STUDYING CHESS MADE EASY

BATSFORD CHESS

Andrew Soltis
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Instructional chess books promise a lot. Most promise to make you a better player. Some promise to make you a master – if you study the proper techniques.

But very few books say anything about the technique of studying. This leaves the poor student floundering about as he tries to cope with the masses of chess literature and software that confront him. He is deluged with Too Much Information.

The student begins to think that the reason he has difficulty improving is that he doesn’t have natural talent or the right computer or books. Or he believes that he can’t get much better because he isn’t willing to study five, seven or ten hours a day.

But these are not the problems. Every student can improve – and improve significantly. What he needs to learn is how to learn.

He needs to find the right methods that will enable him to study more efficiently and productively. These are not sophisticated methods and they do not require you to devote your life to chess. A student needs to make better use of the tools he already has, such as computers and books. He needs to set the right goals, such as how far ahead in a position he should try to visualize. He needs to know how to budget available study time appropriately. Most of all, he needs to make studying chess enjoyable.
The reason studying chess is so hard for so many is simple: We make it hard.

We try to study chess the way we were told to study school subjects. We make chess into tedious, mind-numbing homework.

I know. I wasted hundreds of hours studying the wrong way.

I took studying very seriously when I was young. To learn the openings I got a copy of 'the Bible,' as Modern Chess Openings was called. I sat down with a board and pieces and tried to go through it page by page, column by unfathomable column.

On the first page I found a variation of the Four Knights Game that began 1 e4 e5 2 f3 c6 3 c3 f6 4 b5 b4 5 0-0 0-0 6 d3 xcx3 7 bxc3 d6 8 g5.

There was only one comment up to there and it said Black could have equalized with 6 ... d4. I was already confused.

Why should White play this opening if he has no chance for advantage after six moves, I wondered? And why should Black play anything other than 6 ... d4 if it equalizes?

Not knowing what to make of that, I played through the rest of the page, four columns of recommended play for White and Black. I made notes on sheets of paper, just like in school.

But I had a lot of questions and no answers. It got worse as one of the columns continued 8 ... h6 9 h4 e7 10 d2 d8 11 d4 g4.
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I tried to make sense of this as I would an English grammar rule or a math equation. But there were no notes to any of these moves. My list of questions grew longer.

Why does Black retreat his knight to d8 when it wasn’t attacked? And what if White plays differently? If I were Black and my opponent played a common sense move like 10 b1 or 10 e1 – instead of the book’s 10 d2 – what would I do?

I became more confused as I played through the rest of the column, which continued with increasingly strange moves, such as 12 d5 and then 12 ... xf3 13 xf3 xe4.

The column ended with a string of moves that were a mystery to me, 14 xh6 gxh6 15 xe7 xc3 16 xf8 xf8 17 c4 b5 18 b3 b7.

This is where the first comment in the column appeared. The note said Black had compensation for the lost Exchange.
It wasn’t just that I didn’t understand how Black had compensation. I didn’t understand anything about this position.

More important: What was I supposed to do with this information? Should I memorize all these bizarre moves? And was I supposed to understand why they were good?

Trying to learn chess this way set me back months, if not years. Maybe I would have become a stronger player if I had studied differently. Maybe I would have become the same player faster than I did. Whatever the case, I was trying badly to learn – and learning badly.

There are better ways to learn chess, as I discovered over the years. They follow a few elementary principles:

### Learning chess should be fun

Let’s face it, getting better at chess is hard. It’s like learning a foreign language. It takes repetition, memorizing and book study. A lot of repetition, memorizing and book study.

There’s so much that if you aren’t enjoying yourself, you will become discouraged, frustrated and bored. You will study less and less. Or you’ll give up entirely.

Fortunately, unlike many, if not most, school subjects, chess can be fun to study. This book will try to identify some ways to make it so. This leads to another principle of good studying ...

### It has to include hands-on learning

There’s a formula for improvement in chess and many other things as well. You probably know it already:

*Theory* + *Practice* = *Success*
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Theory means the technical material. It is opening theory. It is the principles and finesses of handling the middlegame. And it is the ‘exact’ positions and techniques of the endgame, the good and bad pawn structures and so on.

Most of the time that you spend studying theory you are relatively passive. You sit back and receive information. This happens when you are watching videos or listening to a teacher. You are only slightly less passive when clicking through games on a computer screen or reading a book.

What makes this worse is that much of the material being presented to you will be fairly abstract. Teachers and authors like to talk about subjects like ‘the strength and weakness of an isolated d-pawn.’ But students usually get bored because they wonder how they can apply the esoteric material to their own games.

Abstract themes and passive learning aren’t necessarily bad. But whatever you learn has to be underlined in a more active way. Otherwise you will forget it, the way to you will forget trigonometry once you stop using sines and cosines.

This is where practice comes in. Practice means playing games against humans and machines in various formats and time limits. When you get to apply – in a real game – what you’ve learned from a book or computer screen, the information is reinforced in a powerful way.

Black to play
This position comes from one of the practice matches I played with other young players at the Marshall Chess Club when I was just starting out. I was beginning to spot some simple mating patterns. Here I saw 1 ... $\texttt{Axh2+!}$ and then 2 $\texttt{Qxh2}$ $\texttt{h8+}$ mates.

This is a basic tactical pattern. It's not very hard. The rook controls the h-file and a bishop controls the king's escape square at g1.

I had read about this kind of combination in books. I'd never gotten a chance to use it until this game. But after I got to play 1 ... $\texttt{Axh2+}$ it was indelibly etched in my memory. It was no longer an abstract idea out of a textbook. When the pattern recurred in later games, I never missed an opportunity to exploit it.

The more active the learning, the more fun it can be and the more motivated you will be. Vishy Anand, the future world champion, chose chess over tennis because of these factors.

Anand became serious about chess about the same time he was serious about tennis. He took early morning lessons at a tennis training camp. But the lessons consisted of drills. Just drills. No games. It was theory without practice. He hated it.

"It just drove me nuts that at 5:30 in the morning I couldn't even play tennis," Anand said in a recent interview. "I liked the chess scene simply much more because I got to play as much as I wanted."

Another principle of good chess study is ...

It should be mainly independent

The lessons that will stay with you are the ones you learned on your own. They can be buttressed by talking to other people, such as a teacher or friends. You get more out of looking at a game, an opening, an ending, whatever if you follow it up by talking with others.

But working alone works best. As Grandmaster Nikolai Krogius said, exchanging opinions is fine. But "one must first form those
Chess isn’t school

opinions.” We’ll talk more about this in a few pages. Another principle of good study is ...

It’s often subliminal

This sounds strange, but the fact is you learn a lot about chess without being aware of it.

Just flipping through the pages of a magazine and looking at diagrams, or analyzing random positions with a board and pieces, is beneficial. If you were lucky enough to have been born with the ability to absorb information well and to focus your attention, this kind of casual reading can be nearly as good as more intensive study.

World Champion Jose Capablanca famously boasted he never read chess books. He was known as the player who didn’t have to study to become great.

But he was studying in his own way. After all, Capablanca flunked out of college after about a year and devoted his time to chess. He rarely played serious games during the next few years. Yet when he began to enter tournaments and matches he turned out to be among the world’s best players.

Capablanca may not have thought that what he was doing was studying. But he was doing something right.

And the final point about good chess studying:

You have to be well motivated

You won’t retain what you try to learn if you feel that the subject matter isn’t worth learning.

In school you may wonder whether it matters if you know the year of the Battle of Waterloo. Well, after you’re finished taking history exams, it probably won’t matter. And once you realize that, you’re likely to forget the year.
But in chess there’s a better chance you’ll retain what you learn – provided you know why you’re learning it. Take the example of how to mate with king, bishop and knight against a lone king.

Primers tell beginners they need to know this ‘because it’s a basic checkmate.’

Well, that is a reason. But not an honest reason. Saying that this is a ‘basic checkmate’ suggests that it occurs often. In fact, most players will go through their entire career without getting a chance to play either side. (I’ve never played it.)

But if you are given an honest reason, learning how to mate with king, bishop and knight turns out to be one of the best lessons you will ever have.

The real reason to study this endgame is it teaches you techniques that you can apply to a much wider range of endgames. What you learn from practicing it is that you can’t deliver mate just by checking the Black king. Instead, you have to restrict the king until the net is tight enough for a mate.

You’ll discover this quickly if you play the White pieces against a computer. In fact, every player below expert strength would probably benefit by playing out versions of this ending against a machine.

This particular position offers a dramatic example of restricting.
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After 1 \texttt{\textit{\textbf{b5}}}! Black's king is caught in a net of six squares. It can't escape because a6, b6, c6, c7, d7, e7 and e8 are controlled by White's minor pieces.

Even if White's king were at h1, the net would still hold. Mate would just be delayed a few moves until the king arrives.

As it stands, the game should end in about a dozen moves. For example, 1 \ldots \texttt{\textit{\textbf{c8}}} 2 \texttt{\textit{\textbf{f6}}} \texttt{\textit{\textbf{d8}}} 3 \texttt{\textit{\textbf{e6}}} \texttt{\textit{\textbf{c8}}} 4 \texttt{\textit{\textbf{e7}}} \texttt{\textit{\textbf{b7}}} 5 \texttt{\textit{\textbf{d8}}} \texttt{\textit{\textbf{b8}}}.

![Chess Diagram](image)

White to play

After 6 \texttt{\textit{\textbf{a6}}}! \texttt{\textit{\textbf{a7}}} 8 \texttt{\textit{\textbf{c8}}}, Black is limited to three squares, a7, a8 and b8.

The end comes when the knight goes beyond just restricting the king – 8 \ldots \texttt{\textit{\textbf{b8}}} 9 \texttt{\textit{\textbf{e7}}} \texttt{\textit{\textbf{a7}}} 10 \texttt{\textit{\textbf{c7}}} \texttt{\textit{\textbf{a8}}} and now 11 \texttt{\textit{\textbf{b7+}}} \texttt{\textit{\textbf{a7}}} 12 \texttt{\textit{\textbf{c6}}} \texttt{\textit{\textbf{mate}}}. Note that only one check was given and it came just before checkmate.

The point here is that an aspiring player will benefit most from this kind of exercise when he understands why it is useful: It teaches him an extremely valuable and common technique.

The same goes with every other aspect of chess lore. It's simply not enough to lecture to a student, "You must understand how to triangulate because it's good for you."

Even players with so-called natural talent need motivation. Tony Miles was a promising math student at the same time he was becoming very good at chess. But he gave up his math studies in
college. He wanted to apply his knowledge immediately. Only chess allowed him to do that.

"I can't study something abstract that does not have practical significance for me at the moment," he recalled many years later, after he'd become a grandmaster. "I could find no impetus whatever to study for an examination that I would have to do in three years' time."

**Too much information**

You can pass some school tests by cramming. You concentrate on a fairly narrow range of subject matter for a brief period and remember it until the exam is over. But you can't do that with chess.

Chess is a classic case of TMI: Too Much Information. There is too much opening theory, too much endgame theory, too many middlegame themes, too many tactics, too many strategic patterns — just too much to store in your head and retrieve when necessary.

TMI is not new to chess. Philosopher Jean Jacques Rousseau encountered it when he learned the moves more than two and a half centuries ago.

He was taught by an amateur at the legendary chess hangout, the Café de la Regence in Paris. "My progress was so rapid that before the end of the first sitting, I gave him odds of the rook — which at the beginning he had given me," he said.

Rousseau left the Cafe and threw himself into chess, buying a set and the best book on the game. What happened next was so frustrating that he wrote about it in his memoirs:

"I went frantically mad with chess ... I shut myself up in my room and spent days and nights there with a will to learn all the (openings) by heart, to cram them into my head willy-nilly, to play alone without end or remission."

We don't know how much theory poor Rousseau tried to absorb. But we can make a good guess based on the state of opening knowledge of a slightly later era. A standard treatise, written by
J.H. Sarratt in 1807, devoted an enormous amount of attention to 1 e4 openings. Its extensive analysis of the Muzio Gambit, 1 e4 e5 2 f4 exf4 3 Qf3 g5 4 Qc4 g4 5 0-0 gxf3 6 Qxf3, included several pages on lines such as 6 ... Qf6 7 e5 Qxe5 8 d3 Qh6 9 Qd2 Qe7.

The book then runs off in one direction to show that 10 Qc3 Qc5+ 11 Qh1 is no good. Its analysis continues with 11 ... Qg8 12 Qd2 d5 13 Qh5 Qd6 14 Qb3 Qg4 15 Qh4 Qbc6 16 Qae1 0-0-0.

It also analyzes 10 Qc3 c6 11 Qe4 and shows that Black is better well into the endgame that follows 11 ... d5 12 Qc3 dxe4 13 Qxe5 exf3 14 Qxh8 fxg2 15 Qxg2 Qe6 16 Qae1 Qxc4 17 dxc4.

Some other variations of the Muzio were analyzed to move 25. No wonder Rousseau felt overwhelmed.

A few months of intensive studying later, he returned to the Café. He found the amateur who had taught him how the pieces move and they began to play. “He beat me once, twice, twenty times. My head was all of a muddle with those chess combinations, and my imagination had become so dull that I saw nothing more than a cloud before me,” Rousseau confessed.

That was more than 250 years ago. Since then the amount of chess information that’s available to learn has grown exponentially. Today it’s TMI squared. Trying to master the material the way you would a school subject is impossible. That’s another reason why so many A-students in school are so helpless at chess.
Below your consciousness

Perhaps the most important difference between chess and school is this: For most players, chess learning can be somewhat subliminal.

They can absorb information without trying. It happens when they look at a position – either on a board or a computer screen or in a printed diagram – and think about what they would do if it were their turn to move. They are studying and learning without knowing it.

When Vishy Anand was young he read every chess book he could find, often more than once. "I could read the same thing ad nauseum. But I think this deepens your understanding. Because you are reading about chess, you improve. Imperceptibly, but you keep improving."

This method won’t work if you are trying to learn how to spell. Or to master the multiplication table. When you nail down nine-times-seven you are very aware that you learned it and how you learned it. But chess is different, as I discovered when I was a post-beginner.

Vidmar – Nimzovich
New York 1927
Black to play
Chess isn’t school

I remember seeing this position while playing through a book of Aron Nimzovich’s games with a set and pieces. I was very confused by what happened next.

I could see that White has the two-bishop advantage. He also dominates the only open file. His queen is better placed. Yet Black won quickly.

The book didn’t explain why this happened. So I thought about it for a while before I moved on to something else.

A few years later I picked up the book again and browsed through the pages. This brought back memories of the game but no specific recall of individual moves.

When I came to that diagram, two things struck me. First, I realized that Black should be better. White’s heavy pieces look impressive. But it seemed to me they don’t have targets to attack.

In addition, White can’t improve the position of his pieces much or favorably change the pawn structure. But Black can do those things, I realized. That makes the difference. Play continued 1 ... \(\text{Wg7!}\) 2 \(\text{f1 e4!}\).

![Chess Diagram](image)

**White to play**

White can’t save himself with 3 fxe4 because 3 ... \(\text{Oxe4}\) 4 \(\text{d7}\) \(\text{Wxb2}\) will threaten a decisive 5 ... \(\text{Wxf2+}\).

Instead, he tried 3 \(\text{e1 exf3}\) 4 \(\text{c3}\) as a sacrifice. But 4 ... \(\text{e7!}\) and the threat of ... \(\text{Wxe3+}\) soon won, in view of variations such as 5 \(\text{xf6}\) \(\text{Wxe3+}\) 6 \(\text{h1 fxg2+}\) 7 \(\text{xg2}\) \(\text{e1+}\) and mates.
The second thing that struck me was that the position in the previous diagram was much easier to understand than it had been the first time when I looked at it, a few years before. I had learned something subconsciously.

It surprised me that I couldn’t tell how I learned it. I expected that there would be ‘Eureka!’ moments in my chess education. I thought there would times when I would suddenly grasp some previously unintelligible bit of chess theory, like how to handle ‘hanging pawns’ or play knight endgames.

But the Eureka moments usually come much earlier in your career. They come so early that you rarely remember them.

This is a Russian exercise for beginners: What is the shortest number of White moves it takes to play $\texttt{a7}$?

“Any strong player can guess that you have to start with $\texttt{d5}$,” said Yuri Razuvaev, a veteran grandmaster and teacher. “But for children it’s a big discovery.” In other words, it’s a Eureka moment – and a very rare one.

Absorbing ideas

Most players who become good at chess go through a period when they are simply captivated by the game. They make their biggest strides just by entertaining themselves.
Chess isn't school

When Nigel Short was a beginner his mother brought a book written by Alexander Alekhine home from the library. "Nigel settled down on the settee at 9:30 one Saturday morning to read it," his father recalled. "He had his lunch and tea while he read and finally put the book down at 8:30 p.m., complaining of a headache." He was simply fascinated.

Anatoly Karpov recalled a similar experience, when he was given a copy of a book of Jose Capablanca's games. "I read it not because I had to," he recalled. "But because I wanted to. I was learning and studying without realizing it."

Another Russian, Konstantin Sakaev, devoured a collection of Tigran Petrosian's games: "I was very proud of it and told my mom. She decided to test me. So she opened the book to a random page, and it was a moderately thick volume, and I had to tell which game it was and how it proceeded. I had not intended to memorize it, but somehow I knew it by heart."

This doesn't mean it was important – or even useful – to remember what Petrosian played on move 27 against master so-and-so. But Sakaev, like Short, was absorbing ideas. To some degree, all students absorb this way.

Take the following, a position from a Petrosian game that never fails to catch a student's eye the first time he sees it.

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Petrosian - Smyslov
Soviet Championship 1951
White to play
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White has sacrificed a pawn for a lead in development. He has a number of logical moves that he can consider playing. We call them candidate moves. But none of them is obviously strong.

White would like to play $\text{Qe}4$ followed by $\text{g}5$. Then he can make a strong knight check at $d6$ or $f6$. But $1 \text{Qe}4??$ loses a piece to $1 \ldots \text{xe}4$.

Instead, Petrosian played the stunning $1 \text{d}5!?!$.

It's not hard to see why White would want to play such a move. He would love an opportunity to continue $2 \text{dxe}6$ or $2 \text{d}6$. But Black has three pieces and a pawn trained on $d5$. How can such an 'impossible' move as $1 \text{d}5$ make sense?

Well, it makes sense when you appreciate some of the possible outcomes. One is $1 \ldots \text{ex}d5$ $2 \text{e}6!$ when Black's king becomes suddenly vulnerable ($2 \ldots \text{f}xe6 3 \text{f}xe6$).

Another continuation would be $1 \ldots \text{xd}5$. Then White plays $2 \text{d}1$ with the idea of $\text{f}3$ and/or $\text{e}4$. By opening the $d$-file, White creates a pin on the bishop at $d5$ that makes the desirable $\text{e}4$ possible. If Black gets out of the pin, say with $2 \ldots \text{c}7 3 \text{f}3 \text{0}-\text{0}$, he allows a very dangerous $4 \text{xd}5 \text{xd}5 5 \text{xe}6! \text{fxe6}$ $6 \text{g}6+.$

Instead of $1 \ldots \text{xd}5$, the game went $1 \ldots \text{xd}5 2 \text{d}1$ and then $2 \ldots \text{c}7 3 \text{e}4!$.

Black to play

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Again it’s dubious to castle (3 ... 0-0 4 ♘xh5) but Black can cautiously play 3 ... ♙f8 and ... ♗g7.

Instead, he replied 3 ... 0-0-0?. White followed up with 4 ♘g5! and a trade of bishops that set up a strong ♙d6+. He eventually won.

It’s impossible to know what young Sakaev learned when he first saw the previous diagram. But it’s safe to say he didn’t consider 1 d5 as a candidate move.

It’s also safe to say that the next time he saw that game, he did consider it.

And, what’s most important, the next time he saw a position like it, he considered the pawn push. By the time he was a master he was finding himself in situations like this.

Sakaev – Neverov
St. Petersburg 1995
White to play

Sakaev considered 1 d5, a la Petrosian. He saw that 1 ... exd5 would allow 2 ♙e5+!, winning the queen.

If Black takes the other way, 1 ... cxd5 then 2 ♙e5+! still works. The key variations are 2 ... ♙h8 3 ♙xd5!, forking Black’s queen and bishop, and 2 ... gxf6 3 ♙xh6+ with a winning attack (3 ... ♗g7 4 ♙f5+ or 3 ... ♙h8 4 ♙h5).

In the end, White chose a different move order, 1 ♙e5+ first and then 1 ... ♙h8 2 d5. He won after 2 ... ♙e8 3 d6.
Chess isn't school

But the main thing is he looked at a move, d4-d5, that would seem to be "impossible" but which struck him as quite playable – thanks to his absorption of remarkable ideas.

Rugged individuals

The most famous chess school in history was founded by Mikhail Botvinnik during the glory years of the Soviet Union. It had some of the best teachers in the world and it attracted the most gifted students. Its graduates included Anatoly Karpov, Garry Kasparov and Vladimir Kramnik, all future world champions.

Botvinnik greeted each new class of students in the same way: "Boys, remember," he told them, "Chess can't be taught. Chess can only be learned!"

His point is that the most progress a student makes occurs when he's alone. He may learn best with a book. Or he may learn best with a computer. Or just with a board and a set. But in any case, he learns best what he learns independently.

Botvinnik recalled that early in his teaching career, "I decided that the main thing was developing self-dependence ... In general, it's best not to teach youngsters but to let them teach themselves."

But wasn't the Soviet School of Chess the result of great teachers educating talented students? Well, yes if you take a liberal view of 'educating.'

A teacher can answer your questions when you're stumped. He can ask you questions to see what you need to improve. And he can push you to work in the areas where you weak.

When Dimitry Andreikin was seven he was fascinated by combinations and hated endgames. (In other words, he was like almost every other newcomer to chess.)

Then his teacher, Viktor Pozharsky, showed him this:
Kasparov – Short  
World Championship 1993  
Black to play

He explained that Black played 1 ... \( \text{e}6?? \). This lost quickly (2 \( \text{e}3 \text{d}6 3 \text{d}4 \text{d}7 4 \text{c}4 \) followed by \( \text{b}4 \) and the advance of the a-pawn).

The teacher then pointed out that 1 ... \( \text{c}5! \) would have saved a game that everyone thought was hopeless.

Black draws because he threatens ... \( \text{c}4\text{xe}4 \) and ... \( \text{c}3+/ \) ... \( \text{xe}4 \). For example, 2 \( \text{a}3 \text{c}4 3 \text{a}5 \text{xe}4 4 \text{a}6 \) and the rook gets back in time to block the other pawn, 4 ... \( \text{f}4+ \) followed by ... \( \text{f}8-\text{a}8 \).

"I'm afraid Grandmaster Short will have a hard time becoming world champion if he doesn't work on the endgame," the teacher said.

His student got the message. He began studying endgames alone that evening. Within three months, he had gone through 250 instructive examples. Today Andreikin is a grandmaster and plays the endgame very well indeed.

Most of all, a good teacher can show a student how to absorb and evaluate new information. As another young GM, Dmitry Jakovenko, put it "One needs a trainer to know what to work on and to learn methods of study. But the hard work should be done alone."

Chess isn't school
Bear in mind that no great player has ever been able to raise one of his children to be a grandmaster. This should tell you something about what a teacher can do – even when the teacher and student are highly motivated and the student has the right genes (if chess genes exist).

Botvinnik, the great teacher, never had a teacher. Instead, he devised a system of improvement based on going over his own games after he played them.

Abramovic – Botvinnik
Leningrad 1924
Black to play

He was 13 when he played this, his earliest known practice game. He had learned the moves one year before.

Here he played 1 ... ♖xf3!. This would lead to a quick mate after 2 gxf3 ♖g6+ 3 ♗h1 ♔g5!.

White averted that with 2 ♔xa6. Black replied with obvious attacking moves, 2 ... ♖g6 3 g3 ♔g5. He threatens to mate by means of 4 ... ♔h5 followed by ... ♔h3-g2 or ... ♖h6/ ... ♕xh2.

White’s king can’t flee the kingside. He can only try to bring his bishop back for defense. That seemed to be working when the game continued 4 ♖e1 ♔h5 5 e4.
Chess isn't school

Black to play

White can answer 5 ... \( \textsf{Wh3} \) with 6 \( \textsf{Qf1} \)!. Better is 5 ... \( \textsf{Kh6} \) and then 6 h4 g5. But best of all was 5 ... \( \textsf{Wh2+} \)! – which prompted immediate resignation in view of 6 \( \textsf{Qxh2} \) \( \textsf{Kh6+} \) 7 \( \textsf{Qg1} \) \( \textsf{Kh1} \) mate.

If you had won that game – and with a pretty queen sacrifice – you would probably be content to congratulate yourself and move on. Few players as new to chess as Botvinnik would act differently.

But he was constantly trying to improve himself, to refine his calculating skill and his tactical vision. No doubt he subjected this game to a thorough analysis – and discovered how much he and his opponent had missed. For example, 5 e4?? was a blunder. White could have put up more of a fight with 5 \( \textsf{Qf1} \). Moreover, Black shouldn’t have allowed him to get that far because there was a much better move for him, 3 ... \( \textsf{Wh4} \)! rather than 3 ... \( \textsf{Wg5} \)!

White to play
Chess isn't school

Black is ready for 4 ... ♕h3 and 5 ... ♕g2 mate, and he can meet 4 ♖e1 – intending 4 ... ♕h3 5 ♙f1 – with the same idea that won the game, 4 ... ♕xh2+!

Botvinnik must have looked further and found that there was a faster win even after 3 ... ♕g5? 4 ♖e1. It's harder to find, but if you work on your own games you can find things like 4 ... ♕h4! 5 ♙f1 ♕h6! 6 gxh4 ♕g6+ 7 ♕g2 ♕xg2+ 8 ♙h1 ♕g6 mate or 8 ♙f1 ♕xh2 and wins.

It was games like this that enabled Botvinnik to perfect his calculating skills. He rarely missed a forced win like 3 ... ♕h4 again.

The school that Botvinnik made world famous was primarily a correspondence course in which his 12 students did the bulk of their work at home. Botvinnik met them only two or three times a year. This was in group training sessions where the students would show off their games, play one another and take boards in a simultaneous exhibition.

At the end of each session Botvinnik handed out homework assignments to be completed over the next months. Karpov, for example, was told to come up with new ideas in the 4 a3 variation of the Nimzo-Indian Defense. Kramnik, who liked to play 1 e4 c5 2 f4 as White, was instructed to study the Dutch Defense as Black. He found he liked it:

Tataev – Kramnik
Belgorod 1989

1 d4 f5 2 g3 ♕f6 3 ♙g2 g6 4 ♕f3 ♙g7 5 0-0-0 6 ♖bd2 d6 7 c3 ♕h8
8 ♕e1 ♕c6 9 e4 e5! 10 dxe5 dxe5 11 ♕b3 f4! 12 gxf4
Chess isn’t school

Even though he soon dropped the Dutch from his repertoire, Kramnik had expanded his knowledge of how to handle certain semi-open positions. He finished off with:

12 ... h5! 13 f5 h4 14 f1 xg2 15 xg2 gxf5 16 exf5 xf5 17 g5 d7 18 g1 e6! 19 b5 d5+ 20 f3 xf3! 21 xf3 g4+ White resigns

But the magic ingredient for all successful instructors is not specific advice like “Play the Dutch!” It is being able to get students excited about chess.

Students of Bela Papp, who was called ‘Hungary’s Greatest Ever Chess Teacher,’ remembered the little things, like how he encouraged them to study the games of Mikhail Tal and Bobby Fischer and to try to solve miniature ‘mate in two’ problems. “But indeed the so-called secret was his enthusiasm,” said one of his students, Andras Adorjan. A veteran Russian chess trainer, Vitaly Gorelik, said, “The main task of a teacher is to fascinate the students. Fascination is the foundation of all successes.” Fascination and fun.

Fun factor

Even in the super-serious Soviet approach, the teachers tried to make chess fun. Some, like Alexander Nikitin, started a group lesson with what he called “warmup exercises for the mind.” Nikitin had his students, who later included Garry Kasparov, solve some not-too-hard quiz positions that had pretty solutions. Other Soviet-trained trainers would start a class by showing off a spectacular combination or whole game. Yuri Razuvaev liked to start with an Alexander Alekhine masterpiece. Mark Dvoretsky preferred the sacrifice-filled brilliancy Gufeld – Kavalek, Marianske Lazne 1962.

The goal was to open the students’ minds to analyzing chess that day. GM Yasser Seirawan said that any analyzing you do is good – but you benefit more from it if it’s entertaining. “I want to have the feeling that I’m enjoying it,” he said.

I had the same experience. When I was starting out I headed to the Marshall Chess Club after school and met up with other young
Chess isn't school

players. We would analyze some sharp new variation, such as in the Modern Benoni Defense, for hours.

Of course, we argued. I would try to find traps and tricks for Black in the Benoni, and my friends would try to prove White stood better.

If I had tried to learn how to play this position by myself I would have read that 1 ... a6 and 1 ... ∆e5 were the only good moves. That's what all the opening books said. But I wanted to analyze 1 ... ∆b6 instead.

It seems totally out of character with the position. After all, it blocks the b-pawn that Black is supposed to be trying to push two squares. My idea was purely tactical. I wanted to play 2 ... ∆fxd5!.

"But that's not really a threat," one of the other Marshall juniors would say. "If I were White I'd give you a free move – as long as you used it to play 2 ... ∆fxd5."

And off we'd go analyzing 2 ... ∆fxd5 3 exd5! ∆xc3!. My idea was that if White recaptures on c3, Black plays 4 ... ∆xe2 and remains a pawn ahead.

So we analyzed 4 ∆b5! and then 4 ... ∆xd2 5 ∆xe8 ∆xc1 6 ∆xf7+ ∆xf7 7 ∆xc1, which kept us entertained for hours.
We knew we were having fun. We thought we were perfecting our opening repertoire.

But in reality, I only played the Benoni a few times before giving it up. What I didn’t realize is that those sessions were the best lessons in finding tactics I ever had.

Many years later I discovered Aron Nimzovich had written a booklet called *How I Became a Grandmaster*. One of his bits of advice was this: “Analyze an opening that interests you with a colleague ...” In other words, he was recommending just the kind of study that I had stumbled into when I was just trying to have fun.

Fun, motivation, practice, subliminal and independent. These are the key words of good study. In the pages that follow we’ll consider specific steps using those words that should make studying chess much easier.
Chapter Two:
Cultivating your chess sense

“Great players are born,” said a great player, Mikhail Tal. “But good ones are made.”

He was addressing that mysterious quality called talent. Great players are supposed to have chess talent in abundance since birth. The rest of us have to work, Tal was saying.

This is controversial. There is no agreement about what chess talent is – or even if it exists.

But we know there are many people who have some ‘card sense.’ We know they are curious about card games. We know they are motivated enough to try to learn card game theory. If they are good at absorbing and applying the theory, they will go on to become better than average bridge and poker players. They cultivate their card sense.

Chess sense can also be cultivated. There are three good rules to follow. They sound simple – because they are simple:

(1) Every diagram is a lesson.

(2) Work more on your weaknesses.

(3) Practice, practice, practice.

Let’s consider the first one. The most basic way to improve is to stop at every diagram you come upon. Whether you are surfing the Internet, leafing through a magazine or tackling a textbook, you should pause whenever you see a position and try to find the best move.

The idea is to force yourself to concentrate, to make a choice and to think critically. That is what chess is all about.
In this position, it's not an easy choice. At first you might notice that White is a pawn ahead. His pieces seem well-placed. You may see that he has targets to attack. For example, Black has an unprotected pawn at a6 that can be threatened by White's rook. You may notice a cute line – after 1 $\texttt{c6}+$ if Black replies 1 ... $\texttt{d5}??$ he allows 2 $\texttt{d6}$ mate!.

But when you look further, you may also detect good things for Black. He is threatening to obtain strong counterplay with 1 ... $\texttt{h1}$ and 2 ... $\texttt{c1}+$. This may force perpetual check.

Even if you saw all of this, you still might not consider the best move. Or you may spot that move, 1 $\texttt{h7}!$, but not realize how strong it is. (In fact, Black has no defense to 2 g6 and 3 g7. He resigned two moves later.)

Nevertheless, complex positions like this are splendid material.

The students who go on to become masters may have some qualities that are related to chess, like a good memory and better-than-average powers of visualization. But they usually have other qualities that don't seem to have any relation to the game.

One of those qualities is the ability to focus attention. Better players are better at focusing – while playing a game or studying – than other players.
Two other qualities of masters are self-control and curiosity. You exercise self-control when you come upon a diagram like the following one and force yourself to stop and examine it. You read no further until you’ve tried to find a good move for Black.

Black made a surprising move 1 ... g5!. Very few non-masters would choose such a weakening move. This is where curiosity should take over.

The curious student won’t let this kind of position pass him by. He wants to know what Black was thinking. Does he intend ... h4 and ... hxg3? Or is he planning ... g4, even though that drives the bishop to a good diagonal? Most of all, the curious student wants to know why 1 ... g5 deserves an exclamation point.

In his annotations, GM Alexander Khalifman explained that the move has nothing to do with attack. Black’s real aim is to control d4 so he can push his isolated d-pawn and exchange it off before it becomes a target.

He could have played 1 ... d6 with the idea of 2 ... d4 after the rook retreats. But White would respond 2 xxe6! and the resulting “heavy-piece endgame is unpleasant for Black,” Khalifman wrote.
"So what to do?," he added. "We drive the bishop off the h3-c8 diagonal, then ... $\text{Q}d4$ and ... $d4$," he added. "In essence, chess is a very simple game."

The plan worked perfectly when White replied $2 \text{B}ad1$ and there followed $2 \ldots g4! 3 \text{g}2 \text{c}e6 4 \text{h}4d3$ $d4!$.

After $5$ $\text{ex}d4 \text{B}xd4$ $6 \text{B}xd4$ $\text{B}xd4$ the players agreed to a draw. Black has more than enough counterplay after $7 \text{B}xd4 \text{B}xd4$ ($8$ $\text{B}xb6$ $\text{B}e1+ 9 \text{f}1$ $\text{B}e4$).

It is the information that puzzles you that is the most important to your improvement. Whenever you see a move that an annotator calls good – and you can’t see why it’s good – it is worth remembering.

Print out the position or file it in your computer. Or even copy it by hand. The main thing is to keep it along with other positions that stumped you. When you have time, try to get the answers, from a teacher, a computer or stronger friends.

Don’t feel bad because you disagree with the explanation. That may be a good sign. Garry Kasparov’s longtime trainer, Alexander Nikitin, said students fall into three categories:

The first kind of student doesn’t admit when he doesn’t understand something. Even if he has a teacher, he doesn’t speak up.
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The second kind of student is more open. He speaks up when the material is unclear to him.

The third type of student also speaks up — to say he doesn’t agree with what the teacher is saying.

“Excellent!” Nikitin said. “This means the child is ready to argue with the lecturer. Even if his argument is based on an elementary oversight, this is not bad because the child is showing inclinations of independent judgment.”

Imagine how the three students would react to the last example. The first student will read that 1 ... g5! is the right move, not understand why — and turn the page. He will have a very hard time improving.

The second student will listen to the claim that 1 ... Ce5 2 dxe5! is good for White.

And the third student will go further and try to prove that Black stands OK after 2 ... Wxe6.

The third student is so engaged by the position he may want to play it out, against another student or a computer, to test his opinion.

He’ll find out that he was wrong: Black is significantly worse. The d5 pawn can’t be liquidated. White can increase the pressure on it by tripling his heavy pieces on the d-file. Then he can try to exploit the pin on the file with e3-e4.
But being wrong can be a good sign because it shows you are able to form your own opinion, as Nikitin indicated. The third student is more engaged and will make quicker progress than his classmates.

There is one more quality of masters that doesn’t seem to be directly related to chess. This is strength of character. It takes that strength to look at your lost games. Your ego suffers when you lose and it will suffer a bit more if you take another look at the way you lost. But that’s the best way to discover your weaknesses, as we’ll see next.

Worst things first

Once you’ve advanced beyond beginner, you will find that some aspects of chess come easier to you than others. That’s natural. Nobody is destined to be as good at tactics as he is at positional play, or as good at attacking as he is at defending, and so on.

That means when it comes to figuring out what to study, you have to set priorities. The best rule is – Work more on your weaknesses than on your strengths.

I know what you’re going to say:

“But chess study is supposed to be fun. It is fun when I look at things I’m good at, like playing the Dragon Sicilian. It’s no fun when I try to analyze things I hate, like the endgame.”

Yes, but the students who make real progress are the ones who become well-rounded. They rid themselves of their rough edges. Take the case of Bobby Fischer.

After Fischer was already a strong master he became obsessed with king-and-pawn endings. He devoured a book on pawn endings. He made his own comments under almost every diagram, roughly 150 to 200 different pawn endings. Later, when he was one of the world’s top players Fischer gave a series of lectures at the Marshall Chess Club. The first lecture was devoted entirely to pawn endings.
Was Fischer obsessed with the subject because he frequently found himself in pawn endings? Not at all. He played very few of them in his career, only a fraction of, say, the number of his rook endings.

No, Fischer became fascinated with pawn endings after this game, which he played when he was 16:

If he had been more familiar then with basic techniques in pawn endings, Fischer would have hurried to create an outside passed pawn with 1 g4!. For example, 1 ... d6 2 f5 gxf5+ 3 xf5! and then 3 ... c4 4 bxc4 bxc4 5 e4!.

White will win Black's remaining pawns (after 5 ... e6 6 d4 and xc4) or promote his g-pawn (5 ... c5 6 g5 c3 7 d3 b4 8 g6).

But Fischer played 1 a4? instead and the win was gone after 1 ... d6. Play went 2 a5 e6 3 g3 d6.

