

First-move advantage in chess



Wilhelm Steinitz, who in 1889 claimed chess is a draw with best play

The **first-move advantage in chess** is the inherent advantage of the player (White) who makes the first move in chess. Chess players and theorists generally agree that White begins the game with some advantage. Since 1851, compiled statistics support this view; White consistently wins slightly more often than Black, usually scoring between 52 and 56 percent. White's winning percentage^[1] is about the same for tournament games between humans and games between computers. However, White's advantage is less significant in rapid games or novice games.

Chess players and theoreticians have long debated whether,

given perfect play by both sides, the game should end in a win for White, or a draw. Since approximately 1889, when World Champion Wilhelm Steinitz addressed this issue, the overwhelming consensus has been that a perfectly played game would end in a draw. However, a few notable players have argued that White's advantage may be sufficient to force a win: Weaver Adams and Vsevolod Rauzer claimed that White is winning after the first move 1.e4, while Hans Berliner argued that 1.d4 may win for White.

Some players, including World Champions such as José Raúl Capablanca, Emanuel Lasker, and Bobby Fischer, have expressed fears of a "draw death" as chess becomes more deeply analyzed. To alleviate this danger, Capablanca and Fischer both proposed chess variants to renew interest in the game, while Lasker suggested changing how draws and stalemate are scored.

Since 1988, chess theorists have challenged previously well-established views about White's advantage. Grandmaster (GM) András Adorján wrote a series of books on the theme that "Black is OK!", arguing that the general perception that White has an advantage is founded more in psychology than reality. GM Mihai Suba and others contend that sometimes White's initiative disappears for no apparent reason as a game progresses. The prevalent style of play for Black today is to seek dynamic, unbalanced positions with active counterplay, rather than merely trying to equalize.

Modern writers also argue that Black has certain countervailing advantages. The consensus that White should try to win can be a psychological burden for the white player, who sometimes loses by trying too hard to win. Some symmetrical openings (i.e. those where both players make the same moves) can lead to situations where moving first is a disadvantage, either for psychological or objective reasons.

1 Winning percentages

In 1946, W.F. Streeter examined the results of 5,598 games played in 45 international chess tournaments between 1851 and 1932.^[2] Streeter found that overall White scored 53.4% (W: 38.12; D: 30.56; L: 31.31).^[3] White scored 52.55% in 1851–78 (W: 45.52; D: 14.07; L: 40.41), 52.77% in 1881–1914 (W: 36.89; D: 31.76; L: 31.35), and 55.47% in 1919–32 (W: 36.98; D: 36.98; L: 26.04).^[2] Streeter concluded, “It thus appears that it is becoming increasingly difficult to win with Black, but somewhat easier to draw.”^{[2][4]}

Two decades later, statistician Arthur M. Stevens concluded in *The Blue Book of Charts to Winning Chess*, based on a survey of 56,972 master games that he completed in 1967, that White scores 59.1%.^[5] However, Stevens assembled his games from those that had been published in chess magazines, rather than complete collections of all the games played in particular events.^[6]

More recent sources indicate that White scores approximately 54 to 56 percent. In 2005, GM **Jonathan Rowson** wrote that “the conventional wisdom is that White begins the game with a small advantage and, holding all other factors constant, scores approximately 56% to Black’s 44%”.^[7] **International Master (IM) John Watson** wrote in 1998 that White had scored 56% for most of the 20th century, but that this figure had recently slipped to 55%.^[8] The website **Chessgames.com** holds regularly updated statistics on its games database. On August 26, 2013, White had won 37.37%, 35.22% were drawn, and Black had won 27.42% out of 692,009 games, resulting in a total White winning percentage of 54.98%.^[9]

New In Chess observed in its 2000 Yearbook that of the 731,740 games in its database, White scored 54.8% overall; with the two most popular opening moves, White scored 54.1% in 349,855 games beginning 1.e4, and 56.1% in 296,200 games beginning 1.d4. The main reason that 1.e4 was less effective than 1.d4 was the **Sicilian Defence** (1.e4 c5), which gave White only a 52.3% score in 145,996 games.^[10]

Statistician **Jeff Sonas**, in examining data from 266,000 games played between 1994 and 2001, concluded that White scored 54.1767% plus 0.001164 times White’s Elo rating advantage, treating White’s rating advantage as +390 if it is better than +390, or –460 if it is worse than –460.

He found that White’s advantage is equivalent to 35 rating points, i.e. if White has a rating 35 points below Black’s, each player will have an expected score of 50%. Sonas also found that White’s advantage is smaller (53%) in rapid games than in games at a slower (“classical”) time control.^[11] In the 462 games played at the 2009 **World Blitz Chess Championship**, White scored only 52.16% (W38.96 D26.41 L 34.63).^{[12][13]}

Other writers conclude that there is a **positive correlation** between the players’ ratings and White’s score. According to GM **Evgeny Sveshnikov**, statistics show that White has no advantage over Black in games between beginners, but “if the players are stronger, White has the lead”.^[14] An analysis of the results of games in **ChessBase’s** Mega 2003 database between players with similar Elo ratings, commissioned by GM **András Adorján**, showed that as the players’ ratings went up, the percentage of draws increased, the proportion of decisive games that White won increased, and White’s overall winning percentage increased.^[15] For example, taking the highest and lowest of Adorján’s rating categories of 1669 games played by the highest-rated players (Elo ratings 2700 and above), White scored 55.7% overall (W26.5 D58.4 L15.2), whereas of 34,924 games played by the lowest-rated players (Elo ratings below 2100), White scored 53.1% overall (W37.0 D32.1 L30.8).^[16] Adorján also analyzed the results of games played at the very highest level: **World Championship matches**. Of 755 games played in 34 matches between 1886 and 1990, White won 234 (31.0%), drew 397 (52.6%), and lost 124 (16.4%), for a total white winning percentage of 57.3%.^[17] In the last five matches in Adorján’s survey, all between **Anatoly Karpov** and **Garry Kasparov**, White won 31 (25.8%), drew 80 (66.7%), and lost 9 (7.5%), for a total white winning percentage of 59.2%.^[18]

Chess Engines Grand Tournament (CEGT) tests computer chess engines by playing them against each other, with time controls of forty moves in one hundred and twenty minutes per player (40/120), and also 40/20 and 40/4, and uses the results of those games to compile a rating list for each time control. At the slowest time control (40/120), White has scored 55.4% (W34.7 D41.3 L24.0) in games played among 38 of the strongest chess engines (as of May 27, 2009).^[19] At 40/20, White has scored 54.6% (W37.0 D35.2 L27.8) in games played among 284 engines (as of May 24, 2009).^[20] At the fastest time control (40/4), White

has scored 54.8% (W39.6 D30.5 L30.0), in games played among 128 programs (as of May 28, 2009).^[21]

2 Drawn with best play



Evgeny Sveshnikov, who in 1994 claimed that White must play to win, while Black must play to draw

Joseph Bertin wrote in his 1735 textbook *The Noble Game of Chess*, “He that plays first, is understood to have the attack.”^[22] This is consistent with the traditional view that White, by virtue of the first move, begins with the initiative and should try to extend it into the middlegame, while Black should strive to neutralize White’s initiative and attain equality.^{[23][24][25]} Because White begins with the initiative, a minor mistake by White generally leads only to loss of the initiative, while a similar mistake by Black may have more serious consequences.^{[26][27]} Thus, Sveshnikov wrote in 1994, “Black players cannot afford to make even the slightest mistake ... from a theoretical point of view, the

tasks of White and Black in chess are different: White has to strive for a win, Black—for a draw!”^[28]

Chess theorists have long debated how enduring White’s initiative is and whether, if both sides play perfectly, the game should end in a win for White or a draw. George Walker wrote in 1846 that, “The first move is an advantage, ... but if properly answered, the first move is of little worth”.^[29] Steinitz, the first World Champion, who is widely considered the father of modern chess,^{[30][31][32]} wrote in 1889, “It is now conceded by all experts that by proper play on both sides the legitimate issue of a game ought to be a draw.”^[33] Lasker and Capablanca, the second and third World Champions, agreed.^{[34][35][36]} Reuben Fine, one of the world’s leading players from 1936 to 1951,^[37] explained that White’s opening advantage is too intangible to be sufficient for a win without an error by Black.^[38]

The view that a game of chess should end in a draw given best play prevails. Even if it cannot be proved, this assumption is considered “safe” by Rowson and “logical” by Adorján.^{[39][40]} Watson agrees that “the proper result of a perfectly played chess game ... is a draw. ... Of course, I can’t prove this, but I doubt that you can find a single strong player who would disagree. ... I remember Kasparov, after a last-round draw, explaining to the waiting reporters: ‘Well, chess is a draw.’”^[41] World Champion Bobby Fischer thought that was almost definitely so.^{[42][43]}

Lasker and Capablanca both worried that chess would suffer a “draw death” as top-level players drew more and more of their games.^{[44][45]} More recently, Fischer agreed, saying that the game has become played out.^[46] All three advocated changing the rules of chess to minimize the number of drawn games. Lasker suggested scoring less than half a point for a draw, and more than half a point for stalemating the opponent’s king.^[44] Capablanca in the 1920s proposed Capablanca chess, a chess variant played on a larger board and with additional pieces.^[47] Fischer advocated Fischer Random Chess, another chess variant, in which the initial position of the pieces is determined at random.^{[48][49]}

Today some of the sharpest opening variations have been analyzed so deeply that they are often used as drawing weapons. For example, at the highest levels, Black often uses the Marshall Attack in the Ruy Lopez, a line where Black sacrifices a pawn for strong attacking chances, to ob-

tain an **endgame** where Black is still a pawn down but is able to draw with correct play.^{[50][51][52][53]}

In 2007, GMs **Kiril Georgiev** and **Atanas Kolev** asserted that much the same was true of the so-called **Poisoned Pawn Variation** of the **Najdorf Sicilian**, which arises after 1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 a6 6.Bg5 e6 7.f4 Qb6!? This has long been considered one of the sharpest and most problematic,^{[54][55]} or even foolhardy, opening lines.^{[56][57][58]} The game usually continues 8.Qd2 Qxb2 9.Rb1 Qa3.^[59] Georgiev and Kolev stated that 6.Bg5 is seldom seen at the highest level because the **main line** of this variation leads, with best play, to a draw by **perpetual check**.^[60] They wrote that the following game “will probably remain the last word of theory”.^[61]

Francisco Vallejo Pons–Kasparov, Moscow 2004:^{[62][63]} 1. e4 c5 2. Nf3 d6 3. d4 cxd4 4. Nxd4 Nf6 5. Nc3 a6 6. Bg5 e6 7. f4 Qb6 8. Qd2 Qxb2 9. Rb1 Qa3 10. f5 Nc6 11. fxe6 fxe6 12. Nxc6 bxc6 13. e5 dxe5 14. Bxf6 gxf6 15. Ne4 Qxa2 16. Rd1 Be7 17. Be2 0-0 18. 0-0 Ra7 19. Rf3 Kh8 20. Rg3 Rd7 21. Qh6 Rf7 22. Qh5 Rxd1+ 23. Bxd1 Qa5 24. Kf1 Qd8 25. Qxf7 Qxd1+ 26. Kf2 Qxc2+ 27. Kf3 Qd1+ 28. Kf2 Qc2+ 29. Ke3 Bc5+ 30. Nxc5 Qxc5+ 31. Kd2 Qf2+ 32. Kc3 Qd4+ 33. Kc2 Qf2+ 34. Kc3 1/2–1/2 (After 34...Qd4+, White cannot escape the checks.)

