
CHAPTER I

ANTICHESS

I.1 Introduction

This book is dedicated to Antichess, one of the most popular family of all chess variants around with several different versions of the game being played around the world and on online chess servers. In Antichess the capture is obligatory and the objective is to lose all of your pieces. It is also known as Losing Chess, Giveaway Chess, Suicide Chess, Killer Chess, and Take-All Chess. The alternative names come from other languages: Schlagschach, Räuberschach, Freßschach (German), Qui Perd Gagne (French), Vinciperdi (Italian), Weggeefschaak (Dutch), Drepskák (Icelandic), Come-come (Portuguese), Panganpanganan (Javanese), Poddavki (Russian), Žri (Slovenian), Jedi-jedi (Serbian). The varieties of Antichess are numerous, so let us describe the most widely played variant, which we consider to be standard.

The rules of the game are the same as those for standard chess, except for the following additional rules. Capturing is compulsory. The king has no royal power and accordingly it may be captured, a pawn may promote to a king, and castling is not permitted. The player wins if he cannot move.

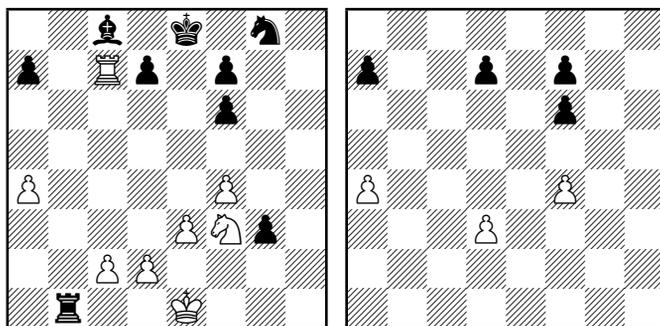
Let us describe the rules more precisely. The initial position is the same, and all the pieces follow the same rules for moving and capturing as in standard chess. If a player can capture an opponent's piece, including the king, he is obliged to do so. When a player can capture, but has different choices to capture a piece, he may choose. The king is just a regular piece, there exist no checks, checkmates, or castling. The main characteristic of the game is that the player without any pieces left wins. According to the standard rules, also called the *giveaway* rules, in the case of stalemate (no legal moves) the player to move is the winner.

However, there are varieties with a different treatment of stalemate. The *suicide* rules are also widespread, where in the case of stalemate the remaining pieces are counted and the winner is the one with fewer pieces left, or we have a draw if it is tie. Counting of pieces has no analogy in standard chess, so we can say that the popularity of Suicide Chess is a consequence of the unfortunate implementation on the Free Internet Chess Server (FICS).

Fortunately, nearly always there is no difference between giveaway and suicide. A possible difference can appear in some specific cases, for example in positions where a piece blocks a pawn, and we shall emphasize these in our theory.

Finally, we should mention the *vinciperdi* rules, where any stalemate is a draw, which is implemented by the Italian Association of Chess Variants (AISE). Vinciperdi copies the standard chess rule of stalemate, but it gives too many defensive possibilities to the inferior side. It makes a huge difference, so we do not care much for the vinciperdi option and adjust our theory to giveaway and suicide. Let us mention that in some implementations of giveaway, castling is allowed, which is not of some practical importance, but one should be careful.

Let us illustrate the major difference among the mentioned varieties with a concrete example. Consider the game Morrison - STAYALIVE, FICS 2012. After 1. e3 g5 2. ♖h5 ♗g7 3. ♞xh7 ♗xb2 4. ♗xb2 ♞xh7 5. ♗a6 ♜xa6 6. ♗f6 exf6 7. h4 ♞xh4 8. ♞xh4 gxh4 9. f4 c5 10. g3 hxg3 11. ♜f3 ♞b6 12. a4 [12. ♜g1± —Section 2.15] 12... ♞xb1 13. ♞xb1 b5 14. ♞b5 ♜c7 15. ♞xc5 ♞b8 16. ♞xc7 ♞b1, the position from the left diagram appeared. Here, it is easy to see that White can force the right diagram position by 17. ♞xc8 [17. ♞xd7 ♞xe1 18. ♜xe1 ♜xd7 19. ♜f3∞] 17... ♞xe1 18. ♞xe8 ♞xe3 19. ♞xg8 ♞xf3 20. ♞xg3 ♞xg3 21. d3 ♞xd3 22. cxd3. The game will be over in the next few moves, and the result depends on the game ruleset. According to the suicide rules (by which the game is played) White wins (3 white pieces against 4 black pieces), while according to the vinciperdi rules it is a draw as any stalemate. The game continued with 22... a5 23. d4 d5 24. f5, which would be a win for Black (no legal moves) in a standard rules game.