The worst was yet to come. Fischer tried desperately to win with 4 f5 gxf5+ 5 xf5 but after 5 ... d5! he was in danger of losing.

There followed 6 g4 d4 7 g5 c4 8 bxc4 b4!.
Here Fischer played the worst move of his career, 9 c5??. It is based on a single over-optimistic variation.

If Black takes the pawn, 9 ... ♖xc5?? White replies 10 ♖e4!, so that 10 ... b3 11 ♖d3 b2 12 ♖c2 and wins.

Black can stop that plan with 10 ... ♖c4 but then 11 g6! allows White to promote with check on g8 just before Black promotes.

But that was just one possible variation. The glaring failure of 9 c5?? was that Black could ignore the c-pawn. He played 9 ... b3! — and he was the one who promoted with check and won.

Even many beginners know that in a queening race you have to push the farthest advanced pawn (9 g6! draws in the diagram). It was after that debacle that Fischer forced himself to become pitch-perfect when it comes to pawn endings. He never mishandled a pawn ending again.

And it wasn’t just endgames. Fischer spent a huge amount of time to come up with a ‘bust to the King’s Gambit.’ His analysis rewrote opening theory. Why drove him to this? He gave the answer. It was losing a game to Boris Spassky, on the Black side of a King’s Gambit.

Of course, Fischer was willing to study 12 hours a day. You may not have 12 hours a week to spend on chess. Or 12 hours a month. This means you have to budget your study time.

The question you should ask is not “How much time can I spend on chess today?” Rather, it’s “What should I spend time on?” The answer is, “Where I’m weakest.” This is the priority to follow
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even when you are working on a subject that you like, such as openings.

Masters often ridicule students for becoming obsessed with openings, at the expense of the middlegame and endings. There may be some truth there. But the biggest mistake that amateurs make is spending more time on the openings that they like to play than on those they have trouble with.

Typically, they devote many more hours to the lines in which they play with White than with the defenses they adopt as Black. That ratio should be reversed.

I know 1 e4 players who spent enormous amounts of time on something as esoteric as the Velimirovic Attack in the Sozin Variation of the Sicilian Defense. They analyzed promising lines for White out to move 20 in some variations. They do it because they enjoy it and they can find forced mates if Black errs.

Unfortunately they spend a fraction of that amount of time on how to defend against 1 c4 – even though they face the English a lot more often than they get into a Velimirovic. As a result they regularly get surprised as Black in a 1 c4 opening – perhaps by a transpositional trick at move four or five – and go downhill quickly.

Bear in mind that what you think are your best qualities may, in fact, be weaknesses. This happens because you can be misled by the games you win. They show you your strengths. But it’s your losses that reveal the truth.

Karpov – Kasparov
Simultaneous exhibition 1975
Black to play

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When Garry Kasparov was an up-and-coming 12-year-old he felt his strengths were calculation and his killer instinct. After all, those are the qualities that stood out when he won.

Here he has a favorable, tactical position that seems perfect for him. He calculated what he thought was a forcing line: 1 ... \texttt{e}e1 threatens the queen and the reply 2 \texttt{f}f3 appears to lose to 2 ... \texttt{d}d4.

He had also worked out a deadly line of play after 1 ... \texttt{e}e1 if White tried a combination with 2 \texttt{x}xf7. Then Black can reply 2 ... \texttt{x}xd1 3 \texttt{c}xc7+ \texttt{h}h8, followed by the devastating ... \texttt{d}d4. That ... \texttt{d}d4 move seemed to win in all variations.

Kasparov convinced himself that that was all there was to it. He had a winning position in the diagram and just had to find the right moves.

But he was shocked to discover that his killer instinct and calculation had failed him. He had the initiative but not a win. After 1 ... \texttt{e}e1? 2 \texttt{f}f3 \texttt{d}d4? White replied 3 \texttt{x}xf7+ \texttt{g}g7 and now 4 \texttt{c}c4!.

All of a sudden White threatens 5 \texttt{f}f8 mate as well as 5 \texttt{x}xa6. What's more, 4 ... \texttt{x}xf2 is answered by 5 \texttt{x}xf2, after which Black's rook and bishop are hanging.
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The queen ending that follows 5 ... \&xg1+ 6 \&xg1 or, as the game went, 4 ... \&xg1+ 5 \&xg1 \&xf2+ 6 \&xf2 \&xc4 7 bxc4 is lost.

What lesson did you learn from this, Kasparov was asked after the game.

"You have to fight to the last, even if you are in a winning position," he answered. A Russian textbook added, "This lesson Garry Kasparov remembered his whole life."

Not all young players like calculating and playing sharp positions. When Vadim Zviagintsev was 13 he played super-cautious chess. "His pawns didn't go forward two squares," said his teacher, Mark Dvoretsky. He preferred to choose his moves based on general principles.

Dvoretsky's remedy was to have Zviagintsev study the sharp, open games of Bent Larsen and Leonid Stein and to solve tactical quizzes. Zviagintsev eventually became a strong grandmaster.

But what if you don't have a Dvoretsky to detect your weaknesses? You can let a computer figure them out. Programs like Fritz can analyze one or more of your games overnight while you sleep.

A machine won't be able to explain in words why a move of yours is bad. But you can figure out what it is telling you.

A computer judges positions numerically, so that an evaluation of 1.00 means White has an edge equal to about one pawn. An evaluation of minus−0.20 means Black has a small advantage.

If your computer machine says that your games show a small edge for one side but slowly the numbers shift in your opponent's favor, it is saying "You are being outplayed positionally. That's what you need to work on."

But if the machine repeatedly points out moves you could have played that would have shifted the evaluation by two or three points in your favor, that is its way of saying "You may think you don't have to work on tactics. But you do."
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Practice, practice

The worst advice ever given to beginners was written by one of the greatest teachers in one of the best textbooks. In his masterpiece, *The Game of Chess*, Siegbert Tarrasch had this to say to the student who has just learned how the pieces move: Don’t play chess.

You shouldn’t play a single game until you have digested a huge amount of material, he said. You should first learn all kinds of combinations, study and restudy endgames and grasp the basic opening principles, among other things.

In this way, Tarrasch wrote, you will avoid the traditional beginner’s plight of losing hundreds of games. By the time you have absorbed all the material and understand it thoroughly you will be ready for your first game, he said.

Now there have been players who followed a plan of ‘Study first, play later’ and did quite well. Tarrasch might have cited himself as an example. Two years after he began to take chess seriously and had studied intensively, he was winning games like this:

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Tarrasch – von Scheve
Breslau 1879
White to play
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He found 1  \( \texttt{\textit{\textbullet}d4!} \texttt{\textit{\textbullet}xd2} \texttt{\textit{\textbullet}xc7, which threatens 3 \texttt{\textit{\textbullet}d7 mate.}
It won immediately – 2 \ldots \text{d}8 3 \text{w}x\text{d}7+! \text{d}xd7 4 \text{c}c8+ \text{d}d8 5 \text{b}b5 mate.

But the vast majority of players who want to get better need practical experience. Books, videos, DVDs and so on are fine. But you need practice, and you can’t practice against a book or a video. Practice is the best teacher.

The practice you need doesn’t have to be ‘over the board,’ that is sitting opposite an opponent in a tournament room. It could be some form of correspondence chess. Or the opponent could be a computer. But everyone needs the routine of having to concentrate and choose a move in a real, competitive setting, not in an artificial situation like solving quizzes.

The practice doesn’t even have to be what we would normally call ‘chess.’ Many beginners started their chess career by playing mini-games. Susan Polgar said that after her father taught her the moves, “we only played ‘pawn wars.’”

![Chess board diagram](image)

White to play

The winner is the first player to reach the eighth rank. Once a student has played several of these mini-games, his teacher usually introduces the kings. Again the aim of the game is to promote. Novices who practiced with examples like this rarely forget how powerful a king is in the endgame.

Of course, this is a format for absolute beginners. But it shows that from the first lesson on, Polgar was playing, not just studying. This
Cultivating your chess sense coincides with the philosophy of Russian teachers who would pair their students in other mini-games such as:

(a) Forbidden City:

This is one of the best ways to learn skill at handling knights. One student takes White. His goal is to reach a8 with his knight and return to a1. Black’s goal is to reach h1 and return to h8.

Neither player can capture a pawn, nor can he enter the center zone, which is called ‘the forbidden city.’ And if either player puts a knight on a square where it can be captured by a pawn or knight, he loses.

In theory, the player who moves first should reach his goal ahead of his opponent. But in practice, this is difficult practice for novices. It forces them to get used to the strange, not-in-a-straight-line move of a knight.

(b) Queens versus Bishops. This is an excellent way to learn how to exploit and evade a double attack. There are three only pieces, a White queen and two Black bishops, on the board.

The student playing White wins if he can fork the bishops and thereby force the win of one of them. The starting position can be any random arrangement of the three pieces. But Black gets to move first because the initial position may allow an immediate White fork.
White has a much easier task. For that reason, a ground-rule that makes it a fairer fight is that Black wins if he can last, say, 10 moves without losing a bishop.

Even more one-sided is Queen versus a single Knight. It can be made competitive by having the two players alternate sides, one game with the queen, the next with the knight. The goal is to see who can win the knight in the fewest moves.

(c) Rook versus Pawns:

White to play

White wins if he can queen a pawn, provided the queen isn’t immediately captured. Black wins if he can capture all the pawns.

Many students will think Black has the advantage. They’re wrong. Black has much better chances if you remove one of the pawns. That version teaches you how powerful the lateral attack of a rook is, especially on the seventh rank.

An easier version of this is Queen versus Eight Pawns. The queen and pawns begin play on their original squares. The student handling the pawns gets to move first. The queen has such an edge that, as with Q-vs.-N, the players should alternate sides.

Even stronger players can benefit from mini-games like this.
This position, an idea of Kurt Richter's, seems like a lesson about how a knight can be stronger than a bishop. What can White do about Black's long-range plan to deliver checkmate with ... \( \text{b6} \)?

But this is more sophisticated than it seems. With accurate moves White can keep the knight from reaching the mating square. For instance, if the knight gets to \( \text{f6} \) White has to be able to play \( \text{e6} \) or \( \text{c6} \) to keep it from landing on access squares such as \( \text{d7} \) or \( \text{d5} \).

There are many variations on mini-games. Anatoly Bykhovsky, a senior trainer in Soviet junior chess, recalled how one of his teachers had his students play speed tournaments of mini-games to develop their endgame skill.

"In the first round on each board there was only a king and eight pawns each," Bykhovsky recalled. "In the second, a knight was added. In the third, the knights were replaced with bishops. In the fourth, rooks, and so on. Not a bad method."

**Sparring partners**

So much for mini-games. Every student has to start playing real chess at some point. In general any opponent is good. But ideally your sparring partner should be a bit stronger than you.

Why? A stronger opponent is good because he will be able to punish your errors. A weaker opponent who lets you get away with
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sloppy moves is enabling you to develop bad habits. He is granting you a license to err.

Students at almost all skill levels benefit from games against a stronger player. When Gata Kamsky was a Leningrad pre-teen he began playing more than 200 training games with a master, Vladimir Shishkin. This was during one of Kamsky's learning spurts that eventually made him one of the world's elite players.

But the difference in strength between you and a superior sparring partner should not be more than the equivalent of about 200 rating points. That's a significant but not a huge amount. The reason for this limit is that much stronger opponents will crush you repeatedly. That is bound to get discouraging.

Magnus Carlsen said he never liked to play against computers when he was growing up because of what it did to his self-confidence. Imagine that: Even Carlsen became unnerved when playing a much better opponent.

Let's see what we can learn by watching 10-year-old Magnus play a slightly stronger opponent.

Carlsen – Moen
Gausdal 2001

1 e4 e5 2 d3 f6 3 xxe5 d6 4 f3 xxe4 5 d4 d5 6 d3 c6
7 0-0 e7 8 c3 g4 9 bd2 xd2 10 xd2 0-0 11 f4 d6 12 xd6 cxd6!

White to play
We could stop here and try to figure out the point of Black’s last move. Maybe he wants to play ... \( \textsf{b6} \). Or perhaps he intends ... \( \textsf{c8} \) and ... \( \textsf{a5-c4} \). Or maybe he just wants to make sure White never plants a piece on e5.

But since it is White’s move, not Black’s, let’s adhere instead to the first rule – ‘Every diagram is a lesson’ – and think of what he should do.

White can break the pin with 13 \( \textsf{h3} \) and then 13 ... \( \textsf{h5} \) 14 \( \textsf{e1} \) \( \textsf{f6} \) 15 \( \textsf{g4!} \) with a good position.

Or he can get out of the pin with the passive 13 \( \textsf{e1} \) \( \textsf{f6} \) 14 \( \textsf{e2} \). But few 10-year-olds like to retreat like that. Carlsen looked for something else and chose 13 \( \textsf{e1} \) \( \textsf{f6} \) 14 \( \textsf{c2} \).

Black to play

He is preparing to get out of the pin with 15 \( \textsf{d3} \), which would threaten mate on h7. Also, from c2 the bishop is ready to b3 where it will attack the sitting-duck d5-pawn. That could be important after 14 ... \( \textsf{xf3} \) 15 \( \textsf{xf3} \) \( \textsf{xf3} \) 16 \( \textsf{gxf3} \) followed by \( \textsf{b3} \).

But it takes more than one ambitious move to get a significant edge against a slightly stronger opponent. Black replied to 14 \( \textsf{c2} \) with 14 ... \( \textsf{a5} \) so he can meet \( \textsf{b3} \) with ... \( \textsf{c4} \) or ... \( \textsf{xb3} \).

White could still carry out his unpinning idea, 15 \( \textsf{d3} \) g6 and then 16 \( \textsf{d2} \). Instead, he played 15 \( \textsf{b3?} \) and then came 15 ... \( \textsf{c4}! \)
16 \( \text{cxd4 dxc4} \). Since the pin on the knight continues, Black can build up his position, with moves like ... \( \text{Nf8} \), before the capture on f3.

White no longer has his excellent bishop or a target for it on d5. This suggests he has no chance for advantage and must be careful to avoid getting the worst of it. He chose 17 \( \text{We2} \) and then came 17 ... b5.

Here’s another diagram that serves as a lesson. The impending ... \( \text{Nxf3} \) is going to weaken White considerably. That indicates he should seek counterplay. But how?

He chose 18 \( \text{We4?} \), which prompted 18 ... \( \text{Nxf3} \) 19 \( \text{Wxf3} \) \( \text{Wxf3} \) 20 gxf3. Then he threatens 21 \( \text{We7} \) with good play.

But his 18th move is a mistake because he could have gotten immediate counterplay with 18 \( \text{We7!} \), when he already has a heavy piece on the seventh rank. Or he could have created queenside chances with 18 a4!.

After Black replied to 20 gxf3 with 20 ... \( \text{Nf8} \), things were getting bad for White. His doubled pawns can be exploited if Black can get his king to, say, f4 or h3.

But White shouldn’t be lost because in rook endings it usually takes another mistake or two before the position is hopeless. That was the case here. As long as White can attack enemy pawns he has
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counterplay. The only pawn that seems vulnerable is the b5-pawn. That suggests 21 ♘xe8+ ♘xe8 22 a4!

Then if Black answers 22 ... a6, White can trade pawns, 23 axb5 axb5, and drop his rook on a6 or a5, with counter-chances.

Instead he chose 21 ♗f1? and there followed 21 ... g5 22 ♘xe8+ ♘xe8.

White to play

White still has hopes of salvation if he tries 23 a4. Instead, he went into the pawn ending, 23 ♘e1?? ♘xe1+ 24 ♘xe1.

With experience, you learn that pawn endgames like this are won and lost by king invasions and zugzwang. It’s not hard to see that after 24 ... ♘g7 Black’s king will get to f5 in two moves. White’s king can try to hold the fort at e3.

Then the main question is whether he will run out of moves and be forced to retreat. Since Black seems to have more ‘pass’ moves than White does, we can make a pretty good guess that this position is a forced loss for White.

Play went 25 ♗f1 ♗f6 26 ♘e2 ♗f5 26 ♘e3 and then 26 ... d5!. White had one last try, 27 f4!? It’s clever idea that hopes that 27 ... gxf4+ 28 ♘f3 will create an impregnable blockade.

But Black saw that 27 ... g4! would win. After 28 f3 h5! White resigned. He would have run out of moves soon after 29 fxg4+ hxg4.

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One of the benefits of playing a stronger player is you can ask questions after the game and almost always learn something. The main question White should ask is “Where did I go wrong?” Adding it up, he was given worthwhile material for at least four lessons in this game. He could learn:

(a) About the value of getting out of the pin (15 \texttt{\texttt{Wd}}3! rather than 15 \texttt{\texttt{Ab}}3?),

(b) About the need for counterplay (18 \texttt{\texttt{We}}7! or 18 a4! rather than 18 \texttt{\texttt{We}}4?),

(c) About the urgency of finding counterplay before you slide into a lost ending (21 \texttt{\texttt{Exe}}8+ and 22 a4! rather than 21 \texttt{\texttt{Af}}1?), and

(d) About what a hopeless pawn endgame looks like (23 \texttt{\texttt{Ff}}1??).

Losses like that game are – unfortunately – more instructive than victories. If you can stand the damage to your ego, losing can actually be good for you. It tells you what your weaknesses are. And per the second rule, that gives you a lesson plan.

Working on technique

Players of all strengths profit from losses. When Kasparov began his first world championship match he lost five games to Anatoly Karpov before he won one. But he was learning a lot from an opponent who – at that moment – was just a bit stronger than him.
When they played again a year later Kasparov showed what he had learned. "Figuratively speaking, Kasparov of 1985 can give pawn and move (odds) to Kasparov of 1984," wrote another champion, Vladimir Kramnik. Karpov later complained bitterly that he had given Kasparov "hundreds of hours" of free lessons in their first match.

Of course, if everyone insisted on playing only opponents who were stronger than them, no games would ever be played. The 1000-rated players would refuse to play the 900-rated players because they only wanted to take on the 1100s, and so forth.

But if you play a slightly weaker opponent you can also benefit – for a different reason. In those games you learn ‘technique,’ the skill of winning a favorable position.

Once again this is the kind of practice that works best when the difference in strength is not more than a few hundred rating points. Your goal is to become skilled at winning endgames in which you are just a pawn ahead. You won’t gain valuable experience if your opponent just blunders away a second pawn and then a third – and beats himself.

Again we see Magnus Carlsen in action, this time when he was a master. He has won a pawn against a slightly weaker opponent.
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Normally, a player with an extra pawn tries to win the endgame by creating a passed pawn and pushing it. But that’s extremely difficult here.

This forced White to seek another way to win. Stop here and take a good look at the diagram. See if you can come up with winning ideas for White.

Magnus realized his biggest asset is that his rook is better placed than Black’s. To take advantage of that, he began with 1 a4!. That frees his rook from the defense of the a-pawn.

Black cannot prevent him from advancing with 2 ℄d5+ and 3 ℄f4. There followed 1 ... ℄c7 2 ℄d5+ ℄e6 3 ℄f4.

Black to play

Black could try to keep the White king from reaching g5 by means of 3 ... f6. But that’s a serious weakening of both the g-pawn and the seventh rank.

It gives White ways of improving the position of his rook, such as 4 ℄d8. Then he has ideas such as 5 ℄g8 ℄f7 6 ℄b8 ℄c6 7 ℄b7+.

Depending on how Black defends, White can consider winning the g-pawn or trying to create a passed pawn by means of f2-f3 and g3-g4.

Instead of 3 ... f6, Black ‘passed’ with 3 ... ℄c8 4 ℄g5 ℄a8. He was
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strong enough to know that in endgames you shouldn’t weaken your position if passing is a reasonable alternative.

Time for another ‘Every diagram is a lesson’ lesson. What occurs to you in this position?

![Chess Diagram]

White to play

When your opponent is reduced to passing, it is tempting to take advantage of his apparent helpless and to try something ambitious. For example, White can use his king’s strong position to prepare 5 f3 followed by 6 g4.

If Black defends against the threat to his h-pawn with 6 ... hxg4, then 7 fxg4 and 8 h5 will create a passed pawn for White.

But games in which you have an edge against a slightly inferior opponent will teach you to be wary of forcing a trade of pawns. The reason is that reducing the amount of wood on the board tends to help the defender. With that in mind, White found the superior 5 f4!.

Now he threatens to win a second pawn with 6 e5+ followed by 7 f6 and xxf7 or e7xf7. If Black were a much weaker player, he would have allowed White to win that way or some other relatively simple way.

But Black found a clever defense in 5 ... f6+. The idea is to meet 6 xg6 with 6 ... g8+ 7 xh5 xg3 followed by 8 ... xb3. Suddenly Black’s rook would be very active and he would seem to have real drawing chances.
Good defenders force you to find other ways to win. That’s how you improve your technique. White met the check with $6 \textit{h6!}$. He threatens to make more progress with $7 \textit{g7}$.

Stopping that with $6 \ldots \textit{a7}$ would permit White to safely play $7 \textit{xg6}$, since Black no longer has $\ldots \textit{g8+}$.

Once again Black wisely chose to pass, $6 \ldots \textit{c8}$. But he was running out of good passes after White played $7 \textit{g7!}$.

If Black then moves his rook to c6 or c7, White can take on g6. And if Black moves his king to e7, White can win with $8 \textit{f5!}$ because of $8 \ldots \textit{xf5}$ $9 \textit{xf5}$ followed by $\textit{xh5}$ or $\textit{xh5}$.

Black was left with – guess what? another pass – $7 \ldots \textit{a8}$. Once again White had to solve a problem. How does he make progress?
The answer was the wonderful 8 a5!. This indirectly trades pawns. On 8 ... bxa5 9 ∆xc5 White has created a passed c-pawn and prepares to win another pawn with ∆c6+.

Black preferred 8 ... ∆xa5. Then White played 9 ∆xg6 since there was no ... ∆g8+ to worry about.

White's king and rook were so dominant then that his win of another, decisive pawn was assured. The end was 9 ... ∆a3 10 f5+! ∆e7 11 ∆d3! b5 (desperation) 12 cxb5 c4 13 ∆e3+ ∆f8 14 b6! Black resigns.

Now let's consider what happened. We saw how White was forced to work on his technique skills from the first diagram on. It is true that Black had made mistakes before the first diagram; that's why he was losing. But his mistakes were so minor that White had a difficult task.

Furthermore, Black didn't make it easier for White by erring with moves like 3 ... f6?. He didn't beat himself. That's why it's good to play an opponent who is only slightly weaker.

Thanks to Black's capable defense, White had difficult choices to make. He correctly rejected attractive moves, such as when he passed up 5 f3 in favor of 5 f4!. Later he had to see 6 ∆h6! and 8 a5!. Winning games like this is worth more than reading a chapter in a book or having a long endgame lesson taught by a master.
Practice guidelines

Aside from the playing strength of your opponent, there are other considerations to keep in mind when you play practice games. One is time limit. Quick games are naturally more attractive than slower ones.

But if the time control is slow, say 30 moves an hour, there is a better chance that you will be able to apply what you’ve learned – and that you’ll remember the experience after the game.

Another thing to consider when choosing an opponent is age. Magnus Carlsen regularly faced adults by the time he was a master. That was to be expected. But for kids just starting out in chess, it’s almost always better to find someone roughly in their own age bracket for social and emotional reasons. Adults, too, will be more comfortable playing against other adults, rather than much younger opponents.

Another guideline: A student should try to write down a conclusion about each practice game he plays. He should sum up in words what happened, like “I got the edge in the opening but played too quickly and then miscalculated a combination.” Training games show what bad habits you’ve picked up. But if you forget about a game immediately after you played it, you’re losing the benefit.

From another era, we have advice on practice games from Wilhelm Steinitz: Don’t accept material odds. Steinitz’s first rule for improvement was to play as many games as you can with superior players but not when you are given an edge like ‘pawn-and-move.’ That leads to bad habits like trading pieces indiscriminately.

But there is nothing wrong with playing practice games at time odds, such as when a superior player takes 30 minutes for an entire game, while you’re given an hour.
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Cyber-sparring

Today's players are becoming masters at a younger age and in greater numbers than 20 years ago. Several factors contribute to this but heading the list is the availability of the computer as a training opponent. Playing against a computer rather than against a human offers several advantages:

You have an opponent ready to play at any hour.

If the machine is too strong for you, you can simply reduce its skill level.

If you spoil a good position with a bad move, you can retract it and continue as if nothing happened.

If you want to begin a game with a particular opening variation or even play from a specific endgame, you can input the desired moves or position.

If the machine is taking too long and you're getting bored, you can speed up its thinking.

There are so many advantages to practicing against a computer that youngsters can be forgiven for wondering why anyone ever put up with human opponents before. Nevertheless, to get the most out of playing practice games with your computer, here are a few worthwhile tips to follow:

— Play a computer that is only slightly stronger than you. Ideally, you want the machine to be playing at a level at which you can score at least 25 percent from a series of games. Once again, you want to face opposition that punishes your errors but is not discouragingly hard to beat.

— If your position becomes very bad, there's an alternative to giving up and starting a new game. Once the evaluation function says you are minus -1.0 or more, switch sides and take over your opponent's position. See if you can make that advantage last long enough to reach a good ending. If not, you can always switch sides again.
— Try playing games against ‘bad’ openings, such as taking the Black side of 1 e4 e5 2 \textit{\texttt{h5}}.

Books often describe 2 \textit{\texttt{h5}} as a blunder. “It goes without saying that such a primitive attack can be easily repulsed by Black,” wrote Alexey Suetin in an authoritative book on openings. He gave 2 ... \textit{\texttt{c6}} 3 \textit{\texttt{c4}} \textit{\texttt{g6}} as the refutation and continued 4 \textit{\texttt{f3}} \textit{\texttt{f6}} 5 \textit{\texttt{g4}} \textit{\texttt{d4}}! 6 \textit{\texttt{d1}} \textit{\texttt{d5}} “and Black seizes the initiative.”

But that's a huge overstatement, as Hikaru Nakamura showed when he began to try 2 \textit{\texttt{h5}}. One of his games against a strong master varied with 5 \textit{\texttt{e2}}!, which is clearly better than 5 \textit{\texttt{g4}}?

After 5 ... \textit{\texttt{g7}} 6 \textit{\texttt{d3}} \textit{\texttt{d6}} 7 \textit{\texttt{h3}} \textit{\texttt{a6}} 8 \textit{\texttt{bc3}} \textit{\texttt{a5}} 9 \textit{\texttt{g5}} \textit{\texttt{h6}} 10 \textit{\texttt{e3}} \textit{\texttt{xc4}} 11 \textit{\texttt{dxc4}} White enjoyed a space advantage and stood well.

His advantage became apparent following 11 ... \textit{\texttt{e6}} 12 \textit{\texttt{b3}} 0-0 13 \textit{\texttt{a4}} \textit{\texttt{h7}} 14 \textit{\texttt{g4}}! \textit{\texttt{f5}} 15 \textit{\texttt{xf5}} \textit{\texttt{xg5}} 16 \textit{\texttt{exe5}} \textit{\texttt{exe5}} 17 \textit{\texttt{g5}}! \textit{\texttt{xc2}} 18 \textit{\texttt{h5}} \textit{\texttt{g5}} 19 \textit{\texttt{xg5}} \textit{\texttt{hxg5}} 20 \textit{\texttt{xg5}} \textit{\texttt{f7}} 21 \textit{\texttt{d2}}! and 22 \textit{\texttt{ag1}}.

“It goes without saying,” to borrow Suetin’s words, there are many ways to improve on Black’s play. But that’s why the position after 2 \textit{\texttt{h5}} is a good one to play from Black’s side against a machine. Other morsels of advice:

— If you are just learning the game and have trouble realizing when the machine has just made a threat, you can benefit from the setting on some computers that allows it to point out when your pieces are attacked.
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— Don’t become addicted to the ‘take back’ button. That’s another bad habit. If you are constantly taking back moves, you lose a lot of the learning benefit.

On the other hand, you don’t have to play ‘touch move’ either. That often spoils a good position that you invested a lot of time in.

Instead, set your own comfort level of ‘Oops,’ such as limiting your redo’s to no more than two or three times a game. You don’t want to waste a good position but you don’t want to keep taking moves back.

— Don’t assume that the computer will beat you with its superior tactical skill. Some programs have a mode that deliberately makes errors that you can exploit.

— If you can’t adjust your computer’s playing strength, your games with it will be very one-sided. But instead of playing a whole game, it’s useful to play out positions from the very end of a master game.

Grandmasters don’t wait until one move before they are mated. They resign when they consider their position ‘hopeless.’ They assume their opponent is strong enough to find the moves to win. But students need to develop that skill.

Kasparov – Deep Blue
Match 1996
Black to play
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The historic first match between these opponents ended abruptly when Black resigned in this position. Newcomers to chess were astounded. After all, Black is a pawn ahead. The position appears blocked. White doesn’t seem to be threatening anything. Why then did Black give up?

This is worth playing out as White against a computer. Input a ‘pass’ move, such as 1 ... ¼h7, and see if you can find a winning idea or two. If you fail the first time, try again and again. (If you still can’t win it, you’ll find two ideas at the end of this book.)

The vast majority of positions in which a grandmaster resigns to another grandmaster are clearer than that. Usually he is way behind in material and sees the outcome as inevitable.

But those positions can be a good – and entertaining – way to improve your technique. You can call this ‘Beat the World Champion.’ It means playing out positions like this:

![Chessboard Diagram]

**Lasker – Steinitz**  
World Championship 1894  
*Black to play*

This is the final position in the first match in which a new world champion was crowned. Wilhelm Steinitz was Black and decided to resign here. That gave his opponent, Emanuel Lasker, the title.

But suppose you were Lasker – and that Steinitz didn’t resign. Let’s imagine that Black played a defensive move such as 1 ... ¼d7.
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All the authorities will agree that you have a won position. But can you win it against a computer-assisted Black? Can you beat Steinitz and become world champion?

If this sounds like something you might enjoy, there are similar ‘Beat the World Champion’ positions from great matches of the past. Try playing out final position of the 1997 Deep Blue – Kasparov match. (Black had lost his queen but a lot of spectators were surprised he gave up when he did.)

Other ‘Beat the Champion’ positions include the last game of the Lasker – Capablanca world championship of 1921, and the Euwe – Alekhine matches of 1935 and 1937. I’m sure you can find other losses by the great champions of the past that you’ll have fun with. In fact, the final positions of many grandmaster games can be turned into ‘Beat the GM’ material.

Harmonizing

One of the most valuable skills that you can improve by playing a machine is the coordinating of your pieces. Learning to get your pieces to work together is very difficult. You see this in the games of novices, who play the opening with only one or two developed pieces. If they manage to reach the middlegame, they are likely to leave one of their unused pieces hanging and lose it.

Chernin – Marjanovic
Subotica 1987
White to play
Harmonizing your forces becomes more important as your forces become fewer. This is clearest in the endgame. In this position material is nearly equal. But White can win fairly easily because he has a simple plan:

First he uses both rooks to attack and pick off the a-pawn. Then he can double the rooks against the other pawns and win them one at a time. Black can only stop this plan by giving up his queen for both rooks – which means going into a lost pawn ending.

The only dangers to White are allowing perpetual check or putting a rook on an unprotected square where it can be lost. That’s why this is a good position to play out against a computer.

If you find you can’t win it, you can search for the score of the game and see how White did it. Don’t be surprised to find out that it took many moves to win. In one of Anatoly Karpov’s best known games, he had a king, two rooks and two pawns against his opponent’s king, queen and pawn. It took him another 63 moves to win because of the lack of protection from checks.

Once you’ve been able to win positions like the last diagram it is time to try more complicated ones in which you have to marshal several pieces against a lone queen.

White to play

This time White has a substantial material edge. In addition, his king is better shielded from checks than Black’s king. But an inexperienced player may have a difficult time winning with White
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because he has to coordinate dissimilar pieces — a rook, knight and bishop. This is much harder than handling two rooks.

By playing this position out against a computer you can learn to advance the White king and pawns so that they all protect one another. Once again you have to do this carefully because of the risk of allowing perpetual check or a check that forks your king and an unprotected piece.

What these examples also teach you is how the total value of the pieces increases when they coordinate with one another. You’ll be surprised how often a relatively even position — in terms of material — turns out to be a win when you get all of the pieces working in harmony.

For example, R+N+2 extra Ps-vs.-Q sounds close to an even material situation. Many computers thought so when the following game was played.

\[
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\hline
\end{array}
\]

\textbf{Ivanchuk – Short}  
\textit{Riga 1995}  
\textit{White to play}

But White can steadily improve his position if he takes his time. In the game, Black resigned 20 moves later.

There are many other rewarding positions you can play out against the computer. It’s easy to find them if your computer has a search function that allows you to find, say, queen versus
three minor pieces. If it doesn’t, here are a few of the many pieces-vs.-queen examples available for practice:

Spraggett – Yusupov, 9th match game 1989 after 41 moves

Smyslov – Filip, Munich 1958 after 60 moves

Miroshnichenko – Korneev, Khanty Mansyisk 2005 after 33 moves

Zukertort – Minckwitz, Berlin 1881 after 57 moves

Keres – Pelikan, Prague 1937 after 34 moves

There’s one other way to ‘practice, practice, practice’:

**Correspondence**

When Paul Keres was starting out, he had a hard time finding a worthy opponent, except for his brother. Keres, who eventually became a world class player, needed stronger opposition to improve. So he turned to postal chess. At one point he was playing 150 games at once.

Of course, that was nearly a century ago. Didn’t the arrival of computers kill correspondence chess?

Not at all. In fact, the Internet has its own world of correspondence chess. There are turn-based sites, such as Chessworld.net and It’sYourTurn.com, that allow you to challenge opponents and play games at your own pace. You can have several days or more to think over a move before sending it.

Unlike games played on real-time sites, like the Internet Chess Club, you can devote a lot of time on turn-based sites to studying the position. Correspondence chess encourages you to analyze deeply, even to turn the board around and look at it from the opponent’s point of view.

The 15-year-old Keres often adopted offbeat openings and took outrageous risks to see what he could get away with – even though
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his opponent had days to consider a reply. "I sought complications in practically every game at any price in order to develop still further my combinational powers," he recalled.

For example:

**Keres – Foeldsepp**
Correspondence 1931

1 e4 e5 2 f4 exf4 3 d4!? Wh4+ 4 We2 b6

Black intends ... Ea6+. What should White do?

There's always a temptation in the opening to 'let the machine do it.' That is, to look up the position in question in a database and see what others played before you. That won't work here. We are already out of 'book.'

But even if this were a well-known position, correspondence players say you should try to think for yourself. After you've found a move you like you can look for further help from books. If permissible, you can also consult a computer.

If the machine-recommended move is the same as the one you like, play it. If there are alternatives to your moves that are evaluated as good, consider playing them. If the books don't consider your move at all, try to figure out why.
And if there doesn't seem to be an appreciable difference in quality between the book move and the one you favor, play your move. Force your opponent to start thinking on his own.

Keres chose 5 c4!. Play continued 5 ... g5 6 Qf3 Wh6 7 g3 Qf6 8 Qc3 Aa6 9 Qf2?! fxg3+ 10 Qg2 Wh6 11 hxg3 g4 12 Qe5 Wg7 13 Qe2 Qd6? 14 Wf1

Black to play

Black can't bring himself to meet the threat (15 Qh6 Wg8 16 Wxf6) with 14 ... Qxe5 15 dxe5 Qg8.

So the game ended with 14 ... Qe7? 15 Wxf6+! Wxf6? 16 Qd5+ Qe6 17 Qh6+! Wg6 18 Qxg4+ f5 19 Qxf5 mate!

Black would also be lost after 15 ... Wxf6 16 Qd5+ Qf8 17 Qxf6 and 16 ... Qe6? 17 Qxg4+.

Correspondence chess helps you improve in three specific ways, according to world champion Max Euwe.

First, it enables you to deepen your knowledge of openings. Once you begin a correspondence game you invest your time – and some of your ego – in it. This means there is extra motivation to find the very best move. It encourages you to explore opening books and databases. You will find yourself studying an opening without knowing it.
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One of the first Russian masters, Alexander Ilyin-Genevsky, made a great leap forward when he went on summer vacation as a boy. Since he lost contact with the regular opponents he played at school, he turned to postal chess. He played as many as 50 games at a time and found he had to use an opening text for the first time. Just going over moves in an opening book “is a very boring business” but postal games brought it to life, he wrote.

Euwe said the second way that correspondence games help a student concerns the endgame. If you feel more motivated to investigate opening theory when you are playing a new opening by correspondence, you will also feel provoked to study bishops of opposite colored endgame theory when you get into that kind of ending.

This could have arisen in the game that decided the world correspondence championship. Even though the position looks drawish Black had analyzed a winning method beginning with 1 ... \texttt{c}2!.

White cannot allow a pawn ending because his king is too far away. He played 2 \texttt{f}7. But Black’s study of the position revealed an instructive way to reposition his rook, 2 ... \texttt{c}5+! 3 \texttt{g}4 \texttt{a}5!.
The queenside pawns fall. For example, 4 \textit{f}3+ \textit{d}2 5 a3 \textit{c}2 6 \textit{f}2+ \textit{b}3 followed by ... \textit{b}5, ... \textit{a}2 and ... \textit{x}b2.