However, Georgiev and Kolev’s pessimistic assessment of 6.Bg5 has since been called into question, as White has succeeded with 10.e5 (another critical line) in several recent high-level games.^[64]

3 White wins

3.1 White wins with 1.e4

After 1.e4, “White ought to win”, according to Adams.

Although it is very much a minority view, three prominent twentieth-century **masters** claimed that White’s advantage should or may be decisive with best play. **Weaver Adams**, then one of the leading American masters,^[65] was the best-known proponent of this view, which he introduced in his 1939 book *White to Play and Win*,^[66] and continued

to expound in later books and articles until shortly before his death in 1963.^[67] Adams opined that 1.e4 was White’s strongest move,^[68] and that if both sides played the best moves thereafter, “White ought to win.”^[69]

Adams’ claim was widely ridiculed.^{[70][71][72]}

Adams did not succeed in demonstrating the validity of his theory in tournament and match practice. The year after his book was published, at the finals of the 1940 **U.S. Open tournament**, he scored only one draw in his four games as White, but won all four of his games as Black.^[73] Adams also lost a match to IM **I.A. Horowitz**, who took the black pieces in every game.^[74]

According to **Sveshnikov**, **Vsevolod Rauzer**, a leading Soviet player and theoretician during the 1930s,^[75] likewise “claimed in the [1930s]: ‘1.e4—and White wins!’ and he managed to prove it quite often”.^[14]

3.2 White wins with 1.d4

After 1.d4, **Berliner** claimed that White may have a winning advantage.

More recently, IM **Hans Berliner**, a former World Champion of **Correspondence Chess**, claimed in his 1999 book *The System* that 1.d4 gives White a large, and possibly decisive, advantage. Berliner asserted that with best play White wins against the **Grünfeld Defense**, the **Modern Benoni**, the **Benko Gambit** and other (unnamed) “major defences”, and achieves at least a large advantage in many lines of the **Queen’s Gambit Declined**.^[76] However, he allowed that, “It is possible that the rules of chess are such that only some number of plausible-appearing defences to 1.d4 can be refuted.”^[77] Berliner wrote that Adams’ “theories, though looked upon with scorn by most top chess players, made an immediate and lasting impression on me. Weaver W. Adams was the first person I met who actually had theories about how chess should be played.”^[70]

Berliner’s thesis, like Adams’, has been sharply criticized.^{[78][79][80][81]}

4 Modern perspectives

As explained below, chess theorists in recent decades have continued to debate the size and nature of White's advantage, if any. Apart from Berliner, they have rejected the idea that White has a forced win from the opening position. Many also reject the traditional *paradigm* that Black's objective should be to neutralize White's initiative and obtain equality.

4.1 White has an enduring advantage

In 2004, GM Larry Kaufman expressed a more nuanced view than Adams and Berliner, arguing that the initiative stemming from the first move can always be transformed into some sort of enduring advantage, albeit not necessarily a decisive one. Kaufman writes, "I don't believe that White has a forced win in Chess. I do however believe that with either 1.e4 or 1.d4, White should be able to obtain some sort of advantage that persists into the *endgame*. If chess were scored like *boxing*, with drawn games awarded by some point system to the player (if any) who came 'closer' to winning, then I believe White would indeed have a forced win in theory."^[82]

4.2 Black is OK!

Starting in 1988, Adorján has argued in a series of books and magazine articles that "Black is OK!"^{[83][84]} Alone amongst modern writers, Adorján claims that White starts the game with essentially no advantage. He writes, "In my opinion, the only obvious advantage for White is that if he or she plays for a draw, and does so well, then Black can hardly avoid this without taking obvious risks."^[85] Adorján goes so far as to claim that, "The tale of White's advantage is a delusion, belief in it is based on mass psychosis."^[86] Rowson writes that Adorján's "contention is one of the most important chess ideas of the last two decades ... because it has shaken our assumption that White begins the game with some advantage, and revealed its ideological nature."^[87] However, Rowson rejects Adorján's claim that White has essentially no advantage, reasoning that "'White is better' and 'Black is OK' need not be mutually exclusive claims".^[88]

In one of Adorján's books, GM Lajos Portisch opines that "at least two-thirds of all 'tested' openings give White an apparent advantage." According to Portisch, for Black, "The root of the problem is that very few people know which are the openings where Black is really OK. Those who find these lines have nothing to fear, as *Black is indeed OK*, but only in those variations!"^[89] Rowson considers this an important point,^[88] noting that "1.d4 players struggle to get anywhere against main-line *Slavs* and 1.e4 players find the *Najdorf* and *Sveshnikov Sicilians* particularly tough."^[90]

4.3 Dynamism

Modern writers often think of Black's role in more *dynamic* terms than merely trying to equalize. Rowson writes that "the idea of Black trying to 'equalize' is questionable. I think it has limited application to a few openings, rather than being an opening prescription for Black in general."^[88] Evans wrote that after one of his games against Fischer, "Fischer confided his 'secret' to me: unlike other masters, he sought to win with the Black pieces from the start. The revelation that Black has dynamic chances and need not be satisfied with mere equality was the turning point in his career, he said."^[91] Likewise, Watson surmised that Kasparov, when playing Black, bypasses the question of whether White has an opening advantage "by thinking in terms of the concrete nature of the dynamic imbalance on the board, and seeking to seize the initiative whenever possible".^[8] Watson observes that "energetic opening play by Black may ... lead to a position so complex and unclear that to speak of equality is meaningless. Sometimes we say 'dynamically balanced' instead of 'equal' to express the view that either player is as likely as the other to emerge from complications with an advantage. This style of opening play has become prevalent in modern chess, with World Champions Fischer and Kasparov as its most visible practitioners."^[92]

Modern writers also question the idea that White has an enduring advantage. Suba, in his influential 1991 book *Dynamic Chess Strategy*,^[93] rejects the notion that the initiative can always be transformed into an enduring advantage. He contends that sometimes the player with the initiative loses it with no logical explanation, and that, "Sometimes you must lose it, just like that. If you try to cling to it, by forc-

ing the issue, your dynamic potential will become exhausted and you won't be able to face a vigorous **counter-attack**.”^[94] Rowson and Watson concur.^{[95][96]} Watson also observes, “Because of the presumption of White being better, the juncture of the game at which Black frees his game or neutralizes White’s plans has often been automatically assumed to give him equality, even though in dynamic openings, the exhaustion of White’s initiative very often means that Black has seized it with advantage.”^[97]

4.4 Countervailing advantages

Rowson argues that both White and Black have certain advantages.^[98]

4.4.1 White’s advantages

Position after 12.Nf3: Black must either continue with the **Zaitsev Variation** (12...Re8), allowing White an immediate draw, or choose a different variation.

According to Rowson, White’s first advantage is that, “The advantage of the first move has some similarities with the **serve in tennis** in that White can score an ‘**ace**’ (for instance with a powerful **opening novelty**), he has more control over the pace and direction of the game, and he has a ‘**second serve**’ in that when things go wrong his position is not usually losing.” Second, White begins the game with some initiative, although Rowson regards this as a psychological rather than a positional advantage, “and whether it leads to a positional advantage depends on the relative skill of the players.”^[99] Third, some players are able to use the initiative to “play a kind of powerful ‘**serve and volley**’ chess in which Black is flattened with a mixture of deep **preparation** and **attacking** prowess.” Fourth, “If White wants to draw, it is often not so easy for Black to prevent this. This advantage is particularly acute in cases where there is a possible **threefold repetition**, because White can begin the repetition without committing to a draw and Black has to decide whether to deviate before he knows whether White is bluffing.”^[100]

Rowson cites as an example of the last phenomenon the well-regarded **Zaitsev Variation** of the **Ruy Lopez**. After

1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 Nf6 5.0-0 Be7 6.Re1 b5 7.Bb3 0-0 8.c3 d6 9.h3 Bb7 10.d4 Re8 (initiating the **Zaitsev Variation**), White can repeat moves once with 11.Ng5 Rf8 12.Nf3. This puts Black in an awkward situation, since he must either (a) insist on the **Zaitsev** with 12...Re8, which allows White to choose whether to draw by threefold repetition with 13.Ng5 Rf8 14.Nf3, or play on with a different move, or (b) play a different (and possibly inferior) variation by playing something other than 12...Re8.^{[100][101]}

4.4.2 Black’s advantages

Rowson argues that Black also has several advantages. First, “White’s alleged advantage is also a kind of obligation to play for a win, and Black can often use this to his advantage.” Second, “White’s ‘extra move’ can be a burden, and sometimes White finds himself in a mild form of *zugzwang* (‘Zugzwang Lite’).” Third, although White begins the game with the initiative, if “Black retains a flexible position with good reactive possibilities, this initiative can be absorbed and often passes over to Black.” Fourth, “The fact that White moves before Black often gives Black useful information”.^[102] Suba likewise argues that White’s advantage is actually less than a move, since White must tip his hand first, allowing Black to react to White’s plans. Suba writes, “In terms of the mathematical **games theory**, chess is a game of **complete information**, and Black’s information is always greater—by one move!”^[103]