I.2 History

The first occurrence of some kind of Antichess in the literature is the *Codrus Game* that appears in the Brede *Almanac* in 1844 [1, pp.82–85]. The game is named after the Athenian king who sacrificed himself to save his people. In the game of Codrus, there are no checks, and the winner is the player who obliges the opponent to take his king; capturing is compulsory but a player may choose between alternatives [2, p.86].

However, the earliest description of a game that has the same goal as Antichess is *Take me Chess*. According to Verney and his *Chess Eccentricities* from 1885 [17, p.191], Take me Chess is invented by Walter Campbell and played at Boyton Lodge, Wilts, in 1876. The game is similar to Antichess, but there are some significant differences. Firstly, a pawn promotion is limited to a piece that has already been lost. Secondly, only active sacrifices are specified as compulsory (“If a player places one of his pieces in such a position that his

opponent can take it, he can insist on his antagonist taking it by saying the words ‘Take me;’ and the antagonist is bound to take the piece in the manner the player desires.”). However, there is no information about what happens in the case of stalemate.

At the beginning of the twentieth century in the literature we find Antichess with the modern rules. Schellenberg published the first known study in 1901 (see #208). The earliest complete game known is given by Markwick in *Stratford Express* 19.12.1914. There is a position after 1. e4 f5 2. exf5 e6 3. fxe6 dxe6 4. ♖g4 ♖xd2 5. ♘xd2 ♙a3 6. ♖xe6 ♙xb2 7. ♖xe8 ♙xc1 8. ♖xg8 ♖xg8 9. ♖xc1 ♙h3 10. ♘xh3, when Black wins by successive sacrifices: 10... b5 11. ♙xb5 ♖e8 12. ♙xe8 ♘d7 13. ♙xd7 ♖e8 14. ♙xe8 g5 15. ♘xg5 a5 16. ♘xh7 c6 17. ♙xc6 a5 18. ♙xa5, see Beasley [4].

The twenties of the last century have brought Antichess studies created by Klüver, Dawson, Roese, and Watney. At that time there were just a few followers and propagandists of Antichess. In England it was Dawson, while in Germany it was Klüver, who published the first known Antichess article in 1924 [10]. Fabel later joined Klüver, and published an article in his book in 1947 [7]. Popularity in Germany was crowned with the four players correspondence tournament organized by Kniest in 1948.

Popularity in Italy started with the foundation of the Italian Association of Chess Variants (Associazione Italiana Scacchi Eterodossi, AISE) in 1976. AISE organized numerous correspondence tournaments of Antichess under the name Vinciperdi with the vinciperdi rules. Here we should mention Leoncini and Magari who published a book with some Vinciperdi articles in 1980 [11].

Thanks to the implementation of Suicide Chess on the Free Internet Chess Server (FICS) in 1996, which allows to play it online, the knowledge of the game has grown rapidly. After that, Goldovski has made an extensive website devoted entirely to Antichess in 1997. His *Losing Chess Page* [9] covers almost all aspects of the game: giving strategic hints, links to servers to play the game, problems, etc. Moreover, Goldovski creates the first serious Antichess engine called GIVEAWAY WIZARD.

In the last few years of the twentieth century, attention has been focused on endgames. Here we shall mention Beasley [3] and Liardet [12] who are mainly engaged in the three-piece endgames. The complete computer answer for four-piece endgames is given by Nye in 1999. Binnewirtz published the first monograph devoted to Antichess studies in 2000 [6].

Although most top games take place on the Internet, it was the First Unofficial Suicide Chess World Championship held in Utrecht (the Netherlands) in 2001 that brought together the leading European players for a seven rounds tournament. The winner was Remell, who defeated Liardet in a play-off.

Thanks to four piece endgame tablebases there was a serious progress in proving the final truth in some openings. It is worth noting the work of Taelman, who used a suicide engine SJAAK created by de Man to prove some opening lines. Among other things, in 2001, Taelman showed that White wins in 12 of 20 Black’s responses to 1. e3. Nye used his ASCP to solve 1... c6 which left us with 7 playable responses for about a decade.

Great things happened when Watkins involved in developments in 2012. He first refuted 1... b5 and 1... ♘c6 in 2012, while cooperation with Francu allowed the proofs for 1... ♘h6 and 1... g5 in the same year. After significant improvements of hardware and software, Watkins managed to prove 1... e6 in 2014, 1... c5 in 2015, and finally 1... b6 in 2016 [18]. Therefore, after about five years of work, Watkins declared the final proof that 1. e3 wins according to both standard and suicide rules.

Today, the Antichess community has a backbone on the Internet chess server Lichess,

where one can play Antichess since December 2014. Most of the FICS players migrated to Lichess, where about 150,000 games are played monthly.