The third aspect cited by Euwe is calculation. When a correspondence game gets extremely complex, it inspires you analyze it as much as you can. And when your analysis fails, it’s another valuable lesson. Here’s one that Alexander Alekhine learned when he was 10 years old.

\begin{center}
\begin{tikzpicture}
  \draw[black, ultra thick] (0,0) rectangle (8,8);
  \draw[black, ultra thick] (0,1) -- (8,1);
  \draw[black, ultra thick] (0,2) -- (8,2);
  \draw[black, ultra thick] (0,3) -- (8,3);
  \draw[black, ultra thick] (0,4) -- (8,4);
  \draw[black, ultra thick] (0,5) -- (8,5);
  \draw[black, ultra thick] (0,6) -- (8,6);
  \draw[black, ultra thick] (0,7) -- (8,7);
  \draw[black, ultra thick] (0,8) -- (8,8);
  \draw[black, ultra thick] (1,0) -- (1,8);
  \draw[black, ultra thick] (2,0) -- (2,8);
  \draw[black, ultra thick] (3,0) -- (3,8);
  \draw[black, ultra thick] (4,0) -- (4,8);
  \draw[black, ultra thick] (5,0) -- (5,8);
  \draw[black, ultra thick] (6,0) -- (6,8);
  \draw[black, ultra thick] (7,0) -- (7,8);
  \draw[black, ultra thick] (8,0) -- (8,8);
  \draw[black, ultra thick] (0,0) -- (8,0);
  \draw[black, ultra thick] (0,1) -- (0,8);
  \draw[black, ultra thick] (1,0) -- (1,8);
  \draw[black, ultra thick] (2,0) -- (2,8);
  \draw[black, ultra thick] (3,0) -- (3,8);
  \draw[black, ultra thick] (4,0) -- (4,8);
  \draw[black, ultra thick] (5,0) -- (5,8);
  \draw[black, ultra thick] (6,0) -- (6,8);
  \draw[black, ultra thick] (7,0) -- (7,8);
  \draw[black, ultra thick] (8,0) -- (8,8);
  \draw[black, ultra thick] (0,1) -- (8,1);
  \draw[black, ultra thick] (0,2) -- (8,2);
  \draw[black, ultra thick] (0,3) -- (8,3);
  \draw[black, ultra thick] (0,4) -- (8,4);
  \draw[black, ultra thick] (0,5) -- (8,5);
  \draw[black, ultra thick] (0,6) -- (8,6);
  \draw[black, ultra thick] (0,7) -- (8,7);
  \draw[black, ultra thick] (0,8) -- (8,8);
  \node at (0,0) {$\textit{f}$};
  \node at (0,1) {$\textit{d}$};
  \node at (0,2) {$\textit{c}$};
  \node at (0,3) {$\textit{b}$};
  \node at (0,4) {$\textit{a}$};
  \node at (0,5) {$\textit{h}$};
  \node at (0,6) {$\textit{g}$};
  \node at (0,7) {$\textit{h}$};
  \node at (0,8) {$\textit{g}$};
  \node at (1,0) {$\textit{e}$};
  \node at (1,1) {$\textit{f}$};
  \node at (1,2) {$\textit{g}$};
  \node at (1,3) {$\textit{h}$};
  \node at (1,4) {$\textit{i}$};
  \node at (1,5) {$\textit{j}$};
  \node at (1,6) {$\textit{k}$};
  \node at (1,7) {$\textit{l}$};
  \node at (1,8) {$\textit{m}$};
  \node at (2,0) {$\textit{a}$};
  \node at (2,1) {$\textit{b}$};
  \node at (2,2) {$\textit{c}$};
  \node at (2,3) {$\textit{d}$};
  \node at (2,4) {$\textit{e}$};
  \node at (2,5) {$\textit{f}$};
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\textbf{Malkov – Alekhine}

\textit{Correspondence} 1902-3

\textit{Black to play}

This is one of Alekhine’s earliest games. Like virtually all of the surviving games that he played before he was 15, it was conducted by mail.

Here he realized that 1 ... hxg5?? was a bad move. After 2 hxg5+ \textit{g}8 White has a simple forced win with 3 \textit{h}5 followed by mate on h8 or h7.

Instead, Black played 1 ... \textit{g}6, which threatens to accept the sacrifice under much better circumstances.

But he didn’t realize that 2 \textit{e}4! added more fuel to the attack. The game continued 2 ... hxg5?? 3 hxg5+ \textit{g}7.
Cultivating your chess sense

White to play

Alekhine must have had this position on his analysis board when he was deciding whether to play 2 ... hxg5. He must have assumed he was safe because he could play the defensive 4 ... Nh8!. That move would refute 4 Wg4, intending Wh4-h7 mate, as well 4 g4, intending Wh2-h7 mate.

But he had made a fundamental error, one that many students make when they try to analyze. He had forgotten to look for checks.

White won with 4 Nh7+!. The key point is that 4 ... Nxh7 5 Wh5+ makes use of the bishop and mates after 5 ... Ng7 6 Wh6+ Ng8 7 Nh1. Also lost is 5 ... Ng8 6 Nxe6.

The only way to continue the game after the rook check was the humble 4 ... Ng8. Black was mated soon after 5 Nh1 f5 6 gxf6 Nxf6 7 Wg4.

It must have been a painful loss. But these are the kind that teach you the most.
Chapter Three:  
The biggest study myth

Chess studying is plagued by myths. Misguided masters and other teachers repeat them over and over. They repeat the myths because the myths were told to them when they were learning the game.

The greatest myth of all is that the easiest way to play better chess is to learn the ‘proper way to think.’ Masters claim they discovered the right way. They describe it in books with titles like How to Think in Chess and Think Like a Grandmaster.

But the truth is quite different: It’s better to learn how to spot the good and bad moves without thinking.

X3D Fritz – Kasparov  
Match 2003  
Black to play

Garry Kasparov, the foremost calculator and attacker of his era, spotted an attacking opportunity. He can play 1 ... f4 followed by
2 ... g5 and ... g4, sending an avalanche of pawns raining down on White's king.

But 1 ... f4 is a major decision. It gives up the opportunity to open the f-file ( ... fxe4) and therefore limits Black to one basic kingside plan.

That's risky. After 1 ... f4 the game would likely end in either of two ways. Either Black delivers mate on the kingside - or he gets crushed on the queenside.

At least one strong GM thought the pluses of 1 ... f4 outweighed the minuses. But Kasparov rejected it almost immediately.

"Without a light-squared bishop, such attacks never work," he explained after the game. He felt he didn't have to calculate variations. He knew 1 ... f4? would fail.

He was using what we call intuition - the ability to reject what are likely to be bad candidate moves without thinking. That saves enormous amounts of time.

But there's more to it. Intuition also enables you to spot what are likely to be good— if not the best - candidate moves, again without thinking.

When a master first looks at a position, he is like a golfer who is about to drive from the tee. Golf manuals will tell you there are X number of things he should be thinking at that moment. But Tiger Woods doesn't think of any of them. No great golfer does. They have made driving part of an automatic, practiced-and-programmed routine. They drive without thinking.

I know what you're going to say: "Chess isn't golf. Chess is all about thinking."

Yes, but one of the prime reasons that masters are masters is they have learned to streamline their move selection process. They avoid the thinking that they don't have to do - so they can spend their mental energy when they need to.

You may not realize it, but you learned to streamline in an elementary way soon after you were told how the pieces move. You
learned that a knight move consists of two steps. It goes two squares in one direction and then one square sideways.

![Chessboard with knight move]

**Carlsen – Aronian**  
Match 2007  
*Black to play*

If a beginner tries to find a good move here, he may think in a two-step way:

"My knight is attacked by the f-pawn. I have to move it. But all of the squares in front of the knight are controlled by White pieces or pawns. Where else can my knight go?"

"Let’s see. It can go two squares towards the kingside and then one square backward. That would be to g5. Or it can go two squares in the other direction and one square backward, to c5. Or it can move two squares backward and one square to the left or right, say to f6 or d6."

But only a beginner thinks of a knight move in two steps. One of the biggest advances you made on your learning curve is when you saw a knight move as one step. You look at a diagram like this and immediately saw that the knight can go to c5, g5, f6 or d6, among other squares.

By taking the mechanics out of the knight move you freed your mind for the more advanced questions. And that’s the same with intuition. If you learn how to spot potentially good moves without thinking, you jump ahead of the vast majority of other players.
The biggest study myth

It’s all about patterns

“I only see things quickly if I have seen the position before,” GM Yasser Seirawan once said in explaining how he found strong moves so easily.

He didn’t mean seeing the exactly same position. He meant seeing something very similar.

Anand – Kramnik
Mainz 2001
White to play

In this rapids game, White played 1 0-0. Black immediately suspected it was a blunder because the position seems to fit a pattern.

In the pattern Black recalled, the right way to punish White is to put a knight on e5. He did a little quick calculation of 1 ... \( \text{ce5} \)
2 fxe5 \( \text{xe5} \).

He saw that the attacked queen must move and it cannot defend the d3 bishop. This means Black will win a pawn after 3 \( \text{W-moves} \)
\( \text{xd3} \)
4 cxd3 \( \text{xb3} \).

Calculating nearly four full moves ahead like this can be difficult. But Black knew enough to look at 1 ... \( \text{ce5!} \) because he had seen the basic tactical idea in similar forms.
The biggest study myth

The idea is perhaps best known from a gaffe in the celebrated tournament book for New York 1924. Author Alexander Alekhine analyzed a game that began 1 d4 ∆f6 2 ∆f3 g6 3 c4 g7 4 ∆c3 0-0 5 e4 d6 6 ∆d3 g4 7 h3 ∆xf3 8 ∆xf3 ∆fd7 9 ∆e3 c5.

Alekhine examined what would happen if Black had played 9 ... ∆c6, instead of 9 ... c5. He concluded 10 ∆e2 would be poor ...

... because of 10 ... e5 11 d5 ∆d4. His note drew widespread attention – because the great Alekhine had overlooked a tactic.

Instead of 10 ... e5, Black can fork the queen and bishop with the punishing 10 ... ∆de5! and then 11 dxe5 ∆xe5.

An inexperienced player will be struck by how little the last two diagrams have in common. “The two pawn structures are entirely different,” he says. “In addition, some of the heavy pieces are of different squares. And besides that ... .”

But an experienced player will notice the features the two positions share:

White’s bishops are on d3 and e3. He has a knight on e2, a queen on f3 and a pawn on e4. Black has knights at c6 and d7. Those six pieces and one pawn make up the pattern. They make ... ∆de5 work.
The biggest study myth

In fact, most of the patterns worth knowing involve much less material than that, as we’ll see. The similarity may lie in only one small part of the board.

Denker – Smyslov
U.S.-U.S.S.R. match 1946
White to play

White played 1 a4 with the idea of opening the queenside for his queen rook, after a5xb6.

Depending on how pawns are captured after 2 a5, Black would have a weakened pawn at a7 or b6 that would be an inviting target for White’s heavy pieces.

We call 1 a4 and 2 a5 a ‘thematic’ idea. It’s thematic because it follows a general theme about how to expose targets and usually works in other positions like this.

Of course, those other positions were unlike this one in many ways. But what all the positions had in common was the placement of just three pawns: Black had pawns at a7 and b6 and, while White had an a-pawn that could open up this wing of the board by advancing to a5.

In this case Black replied 1 ... c8, with the idea of coordinating his pieces better via ... h3 and ... ad8.
White took time to stop ... $\text{h}3$ with 2 $\text{h}2$?. But this delayed the a4-a5 idea. Black shot back 2 ... a5!.

At first this looks horrible. Black makes the b-pawn backward on an open file and creates a hole at b5 that can never again be controlled by a Black pawn.

But he saw that White can't profitably occupy b5. Nor can his minor pieces attack b6.

Black also saw that once he defends the pawn with ... $\text{d}7$ and ... $\text{c}8$, White will not have an obvious way to improve his position. But Black will have several good plans, including taking aim at the pawns at a4, c4 and e4.

The game remained complex for several moves, but White never got a chance to exploit b6 until it was too late. Once Black reorganized pieces, he was able to open the position decisively with ... $\text{d}6$ and ... f5. He won.

The final stages of the game were impressive. But it was the position in the last diagram that made the greatest impression on students who played over the moves. To them 2 ... a5! looked strange. But it soon was recognized as 'thematic.'

One of those students was Bobby Fischer. It took many years before Fischer could use that idea in one of his games.
The biggest study myth

Spassky – Fischer
World Championship 1972
White to play

White played 1 a4?. Again it seems right. But this time it’s a bad mistake. In fact, it was called the losing move by some annotators.

Black took little time before replying 1 ... a5!. Once again, it turned out that White’s a-pawn was weaker than Black’s b-pawn. Moreover, White had no good plan after 2 b1 d7 3 b2 b8.

But Black did have one, the shift of pieces to the kingside with ... g5, ... e8-g6 and ... h5. Play went 4 b2 7 5 c2 g5 6 d2 e8 7 e1 g6 8 d3 h5 9 xf8+ xf8 10 xf8+ xf8.

White shortened matters by allowing a tactical shot – 11 d1 f4 12 c2?xa4!. He resigned in view of 13 xa4 xe4 followed by 14 ... xe2 mate or 14 ... xe1 mate.

Don’t get the impression that when Fischer saw 1 a4 he thought to himself, “Oh, this looks a lot like Denker-Smyslov, U.S.-U.S.S.R. match 1946.”

No one thinks that way. In fact, it’s not a matter of thinking at all. It is subconsciously responding to a pattern.

Masters rely so much on this subconscious response that they occasionally make gross oversights when their intuitive antennae
fail them. That was the case in the most spectacular blunder in recent history. Even though there were only a few pieces on the board, world champion Vladimir Kramnik allowed himself to be mated in one move.

Deep Fritz – Kramnik  
Match 2006  
Black to play

White has just captured a piece on f8. Black should play 1 ... g8, after which a draw is likely.

Instead, Black tried to swap queens with 1 ... e3. An endgame would favor him after 2 xe3. However, the machine replied 2 h7 mate! instead.

The world champion’s fans said his oversight was understandable because the knight on f8 makes this a highly unusual mating pattern. Had it been a more familiar pattern – such as if the knight were on g5 and the Black h-pawn were on h7 – Kramnik would surely have seen the threat of xh7 mate, they said.

Your pattern bank

What all this means is that one of your top studying goals should be becoming acquainted with many significant patterns.
The biggest study myth

How many is many? Well, some researchers concluded that the typical grandmaster knows 100,000 patterns (!). But don’t worry.

You can become a pretty good player, perhaps even a master, with a much smaller number of positions in your mental ‘pattern bank.’ And don’t agonize about how you are going to store positions in your head.

If grandmasters really do amass 100,000 patterns, it is not by sitting down and trying to memorize them. If someone tried to learn 10 new patterns a day that way, it would take nearly 30 years to reach 100,000.

We store most of our positions subconsciously: We are struck by an interesting position. We mull it over in our mind. Somehow this allows your brain to “rack it up in its own mysterious way,” as GM Jonathan Rowson aptly put it.

This happens a lot with tactical patterns because there are books and software programs filled with them and because they are presented in a ‘White to play and win’ format that provokes us.

![Chessboard Diagram]

**Nunn – Portisch**
Reykjavik 1988
*White to play*

White quickly spotted the idea, 1 \( \text{Wxh7+} \)!. Making sure that it works may seem hard because White has to look three and a half moves into the future. But since he is giving up his queen he knows that each of his coming moves must be checks.
The biggest study myth

That means after 1 ... ♗xh7 White had to look only at 2 ♗h4+. He saw that 2 ... ♗g7 would be forced. It was harder to see that after 3 ♗h6+ and a move by Black’s king, White can mate with 4 ♘f8.

But the key was spotting ♗xh7+ in the first place. The reason White saw it quickly, he recalled, is that this position reminded him of an example in 1001 Ways to Checkmate, a book by Fred Reinfeld, which he read repeatedly when he was just starting out.

Black, a veteran grandmaster, seemed unaware of the pattern. “He looked totally surprised when I played this move.” White added, “I thought that if he had read 1001 Ways to Checkmate it would not have been such a surprise for him.”

Going through a book like that, diagram by diagram, is a superb way to learn tactical patterns. You can make it fun by treating it as a challenge – “How many can I solve today?” – rather than homework – “I have to read 10 pages today or else.”

There are many good sources of tactical examples for self-testing. This includes the website Chess Tactics Server and commercial software, such as CT-ART and Chess Tactics for Beginners. An advantage of using a computer is that you can click through the moves over and over.

There are also many good tactics quiz books that can be recommended, such as Forcing Chess Moves by Charles Hertan, Mastering Checkmates by Neil McDonald, The Complete Chess Workout by Richard Palliser and Imagination in Chess by Paata Gaprindashvili.

The reason that going through such material will boost your pattern recognition and playing strength is: Simple repetition is more helpful in learning tactics than learning anything else in chess.

If you solve 50 White-to-play-and-win positions in which the solution is some kind of pin, you are on your way to mastering pins. The same with specific combinations. If you study 20 or so examples of the ♗xh7+ combination, you should be well prepared to carry it out if you get the opportunity.
The biggest study myth

Anyone who has read *The Art of Chess Combination* by Eugene Znosko-Borovksy would take only a few seconds to spot the tactical possibility here:

![Chess diagram](image)

**Plasgura – Feller**  
St. Lorrain 2001  
*White to play*

Now, it’s true that you might also find the right move through logic – that is, by thinking. You might say to yourself:

“Black has no minor pieces defending his kingside. But all of my minor pieces can be sent there fairly quickly. His weakest square is probably h7. I can attack it with 1 \( \text{c2} \) or 1 \( \text{g5} \). Maybe there’s another a combination here.”

But a student who has gone through the many similar examples in *The Art of Chess Combination* wouldn’t do any of this thinking. Instead, he would say to himself, “This looks like another \( \text{xh7+} \) position.”

When he looked further he would see that 1 \( \text{xh7+} \) \( \text{xh7} \) can be followed by the strong 2 \( \text{g5+} \) \( \text{g8} \) 3 \( \text{d3} \). Then for example 3 ... \( \text{g6} \) 4 \( \text{h3!} \) leads to immediate mate.

You might ask, “What about combinations that don’t arise out of a pattern?”
The biggest study myth

Well, the good news is, there are almost no examples of a ‘unique’ tactical shot. Virtually every great combination has a predecessor, usually hundreds, if not tens of thousands of them. Even the spectacular queening sequence known as the Ortueta-vs.-Sanz game, which has been called the greatest combination ever, appeared in slightly different form in another game.

Thanks to software, once you come upon a tactical theme that interests you, you can find numerous other examples to add to your collection.

Anand – Leko
Nice 2009
White to play

White found the winning combination, 1 ♘xf7+! ♘xf7 2 ♞h8+! ♜xh8 3 ♘xf7+ and ♗xg5.

This may seem impossible, particularly since both players were ‘blindfolded.’ But it wasn’t that hard to find because the capture on f7 followed by ♞h8+! and the knight fork is a known tactical pattern.

In fact, White found the combination in this game almost instantly – taking as little as two seconds, according to some accounts.
The biggest study myth

Moreover, spectators who were watching the game online used a Sacrifice Explorer function and found that this combination – in slightly different form but in the same basic pattern – had occurred in a world championship match and in several other examples from international play.

Now for a warning: When trying to solve quiz positions, you have an advantage you won’t have in a real game. You are told there is something to find. It is much easier to find tactical shots when you know they exist.

Another way that quiz positions are unrealistic is that they rarely use the kind of elementary themes that arise in non-master games.

An amateur usually wins games through the simplest of tactics: He exploits an enemy piece that is unprotected.

Here White has unprotected pieces. None is under attack yet. But most players, in fact the majority of players with some experience in handling tactics, will be able to find the move that attacks two pieces and wins one of them.

In contrast, masters are skillful enough to keep their pieces protected most of the time. The kind of positions that are likely to appear in a published quiz is the following. It is quite a bit more sophisticated – and for that reason, not as helpful to the vast majority of struggling students.
The biggest study myth

Vang Glud – Spraggett
Spanish Team Championship 2008
Black to play

The same idea as in the previous diagram is buried here. Black played 1 ... ♘xe4! and then 2 ♘xe4 d5!.

He not only threatens 3 ... dxe4 but the forking 3 ... ♗b4!. The game ended soon after 3 ♘g2 ♗b4 (in view of 4 ♗e3 d4!).

Nevertheless, trying to solve quizzes is still highly instructive. Even strong players like to go through a series of positions to see how quickly they can solve them. Before the 2008 world championship match, Vishy Anand made sure he solved five tactical exercises every evening to keep in shape.

The bad news

Unfortunately, you can’t become a master just by memorizing patterns. Most of the chess positions you will face over the board don’t fit a significant pattern; they are just arrangements of pawns and pieces that don’t provide any specific model for action.

Moreover, a position that does have a recognizable pattern only suggests a move that is likely to be good. It doesn’t ensure that the move is good. You have to check it out with analysis. After all, there has to be some thinking in chess.
White spotted the obvious pattern and played 1 $\texttt{\texttt{\texttt{\texttt{\texttt{\texttt{xh7+ \texttt{\texttt{\texttt{xh7}}}}}}}}$ 2 $\texttt{g5+}$.

On 2 ... $\texttt{xg5}$ White would win quickly with 3 $\texttt{hxg5+}$ and then 3 ... $\texttt{g8}$ 4 $\texttt{h5}$ (threat of $\texttt{h7}$ or $\texttt{h8}$ mate) 4 ... $\texttt{f6}$ 5 $\texttt{g6!}$ and 6 $\texttt{h8}$ mate.

Not much better is 3 ... $\texttt{g6}$ because White can chase the king into a mating net with checks: 4 $\texttt{h5+}$ $\texttt{f5}$ 5 $\texttt{g6!}$ $\texttt{xf4}$ 6 $\texttt{g3+}$ $\texttt{e4}$ 7 $\texttt{f3+}$ $\texttt{e3}$ 8 0-0.

The experienced player will not only spot the idea of $\texttt{xh7+}$ and $\texttt{g5+}$ quickly. He will know how important it is to be able to open the h-file with $\texttt{hxg5}$. He may know of past games in which $\texttt{g5-g6!}$ was necessary to deliver mate.

The trouble is that this position has its own features. After 2 $\texttt{g5+}$ came 2 ... $\texttt{g8}$ 3 $\texttt{h5}$, threatening 4 $\texttt{h7}$ mate.

But White hadn’t noticed 3 ... $\texttt{a5+}$!...
Black can stop the mate on h7 with 4 ... ♕f5, after which the attack dies. White will remain a piece down. He resigned on the spot.

So was knowing about the ♘xh7+ pattern good or bad for White? The answer is good. It was the analysis he followed up with that was bad.

**Priyome**

You can learn positional patterns in much the same way as you learn tactical ones. The most informal method is to flip through the pages of magazines or books, or go through annotated games online:

Take note of each middlegame move that is awarded an exclamation point. Try to figure out why it's a good move. If you think you understand why, try explaining it in words, as if you were teaching a fellow student.

A more structured approach is what used to be called the “notebook method.” At one time, students collected positions in a notebook or on a set of index cards. Today’s students will use computer files or a set of printed-out diagrams. Whatever the technology, the idea is to build a repository of patterns that you can return to over and over until you can recognize them automatically.
The biggest study myth

The Polgar sisters founded their intuition on their family’s enormous chess library. It numbered 500 books by the time Susan was nine. Papa Polgar also cut out diagrams with interesting diagrams and games from newspaper and magazines. These diagrams and positions culled from books went into his card-file library, which eventually encompassed 200,000 entries. By going over the entries, the girls developed a finely-honed instinct for finding the positionally right move.

Zsofia Polgar – Apol
Reykjavik 1988
White to play

Zsofia, the middle Polgar sister, was 13 when this was played. The pawn structure is familiar to players who know a bit about the Sicilian Defense. Experienced players also know that an arrangement of minor pieces like this cries out for a particular positional response.

The Russians have a word for it: priyome – pronounced pree-YOHM.

A priyome can be simple and general. For example, when a position has only one open file, a standard priyome is to take control of the file with a rook. If the pawn structure features an enemy hole, the priyome is to occupy it with a piece, rather than a pawn.

Or a priyome can be quite specific, such as meeting a2-a4 with ... a5 in the examples a few pages ago. Here the right one for this pawn structure is 1 \( \texttt{g}5 ! \).
It's not just a move but an idea: 2 \textit{xf6} followed by a well-prepared \textit{d5}. Black will probably have to answer \ldots \textit{xd5} and White can retake with a well-placed piece, such as the bishop.

There was also some verifying to do before White played 1 \textit{g5}. She had to make sure that it wasn't refuted by 1 \ldots \textit{xe4}. (She concluded 2 \textit{xe4} \textit{xe4} 3 \textit{xe7} \textit{exe7} 4 \textit{f6} favored her.)

Instead, Black played 1 \ldots \textit{b5}. But this gave White another priyome. After 2 \textit{xf6} \textit{xf6} she played 3 \textit{d5}!

This is better than the original idea of \textit{d5}. White will play \textit{xc6+}. Black can no longer recapture on c6 with a pawn. As a result, White will end up on d5 with a knight, the best piece she can place there. Play went 3 \ldots \textit{d8} 4 \textit{f6} \textit{g6} 5 \textit{xc6+} \textit{xc6} 6 \textit{a3} \textit{d7} 7 \textit{d3} \textit{e6} 8 \textit{d5}.

\begin{center}
\includegraphics[width=0.8\textwidth]{chess_board.png}
\end{center}

\textit{Black to play}

There's still a lot of work to do before White's advantage is decisive. But White knew yet another priyome. Because Black cannot connect rooks, the best way to exploit this kind of position is to open the a-file.

White's advantage became clearer after 8 \ldots \textit{c4} 9 \textit{c3} \textit{d7} 10 \textit{a4} \textit{c7} 11 \textit{xb5} \textit{xb5} 12 \textit{a7}. Black cannot untangle his pieces (12 \ldots \textit{c8}? 13 \textit{b6+}). After 12 \ldots \textit{b8} 13 \textit{h3} he overlooked the point of White's pawn move and replied 13 \ldots \textit{h5}.

The finish was 14 \textit{xc4!} \textit{xc4} 15 \textit{xc7 resigns}, since the queen is trapped and Black will be a full rook down.
The biggest study myth

The Polgars weren't the only ones to take pattern-collection seriously. The Soviet school of chess operated like ... well, like a school. Students were taught to collect new patterns the way we would enlarge our vocabulary by learning new words. Grandmaster Alexey Suetin gave this example of a pattern.

Portisch – Reshevsky
Petropolis 1973
White to play

White has a promising position but he needs a plan. The priyome for such a position is to exert pressure on f6 with f4-f5, \( \text{d5} \) and a queen shift to the kingside.

There followed 1 \( f5! \) \( \text{d7} \) 2 \( \text{d5!} \) \( \text{d8} \) 3 \( \text{f2} \) \( \text{c6} \) 4 \( \text{h4} \). Black relieved the pressure with 4 ... \( \text{xd5} \).

But experienced players know another priyome – taking with the e-pawn gives White a big edge. With 5 \( \text{exd5!} \) White opened the diagonal leading to f5-g6-h7 and created the strong possibility of doubling rooks on the e-file or the f-file.

After Black anticipated the e-file attack, 5 ... \( \text{xe8} \), White won remarkably quickly: 6 \( \text{f3!} \) \( \text{d7} \) 7 \( \text{c1} \) \( \text{f6} \) 8 \( \text{h3} \) \( \text{f8} \) 9 \( \text{fg6} \) \( \text{fg6} \) 10 \( \text{xg6!} \) \( \text{hxg6} \) 11 \( \text{xf6!} \) and Black resigned in view of 11 ... \( \text{exf6} \) 12 \( \text{h8+} \) \( \text{f7} \) 13 \( \text{h7+} \) \( \text{xh7} \) 14 \( \text{hxh7+} \) \( \text{f8} \) 15 \( \text{h6} \) mate.

The most useful patterns are usually the ones that occur most often. They have the best chances of occurring in your games. The reason this last pattern is worth writing down, Suetin said, is that it
is so common. It arises naturally from certain popular openings.

He cited the case of 1 d4 d5 2 c4 c5 3 d3 d6 4 c3 g6 5 e4 g7 6 f4 0-0 7 f3 e6. In this run-of-the-mill Benoni/King’s Indian position White can play 8 dxe6.

If Black plays natural moves like 8 ... xe6?! 9 d3 c6 he finds himself on the bad side of a pattern after 10 f5! d7 11 0-0.

![Chess Diagram]

Black to play

If White is familiar with this kind of position he knows that a strong plan is g5 followed by getting his queen to h4 and his knight to d5.

If Black had known the pattern, he would have avoided it earlier (8 ... fxe6, for example). He might have thought that 10 f5 was a mistake because it grants Black the e5 square as an outpost for his knights, following ... g4-e5. But 11 ... g4 12 d5 followed by g5 (or 12 ... ge5 13 xe5 and 14 f6) favors White.

Or Black may have thought that he would stand well once he trades a pair of knights with ... d4. But this would be bad, e.g. 11 ... d4? 12 xd4 exd4 13 d5 xd5 14 exd5! and g4 followed by g5 gives White a significant edge.

Once again you can make a long list of the differences between the last two diagrams. But, as with the previous examples in this chapter, what builds your intuition is recognizing the similarities, however subtle they may be.
The biggest study myth

The goal of Soviet teachers was to get their students to instantly recognize a pattern and then remember the proper priyome. Consider the following example. Don’t read further until you’ve found a good way for White to proceed.

Naiditsch – Efimenko
Serbia 2007
White to play

Now that you’ve done that – did you look at 1 f5? Was it the first move you looked at? (You should have, considering all the hints we gave you.)

This time f4-f5 does not attack a bishop on e6. And White’s queen is not on h4. But the other features of the position should have pointed you towards 1 f5!. White’s plan of g5 and fxg6 is as strong as it was in the previous diagrams.

Black would be distinctly worse after 1 ... cxd5 2 exd5!, e.g. 2 ... d7 3 fxg6 fxg6 4 f7+ h8 5 g5.

In the game he tried 1 ... d7 and was in deep trouble after 2 fxg6 fxg6 3 g5!, e.g. 3 ... f6 4 be1! and xf6, or 3 ... f6 4 h6 and h3-e6.

Soviet-trained teachers and students were told to collect any position, tactical or positional, that struck them. Trainer Anatoly Trekhin amassed 133 different priyomes in his notebook. Mark Dvoretsky topped him with his collection of 3,000 positions. He
arranged them by tactical and positional themes and used them to teach his talented students, such as the future grandmasters Artur Yusupov and Sergei Dolmatov.

This approach inspired Dolmatov to collect diagrams in his own notebook. He selected examples that fell into four themes: exchanges, changing the pawn structure, improving placement of pieces, and prophylaxis.

![Chess Diagram]

Olafsson – Larsen  
Reykjavik 1956  
*Black to play*

Here's one based on prophylaxis that he included. Black made the somewhat surprising advance 1 ... g6.

White didn’t appreciate the point. After 2 g5? e5! White can’t play ∆f5 and was worse (3 fxe5 dxe5 4 ∆4f3 ∆e6! and 5 ... ∆f4).

The lesson Dolmatov drew from this was that 1 ... g6 made 2 ... e5! a threat – and 2 g5? was a “serious positional mistake.” White should have taken the prophylactic step 2 f5!. Then 2 ... e5 promises Black an edge, but only a slight one.

While Dolmatov was compiling examples in Russia, Yasser Seirawan in the United States was filling up his own notebooks with diagrams. He eventually found he had 32 notebooks packed with combinations. Some of today’s students collect just as many positions as Dolmatov and Seirawan but keep them in their
computer. Whatever the method, turning pattern recognition into intuition should be the number one goal of a student.

“Good intuition is the first sign of chess talent,” said Vladimir Kramnik. But this gets it backwards. One of the first signs of talent is the ability to build your intuition from the ground up, one pattern at a time.
If you believe grandmasters, the worst words in chess are ‘memory’ and ‘memorize.’

“Chess cannot be played from memory,” declared Siegbert Tarrasch. “I don’t really memorize anything,” said Tony Miles. “The student must avoid the trap of memorization,” wrote Eugene Znosko-Borovsky. This has become the 11th Commandment: Thou shalt not memorize.

But that leaves a student bewildered. “How am I supposed to learn anything,” he wonders, “unless I commit some of what I study to memory?”

The answer is: You can’t. Every player memorizes. Grandmasters do it more than anyone else.

GMs spend most of their study time cramming analysis into their long-term memory. They rely on memory when they play their first dozen or so moves of a game. They rely on memory when they play ‘exact’ endgames. A typical GM has memorized a vast number of moves and key positions at both ends of the game. And this doesn’t include the patterns and priyomes he amassed through subconscious memorization.

“Memory is very, very important,” said Roman Dzindzichashvili in a rare admission by a grandmaster. “Actually it’s one of the most important things for success in this game.” In this chapter we’ll try to put memorization into its proper place and explore the broader issue of how to study openings.

First, all good opening play is part memory and part understanding. You can argue about which matters more. But what is clear is you use memory first.
You begin every game by making moves that you remember are good. Inevitably there comes a point when you reach the end of your book knowledge. That's where your memory stops and the understanding is supposed to take over.

This point comes later for masters than it does for others. But it still comes.

A master might reach this position, 14 moves into a Sicilian Defense, with hardly any thinking. An expert might have to start thinking at move 11 or 12 because he is less familiar with the variation. Average tournament players would likely start thinking around move eight. And if beginners somehow reached this position, they would have been on their own since around move two.

When masters ridicule memory, they are warning you about the dangers of reaching the end of your book knowledge and not having a clue as to what to do next. That is memory without understanding. But the other extreme – understanding without memory – is just as bad.

Why? Well, suppose you have a solid understanding of the position in the next diagram, which arises from the old main line of the Nimzo-Indian Defense. You appreciate all the typical tactics and positional finesses. You know which pawn pushes and piece trades are good and which are bad in the middlegame to come.
The right way to study an opening

White to play

But to get a chance to use that understanding you first have to reach this position. If all you remember is 1 d4, it is extremely hard, if not impossible, to find the ten moves that follow it and leave you off in this position.

The same is true of most standard openings. You can’t rely on common sense and logic to get to move five, let alone to 15. Even in 1 e4 e5 openings you need to remember some highly unlikely moves. For example:

(a) Let’s say you found yourself on the Black side of a Two Knights Defense. But you didn’t memorize anything beyond 1 e4 e5 2 d3 d6 3 c4 dxc6 4 g5 d5 5 exd5.

You wouldn’t know about the strange-looking but correct gambit, 5 ... dx5! 6 b5+ c6!

Instead, you would rely on reason and logic. You would end up playing alternative moves, such as the natural – but bad – 5 ... dx5?! or 5 ... dx5/6 ... d7?! Your lack of memory would punish you.

(b) Or suppose you decided to play the Berlin Defense to the Ruy Lopez (1 e4 e5 2 d3 d6 3 b5 d6) because you heard it has a reputation for being solid.

But if you didn’t memorize anything except the first few moves, all you might know is that 4 0-0 should be met by 4 ... dx5.

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The right way to study an opening

If White replies with the book move, 5 d4, would you figure out that the main line continues with the odd 5 ... \( \square d6 \)? I doubt it.

(c) And without memorizing, you would never know that a main line of the Vienna Game, 1 e4 e5 2 \( \triangle c3 \) \( \triangle f6 \) 3 \( \triangle c4 \), runs 3 ... \( \triangle x e 4 \) 4 \( \triangle h5 \) \( \triangle d6 \)!

Nor would you imagine that after 5 \( \triangle b3 \), the natural developing move 5 ... \( \triangle c6 \) leads to a forced rook sacrifice, 6 \( \triangle b5 \)! g6 7 \( \triangle f3 \) f5 8 \( \triangle d5 \) \( \triangle e7 \) 9 \( \triangle x c7+ \) \( \triangle d8 \) 10 \( \triangle x a8 \) ...

\[ \text{Diagram:} \]

Black to play

... and that Black has excellent compensation after 10 ... b6. So let’s make it clear:

Half of ‘studying the opening’ is memorization. Memory gives you the freedom to play auto-pilot moves. Those moves enable you to reach a point in the game where you feel comfortable to be on your own. The other half of ‘studying the opening’ is developing an understanding of what to do afterward.

Starting on a new opening

We don’t study openings, plural. We study one at a time. And when we begin to consider playing a new opening we need to get
our bearings. A good first step is to look briefly at a large number of games that were played in that line.

Finding and looking at those games is a lot easier today, and this explains why youngsters can master a new opening so much faster than the previous generations. Vishy Anand began playing chess when there were no computers or databases. He recalled what it was like: “You might look at four games or five games on a board. Now in that same time you used to look at five games you can look at 40 with your cursor key. It’s so much faster.”

When you start looking over games in a new opening, you should just be trying to get acquainted, trying to get a feel for it. You might spend only five minutes on each game.

Let’s see how you would approach the variation of the Vienna Game in which White fianchettos his king bishop, 1 e4 e5 2 d3 and 3 g3. Your initial search of a database would show you many games that continued 2 ... d6 3 g3 c6 and then 4 g2 c5 5 d3 d6.

You would discover that White often continued 6 a4 followed by knight-takes-bishop. For example, one of the earliest versions of this line that you would find went 6 ... 0-0 7 e2 e6 8 xc5 xc5 9 b3.

Mieses – Alapin
Vienna 1908
Black to play
By clicking through the moves on a screen or looking at bare game scores with a set and a board, you may not realize how good 6 \( \text{Qa4!} \) is. And you might not appreciate that 9 b3 is a nice way to stabilize the pawn structure and stop a potentially dangerous ... c4!.

Don’t worry. Those are the finer points that you’ll learn if and when you begin to study the opening more deeply. Right now you’re just trying to get a rough idea of the basic themes. You want answers to questions such as:

How does White win when he wins? Does he attack on the kingside? Or in the center?

Does he just accumulate small advantages? How does Black win when he wins?

How often does the game seem relatively even until the ending? (This last question is important if the opening requires more endgame skill than you have.)

Other questions you should get answers to are:

How often does the middlegame become very tactical? Does it seem like you have to calculate to find the best move? Or can you rely on a positional feeling instead?

And most important, would you feel comfortable playing White?