Rowson also notes that Black’s chances increase markedly by playing good openings, which tend to be those with flexibility and latent potential, “rather than those that give White fixed targets or that try to take the initiative prematurely.” He also emphasizes that “White has ‘the initiative’, not ‘the advantage’”. Success with Black depends on seeing beyond the initiative and thinking of positions in terms of ‘potential’.”^[102] These ideas are exemplified by the **Hedgehog**, a dynamic modern system against the **English Opening** that can arise from various **move orders**. A typical position arises after 1.c4 c5 2.Nf3 Nf6 3.g3 b6 4.Bg2 Bb7 5.0-0 e6 6.Nc3 Be7 7.d4 cxd4 8.Qxd4 d6 9.e4 a6.^[104] White has a **spatial advantage**, while Black often maneuvers his pieces on the last two **ranks** of the board, but White “has to keep a constant eye on the possible liberating pawn thrusts ...b5 and ...d5.”^[105] Watson remarks, “Black’s goal is to remain elastic and flexible, with many op-

tions for his pieces, whereas White can become paralyzed at some point by the need to protect against various dynamic **pawn breaks**.^[106] He also observes that, “White tends to be as much tied up by Black’s latent activity as Black himself is tied up by White’s space advantage.”^[104] Moreover, attempts by White to overrun Black’s position often rebound disastrously.^[107] An example of this is the following grandmaster game:

Lev Polugaevsky–Lubomír Ftáčnik, Lucerne Olympiad 1982.^[108] 1. Nf3 Nf6 2. c4 c5 3. Nc3 e6 4. g3 b6 5. Bg2 Bb7 6. 0-0 Be7 7. d4 cxd4 8. Qxd4 d6 9. Rd1 a6 10. b3 Nbd7 11. e4 Qb8 12. Bb2 0-0 Suba wrote of a similar Hedgehog position, “White’s position looks ideal. That’s the naked truth about it, but the ‘ideal’ has by definition one drawback—it cannot be improved.”^[109] 13. Nd2 Rd8 14. a4 Qc7 15. Qe3 Rac8 16. Qe2 Ne5 17. h3? According to Ftáčnik, 17.f4 Neg4 18.Rf1 is better. h5! 18. f4 Ng6 19. Nf3 Now Black breaks open the position in typical Hedgehog fashion. d5! 20. cxd5?! Ftáčnik considers 20.e5 or 20.exd5 preferable. h4! 21. Nxe4 Nxe4 22. gxe4 Qxf4 23. dxe6 fxe6 24. e5? Ftáčnik recommends instead 24.Rxd8 Rxd8 25.Rd1. Bc5+ 25. Kh1 Nh5! 26. Qxe5 Qg3 27. Nd5 Other moves get mated immediately: 27.Bxb7 Qh3#; 27.Qe2 Qxh3#; 27.Qg4 Bxg2#. Rxd5 28. Rf1 Qxg2+! 29. Kxg2 Rd2+ If 30.Kg3 (the only legal response to the double check), Rg2+ 31.Kf4 Rf8+ forces mate. 0–1^[110]

An examination of reversed and symmetrical openings illustrates White’s and Black’s respective advantages:

Reversed openings In a “reversed opening”, White plays an opening typically played by Black, but with colors reversed and thus an extra tempo.^{[111][112]} Evans writes of such openings, “If a defense is considered good for Black, it must be even better for White with a move in hand.”^[113] Former World Champion Mikhail Botvinnik reportedly expressed the same view.^{[114][115]} Watson questions this idea, citing Suba’s thesis that Black, by moving second, has more complete information than White.^[8] He writes, “every-one has such difficulties playing as White against a Sicilian Defence (1.e4 c5), but ... leading masters have no qualms about answering 1.c4 with 1...e5.”^[116] To explain this paradox, Watson discusses several different reversed Sicilian lines, showing how Black can exploit the disadvan-

tages of various “extra” moves for White.^[117] He concludes, “The point is, Black’s set-up in the Sicilian is fine as a reactive system, but not worth much when trying to claim the initiative as White. This is true because Black is able to react to the specific plan White chooses; in Suba’s terms, his information is indeed a move greater! Furthermore, he is able to take advantage of dead equal positions which White (hoping to retain the advantage of the first move) would normally avoid.”^[118]



“That extra move’s gonna hurt me.” – Vladimir Malaniuk

Watson also observes, “Similarly, the Dutch Defence looks particularly sterile when White achieves the reversed positions a tempo up (it turns out that he has nothing useful to do!); and indeed, many standard Black openings are not very inspiring when one gets them as White, tempo in hand.”^[116] GM Alex Yermolinsky likewise notes that GM Vladimir Malaniuk, a successful exponent of the Leningrad Dutch (1.d4 f5 2.g3 g6) at the highest levels,^{[119][120]} “once made a deep impression on me by casually dismissing some-

one's suggestion that he should try 1.f4 as White. He smiled and said, "That extra move's gonna hurt me."^[121]

Yermolinsky also agrees with Alekhine's criticism of 1.g3 e5 2.Nf3,^[122] a reversed **Alekhine's Defense**, in Réti–Alekhine, **Baden-Baden 1925**,^[123] writing that Alekhine “understood the difference in opening philosophies for White and Black, and realized they just can't be the same! White is supposed to try for more than just obtaining a comfortable game in reversed colour opening set-ups, and, as the statistics show—surprisingly for a lot of people, but not for me—White doesn't even score as well as Black does in the same positions with his extra tempo and all.”^[124] **Howard Staunton**, generally considered to have been the strongest player in the world from 1843 to 1851,^{[125][126][127]} made a similar point over 160 years ago, writing that **Owen's Defense** (1.e4 b6) is playable for Black, but that 1.b3 is inferior to “the more customary [first] moves, from its being essentially defensive”.^[128]

Watson concludes that (a) “most moves have disadvantages as well as advantages, so an extra move is not always an unqualified blessing”; (b) “with his extra information about what White is doing, Black can better react to the new situation”; and (c) because a draw is likely to be more acceptable to Black than to White, White is apt to avoid lines that allow drawish simplifications, while Black may not object to such lines.^[116]

Symmetrical openings Rowson writes that “in general one would assume that whatever advantage White has would be revealed most clearly in **symmetrical positions**.”^[129] Accordingly, Watson, Suba, Evans, and the eminent player and theorist **Aron Nimzowitsch** (1886–1935) have all argued that it is in Black's interest to avoid symmetry.^{[130][131][132][133]} Nonetheless, even symmetrical opening lines sometimes illustrate the tenuous nature of White's advantage, in several respects.

It is often difficult for White to prove an advantage in symmetrical opening lines. As GM **Bent Larsen** wrote, annotating a game that began 1.c4 c5 2.b3 b6,^[134] “In symmetrical openings, White has a theoretical advantage, but in many of them it is only theoretical.”^[135] GM **Andrew Soltis** wrote in 2008 that he hates playing against the symmetrical **Petroff's Defense** (1.e4 e5 2.Nf3 Nf6), and accordingly varies with 2.Nc3, the **Vienna Game**.^[136] However, there too he has

been unable to find a way to an advantage after the symmetrical 2...Nc6 3.g3^[137] g6 4.Bg2 Bg7, or after 3.Nf3 Nf6 (transposing to the **Four Knights Game**) 4.Bb5 Bb4^[138] 5.0-0 0-0 6.d3 d6 7.Bg5 Bg4 8.Nd5^[139] Nd4 9.Nxb4^[140] Nxb5, or 7.Ne2 Ne7 8.c3 Ba5 9.Ng3 c6 10.Ba4 Ng6 11.d4 d5, when 12.exd5?! e4! may even favor Black.^[136]

Moreover, symmetrical positions may be disadvantageous to White in that he has to commit himself first.^{[141][142]} Watson notes that it is even difficult for White to play noncommittally in a symmetrical position, since almost every move has certain drawbacks.^[143] Fischer once went so far as to claim that after 1.Nf3 Nf6 2.g3 g6 3.Bg2 Bg7 4.0-0 0-0 5.d3 d6 (Reinhard–Fischer, Western Open 1963),^[144] “Believe it or not, Black stands better! Now, whatever White does, Black will vary it and get an **asymmetrical position** and have the superior position due to his better **pawn structure**!”^[145] However, GM **Paul Keres** responded in *CHESS magazine*, “We just don't believe it!”^[146] In symmetrical positions, as the **Hodgson–Arkell** and **Portisch–Tal** games discussed below illustrate, Black can continue to imitate White as long as he finds it feasible and desirable to do so, and deviate when that ceases to be the case.

Further, a particular extra move is sometimes more of a liability than an asset. For example, Soltis notes that the **Exchange French** position arising after 1.e4 e6 2.d4 d5 3.exd5 exd5 4.Nf3 Nf6 “is pretty equal.” The same position, but with Black's knight moved to e4, arises in Petroff's Defense after 1.e4 e5 2.Nf3 Nf6 3.Nxe5 d6 4.Nf3 Nxe4 5.d4 d5. That position offers White better chances precisely because Black's extra move (...Ne4) allows the advanced knight to become a target for attack.^{[147][148]}

Finally, symmetrical positions may be difficult for the white player for psychological reasons. Watson writes that anyone who tries the Exchange French, “even if he thinks he is playing for a win, assume[s] a psychological burden. White has already ceded the advantage of the first move, and knows it, whereas Black is challenged to find ways to seize the initiative.”^[149] Two famous examples of White losses in the Exchange French are **M. Gurevich – Short** and **Tatai – Korchnoi**.^{[150][151]} In M. Gurevich–Short, a game between two of the world's leading players,^[152] White needed only a draw to qualify for the **Candidates Matches**, while Black needed to win.^[153] Gurevich played passively and was outplayed by Short, who achieved the necessary win, quali-

fied for the Candidates, and ultimately went on to challenge Kasparov for the World Championship.^[154] In Tatai–Korchnoi, the Italian IM fell victim to Korchnoi’s whirlwind mating attack, losing in just 14 moves.

