new patterns and lines is still quite good as we get older, and our ability to retain it and use it is still pretty good, but fluid intelligence presents a challenge.’ Hearing Dr. Chabris describe this phenomenon, it rang



true based on my own experiences as a chess player. I also thought of my interviews with players like IM John Watson and GM Ben Finegold, who described an increased propensity to blunder as they got older.

The discussion also reminded me of the ‘knowledge vs skills’ dichotomy that we discussed previously. I think adults (myself included) are drawn to chess books that help them increase their knowledge because doing so is less of an uphill climb than working to improve calculation skills. But if we were to work to increase our calculation abilities as adults, what would be the best way to go about it?

Chess improvement and neuroplasticity

On *The Huberman Lab Podcast*, Dr. Andrew Huberman, a Stanford University neuroscience professor, has provided a valuable service by explaining neuroscience in a way that someone like me, with only a Bachelor’s degree in the humanities, can understand. I was particularly interested to hear his discussion of neuroplasticity, since reduced neuroplasticity in adults is often cited as a primary reason adults struggle to improve at chess at the same rate as kids.

Dr. Huberman defines neuroplasticity as ‘the brain and nervous system’s ability to change itself.’ As Huberman explains it, babies arrive in the world with very loose neural connections, but those connections change

rapidly from birth until about age twenty-five. Here is an overview of neuroplasticity across the age spectrum, according to Dr. Huberman:

One of the great gifts of childhood, adolescence, and young adulthood is that we can learn through almost passive experience. We don't have to focus that hard in order to learn new things. In fact, children go from being able to speak no language whatsoever to being able to speak many, many words and comprise sentences, including words they've never heard before, which is remarkable. It means that the portions of the brain involved in speech and language are actually primed to learn and create new combinations. What this tells us is that the young brain is a plasticity machine. But then right about age twenty-five, plus or minus a year or two, everything changes.

Dr. Huberman's explication lends a potential explanation to why we adults keep getting crushed by twelve-year-olds in chess. He goes on to offer a few suggestions for adults to create conditions for neuroplasticity, which could potentially augment learning. His suggestions include utilizing motor movements in focused study sessions and studying in a novel or differentiated environment. The importance of a differentiated environment is also highlighted by Dr. David Eagleman, in the enjoyable book *Livewired: The Inside Story of the Ever Changing Brain*. Dr. Eagleman, an award-winning neuroscientist and author, writes that mature brains shift 'only when something is unpredicted.' Dr. Eagleman writes:

So what is it like to be plastic, uninhibited, and learning about a wide range of novel events? You can probably get close to understanding it by considering other situations in which your awareness and plasticity are firing on all cylinders. When you're an alert traveler in a new land, you drink in the sights of the foreign country, experiencing more novelty, more learning, and more distributed attention. After all, at home, you pay attention to very little, it is all so predictable. When you are the traveler, you overflow with consciousness.

Since adults are often settled into routine lifestyles, the idea of setting up novel or unpredicted environments for learning is a challenging one. But this inherent challenge could lend credence to an argument for why OTB tournaments are more conducive to learning than a typical study session or online game. As adults, we learn most from errors. To quote Dr. Huberman, 'The signal that generates the plasticity is the making of errors.' In our interview, Alex Crompton told a relatable story that illustrates this theme, 'In my first tournament, I blundered a mate in one to a six-year-old who played the Alekhine. I had no idea how to play

against the Alekhine... You know, it happens. But now it's burned into my memory. I'll never not understand how that happened again.'

Tournament chess would not fit K. Anders Ericsson's original definition of deliberate practice for multiple reasons. For one thing, Ericsson wrote that deliberate practice should be 'inherently not enjoyable.' (In recently reading the paper, I found this to be a strange precondition, and it turns out that other researchers in Ericsson's field have challenged this notion in follow-up papers.) While some may find chess tournaments stressful, I don't think they are unenjoyable at their core the way a strenuous workout or solving a difficult chess puzzle blindfold might be. In fact, as hobbyists, we often play in tournaments because we enjoy the opportunities they offer for sustained focus, competition, and between-round camaraderie.

More to the point, Ericsson and his co-authors differentiate between three types of activities: work, play, and deliberate practice. They write:

Work includes public performance, competitions, services rendered for pay, and other activities directly motivated by external rewards. Play includes activities that have no explicit goal and that are inherently enjoyable. Deliberate practice includes activities that have been specially designed to improve the current level of performance.