By the time you reached the position in the next diagram, you might have some of the answers. You could see, for example, that this opening can develop slowly, with relatively few tactics, and that White has more opportunities to open the position favorably.

This became clearer after the game continued 9 ... \( \text{Wd7} \) 10 0-0 \( \text{Sh3} \) 11 f4. White has the option of opening half of the f-file with fxe5 or gaining more space with f4-f5.

He had to allow a trade of bishops, 11 ... \( \text{gxg2} \) 12 \( \text{hxg2} \). But a White advantage began to appear after 12 ... \( \text{Se8} \) 13 f5!.
The right way to study an opening

It’s becoming clear what White can do in this opening. He threatens to build up slowly on the kingside (g3-g4, Qg3, e3, Qd2, f2, h1, g1 and g4-g5, for example).

Black’s counterplay is limited because the position is so closed. The situation remains more positional than tactical, and White doesn’t have to calculate much.

If you click through the next few moves, 13 ... f6 14 Qe3 b6 15 g4 g5 and then 16 h4! h6 17 Qh1! Qf7 18 Qd2 Qh7 19 Qh2 and Qah1, you’d get a pretty good idea of how this opening works – when it works well.

By the end of the game you’d see that White won primarily with strategy, rather than tactics, and he developed an attack thanks to positional moves like 13 f5!. Most important, you’d get a feeling for whether you’d like to play this opening.

When getting acquainted with an opening in this way, you’ll want to look at several games, perhaps as many as 20 in one sitting. You may also be tempted to look exclusively at recent grandmaster games. Don’t.
The right way to study an opening

The reason is that the best illustrations of an opening may have been played 30 years, 50 years, even a century ago. Back then the opening was new and instructive mistakes were being made. They aren't being made today.

In addition, grandmasters tend to play only the main lines of openings. But every opening has sidelines which are difficult to play against unless you are familiar with them.

For instance, suppose you are considering adopting the Exchange Variation of the Ruy Lopez, 1 e4 e5 2 d4 f3 d6 3 b5 a6 4 xxc6. Books usually devote 99.9 percent of their attention to 4 dxc6. But you will need to know what happens if an opponent replies 4 bxc6 because many non-masters retake that way.

If a book covers 4 bxc6 at all, it will tell you that it isn't an important move because it allows White to dominate the center after 5 d4! exd4 6 wxd4. But what if Black replies 6 f6?

If White allows a trade of queens, his control of the center will mean little. Should he avoid the trade with 7 wd3 or with 7 e5? The pawn move is tempting. But it turns out to be a gambit because of 7 ... g6, which threatens pawns at g2 and c2.

Both of White's moves are good enough to retain an advantage. You'll need to find the right games to illustrate them. But you'll find very few examples in recent games and/or master games.

White to play

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The right books

An alternative way to approach a new opening is to scan a book devoted to it. You don't have to buy the book at this point. You can just go to a bookstore, a library or a book concession at a tournament site, and examine the book there.

Glance through a few pages. See what it says about the opening's general characteristics. Focus on the words, not the moves. Edmar Mednis, a splendid teacher, said you should first get a "clear verbal description" of what the opening is all about. That's what good books can do and databases can't.

Some, but not all, books that cover a single opening manage to do this well. An example was a book about the Modern Benoni Defense (1 d4 \textit{d}f6 2 c4 c5 3 d5 e6 4 \textit{c}c3 exd5 5 cxd5) that was written by Andrew Kinsman in 2000.

The lion's share of the 143-page book was devoted to technical analysis of the main Benoni lines. That's for you to look at later, if you get serious about the opening.

What's important at this early stage is a verbal introduction to the Benoni, and this book did it well:

- It explained that the main Benoni feature is the imbalance in the pawn structure. White has an advanced pawn at d5, an asset. But in compensation a Black pawn controls d4 and he has a queenside pawn majority.
The right way to study an opening

— The introduction added that White’s most important pawn advance would be a well-prepared e4-e5. This could reduce the effect of the g7-bishop, would give White access to e4 for his pieces and may turn the d5-pawn into a powerful passed pawn.

— The book added that Black’s best pawn advance would be ... b7-b5 but he can also develop counterplay from ... f5 and ... fxe4.

— It was also pointed out that Black typically benefits from a trade of one pair of minor pieces because this reduces his space disadvantage.

— Further, the introduction said that a common change in the pawn structure occurs after Black has played ... a6 and White has advanced a4-a5. Then after ... b5 White can capture en passant. If we forget about several pieces for the moment, a typical Benoni middlegame might look like this:

![Chess Board]

The book explained that despite his isolated a-pawn, this is a good setup for Black. His pressure on b2 is at least as good as White’s pressure is on a6. That’s a sophisticated concept and one that it would take a Benoni player many games to figure out on his own.

All this, and a lot more, was said in five pages — an excellent preamble to one of the most complicated openings. This is the kind of material you should seek.
Tabias and goals

When you are ready to go beyond learning the general features of an opening, watch out. You are walking straight toward the minefield called Too Much Information. The opening’s main lines will likely stretch 10, 12, 14 moves or more. That’s a huge amount of material to digest.

It may seem that every position in a main line is a must-know. But you can set priorities. Among the positions you should familiarize yourself with most are those called tabias. They are the forks in the road of each major variation.

Let’s consider one of the main lines of the English Opening. After 1 c4 c5 2 ∇f3 ∇f6 3 ∇c3 Black has many options, beginning with breaking in the center, 3 ... d5, or developing with 3 ... ∇c6 or 3 ... e6 and ... b6. Each option will have its own main line.

One of the lines begins with 3 ... e6 4 g3 b6 5 ∇g2 ∇b7 6 0-0 ∇e7 7 d4 and then 7 ... cxd4 8 ∇xd4 0-0 9 ∇d1.

This is a tabia, a point of departure for the variation that began at moves 3-4. To be able to play 4 g3 with confidence if you are White – or to play 3 ... e6/4 ... b6 if you are Black – you have to know this position very well.
The right way to study an opening

Databases often contain thousands of games that reach the tabias of an opening. But then the storehouse of games branches off in different directions. For example, in this position the two biggest branches are 9 ... \( \mathcal{D}c6 \) and 9 ... \( d6 \). Less traveled branches are 9 ... \( \mathcal{D}c8 \), 9 ... \( a6 \) and 9 ... \( \mathcal{D}c5 \). These are the lines that you'll have to investigate when you become more serious about playing the variation.

Like most tabias this one is either 'roughly equal' or a 'slight advantage for White,' depending on which authority you believe. Besides the tabia, there is another kind of position you should be aware of when learning an opening. It is definitely not 'roughly equal.' Rather, it is an idealized position that you would like to reach if you are sitting in White's chair.

\[ \begin{align*}
\text{Black to play}
\end{align*} \]

This is what happens when White succeeds in exerting pressure against \( d6 \) It comes about from the tabia when Black plays 9 ... \( \mathcal{D}a6?! \) and allows 10 \( \mathcal{D}f4! \) \( \mathcal{D}c5 \) 11 \( \mathcal{D}d6! \). He has been stopped from playing the critical move, ... \( d6! \), which he usually needs in this opening.

While tabias are important to know because they are jumping-off points, positions like this are important to know because they show you what White can aim for – and what Black should avoid.
This position occurred in Suba – Ibanez, Badalona 1993, and led to a somewhat easy win for White after 11 ... \( \text{\textit{xd}6} \) 12 \( \text{\textit{xd}6} \) \( \text{\textit{ce}4} \) 13 \( \text{\textit{xe}4} \) \( \text{\textit{xe}4} \) and then 14 \( \text{\textit{d}4} \) \( \text{\textit{c}8} \) 15 g4!.

The threat of 16 g5 is strong because Black's knight defends both his bishop and the target pawn at d7. Black tried to dissolve the weaknesses with 15 ... \( \text{\textit{d}8} \) 16 g5 \( \text{\textit{e}8} \) 17 \( \text{\textit{f}4} \) d5.

But his kingside turned out to be fatally undermined by 18 \( \text{\textit{e}5} \) f6 19 gxf6 – and he was lost soon after 19 ... gxf6 20 \( \text{\textit{xe}4} \) fxe5 21 \( \text{\textit{xh}7} \) + in view of 21 ... \( \text{\textit{xh}7} \) 22 \( \text{\textit{f}7} \) + and mates.

If you find a book that gives you this kind of information – the tabias and the illustrations of successful strategy – as well as a clear, verbal outline of what the opening is all about, then it is probably worth your money and, more important, worth your time.

Next steps

When you go beyond tabias, you need to figure out what is worth learning about the opening. Or to be more exact, what isn’t.

This is because you will never be confronted with the problem of TMI more than when studying an opening.

If you open up an opening book you will see alternatives for one side or the other at every point in the main line. The alternatives will lead off into analysis or game citations that run five, ten or even 20 moves deep. Trying to digest all this just isn’t worth your time when you are just starting to learn an opening.

A good way to budget your studying is: Play through the moves of the main line of a chapter. But focus on the explanatory text. (If there isn’t any text – if it’s all just moves – then this isn’t the book for you.)

Don’t examine side variations yet. Look instead at the explanations of the main line moves. With them as a guide, you can try to figure out why this variation is played this way.
The right way to study an opening

Let's see how this works with a popular variation of the Sicilian Defense. Suppose you wanted to adopt the English Attack, which is characterized by White advancing pawns to f3 and g4 and playing \( \text{\textbackslash&}e3, \text{\textbackslash&}d2 \) and 0-0-0.

One of the main lines begins as a Najdorf Sicilian (1 e4 c5 2 \( \text{\textbackslash&}f3 \) d6 3 d4 cxd4 4 \( \text{\textbackslash&}xd4 \) \( \text{\textbackslash&}f6 \) 5 \( \text{\textbackslash&}c3 \) a6) and continues 6 \( \text{\textbackslash&}e3 \) e5 7 \( \text{\textbackslash&}b3 \) \( \text{\textbackslash&}e6 \) 8 f3 \( \text{\textbackslash&}bd7 \) 9 g4 \( \text{\textbackslash&}b6 \).

Mikhail Tal said that when he was a beginner he followed the principle "The more incomprehensible, the more interesting." When he was puzzled by a master's move, it piqued his interest. This is a natural place to be puzzled:

White is following the usual English Attack formula. But why did Black move a knight for the second time before developing his other bishop? And why is he blocking his b-pawn, which usually goes to b5 and b4 as a counter-attack?

These are the kind of questions you should be asking whenever you look at a new main line. You shouldn't look further, to move 10, until you get answers.

Fortunately, the excellent books on this opening provide them. Black wants to play ... d5 to obtain play in the center. That works faster than ... b5-b4. Now he has both knights and his queen lined up to support ... d5.
The right way to study an opening

So much for 9 ... \( \text{b6}. \) When you return to reading about the main line, you’ll find it goes 10 g5 \( \text{h5}. \) This is another point of obvious puzzlement.

Black cleared the d7 square with his previous move. Why didn’t the knight retreat to there, rather than going out on a limb at h5? Aren’t books always warning you against putting your knights on the side of the board?

If the book doesn’t explain the why of 10 ... \( \text{h5}, \) you may have to look further in the main line and try to figure it out by yourself. In this case you would see that one of White’s principle ideas in the English Attack is to open up the kingside with h2-h4-h5 and g5-g6.

That gives you some answers. By posting his knight on h5, Black stops the advance of the h-pawn. In addition, there is a tactical reason, after main line moves such as 11 \( \text{d2 \text{c7 12 0-0-0 \text{c8}}}. \)

![Chess Board]

*White to play*

The consistent move would seem to be 13 h4. However that would allow 13 ... \( \text{g3}!. \)

The knight forks White’s rook and bishop. After 14 \( \text{g1 \text{xf1}} \) Black’s other knight is free to land on the golden square c4 when it wants to. Thanks to 10 ... \( \text{h5}, \) rather than 10 ... \( \text{fd7}, \) Black stands well.

Only after you understand a bit about the last two diagrams and more about the main line should you go back and look at the side
The right way to study an opening

variations. That’s when you can examine Black’s alternatives along the way, such as 9 ... h6 or 8 ... ëe7.

If, however, you try to learn an opening in a linear manner – studying everything there is to know about move 9 in the main line before moving on to move 10 – you will be sidetracked by side lines. You may give up in frustration before you get to move 11.

Another point worth considering: Many of today’s opening books use illustrative games as a framework. But you may find better explanations – in words rather than just moves – if you consult other sources, such as the best-games collections of masters.

For instance, it’s hard to find a better explanation of the Queen’s Gambit Declined line that runs 1 d4 d5 2 c4 e6 3 ëc3 ëe7 4 cxd5 exd5 5 ëf4 c6 6 e3 ëf5 than Mark Taimanov’s comments. They appeared in his best-games collection and in the tournament book of Leningrad 1973.

By delaying ... ëf6, Black avoids the more complicated and traditional 3 ... ëf6 4 ëg5 variations, he explained. Black’s move order also helps solve the problem of what to do with his QB, which rarely gets a chance to occupy the b1-h7 diagonal in other versions of the Queen’s Gambit Declined.

\[\text{White to play}\]

But ... ëf5 also allows White to try the double-edged 7 g4, which gains space and time at the cost of loosening his position.
Taimanov pointed out that 7 ... g6 8 d3 d7 9 h4 and then 9 ... h5 10 g5 gives White control of a big chunk of the kingside and leaves Black with a problem of how to develop his KN and KR.

Instead, Black played 7 ... e6, and there followed 8 h3 f6 9 d3. Both players are violating the 'knights before bishops' rule. White does it because he hasn't decided whether to play f3 or e2-g3, Taimanov wrote.

Then, after 9 ... d6 10 ge2 h6?, White gained time with 11 wb3 by attacking the b7 pawn. Black had to choose between the weakening 11 ... b6 and the 11 ... c8 retreat. He chose the latter, and after 12 0-0-0 White had won the battle of the opening – and soon the game as well. Without going deeply into sub-sub-variations, the author had provided excellent insight into how this variation is played.

Detours

After you’ve learned about the main line tabias, you will want to know what your opponents can do to stop you from reaching the tabias. But you don’t have to know every possible detour. This leads to TMI. You just want to know the important ones, the ones that are likely to occur.

How do you know what’s likely? You can check databases and see what is played and what isn’t. Chessplayers are creatures of the habit of the herd. If most of them have been playing, say, 9 ... b6, rather than 9 ... d7, to avoid the main line of the Such-and-Such Attack, it’s likely that your opponents will, too.

But fashion changes. That’s the nature of fashion, and when it changes you will need to find ways to avoid the newly popular detours. For example, when I was learning chess, I played the Dragon Sicilian as Black. I met 1 e4 c5 2 d3 with 2 ... c6 3 d4 cxd4 4 xd4 g6.
The right way to study an opening

Then after 5 Qc3 I continued 5 ... Kg7. In the vast majority of my games I reached a tabia I liked after 6 Ke3 Qf6 7 Kc4 0-0 8 Kg3 d6 9 f3 Kd7. This led to middlegames I enjoyed playing.

I was able to reach my tabia for several years because my opponents almost always played 5 Qc3 and the other moves. After all, that was what the grandmasters played, so they copied the GM moves.

But then my opponents began to prefer 5 c4, the Maroczy Bind. Fashion had changed.

In addition, I was facing stronger opponents who happened to be more positionally minded than the ones who played 5 Qc3 against me. That was when I realized I didn’t like defending against 5 c4. I was in danger of losing my way to my tabia.

Fortunately, there was a remedy. I learned a different move order. With 2 ... d6, instead of 2 ... Qc6, I could meet 3 d4 cxd4 4 Qxd4 with 4 ... Qf6 5 Qc3 g6.

In this way I was able to head toward my tabia from a different move order – 6 Ke3 Kg7 7 f3 Qc6 8 Qd2 0-0.
The right way to study an opening

White to play

I would reach the tabia soon after 9  \( \text{c4} \), the move recommended in most books of that day, and then 9 ...  \( \text{d7} \). This gave me a new lease on the Dragon Variation.

But the lease expired when fashion changed once again. More and more of my opponents preferred 9 0-0-0!? . I didn't like the positions that came out of that.

And, when I couldn't find another move order to reach the tabia, I had to give up on the Dragon. It was sad to see it go.

Leaving the station

If you are like most players, you have two basic goals when you study the opening:

(a) You want to delay the point in a game when your book knowledge ends, and

(b) You want to prepare yourself well to carry on from there.
The right way to study an opening

Memorizing moves is a key element of (a). But it doesn’t work in (b). Instead of specific moves, you need general ideas of what to do next.

A good analogy is what happens when you emerge from a train station. As you leave the train, you know that this stop was your destination. You were supposed to get this far. You can be confident that you haven’t made a mistake yet. But in which direction do you head now?

Let’s suppose the train you choose is the Sveshnikov Variation of the Sicilian (1 e4 c5 2 d3 d5 3 d4 cxd4 4 dxd4 d6 5 c3 e5). You decide that this will be your main weapon as Black against 1 e4.

You follow the previous steps suggested in this chapter and learn, for example, that a tabia arises after 6 d5 d6 7 g5 a6 8 a3 b5, when White makes a basic choice between 9 d5 and 9 xf6.

In addition, you learn that a main line runs 9 d5 e7 10 xf6 xf6 11 c3 0-0 12 c2 g5 13 a4 bxa4 14 xa4 a5. You memorize the line this far, after learning why each move is played.

This is your station, a kind of unofficial end of the opening. You want to know what your options are, expressed in terms of goals, maneuvers and plans.

What the books will tell you is that White has a broad choice of how he develops his other pieces and what he does on the
queenside. He could bring out his KB to e2, c4 or b5. And if he chooses 15 \textit{c}c4, then after 15 ... \textit{b}b8 White can meet the threat of 16 ... \textit{x}xb2 with ideas such as 16 b3, 16 b4, 16 \textit{w}a1 and 16 \textit{a}a2.

But you are not looking for specific replies to each of these White options. That would require too much additional memorizing. Instead, you need to grasp what David Bronstein called the “positional essence” of the situations that arise. Looking at the diagram, we might sum up the essence by saying:

White has more space. He controls a terrific outpost at d5. He should try to continue to occupy it with a minor piece, preferably a knight. White may try to pressure the pawns at a5 or d6. But a kingside attack seems unlikely to succeed.

We must also consider Black’s assets. He is at least as well developed as White. He can attack the b- and e-pawns and perhaps target the king as well. He has the two bishops. But one of his bishops is ‘bad,’ and trading it for a knight may make sense.

By playing over master games that continued from the position in the diagram you would learn more about what Black can do:

His rooks usually get into action via ... \textit{b}b8 and ... \textit{f}5 followed by a trade of pawns. He typically fights for control of d5 by putting his QB at e6 or b7, and watching for a good moment to play ... \textit{e}e7 and ... \textit{x}xd5. Master games will also show you how White typically reinforces that knight with \textit{c}e3 – and that Black often does well by eliminating that knight with ... \textit{x}xe3.

That’s a lot of ground to cover. But it makes sense that when you are entering the middlegame, there are going to be a lot of options for both White and Black.

One final point about book lines: As you go deeper and deeper into a variation, you will encounter fewer explanations of why moves are good or bad. The evaluations will be based largely on very recent successes and failures of particular moves. If White won a game with a new move, it will be called a good move. But this reputation may last only until the next improvement for Black.
The right way to study an opening

Kiryakov – Notkin
Maikop 1998
Black to play

The board tells you this is an endgame. But in the minds of the players it was still an opening because they were still relying on memory. This factor turned out to be fatal for Black.

He said afterward that if his book knowledge had ended earlier he would have had to rely on understanding. Then he would have chosen a common sense move, such as 1 ... $e8 to activate his king. "I would hardly have decided on such an anti-positional move" as 1 ... $xc1+, he wrote.

The rook trade is bad on the face of it because it gives up control of the only open file. Nevertheless, this is what Black played — 1 ... $xc1+ and then 2 $xc1 $b4 – because these had been played before.

Annotators had written that Black stands well because he threatens the a-pawn. After 3 a3 Black obtains good counterplay with 3 ... $a2! 4 $c7 $c3, they said.

What Black hadn’t counted on was his opponent could respond with a new move that ignored the threat.
What changed matters was 3 $d2!$. Then 3 ... $xa2 4 $c2 would trap the knight and win it.

Black chose the feeble 3 ... a5, got a bad game after 4 a3 $d3 5 $c6, and eventually lost.

Questions, questions

Now let’s tackle some questions that students always ask.

What are the best openings to study?

You might as well ask what are the best to play. The answer to both questions is ... there isn’t any correct answer. At least not today.

In the late 19th century, masters believed there was an answer. They said 1 e4 was the best way to start a game. But the next generation disagreed. It insisted 1 d4 was superior. Then it was 1 c4’s turn to come into fashion, as well as 1 $f3.

Today we know there is no best opening move. Moreover, all the major defenses to 1 e4 and 1 d4 are equally good at the amateur level.
Most beginners will find 1 e4 when they are White and the reply 1 ... e5 when they are Black to be the easiest to understand in terms of strategy and the best way to develop their tactical vision. But that doesn’t make them better than the alternatives.

How many openings should I know? How should I budget my study time?

To compete in tournaments, you really need only one weapon as Black against the popular first moves. It’s nice, but not necessary, to have a backup.

You need to have an answer to 1 e4, 1 d4 or 1 c4 and to be quite familiar with your chosen defense. The other first moves, such as 1 g3 and 1 d3, arise much less frequently and should demand less of your attention.

When you have White, you need to be familiar with how to play against half a dozen or so defenses. Some defenses are so much more popular that they demand the greatest attention.

For example, if you play 1 e4, you can count on most of your games continuing with either 1 ... e5 or 1 ... c5. You should devote less time to the Alekhine’s, Caro-Kann, Pirc or Center Counter Defenses. They simply don’t occur often enough for you to worry about them until you’re much stronger, say above 1800 strength.

What about an opening I already know something about? How do I improve my play?

You should try to expand on your knowledge by a small amount, even just one more move.

You can do this after a weekend tournament by collecting your scoresheets and reviewing your games. Even better is to look over a game shortly after it is ended. “The best time to study an opening is immediately after a game because then the stimulus to learn is at its peak,” wrote Tim Harding and Leonard Barden.

Suppose you just played a game as Black that began 1 e4 c6 2 d4 d5 3 c3 dxe4 4 cxe4 f5 5 g3 g6. These are all very common moves.
You knew that against 6 .gf3 you should play 6 ... .d7. But White surprised you with the rare 6 1e2!?

This is where your book knowledge ran out. Not knowing what to do, you replied 6 ... .d7.

This turned out OK because play went 7 .f4 e6 8 .c4 .gf6 9 .xg6 hxg6. You were happy with that position.

If you wait a week or two you might forget about what happened. After all, you did get a very playable middlegame, didn't you? But if you tackle the position right after the game, there is more incentive to learn. And you find out there is something to learn.

If you look up 6 1e2 in a book you would discover that 6 ... .d7?! isn't quite right. Instead of the move your opponent chose, 7 .f4, he could have played the stronger 7 h4!, threatening 8 h5. Then 7 ... h6 8 .f4 .h7 9 .c4! sets the table for a dangerous sacrifice on e6.

This is how you would realize that you should know more about 6 1e2. If you work on the position with the help of books, you'd discover that there's a simple way to avoid all sorts of trouble, in this line as well as the similar 6 .c4/ 7 1e2 variation.

What you would learn is you need to be able to answer .f4 with ... .d6! and attack the knight with ... .c7. For example, 6 1e2 e6! and then 7 .f4 .d6.
The right way to study an opening

After 8 h4 c7! or 8 c4 c7! Black threatens to win a piece with 9... xf4. As a result, White doesn’t get a chance to threaten a sound sacrifice. Black should be able to equalize.

The point here is to expand your knowledge gradually, one move at a time. You don’t have to adopt a new variation or look seven moves into the future after 6 e2. The next time you face it and you reply 6 ... e6 7 f4 d6, you can go back to the books and learn a bit more.

What kind of hands-on training should I consider?

We’ve already mentioned playing correspondence games, preferably on turned-based Web sites. Another approach is to play practice games over the board.

Find an opponent of roughly your strength who wants to learn the same opening. Agree beforehand that each game will start at a tabia or some other point.

Play several games at one session, at a somewhat speedy pace, say 10 to 30 minutes for all your moves. At the end of each game spend a few minutes talking about the opening with your opponent. Don’t play at a much faster rate because the games will be decided by tactics and intuition. This won’t teach you much about the opening you’re trying to learn.
How much ‘book' do I need to know?

Another way of asking this is “What do I really need to memorize?” The best answer may be “The sharper the line, the more you need to know.”

If you see a variation which seems to have a lot of tactics, forced moves and threats it is probably one that requires knowing a lot of book moves by heart.

Take the Semi-Slav Defense (1 d4 d5 2 c4 c6 3 Qf3 Qf6 4 Qc3 e6 5 e3 Qbd7 6 Qd3) as an illustration. If you’re considering adopting it as Black, the answer to “How much book ... ?” will depend on your next move.

If you like to play 6 ... Qd6, there is only one variation that you need to memorize past move 10. That line begins with 7 e4, which threatens 8 e5. Then comes 7 ... dxe4 8 Qxe4 Qxe4 9 Qxe4 0-0 10 0-0.

To play this variation with confidence you need to know this line well because:

(a) There are limited ways for Black to equalize,

(b) Black can easily get a very bad game if he plays otherwise, and

(c) The natural 10 ... e5? is a mistake. (It’s punished by 11 dxe5 Qxe5 12 Qxe5 Qxe5 13 Qxh7+! Qxh7 14 Wh5+ and 15 Whxe5.)
The right way to study an opening

But aside from 7 e4, the theory you need to know to play 6 ... d6 is fairly small.

It is quite a different story if you play 6 ... dxc4. Then you'll need a huge memory bank. The reason is you are headed into the mega-theory of the Meran Variation (7 dxc4 b5 8 d3 a6 9 e4 c5 are the almost mandatory moves).

To play the Meran with confidence you'll need to memorize at least as far as move 15 in several 10 d5 lines. The same goes for several 10 e5 lines. That's a huge amount.

What if I have a poor memory?

Russian master Grigory Levenfish told his students with a poor memory to "rationally limit yourself to a narrow opening repertoire." He didn't give examples, but it isn't hard to work out a 'bad-memory repertoire.'

If you don't care about whether you get a significant edge as White, you can virtually dispense with memorizing and play a set of super-safe moves. For example, 1 d3, 2 g3, 3 g2, 4 0-0, 5 d3 and 6 dbd2. Your basic way of creating play is to push the e-pawn, perhaps supported by e1.

Another system is based on 1 d4 followed in some sequence by d3, f4 or g5, e2-e3, c2-c3, d3 and dbd2. You can get play from e3-e4, usually supported by the queen at c2 or e2.

As Black, a bad-memory repertoire comes at the risk of getting a cramped game. One example is 1 ... g6, 2 ... g7, 3 ... d6 and later d7, b6, b7, and e7.

One final point. It may also be possible to stretch your memory muscles by doing mental exercises. So far, the evidence is purely anecdotal but ...
When Magnus Carlsen was 5 he reputedly memorized the area, population, flag and capital of all the countries of the world. The young Anatoly Karpov memorized the year and location of all of the Olympic Games since 1896. As a boy Garry Kasparov memorized Russian poems and, later, the capitals of all 50 American states. And they turned out to be pretty good players.
Chapter Five: Two-and-a-half move chess

Every student hears tall tales of grandmasters who can look 10, 15 or 20 moves into the future. A GM annotating one of his games may claim he visualized the winning ending while he was still in the early middlegame. Or when he was in the late opening. Or when he was having breakfast that morning.

You should be skeptical about the way GMs embellish. But what is more important is knowing that you don’t have to look far in your own games:

Most of the time you can find a good move – if not the best move – with a low level of calculation. How low? Two and a half moves into the future.

You already know that when you consider a candidate move you should try to foresee your opponent’s best reply. This means seeing one full move into the future.

The 2½-move guideline means that in the majority of cases you can confirm that the candidate is good by seeing no more than another one and a half moves beyond that.

For example in the following position White can come to a very quick conclusion about some candidate moves that suggest themselves here. He looks first at the available captures and sees that 1 ♖xg5 allows 1 ... ♖xd1+. He doesn’t have to look much further than that – one full move into the future – to conclude that 1 ♖xg5?? is terrible.
A good player also knows he should also examine the available checks. But 1 \( \texttt{Wd6+} \texttt{\texttt{Qg8}} \) doesn't help White. Moreover, 1 \( \texttt{Wd8+} \texttt{\texttt{Xd8}} \texttt{\texttt{2 Xd8+}} \) is not mate because of 2 ... \( \texttt{Xd8!} \).

White was attracted to another candidate, 1 \( \texttt{Xb8} \). He saw that some Black replies to it would allow him to come to a conclusion about 1 \( \texttt{Xb8} \) very quickly. For example, 1 ... \( \texttt{Xd2} \) would allow 2 \( \texttt{Xxc8} \) mate. This line lasts one and a half moves into the future – that is, two moves by White and one by Black.

But White also had to check out replies to 1 \( \texttt{Xb8} \) that take longer to evaluate. After 1 ... \( \texttt{gxf5} \) White has to play 2 \( \texttt{Xxc8+} \). However, there isn't much more to see because 2 ... \( \texttt{g7} \) allows 3 \( \texttt{Xg5} \) mate and 2 ... \( \texttt{e7} \) invites 3 \( \texttt{Wd6} \) mate. Both variations last a total of two and a half moves.

Finally, White had to look at one more possibility, when Black answers 1 \( \texttt{Xb8} \) with 1 ... \( \texttt{Xxb8} \).
He saw that 2 ♪d6+! is much stronger now than it would have been at move one because on move three White will play the killing 3 ♪xb8+. This is another line that lasts two and a half moves. (Black saw the same variations and resigned after 1 ♪b8!.)

No one knows what the precise relationship is between the ability to look ahead and overall playing strength. But research on chess-playing computers gives us a rough idea. When the early program Belle could see four full moves into the future it was playing at master strength. So, it is reasonable that 2½ moves is good enough to play at the level of a respectable amateur.

Calculating further than 2½ moves becomes important only when the position is very tactical. It is the position, not the opponent, that determines how far you should try to see. Just because the person sitting opposite you is a calculating wizard doesn’t mean you have to look far. Nor does it mean that he will profit from being able to look farther than you.

If you’ve seen games of the Kasparov-Karpov matches, you might get the impression that every move was based on seeing 12 moves ahead. After all, it was ‘the calculating genius of attack versus the great calculator of defense.’ Yet some of their games were like this one.
Two-and-a-half move chess

Karpov – Kasparov
World Championship match 1990
White to play

First, let's do a simple tactics check. Are there any dangerous checks, captures or double attacks?

The answer is no. Black's pieces are protected, and 1 \texttt{Wxa5??} would lose material. And if it were Black's turn to move, 1 ... \texttt{xa2??} would drop a piece. Also 1 \texttt{xe7 Wxe7} 2 \texttt{xa5 xd3} is fine for him.

This indicates that the only thing White needed to calculate was whether Black is threatening 1 ... \texttt{xd4}. White quickly saw that this would lose a piece after 2 \texttt{xc4!}. For example, 1 ... \texttt{xd4??} 2 \texttt{xc4! xc4} 3 \texttt{xd4}.

So, White concluded the position was quiet and he could afford to improve the position of his pieces, with 1 \texttt{bc1!}. He intended \texttt{b1}, which prepares ideas such as d4-d5 followed by \texttt{d4} or e4-e5.

Black stopped this plan with 1 ... \texttt{xd3}. This is a good move that also clears c4 for his knight, which wasn't doing much on a5.

Of course, White considered 2 \texttt{xd3}. But he played 2 \texttt{xc8!} when he saw that 2 ... \texttt{xc8} 3 \texttt{xd3} would misplace Black's queen. It no longer defends the attacked e-pawn and can be harassed by a useful \texttt{c1}. The game continued 3 ... \texttt{e8} 4 \texttt{c1}.
Two-and-a-half move chess

What about Black’s thinking? He hasn’t had much to calculate so far, certainly nothing that runs more than two and half moves. The position didn’t let him.

For instance, he may have looked at 4 ... \textit{c}c6??. But he didn’t have to look much beyond 5 d5! before rejecting it.

He must also have concluded that 4 ... \textit{c}4? 5 \textit{d}d2 was good for White. And it’s very likely he looked at 4 ... \textit{d}d7 but saw that 5 \textit{a}a3 creates a problem (5 ... \textit{c}c4 6 \textit{xa}6).

Black played 4 ... \textit{b}b7. This makes no threat, so White again had a free hand. He chose 5 d5, which creates an anchor for a White knight at c6 and raises the possibility of making a passed pawn (e4-e5 and d5-d6).

To play 5 d5! White must have looked at two sharp replies. First, he saw that 5 ... \textit{c}c8 is refuted by 6 \textit{xc}8+ and 7 \textit{xe}7.

The alternative, 5 ... \textit{c}c4, is trickier. White can offer a favorable trade with 6 \textit{d}d2!. Then the only complication is that 6 ... h6 requires a closer look in view of 7 \textit{f}4 e5, e.g. 8 \textit{e}3 \textit{xe}3..
In any event, after White played 5 d5!, Black exchanged knights, 5 ... \textit{c}c4 6 \textit{d}d2 \textit{x}d2 7 \textit{x}d2.

White was looking forward to using the bishop at a5 or c3. He was also eager to play the space-gaining \textit{c}6.

After Black replied 7 ... \textit{c}c8, White wondered if he could justify 8 \textit{c}c6 tactically. He found the answer in 8 \textit{c}c6 \textit{xc}c6 9 dxc6 \textit{xc}c6, and now 10 \textit{wd}8+ \textit{f}f8 11 \textit{h}h6! followed by mate on f8.

This is one of the few times in the game when he couldn’t have found the best move with less calculation. But he still could have found a good move, like 8 \textit{c}c5 or 8 \textit{f}f1, without doing any real calculation at all.

After White played 8 \textit{c}c6! Black answered 8 ... \textit{e}e5. White took the common-sense approach of trying to eliminate the bishop, 9 \textit{c}c3!. Black decided to keep it on the board with 9 ... \textit{b}b8.

White then tried to use the diagonal Black had abandoned with 10 \textit{wd}4. Black had to play 10 ... \textit{f}f6 to avoid mate on g7 or h8. Not much calculation necessary for these moves.
You know that your position is getting really good when you examine a candidate move and quickly find variations that lead to an ‘and wins’ evaluation. That’s what is happening to White here.

He wanted to play 11 a5! because it controls the c7-square on which Black had hoped to form a blockade. He confirmed it was good when he found an ‘and wins’ line – 11 ... xc6 12 dxc6 xc6 13 d8+, forking king and bishop.

Black replied to 11 a5 with 11 ... d6. Then on 12 c3! he answered 12 ... e8 because he saw how bad 12 ... xc6 13 xc6 or 13 dxc6 would be.

The calculation in this game was more or less over. White has such a dominating position he doesn’t have to calculate. He spent the next several moves just trying to limit Black’s pieces – 13 a3 g7 14 g3 e5 15 c5 h5 16 c7! a1 17 f4 d7 18 c7 d8.

The game ended with 19 d6 g5 20 d7! f8 21 d2 e5 22 b7 resigns. Black decided to give up when he calculated an ‘and wins’ variation that he couldn’t avoid – 23 a5! xa5 24 xe7+ g8 25 d8(+) and 26 g7 mate, or 24 ... f7 25 xf7+! xf7 26 d8(+)++. But there were other ways for White to win without calculating those lines.

Now let’s sum up what we saw. White had to choose 22 moves since the first diagram. In all but two cases he could have found a good, if not the best move, by looking no more than 2½ moves
ahead. Only on two occasions, 5 d5 and 8 Ec6, did he need to see further to make sure the candidate move he wanted to play was the best move.

**Improving your look-ahead**

Calculation consists of two skills – looking ahead and accurately evaluating what you see. The first one is the easier to improve. Some methods involve strengthening your general powers of visualization. They begin with:

**Bolstering your board feeling**

Board feeling is a hard-to-explain sense of the chessboard that all good players acquire. You may already have board feeling and not know it.

You have it if, for example, someone mentions a square like e6 or a7 and you can tell, without looking at a diagram or a board, whether is it a dark or light square.

If you don’t have board feeling – and no one is born with it – you can develop it with practice. Here are typical exercises:

Close your eyes and visualize White’s queen rook at the start of a game. Try to think of what color that square, a1, is. (If you can’t, take a quick peek at the board and then close your eyes again.)

Then think of the long diagonal that leads from a1 to h8. Try to visualize each square on the diagonal and name it. Then try the same exercise with the other long diagonal, from a8 to h1.

Another exercise is similar. With eyes closed, try to see d1, the square that the White queen stands on at the beginning of the game. What color is it? What’s the color of the square of White’s queen bishop? Black’s kingside knight? White’s c-pawn? Black’s g-pawn? And so on.
Two-and-a-half move chess

Of course, your eyes will be wide open when you calculate. Yet board sense and overall playing strength seem to be closely related. All strong players appear to have excellent board sense, perhaps because it's a component of "blindfold" play. That leads to another way to improve general visualization power:

**Exercising your mind's eye**

Suppose you are White and thinking of moving a knight from e2 to f4. To look further ahead you have to forget about the position in front of you and imagine a new one with the knight on f4.

You temporarily store the new position in your mind. But if you consider an opponent's reply, such as ... ♖d6, you replace the stored position with another one in which the Black bishop stands on d6.

You may not realize it, but this is a rudimentary form of blindfold chess. Another thing you may not realize is that this is one of the easiest skills to work on in chess.

Here's a proven – but also a difficult – method of improvement. It was cited by Russian educator Alexey Bartashnikov in 64 magazine.