Rowson gives the following example of Black outplaying White from the Symmetrical Variation of the English Opening. He remarks, “there is something compelling about Black’s strategy. He seems to be saying: ‘I will copy all your good moves, and as soon as you make a bad move, I won’t copy you any more!’”^[155]

Hodgson–Arkell, Newcastle 2001: 1. c4 c5 2. g3 g6 3. Bg2 Bg7 4. Nc3 Nc6 5. a3 a6 6. Rb1 Rb8 7. b4 cxb4 8. axb4 b5 9. cxb5 axb5 Here Rowson remarks, “Both sides want to push their d-pawn and play Bf4/...Bf5, but White has to go first so Black gets to play ...d5 before White can play d4. This doesn’t matter much, but it already points to the challenge that White faces here; his most natural continuations allow Black to play the moves he wants to. I would therefore say that White is in ‘Zugzwang Lite’ and that he remains in this state for several moves.” 10. Nf3 d5 10...Nf6 11.0-0 0-0 12.d3 d6 13.Bd2 Bd7 would transpose to the Portisch–Tal game below. 11. d4 Nf6 12. Bf4 Rb6 13. 0-0 Bf5 14. Rb3 0-0 15. Ne5 Ne4 16. h3 h5!? Finally breaking the symmetry. 17. Kh2 The position is still almost symmetrical, and White can find nothing useful to do with his extra move. Rowson whimsically suggests 17.h4!?, forcing Black to be the one to break the symmetry. 17... Re8! Rowson notes that this is a useful waiting move, covering e7, which needs protection in some lines, and possibly supporting an eventual ...e5 (see Black’s twenty-second move). White cannot copy it, since after 18.Re1? Nxf2 Black would win a pawn. 18. Be3?! Nxe5! 19. dxe5 Rc6! Rowson notes that with his more active pieces, “It looks like Black has some initiative.” If now 20.Nxd5, Bxe5 “is at least equal for Black”. 20. Nxb5 Bxe5! 20...Nxf2? 21.Qxd5! wins. 21. Nd4 Bxd4 22. Bxd4 e5 Rowson writes, “Now both sides have their trumps, but I think Black has some advantage, due to his extra central control, imposing knight and prospects for a kingside attack.” 23. b5 Rc8 24. Bb2 d4 Now White has a difficult game: Rowson analyzes 25.e3?! Nxg3 24.fxg3 Bc2 25.Qf3 Bxb3 26.exd4 Bc4!, winning; 25.g4 hxg4 26.hxg4 Nxf2! 27.Rxf2 Bc2, winning; 25.Qe1!? Rc2! with advantage; and 25.f4 (risky-looking, but perhaps best) Nc3! 26.Bxc3 dxc3 27.Qxd8 Rxd8, and Black is better. 25. b6? Overlooking Black’s

threat. 25... Nxf2! 26. Qe1 If 26.Rxf2, Bc2 forks White’s queen and rook. 26... Ne4 27. b7 Rb8 28. g4 hxg4 29. hxg4 Be6 30. Rb5 Nf6! 31. Rxf6 Qxf6 32. Qg3 Bc4 33. g5 Qh8+ 0-1^[155]

The opening of the following game between two world-class players,^[156] another Symmetrical English, took a similar course:

Lajos Portisch–Mikhail Tal, Candidates Match 1965: 1. Nf3 c5 2. c4 Nc6 3. Nc3 Nf6 4. g3 g6 5. Bg2 Bg7 6. 0-0 0-0 7. d3 a6 8. a3 Rb8 9. Rb1 b5 10. cxb5 axb5 11. b4 cxb4 12. axb4 d6 13. Bd2 Bd7 Once again, White is on move in a symmetrical position, but it is not obvious what he can do with his first-move initiative.^[157] Soltis writes, “It’s ridiculous to think Black’s position is better. But Mikhail Tal said it is easier to play. By moving second he gets to see White’s move and then decide whether to match it.”^[136] 14.Qc1 Here, Soltis writes that Black could maintain equality by keeping the symmetry: 14...Qc8 15.Bh6 Bh3. Instead, he plays to prove that White’s queen is misplaced. 14...Rc8! 15.Bh6 Nd4! Threatening 16...Nxe2+. 16.Nxd4 Bxh6 17.Qxh6 Rxc3 18.Qd2 Qc7 19.Rfc1 Rc8 Although the pawn structure is still symmetrical, Black’s control of the c-file gives him the advantage.^[136] Black ultimately reached an endgame two pawns up, but White managed to hold a draw in 83 moves.^[158]

Tal himself lost a famous game as White from a symmetrical position in Tal–Beliavsky, USSR Championship 1974.^{[159][160][161]}

5 Tournament and match play

In chess tournaments and matches, the frequency with which each player receives white and black is an important consideration. In matches, the players’ colors in the first game are determined by drawing lots, and alternated thereafter.^[162] In round robin tournaments with an odd number of players, each player receives an equal number of whites and blacks; with an even number of players, each receives one extra white or black. Where one or more players withdraws from the tournament, the tournament director may change the assigned colors in some games so that no player receives two more blacks than whites, or vice versa.^[163] The double-round robin tournament is consid-

ered to give the most reliable final standings, since each player receives the same number of whites and blacks, and plays both White and Black against each opponent.^[164]

In **Swiss system tournaments**, the tournament director tries to ensure that each player receives, as nearly as possible, the same number of games as White and Black, and that the player's color alternates from round to round.^[165] After the first round, the director may deviate from the otherwise prescribed pairings in order to give as many players as possible their equalizing or due colors.^[166] More substantial deviations are permissible to avoid giving a player two more blacks than whites (for example, three blacks in four games) than vice versa, since extra whites "cause far less player distress" than extra blacks, which impose "a significant handicap" on the affected player.^[167] Tournaments with an even number of rounds cause the most problems, since if there is a disparity, it is greater (e.g., a player receiving two whites and four blacks).^[168]

6 Solving chess

Main article: [Solving chess](#)

Endgame tablebases have solved a very limited area of chess, determining perfect play in a number of **endgames**, including all non-trivial endgames with no more than six pieces or pawns (including the two kings).^[169] Seven-piece endgames have been solved in 2013 and released as "Lomonosov tablebases".

Jonathan Rowson has speculated that "in principle it should be possible for a machine to ... develop 32-piece tablebases. This may take decades or even centuries, but unless runaway global warming or nuclear war gets in the way, I think it will eventually happen."^[170] However, **information theorist Claude Shannon** argued that it is not feasible for any computer to actually do this. In his 1950 paper "Programming a Computer for Playing Chess" he writes:^[171]

With chess it is possible, in principle, to play a perfect game or construct a machine to do so as follows: One considers in a given position all possible moves, then all moves for the opponent, etc., to the end of the game (in each variation).

The end must occur, by the rules of the games after a finite number of moves (remembering the **50 move drawing rule**). Each of these variations ends in win, loss or draw. By working backward from the end one can determine whether there is a forced win, the position is a draw or is lost. It is easy to show, however, even with the high computing speed available in electronic calculators this computation is impractical. In typical chess positions there will be of the order of 30 legal moves. The number holds fairly constant until the game is nearly finished as shown ... by De Groot, who averaged the number of legal moves in a large number of master games. Thus a move for White and then one for Black gives about 10^3 possibilities. A typical game lasts about 40 moves to resignation of one party. This is conservative for our calculation since the machine would calculate out to checkmate, not resignation. However, even at this figure there will be 10^{120} variations to be calculated from the initial position. A machine operating at the rate of one variation per microsecond would require over 10^{90} years to calculate the first move!

It is thus theoretically possible to "solve" chess, determining with certainty whether a perfectly played game should end in a win for White, a draw, or even a win for Black. However, according to Shannon the time frame required puts this possibility beyond the limits of any feasible technology.

Hans-Joachim Bremermann, a professor of **mathematics and biophysics** at the **University of California at Berkeley**, further argued in a 1965 paper that the "speed, memory, and processing capacity of any possible future computer equipment are limited by certain physical barriers: the *light barrier*, the *quantum barrier*, and the *thermodynamical barrier*. These limitations imply, for example, that no computer, however constructed, will ever be able to examine the entire tree of possible move sequences of the game of chess." Nonetheless, Bremermann did not foreclose the possibility that a computer would someday be able to solve chess. He wrote, "In order to have a computer play a perfect or nearly perfect game [of chess] it will be necessary either to analyze the game completely ... or to analyze the

game in an approximate way and combine this with a limited amount of tree searching. ... A theoretical understanding of such heuristic programming, however, is still very much wanting.”^[172]

Recent scientific advances have not significantly changed that assessment. The game of **checkers** was solved in 2007,^[173] but it has roughly the square root of the number of positions in chess. **Jonathan Schaeffer**, the scientist who led the effort, said a breakthrough such as **quantum computing** would be needed before solving chess could even be attempted, but he does not rule out the possibility, saying that the one thing he learned from his 16-year effort of solving checkers “is to never underestimate the advances in technology.”^[174]

7 Quotation

- “You will win with either color if you are the better player, but it takes longer with Black.” – **Isaac Kashdan**^[175]

