= First @-@ move advantage in chess =

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 is about the same for tournament games between humans and games between computers . However , White 's advantage is less significant in blitz games and games between novices .

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 .

= = Winning percentages = =

In 1946 , W.F. Streeter examined the results of 5 @,@ 598 games played in 45 international chess tournaments between 1851 and 1932 . Streeter found that overall White scored 53 @.@ 4 % (W : 38 @.@ 12 ; D : 30 @.@ 56 ; L : 31 @.@ 31) . 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) . Streeter concluded , " It thus appears that it is becoming increasingly difficult to win with Black , but somewhat easier to draw . "

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 % . 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 .

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 % " . 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 % . The website Chessgames.com holds regularly updated statistics on its games database . As of January 12 , 2015 , White had won 37 @.@ 50 % , 34 @.@ 90 % were drawn , and Black had won 27 @.@ 60 % out of 739 @,@ 769 games , resulting in a total White winning percentage of 54 @.@ 95 % .

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 .

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 . In the 462 games played at the 2009 World Blitz Chess Championship , White scored only 52 @.@ 16 % (W38.96 D26.41 L 34 @.@ 63) .

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 " . 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 . 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) . 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 % . In the last five matches in Adorjan '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 % .

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) . 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) . 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) .

= = Drawn with best play = =

Joseph Bertin wrote in his 1735 textbook The Noble Game of Chess , " He that plays first , is understood to have the attack . " 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 . 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 . 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 ! "

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 " . Steinitz , the first World Champion , who is widely considered the father of modern chess , 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 . " Lasker and Capablanca , the second and third World Champions , agreed . Reuben Fine , one of the world 's leading players from 1936 to 1951 , wrote that White 's opening advantage is too intangible to be sufficient for a win without an error by Black .

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 . 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 . ' " World Champion Bobby Fischer thought that was almost definitely so .

Lasker and Capablanca both worried that chess would suffer a " draw death " as top @-@ level players drew more and more of their games . More recently , Fischer agreed , saying that the game has become played out . 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 . Capablanca in the 1920s proposed Capablanca chess , a chess variant played on a larger board and with additional pieces . Fischer advocated Fischer Random Chess , another chess variant , in which the initial position of the pieces is determined at random .

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 obtain an endgame where Black is still a pawn down but is able to draw with correct play .

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 , or even foolhardy , opening lines . The game usually continues 8.Qd2 Qxb2 9.Rb1 Qa3 . 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 . They wrote that the following game " will probably remain the last word of theory " :

Francisco Vallejo Pons ? Kasparov , Moscow 2004 : 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 succeeded with 10.e5 (another critical line) in several later high @-@ level games . GM Zaven Andriasyan wrote in 2013 that after 10.f5 , " a forced draw results " , but that after 10.e5 , " we reach a very sharp position , with mutual chances . "

= = White wins = =

= = = White wins with 1.e4 = = =

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 , was the best @-@ known proponent of this view , which he introduced in his 1939 book White to Play and Win , and continued to expound in later books and articles until shortly before his death in 1963 . Adams opined that 1.e4 was White 's strongest move , and that if both sides played the best moves thereafter , " White ought to win . " Adams ' claim was widely ridiculed , and he 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 . Adams also lost a match to IM I.A. Horowitz , who took the black pieces in every game .
According to Sveshnikov , Vsevolod Rauzer , a leading Soviet player and theoretician during the 1930s , likewise " claimed in the [1930s] : ' 1.e4 ? and White wins ! ' and he managed to prove it quite often " .

= = = White wins with 1.d4 = = =

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 . 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 . " 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 . "
Berliner 's thesis , like Adams ' , has been sharply criticized .

= = 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 .

= = = 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 . "

= = = Black is OK ! = = =

Starting in 1988 , Adorján has argued in a series of books and magazine articles that " Black is OK ! " 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 . " 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 . " 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 " . 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 " .
In one of Adorján 's books , GM Lajos Portisch opined 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 ! " Rowson considers this an important point , 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 . "

= = = 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 . " 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 . " 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 " . 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 . "

Modern writers also question the idea that White has an enduring advantage . Suba , in his influential 1991 book Dynamic Chess Strategy , 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 forcing the issue , your dynamic potential will become exhausted and you won 't be able to face a vigorous counter @-@ attack . " Rowson and Watson concur . 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 . "

= = = Countervailing advantages = = =

Rowson argues that both White and Black have certain advantages :

= = = = White 's advantages = = = =

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 . " 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 . "

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 .