This requires the help of a second person, such as a friend or teacher. In the easiest version, the student can look at the position.
shown here. In a harder version, he is shown an empty board and is told verbally where the White queen, rook, knight and bishop are.

The drill begins when the second person announces a move, “Rook to e3.” Each move in this exercise will create a new situation in which a piece protects another piece. The student has to figure out what each move does, without sight of the board.

For example, the correct answer to 1 e3 is “The rook is now protected by the knight.” If the student gets it wrong, the assistant corrects him.

Then the assistant goes on to the second move. He says, “Knight to f6.” Once again the student has to visualize the move and figure out what it does. (The answer is it puts the knight under the protection of the bishop on d8.)

This is repeated for several more turns. What is happening is the student is temporarily storing and then discarding more and more positions in his head. This is what looking ahead is all about.

You can make this a short training session or a long one of ten or more moves. Here’s the rest of the first ten cited by Bartashnikov:

3 b6, 4 a3, 5 f4, 6 d7, 7 c7, 8 f3, 9 e5, 10 f4.

Depending on the energy and attention span of the student, the training can continue with another 10, 20 or 30 moves – such as 11 d3, 12 b8, 13 e3, 14 d5, 15 a6, 16 d7 and so on.
Two-and-a-half move chess

Bartashnikov gave test subjects a battery of 40 moves in a single session. He let the students find a comfortable pace for replying. Students who were rated under 1800 were able to give six to seven answers a minute. They averaged eight to 10 mistakes out of the 40 moves.

By testing other students, he discovered that skill in this exercise is related to overall strength. Stronger players are faster and more accurate:

Those rated 1800 to 2200 gave eight to ten answers a minute and made six or seven mistakes on average. Those rated 2200 to 2300 answered 11 to 12 moves a minute and reduced the number of errors to four to five. Players rated above 2300 averaged 16 to 19 moves a minute with only two to three errors.

You can modify this exercise in many ways. For example, you can start with only two or three pieces, rather than four. You can limit the exercise to five, ten or 15 'moves.'

Like other look-ahead drills, this is pure visualization: There is nothing to evaluate in any of these positions. Another way to improve is:

Try to solve endgame compositions

Students often grow up with a hatred of composed problems. To them, a 'White to mate in three' problem is too contrived, too difficult and a waste of too much time.

But studies – the compositions with tasks of 'White to play and win' or 'White to play and draw' – are different. The initial positions may look artificial. But they can be good training devices. Even fairly inexperienced students can benefit if a study has few pieces. Here's one composed by Max Euwe.
At first it looks easy – 1 a6 and 2 a7 must win immediately, right?

No, it will take longer than that because Black can exploit the position of White's king. He can answer 1 a7 with 1 ... c5 and 2 ... a4+, and get his knight to b6. It will control the queening square just in time. Similarly, 1 ... a5 followed by 2 ... c4+ and 3 ... b6.

To solve this you will have to look as many as seven moves into the future. But White can only choose between a king move and a pawn move at each turn. This simplifies matters considerably.

And once again, there is no evaluation, the harder part of calculation. You can't stop at some point and say something like "White has the better of it." In a study like this you visualize ahead until you can say "and White wins." As Mikhail Botvinnik wrote, "There are no positional assessments in studies." (Solution at the end of the book.)

Of course, the last example was fairly simple. Most studies are much too complex for the typical amateur, especially if he tries to solve it 'blind.' But a student can simplify the task, by looking at a study after the first or second move.
Two-and-a-half move chess

If you examined this position for several minutes, you would likely look at both 1 ♞a8+ and 1 ♞b5+ since they are forcing moves. But neither leads to anything concrete (1 ♞b5+ ♙d8 2 ♙d7+ ♙c8 or 2 ♞a8+ ♙e7).

If you look further you might notice that White has a winning idea in 1 ♞c5 and 2 ♙d6 because then he threatens ♞a8 mate.

Unfortunately, Black has a simple defense in the form of 1 ... f5!. Then 2 ♙d6 is refuted by 2 ... ♙f6+.

This means the study is much harder to solve. But this doesn’t mean it is useless to the student who is trying to improve his look-ahead skill. Once he comes to a dead end – after seeing that 1 ♞c8+, 1 ♞b5+, 1 ♞c5 and other moves fail – he should look up the first move of the solution and try again.

In this case, he sees the solution begins with 1 ♙f5!!. That doesn’t seem to make any sense. But if you think about it, you realize that it stops the 1 ... f5 defense to 1 ♞c5. After Black replies 1 ... gxf5 the student takes another look:
In this way the study, by Josef Hasek, has been reduced to a form that is student-friendly. Amateurs will find it much easier to work out the solution from here on. If they're still stumped they can also look at the second move of the solution. (For the full solution, see the end of the book.)

When using compositions to improve your look-ahead skill, it's best to start with studies that have fewer than six pieces and pawns. Once you're able to solve most of them, you can take on busier boards, with six, seven or eight pieces and pawns. Alexander Nikitin, mentor of Garry Kasparov, said he preferred exercises that required the solver "to look at the whole board, from a1 to h8."

Another way to hone your look-ahead skill is:

**Try 'Bat Chess'**

When Tigran Petrosian was young he recognized that calculating was one of his weaknesses. He also knew that he should work on his weaknesses rather than his strengths.

"What helped me was the habit of reading chess books without a board," Petrosian later recalled. "I tried to follow the moves from one diagram to the next."
He was using a form of 'bat chess' – as in blind as a bat. This is a more ambitious form of blindfold play than the visualization drills mentioned earlier because it involves many pieces. Yet most students can handle simple forms 'bat chess' if they take it very slowly.

You don’t need fancy chess software for this. You can do it with books or one of the databases readily available on the Internet. With a book, you start by finding games with lots of diagrams. There shouldn’t be more than three moves between diagrams. If you can’t find games like that, try an opening book. They often have diagrams separated by just one full move.

Look at the first diagram and try to follow the bold-face moves, the ones actually played, until you reach the next diagram. If that diagram looks wrong when you reach it, you must have made a mistake. Go back to the previous diagram and do it over.

When you’ve been able to go through entire games or chapters of an opening book you should be ready for examples in which there are more moves between diagrams. Over a period of months you may find you can expand your ‘bat chess’ vision to several moves.

With a database, it’s even easier. Choose a game on a site like Chessgames.com or Chesslab.com. You can see a score of the moves as you go along. Suppose the game begins with 1 e4 c5 2 liJf3 ltJc6. Try to visualize that far and stop. Then click through those two moves and see if the resulting position is what you saw mentally.

Go on from there by reading and then visualizing the next two moves. If you can handle three moves at a time, all the better. The goal is to get through an entire game. The quality of the moves doesn’t matter. You aren’t being asked to choose the moves, just to visualize them.

Some grandmasters, like Alexander Belyavsky, keep in good calculating shape through a more rigorous routine. They play through an entire game using just the score. They don’t have
diagrams or allow themselves to refresh their mind by looking at the current position on a computer screen. (If you try this, you may find it is easier to go over a game when you have an empty board to look at.)

Some teachers take this a step further and recommend that their most talented students play their own games blindfolded. This is extremely hard because it requires you to think about finding the best moves, rather than just trying to follow someone else’s moves.

In blindfold chess, positional thinking seems to suffer the most. Players ‘see’ tactics better, apparently because they recognize patterns even when they can’t look at the board.

Eljanov – Grigoriants

*Black to play*

This was played in a seven-round blindfold tournament organized during a Russian training session and reported in 2002. Black found a well-hidden tactic because he recalled a pattern.

After 1 ... d5! 2 exd5 exd5 3 cxd5 Black can play 3 ... Qf4! and eventually captured on e3 with a big advantage.

This is based on the pattern of exploiting the g1-a7 diagonal with ... Qc5. The key line is 4 fxg4 Qxg4 5 wF4 Qxe3 since 6 wxe3 is met by 6 ... Qc5.

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Two-and-a-half move chess

As this indicates, there are various forms of bat chess, some much more rigorous than others. But even a casual student should be able to find one that he is comfortable with.

Kotov, Improved

One of the traditional ways to work on calculation was recommended by Alexander (Think Like a Grandmaster) Kotov. Select a double-edged position and set it up on a board. Give yourself half and hour or so:

(a) Try to figure out what the best move is,

(b) Analyze enough to guess at what the likely continuation will be, say the next two moves by each side, and

(c) Come to some conclusion as to who stands better in the initial position.

Once you’re done, see what was played in the game. Try to figure out why your answers differ from the game.

Today’s players will probably find it easier to do this with a computer. Kotov did it with a book, covering over the rest of the page while he analyzed. In either case, the basic rule is to try to come up with the right move without moving the pieces. If you analyze first and then move the pieces to get a better perspective, that’s OK. But if you get into the habit of moving the pieces while you calculate, you won’t develop look-ahead skills.

You will probably want to start with relatively simple positions, plucked from books or other sources, and work your way up to ‘double-edged’ ones. A good source for ‘double-edged’ positions are encyclopedic opening books. You’ll find variations analyzed out until the position is declared ‘unclear’ or ‘with chances for both sides.’ Here’s one that appeared at the end of a Sicilian Defense column in Modern Chess Openings.
There are no good forcing moves here and more than one reasonable candidate. You should try to find a reasonable way to continue, calculating what you can. One of the advantages of using opening books as a source is that you may be able to find the rest of the game in a database and see if play developed along the lines of your analysis.

And a final way to improve your look-ahead ability:

**Play Checkers**

This is serious. Playing checkers is good visualization practice because this game relies much more on calculation than chess does. This was endorsed by Kotov, who said playing checkers helped him become a good chess calculator.

Some Soviet trainers urged their students to play checkers at the end of a day spent studying chess. It gets your mind off chess. It allows you to relax. But you are relaxing in a competitive way that keeps your focus and calculating skills sharp.
Improving stage by stage

Whatever a student does to strengthen his look-ahead powers, he usually passes through a series of stages before he becomes a good calculator. A good illustration of the progress was given by the Russian teacher Benjamin Blumenfeld in his doctoral thesis on teaching chess:

Tartakower – Reshevsky
Stockholm 1937
White to play

White’s knight on g5 is attacked. Retreating it to h3 gives Black a choice of promising moves, such as the defensive ... \( \text{w}g4 \) and the win of a pawn with ... \( \text{h}xc3/ \text{e}xe4 \).

Let’s pause for a moment so you can look for a way for White to replace the feeble 1 \( \text{d}h3 \) with an attacking move. Give yourself at least three minutes.

Time’s up. In the game White played 1 \( \text{d}5! \), the most dangerous option. Now suppose Black replied 1 ... \( \text{xd}2+ \).

Blumenfeld identified six different stages of calculation skill. He showed how players at different levels would decide how White should retake on d2.
Two-and-a-half move chess

For example, a player at the lowest level doesn’t have much to guide him and would make the choice of recapture randomly, he said.

A second-stage player is guided by the most elementary principles and considers only the obvious reply by his opponent. He would look at the position after 1 ... ♕xd2+ and say something like, “Whatever I do, Black will take my knight on g5 next move. Therefore I should retake on d2 with the rook because 2 ♕xd2 would put my king in greater danger.”

A better-than-average player who has learned enough to reach the third stage of calculation will be able to visualize more. He can set elementary traps. “Black is going to play 2 ... hxg5 next move,” he would say here. “Of course, it’s unpleasant to retake with my king. But if I play 2 ♕xd2! ...

\begin{center}
\includegraphics[width=0.5\textwidth]{chess_diagram.png}
\end{center}

Black to play

... then he’ll see 2 ... hxg5 3 hxg5 ♕xe4 is check and fall into a trap – 4 ♖xe4! followed by 4 ... ♖xe4 5 ♖h8 mate.”

What’s good about this is the third-stage player will be calculating. In fact, he is going beyond 2½ moves into the future. But he has a long way to go before he calculates well.

His problem is wishful thinking. He is counting on a blunder, 3 ... ♕xe4+. To improve he has to consider more of his opponent’s possibilities.
Two-and-a-half move chess

The fourth-stage calculator does that: “I see that 2 \( \mathcal{A}xd2 \) \( h_xg5 \) 3 \( h_xg5 \) sets that 3 ... \( \mathcal{O}xe4+ ?? \) trap,” this player would say to himself. “But this line is bad because Black has a stronger reply, 3 ... \( \mathcal{O}xd5 \) followed by ... \( \mathcal{O}d4 \). This means I have to play 2 \( \mathcal{A}xd2 \) instead.”

Blumenfeld gave this example long before there was a rating system. But we can see that the fourth-stage player has good powers of visualization. He is trying to evaluate a fairly distant position when he calculates variations such as 3 ... \( \mathcal{C}xd5 \) 4 \( exd5 \) \( \mathcal{A}d4 \) 5 \( Wd3 \) \( He2+ \).

If you can see a resemblance of yourself in one of the players we’ve just met, this should give you an idea of how to reach the next level.

For example, the second-stage player has to look at specific variations. He cannot rely on general principles.

The third-stage player has to look for the worst-case scenario, not the best-case scenario he’s wishing for.

The fourth-stage player may be guilty of superficial analysis. Blumenfeld compared him with the fifth-stage player. When this player compares 2 \( \mathcal{A}xd2 \) and 2 \( \mathcal{A}xd2 \) he says to himself:
"Taking with the king deserves preference for three reasons. First, it sets that trap. Secondly, the variation 2 \( \text{Qxd2} \) \( \text{hxg5} \) 3 \( \text{hxg5} \) \( \text{Qxd5} \)
4 \( \text{exd5} \) \( \text{Qd4} \) 5 \( \text{Qd3} \) \( \text{Qe2+} \) isn’t bad because of 6 \( \text{Qc1} \) \( \text{Qxc2+} \) 7 \( \text{Qb1} \)."

"But besides that," says the fifth-stage player, "White can improve earlier in that line. He can play 4 \( \text{Qh8+} \) (instead of 4 \( \text{exd5} \)) and then 4 ... \( \text{Qe7} \) 5 \( \text{Qxe8+} \) \( \text{Qxe8} \) 6 \( \text{Qh1!} \)."

"And also there is 3 \( \text{Qxf6} \), instead of 3 \( \text{hxg5} \)," he would add and then carries his analysis out to move 12.

If that sounds like good calculating, the answer is "pretty good." It can be improved considerably. Blumenfeld described the ideal, the sixth-stage player. When he weighs 2 \( \text{Qxd2} \) and 2 \( \text{Qxd2} \) he thinks:

"I have to take with the king. Of course, my opponent won’t fall into that silly 3 ... \( \text{Qxe4+} \) trap. But in the variation 3 ... \( \text{Qxd5} \) 4 \( \text{exd5} \) \( \text{Qd4} \) 5 \( \text{Qd3} \) \( \text{Qe2+} \) 6 \( \text{Qc1} \) I have chances since he has hanging pieces. However, the main thing is I would be completely lost after 2 \( \text{Qxd2} \) because I would have no real attacking chances. At least after 2 \( \text{Qxd2} \) \( \text{hxg5} \) 3 \( \text{hxg5} \) I retain the opportunity of doubling rooks on the h-file."
Two-and-a-half move chess

Note what the sixth-level player didn't do. He knew he didn’t have to calculate long variations. He didn’t get bogged down in all the other options available to him at move three and four. He is practical and economical.

The other half

If you don’t really have to look far ahead, why is calculation so hard? The answer is that looking ahead is the easier half of a two-step process. The second and more important half is evaluation.

The player who can see five moves ahead – but misjudges the positions he has visualized – will lose over and over to a player who can only see one and a half moves ahead but evaluates correctly.

When Garry Kasparov lost, it was rarely because he failed to anticipate an opponent’s move in a long variation. He lost because he misevaluated a position, either the current position or a future one.

![Chessboard diagram](image)

**Svidler – Kasparov**
Tilburg 1997
*Black to play*

First, a quick assessment. Material is equal. Black’s king is more vulnerable than White’s. White has the two bishops and threats such as $\text{h}xg5$ or $\text{h}c6$. 
But Black has chances. If he makes a natural move like 1 ...  \( \text{g}6 \), he
loses a pawn, 2 \( \text{xg5} \). But he can then seize the initiative with
2 ... \( \text{d6} \), threatening mate on h2. Once White defends against the
threat, Black can complete the coordination of his pieces with
3 ... \( \text{ag8} \).

It’s difficult to see beyond that. But Black can probably stop at
3 ... \( \text{ag8} \) – that is, after our benchmark of 2½ moves, He stops and
concludes that he has good survival chances.

So much for 1 ...  \( \text{f6} \). Is there a good alternative? Well, 1 ... \( \text{c7} \)
threatens mate on h2 immediately. Then after 2 \( \text{f2} \), Black can make
another forcing move, 2 ... \( \text{h4} \).

Once White defends against the threatened \( \text{xd4} \), Black has
time to double rooks with 3 ... \( \text{ah8} \). Again he can stop after 2½
moves and conclude his chances seem reasonable.

But Black mistakenly concluded that the position in the diagram
favored him. He rejected 1 ... \( \text{c7} \) because he concluded it might
lead only to a draw. “That was an error!” he said afterward.

He chose 1 ... \( \text{h5} \) instead. It serves two purposes. It defends the
attacked g-pawn and prepares to make a double attack, 2 ... \( \text{h8}! \),
on the pawns at h2 and d4. This is the kind of sequence you play
when you think you stand better.

White could have tried to evaluate what happens if he met
1 ... \( \text{h5} \) with 2 \( \text{c6} \) \( \text{h8} \) 3 \( \text{e2} \). That would require looking as far
as 3 ... \( \text{xd4+} \) 4 \( \text{h1} \) \( \text{d8} \) 5 \( \text{xd5+} \) \( \text{f8} \).

But White preferred the simple 2 \( \text{e3} \), which required no
calculation to speak of. All it took was the proper evaluation. White
realized that if he had the advantage before 1 ... \( \text{h5} \), he must have
kept it once Black’s threats were stopped by 2 \( \text{e3}! \).

This gradually became clear after 2 ...  \( \text{f6} \) 3 \( \text{d2} \) \( \text{d6} \) 4 \( \text{f2!} \) \( \text{ah8} \)
5 \( \text{g2!} \) \( \text{h3} \) 6 \( \text{f1} \) \( \text{h4} \) 7 \( \text{c2!} \).
Two-and-a-half move chess

Black must have realized by now that his position has gotten very bad. His pieces are advanced but they can't force anything. White, on the other hand, threatens to trap a rook with $\text{h}5$. Also, White can safely pick off the g-pawn when he wants ($7 \ldots \text{e}6 \ 8 \text{xg}5$).

Black tried to complicate matters and calculate his way out of the mess. But after $7 \ldots \text{h}5 \ 8 \text{f}5 \text{f}4 \ 9 \text{xh}3 \text{xh}3+ \ 10 \text{h}1 \text{f}6 \ 11 \text{g}3$ he was lost.

Of all the life lessons that chess teaches, perhaps the most valuable is that you need to be honest with yourself. You must be objective about a position even when it means overruling your hopes that it favors you.

**Plus Signs and Minuses**

To develop good evaluation skills a student needs to know what good positions look like. He also has to know what bad positions and equal positions and better-than-good positions look like. This is where the symbols of the *Chess Informant* can be useful.

*Informant* analysis is way over the heads of the vast majority of students. But even novices can benefit from many of the more than 1,000 evaluation symbols that appear in a typical issue.
The *Informant* popularized the use of these symbols. A plus-over-equals sign indicates a slight edge for White, for example. A plus-over-minus indicates a more substantial advantage. Here's an example of how you can use this:

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Short – Ivanchuk
Montreal 2007
White to play
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Each issue of the *Informant* is typically filled with games with long analytical variations, often very tactical. But to work on evaluation, you should ignore that analysis.

Instead, whenever you come upon a short but confusing note you should stop. Remember: Puzzlement is good for you.

Here White chose 1 \( \text{hXf6} \) to weaken Black's pawns. In his *Informant* notes, Black gave the move as "1 \( \text{hXf6?!} \)" and recommended 1 \( \text{e5!} \) instead. He said 1 \( \text{e5! d6} \) would lead to a plus-over-equals edge for White after 2 \( \text{hXf6 gxf6} \) 3 \( \text{e4} \).

You might be tempted to look at the tactics in the position, such as what would happen after 1 \( \text{e5} \text{Xf3} \). But instead of investigating 2 \( \text{Xc7} \) or 2 \( \text{Wxf3} \) you should be focusing on evaluation.

In particular, you should ask why is 1 \( \text{hXf6} \) is bad – while 2 \( \text{hXf6} \) is good in the 1 \( \text{e5} \) variation.
Clearly, the reason White is better in the 3 $\text{e}4$ position isn’t because he gained material or carried out a devastating tactic or is about to deliver mate. There must be something else.

If you think about it, you may be able to figure out that White wants to trade off the light squared bishops with $\text{x}b7$.

The annotator’s note indicates that the trade of those bishops changes the significance of the mangled Black pawns that arise after $\text{x}f6$:

The only minor pieces left after $\text{x}b7$ (or ... $\text{xe}4$) will be a White knight and a Black bishop. By using the plus-over-equals sign, the annotator is saying that after the bishop trade, the Black pawn damage is more important than the difference in the remaining minor pieces. That’s a valuable mini-lesson right there.

There was a tactic that the annotator didn’t explain. Black cannot win material in the last diagram by means of 3 ... $\text{xe}4$ 4 $\text{xe}4$ $\text{h}2+$ because of 5 $\text{xh}2$ $\text{d}1$ 6 $\text{g}4+$! and 7 $\text{d}1$. But this is the kind of complication the student should ignore when he is working on his evaluation skills.

The evaluation lesson goes on because after 1 $\text{xf}6$? was played in the previous diagram, the game continued 1 ... $\text{d}1$ 2 $\text{d}1$ $\text{d}1+ 3 $ $\text{d}1$ gxf6.
Two-and-a-half move chess

The result is the same pawn structure as in the last diagram. But there are two changes. First, all of the rooks have been swapped off. Second, White cannot force a trade of the light-squared bishops.

Black evaluated this position with another symbol, an equals sign over a plus. It means Black is slightly better, a reversal of the slight White edge of the previous diagram.

Again you should try to figure out what the difference is. Could it be the absence of rooks? Probably not. And if not, what's left? The annotator must be suggesting that the real difference between the two positions lies in the two Black bishops.

He helped us understand this by adding another note that said if play had gone 4 \textit{\textcolor{red}{\text{\texttt{We2}}}} \textit{\textcolor{blue}{\texttt{Wf4}}} 5 \textit{\textcolor{red}{\texttt{C\texttt{d2}}}} \textit{\textcolor{blue}{\texttt{f5}}} 6 \textit{\textcolor{red}{\texttt{C\texttt{f1}}}} \textit{\textcolor{blue}{\texttt{Wg5}}},
Two-and-a-half move chess

... the resulting position deserves a minus over a plus sign. In other words, Black's advantage would have grown from the modest one he had in the last diagram to a significant edge.

Studying with the *Informant* can be difficult because there are no words to explain the 'why' of evaluations. The annotators assume that the readers are already pretty good players. In this case the annotator assumed that everyone following his notes saw that Black is threatening 7 ... \( \text{hxg2} \) mate. He did not point out that 7 \( \text{g3}?? \) allows 7 ... \( \text{hxg3} \) or that 7 \( \text{e3} \) f4! is strong.

Nevertheless, the *Informant* annotations can be highly instructive if the student focuses on the evaluations and avoids long variations of analysis in general and tactical games in particular. Here's another example.

\[
\begin{array}{|c|c|c|c|}
\hline
\text{K} & \text{R} & \text{N} & \text{Q} \\
\text{B} & \text{N} & \text{B} & \text{Q} \\
\text{B} & \text{N} & \text{B} & \text{Q} \\
\text{K} & \text{R} & \text{N} & \text{Q} \\
\hline
\end{array}
\]

Adams – Topalov
Sofia 2007
*White to play*

White played 1 \( \text{e7} \). He wrote that Black's reply, 1 ... \( \text{xe7} \), was dubious in view of 2 \( \text{xd4} \), with a plus over equals sign.

He added that Black should have inserted 1 ... \( \text{xe2}+ \) 2 \( \text{xe2} \) \( \text{xe7} \), since the resulting position would be even.

This is another puzzle. All four knights are traded off in both the 1 ... \( \text{xe7}?! \) and 1 ... \( \text{xe2}+ \) lines. Why is one good for White and the
other equal? After all, this time the answer cannot lie in the pieces that are left on the board, as it did in the previous example.

A student may find it easier to explain the equals sign given in the $1 \ldots \text{Q}xe2+$ line. After $2 \text{W}xe2 \text{W}xe7$ the position is close to symmetrical. True, White controls the b-file with his rook. But once Black castles and plays ... $\text{H}ab8$, that may not matter.

The annotator helped explain the other evaluation – why $1 \ldots \text{W}xe7$ is good for White – when he said $2 \text{Q}xd4 \text{exd}4$ and then $3 f4$ deserves a plus-over-minus sign.

The main thing for the student to glean from this is not the tactic but rather that f4-f5 is a favorable advance for White.

Understanding the plus-over-equals symbol that followed $1 \text{Q}xe7 \text{W}xe7 2 \text{Q}xd4$ is easier when you see that the game continued $2 \ldots \text{cx}d4 3 f4$. 

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Two-and-a-half move chess

In his notes White explained that a routine move like 3 ... 0-0 would allow him to achieve another plus-over-equals edge with 4 f5 and then 4 ... \textit{c8} 5 \textit{f3}, with a threat of 6 f6. There would follow 5 ... f6 and 6 \textit{d2}.

![Chessboard diagram]

Black to play

It’s becoming more certain that White has the better of it. Almost all of his pieces are better placed than their Black counterparts.

Going back to the position after 2 ... cxd4 and 3 f4, we find that the game continued with an immediate 3 ... f6. There followed 4 f5 \textit{f7}.

The annotator inserted a long note that said 4 ... \textit{a2} was superior. This is precisely the kind of analysis you should avoid looking at if you’re trying to get better at evaluation. Stick to the relatively short notes and the evaluation symbols.

After 4 ... \textit{f7} White replied 5 c3, which he awarded an exclamation point. This is a message that tells you White is trying to open up the position before Black castles. Also, he would like to weaken Black’s pawns with 6 cxd4. And he wants to eliminate his c-pawn because it might otherwise be a target for Black’s heavy pieces along the half-open c-file.

Play went 5 ... dxc3 6 \textit{a4}. White’s note said 6 ... \textit{f8} 7 \textit{c6} is a plus-over-minus, a bigger edge than the previous diagram. This is another good time for a student to ask “Why?”
He should be able to see that $8 \text{wxa8+}$ is the main threat and that $\text{xb7}$ and $\text{xc3}$ are much lesser threats.

After $7 \ldots \text{d8} 8 \text{xc3}$ material would be equal again. But Black's inability to castle and the speed of White's queenside initiative ($\text{e3}$, $\text{fc1}$) should make the plus-over-minus understandable.

Instead of $6 \ldots \text{f8}$, Black offered a trade of queens, $6 \ldots \text{d7}$. White kept up the forcing moves with $7 \text{xd7+ xd7 8 b7+ e8}$ and then $9 \text{c7 d8}$.

White continued $10 \text{h3}$. But before going further a student should investigate the note he gave — $10 \text{e3! d7 11 xc3 e7 12 b1}$ with another plus-over-minus. This should be readily comprehensible. White rooks control the open files and Black's rooks aren't connected. This is the kind of exercise that can be conducted with dozens of games from a typical issue of the Informant.

As indicated earlier, looking ahead is the easier half of calculation to improve. The harder half is also the more important half, and that should tell you how to budget your study time.
Admit it. You hate studying endgames.

Guess what? Almost everyone does.

But you can make learning the endgame less painful. The first step is to recognize that there are two distinct kinds of ending and they need to be studied differently.

The first type is ‘exact’ endgames. These have only a few pieces and pawns. They are important because they can occur at the end of many other endgames and because their outcome is certain.

Every exact endgame is either a forced win or a forced draw. You can learn each one so well that you can always get the best result out of it. When you reach an exact position you can say to yourself, “I know this. It’s definitely a win and I know precisely how to win it.”

In contrast, there is nothing certain in a typical middlegame. You may study thousands of middlegame positions with an isolated pawn. But the next time you find yourself playing one, there are bound to be unique features in the position. You may only be able to say, “I know positions like this. I think I’m better. And I believe the right idea is Qd4. Maybe.”

The other type of endgame has more pieces and pawns. You may be able to say “White should win” or “It’s probably a draw” with best play. But there is no absolutely correct order of moves you need to know to play them.
Overcoming endgame phobia

Often the best guide to follow in those endings is to try to reach a simpler – that is, exact – position. Here’s an example of a not-yet-exact ending.

White to play

White’s basic plan is to advance his pawns with the support of his king. At some point there will be an exchange of pawns. White may be able to get his king and his last remaining pawn to the fifth or sixth rank.

Black’s rook can slow White down with checks and pins but cannot stop this plan. However, Black should draw because his king is already in the vicinity of the potential queening squares and can stop the last White pawn.

But let’s imagine that Black gets sloppy. Really sloppy. He can lose if his king leaves the area around b8 and d8 and he allows White’s rook to stop it from returning.

White would then be able to reach an exact position. It’s called the Lucena Position and has been known to be a win for nearly 400 years. That makes it one of the oldest exact positions.
This isn’t quite the Lucena. But we’re getting close. The key feature is White’s rook cuts off Black’s king from the path of the pawn.

This means Black’s rook has to fight the White king and pawn alone. Black’s only defense is to check on a file and to attack the pawn if it is undefended.

But that is not enough to draw. A typical continuation would be 1 b6! b2+ 2 c7! c2 3 c6.

White can repeat the process after, a Black ‘pass’ such as 3 e8. Then comes 4 b7 b2+ 5 c8 c2 6 c7.

White is threatening to win with 7 e1+ -moves 8 b1! followed by 9 b7 and queening. This means Black must play 6 b2.
This is it, the Lucena Position. The last few moves show how easy it is for White to reach it once Black’s king was barred from crossing the c-file. With experience you can learn to foresee when Lucena can be forced, even if it’s five, 10, 15 moves in the future.

White wanted to get this far because he knew this was a winning position. But how does he win it? His king blocks his pawn and his king has no moves.

Once again the key is to know both a pattern and a priyome. The Lucena pattern could occur in different form, say, by moving the kings and pawns a few files to the right. The priyome is to check and ‘build a bridge’ – 7 e1+ f7 8 e4!.

Black to play

White will play 9 d7 and threaten to queen. After 9 ... d2+ Black will soon run out of checks, 10 c6 c2+ 11 d6 d2+ 12 c5 c2+ 13 c4! and wins. (Or 8 ... d2 9 b4! and 10 b7).

This looks pretty complicated. But you can reinforce what you’ve learned by pretending that you’re the teacher, not the student.

Set up the previous position on a board. Make the moves, one at a time and explain how White wins – as if you are talking to an imaginary student, someone who doesn’t know the first thing about rook endgames.

What makes this example particularly instructive is that Black had his own goal in the position that began this chapter. He was
seeking a different exact position, with its own priyome, which would force a draw.

Let's assume Black didn't make the errors that led to the last diagram. He didn't move his king to the d-file and didn't allow it to be cut off. Then a position like this would arise.

![Black to play](image)

White has made a lot of progress – so much so that one very bad move by Black, 1 ... $b1+??, would lose.

The reason is that after 2 $c6! White threatens 3 $h8 mate. If Black avoids mate with 2 ... $d8, White replies 3 $h8+ $e7 4 $c7. He can force Lucena in a few moves. (See for yourself.)

Nevertheless, Black can draw easily in the diagram if he uses the priyome discovered by Andre Philidor more than 200 years ago. Since his rook cannot put up a defense along the files, Black uses it on a rank. With 1 ... $g6! he keeps White's king from advancing.

The only way for White to make progress is to push the pawn, 2 c6. Then White is one move, 3 $b6, away from a winning position.

But Black can defend with 2 ... $g1!. The key point is that White's king no longer has a hiding square at c6. Black will draw by checking along the files (3 ... $b1+ 4 $c5 $c1+ 5 $d6 $d1+).

Once again, a good way to reinforce what you learned about the Philidor drawing method is to imagine you are explaining it, in your own words, to a novice. See if you can put it in terms simple enough that a very inexperienced player will understand. (Using a
Overcoming endgame phobia

board, rather than a computer screen, for this imaginary lesson will probably make a more lasting imprint on your endgame memory.)

**Exact versus inexact**

The vast majority of endgame positions you will face will not be 'exact.' Instead of pattern-specific priyomes, you will have to rely on general techniques, such as creating a passed pawn and triangulation and so on.

The difference between the two kinds of ending was underlined to me by an argument between two internationally titled players, Bernard Zuckerman and Peter Biyiasas, that I overheard at a tournament many years ago.

Zuckerman was known as 'Zuckerbook,' a fanatical student of book moves, whether in the opening or in exact endgames. He spent his free time at the tournament studying how to get the most out of the difficult ending of rook and bishop against rook. This meant learning a lot of exact positions.

Biyiasas was pragmatic, the very opposite of Zuckerman. He thought studying such an endgame was a waste of time. If you're going to work on your endgame skill, polish your techniques, he told Zuckerman. When the two men met over the board:

Biyiasas – Zuckerman
Cleveland 1975
*Black to play*
Overcoming endgame phobia

Despite White’s well-placed king and rook, Black’s two pawns should win. As another player in the tournament, Edmar Mednis, wrote, this is “the perfect example of the principle ‘passed pawns must be pushed’.”

This means 1 ... h4!. White would have to try to defend against the h-pawn’s advance and most likely would fail.

Instead, Black tried to force his way to victory with trappy moves, 1 ... Uf2+? 2 g5 ff5+. This was based on punishing 3 xg6?? with 3 ... a5+ and 4 ... xa7.

But after 3 h6! Black’s winning chances had shriveled. White was able to get his knight into action in time after 3 ... f8 4 d2! c2 5 c7 d3 6 d7 b5 7 b7 d5! – based on 8 xg6 e8+! and 9 ... xd2 – 8 f3! d3 9 g5!.

White’s pieces have become so much more active than Black’s that he threatens to win the rook with h7+ and f6+.

Black can avoid that. But he cannot stop e6+g7 followed by a sacrifice on h5. The result will leave Black with a rook and bishop against White’s rook.

White knew very little about the book theory of R+B-vs.-R. But he was able to rely on his knowledge of basic techniques – keeping his rook active, not allowing his king to be cornered, and so on. He took
more time on the clock than Black. But he managed to get the best result the position allowed, a draw.

**Ratings proof**

To learn exact positions you need to memorize them. Students are supposed to know them backward and forward, the way they know the alphabet.

That’s why so many students hate exact endings. But there’s a reason they should love them: Exact positions are ratings proof.

It doesn’t matter how strong your opponent is, you can get the maximum out of an exact endgame if you memorize the right moves. There is one and only one priyome for each position.

![Chess Diagram](image)

*White to play*

This is the simplest of all exact endings. It appears in virtually every primer. Black threatens to win by clearing a path for his pawn with 1 ... ♕c3. White’s king has to vacate d1 and that allows Black to win with ... d3-d2-d1(♕).

But White can draw by blocking the enemy king, starting with 1 ♕d2!. Then comes 1 ... ♕c4 2 ♕c2 d4 3 ♕d2 d3.
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The only hard part for White is knowing which square to go to now. He would lose after 4 ♗c1?? ♗c3 5 ♗d1 d2 6 ♗e2 ♗c2.

But he draws if he knows the priyome, 4 ♗d1!. This draws because 4 ... ♗c3 5 ♗c1 and then 5 ... d2+ 6 ♗d1 ♗d3 is stalemate. If you can commit the previous diagram and the priyome to memory, you will know a substantial amount of the book theory needed to play pawn endgames.

Memory is more important in exact endings than it is in any other aspect of chess. After all, memory in the opening only gets you as far as a middlegame in which you are on your own. It rarely helps you more than to get a favorable position. But memory in an exact ending supplies all the moves you need. And once you know what the exact positions look like, you have something to aim for.

![Chess Diagram](image)

Kasparov – Dreev
Moscow 1996
Black to play

Black's only winning chance is to play 1 ... ♗e4 and pray. His prayers were answered when the world champion didn't recognize the exact position he could reach. It comes about after 2 ♖xe4! ♖xe4 3 ♗e2.

Then 3 ... ♗xd4 4 ♗d2! and White draws as we saw in the previous diagram.

Instead White played 2 ♖h2?? and eventually lost after 2 ... ♗xd4.
Memorize, memorize

“But why do I have to memorize?” the student will ask. “Can’t I just calculate?”

True, a proficient calculator could look at the last diagram, work out the variations of 2 $\textit{Axe}4$ and $3 \textit{De}2$ another five moves and draw. You might also be able to draw the position by using logic or just common sense.

But most exact endings are much more difficult. If you don’t know them, you have to “solve on your own at the board problems that would baffle very strong masters,” as Alexander Kotov put it.

This seems easy. White wins if he can play $c6-c7$ at a moment when Black cannot reply $... \textit{xc}7$. Black reasoned that this means his bishop must stay nearby on the $a5-d8$ diagonal.

With that in mind, he played $1 ... \textit{a}5$ – so that $2 \textit{h}4 \textit{c}5$ or $2 \textit{d}2 \textit{d}8$!

But $1 ... \textit{a}5??$ was the losing move.
Overcoming endgame phobia

After 2 \( \text{	extit{\textbf{e}}3! \text{White will win by clearing the key diagonal with 3 \text{b6}!\text{. Since Black cannot prevent that, he must allow the pawn to safely reach c7 and then c8.}} \)

The Russians have an expression, 'Every Russian schoolboy knows ...' In this case that random schoolboy would draw the position in the diagram because he knows the Black bishop must go to the other diagonal, the one running from h2 to b8.

Then White's only winning idea is similar to what happened in the game. He must seize control of the key diagonal by putting his bishop on a protected square on that diagonal.