8 Notes

- [1] White’s overall winning percentage is calculated by taking the percentage of games won by White plus half the percentage of drawn games. Thus, if out of 100 games White wins 40, draws 32, and loses 28, White’s total winning percentage is 40 plus half of 32, i.e. 56 percent.
- [2] Streeter, W.F (May 1946). “Is the First Move an Advantage?”. *Chess Review*. p. 16. Also available on DVD (page 167 in “Chess Review 1946” PDF file on DVD).
- [3] The letters W, D, and L refer to the percentage of games won, drawn, and lost, respectively.
- [4] Streeter stated in the article that of the total of 5,598 games surveyed, White won 2,134, drew 1,711, and lost 1,753. These included 782 games from 7 tournaments beginning with London 1851 and ending with Paris 1878, of which White won 356, drew 110, and lost 316; 3,445 games from 22 tournaments beginning with Berlin 1881 and ending with St. Petersburg 1914, of which White won 1,271, drew 1,094, and lost 1,080; and 1,371 games from 16 tournaments beginning with Berlin 1919 and ending with London 1932, of which White won 507, drew 507, and lost 357.
- [5] Stevens 1969, p. XXIII. Of the 56,972 games Stevens collected, White won 26,445 (46.4%), drew 14,579 (25.6%), and lost 15,948 (28.0%). *Id.*
- [6] Stevens 1969, p. XIV.
- [7] Rowson 2005, p. 193.
- [8] Watson 1998, p. 231.
- [9] These percentages can be found here: [Archived March 17, 2008 at the Wayback Machine](#)
More recent percentages can be found here: “Statistics of [www.chessgames.com](#)”. Chessgames.com. Retrieved 2009-10-08. As of October 8, 2009, the database contained 529,428 games. White won 37.10%, 35.91% were drawn, and Black won 26.98%, resulting in a total White winning percentage of 55.06%. *Id.*
- [10] Sosonko, G.; van der Sterren, P. (2000). *New in Chess Yearbook* 55. Interchess BV. p. 227. ISBN 90-5691-069-8.
A graph similar to that in the 2000 Yearbook can be found at “[How to Read NIC Statistics \(Valid till volume 62\)](#)”. NewInChess.com. Retrieved 2008-06-28. The New in Chess statistics just give the number of games played and White’s overall winning percentage without breaking it down into white wins, draws, and black wins.
- [11] “The Sonas Rating Formula — Better Than Elo?”. ChessBase.com. Retrieved 2008-06-28.
- [12] “World Blitz Championship: Carlsen wins by three-point margin”. ChessBase.com. Retrieved 2009-11-22.
- [13] “Interesting tidbits about World Blitz Championship”. Susanpolgar.blogspot.com. Retrieved 2009-11-22.
- [14] Adorján 2004, p. 69 (statement by Sveshnikov dated May 12, 1994).
- [15] Adorján 2004, pp. 67–68.
- [16] Adorján 2004, p. 68. Of the 1669 games played by the highest-rated players, White won 442, drew 974, and lost 253. Of the 34,924 games played by the lowest-rated players, White won 12,700, drew 11,015, and lost 10,579.
- [17] Adorján 2004, p. 154.
- [18] Seirawan, Y.; Tisdall, J. (1991). *Five Crowns*. International Chess Enterprises. p. 4. ISBN 1-879479-02-8.
- [19] Out of 22,592 games, White won 7,843, drew 9,321, and lost 5,423. “CEGT 40/120 Rating List”. Chess Engines Grand Tournament. Retrieved 2009-05-27.

- [20] Of 327,112 completed games, White won 120,982, drew 115,146, and lost 90,984. "CEGT 40/20 Rating List". Chess Engines Grand Tournament. Retrieved 2009-05-27.
- [21] Of 470,740 games, White won 186,275, drew 143,409, and lost 141,056. "CEGT 40/4 Rating List". Chess Engines Grand Tournament. Retrieved 2009-05-27.
- [22] Hooper and Whyld 1992, p. 38.
- [23] Evans 1970, p. 89.
- [24] Fine, R. (1942). *Chess the Easy Way*. David McKay. p. 47. ISBN 978-0-671-62427-9.
- [25] "Chess books have traditionally said that Black's goal in the opening is to obtain equality. A popular variant is that Black must first secure equality and only later search for chances to gain the advantage. ... Books from the first half of the 20th century particularly stressed the need for equalizing before all else." Watson 2006, p. 23.
- [26] Suetin, A. (1965). *Modern Chess Opening Theory*. Pergamon Press. p. 47. ISBN 0-08-011198-X.
- [27] "In most cases, if White goes slightly wrong, he is likely to face an equal or slightly worse position, but if Black goes wrong he is often significantly worse." Rowson 2005, p. 217.
- [28] Adorján 2004, pp. 69–70 (statement by Sveshnikov dated May 12, 1994). Adorján called Sveshnikov a "hypocrite" for making this statement (p. 72), noting that he is "the father of the Sveshnikov Variation" of the Sicilian Defense, which is one of the most dynamic, complex, and unbalanced openings (de Firmian 2008, p. 336).
- [29] Walker, G. (1846). *The Art of Chess-Play: A New Treatise on the Game of Chess* (4th ed.). Sherwood, Gilbert, & Piper. p. 33. Earlier in the book, Walker wrote, "He who has the first move has at least this advantage, that he may, in some measure, choose his own plan of attack, whereas the second player is generally forced in what are termed *Regular Openings*, to act on the defensive for the few first moves; after which the advantage of the first move ceases." *Id.* at 5.
- [30] Kasparov, G. (2003). *My Great Predecessors, Part I*. Everyman Publishers. pp. 45–46. ISBN 1-85744-330-6. Kasparov quoted briefly from Emanuel Lasker's lengthy tribute to Steinitz, which appears in Lasker 1960, pp. 188–229.
- [31] Réti, R. (1976). *Masters of the Chessboard*. Dover Publications. pp. 47–49. ISBN 0-486-23384-7.
- [32] Saidy 1975, pp. 20–21.
- [33] Steinitz, W. (1990). *The Modern Chess Instructor* (reprint ed.). Edition Olms AG. p. xxxi. ISBN 3-283-00111-1.
- [34] "The resources on each side are so evenly balanced that the trifling advantage of the first move is not sufficient to force the defence to resignation." Lasker, Em. (1965). *Common Sense in Chess*. Dover Publications. p. 65. ISBN 978-0-486-21440-5.
- [35] "Capablanca ... complain[ed] that soon, when all the foremost masters had absorbed the principles of modern technique, one could no longer hope to win a game from them; chess would be played out!" Saidy 1975, p. 24.
- [36] "Capablanca thought that chess was approaching its demise; that the human mind was achieving the ability to choose the best move among the multitude of combinations and variations to such an extent that two equally gifted in this respect, must always draw." Gizycki, J. (1977). *A History of Chess*. The Abbey Library. p. 107. ISBN 0-7196-0086-3.
- [37] "From about 1936 to 1951, when he practically gave up competitive chess, Fine was among the strongest eight players in the world." Hooper and Whyld 1992, p. 135.
- [38] "The unavoidable fact is that when both sides play perfectly a draw results. Even if an opening advantage can be demonstrated for White, it is still of such an intangible nature that without further error he cannot win." Fine, R. (1965). *Great Moments in Modern Chess*. Dover Publications. p. 120. ISBN 0-486-21449-4.
- [39] "We do not know for a fact that the starting position is drawn, but it does seem like a safe assumption from a hypertheoretical point of view." Rowson 2005, p. 227. By "hypertheoretical point of view", Rowson means the viewpoint of an omniscient observer, one with a perfect understanding of chess. Rowson 2005, pp. 201–06. At the level of "hypertheory", the concept of an "advantage" for either side is meaningless, since there are only three possible assessments of a position: win for White, win for Black, or draw. Rowson 2005, p. 202.
- [40] "The logical outcome of the game is a draw." Adorján 2004, p. 17.
- [41] Watson 1998, p. 232. Rowson also quotes Kasparov as having said that chess is a draw. Rowson 2005, p. 202.
- [42] Fischer said, "I think it's almost definite that the game is a draw theoretically, regardless of White having the advantage of the first move." Knudsen, J. (1998). *Essential Chess Quotations*. p. 40. ISBN 978-1-893652-17-0.

- [43] However, Pal Benko writes of Fischer:

He believed—as have other players and theoreticians—that White’s first-move advantage, properly exploited, should amount to virtually a forced win. (This idea may not be as exaggerated as it seems. Of the nineteen games I played against Fischer, I lost only one with White, missing a forced win, and seven with Black.)

.Benko, P.; Hochberg, B. (1991). *Winning with Chess Psychology*. David McKay. p. 83. ISBN 0-8129-1866-5.

- [44] Lasker, Ed. (April 1974). “The New York Tournament of 1924”. *Chess Life & Review*. p. 263.
- [45] Saidy 1975, p. 24.
- [46] “Speaking about Fischer...”. ChessBase.com. 2006-11-04. Retrieved 2008-07-08.
- [47] Lasker, Ed. (1959). *The Adventure of Chess*. Dover Publications. pp. 38–39. ISBN 0-486-20510-X.
- [48] Böhm, H.; Jongkind, K. (2004). *Bobby Fischer: The Wandering King*. Batsford. p. 60. ISBN 0-7134-8935-9.
- [49] Soltis, A. (2002). *Chess Lists, Second Edition*. McFarland & Company. p. 19. ISBN 0-7864-1296-8.
- [50] Watson 2006, pp. 161–62.
- [51] A 2009 article quoted Kasparov’s view that the Marshall Attack “statistically, is like a dead end.’ Another top level game, another draw, and ‘White has nothing.’” Peterson, M. (March 2009). “Kasparov’s Curriculum”. *Chess Life*. p. 39.
- [52] GM Bogdan Lalić wrote that the Marshall Attack began to be called a drawing weapon after Boris Spassky successfully employed it in his 1965 Candidates Match against former World Champion Mikhail Tal. Lalic, B. (2003). *The Marshall Attack*. Gloucester Publishers. p. 6. ISBN 1-85744-244-X.
- [53] J. H. Donner wrote of the Marshall Attack, “This sacrifice of a pawn nowadays is only played for drawing purposes. Especially against the very strongest masters it has proved to be quite useful to this end.” Kashdan, I., ed. (1968). *Second Piatigorsky Cup*. Dover (1977 reprint). p. 49. ISBN 0-486-23572-6.
- [54] Geller, Y.; Gligoric, S.; Kavalek, L.; Spassky, B. (1976). *The Najdorf Variation of the Sicilian Defence*. RHM Press. p. 98. ISBN 0-89058-025-1.
- [55] Sokolsky, A. (1972). *The Modern Openings in Theory and Practice*. Pitman Publishing. p. 154. ISBN 0-273-31409-2.
- [56] Watson observed that 7...Qb6 “is an astonishing move that those raised with classical chess principles would simply reject as a typical beginner’s mistake. Black goes running after a pawn when he is undeveloped and already under attack.” Watson 2006, p. 199.
- [57] “Referring to this Poisoned Pawn Variation ... the brilliant, classically-oriented grandmaster Salo Flohr commented, even as late as 1972: ‘In chess, there is an old rule: in the opening, one must make haste to develop the pieces, and must not move the same piece several times, particularly the queen. This ancient law holds good even for Bobby Fischer.’” Watson 1998, p. 18.
- [58] Siegbert Tarrasch wrote in his classic treatise *The Game of Chess*, “It is very dangerous to make a raid with the Queen early on in the game. In particular the capture of the Queen’s Knight’s pawn with the Queen often brings its own revenge.” Tarrasch, S. (1938). *The Game of Chess*. David McKay. p. 220. ISBN 978-1-880673-94-2. See also Winter, E. (2008). “Chess Note 5865. Queen’s knight’s pawn (C.N. 5827)”. ChessHistoryCenter.com. Retrieved 2008-12-10. and Winter, E. (2009). “Chess Note 6021. Queen’s knight’s pawn (C.N.s 5827 & 5865)”. ChessHistoryCenter.com. Retrieved 2013-11-18.
- [59] Watson 2006, p. 199.
- [60] Georgiev and Kolev 2007, p. 10.
- [61] Georgiev & Kolev 2007, p. 11.
- [62] “Vallejo Pons vs Kasparov (2004)”. Chessgames.com. Retrieved 2008-06-28.
- [63] Harding, T. (2006). “The Poisoned Pawn is Still Looking Tasty” (PDF). ChessCafe.com. Retrieved 2008-06-27. Page 10 mentions the Vallejo Pons–Kasparov game.
- [64] Bückner, S. (2008). “Poisoned Pawn for Tarriers” (PDF). ChessCafe.com. Retrieved 2008-06-27.
- [65] GM Arnold Denker and Larry Parr listed Adams as one of 17 leading American masters during the years of the Great Depression. Denker, A. and Parr, L. (1995). *The Bobby Fischer I Knew and Other Stories*. Hypermodern Press. p. 200.