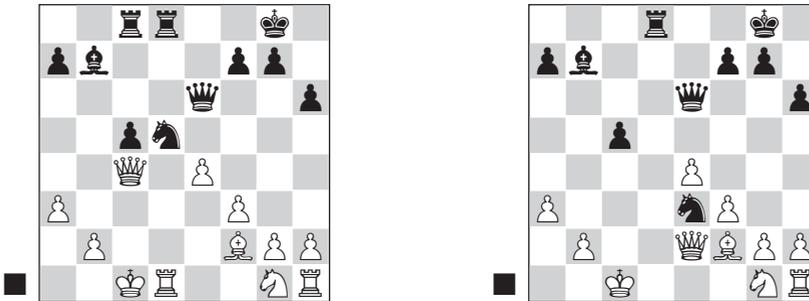
Admittedly, given these parameters, tournament play sounds more like it belongs in the 'work' category, but tournaments offer differentiated environments and indelible lessons that are hard to replicate in a practice setting. The idea of tournament chess being the best form of 'practice' also lends some clarity to what I found to be a fascinating statement by Magnus Carlsen on *The Lex Fridman Podcast*.

Is Magnus a poster boy for deliberate practice?

Amidst a long and insightful interview, Magnus told Fridman, 'I'm not at all a poster boy for deliberate practice. I have never been able to work that way.' Magnus made this statement in the context of discussing solving chess puzzles. Magnus said he quickly got bored by such exercises and that he was more interested in devouring chess books as a kid. But while Magnus may not have solved a lot of puzzles, he competed in a relentless docket of tournaments in his developmental years.

For an elite player, Magnus got a somewhat late start in chess, beginning competitive play at age eight. By the year 2002 (age eleven), he was emerging as a youth champion, and in reviewing my Chessbase database,

young Magnus' games start to appear with increasing frequency. Magnus has games from many World Youth Championship events and occasionally locked horns with other future grandmasters, like Ian Nepomniachtchi, Dmitri Andreikin, and David Howell, in such events. By 2003 (age twelve), Magnus was traveling all over and playing OTB tournaments at a breakneck clip. His trainer at the time, GM Simen Agdestein, wrote: 'In just two years, since his chess enthusiasm began in earnest in the autumn of 2000 until the end of 2002, Magnus managed to play nearly three hundred serious, rated tournament games.' By the way, he went from a rating of below 2000 to about 2300 FIDE in that span. The future World Champion was off to the races.



Gaasland-Carlsen, Norway 2001

Having played his first tournament in 1999, by the year 2001 Magnus was rated over 2000 and uncorking moves like (left diagram) $23... \text{♞e3!!}$. White is losing his queen or getting mated. Play continued $24. \text{♜xd8+ ♝xd8}$ $25. \text{♞e2}$ (right diagram), and now Magnus played $25... \text{♞c4+!}$. White resigned, because mate would follow after $26. \text{♞xc4 ♜d1\#}$ (or $26. \text{♞b1 ♜d1+}$ means White must give up his queen).

Of course, one cannot hope to achieve Magnus' results simply by following a busy tournament schedule. As Agdestein details in the enjoyable book *How Magnus Carlsen Became the Youngest Grandmaster in the World*, Magnus possessed a preternatural chess ability and an insatiable appetite for the game. Nonetheless, if it weren't for the densely packed schedule (and the sacrifices and support of his family and sponsors), it is unlikely that Magnus would have progressed at the same rate. So, as Magnus suggested to Lex Fridman, his chess development is a counterexample to Ericsson's theories that skill acquisition should necessarily be based on effortful and unenjoyable drills.

While it is true that Magnus didn't engage in deliberate practice by solving many challenging puzzles, the massive number of tournament

games he played in his developmental years may have been a better choice for his development, especially because he enjoyed it! In the foreword to *Chess Improvement: Its All in the Mindset*, Henrik Carlsen (Magnus' dad) writes of him possessing 'an intuitive approach to chess learning that my wife and I somehow managed not to harm or disrupt significantly.'

What should non-Magnuses do?

Bringing it back to the adult chess mortal realm – it's possible to draw some tentative conclusions for how adults should approach chess study. When studying chess at home, one might attempt to create a differentiated environment for study, to use a physical chess set and to grade your work, whether it be by checking the solution of a chess puzzle, verifying an opening line you tried to recreate or analyzing and then checking the analysis on a training game. But if your goal is to get better at tournament chess, tournament chess is likely the best form of 'practice'. Your game review provides the feedback, and each tournament is a novel environment. (Although here in the U.S. a lot of those hotel ballrooms look alike!)

As a working dad, I fully recognize the financial and logistical challenges of playing regular tournament chess, particularly for those who do not live in chess hotbeds or population centers. Chess is getting more popular all the time, and I am hopeful that there will be easier ways to play competitively in future years. (Let's have more local leagues!) In the meantime, if we wish to maximize our chances of improving at chess, we can practice as effectively as possible away from the board and make our own personal calculations and decisions about the significant trade-offs that are required to compete regularly.

In summation

- The core tenets of deliberate practice involve engaging in targeted and effortful tasks where you can get instant feedback on the success of your practice.
- The Polgars often trained under these conditions, but more recently, a young Magnus Carlsen took a different approach.
- As we get older, we retain and can increase our chess knowledge, but it can become challenging to improve our fluid intelligence, which likely translates to our ability to calculate in chess.
- As adults get older, forming new neural connections likely requires a more directed approach to study than it did in our younger years.
- If you want to improve your tournament game, the best form of 'practice' is tournament chess!