= = = = 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 " . 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 ! "

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 ' . " 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 . 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 . " Watson remarks , " Black 's goal is to remain elastic and flexible , with many options for his pieces , whereas White can become paralyzed at some point by the need to protect against various dynamic pawn breaks . " 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 . " Moreover , attempts by White to overrun Black 's position often rebound disastrously . An example of this is the following grandmaster game :

Lev Polugaevsky ? ?ubomír Ftá?nik , Lucerne Olympiad 1982 : 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 . " 13 . Nd2 Rd8 14 @.@ a4 Qc7 15 . Qe3 Rac8 16 . Qe2 Ne5 17 @.@ h3 ? According to Ftá?nik , 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 ? ! Ftá?nik considers 20.e5 or 20.exd5 preferable. h4 ! 21 . Nxh4 Nxh4 22 @.@ gxh4 Qxf4 23 @.@ dxe6 fxe6 24 @.@ e5 ? Ftá?nik recommends instead 24.Rxd8 Rxd8 25.Rd1. Bc5 + 25 . Kh1 Nh5 ! 26 . Qxh5 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

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 . 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 . " Former World Champion Mikhail Botvinnik reportedly expressed the same view . Watson questions this idea , citing Suba 's thesis that Black , by moving second , has more complete information than White . He writes , " everyone 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 . " To explain this paradox , Watson

discusses several different reversed Sicilian lines , showing how Black can exploit the disadvantages of various " extra " moves for White . 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 . "

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 . " 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 , " once made a deep impression on me by casually dismissing someone 's suggestion that he should try 1.f4 as White . He smiled and said , ' That extra move 's gonna hurt me . ' "

Yermolinsky also agrees with Alekhine 's criticism of 1.g3 e5 2.Nf3 , a reversed Alekhine 's Defense , in Réti ? Alekhine , Baden @-@ Baden 1925 , 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 . " Howard Staunton , generally considered to have been the strongest player in the world from 1843 to 1851 , 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 " . The current view is that Owen 's Defense is slightly better for White , while 1.b3 is playable but less likely to yield an opening advantage than 1.e4 or 1.d4.

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 .

= = = = = Symmetrical openings = = = = =

Rowson writes that " in general one would assume that whatever advantage White has would be revealed most clearly in symmetrical positions . " 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 . 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 , " In symmetrical openings , White has a theoretical advantage , but in many of them it is only theoretical . " 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 . However , there too he has been unable to find a way to an advantage after the symmetrical 2 ... Nc6 3.g3 g6 4.Bg2 Bg7 , or after 3.Nf3 Nf6 (transposing to the Four Knights Game) 4.Bb5 Bb4 5 @.@ 0 @-@ 0 0 @-@ 0 6.d3 d6 7.Bg5 Bg4 8.Nd5 Nd4 9.Nxb4 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 .

Moreover , symmetrical positions may be disadvantageous to White in that he has to commit himself first . Watson notes that it is even difficult for White to play noncommittally in a symmetrical position , since almost every move has certain drawbacks . 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) , " ' 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 ! " However , GM Paul Keres responded in CHESS magazine , " We just don 't believe it ! " 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 .

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 . " Two famous examples of White losses in the Exchange French are M. Gurevich ? Short and Tatai ? Korchnoi . In M. Gurevich ? Short , a game between two of the world 's leading players , White needed only a draw to qualify for the Candidates Matches , while Black needed to win . Gurevich played passively and was outplayed by Short , who achieved the necessary win , qualified for the Candidates , and ultimately went on to challenge Kasparov for the World Championship . 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 ! ' "

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 Rexd8 , 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

The opening of the following game between two world @-@ class players , 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 . 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 . " 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 . Black ultimately reached an endgame two pawns up , but White managed to hold a draw in 83 moves .

Tal himself lost a famous game as White from a symmetrical position in Tal ? Beliavsky , USSR Championship 1974 .

= = 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 . 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 . The double @-@ round robin tournament is considered 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 .

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 . 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 . 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 . 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) .

= = 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) . Seven @-@ piece endgames were solved in 2012 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 . " 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 :

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 103 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 10120 variations to be calculated from the initial position . A machine operating at the rate of one variation per microsecond would require over 1090 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 . "

Recent scientific advances have not significantly changed that assessment . The game of checkers was solved in 2007 , 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 " .

= = Quotation = =

" You will win with either color if you are the better player , but it takes longer with Black . " ? Isaac Kashdan