- ISBN 1-886040-18-4. Adams won the 1948 U.S. Open chess championship. *Chess Review*, August 1948, cover, pp. 4, 6. Also available on DVD (pages 251, 256, 258 in "Chess Review 1948" PDF file on DVD).
- [66] Adams 1939.
- [67] Adams, W. (1946). *Simple Chess*. OCLC 8157445. Adams, W. (1959). *Absolute Chess*. OCLC 20876567. Adams, W (March 1962). "The Adams Gambit". *Chess Life*. p. 56. Also available on DVD (page 56 in "Chess Life 1962" PDF file on DVD).
- [68] Adams 1939, p. 5.
- [69] Adams 1939, p. 10.
- [70] Berliner 1999, p. 39.
- [71] Evans, L. (May 1962). "White to Play and Win?". *Chess Life*. p. 98. "Mr. Adams and his cronies may be linked to the radical right wing of chess. ... Weaver is not content with such halfway measures as equality. All or nothing—right-wing logic, true to form." Also available on DVD (page 98 in "Chess Life 1962" PDF file on DVD).
- [72] Evans 1970, pp. 146–47 (quoting Evans' above-cited *Chess Life* article).
- [73] Sturgis, G. (October 1940). "Chess at Dallas". *Chess Review*. p. 146. Also available on DVD (page 154 in "Chess Review 1940" PDF file on DVD).
- [74] Chernev 1955, p. 461.
- [75] Hooper and Whyld 1992, pp. 332–33.
- [76] Berliner 1999, p. 8.
- [77] Berliner 1999, p. 11.
- [78] "Review by Jeremy Silman". JeremySilman.com. Retrieved 2013-09-10.
- [79] "Review by Randy Bauer". JeremySilman.com. Retrieved 2008-06-28.
- [80] Kingston, T. "Selling the Stairway to Heaven or, Weaver Was a Bargain" (PDF). ChessCafe.com. Retrieved 2008-06-28.
- [81] "Review by Jeremy Silman". JeremySilman.com. Retrieved 2013-09-10. "the sheer insanity of [Berliner's] claims made me laugh out loud on several occasions My gripe is his lack of perspective, his iron conviction concerning his own deep understanding of chess, and the ease with which he dismisses the ideas and assessments of players who dwarf him ... in all things related to chess." Similarly, in their above-cited reviews, Randy Bauer wrote, "Dr. Berliner's remedy comes across as more snake oil than chess elixir", and Taylor Kingston, while finding some value in Berliner's book, called it condescending, arrogant, and insufficiently attentive to current opening theory.
- [82] Kaufman 2004, p. 1.
- [83] Adorján 1988; Adorján 1998; Adorján 2004; Adorján 2005.
- [84] As of 2005, Adorján had published theoretical articles on the "Black is OK!" theme in 59 chess periodicals around the world. Adorján 2005, p. 8.
- [85] Adorján 1988, p. 1.
- [86] Adorján 2004, p. 5 (emphasis deleted).
- [87] Rowson 2005, pp. 226–27.
- [88] Rowson 2005, p. 227.
- [89] Adorján 2005, p. 109, statement by Portisch dated May 27, 1994 (boldface type changed to italics).
- [90] Rowson 2005, p. 228.
- [91] Evans 1970, p. 91. However, GM Edmar Mednis offered a seemingly contradictory anecdote about Fischer: "Some years ago, in going over my games, he looked up in surprise whenever he noticed that I was jumping the gun in playing for attack with the Black pieces. Disapprovingly, he advised, 'You've got to equalize first with Black before looking for something.'" Mednis, E. (1997). *How to Beat Bobby Fischer*. Dover Publications. p. xxviii. ISBN 0-486-29844-2.
- [92] Watson 2006, p. 23.
- [93] Suba's book is described as "superlative" (Rowson 2005, p. 218) and "marvellous" (Watson 1998, p. 231). Both Rowson and Watson discuss Suba's theories at length.
- [94] Suba 1991, p. 64. Suba in this passage does not specifically tie "the initiative" to White. However, Rowson makes that connection explicit, stating in his discussion of this passage that "my personal view is that 'White's advantage' in practical play is 'the initiative.'" Rowson 2005, p. 219.

- [95] Rowson 2005, p. 219.
- [96] Watson 1998, p. 239.
- [97] Watson 1998, p. 232.
- [98] Rowson 2005, pp. 217–24 (White), 225–45 (Black).
- [99] Suba's view is similar to Rowson's: "The initiative is a subjective advantage. It creates promises of gaining an objective advantage when the opponent goes wrong, which is an event likely to happen when one's position is under pressure. Initiative is also a dynamic advantage when it helps you to gain time, provoking passive moves by active moves. Above all the initiative is a psychological advantage, exploiting human nature as well as the possibilities contained in the position." Suba 1991, p. 64.
- [100] Rowson 2005, p. 224.
- [101] Watson 2006, p. 137.
- [102] Rowson 2005, p. 245.
- [103] Suba 1991, p. 134.
- [104] Watson, J. (1988). *Symmetrical English 1...c5*. Collier Books. p. 142. ISBN 0-02-026241-8.
- [105] Hansen, C. (2000). *The Symmetrical English*. Gambit Publications. p. 173. ISBN 1-901983-40-4.
- [106] Watson 1998, p. 229.
- [107] Adorján observes, "The hedgehog is a peaceful creature. But those who try to hurt it soon experience the sharpness of its quills." Adorján 1988, p. 58.
- [108] "Lev Polugaevsky vs Lubomír Ftáčnik (1982)". Chessgames.com. Retrieved 2008-06-28.
- [109] Suba 1991, p. 20.
- [110] Notes by Ftáčnik from *Chess Informant*, Volume 35, Šahovski Informator, 1983, p. 35 (Game 50). This was voted the second-best game of the 724 games in Volume 35. *Chess Informant*, Volume 36, Šahovski Informator, 1984, p. 6.
- [111] Brace, E. (1977). *An Illustrated Dictionary of Chess*. David McKay. p. 143. ISBN 0-89058-020-0.
- [112] Hooper and Whyld 1992, p. 339.
- [113] Evans, L. (1975). *The Chess Opening for You*. R.H.M. Press. p. 38. ISBN 0-89058-020-0. Lasker acknowledges this idea, without actually adopting it, writing, "Since the Sicilian yields a fair game to the second player, one is tempted to think that it should be proportionately stronger when essayed by the first player, who has all the advantages of that Opening and a move into the bargain." Lasker 1960, p. 99.
- [114] IMs Alexander Raetsky and Maxim Chetverik relate "an old anecdote" that, "In the Moscow Chess Club someone answered 1.c4 with 1...e5 and was immediately reprimanded by former World Champion Mikhail Botvinnik. Botvinnik carefully explained that White now had a Sicilian with a tempo more..." Raetsky, A. & Chetverik, M. (2003). *English ...e5*. Everyman Chess. p. 5. ISBN 1-85744-339-X.
- [115] GM Bent Larsen recalled playing a blitz game where Botvinnik kibitzed after 1.c4 e5 that Black should take his move back because the "Sicilian is so strong that you cannot let your opponent play it with an extra tempo." Andrew Soltis, "Chess to Enjoy" column, "KIBITZER: one who gives good advice to your opponent", *Chess Life*, May 1995, p. 18.
- [116] Watson 1998, p. 233.
- [117] Watson 1998, pp. 234–36.
- [118] Watson 1998, p. 236. In an earlier book, Watson wrote of the position after 1.c4 e5, "More often than not, the extra tempo brings with it the drawback of committing oneself before one's opponent, and thus opening oneself to possible counterattacks and equalizing plans." Watson, J. (1979). *English 1...P-K4*. B. T. Batsford. p. ix. ISBN 978-0-7134-2085-2.
- [119] "Kasparov–Malaniuk, Moscow 1988". Chessgames.com. Retrieved 2008-06-28.
- [120] "Karpov–Malaniuk, Keres Memorial rapid 2005". Chessgames.com. Retrieved 2008-06-28.
- [121] Yermolinsky, A. (1999). *The Road to Chess Improvement*. Gambit Publications. p. 149. ISBN 1-901983-24-2.
- [122] Alekhine, A. (1996). *Alexander Alekhine's Best Games*. Henry Holt and Company. p. 100. ISBN 0-8050-4723-9.; Alekhine, A. (1965). *My Best Games of Chess 1924–1937*. David McKay. pp. 10–11. ISBN 978-0-679-14024-5.
- [123] "Réti–Alekhine, Baden-Baden 1925". Chessgames.com. Retrieved 2008-06-28.