But in this case that square will be c7, not b6. The difference is that on c7 White's bishop will block the c-pawn.

This is shown by 1 ... \( \text{g3! 2 d8 c4 3 c7 e1!} \).

\begin{center}
\includegraphics[width=0.5\textwidth]{chess_board.png}
\end{center}

\textit{White to play}

White doesn't have time to push the pawn because his bishop is in the way. After it moves, say to b6 or d8, Black replies 4 ... \( \text{g3 so that 5 c7 xc7. And if 4 f4 a5 5 e3, Black can stop 6 b6 by means of 5 b5!\text{. White cannot make progress. Draw.}} \)

This may seem pretty sophisticated – because it is. It's sophisticated if you are seeing it for the first time and trying to apply logic and calculation.

But 'every Russian schoolboy' knows how to draw it – because almost every Russian schoolboy has memorized it.
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Must-know?

But how many positions are we talking about? The answer is much fewer than chess teachers claim.

A recent book, by Jesus de la Villa, was titled *The 100 Endgames You Must Know*. Another book, by Lajos Portisch and Balasz Sarkozy, examined 600 endgames, of which more than 150 were ‘theoretical.’ That was their term for ‘exact.’ Mark Dvoretsky in his endgame manual weighed in with nearly 200 ‘precise’ positions, which he called ‘basic endgame knowledge’.

Aside from the different terms, there was no agreement about what a student really needs to know. Some of de la Villa’s ‘must-know’ positions were not included in the Portisch-Sarkozy book and vice versa. And many of Dvoretsky’s ‘precise’ endings weren’t in either of the other books.

Dvoretsky said he reduced the number to a minimum. Yet he included many positions that are well beyond obscure.

![Diagram](image)

White to play

The winning method is remarkable: White gets his king to e6, posts his rook on d3 and plays g3-g4!. This explodes the kingside logjam and eventually yields a winning passed pawn.

It’s quite a pretty example, almost a composed study. But something you must memorize? Ridiculous. This is a once-in-a-
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lifetime position. You can become an excellent endgame player without knowing how to play this one, or several others of the ‘essential’ examples in these books. The truth is:

*Until you are master strength you don’t have to know more than about two dozen exact endings.*

Exact endings are another case of Too Much Information. If you try to learn 100 positions or anything close to that number, you will forget the analysis by the time you reach one of them. There are just so many positions you can keep in your memory and recall their priyomes.

This tells you how to approach the different categories of ending. For example, how many exact knight-and-pawn endgames do you really need to know?

The answer is: none. When you study knight endings you should be working on techniques, techniques, techniques. Specifically, you need to learn the role of zugzwang, the outside passed pawn and K-vs.-K opposition. If, instead, you find yourself trying to memorize a position, stop. You are wasting your time.

And as for queen and pawn endings:

![Diagram of chessboard](image)

*White to play*

To win White must bring his king to the vicinity of g2 and capture the pawn. Once you learn the priyome — forcing the Black king to g1 every time he threatens to queen — it becomes very easy.
Overcoming endgame phobia

White wins with 1 \textit{f4+} \textit{g1} 2 \textit{d7} and \textit{e6-f5-g4-h3}. Or 1 \ldots \textit{e2!} 2 \textit{g3!} \textit{f1} 3 \textit{f3+!} \textit{g1} 4 \textit{d7}.

But that's one of the very few exact queen endings you need to know, at least until you are much stronger. Only then, when you get into difficult queen endgames on a regular basis will knowledge about the others matter.

On the other hand are bishop endings. Learning techniques is useful here. But it's not enough. There are at least a half dozen exact endgames – \textit{B+P-vs.-B} and \textit{B+2Ps-vs.-B}. – you should know very well.

That leaves the most important basic category, endings with just rooks and pawns. You should be spending more time studying them than on the rest. This is because:

(a) Rook endings occur more often,

(b) They require so many general techniques, and

(c) They have many exact positions. They begin with the Philidor and Lucena positions, and others that are similar. Consider this case:

\begin{center}
\includegraphics[width=0.5\textwidth]{chessboard.png}
\end{center}

\textbf{Kamsky – Kramnik}

Nice 2009

\textit{Black to play}
Overcoming endgame phobia

The first thing you might notice is that Black cannot reach the Philidor drawing position because White’s rook controls the sixth rank. Therefore Black’s rook needs to do something else. (One of the basic principles of rook endings is to keep the rook active. If your rook isn’t doing something useful, you are mishandling the ending.)

In this case, the rook should try to attack the king and the pawn along files, preferably from a distance. That suggests 1 ... d1.

Then 2 h7+ f8 3 e6? would transpose into a kind of Philidor position when the pawn is already on the sixth rank. We know that position already – the defender can draw by delivering checks along the files, 3 ... f1+ 4 e5 e1+ and so on.

Now let’s go back to the 1 ... d1 2 h7+ f8 line. White has a much better winning try, 3 f6!. To draw Black has to know another exact position. It occurs after 3 ... f1+ 4 e6 e1!.

Black’s rook prevents White from advancing his pawn safely. For example, 5 h8+ g7 6 a8 and a pass such as 6 ... e2.

White would love to play 7 e7 and 8 e6, which would leave him a short distance from Lucena. But unfortunately 7 e7? allows 7 ... xe5+ and an immediate draw. And 7 d6 f7! leads nowhere (8 a7+ f8 9 e6 e1!).

White to play

Black’s rook prevents White from advancing his pawn safely. For example, 5 h8+ g7 6 a8 and a pass such as 6 ... e2.

White would love to play 7 e7 and 8 e6, which would leave him a short distance from Lucena. But unfortunately 7 e7? allows 7 ... xe5+ and an immediate draw. And 7 d6 f7! leads nowhere (8 a7+ f8 9 e6 e1!).

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This is another good ‘imaginary student’ position. Try to teach him what you’ve just seen. Try to make the moves from 1 ... \( \text{d}1 \) to 6 ... \( \text{e}2 \) comprehensible to a novice, again using your own words.

But let’s get back to the Kamsky – Kramnik game. There was more to it because in the initial position, Black didn’t play 1 ... \( \text{d}1 \)!

Instead, he blundered with 1 ... \( \text{a}5 \)?? and there followed 2 \( \text{h}7+ \) \( \text{g}8 \).

Now 3 \( \text{c}7 \) leads either to Lucena or another lost position. For example, 3 ... \( \text{a}6 \) 4 \( \text{e}6 \) threatens to queen by force with 5 \( \text{a}8+ \) and 6 \( \text{e}7 \).

Black has nothing better than 4 ... \( \text{f}8 \) after which 5 \( \text{f}6 \) \( \text{g}8 \) 6 \( \text{c}8+ \) \( \text{h}7 \) 7 \( \text{f}7 \) \( \text{a}1 \) 8 \( \text{e}7 \) \( \text{f}1+ \) 9 \( \text{e}8 \) soon reaches Lucena.

Incredibly, White counter-blundered. In the last diagram he played 3 \( \text{e}7 \)??. The problem with this is it blocks the e-pawn.

This allowed Black to reach a Philidor after all. He played 3 ... \( \text{a}6 \) and eventually drew.

This should be a warning to all students who want to improve their endgame skill: If players such as Vladimir Kramnik and Gata Kamsky have trouble with these positions, that should tell you the value of knowing them cold.
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In the old days, some students found that the best way to memorize key positions was to put diagrams of them on index cards. Today's students are more likely to store them in their computer.

But they might do just as well by storing them on their computer. That is, by sticking a diagram on the side of their computer monitor where they'll notice it regularly.

This follows Lev Alburt's advice to print out diagrams and place them "in a conspicuous place, such as on the refrigerator door, or bedroom or bathroom mirror" where you can glance at them every day.

The goal is to 'overlearn' the small number of positions you've chosen. You want to go beyond the normal level of learning that is necessary to master a subject. You want not only to be able to play these positions correctly but to play them virtually without thinking.

Overlearning comes from repetition and drilling. The more time you see a position like the one in the last example – the more often you will recognize 1 ... ♗d1! or 3 ... ♗a6! as the right moves – the more likely you are to retain that knowledge.

Bottom line: There is a limited number of exact endgames you really need to know until you're much stronger in the other phases of the game. If you want to improve your endgame play, it's more useful to work on 'typical' endgames.

'Typical' endgames

Memory plays little or no role in choosing moves in non-exact positions. To prepare for them, you should learn how to handle generic positions, ones that have the features of the most common endings.
Here’s a typical rook and pawn endgame. The prime features of it are: (a) material is equal, (b) each player has pawn majority on a wing and (c) neither king has advanced far.

White has a small advantage because he has the potential to create a distant passed pawn that is more dangerous than any passed pawn Black can cobble on the kingside. Another factor in White’s favor is that he can make his rook more active than Black’s with an immediate threat, 1 \( \text{xa7}! \).

If Black allows his rook to become passive, with 1 ... \( \text{c8}? \), White may have winning chances by bringing the king into action, say via d3 and c4.

Like many similar ‘typical’ positions, this is instructive because Black is rewarded by the active defense, 1 ... \( \text{e7}! \). This underlines a basic principle – rooks must remain active – as well as common technique. Black keeps White’s king from crossing the e-file to the queenside.

After White advanced his queenside pawns, 2 \( \text{d5 f7} \) 3 \( \text{c4} \), Black was able to employ another common defensive theme, trading pawns with 3 ... \( \text{c6} \).

Then 4 \( \text{xe7+ xe7} \) would put Black’s king in position to stop the queenside pawns (5 dxc6 \( \text{d6} \) or 5 \( \text{g2? cxd5} \) 6 cxd5 \( \text{d6} \)).
Overcoming endgame phobia

Instead, after 3 ... c6!, White played 4 \( Aa5 \). Then came 4 ... cxd5 5 \( Axd5 \) f6 6 f4 e2!.

![Chess board diagram](image)

*White to play*

Black wants to play ... \( Ac2 \). This would illustrate one more basic principle. Rooks generally belong behind passed pawns. After ... \( Ac2 \) White's king will be restricted and his passed pawn cannot easily advance. A draw quickly followed.

**Analyzing vs. Studying**

One of the things that keeps amateurs from becoming better endgame players is they become awed by the words 'studying the ending.' They take it too seriously. They feel they have to learn something very deep every time they sit down with a textbook. If they just thought in terms of 'analyzing' rather than 'studying' it would remove some of the psychological burden.

Jose Capablanca had a reputation for having such natural talent that he never had to study. But Aron Nimzovich, who played Capa in six tournaments spread over 18 years, knew that the Cuban studied in his own way.

"He is always analyzing and it's always typical positions," he wrote in a brochure titled *How I Became a Grandmaster*. "Capa is an
expert with masses of such positions (in the main, in the sphere of queen and rook endgames)."

Capablanca’s knowledge of how to handle typical positions paid off in situations like the following. At first glance it seems that Black has the greater chances because his king is more advanced. But it has no way to advance far because White controls d6, d5, e5 and e4.

Tarrasch – Capablanca
Berlin 1928
Black to play

On second glance, it might seem that White stands better because his fine bishop should be superior to Black’s knight and his king might reach d4.

If that were true, Black should play 1 ... â5 and threaten 2 ... âxc4. White would exchange pieces, 2 âxe5. The resulting king and pawn ending should be drawn.

But Capablanca appreciated something that you learn from analyzing typical minor piece endings. The most important feature of this position isn’t Black’s king or White’s bishop. It is the slight weakness of White’s queenside pawns, particularly the one at c4.

Because of the c-pawn Black should have the edge. But the pawn alone is not enough to win such endings. With that in mind Black played 1 ... g5! and the game went 2 â3 â5 3 b3 g4!. Capa
Overcoming endgame phobia

understood that he needed to create weaknesses on both the kingside and queenside if he had any hopes of winning.

\[ \text{White to play} \]

The second weakness would prove decisive after 4 fxg4? \( \square \)xg4+, which would cost White the bishop or h-pawn.

The punishment of 4 f4? takes longer. Black would reply 4 ... \( \diamond \)g6 followed by 5 ... \( \diamond \)f5, to threaten \( \diamond \)xf4 as well as \( \diamond \)e4 and ... \( \diamond \)d3. If the Black king penetrates that far the game should be over.

Instead of 4 fxg4? or 4 f4?, White chose 4 \( \diamond \)e2!. There followed 4 ... gxf3+ 5 gxf3 \( \diamond \)f5 6 \( \diamond \)d4 \( \diamond \)d7 7 \( \diamond \)f2. He had foiled Black’s attempt to win a pawn with ... \( \diamond \)f4/ ... \( \diamond \)xf3.

\[ \text{Black to play} \]

Once again it might seem that White is at least equal. His bishop controls the key squares that Black’s knight seeks (b6, c5 and e5).
But Capablanca understood something that is hard to know unless you've played over similar positions. Black will have winning chances if he can fix the White queenside pawns on their current squares. That means Black's own pawns may have to move from safe light squares to apparently risky dark squares.

He did this with 7 ... c5! 8 e3 e5 9 e2 (not 9 xc5?? d3+).

Black improved his position a bit more with 9 ... b6! 10 d2 a5! so that he would have two winning ideas.

One is 11 ... a4, to create a passed c-pawn (12 bxa4 xc4). The other is ... c6 and ... d4+, forking the king and two pawns.

White was Siegbert Tarrasch, who was also one of the world's best endgame players. But he had already made several minor mistakes that showed he was unfamiliar with this kind of ending. His final error was 11 c1? (rather than 11 a4!).

Black happily carried out his prime threat, 11 ... a4! and there followed 12 bxa4 xc4 13 d3 e5+ 14 e2 e6!.

To stop the invasion of ... d5-c4, White finally had to push his f-pawn, 15 f4 c4 16 d3 d5.

Then his bishop has no good squares. But the reason he is lost is that he has the more vulnerable pawns on dark squares.
Overcoming endgame phobia

White to play

It may be hard to see that here. But one of Capablanca's greatest strengths was being able to visualize a future position that would be an easy win.

Here he was able to see a plan: if he is allowed to play ... f5!, he could follow up by advancing his h-pawn to h3. Then he can maneuver his knight to g4, play ... Oxh2 and win with his h-pawn.

Of course, White should be able to prevent such an elaborate plan. But he would have to allow another way for Black to win. In fact, White played 17 f5 Oe5+ and resigned, apparently because he saw that Black has a new winning plan of ... Oc6-d4 and ... c4-c3.

What happened is that Tarrasch, who was devoted to book learning, was outplayed by an opponent who knew how to analyze and handle typical minor piece positions.

Endgame patterns

There are patterns in 'typical' endgames but they are more of a general nature than those in exact endings. These patterns don't come with their own name. But they can tell you which plans succeeded in the past. They provide you with more options when you reach one of those "What do I do now?" moments.
White has the better placed pieces. But that edge will end once Black organizes his forces with ... \( \text{b8} \) followed by ... b6 and ... \( \text{b7} \) or ... d7-c6.

This means White has a window of opportunity that will close in a few moves. If he is going to find a good plan, now is the time. He looked at both 1 \( \text{d3} \) and 1 b4 because he knew they were typical ideas in this kind of position.

With the rook move White is preparing to pressure b7 (2 \( \text{b3} \) \( \text{b8} \) 3 c5) or to soften up the other wing (\( \text{e4} \) and \( \text{h3} \) or \( \text{g3} \)) so that the kingside pawns will be exploitable later on.

With the pawn move White wants to expand on the queenside. He chose 1 b4 and play went 1 ... \( \text{d7} \) 2 b5 \( \text{e8} \) 3 c2 g5 4 c3. White made steady progress and won.

In his notes, White, a young grandmaster, said a third idea occurred to him. He thought of it thanks to having “acquired a classical chess education.”

That might sound like a reference to studying Capablanca or Rubinstein endgames. But he was thinking of the odd-looking 1 g4. The reason it occurred to him was that he recognized the similarity to this game.
White’s pieces dominate but again Black is threatening to untangle with ... b8, b6 and ... b7.

White used his window of opportunity to attack the area where Black was weakest. After 1 g4! he is preparing 2 g5 and c3-h3xh7.

Black tried 1 ... h6 but after 2 f4 b8 3 g5! b6 4 gxh6 gxh6 5 c3 there was no defense of the h-pawn (or 5 ... a6 6 a3!).

White won after 5 ... b7 6 xb7 xb7 7 h3 and 8 xh6 in highly instructive manner.

Yes, this was another case of pattern recognition. What distinguished the two positions was the general configuration of pawns and material balance, the kings being on the queenside and the presence of a rook and light-squared bishop for each side.

That is more general than many of the middlegame patterns that form a player’s intuition. And this indicates how useful it is to expand your knowledge of recurring patterns in the games of great endgame players.
A collection of the games of Capablanca, Rubinstein and Vasily Smyslov is a fine way to start. They have a teaching quality that you won’t find in the endgames of many more modern players. If the games are annotated with words rather than symbols, all the better. Another source of annotated endgames is the endgame encyclopedias like *Basic Chess Endings* and the *Encyclopedia of Chess Endings*.

How many typical endgames should you study? The traditional Soviet view was ‘Every one you can find.’ That view lives on in trainers like Alexander Vaisman who said, “To be able to play the endgame well one must remember the methods of play in over 3,000 typical endgames positions.”

But to be honest, few grandmasters actually studied a fraction of 3,000 typical endgames. They didn’t like the abstract nature of that any more than you do.

“I don’t say, ‘Well, I really have this terrible weakness in rook and pawn endgames and I’m going to thrash my way through a massive chess endgame book,’” said Yasser Seirawan, a great endgame player. “To me this is a massive turnoff.”

Fortunately, there are easier, better motivated methods. Perhaps the best is to use every endgame you play in tournament as the basis for research and self-instruction.

“Whenever you have played a game that included an ending, try to find a similar ending and compare your play with a master’s,” wrote Yuri Averbakh.

Regardless of the result of your game, you should be curious about the best way to play the ending. That curiosity can be channeled into an incentive to learn more about it.

Suppose you had White in an endgame like this and only managed to draw.
Overcoming endgame phobia

This is a typical ending. There are no dominating king positions, no sharp tactics and it's certainly not an 'exact' position. To learn what you should have done you can turn to one of the endgame encyclopedias and look up a position that comes closest to this. Even though these books typically devote less than two percent of their space to knight endgames, you'll find excellent information:

In Basic Chess Endings, Reuben Fine argued that White wins in all similar positions. He analyzed one example in depth. Mark Dvoretsky used the same example with slightly different analysis. Portisch/Sarkozy offered a similar position to illustrate how White should win. Karsten Muller and Frank Lamprecht provided yet another version in Fundamental Chess Endings.

If you were told by a teacher to study material like that ... well, you'd probably find it very dry, if not crushingly boring. But you're likely to feel quite differently if you're familiar with the subject and motivated to learn because you just blew a win in a similar position.

Ultimately you want to be able to play 'typical' endgames without having to labor over decisions. The Russian trainer Pavel Lobach recommended playing typical endgames against a worthy opponent with a short time limit, say 30 seconds per move. This won't be enough for you to calculate your way through it. As another teacher put it, "You can employ only those techniques which you trained to be automatic," he said.
But most students will want more time for their practice games. They should consider sparring with a silicon opponent.

**Machine endgames**

“Most postal players look to improve their opening play by correspondence,” wrote a veteran play-by-mail player, David Eisen. “But endgame play is what you learn the most.”

The same goes for playing against a computer: Many students look to improve their tactics by playing whole games against a computer. But they might learn more if they played out endgames against a machine.

![Chess board diagram](image)

*White to play*

Endgame skill becomes a major weapon when you have to win positions with a relatively small advantage, such as two extra pawns. That is more than enough for a master to convert to a win. But it’s not enough for many amateurs.

That’s why this is a good position to practice on against a computer. It will teach you that most valuable endgame trait, patience.

Yes, this should be an easy win. But in an endgame, ‘easy’ is not the same as ‘quick.’ Even a trivial matter such as king and rook against king will typically take a dozen or more moves before you can deliver mate.
Overcoming endgame phobia

This position isn’t in the trivial category yet. If you push the pawns too quickly, Black can blockade them and draw.

If you asked a friend to play such endings out it would be a dreary experience for at least one of you. But computers don’t seem to mind having to defend lost positions.

The last diagram came from a real game (Hunt – Makropoulou, Pula 1997). But you can practice on similar R+2Ps-vs.-R positions that you can set up randomly. Or you can find examples using search functions and databases, such as Holzke – Gupta, Wijk aan Zee 2009 and Righi – Antoniou, Dresden 2008.

What you’ll find as your endgame study progresses is that the more pawns there are on the board, the more difficult it will be to beat the machine. This is partly because you may not have passed pawns to start out with.

For example, add a pair of pawns to the last diagram. Put a White pawn, say at f3 or f4, and a Black on at h7 or f7. Play that out and see how much more difficult it is.

Once you’ve become adept at winning endings like those, switch to examples in which one of the extra pawns is on the queenside and the other is on the kingside, like this.

Radjabov – Aronian
Linares 2009
White to play
Overcoming endgame phobia

Such positions are good practice because there is more than one winning plan and several ways to execute a plan.

In this case, White can try to swap off two pairs of queenside pawns so that he has a passed pawn on each wing. He can accomplish those trades with 1 b3 a2 2 f5+ g6 3 c5. Or with 1 f5+ g6 2 b4 so that 2 ... e3+ 3 h4 xc3 4 c5!. There are other ways of trading – and of winning.

One of the lessons you learn from such scrimmages is that the fastest, and sometimes the only way to win is to allow the defender to capture one of the extra pawns with his king. That diverts his attention from your other pawn, which you can then push home to victory.

Almost any random position of the pawns, unless they are doubled or otherwise damaged, makes for good practice against a machine. Using master games as starting points allows you to go back after your practice to see how better players handled the positions. You’ll find the games using the search facilities of many computers. Here’s a good one to try as Black:

\[ \text{von Holzhausen – Nimzovich} \]
\[ \text{Hannover 1926} \]
\[ \text{Black to play} \]

Once you’ve been able to beat the computer regularly, even at a high level of computer strength, it is time to graduate to endings with just one extra pawn. You’ll find this much harder.
Overcoming endgame phobia

It should be. After all, being able to win endings with an advantage that little is what makes a good endgame player.

Try your chances with R+4P-vs.-R+3Ps, when the extra pawn is on the queenside. But it's probably best not to play more than a few Queen endings against a machine until you get much better. They are frustrating to play because of the many checks.

Equal material

Young players are often reluctant to go into endings when they have a material edge – and they are dragged unwillingly into endings when material is equal.

Their opponents will trade queens early on and force them to play out 'even' positions because they know how unfamiliar these are to the inexperienced. Salo Flohr, a world-class player, had a motto, “With youth, go into the endgame!”

You can practice your way to a more mature level in equal-material endings in the same way that you do with favorable endgames. The first thing to learn is what good and bad endings look like when material is equal. Consider the following position.

![Chess Diagram](image)

White to play
Both sides have an outside passed pawn as well as the potential to create a pair of connected passed pawns. The only real difference between the two sides is White has a bishop while Black has a knight.

That may not seem like much. But it is. If students of equal skill play out this position several times, White should get a big plus score.

White has a significant edge because the bishop can simultaneously control squares essential to both of the passed pawns. If the bishop is on the long diagonal it guards both his own passer’s queening square at h8 and Black’s queening square at a1.

This position was cited by Jose Capablanca. Today it and several like it are excellent starting points for mini-games against a computer. Playing them out can teach you valuable lessons about advancing the king and controlling the right diagonal and about the limits of a knight.

Once you’ve played this several times, try it with another Capa position. Add two pawns, a White pawn at b2 and a Black one at g7.

![Diagram](image)

**White to play**

You’ll find that it’s much harder for White to win because he doesn’t start out with a ready-made passed pawn.
Overcoming endgame phobia

And once you’ve played that mini-game enough times, add another pair of pawns, a White one at a2 and a Black one at h7. This time you’ll discover that it’s almost impossible to win (against a computer). White’s advantage in the starting position is almost nil. You may even lose if you make your bishop ‘bad’ by pushing your pawns to dark squares.

A Soviet-era primer recommended that students play out the next endgame against one another. But that has a limited usefulness – because no one will enjoy playing Black. Instead, you should practice by playing the White pieces against a computer. (Machines don’t complain when they’re stuck with a bad bishop.)

White to play

Even a very inexperienced endgame player will realize that the bishop has no pawns that it can attack. He’ll also see that the only aggressive moves by Black’s king would be to reach b3 or e4 (but how?) or f3.

On the other hand, he’ll realize after trying a few mini-games that White can make major progress towards victory if he heads in the right direction with his king. (Even if Black moves first, White can get it to d4 and his knight to d6 or c5.)

Working on your endgame skill this way probably won’t make it a lot of fun for you. Let’s face it. Nothing will. But at least it may reduce the pain in dealing with the least-loved area of chess study.
Chapter Seven: Learning to live with TMI

As you improve as a player, you may be surprised to find that choosing a move becomes harder, not easier.

When you are advancing from rank beginner to novice, you begin to play more quickly. You may find yourself making the first move that strikes you.

But as you improve beyond novice, you learn that there are many criteria to consider – and consequently, more than one attractive move to choose from. You start taking time to make decisions. Then more time. Then too much time.

You can become overwhelmed by our old nemesis, Too Much Information. TMI is the natural result of acquiring a lot of advice about what to look at in a position. When it comes to tactics, teachers and textbooks explain all about pins, skewers, x-ray attacks, forks, decoys and so on. You can't help but get the message that before each move you should look for eight or more different tactical devices.

In addition, you are told to look for certain positional ideas. You should consider every opportunity to seize an open file or diagonal, to occupy a hole, to damage and exploit enemy pawns, to take advantage of weak squares and so on. You are also supposed to keep in mind other polished pearls of wisdom such as 'Don't launch premature attacks,' 'Don't advance pawns without a reason,' and so on.

Inevitably the avalanche of advice creates conflicts:
Learning to live with TMI

Flores – Claverie
Buenos Aires 2003
Black to play

Should Black try 1 ... \( \text{\textsection} \text{xd4} \) ? Or should he complete his laggard development? The sages will tell you, 'Don’t grab a pawn if you’re behind in development – unless you can get away with it.'

That’s the kind of ‘On the one hand, this – on the other hand, that’ advice that drives students crazy. How is Black supposed to know whether he can get away with 1 ... \( \text{\textsection} \text{xd4} \) 2 \( \text{\textsection} \text{xd4} \) \( \text{\mathbb{W}} \text{xd4} \) 3 \( \text{\textsection} \text{f3} \) unless he calculates 10 moves ahead?

Aron Nimzovich made it more confusing. He warned – on one hand – against the evils of pawn grabbing. But on the other hand, he wrote, “A center pawn should always be taken if this can be done without too great a danger.” But how do you know when it is “too great a danger”?

Fortunately for Black in this case he wasn’t overwhelmed by TMI. He plunged ahead with a move that seems much riskier than 1 ... \( \text{\textsection} \text{xd4} \). He violated all sorts of rules with 1 ... \( \text{g5} \) followed by ... \( \text{g4} \).

By driving the White knight from f3 he won the d-pawn under favorable circumstances, 2 \( \text{h3} \) \( \text{h5} \) 3 \( \text{\textsection} \text{f1} \) \( \text{g4} \) 4 \( \text{hxg4} \) \( \text{hxg4} \) 5 \( \text{\textsection} \text{h2} \) \( \text{\textsection} \text{xd4} \).
And Black was on his way to a fairly easy victory.

There’s no checklist that would help Black find a move like 1 ... g5!. But there are ways to train yourself to streamline the move selection process and still come up with a good move. That’s the subject of this chapter.

Blunder check

You hear this complaint all the time from students:

“When I look at a position I can usually see what the bad moves are. But I have a hard time figuring out which are the good ones. That makes it very difficult to choose a move I can play.”

Actually, that should make it easier. It is easier because of the way games are won and lost. Until you are at least 1400 strength – which is about the average for tournament players – most of your games will be decided by blunders. You or your opponent will overlook a threat, leave material en prise, or otherwise turn a reasonable position into a very bad one.

The huge role that bad moves play is a good thing. It provides an obvious way to lose less often: Cut down on your blunders.

This sounds too simple. But it’s the truth. The longer the game goes on without a major mistake by you, the greater the likelihood that your opponent will commit the first double question mark move and beat himself.
How can you cut your blunder rate? This is the one area in which using a checklist does work. A two-question list should be sufficient.

As soon as your opponent makes a move, ask yourself “Did he make a threat?” In the vast majority of cases when a sub-1400 player blunders, he didn’t realize there was a threat.

If the answer to the question you ask is “No,” there’s a pretty good chance your next move will not be a blunder. Even GMs have played double question mark moves because they didn’t look for a threat. Remember how Vladimir Kramnik allowed a computer to mate him in one move back in Chapter Three?

![Chess Board](image)

**Topalov – Glavina**

St. Cugat 1992

*Black to play*

Badly outplayed, White has just retreated his knight to g2. All that Black needs to win are routine precautions before he pushes his queenside pawns.

But it never occurred to Black that there was a serious threat. He played 1 ... a5?? and resigned when White replied 2 �e6!. The threat of 3 h4 mate is crushing.

Threat detection is largely a matter of learning how to see the board from your opponent’s viewpoint. Youngsters are always surprised by how different the position looks if you turn the board
Learning to live with TMI

around – either an actual board or using the flip switch on a computer.

If you can see the position the way your opponent sees it, you should be able to spot the vast majority of enemy threats. Once again, a good way to practice is to look at master games from a database:

Look at the board from White’s point of view. Click through a game in pairs of moves, that is, one move each by White and Black. After each Black move, pause and ask yourself if there is a threat to White. Here’s a simple example.

![Chessboard diagram]

**Karjakin – Morozevich**  
Nice 2009  
*White to play*

Black has just played ... \( \texttt{bx} \texttt{b2}. \) Did he make a threat?

It should be easy to see that both ... \( \texttt{xc}3 \) and a capture on c2 are threatened.

Let’s click ahead a pair of moves, 1 \( \texttt{b} \texttt{b5} \) and 1 ... c4. Is there a Black threat now?

Once you spot what there is to spot, click through the next pair of moves, 2 \( \texttt{c} \texttt{c7}+ \) d7. It should be easy to see what Black is threatening here.

Another pair of clicks brings 3 \( \texttt{x} \texttt{a8} \texttt{xc2}. \) Once again: Does Black have a threat?
Learning to live with TMI

And what about after 4 \textbf{\texttt{$\textit{We1 \textit{b4}$}}}?

Of course, this was an elementary exercise. You will usually find the threats harder to detect in other master games. Once you’ve gone through the game from the White side, flip the board and repeat the process from Black’s perspective. Again you will click a pair of moves at a time – this time one Black move followed by a White move. You will be looking for White’s threats from Black’s perspective.

Don’t expect to see a threat every time. Often a master makes a move that just improves his position. He may go several moves without a single threat.

Inexperienced players usually find it much easier to spot threats involving the enemy pieces that move along straight lines, such as rooks and bishops. They have a harder time noticing when an opponent is threatening to win with a knight move. GM Kevin Spraggett urges his students to work on this by trying to solve endgame studies that only have knights and pawns.

When there is no threat to overlook, a move can be a blunder only if it changes the position in some (bad) way. Then the task of avoiding a blunder is a matter of visualizing what the board will look like from your opponent’s point of view.

\begin{figure}
\centering
\includegraphics[width=0.5\textwidth]{chess_board.png}
\caption{Isaev – Constantinou

Dresden 2008

Black to play}
\end{figure}
This is how Black saw the position. He has many possibilities to consider. But first he looked for an enemy threat.

He was able to see that if it were his opponent’s turn, White would win with 1 \( \text{Q}x\text{e}4 \) because 1 \( ... \) dxe4 can be answered by \( \text{Ax}d8+ \) and \( \text{A}f6+ \).

This suggests that Black must move his bishop. But it doesn’t have a good choice of squares. After 1 \( ... \) \( \text{g}6 \) White responds 2 h5, for example. On 1 \( ... \) \( \text{f}3 \), White could play 2 \( \text{g}3 \) and try to trap the bishop after 3 \( \text{d}3 \).

That may be why he played 1 \( ... \) \( \text{h}7 \). Had he been able to see the position from White’s side of the board – that is, if he were sitting in White’s chair – he would surely have seen why 1 \( ... \) \( \text{h}7?? \) is catastrophic.

From this perspective it should be obvious. White delivered an immediate mate with 2 \( \text{h}6! \).

A second method of anti-blunder training is to play practice games against a compute with a special focus. Try to play normally but make a priority of not blundering. This is better than playing a human opponent because humans can overlook your mistakes. Computers are ruthless about punishing them.
Don't be concerned if your overall quality of play suffers a bit, if you feel you're not finding the best moves. Game quality isn't the point. Learning how to avoid blunders is.

The payoff is this: *If you can eliminate one potential blunder from each game, your playing strength should improve by at least 100 rating points.*

When you've reduced your blunder rate – and thereby raised your playing strength – you'll find that you get to play stronger opponents. They will prove harder to defeat because they've already learned how to cut down on their own blunders. They won't beat themselves.

To defeat them you have to refine your move-selection technique. Therefore, it's worth learning more about the different kinds of moves you have to choose from.

**What kind of move?**

Writers use all sorts of fancy names to describe different kinds of moves. In a large game collection, Savielly Tartakower cited more than a dozen types of sacrifice. He gave each type a name, such as 'vacating sacrifice.'

These distinctions may make for entertaining reading. But they aren't very helpful. If you try to use them as a checklist during a game – and look for an 'irruptive sacrifice' or a 'rolling up sacrifice,' whatever they are – you'll just waste your time.

However, it is useful to look at the basic kinds of middlegame moves. We can roughly identify four:

(a) *Tactical moves.* These moves make checks, captures, sacrifices or threats, or they respond to checks and threats. These are forcing or forced moves.

(b) *Repositioning moves.* They change, and hopefully, improve the placement of one of your pieces or worsen the range of an enemy piece.
(c) Exchanging moves. They offer, initiate or complete an exchange.

(d) Moves that change the pawn structure, that is, moves that are significant advances or captures

Of course, there are some moves that fall into more than one category. A knight advance that makes a threat can be both tactical and repositioning. A recapture of a piece with a pawn will change the pawn structure while completing an exchange.

But the point here is that TMI is a more manageable beast if you appreciate that you are essentially dealing with these four types – not 17 or 23 – and that some of them occur much more often than others.

Which ones occur most often? Well, if we think of the middlegame as lasting from roughly move 21 to move 40, statistical surveys of master tournaments show that repositioning moves are the most common. In second place are tactical moves. These are the moves you will be playing most often.

On the other hand, trading moves and changes in the pawn structure are relatively rare because (a) you can only swap seven of your pieces in a game and (b) once a basic pawn formation is set in the opening, it doesn’t change very much. The significance of these moves lies in their permanency. A trade or a pawn push cannot be taken back. And because they so often change the evaluation of the position, they deserve their own method of study.

You can work on your skill at trading and pawn pushes by looking, once more, at master games with a special emphasis. After move 15 you should stop whenever a piece is traded or a pawn is pushed. Don’t move on – or click on – until you can explain why the move in question makes sense. If a player initiated the trade, figure out why. Was the trade forced? Does an exchange favor him? Certain players, such as Fischer, Anand and Capablanca never seemed to have bad pieces – because they exchanged a potentially bad one off long before it became bad. Their games deserve your attention.
Learning to live with TMI

P. Nikolic – Mirumian
Yerevan 1996
White to play

White would like to trade a pair of minor pieces. He wants to swap bishops because Black’s kingside might then be vulnerable and because his knight will be the best remaining minor piece if it can get to d5.

But the immediate 1 \texttt{Qd5}? fails to 1 \ldots \texttt{Wxa2} (and 2 \texttt{Rxg7}?? \texttt{Wxe2}). That’s why White chose 1 \texttt{a3}, preparing 2 \texttt{Qd5}.

Black replied 1 \ldots \texttt{Wh5}. Clearly, Black wants to trade queens. This is where you have to stop and ask why. Isn’t he just making a mess of his pawns after 2 \texttt{Wxh5 gxh5}?

The answer becomes clearer when we appreciate how much of a defensive piece White’s queen was. Yes, defensive.

After the trade, Black threatens \ldots \texttt{Qc5}. Since there isn’t a White queen around to protect pawns, Black threatens \ldots \texttt{Qxb3} or \ldots \texttt{Qxe4}.
In fact, Black soon had a winning endgame. White chose 3 \texttt{a1} \texttt{c5} 4 \texttt{b1} but lost eventually after 4 ... \texttt{xc3} 5 \texttt{xc3} \texttt{xe4}.

In retrospect, 1 ... \texttt{h5}! was a strong move. White didn’t have to swap queens but he would also have been in bad shape after 2 f3 \texttt{c5} 3 b4 \texttt{b3}.

Note that Black wasn’t threatening 1 ... \texttt{h5} in the previous diagram. The trade only became a serious candidate after White weakened his queenside pawns with 1 a3. As so often happens, it was his opponent’s last move that tipped Black off.

\textbf{His last move}

When it is a master’s turn to move he knows to look first for tactics. He knows that his tactical sight is almost always sharpest in the first minute or so that he looks at a new position.

This doesn’t mean he understands more about the position than he will after five or 10 minutes of thought. Far from it. But he will be more aware of tactics at first glance. One of the reasons he is more aware is that his opponent’s just-completed move often serves as a hint.
On White’s previous turn he had a choice of recapturing on \( d1 \) with the rook on \( e1 \) or the bishop, which had been on \( e2 \). By choosing the bishop, he released his protection of his \( c \)-pawn. That amounts to an unintended clue that points Black towards \( 1 \ldots \text{Bx}c4 \).