- [124] Yermolinsky, A. (1999). *The Road to Chess Improvement*. Gambit Publications. p. 149. ISBN 1-901983-24-2. Watson cites another example of an unsuccessful reversed opening for White: while the Meran Variation of the Semi-Slav Defense is considered a dynamic counterattacking system, with colors reversed it is the classical variation of the Colle System, one of the dullest queen-pawn openings. Watson, John (2007). *Mastering the Chess Openings, Volume 2*. Gambit Publications. p. 101. ISBN 978-1-904600-69-5.
- [125] Keene, R. and Coles, R.N. (1975). *Howard Staunton – The English World Chess Champion*. British Chess Magazine. p. 1.
- [126] Soltis, A. (1975). *The Great Chess Tournaments and Their Stories*. Chilton Book Company. pp. 2, 20. ISBN 0-8019-6138-6.
- [127] Horowitz, I.A. (1973). *The World Chess Championship – A History*. Macmillan. pp. 3–4. LCCN 7280175 Check lccn= value (help). OCLC 604994.
- [128] Staunton, H. (1847). *The Chess-Player's Handbook*. George Bell & Sons. p. 379.
- [129] Rowson 2005, p. 230.
- [130] Watson 1998, pp. 236–37.
- [131] Suba contends that Black should strive for "[e]lastic and non-symmetrical pawn structures." Suba 1991, p. 24.
- [132] "To win with the Black pieces you must assume risks and avoid symmetrical positions." Evans 1970, p. 21.
- [133] Nimzowitsch asserted that if in the symmetrical Exchange Variation of the French Defense White develops his king's knight to f3, that "must be answered" by ...Ne7, while ...Nf6 "is the necessary answer" if White develops the knight to e2. Nimzowitsch, A. (1993). *Chess Praxis (21st Century Edition)*. Hays Publishing. p. 217. ISBN 1-880673-91-6. Nimzowitsch, A. (1962). *Chess Praxis: The Praxis of My System*. Dover Publications. p. 299. ISBN 978-0-486-20296-9.
- [134] "Petrosian–Saidy, San Antonio 1972". Chessgames.com. Retrieved 2008-06-28.
- [135] Larsen, B.; Levy, D. (1973). *San Antonio 1972*. RHM Chess Publishing. p. 201. ASIN B0000641VO.
- [136] Soltis, A. (February 2008). "Going Ape". *Chess Life*. pp. 10–11.
- [137] White can play more aggressively with 3.Bc4 Bc5 4.Qg4, when the symmetrical 4...Qg5?? would lose Black's queen, and the natural 4...Qf6? is strongly met by 5.Nd5! Qxf2+ 6.Kd1 Kf8 7.Nh3 Qd4 8.d3 Bb6 9.Qf3 (de Firmian 2008, p. 119). However, Black can break the symmetry with 3...Nf6 4. Nf3 Nxe4! 5.Nxe4 d5 (de Firmian 2008, p. 40) or, after 4.d3, either 4...Bb4 (de Firmian 2008, p. 115) or 4...Na5 (Kaufman 2004, pp. 368–72).
- [138] Alternatively, Black can break the symmetry with either the sharp 4...Nd4, the Rubinstein Variation, which GM de Firmian considers "Black's best winning attempt" (de Firmian 2008, pp. 121–22), or the bizarre-looking but solid 4...Bd6!?, which avoids White's threat to win a pawn with Bxc6 followed by Nxe5, and prepares ...0-0, possibly followed by ...Re8 and ...Bf8, or by ...b6 and ...Bb7 (Kaufman 2004, pp. 339–40).
- [139] According to de Firmian, 8.Bxf6 gxf6 9.Nd5 favors White (de Firmian 2008, p. 123).
- [140] After 9.Bc4, Black successfully broke the symmetry with 9...Qd7 10.Bxf6 Bxf3 11.gxf3 Qh3 12.Ne7+ Kh8 13.Bxg7+ Kxg7 14.Nf5+ Nxf5 15.exf5 Kh8 → in Berman–Bisguier, New York, 1947. If 16.Kh1, Rg8 17.Rg1 Rxg1+ 18.Qxg1 Rg8 wins White's queen (Chernev 1955, pp. 162–63).
- [141] Rowson writes that GM Jonathan Speelman once joked "that the initial position was a decisive reciprocal zugzwang and that White was losing. ... [L]ike all jokes it contained some interesting truth for the discerning person." Rowson 2005, p. 203.
- [142] Suba has observed, "Even the symmetrical variations of some openings present White with a critical moment at an early stage and he cannot progress without making concessions to Black." Suba 1991, p. 134.
- [143] Watson writes of the Exchange Variation of the French Defense that, "It is actually difficult for White to even waste a move without effect, e.g. a3 or h3 will discourage him from castling on the wing where he has made that advance." Watson 1986, p. 28.
- [144] "Reinhard–Fischer, Western Open 1963". Chessgames.com. Retrieved 2008-06-28.
- [145] Donaldson 1999, p. 72 (based on Fischer's annotations in Fischer, Bobby (September 1963). "Fischer Talks Chess". *Chess Life*. pp. 215–17. Also available on DVD; includes Fischer's win as Black in a Queen's Gambit Declined against Berliner.)

- [146] Donaldson 1999, p. 72.
- [147] Soltis, A. (July 2005). “Gauging Progress”. *Chess Life*. p. 25.
- [148] Kotronias, V.; Tzermiadianos, A. (2004). *Beating the Petroff*. Batsford. p. 11. ISBN 0-7134-8919-7.
- [149] Watson 1986, p. 29.
- [150] “Mikhail Gurevich–Nigel Short, Manila Interzonal 1990”. Chessgames.com. Retrieved 2008-06-28.
- [151] “Stefano Tatai–Viktor Korchnoi, Beer Sheva 1978”. Chessgames.com. Retrieved 2008-06-28.
- [152] The FIDE International Rating List issued on July 1, 1990 ranked the top active players in the world as follows (by Elo rating): 1. Kasparov 2800; 2. Karpov 2730; 3–4. Gelfand, Ivanchuk 2680; 5. Timman 2660; 6–7. Ehlvest, Salov 2655; 8. M. Gurevich 2640; 9. Seirawan 2635; 10–12. Andersson, Korchnoi, Vaganian 2630; 13–15. Dolmatov, Dreev, Khalifman 2615; **16–20. Anand, Nunn, Polugaevsky, Ribli, Short 2610**. *Chess Informant*, Volume 49, Šahovski Informator, 1990, pp. 426–58.
- [153] Aagaard 2004, p. 139.
- [154] Aagaard 2004, pp. 139–42.
- [155] Rowson 2005, pp. 230–34.
- [156] Mikhail Tal was World Champion from 1960–61. Hooper and Whyld 1992, p. 409. Lajos Portisch was a Candidate for the world championship eight times. *Id.*, p. 315.
- [157] As early as 1883, James Mason wrote in annotating his game against Noa from the 1883 London tournament, an Exchange French, “Here the positions are exactly similar, and, as frequently happens, the player having the move finds himself at a loss what to do with it.” J.I. Minchin (editor) (1973). *Games Played in the London International Chess Tournament 1883* (reprint ed.). British Chess Magazine. p. 224. SBN 90084608-9. See “James Mason–Josef Noa, London 1883”. Chessgames.com. Retrieved 2008-07-18.
- [158] “Portisch–Tal, Candidates Match 1965”. Chessgames.com. Retrieved 2009-03-30.
- [159] “Tal–Beliavsky, USSR Championship 1974”. Chessgames.com. Retrieved 2008-06-27.
- [160] Belyavsky, A. (1998). *Uncompromising Chess*. Cadogan Chess. pp. 16–19. ISBN 1-85744-205-9.
- [161] Taimanov, M.; Cafferty, B. (1998). *The Soviet Championships*. Cadogan Books. pp. 164–66. ISBN 1-85744-201-6.
- [162] Kažić 1980, p. 11.
- [163] Goichberg, Jarecki, and Riddle 1993, pp. 126–27, 236–37.
- [164] Kažić 1980, p. 56.
- [165] Goichberg, Jarecki, and Riddle 1993, p. 80, 105.
- [166] Goichberg, Jarecki, and Riddle 1993, pp. 103, 106.
- [167] Goichberg, Jarecki, and Riddle 1993, p. 108.
- [168] Goichberg, Jarecki, and Riddle 1993, p. 125.
- [169] Hurd, J.; McC. Haworth, G. “Chess Endgame Data Assurance” (PDF). Cambridge University. Retrieved 2008-06-27.
- [170] Rowson 2005, pp. 205–06.
- [171] Shannon, C. (1950). “Programming a Computer for Playing Chess” (PDF). *Philosophical Magazine*. Archived from the original on 2010-03-15. Retrieved 2008-06-27.
- [172] Bremermann, H.J. (1965). “Quantum Noise and Information”. *Proc. 5th Berkeley Symp. Math. Statistics and Probability*. Archived from the original on 2001-05-27.
- [173] Schaeffer & al. “Checkers Is Solved”. ScienceMag.org. Retrieved 2009-03-21.
- [174] Sreedhar, Suhas. “Checkers, Solved!”. Spectrum.ieee.org. Retrieved 2009-03-21.
- [175] *Chess Life & Review*, September 1969, p. 504.

9 References

- Aagaard, Jacob (2004). *Excelling at Technical Chess*. Gloucester Publishers. ISBN 1-85744-364-0.
- Adams, Weaver W. (1939). *White to Play and Win*. David McKay. ISBN 978-0-923891-83-1. (2007 Ishi Press edition).
- Adorján, András (1988). *Black is OK!*. Batsford. ISBN 0-7134-5790-2.

- Adorján, András (1998). *Black is O.K. in Rare Openings*. CAISSA Ltd.
- Adorján, András (2004). *Black is Still OK!*. Batsford. ISBN 978-0-7134-8870-8.
- Adorján, András (2005). *Black is OK Forever!*. Batsford. ISBN 978-0-7134-8942-2.
- Berliner, Hans (1999). *The System: A World Champion's Approach to Chess*. Gambit Publications. ISBN 1-901983-10-2.
- Chernev, Irving (1955). *1000 Best Short Games of Chess*. Fireside; Rei Sub edition. ISBN 978-0-671-53801-9.
- de Firmian, Nick (2008). *Modern Chess Openings (15th edition)*. McKay Chess Library. ISBN 978-0-8129-3682-7.
- Donaldson, John and Tangborn, Eric (1999). *The Unknown Bobby Fischer*. International Chess Enterprises. ISBN 978-1-879479-85-2.
- Evans, Larry (1970). *Chess Catechism*. Simon and Schuster. ISBN 978-0-671-21531-6.
- Georgiev, Kiril and Kolev, Atanas (2007). *The Sharpest Sicilian*. Simolini 94. ISBN 978-954-8782-56-2.
- Goichberg, Bill, Jarecki, Carol, and Riddle, Ira Lee (1993). *U.S. Chess Federation's Official Rules of Chess (4th ed.)*. David McKay. ISBN 0-8129-2217-4.
- Hooper, David and Whyld, Kenneth (1992). *The Oxford Companion to Chess (2nd ed.)*. Oxford University Press. ISBN 0-19-866164-9.
- Kaufman, Larry (2004). *The Chess Advantage in Black and White*. David McKay. ISBN 0-8129-3571-3.
- Kažić, Božidar M. (1980). *The Chess Competitor's Handbook*. Arco. ISBN 0-668-04963-4.
- Lasker, Emanuel (1960). *Lasker's Manual of Chess*. Dover Publications. ISBN 978-0-486-20640-0.
- Rowson, Jonathan (2005). *Chess for Zebras: Thinking Differently About Black and White*. Gambit Publications. ISBN 1-901983-85-4.
- Saidy, Anthony (1975). *The Battle of Chess Ideas*. RHM Press. ISBN 0-89058-018-9.
- Stevens, Arthur M. (1969). *The Blue Book of Charts to Winning Chess*. A. S. Barnes and Co.
- Suba, Mihai (1991). *Dynamic Chess Strategy*. Pergamon Chess. ISBN 0-08-037141-8.
- Watson, John (1986). *Play the French*. Pergamon Press. ISBN 0-08-026929-X.
- Watson, John (1998). *Secrets of Modern Chess Strategy: Advances since Nimzowitsch*. Gambit Publications. ISBN 1-901983-07-2.
- Watson, John (2006). *Mastering the Chess Openings, Volume 1*. Gambit Publications. ISBN 978-1-904600-60-2.

10 Text and image sources, contributors, and licenses

10.1 Text

- **First-move advantage in chess** *Source:* http://en.wikipedia.org/wiki/First-move_advantage_in_chess?oldid=619135240 *Contributors:* Michael Hardy, Julesd, TpbBradbury, Robbot, Michael Devore, Jason Quinn, Elroch, CanisRufus, Art LaPella, Causa sui, Circeus, John Vandenberg, Vesal, Andrewpmk, Woohookitty, GrouchyDan, GregorB, BD2412, Sjakkalle, Rjwilmsi, Quale, Bubba73, The wub, Wavelength, Jimp, Eleasar, Krakatoa, SmackBot, Gilliam, Caissa's DeathAngel, Brittle heaven, Colonies Chris, Ceoil, Tkttk, SandyGeorgia, Obesechicken13, KJS77, Banedon, Karenjc, Reywas92, Przemek Jahr, Amandajm, Wfaxon, Gimmetrow, Casliber, Epbr123, Headbomb, Ingolfson, East718, Savant13, Alastair Haines, SyG, KConWiki, JJ Harrison, Bbi5291, Rettetast, CommonsDelinker, EdBever, Philcha, Spinach Dip, Pawnkingthree, Seattle Skier, Tavix, GimmeBot, Voorlandt, MaxBrowne, Petero9, Roadcreature, StAnselm, Abhishikt, HermanHiddema, Dabomb87, ClueBot, Artichoker, Mx3, DanielDeibler, Piledhigheranddeeper, Sun Creator, NuclearWarfare, Kakofonous, Dank, Toddfreitag, XLinkBot, Little Mountain 5, Mm40, Lab-oratory, Addbot, Roentgenium111, Protonk, Chzz, SpBot, Numbo3-bot, OlEnglish, TwoMightyGods, Galoubet, Citation bot, Geregen2, Xqbot, InnocentFinisher, FrescoBot, Yabanci, LucienBOT, Nacho Insular, ProfHead, Danstein425, RedAndPurpleLipStick, Ragdoll1974, Unitanode, Borderline2, BenzolBot, Phillidor, RjwilmsiBot, John of Reading, Oyoyoy, ZéroBot, H3llBot, Ihardlythinkso, DASH-BotAV, Joefromrandb, Widr, Helpful Pixie Bot, J.Dong820, CitationCleanerBot, Toccata quarta, BattyBot, Fifth Amendment, Epicgenius, Sirmouse, Monkbob, Jamalmunshi and Anonymous: 44

10.2 Images

- **File:Chess_bdt45.svg** *Source:* http://upload.wikimedia.org/wikipedia/commons/9/98/Chess_bdt45.svg *License:* CC-BY-SA-3.0 *Contributors:* This vector image was created with Inkscape. *Original artist:* en:User:Cburnett
- **File:Chess_blt45.svg** *Source:* http://upload.wikimedia.org/wikipedia/commons/b/b1/Chess_blt45.svg *License:* CC-BY-SA-3.0 *Contributors:* This vector image was created with Inkscape. *Original artist:* en:User:Cburnett
- **File:Chess_kdt45.svg** *Source:* http://upload.wikimedia.org/wikipedia/commons/f/f0/Chess_kdt45.svg *License:* CC-BY-SA-3.0 *Contributors:* This vector image was created with Inkscape. *Original artist:* en:User:Cburnett
- **File:Chess_klt45.svg** *Source:* http://upload.wikimedia.org/wikipedia/commons/4/42/Chess_klt45.svg *License:* CC-BY-SA-3.0 *Contributors:* This vector image was created with Inkscape. *Original artist:* en:User:Cburnett
- **File:Chess_ndt45.svg** *Source:* http://upload.wikimedia.org/wikipedia/commons/e/ef/Chess_ndt45.svg *License:* CC-BY-SA-3.0 *Contributors:* This vector image was created with Inkscape. *Original artist:* en:User:Cburnett
- **File:Chess_nlt45.svg** *Source:* http://upload.wikimedia.org/wikipedia/commons/7/70/Chess_nlt45.svg *License:* CC-BY-SA-3.0 *Contributors:* This vector image was created with Inkscape. *Original artist:* en:User:Cburnett
- **File:Chess_pdt45.svg** *Source:* http://upload.wikimedia.org/wikipedia/commons/c/c7/Chess_pdt45.svg *License:* CC-BY-SA-3.0 *Contributors:* This vector image was created with Inkscape. *Original artist:* en:User:Cburnett
- **File:Chess_plt45.svg** *Source:* http://upload.wikimedia.org/wikipedia/commons/4/45/Chess_plt45.svg *License:* CC-BY-SA-3.0 *Contributors:* This vector image was created with Inkscape. *Original artist:* en:User:Cburnett
- **File:Chess_qdt45.svg** *Source:* http://upload.wikimedia.org/wikipedia/commons/4/47/Chess_qdt45.svg *License:* CC-BY-SA-3.0 *Contributors:* This vector image was created with Inkscape. *Original artist:* en:User:Cburnett
- **File:Chess_qlt45.svg** *Source:* http://upload.wikimedia.org/wikipedia/commons/1/15/Chess_qlt45.svg *License:* CC-BY-SA-3.0 *Contributors:* This vector image was created with Inkscape. *Original artist:* en:User:Cburnett
- **File:Chess_rdt45.svg** *Source:* http://upload.wikimedia.org/wikipedia/commons/f/ff/Chess_rdt45.svg *License:* CC-BY-SA-3.0 *Contributors:* This vector image was created with Inkscape. *Original artist:* en:User:Cburnett
- **File:Chess_rlt45.svg** *Source:* http://upload.wikimedia.org/wikipedia/commons/7/72/Chess_rlt45.svg *License:* CC-BY-SA-3.0 *Contributors:* This vector image was created with Inkscape. *Original artist:* en:User:Cburnett
- **File:Chessboard480.svg** *Source:* <http://upload.wikimedia.org/wikipedia/commons/d/d7/Chessboard480.svg> *License:* CC0 *Contributors:* Own work *Original artist:* החב"ן
- **File:Cscr-featured.svg** *Source:* <http://upload.wikimedia.org/wikipedia/en/e/e7/Cscr-featured.svg> *License:* ? *Contributors:* ? *Original artist:* ?
- **File:Evgeny_Sveshnikov.jpg** *Source:* http://upload.wikimedia.org/wikipedia/commons/1/1e/Evgeny_Sveshnikov.jpg *License:* Public domain *Contributors:* Originally from en.wikipedia; description page is/was here. *Original artist:* Original uploader was Soikins at en.wikipedia
- **File:Vladimir_Malaniuk_2009.jpg** *Source:* http://upload.wikimedia.org/wikipedia/commons/e/e7/Vladimir_Malaniuk_2009.jpg *License:* Public domain *Contributors:* Photo collection of Tomasz Tokarski *Original artist:* Tomasz Tokarski, Poland

- **File:Wilhelm_Steinitz2.jpg** *Source:* http://upload.wikimedia.org/wikipedia/commons/b/b2/Wilhelm_Steinitz2.jpg *License:* Public domain
Contributors: copied from dutch wikipedia (see: [nl:Image:Wilhelmsteinitz.jpg](#) with different name because the original one is already used on Commons. Originally uploaded to dutch wikipedia by [nl:User:Jaapvanderkooij](#) at 7 apr 2004 13:23.
http://chesskids.com.au/wp-content/uploads/2009/09/Wilhelm_Steinitz22-243x300.jpg *Original artist:* Unknown

10.3 Content license

- Creative Commons Attribution-Share Alike 3.0