But Black looked for a superior way of exploiting White’s last move. He found it in \( 1 \ldots \text{Be}4! \). That attacks the rook and would lead to mate after \( 2 \text{Bxe}4 \text{Bxd}1+ \) (or \( 2 \text{Be}2 \text{Bxe}2! 3 \text{Bxe}2 \text{Bd}1+ \)).

White defended with \( 2 \text{Be}3 \). Again Black can play \( 2 \ldots \text{Bxc}4 \). But \( 2 \text{Be}3 \) serves as another inadvertent hint. It signals that the bishop at \( d1 \) will be pinned if Black threatens it with \( 2 \ldots \text{Bb}1! \), e.g. \( 3 \text{Bf}3?? \text{Bx}e1 \) mate.

White’s only way of defending the bishop was \( 3 \text{Bg}4 \). But that released protection of the \( e \)-pawn. This made it easier for Black to spot \( 3 \ldots \text{Dxe}5 \), which attacks the queen that just landed on \( g4 \).

Each of Black’s moves so far has taken immediate advantage of the previous White move. In fact, it was White’s previous move each time that pointed Black in the right tactical direction.
And that continued when White replied 4 \textit{We2}.

\textit{Black to play}

Let's see how well you can do here. You should be able to find a powerful shot for Black – provided you remember what move White has just played.

Here's the answer: By removing his queen from the g-file, White allowed 4 \ldots \textit{Wg6!}, threatening mate on g2 as well as \ldots \textit{Qf3+} and perhaps \ldots \textit{Af3} as well.

White replied 5 \textit{Wf1}. If Black thought only of the moves he had been threatening he would first look at 5 \ldots \textit{Wxg2+}. Seeing that this fails, he would turn to 5 \ldots \textit{Qf3+} and 5 \ldots \textit{Af3}.

But 5 \textit{Wf1} should direct his attention elsewhere because it made 5 \ldots \textit{Qd3!} much stronger. The attacked rook cannot go to a convenient square because f1 has just been occupied by the queen.

The \textit{rook} went to its only safe square, \textit{e2}. 'Chess sense' should tell you that there should be a way to exploit such a clumsy placing of White's pieces (Q on f1, R on e2).
Learning to live with TMI

Black to play

Black found it in 6 ... $\text{Qf4!}$, which threatens 7 ... $\text{Qxe2+}$ as well as 7 ... $\text{Qxg2}$ and ... $\text{Rxg2}$. White saw that 7 $\text{Rxh4}$ would be met by 7 ... $\text{Rxd4}$ 8 $\text{Rxd4}$. $\text{Rxg2}$ mate so he resigned.

Good postal players know the importance of an opponent’s last move. They may have written up extensive notes when they sent off their own previous move. But when their opponent’s reply comes back, they look at the new position as if they had never seen it before. They do this because they will be tactically ‘fresh’ at that moment and can look for a hint from the new move.

You can learn how to use this last-move guide by playing over master games. Stop after each move, say by White, to see if Black has a way to exploit that move. Many times there won’t be. However, there will likely be several occasions when there is. This should reinforce in your mind how useful the last-move technique is.

Repositioning

Learning how to spot a good move can be as simple as cultivating good habits. Since repositioning moves account for more than half of all moves in quiet middlegames, it pays to get into the habit of regularly looking for candidate moves that improve one of your pieces.
A traditional view holds that whenever you are stumped for a move you should identify the piece of yours that is doing the least and find a way for it to do more. It’s a primitive view. But it works a surprising number of times.

San Segundo – Dumitriche
Capelle la Grande 1998
White to play

Black’s last move was ... \( \text{Qe5} \). He wants to trade knights and maybe a pair of bishops as well in order to free his somewhat cramped game.

The knight move is a hint that makes it easier for White to see his best move is 1 \( \text{Qd2} \). But avoiding the knight swap is not an end. It’s a start. White should try to find a better use for his knight.

This is where visualization comes in. Two chapters ago in the section titled Improving Your Look-Ahead we discussed visualization in terms of foreseeing what a future position will look like. There was no evaluation in those recommended exercises. But evaluation is vital in the visualization you need for repositioning and planning.

After 1 \( \text{Qd2} \) the question to ask is not “Where could I go next with the knight?” but rather “What’s the best place on the board I can find for the knight?”
Once you come to answer – “Oh, I see, d5 is best” – you try to find a route to get there. That’s why the game went 1 \( \text{Qd2} \) \( \text{a8} \) 2 \( \text{b1!} \).

Black recognized how much matters will turn in White’s favor if the knight reaches d5. So he engaged in diversion on both wings, 2 ... \( \text{wb7} \) 3 \( \text{f1} \) h5 4 h3 h4 5 \( \text{h2} \) cxb4 6 axb4 b5 7 cxb5 axb5.

But when he was freed from diversions, White continued the repositioning with 8 \( \text{c3!} \) and then 8 ... \( \text{c8} \) 9 e4 \( \text{f4} \) 10 \( \text{f4} \) \( \text{wb8} \) 11 \( \text{d5} \).

Remember when this was the knight that wasn’t doing much on f3? It took a while but it has landed on the ideal square.

\[ \text{Black to move} \]

The threat is \( \text{f6+} \) and stopping it will create other problems, e.g. 11 ... \( \text{xd5} \) 12 \( \text{xd5} \) followed by \( \text{xb5} \), or 11 ... \( \text{g7} \) 12 \( \text{g5} \).

Black played 11 ... \( \text{xc1} \) instead and lost quickly: 12 \( \text{f6+} \) \( \text{h8} \) 13 \( \text{xe5!} \) \( \text{xd1} \) 14 \( \text{xf7} \) \( \text{g7} \) 15 \( \text{wg6 resigns} \).

Once again the way to get yourself into the habit of looking for your worst-placed piece is looking at master games. Take one side, White or Black, and ask yourself at each turn, which of your pieces should be doing more than it is.

Then try to visualize an ideal square for that piece. Or if not a square, try to find a good move for it. Don’t go on with the rest of the game until you’ve come up with an answer.
Ideally, any move that you select should have a solid reason behind it. You should be able to answer this question: "How does this improve my position?" If you can’t answer the question – in words or moves – it is likely to be an aimless move. If your only answer is "Because I like it," that’s the wrong answer.

But a move doesn’t have to make a significant improvement to be good. A good way to appreciate that is to play over games of the great masters of classical chess, from Jose Capablanca and Akiba Rubinstein to Anatoly Karpov and Bobby Fischer. They tended to play moves that improved their positions slightly, almost imperceptibly. Yet those moves may be more easily explained than those of today’s grandmasters.

**Candidate moves**

Players who develop their chess sense quickly often have a problem that doesn’t plague less promising players: They examine too few moves before selecting one to play.

The reason is that they have developed intuition faster than other players and it directs their attention to one or two candidate moves. They think to themselves, "Hmmm. Bishop to b5 just looks right in this position."

That’s a wonderful facility, as we saw in Chapter Three. But if these players look a little further at $\&b5$ and find that it has a tactical flaw or other problem, they often run into trouble. They may not have a sense of good-looking alternatives. They’ve become so reliant on intuition that they haven’t developed the ability to naturally look for a wider field of candidates.

This was shown in a test reported in 64 magazine by teacher Vladimir Popov. Three talented girls were seated at separate boards with this position.
A series of questions, one at a time, was posed to them. They had 30 minutes to answer all of them. The first three questions were:

What are the candidate moves worth your consideration? Which is the strongest? And what calculation did you do to conclude it was the strongest?

One of the girls only considered 1 b4. This turns out to be the best move. But her thinking was flawed because she didn’t look at alternatives.

She should also have considered 1 \( \text{g}5 \). It makes two threats, 2 \( \text{xf6} \) (and then 2 \( \ldots \) \( \text{xf6} \) 3 \( \text{xc5} \)) as well as 2 \( \text{d7}! \) (2 \( \ldots \) \( \text{xd7} \) 3 \( \text{xf6} \) \( \text{g6} \) 4 \( \text{h6} \) and mates). If it turned out that the threats could not be answered, then 1 \( \text{g5} \) would have been best.

The other test subjects were the sisters Tatyana and Nadya Kosintseva, then 13 and 14 years old. They correctly considered both 1 b4 and 1 \( \text{g5} \). They also did the proper calculation. They found that 1 \( \text{g5} \)\( ! \) wasn’t strong because White’s threats are met by 1 \( \ldots \) \( \text{fc8}! \) (e.g. 2 \( \text{d7} \) ? \( \text{xd7} \) 3 \( \text{xf6} \) \( \text{f8} \)).

So far, so good. The test continued as the girls were shown how the game continued: 1 b4! \( \text{xb4} \) 2 \( \text{d3} \).
Learning to live with TMI

Black to play

White threatens 3 ♖xf6 and 4 ♗xh7 mate. Again the girls were given the three-part question.

This time it was tougher. One move that suggests itself is 2 ... h6. But this can be dismissed by 3 ♖xf6 since 3 ... ♗xf6 hangs the bishop on b4. (This was the reason for 1 b4! rather than 1 ♖d3.)

The girls had to look at more promising candidates. All three considered 2 ... ♗e4 and 2 ... ♞fd8.

All three then correctly rejected 2 ... ♗e4?. They saw 3 ♖xe4 would win material (3 ... ♗xh4 4 ♗xh4 ♖xe4 5 ♗d4!, forking the bishops).

But the sisters were mistaken when they analyzed 2 ... ♞fd8. They concluded it was good in view of 3 ♖xf6 ♗xf6 and then 4 ♗xb4 ♞xd3! 5 ♞xd3 ♗xa1+.

That analysis stands up. But they also said Black stood well after 4 ♖xh7+ ♘h8. (They overlooked how strong 5 ♘g5! is.)

Yet the key here is not the quality of their analysis of the two candidates. It was that none of the girls considered a third candidate, 2 ... e5!?.

It is based on 3 ♗xe5 being met by 3 ... ♗e4!, an improved version of the 2 ... ♗e4 line. It turned out to be the best defense and kept the game going.
Learning to live with TMI

This was part of a longer exam and the girls did relatively well in the calculation part. Their problem, as it is with many inexperienced players, is that they considered too few candidates.

There are several ways to improve your candidate search. For example, the next time you play a serious game, go over it afterwards with your opponent. Take note of how often you missed playing a good move. Try to remember why you didn’t consider it.

The reason matters: If you thought of the move but talked yourself out of playing it, that’s one thing. You may have to work on evaluation skills.

But if the right move never occurred to you, that’s a case of noticing too few candidates.

Another way to widen your candidate move search is to go through unannotated master games. In each position, identify the candidates that quickly occur to you. Write them down. But before going on to the next move, you should spend at least two minutes to see if there is another candidate you didn’t notice.

Let’s see how this works.

Dominguez – Morozevich
Wijk aan Zee 2009
White to play

Four candidate moves for White stand out. Three of them are moves by the knight that is attacked at c3. The fourth is 1 gxf6.
When White begins analyzing the four candidates, he would quickly see that the most obvious knight move, 1 \( \text{Qd5?} \), is bad. Black has three pieces trained on d5 and can get a fine game with the simple 1 ... \( \text{Qfxd5} \) 2 exd5 \( \text{Qxd5} \).

White would then go on to calculating and evaluating 1 \( \text{Qe2} \) and 1 \( \text{Qb1} \). Then he would turn to the most complex line of all, 1 gxf6 bxc3.

But this is an exercise in candidate spotting, not calculation. Once you had identified and written down the four candidates that seemed obvious, you should take another two minutes to look for at least one more candidate.

That’s when you should see that 1 \( \text{Qa4!} \) is also possible. In fact, it’s the only move that gives White an advantage, as we’ll see.

Now put yourself in Black’s seat and count up the candidates you can spot. There should be at least four of them. Three will be obvious moves by the attacked knight at f6. The fourth will be 1 ... \( \text{Qxa4} \), the move that seems to stand out.

When you begin analyzing, you would see that of the three moves by the f6-knight, two of them (1 ... \( \text{Qh5} \), 1 ... \( \text{Qg8} \)) are bad. They allow 2 \( \text{Qxb6} \), winning a piece. At least the third knight move, 1 ... \( \text{Qd7} \), doesn’t lose a knight.
But what about the simple 1 ... \texttt{Qxa4}? After all, White has just put his knight en prise at a4.

When you look further at 1 ... \texttt{Qxa4} you might realize that after the more or less forced reply 2 gxf6 Black must allow 3 \texttt{Rxb4}, 3 \texttt{Qxa6} or 3 fxg7. He should be worse then.

But we're not trying to improve our analytical skill here. We're working on candidates. Give yourself another two minutes to see if there's a fifth move Black should consider in the last diagram.

If you do that you might spot 1 ... \texttt{Qxe4}!, which stops gxf6 and attacks White's queen. (If you didn't spot it, keep that in mind. Like missing 1 \texttt{Qa4}!, it shows you need to let your imagination run more freely.)

In the game, Black played 1 ... \texttt{Qxe4}! and it was White's turn again. Let's do the exercise once more. How many reasonable candidates do you see for him?

You should consider 2 fxe4, of course. In addition, there are moves of the attacked queen but they don't make much sense.

The only real alternative to 2 fxe4 that White might consider is 2 \texttt{Qxb6}, since it captures a piece and attacks Black's queen. But it allows 2 ... \texttt{Qxd2} 3 \texttt{Qxd8 Qxb3+} which favors Black (4 axb3 \texttt{Qxb3}!).

So we turn to 2 fxe4 and then 2 ... \texttt{Qxa4}, because Black has no other candidates of any merit.

\begin{center}
\includegraphics[width=0.5\textwidth]{chess_board.png}
\end{center}

\textit{White to play}
The position remains sharp and this suggests that White’s candidates will likely consist of tactical moves. Only two moves fit that description, 3 \( \textit{\texttt{wb}}x\texttt{b4} \) and 3 \( \textit{\texttt{a}}x\texttt{a6} \).

If you spend another two minutes to look for another candidate you might come up with something like 3 \( \textit{\texttt{h}}4 \), with the idea of \( \texttt{h}4\texttt{-}h5 \) and eventually \( \texttt{g}5\texttt{-}g6 \). (That’s much too slow for the demands of this position. But you wouldn’t be wrong for at least glancing at 3 \( \textit{\texttt{h}}4 \).)

The game went 3 \( \textit{\texttt{wb}}x\texttt{b4} \) \( \textit{\texttt{wc}}7 \). Black threatens mate on \( \texttt{c}2 \). Which candidates would you consider as White?

You should notice 4 \( \textit{\texttt{wa}}xa4+ \) (and 4 ... \( \textit{\texttt{d}}7 \) 5 \( \textit{\texttt{wc}}4 \)). You should also think of 4 \( \textit{\texttt{d}}2 \). You wouldn’t be wrong for calling 4 \( \textit{\texttt{c}}3 \) the third candidate, though 4 ... \( \textit{\texttt{xc}}3! \) (5 \( \textit{\texttt{bc}}3 \) d5) is a dangerous reply.

The point here is to widen your field of vision when it comes to the very first step of move selection. And bear in mind, the difficulty in finding the best move may increase, not decrease, as pieces are traded. Endgame positions can be harder to analyze because there are more candidate moves, as GM Kevin Spraggett explained.

In a middlegame the number of reasonable moves is relatively small because the enemy forces are in such close proximity that most moves simply lose material by putting the moving piece en prise. But in the endgame there is “more ‘open space’ and fewer pieces” and therefore “fewer of the candidate moves are ‘ridiculous,’” Spraggett added.

**The planning problem**

Novices are warned that they must always have a plan. “In every game we ought to have a single basic plan,” wrote Pyotr Romanovskiy. “It is not a move, even the best move, that you must seek but a realizable plan,” said Eugene Znosko-Borovsky.
Learning to live with TMI

This terrifies students. They fear that at all times they must have some sort of ‘I do this, that and the other thing and then it’s mate in 17 moves’ plan.

But long-range planning is very rare. One of the few masters to acknowledge this was Siegbert Tarrasch – while he was claiming that he formulated a plan that lasted 20 moves.

Tarrasch – von Scheve
Leipzig 1894

1 d4 d5 2 c4 e6 3 c3 c6 4 f3 c7 5 f4 c6 6 e3 b6 7 h3 e4?

Tarrasch said Black’s move wasn’t just an error but “the decisive mistake.” He claimed he could make a plan here that would last the rest of the game, beginning with 8 cxe4 and then 8 ... dxe4 9 d2.

The pawn at e4 is weak and Black will have to play ... f5 at some point in order to defend it, Tarrasch wrote. This creates a new weakness. White can exploit it by castling queenside and playing f2-f3 when ready. This will force open part of the g-file, after ... exf3/gxf3. Then it’s just a matter of increasing White’s pressure on g7 until the defense cracks, Tarrasch concluded.

He added that this was a rare case in which as early as the eighth move a player could “make such a detailed plan, leading almost to
mate, and then carry it out logically and without any deviation right up to the catastrophe 20 moves later.”

The game continued 9 ... $b4 10 a3 $xd2+ 11 $xd2 0-0 12 $c2!. Now 12 ... $f6 would have lost a pawn to 13 $e5! and $xf6.

Black played 12 ... f5, as Tarrasch had predicted. This was followed by 13 $d6 $e8 14 0-0-0 $f6 15 $e5 $d7 16 f3! exf3 17 gxf3 b5 18 $g1 $f8 19 $d2! $f7 20 $dg2 a5 21 $f2 $e8?! 22 $g5 $e7 23 $h4 $f6 24 $h6!.

![Black to play](image)

White’s pressure on g7 was decisive after 24 ... $a7 25 $d6! $xd6 26 $xg7+ in view of 26 ... $h8 27 $xf7 or 27 $xh7+! $xf7 28 $g8 mate.

Black preferred 26 ... $f8 but resigned after 27 $xh7+ $e7 28 $xf7+ $xf7 29 $g7+ $e8 30 $xf6.

But Tarrasch was boasting. His plan only worked because of additional mistakes Black made after 7 ... $e4?. If Black hadn’t traded off his dark squared bishop (9 ... $b4? instead of 9 ... f5!) or lost time with his rooks ( ... $e8-f8-f7 instead of 13 ... $f7!), White would not have been able to rely on one plan for so long.

Long-range planning like that is only possible when:

(a) one of the players is significantly weaker than the other, or

(b) one of the players is far behind in material.
In the last example, Black feebly failed to put up resistance that would have forced White to change his plan. In the next example, long-range planning is possible in an endgame because one side has a big material edge. White can plan his next 10 or so moves because he doesn’t have to worry much about what Black is doing.

![chess_diagram]

**Jakovenko – Wang Yue**  
Elista 2008  
*White to play*

Black resigned here. Boris Spassky, commenting on the game for spectators, explained the winning process. He didn’t cite a single variation but spoke only in terms of plans:

First White will bring his bishop to b4, he said. Black must shift his bishop on to the h2-b8 diagonal in hopes of sacrificing it for the c-pawn when it reaches c7.

In step two White advances his pawns to a6 and c6. The third step is to put his bishop on c5.

In the final steps he maneuvers his king to d7 and wins with \( \texttt{d6} \), Spassky said.

Translated into moves we get 1 \( \texttt{b4} \) \( \texttt{g3} \) 2 \( \texttt{c5} \) \( \texttt{f4} \) (pass) 3 \( \texttt{a5} \) \( \texttt{g3} \) 4 \( \texttt{c6+} \) \( \texttt{b8} \) 5 \( \texttt{a6} \) \( \texttt{f4} \) 6 \( \texttt{c5!} \) \( \texttt{g3} \) 7 \( \texttt{c4} \). Then 7 ... \( \texttt{c8} \) or 7 ... \( \texttt{c7} \) allows 8 \( \texttt{a7!} \).
Therefore Black must allow White to continue $8 \text{d}5$, $9 \text{e}6$ and $10 \text{d}7$.

As Spassky explained, the plan is completed by the winning $11 \text{d}6+$ (or $10\ldots \text{a}8 11 \text{d}6 \text{f}2 12 \text{c}7$). But it should be easy to see that the various steps were possible only because Black was so far behind in material that he couldn’t fight with his king. He could only wait for the next step in White’s plan.

Plans are useful. But they are far from essential. This was proven when computers, like Deep Blue and Rybka, overwhelmed world-class players. They did this without the kind of schematic planning that humans can perform. Computers can calculate superbly. But they simply cannot plan in the long term.

The main reason that having a plan is good is: *It makes move selection easier.*

If you believe you are following a good plan, you can easily reject candidates that don’t fit in with it. This helps explain why masters of planning, such as Tigran Petrosian, Anatoly Karpov and Vladimir Kramnik, are such great speed chess players. They don’t waste time because they are able to form plans easily – and by following them, they could consider only the few moves that conform to the plans.
Plan training

A good plan can be as simple as "I have to find a better square for my knight." This can be completed in two repositioning moves. Or a good plan can be as general as "I should attack his kingside because it's weak."

We saw how to work on short-term planning – that is, repositioning – a few pages ago. For long-term planning there is a hands-on approach that mixes book study with computer help:

Find one of the classic books on planning, such as Judgment and Planning in Chess by Max Euwe, The Middle Game by Max Euwe and H. Kramer or Ludek Pachman's Modern Chess Strategy. Or locate one of the several books on pawn structure and positional chess, such as Michael Stean's Simple Chess and Neil McDonald's Concise Chess Middlegames.

Choose a diagram but don't look at the moves that follow. Key the position into your computer and then set the strength of the machine so that you would have a reasonable chance of winning.

Then play out the position, at a slow rate, not more than one move per three minutes. Afterward, look at what the author said you should be doing in that position. He will explain the plans you missed.

You can also practice planning by looking at typical post-opening positions. Use the final positions of main lines in an opening book:

Open up a book that takes an encyclopedic approach, like Encyclopedia of Chess Openings or Modern Chess Openings. Play through the moves of a column until you get to the end. Columns that end with equal or unclear evaluations are best for this purpose.
Here's a position from an MCO column on the Queen's Gambit Accepted. The column ended with the conclusion of 'chances for both sides.' But what exactly are those 'chances'? That's your task to figure out.

Start with White. Write down all the middlegame ideas that occur to you. Don't analyze variations. Just look for moves and maneuvers that White might want to play. Answer questions like "Should he change the pawn structure?" and "Are there piece trades he should seek or avoid?"

Once you've answered those questions, turn the board around and do the same for Black. This should take several minutes, at least.

When you're done you should appreciate that White has attacking chances on the kingside. After all, he controls more space there and Black's only minor piece in the area is the bishop on e7.

You might also realize that attacking the Black king doesn't require you to 'complete development.' White's bishops stand pretty well where they are. The best attacking maneuver you might see is a3 followed by h3 or g3. When prepared, White may continue g5 in order to attack f7 or h7, or h6 to bombard g7.
You should conclude that White doesn’t have any particularly good pawn advances. But depending of what Black does, White might also attack on the queenside. If the Black knight retreats from b4, for example, White might try \( d3 \) and threaten \( xa6 \).

What about Black? You might have considered the plan of exploiting the c-file. Specifically this can mean \( wc7 \) and \( c2 \), or the \( xc1 \) combination.

Also, you might appreciate that trades tend to be good for Black. In the endgame White’s kingside attacking chances disappear but the weakness of the d4-pawn begins to grow.

This plan-searching exercise can be conducted with many columns of the opening encyclopedias, even the ones ending with vague conclusions. For example, the first \( ECO \) column in the section on the Nimzo-Indian Defense ends with an infinity sign, to mean ‘unclear’:

There is no further analysis. But we can assume Black is going to move his attacked knight from f6 to either d5 or d7. Let’s start with 1 ... \( d7 \).

Again you should jot down your ideas, finding at least one plan for White. You should have noticed that Black is a pawn up, and it is the protected pawn at c4. This means White needs some kind of compensation.
A good plan that offers compensation would be kingside attack by means of $\text{Qe}4$. Then White can continue $\text{Qf}g5$ followed by $\text{Wh}5$, with a threat of $\text{Wxh}7$ mate. An alternative plan is $d4-d5$.

Another plan should come to mind after $1 \ldots \text{Qd}5$. Where else is Black weakened? You should be able to see that he has lost pawn control of several dark squares.

This suggests a different plan. White can meet $1 \ldots \text{Qd}5$ with $2 \text{Qe}4$ and then $\text{Qg}5$ and $\text{Qxe}7$. The idea is to be able to occupy $c5$ with a knight.

Black's queenside pawns, not just his squares, may be vulnerable. White can try to exploit them with $a3-a4$, regardless of whether Black plays $1 \ldots \text{Qd}7$ or $1 \ldots \text{Qd}5$. Then if Black trades pawns on $a4$, he is left with three isolated queenside pawns, at $c4$, $c7$ and $a7$. If instead Black advances his $b$-pawn to $b4$, White moves his attacked knight from $c3$ and later tries to attack the $c4$-pawn.

That's four plans for White. There may be more. Some are better than the others. But the main point here is to be able to identify White's options.

The same can be done for Black. What are his plans? Well, creating a passed queenside pawn and promoting it is one. But it is one that almost certainly won't be realized for at least 20 moves.

More reasonable, short-term plans would be: Trade off White's best pieces, such as White's $g2$-bishop after $\ldots \text{b}b7$ and eventually $\ldots \text{b}xg2$. Another plan is to liquidate White's strong center. That suggests $\ldots c5$, say after $\ldots \text{a}a5-b3$.

The best part of this is you can practice on the hundreds of columns from $MCO$, $ECO$ and from the main lines of opening books. But keep in mind that the purpose of finding a plan is to make it easier to find specific moves. We need to turn Znosko-Borovsky's comment upside down:

It is not a plan, even the best plan, that you must seek but a good move. To find a good move may mean widening your choice of candidates or simply learning how to avoid playing a bad move.
Chapter Eight:
How to learn more from a master game

‘Study master games’ is the universal advice handed down by teachers, and you’ve seen it a lot in this book. But this mantra raises obvious questions. Among them:

Which games should you look at and how do you find them?
What are you looking for in the games you study?
How long should you spend on a game?
Should you use a board and set or a computer?

Let’s begin with the first question. It was once hard to find good games. When Paul Keres was young he collected them the hard way. He wrote out by hand every game he could find. He amassed nearly 1,000 unannotated games by the time he was a teenager.

But you are lucky because you can find games easily, on websites and software and in books and magazines. Many of those games will be annotated and that makes them infinitely more useful than bare game scores.

However, annotated games vary widely in quality. Some are excellent study material. Others are poor. But the most numerous fall into a third category – good-but-wrong-for-you.

They may qualify technically as ‘good’ because the quality of the moves and analysis is high. But they are wrong for you because the level of sophistication is much too high to benefit students. In periodicals, you will find super-grandmasters annotating their wins against other GMs in a way that is incomprehensible to anyone who is not a master.
How to learn more from a master game

Garry Kasparov annotated this, one of his greatest games, in the *Chess Informant*. Here he played 1 ... *b4*! and criticized his opponent's reply, 2 *b1.

In his analysis he said the best defense to the attack on the knight was 2 fxe5!. He added that 2 ... bxc3 3 *xc3 *xe5 wasn't too bad for White following 4 *xc6.

Fine. But when the vast majority of readers see 1 ... *b4* they ask, "What about the obvious move? Why can't White play 2 *xb4"?

Kasparov didn't mention it at all. He assumed that his readers would instantly see that the capture can be strongly met by 2 ... c5!. Then 3 *xc5* is met by 3 ... *xc5! 4 *xd8 *ed3+ or 4 *xc5 *ed3+.

But most students won't be able to see that and they shouldn't be expected to. Kasparov was writing for a much stronger audience.

So the first criterion for choosing what to study is: You want games with annotations that answer the questions that baffle you the most.

Finding them is more difficult than you might expect. Even the best annotators will typically answer some questions but ignore many others.
How to learn more from a master game

Here's an example from the match that attracted the attention of more annotators than any other. This is the 17th game of the 1972 Spassky – Fischer world championship match. Play it over and see how many of your questions were answered:

1 e4 d6 2 d4 g6 3 c3 f6 4 f4 g7 5 f3 c5 6 dxc5 a5 7 d3
6xc5 8 e2 0-0 9 e3 a5 10 0-0 g4

More than a score of grandmasters and other writers annotated this game. But they had little to say about the first five moves and not much more until move 10.

This is common because annotators often begin analyzing only after the book moves have been exhausted, and 10 ... g4 was the first move that had not been played before in master chess.

One of the annotators, C. H. O'D. Alexander, showed what happens when the more common moves, 10 ... bd7 and 10 ... c6, are played.

Another commenter, Mikhail Tal, explained instead that by pinning the knight, 10 ... g4 made it harder for White to play e4-e5.

Robert Byrne simply noted that the bishop had no better square than g4. Those are three quite different comments and each is useful in its own way.
When White replied 11 $\text{Ad}1$, Viktor Korchnoi claimed this was inferior to the more forcing 11 h3 $\text{xf}3$ 12 $\text{xf}3$. He didn’t analyze further.

Jan Timman did. He concluded that 12 ... $\text{c}6$ would be fine for Black after ... $\text{b}4$xd3. And if 13 a3, then 13 ... $\text{d}7$, intending 14 ... $\text{x}c3$, he said.

Instead of 11 h3, Sammy Reshevsky analyzed 11 $\text{e}1$, with the idea of 12 $\text{x}d5$ $\text{xe}1$? 13 $\text{xe}7+$, and 11 a3 followed by 12 b4.

This shows how annotators will look at some candidate moves and ignore others. Also the depth of their analysis will vary greatly. The game proceeded with 11 ... $\text{c}6$ 12 $\text{c}4$.

Alexander Kotov was virtually alone in explaining that White was preparing an attack on f7, which may be Black’s most vulnerable weakness. This may be obvious to masters. But it’s a revealing insight for amateurs and the kind that you want to find in the notes.

Black replied 12 ... $\text{h}5$ and that provoked an analytic debate. The forcing 13 $\text{d}5$ turns out well after 13 ... $\text{b}4$?? 14 $\text{b}5$ or 13 ... $\text{c}7$ 14 $\text{g}5$, said Svetozar Gligoric and Nikolai Krogius. Other GMs disputed that, saying Black stands well in the last line if he continues 14 ... $\text{d}4$.

Instead of 13 $\text{d}5$, White played 13 $\text{b}3$. Black won a pawn with 13 ... $\text{x}c3$ 14 $\text{xc}3$ $\text{xc}3$. The annotators agreed that Black was
consistent with his 12th move. Tal was one of the few to analyze an alternative, 13 \ldots \textit{\texttt{ac}8}.

After 14 \ldots \textit{\texttt{xc}3}, White continued 15 f5. Most GMs made no comment but Alexander explained that this will open lines of attack and cut off the retreat of Black's bishop. He gave no analysis.

Only a few annotators explained why Black did not take a second pawn (15 \ldots gx\textit{f}5 16 exf5 \textit{\texttt{xf}5}). Some made a good case that 17 \textit{\texttt{g}5} would be too strong and others found evidence that 17 \textit{\texttt{d}4} would be good. That's another thing to keep in mind. When two GMs disagree, each may have a valid point.

Some authors answered another obvious question: Since 15 f5 gives up control of a good square at e5, why didn't Black centralize a good defensive piece with 15 \ldots \textit{\texttt{e}5}?

Vasily Smyslov answered that 16 \textit{\texttt{f}2}! allows White to bring more pieces to the kingside. For example, 16 \ldots \textit{\texttt{xf}3}+ 17 gxf3 \textit{\texttt{h}3} 18 \textit{\texttt{f}e}1 and \textit{\texttt{h}4}! is dangerous.

Instead, Black answered 15 f5 with 15 \textit{\texttt{f}6}. Annotators were strangely silent about the next move, 16 h3. There followed 16 \ldots \textit{\texttt{xf}3} 17 \textit{\texttt{xf}3}.

\begin{center}
\begin{tikzpicture}
\node[draw] (a) at (0,0) {\textit{\texttt{g}1}}; \node[draw] (b) at (1,0) {\textit{\texttt{f}1}}; \node[draw] (c) at (2,0) {\textit{\texttt{e}1}}; \node[draw] (d) at (3,0) {\textit{\texttt{d}1}}; \node[draw] (e) at (4,0) {\textit{\texttt{c}1}}; \node[draw] (f) at (5,0) {\textit{\texttt{b}1}}; \node[draw] (g) at (6,0) {\textit{\texttt{a}1}}; \node[draw] (h) at (0,1) {\textit{\texttt{g}2}}; \node[draw] (i) at (1,1) {\textit{\texttt{f}2}}; \node[draw] (j) at (2,1) {\textit{\texttt{e}2}}; \node[draw] (k) at (3,1) {\textit{\texttt{d}2}}; \node[draw] (l) at (4,1) {\textit{\texttt{c}2}}; \node[draw] (m) at (5,1) {\textit{\texttt{b}2}}; \node[draw] (n) at (6,1) {\textit{\texttt{a}2}}; \node[draw] (o) at (0,2) {\textit{\texttt{g}3}}; \node[draw] (p) at (1,2) {\textit{\texttt{f}3}}; \node[draw] (q) at (2,2) {\textit{\texttt{e}3}}; \node[draw] (r) at (3,2) {\textit{\texttt{d}3}}; \node[draw] (s) at (4,2) {\textit{\texttt{c}3}}; \node[draw] (t) at (5,2) {\textit{\texttt{b}3}}; \node[draw] (u) at (6,2) {\textit{\texttt{a}3}}; \node[draw] (v) at (0,3) {\textit{\texttt{g}4}}; \node[draw] (w) at (1,3) {\textit{\texttt{f}4}}; \node[draw] (x) at (2,3) {\textit{\texttt{e}4}}; \node[draw] (y) at (3,3) {\textit{\texttt{d}4}}; \node[draw] (z) at (4,3) {\textit{\texttt{c}4}}; \node[draw] (aa) at (5,3) {\textit{\texttt{b}4}}; \node[draw] (bb) at (6,3) {\textit{\texttt{a}4}}; \node[draw] (cc) at (0,4) {\textit{\texttt{g}5}}; \node[draw] (dd) at (1,4) {\textit{\texttt{f}5}}; \node[draw] (ee) at (2,4) {\textit{\texttt{e}5}}; \node[draw] (ff) at (3,4) {\textit{\texttt{d}5}}; \node[draw] (gg) at (4,4) {\textit{\texttt{c}5}}; \node[draw] (hh) at (5,4) {\textit{\texttt{b}5}}; \node[draw] (ii) at (6,4) {\textit{\texttt{a}5}}; \node[draw] (jj) at (0,5) {\textit{\texttt{g}6}}; \node[draw] (kk) at (1,5) {\textit{\texttt{f}6}}; \node[draw] (ll) at (2,5) {\textit{\texttt{e}6}}; \node[draw] (mm) at (3,5) {\textit{\texttt{d}6}}; \node[draw] (nn) at (4,5) {\textit{\texttt{c}6}}; \node[draw] (oo) at (5,5) {\textit{\texttt{b}6}}; \node[draw] (pp) at (6,5) {\textit{\texttt{a}6}}; \node[draw] (qq) at (0,6) {\textit{\texttt{g}7}}; \node[draw] (rr) at (1,6) {\textit{\texttt{f}7}}; \node[draw] (ss) at (2,6) {\textit{\texttt{e}7}}; \node[draw] (tt) at (3,6) {\textit{\texttt{d}7}}; \node[draw] (uu) at (4,6) {\textit{\texttt{c}7}}; \node[draw] (vv) at (5,6) {\textit{\texttt{b}7}}; \node[draw] (ww) at (6,6) {\textit{\texttt{a}7}}; \node[draw] (xx) at (0,7) {\textit{\texttt{g}8}}; \node[draw] (yy) at (1,7) {\textit{\texttt{f}8}}; \node[draw] (zz) at (2,7) {\textit{\texttt{e}8}}; \node[draw] (aa1) at (3,7) {\textit{\texttt{d}8}}; \node[draw] (bb1) at (4,7) {\textit{\texttt{c}8}}; \node[draw] (cc1) at (5,7) {\textit{\texttt{b}8}}; \node[draw] (dd1) at (6,7) {\textit{\texttt{a}8}};
\end{tikzpicture}
\end{center}

\textit{\texttt{Black to play}}

Black played 17 \ldots \textit{\texttt{a}5}. A good annotator should point out two things to non-masters. Few annotators passed the test.
First, Black’s move should be explained: It prepares to eliminate the dangerous bishop with ... \( \text{\(c\)xb3}. \)

Second, the reader wants to know why 17 ... \( \text{\(d\)e5} \) – which makes a bigger threat – isn’t good.

The reason is that 18 \( \text{\(f\)f4} \) is highly dangerous for Black in view of \( \text{\(h\)h6} \) and \( \text{\(f\)f4-h4}. \) Then \( \text{fxg6} \) would be a killer thanks to the pin on Black’s f-pawn.

GM Ivo Nei, who was one of Boris Spassky’s seconds, looked at a third candidate, 17 ... \( \text{\(e\)e5}, \) carried his analysis of 18 \( \text{\(d\)d5}! \) several moves into the future and concluded White would be close to a win.

After Black played 17 ... \( \text{\(a\)a5} \) instead, there came 18 \( \text{\(d\)d3} \) \( \text{\(c\)c7}. \)

\[
\text{White to play}
\]

Once again the difference in annotators was stark. Some said nothing about Black’s last move.

Cecil Purdy, however, gave it an exclamation point. He said that 18 ... \( \text{\(c\)c6}, \) which attacks the e-pawn, is too risky (19 \( \text{\(d\)d5} \) \( \text{\(x\)xd5} \) 20 exd5 \( \text{\(x\)xc2} \) 21 \( \text{\(h\)h6}). \)

But as often happens in complex positions, Purdy didn’t consider an alternative that the reader might wonder about, the immediate 19 ... \( \text{\(x\)xc2}. \)

In the position in the diagram, White played 19 \( \text{\(h\)h6}. \) Black answered 19 ... \( \text{\(x\)xb3}. \)
How to learn more from a master game

Some annotators failed to explain why White didn’t capture on f8. “Wasn’t that the point of the bishop move?” the reader is bound to ask. (The answer is 20 $\text{xf8 c5}! 21 \text{h6 xd3}$ turns out to be an indirect trade of pieces that should help the defender, Black.)

Play continued $20 \text{cxb3 wc5} + 21 \text{h1}$.

This turned out to be the most controversial moment of the game because Black didn’t move his attacked rook. Purdy gave the move he played, 21 $... \text{e5}$, an exclamation point and called it “a real genius case of a classical Exchange sacrifice.” He gave no analysis.

Alexander also praised the move and spoke in general terms. He said White would have met a move of the f8-rook with a trade of pawns on g6 followed by a strong g2-g4-g5.

Timman was more specific. He analyzed 21 $... \text{fc8} 22 \text{fxg6 fxg6} 23 \text{g4}$ and concluded White’s attack is strong after he beats off Black’s threats, 23 $... \text{e5} 24 \text{e3 c2} 25 \text{f4}$. But he stopped there.

Byrne went further. He liked Black’s chances after 25 $... \text{d4}$ and concluded the Exchange sacrifice that Fischer made was needlessly dangerous. And Reuben Fine simply gave 21 $... \text{e5}$ two question marks without any analysis.
It's not surprising that this host of elite annotators disagreed so much. What is revealing is how often one – and only one – annotator answered an obvious question, and how often no one explained a move that would puzzle many students. All the more reason to be careful when finding annotations worth your time.

Criteria

Good annotations won't help much if the game itself is poor material for study. Several authors have tried to come up with a formula for what makes a game instructive. The Soviet master Pyotr Romanovskiy set four conditions:

(1) Both of the game's players are strong.

(2) The annotations are extensive.

(3) No gross errors were made.

(4) The game contains enlightening themes, such as well thought out plans, combinational attacks, complicated maneuvers, and so on.

Romanovskiy's list is a good starting point. But there are a lot of ways to refine it. There's a problem with his first point because masters usually don't make the kind of instructive mistakes that amateurs learn the most from. In master-vs.-master games, the errors are usually minor and the punishment is so slow coming that the educational value is often lost.

Perhaps the best game collection written specifically for novices is *Logical Chess, Move by Move*. It provides an explanation for every move and shows why the good moves are good and the bad ones are bad. Many of the game were lost by non-masters.
How to learn more from a master game

Spielmann – Wahle
Vienna 1926
White to play

In this mismatch of grandmaster and amateur, Black’s errors allowed White to obtain a serious edge. Author Irving Chernev explained how vital a single piece, the bishop at e7, is to Black.

Without that bishop, Black’s knight is pinned and his queen is tied to the defense of the knight. But with the bishop on the board, White cannot exploit his lead in development. “Obviously, the bishop is the culprit and must be destroyed,” Chernev wrote.

This explains why 1 Æxe7! made sense and why 1 ... Ñxe7 2 Ñf3, threatening Ñxf6, was the logical follow-up.

Black needed a few moves to untangle his pieces, such as ... Ñg7 followed by ... Ñe6 or ... Ñd6 and a knight move.

But he didn’t have time for that. After 2 ... Ñg7 White increased the pressure on f6 to the breaking point with 3 Ñce4! dxe4 4 Ñxe4.
How to learn more from a master game

The key line begins with 4 ... $\text{Q}xe4$, which Chernev showed would be refuted by with 5 $\text{Q}xf6+$ and 6 $\text{Q}xe4$, winning the queen, or by 5 $\text{Q}xf6+$ and 6 $\text{Q}h6$, followed by $\text{Q}g7$ mate.

The game’s actual end was similar, 4 ... $\text{Q}e6$ 5 $\text{Q}xf6+$ $\text{Q}g8$ 6 $\text{Q}f4$ resigns (in view of $\text{Q}h6$-$g7$ mate).

There was more to the game’s notes. They explained why 2 ... $\text{Q}f5$, rather than 2 ... $\text{Q}g7$, would not save Black. (It loses to 3 $\text{Q}xf5$ gxf5 4 $\text{Q}g3$.) The notes also had a lot to say about Black’s laggard development, the proper way to choose an opening, why White developed his KN at e2 instead of the natural f3 and so on.

Chernoby did all this in a manner easily understood by even fairly inexperienced players. A modern version of his book, limited to games played by masters, is Chess: The Art of Logical Thinking by Neil McDonald, another superbly instructional work.

Right for you

Romanovsky’s second point – the notes must be extensive – is a veiled criticism of the kind of annotation that was once common. A master’s only comment about a move would be “Better is 23 $\text{Q}d2$.”
How to learn more from a master game

This leaves the reader bewildered as to what $\texttt{d2}$ does, why it is good and why it is better than the alternatives.

The easiest way to see if a book of games is right for you is to go to a library or to a bookstore with a large chess section. Glance through several game collections. You are looking for ones with ample notes. But you want a lot of commentary in words and little of multi-move analysis.

Browsing through a book this way – or going through an on-line annotation – will also tip you off to notes that satisfy Romanovsky’s third criterion. If there are a lot of gross errors, they will stand out with question marks and double question marks.

Jan Timman, in his *Art of Analysis*, offered criteria similar to Romanovsky’s. The games he selected had to (a) be played by leading GMs, (b) contain no blunders, (c) have several crucial moments, and (d) be hard-fought, with lots of tactics.

I would add: (e) the games must be entertaining. If you aren’t enjoying what you are doing you won’t devote the proper amount of time to it and improve.

There are, however, problems with these criteria. There is no sure way of figuring out in advance whether a game has crucial moments, or is hard-fought, has instructive themes or is fun to play over.

The best tip-offs are the diagrams and the comments under them. The author usually determines where the diagrams should be placed. If he has an instructional or entertaining point to make, he gives it a featured place under a diagram. He will also emphasize the turning points of the game with a diagram.

Another clue, at least to the fun factor, is the length of a game. Most students will enjoy relatively short games. Until they reach, say, 1600 strength, they will be better entertained – and also better taught – by games that last under 30 moves.

Why? Because short games almost always have a moral or two. Because the loser’s error (or errors) are easily explained. And because the punishment is swift and almost always cute.
How to learn more from a master game

The first books I really enjoyed were called *Great Short Games of the Chess Masters* by Fred Reinfeld and *Soviet Chess Miniatures* by P.H. Clarke, which may be hard to find today. But there are plenty of recent miniatures. Even very, very short games are useful.

**Bacrot – Relange**  
Paris 2006

1 e4 c5 2 ∇e2 d6 3 g3 d5!?  
Black hopes for 4 exd5 ♗xd5, attacking the h1-rook, or 4 ∇g2 dxe4 5 ∇xe4 ♘f6, gaining time.

4 ∇bc3 d4 5 ∇d5

![Chess board diagram](image)

White’s natural advance leaves the knight with one escape route. It was closed by 5 ... g5!.

To stave off losing a piece (6 ... e6) White played 6 d3. Then 6 ... e6 7 ∇xg5! ♗xg5 8 ∇xc7+ would avoid calamitous loss of material.

But after Black found 6 ... h6! there was no way to save the knight. White could have resigned.

Among the lessons to be learned here is that it may take unusual, non-developing moves (5 ... g5! and 6 ... h6!) to punish other unusual moves (5 ∇d5??).
How to learn more from a master game

Hero worship

To play through a collection of 50 or more games requires either self-discipline or strong motivation. Many newcomers to chess, especially youngsters, won’t have the self-discipline. But they may be able to motivate themselves by choosing a role model. This follows the motto of Soviet era trainers: “Find yourself a leader.”

Select a player whose games you enjoy and who you want to know more about. Thanks to today’s databases, you can collect hundreds, if not thousands, of games played by your grandmaster of choice.

You can also refine your search and find, say, Sicilian Defenses won by Garry Kasparov. Or rook-and-minor piece endgames played by Tigran Petrosian. There’s a free goldmine of study material out there.

Yes, I know this is hero worship. But there’s nothing wrong with hero worship. It adds a personality to playing over games. It puts a face on master chess for you.

For Magnus Carlsen, the face was Vladimir Kramnik’s. When Carlsen was 10 he read a collection of Kramnik’s games “cover to cover.” It was “the first chess book I liked,” he recalled, adding “I played over each game several times.”

The hero you choose doesn’t have to be a current player. Arkady Naiditsch, who became one of the world’s 30 top-rated players before his 21st birthday, said his favorite players when growing up were Paul Morphy and “the Kramnik of 2000.”

Bobby Fischer’s games had a powerful influence over many youngsters who went on to become grandmasters. Lev Psakhis reputedly memorized 1,000 Fischer games on his way to becoming Soviet champion. Michael Adams of England said it was because of Fischer that he adopted 1 e4 as his opening move. Yasser Seirawan said he read My 60 Memorable Games “at least a dozen times.”
Lev Polugayevsky was obsessed with fellow Russian Mikhail Botvinnik. He said the first game he studied deeply was the following. “I was so thrilled by it that for the first time in my life, instead of going to school, I went off to the park and there on a bench I replayed the game probably seventy times on my board.”

Lilienthal – Botvinnik
Moscow 1945
Black to play

Seventy times? Polugayevsky grew up in a time and place when Botvinnik was venerated as a chess god. But seventy is still a lot.

You don’t have to play a game over more than a few times to get a lot out of it. The ideal may be three times, as we’ll explain later in this chapter. But what you need are notes you can understand.

Botvinnik’s annotations were clear and illuminating, particularly here when he said Black had a strategically won game after 1 ... ♖xc3! because e4 “is irrevocably weak.”

After 2 ♗xc3 ♖xe4 3 ♙-moves Black “wins by advancing his queenside pawns,” he added. In the game, 2 bxc3 ♖xe4 was played and Black mounted decisive pressure on the weak a2 and c3 pawns.

Play continued 3 ♗a1 ♗a6 4 ♗c1 ♖d8 5 ♖c2 ♖d6 6 ♗g4 ♗g6! – which stops White’s plan to trade knights because now 7 ♗f2? ♖xg2 wins. There followed 7 h3 h5 8 ♗e5 ♖gb6 9 ♗f3 ♗a3!.
How to learn more from a master game

Note the difference between the two diagrams: Black’s pieces just kept getting better. Here White has no defense to a capture on c3. For example, 10 \( \text{Qe}5 \text{Qxc3} 11 \text{Qxc3??} \text{Wxa2 mate.} \) Or 10 \( \text{Wxa3 Qxa3} 11 \text{Qdcl Qb3!} \). Black soon won.

Classics versus Moderns

If you can’t choose a hero, at least choose good games. There are dozens of grandmaster games played every day. Yet students are always told to study ‘the classics.’

When Jeroen Piket was a promising 19-year-old Dutch student he was granted a special training session with Botvinnik. After studying his play, Botvinnik concluded that Piket had difficulty finding plans in the middlegame and ‘swims’ in the endgame. Botvinnik’s remedy was to have Piket study the games of Akiba Rubinstein, among others. Piket eventually became a strong grandmaster.

A few years earlier Sergei Dolmatov was collecting Rubinstein positions and other ‘classical’ examples for his notebook. Among them:
How to learn more from a master game

Rubinstein-Duras
Karlsbad 1911
White to play

White has a positional edge but one piece covers Black’s weaknesses and provides pressure on the b-pawn. He solved his problem with 1 \wfl!! and 2 \d2, after which White can win the a-pawn while preserving his b-pawn.

It was that simple. Play went 1 ... \c8 2 \d2 \b4 3 \c4! \xc4 4 \xc4 \ab8 5 \d2 “with a decisive advantage,” Dolmatov wrote.

Today’s students may look at such positions, shrug their shoulders and then turn instead to the latest Topalov or Carlsen brilliancy. But there are major advantages to studying older games rather than those of today.

The ideas expressed in a Rubinstein or Capablanca game are generally easier to understand. They are usually carried out to their logical end, often in a memorable way, like 1 \wfl!!.

In today’s chess, the defense is much better. That may sound good. But it means that the defender’s counterplay will muddy the waters and dilute the instructional value of the game.

For this reason the games of Rubinstein, Capablanca, Morphy, Siegbert Tarrasch, Harry Pillsbury and Paul Keres are strongly recommended – as well as those of more recent players who have a somewhat classical style, like Fischer, Karpov, Viswanathan Anand and Michael Adams.
How to learn more from a master game

Besides the quality and clarity of the moves, there is the matter of notes. In general, the my-best-games collections that have the most instructive notes include those written by Anand, Keres, Mikhail Tal, Viktor Korchnoi, Pal Benko, Savielly Tartakower, Bent Larsen, Mark Taimanov, David Bronstein and Yuri Averbakh.

A good ‘best games’ book does not have to be written by the book’s subject. Almost all of the books that analyzed the games of Keres and Alexander Alekhine are very good, not just the ones written by Keres or Alekhine themselves.

What you have to be careful of are books that are more idolatry than analysis and make it seem like Grandmaster X wins games simply because he is a genius and his opponents are idiots incapable of good moves.

Other fine game collections, not necessarily about one player, are:

*The Most Instructive Games of Chess Ever Played* by Irving Chernev

*Judith Polgar* by Tibor Karolyi

*Breaking Through* by Susan Polgar

*How to Beat Bobby Fischer* by Edmar Mednis

*Strategic Chess* by Mednis

*The World’s Greatest Chess Games* by Graham Burgess, John Nunn and John Emms

*Reti’s Best Games of Chess* by Richard Reti and Harry Golombek

*Tarrasch’s Best Games of Chess* by Fred Reinfeld

*Dynamic Chess* by R.N. Coles

*How to Defend in Chess* by Colin Crouch

*Learn from the Grandmasters* by Raymond Keene (ed.)

*Winning the Won Game* by Danny Kopec and Lubomir Ftacnik

*Best Games of a Chess Coach* by Sunil Weeramantry and Edward Eusebi

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All of these are in print as of this writing. Among the out-of-print books worth finding are How Karpov Wins and How to Beat the Russians by Edmar Mednis, Bobby Fischer – The Greatest? by Max Euwe, Power Chess by Paul Keres and Chess Strategy and Tactics by Fred Reinfeld and Irving Chernev.

The main point is that a book or magazine may have a great reputation, but if you’re honest with yourself, you can figure out whether it’s appropriate for you.

Grandmaster Yuri Averbakh said the first book he studied seriously was Aron Nimzovich’s My System. But, he added, “It was hard to think of a worse choice!”

“After all, in chess you must first learn to attack, and only then defend, you must gain a mastery of tactics, and only then strategy.” Because of the way Averbakh started, he had to “relearn” strategy all over again, later in life, he said.

Study techniques

Once you’ve chosen the book or online games you want to study, you need to find a method for getting something out of it. There are several approaches and they vary according to how energetic you are.

The easiest and least taxing method is to do what I’ve recommended in other chapters: Browse and stop at each diagram to try to figure out the best move. Don’t move on until you’ve at least made a guess and can explain to yourself why your choice is right. Then check to see what was played.

If you were wrong, try to figure out why the book’s move was better. This may be difficult until you’re more experienced. “If you cannot understand why these players overlook so many brilliant moves which are obvious to you, then you are still too weak to use such books,” author Ken Whyld wrote.
How to learn more from a master game

The diagrams-only approach can be done with almost any chess book. But, of course, you will be missing a lot. As noted earlier, authors place diagrams at the points they feel are the most instructive/interesting/dramatic. Sometimes they’re right and sometimes they’re wrong. Sometimes they focus so much on making a positional point that they miss a highly instructive two-and-a-half move tactic.

Bernstein-Teichmann
Carlsbad 1923
White to play

In My System, Nimzovich gave this position to illustrate how a pair of ‘hanging pawns,’ like Black’s c- and d-pawns, can be either a strength or a weakness, or both.

Black has to seek a way to use the pawns’ power to advance before they become a liability in the endgame. The author rushed through the next ten moves – 1 \( \text{Wa3} \text{ De4} 2 \text{ Hd3} \text{ Hfd8} 3 \text{ Hfd1} \text{ We6} 4 \text{ Cd2} \text{ Wb6} 5 \text{ Cf1} \text{ Cf6} 6 \text{ Gg3} \text{ Hac8} 7 \text{ Hh3} \text{ Hh6} 8 \text{ Dd2} \text{ Hd7} 9 \text{ Dc3} \text{ We6} 10 \text{ Wa5} \) – because he wanted to focus on the explosive nature of 10 ... \( \text{d4!} \).

With that well-timed move White’s pressure on the pawns is sharply reduced and Black’s piece become more active than White’s. Black was able to draw soon after 11 \text{exd4} \text{ cxd4} 12 \text{ Db5} \text{ Wf5!} 13 \text{ Wa4} \text{ Hc1!} 14 \text{ Hxc1} \text{ Wxd3}. A key point is that 12 \text{Hxd4} \text{ Hxd4} 13 \text{ Hxd4} is fine for Black following 13 ... \text{We1+} 14 \text{ Hh2} \text{ Wxf2}. 

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In the popular English translation of the book, there were no diagrams after the first one. However, if a diagram had been inserted following the first four moves, some readers would have looked at $5 \text{ cxd4}$, instead of $5 \text{ cxf5}$, and then $5 \text{ ... dx}e4$.

![Chessboard](image)

_White to play_

They might have noticed the spectacular combination that wins material. Solution at the end of the book.

Of course, it is more beneficial to play through a game on a board or a computer screen. This takes more time but it intensifies and deepens the learning experience.

Some teachers say using a board yields greater benefits than using a computer because:

(a) The student feels more personally involved when he moves the pieces. He is more motivated than if he is in the passive role of mouse-clicker.

(b) It simulates real-game conditions. After all, the goal of studying is to be able to play better in an over-the-board game.

(c) It does a better job of teaching you how to look at a position from the perspective of both White and Black.
How to learn more from a master game

On the last point: Trainer Adrian Mikhalchishin noticed that talented juniors today are good at seeing tactics for themselves but often blunder because they don’t see simple tactics for their opponents. He blamed this on computer-only training, which tends to encourage youngsters to see things only from one side (White’s). “Some kids simply don’t know how to look at a position from the other side,” he wrote.

However you decide to go through a game, you might keep a tally of how often you correctly guess the best move. When your rate of success rises it’s a natural sign of improvement. It won’t rise evenly, as Cecil Purdy warned. “Some games contain many obvious moves – others not. But if you compute the average over ten games, your average for the next ten games will be higher,” he wrote.

When you start out, you will guess only a few moves and won’t understand most of the explanations of the others. Don’t despair. Progress is usually very gradual.

Stumped

Some students like to go over an annotated master game with the help of a computer and periodically ask the machine if it agrees that the move that was played was the best. But this tends to sidetrack you away from the annotator’s message. Let him have his say first, before you try to recheck what he has to say.

In addition, the machine may recommend some inexplicable move. When you try to follow the computer’s analysis, the move still remains a mystery. Trying to understand it is usually wasteful because the reason often lies in some insignificant, tactical nuance.
Black has a slight edge thanks to his bishops. A human master would try to improve his position with 1 ... $f7 and later ... $g6. A computer would likely carry out the same idea – but in a slightly different manner, 1 ... $g7 and ... $g6.

That raises questions: Is there a difference between 1 ... $f7 and 1 ... $g7? And, more important, does it matter whether you know the difference?

The answers are yes to the first question and no to the second.

The main thing you should get out of the position is that Black cannot increase his edge quickly. He should concentrate on getting the rest of his pieces engaged. This means bringing his king forward and playing ... $ac8.

As to the first question, yes, there actually is a reason why the machine prefers 1 ... $g7. But common sense indicates it can't be highly significant because the two king moves are so similar. As usually happens, the difference lies in tactics – and tactics aren't very educational here.
How to learn more from a master game

This is revealed after we see what happened in the game, 1 ... \( \text{f7} \) 2 \( \text{b3} \) \( \text{ac8} \) 3 \( \text{b5!} \) a6 4 \( \text{c3} \) b5.

To avoid getting the worst of it White could try 5 \( \text{c5} \). The critical continuation would by 5 ... b4 6 \( \text{a4} \) bxa3 7 bxa3 \( \text{a5} \) followed by ... \( \text{c4} \). But that allows 8 \( \text{b6!} \) \( \text{c6} \) 9 \( \text{b7!} \) with advantage.

\[
\begin{array}{c}
\text{Black to play}
\end{array}
\]

White is threatening to take the rook on d8 with check. There wouldn't be a check if the king were on g7. That means White's knight maneuvers since 5 \( \text{c5} \) would fail and Black would have increased his edge by 1 ... \( \text{g7!} \).

This is a valid point. But it's hardly worth trying to figure it all out. Yes, 1 ... \( \text{g7} \) is more exact. But don't agonize over the position if you wanted to play 1 ... \( \text{f7} \) instead.

As you gain experience in playing over master games, you will appreciate that there are other times when it is quite beneficial to investigate a move that stumped you. If it's a positional move that you didn't consider at all, there's probably a lesson hidden in it for you.

Computers won't be much help because they don't speak in positional terms. To understand a perplexing move you may have to play through the next few moves. Let's suppose you were going over the following game without benefit of annotations.
Sturua – Kramnik
Moscow 1992

1 ∆f3 d5 2 g3 c6 3 ∆g2 ∆g4 4 d3 ∆d7 5 0-0 ∆gf6 6 ∆bd2 e5 7 e4 
∆d6 8 h3 ∆h5 9 b3 0-0 10 ∆b2 ∆e8 11 ∆e1

Black to play

Up to now, all the moves made at least some sense. Even if you
don’t know a thing about the opening you should be able to
understand in very general terms what the two players have been
doing. Both are trying to complete their development. White has
been putting pressure on the pawns at d5 and e5 while Black
defended them.

But when the 17-year-old Kramnik played 11 ... a5!, it was a good
time for a student to ask what’s going on.

You might suspect this is a priyome. You would be right. It’s a
typical idea in this kind of queenside pawn structure. Black wants
to continue 12 ... a4 and have the option of exchanging pawns on b3.
If White has moved his QR off a1, the pawn swap would give Black
control of the a-file. Black would have another option after 12 ... a4.
He could push his pawn to a3, driving the bishop at b2 to a bad
square.

But even if you didn’t recognize the pattern or know the 11 ... a5
priyome you might be able to figure things out – when you saw
12 a3. This revealing move indicates that White wanted to meet
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12 ... a4 with 13 b4!. By looking a move or so ahead in this way, you can deduce what 11 ... a5 was all about.

Play continued 12 ... b5 13 \( \text{f1} \).

![Chess diagram]

**Black to play**

Black exchanged pawns, 13 ... dxe4! 14 dxe4. Every time the pawn structure changes it's useful to ask questions as we saw in Chapter Five. Is the new pawn structure good for Black? And why did Black make the change now?

If you can’t answer the first question, the answer may lie in the next several moves. They show Black’s pieces slowly finding better squares than White’s. Black gets the upper hand, without doing anything special.

This suggests that White should have made some significant change. For example, if Black had played a neutral ‘pass’ at move 13, such as 13 ... \( \text{c7} \), White might have tried 14 exd5!? cxd5 and then 15 g4 \( \text{g6} \) 15 \( \text{h4} \) or \( \text{g3} \).

Whether that position is double-edged or just risky for White is unclear. But by not changing the pawn structure, White got the worst of it. By looking at the next half dozen moves, and seeing how Black’s position improved, you can figure out that 13 ... dxe4! was played to beat White to the punch before he could change the course of the game.
After the trade of pawns on e4 there came 14 ... \(d5\) 15 \(d1d2\) \(wc7\) 16 \(wc1\).

Black to play

Those moves weren't as hard to figure out as the exchange of pawns. They wouldn't necessarily be the moves you would choose to play. But that's different from saying you don't understand them at all.

What you can see is that both players defended their e-pawn and White got out of the pin on his f3-knight. However, Black's next move, 16 ... \(fd7!\), sends out signals that read "Explain me."

Again the explanation comes easier when you see the next few moves of the game, 17 \(h4\) \(e6\) 18 \(df3\) \(f6!\) 19 \(f5\) \(f8\) 20 \(e3\) \(f7\).

These moves show that Black wanted to reorganize his minor pieces. Specifically he sought to prepare them to attack the queenside with ... c5-c4. He wanted to get his h5-bishop into a more active role and to coordinate his knights better.

This illustrates one of the major advantages of going over the game by computer. Once you have clicked through the moves as far as 20 ... \(f7\) – and realize what Black was aiming for – you can easily re-establish the 16 ... \(fd7\) position just by clicking back. In the old days, students often got frustrated trying to get back to a previous position, even if they used two sets of pieces and two boards.
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The rest of the game posed a lot of questions but they were mainly matters of tactics and timing. Black’s position just kept getting better: \[ \text{21 } \text{W}e1 \text{ g6 } 22 \text{ } \text{d}5h4 \text{ c5! } \text{23 } \text{f1 } \text{d}d4 \text{ 24 } \text{W}d1 \text{ f}ad8 \text{ 25 } \text{d}x \text{xd}4 \text{ cxd}4 \text{ 26 } \text{e}e1 \text{ W}c6 \text{ 27 } \text{f}3 \text{ c}c5 \text{ 28 } \text{d}3. \]

\[ \text{Black to play} \]

White is worse and that became clearer after \[ 28 \text{ ... } \text{d}x \text{d}3! \]. If he retakes \[ 29 \text{ cxd3} \] he loses a pawn to \[ 29 \text{ ... } \text{e}6! \], which attacks \h3 and \b3.

So, White played \[ 29 \text{ f}x \text{d3} \] and accepted a weak pawn on c2. Play went \[ 29 \text{ ... } \text{a}4 \text{ 30 } \text{d}d2 \text{ h}h6! \text{ 31 } \text{h}2 \text{ c}c8 \text{ 32 } \text{a}c1 \] and Black won with \[ 32 \text{ ... } \text{c}4! \text{ 33 } \text{bxc}4 \text{ bxc}4 \] in view of \[ 34 \text{ e}2 \text{ c}3! \] or \[ 34 \text{ c}xc4 \text{ xc1}. \]

One additional warning about moves that stump you: There are few, if any, examples of the perfect chess game. There will be many moves that aren’t explained in a player’s best-games collection. Often this is because there isn’t a good explanation. Don’t get hung up on every move.

Three-Stage

The most ambitious approach to studying a master game requires looking it over more than once. Masters often say the ideal is three times. Each of the three play-throughs has its own tempo, goals and priorities.
If you follow this formula, you should play the moves fairly quickly the first time. Try to make the moves on a board or computer screen at a uniform pace. It should feel comfortable – five, ten, 20 seconds per move or more. Whatever speed isn’t too fast for you.

This is the play-through that you’ll probably enjoy the most. As noted earlier, many students find it easiest to input the game score into a computer and then click through them. If, instead, you play over the game manually, from a book, you may get hung up on individual moves.

The aim here is to appreciate the flow of the game:

When did it become sharp?

When did someone seize the initiative?

When did a serious advantage appear?

When was the outcome clear?

Don’t read the annotations during your first look at the game. There will be time for that in the two follow-up looks.

Let’s see how this works with a now famous but fairly recent game. Play this over:

**Kramnik – Anand**

World Championship match 2008, third game

1 d4 d5 2 c4 c6 3 f3 f6 4 c3 e6 5 e3 bd7 6 d3 dxc4 7 xc4 b5 8 d3 a6 9 e4 c5 10 e5 cxd4 11 xb5 axb5 12 exf6 gxf6 13 0-0 b6 14 e2 b7 15 xb5 d6 16 d1 g8 17 g3 g4 18 f4 xf4 19 xd4 h5 20 xe6 fxe6 21 xd7 f8 22 d3 g7 23 xg7 xg7 24 gxf4 d8 25 e2 h6 26 f1 g8 27 a4 g2+ 28 e1 h3 29 a3 g1+ 30 d2 d4+ 31 c2 g4 32 f3 f5+ 33 d3 h3 34 a5 g2 35 a6 xe2+ 36 xe2 f5+ 37 b3 e3+ 38 a2 xe2 39 a7 c4+ 40 a1 c1+ 41 a2 b1+ White resigns
If you were surprised at how quickly things changed, don’t be ashamed. Many of the world’s grandmasters, who followed the game in real-time on the Internet, were surprised too.

What can we say about the general contours of the game? Well, both players seemed to be going for mate early on and the game became very, very tactical. You saw the temporary knight sacrifice by White at move 11, then a real sacrifice of a pawn at move 14 followed by Black’s return of the pawn.

At first it looked liked Black’s king was in trouble because of his porous kingside. But then it seemed that his king was safe while White’s king was vulnerable along the open g-file.

You should have been impressed by White’s bishop sacrifice at move 18 and the attack that prompted Black to give back the piece. After 25 moves it probably looked to you like White was winning with his two extra pawns. But by 30\textit{d2} White’s king was running for its life.

Black to play

Five moves later it was apparent that Black was winning. The only chance for White’s salvation was that he might queen his a-pawn before he got mated. This didn’t happen.

Okay, that was a lot to take in on the first look. David Bronstein recommended pausing before taking the second look. Put the game
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aside, he said, “get a cup of tea or coffee, relax and try your best to recall the spectacle of what you have just seen.” Don’t try to remember specific moves unless they were truly stunning.

Round Two

Now it’s time for the second look. Let’s assume you are working with a well-annotated account of the game. This is the time when you want to get a taste of the notes.

But focus mainly on the words. You don’t want to get bogged down on something like “if 76 ... Ñxc2 then 77 Ñc1.” Instead, you want to benefit from the teaching points that a good annotator will be making.

Black to play

This is a difficult game to look at because up to this point, after 14 Ñxe2, the moves were all book, even the odd-looking ones like 11 Ñxb5! and 12 ... gxf6!.

The annotator will probably explain that b7-g2 is the best diagonal for Black’s QB. But until this game was played Black had usually met the threat of 15 Ñxb5 by means of 14 ... Ña6 or 14 ... b4.
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In other words, in this game Black was trying to prove that the best developing move available, 14 ... \textit{b}b7, was sound.

An annotator would also point out that the reply, 15 \textit{x}xb5, was the only way to test Black’s idea. Otherwise Black gets to play his good developing move for free.

Let’s try to understand Black’s thinking after he played 15 ... \textit{d}d6. You should appreciate an annotator’s comment that this develops the other Black bishop on a diagonal aimed at the White kingside. The annotator might add that Black is preparing to throw his entire army in that direction with ... \textit{e}7, ... \textit{h}g8 and ... \textit{e}5. Then the threats against f3 and g2 are powerful.

One move later in the game:

\begin{center}
\includegraphics{chessboard.png}
\end{center}

\textit{White to play}

In explaining how to enjoy his best-games book, Bronstein suggested that a student should mark a move in pencil if he can’t understand it. Here 17 g3 deserves a pencil mark. It seems to seriously weaken the light squares such as f3, which you were told was going to come under fire.

If you then read the notes, the annotator would probably explain 17 g3 by saying that it’s easier for White to defend f3 than g2 or h2. That may sound superficial. But if you want to analyze the
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alternatives of 17 g3 in detail, this isn’t the time. Wait until the third play-through.

Now let’s jump ahead eight moves.

Black to play

An annotator might take time here to state the obvious – because the obvious is important: White is two pawns ahead, the extra pawns are connected and they are on the queenside. They are the kind of pawns that can win endgames without much trouble.

But the picture changes considerably after 25 ... Wh6!. Kings usually aren’t safe on the third rank when there are still heavy pieces roaming about. But an annotator will explain that h6 is very safe because the king cannot be easily checked on a diagonal or file.

On the other hand, he would add, White’s king is faced with a dangerous ... g8+ followed by ... g2 or ... g2+. The difference in king safety after 25 ... Wh6! is one of the most valuable lessons to be learned from this game. White’s first rank turns out to be much more dangerous for his king than h6 is for Black’s.

Play continued with natural moves, 26 f1 and 26 g8. But you might have marked 27 a4 with Bronstein’s pencil. What does that have to do with the game?

If you spend enough time, you can figure it out: The pawn move protects the bishop – a good thing to do in sharp positions because tactics thrive on unprotected pieces. It also allows White to play
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&a3-g3 to close the radioactive g-file. And if he can push the a-pawn further it may distract Black from the kingside.

The rest of the game was so tactical that there were few teaching points to be made. That’s the nature of sharp middlegames. Nevertheless, annotators took pains to explain why 28 ... &h3! was good.

\begin{center}
\textbf{White to play}
\end{center}

It unblocks the g-file so that ... &g1+ and ... &xa1 is a threat. It also allows Black to get more out of the bishop on a new diagonal, g4-d1 or f5-b1.

Three moves later the annotators explained that 31 ... &g4 was intended to provoke 32 f3, which removes a defensive pawn from the second rank and makes the rank highly vulnerable.

By the end of the second play-through, you should have a much clearer idea of what White was 	extit{trying} to do and what Black 	extit{succeeded} in doing.

You will also realize by now that certain points were critical, such as Black’s opening surprise of 14 ... &b7, White’s piece sacrifice, Black’s decision to give back material with 22 ... &g7 and the launching of his own attack with 25 ... &h6.
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Round Three

What you won’t be concerned with in the second play-through are the finer points of move-by-move analysis. You may not even have a clue as to what the mistakes were. But you will during the third play-through.

In addition, you should try to appreciate more of the mysteries of the game, such as why moves that seemed obviously good to you weren’t played. The answer usually lies in tactics.

When we looked at this position during the second play-through we were content with an annotator’s general comment that the move just played, 16 ... \textit{\textit{g}8}, solves more problems than it creates.

In the third time around we get a fuller explanation. If White had played the natural 17 \textit{\textit{e}xd4} here, Black would seize the advantage with 17 ... \textit{\textit{x}g2}+! and 18 \textit{\textit{x}g2} \textit{\textit{w}xd4}.

Another point to be revealed is that 17 \textit{\textit{d}3}, which prepares to neutralize the g2-b7 diagonal with 18 \textit{\textit{e}4}, would walk into 17 ... \textit{\textit{e}5}. This is strong because of 18 \textit{\textit{e}4} \textit{d3}! (and 19 \textit{\textit{xd}3}\textit{?? \textit{xf}3}).

The third play-through will reveal many subtle points that you never suspected existed in the first two looks you had of the game. For example:
We know that Black was thinking of clearing the g-file with ... \textit{h6}. Yet he didn’t do it immediately. He played 24 ... \textit{d8} first. Why?

Only in the third play-through would you appreciate how important 24 ... \textit{d8}! was. If Black had played 24 ... \textit{h6} instead, White could have continued more or less as he did in the game, 25 \textit{a4} \textit{g8+} 26 \textit{f1} \textit{g2+}.

The annotator will point out that the difference is 27 \textit{e2}!. Unlike the game, where the king soon faced the deadly threat of ... \textit{g1+}, White would be better, not worse, here.

The point of 24 ... \textit{d8}! was to force the attacked queen to go to a bad square. After 25 \textit{e2}, the flight square e2 was no longer available to the king and the attack rolled on.

Of course, the queen didn’t have to go to e2. But 25 \textit{c4} \textit{d4}! was worse (26 \textit{e2} \textit{xf4}).

Furthermore the other natural retreat, 25 \textit{b3}, puts the queen far from the kingside. Then after 25 ... \textit{h6} and 26 \textit{a4} \textit{g8+} 27 \textit{f1}, Black has a stronger idea than a bishop check on g2.

He would have 27 ... \textit{g2}!, which threatens mate on f2. The annotator would show that 28 \textit{e3} leads to a double-edged endgame, 28 ... \textit{xe3} 29 \textit{fxe3} \textit{h2}, in which Black’s passed h-pawn is more dangerous than White’s a-pawn. And all that was hidden in 24 ... \textit{d8}! until the third play-through.
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There are several other tactical points to be appreciated in round three and we won’t go into all of them here. But it’s worth pointing out that only this time would you appreciate – thanks to an annotator – that 29 a3 was the losing move and that 29 d1 was better. And you could enjoy seeing both world-class players make what turned out to be blunders.

Black to play

Black missed the relatively simple 33 ... xd3+, which wins quickly (34 xd3 c4+ 35 d2 c1 mate or 34 xd3 g2+ 35 c1 xb2+ 36 d1 g1+ and mates).

When you’re done looking at a game, there is one final step: Try to sum it up in words. Too often a student finishes a master game and believes the outcome depended entirely on tactics, the way his own games are decided.

Try to explain the game in your own words. Imagine you are the teacher one more time and you are trying to make sense of the game to another student.

One last bit of advice. Whether you are going over a game in this ambitious way or in a less rigorous manner, make sure you take another look at that game some time later. Not the following week and certainly not the next day. Perhaps a few months later is best. This has the effect of reinforcing what you’ve learned – before you’ve completely forgotten it.
Chapter 2, Kasparov-Deep Blue: White has two ways to win. He can break the blockade of his b-pawn with 1 ♕e7 because 1 ... ♕xe7 2 ♕xe7 creates a winning threat of 3 b7.

A slower, less effective plan is to attack on the kingside, where Black has no defensive piece. White can prepare it with moves such as ♕c3, followed by g3-g4 and ♕g3.

Chapter 5, Study I: 1 a6 ♕c5 2 a7 ♕a4+ 3 ♕a3 ♕b6 4 ♕b4 ♕-moves 5 ♕c5 ♕a8 6 ♕c6 and 7 ♕b7 followed by ♕xa8 and queening. The same goes for 1 ... ♕a5 2 a7 ♕c4+ 3 ♕c3 ♕b6 4 ♕b4.

Study II: After 1 ♕f5 gxf5 White wins with 2 ♕c5, threatening 3 ♕d6 and 4 ♕a8 mate, e.g. 2 ... f6 3 ♕d6 ♕g8 4 ♕e6! ♕f8 5. ♕xf6 and wins.

Chapter 8, Bernstein-Teichmann: White exploits the last rank with 6 ♕xa7!!.