I.3 Tactics and Strategy

In Antichess, the victory is most often obtained by pulling an opponent's piece from its camp and forcing it to take all (or almost all) pieces, one after another. This process we shall call *sweeping*, and we say that the piece, so-called *loose cannon*, turns into a losing machine. Tactics of the game is usually associated with loose cannons, where a bishop as loose cannon has a special place because it is often able to sweep the entire board. Once when tactics is mastered and tactical threats are avoided, which is easier said than done, the strategy comes to light.

Just like in chess, a game of Antichess is divided into three distinct phases, known as the *opening*, the *middlegame*, and the *endgame*. In the opening the players confront their knowledge and prepared analyses, in the middlegame they are left to themselves, and in the endgame the players can apply theoretical knowledge again. Not every game will feature all three stages. For example, beginners have a difficult task to survive the opening where some bishop usually becomes a loose cannon. However, on a master level, the game ends rather rarely by a complete sweeping in the middlegame, but more often in the endgame. The middlegame is often connected with tactics and strategy.

Although the aim of the game is different, Antichess has much more in common with chess strategy, as one might think at the first sight. It may seem counter-intuitive, but getting rid of almost all your pieces is not a wise strategy. Instead, achieving significant material advantage is one of the most important routes to success. Having more material gives the possibility to surround the opponent and gradually restricting him until he runs out of safe moves.

In standard chess, the material is the ultimate principle and we cannot imagine evaluating a position without using the scale $\hat{\Delta} < \hat{\mathcal{Q}} = \hat{\mathcal{K}} < \hat{\mathcal{R}} < \hat{\mathcal{B}}$ which works almost always. In Antichess it is not possible to make any such scale, unless in endgame with a small number of pieces left on the board. Moreover, for a successful play, the notion of material advantage often has to give way to more abstract considerations such as space advantage and mobility which play an important role.

Instead of having values, each piece rather has some advantages and disadvantages (see Goldovski [9]). Pros and cons of individual pieces are as following. A **rook** ($\hat{\mathcal{R}}$) is the best endgame piece, quick and powerful, but can be easily turned into a losing machine. A **king** ($\hat{\mathcal{K}}$) is a very important piece since its safe moves are often needed to avoid zugzwang, but it is too slow for other tasks. A **queen** ($\hat{\mathcal{Q}}$) is very useful for tactics (attacking the king, weak squares, ...), but it is dangerous in open positions, especially in the endgame. A **bishop** ($\hat{\mathcal{B}}$) is good in the endgame, and for draws (due to opposite colour bishops), but can be easily turned into a disastrous losing machine. A **knight** ($\hat{\mathcal{N}}$) is very good for destroying pawn formations and double attacks on weak squares, but it is too immobile and very bad in the endgame. A **pawn** ($\hat{\Delta}$) is very useful for restriction of the opponent's pieces and for destroying pawn formations, but it is slow, immobile, and often dangerous when it reaches the final rank and comes to the promotion.

Therefore it is very difficult to estimate the quality of a position, especially for inexperienced players. Although the material advantage is very important, it is not convenient to have a lot of pieces if the available space is restricted. Hence, three main aspects of the

winning strategy are space, mobility, and material. Anyway, it is important to take control of tactics and avoid making mistakes.

If one side stands clearly better, it is common for modern hardware and software to find and prove the win. This is why we decide to modify the meaning of some standard chess symbols (see \pm and \mp in the Table of Symbols). From external references in this topic we can recommend Liardet [12, *Tactique élémentaire*] and Goldovski [9], while a detailed review of all elementary tactical motifs we shall see in Chapter II.

I.4 Opening

The main disadvantage of the initial position is poor aeration and many immobile pieces. The game can be lost due to a bad first move, so Antichess openings require more caution than in chess. The general goal in the opening is to aerate the position, and this is what we call development. A piece is developed when it no longer represents a weakness of the position, which means that the piece has enough space or it will soon disappear from the board.

Is necessary to give priority to the development of bishops, since these are the best sweepers. If a bishop does not develop soon, it may be locked on the starting square which will keep the surrounding pieces fixed. Special attention should be paid to b and g pawns. One the one hand, these pawns can turn the opponent's bishop into a loose cannon. One the other hand, they free the short diagonal for the player's bishops, which additionally enable a tactical resource using the fianchetto. Anyway, bishops are very dangerous in the opening and it is quite useful to get rid of your bishops and, if possible, leave the opponent's bishops on the board.

In the opening the player should not be passive. As one of the most important goals is to obtain the material advantage, it is necessary to open the position and capture some of the opponent's pieces (of course, if there is no risk that he will be forced to take them all). For general remarks about the opening, one can check Liardet [12, *L'ouverture*] and Goldovski [9].

Let us summarize the current state of theory about the first move for White. As we have already stated in Section I.2, after about five years of work, Watkins finally proved that **1. e3!** wins in 2016. The moves **1. d4??**, **1. e4??**, and **1. d3??** have long be known to be losing moves, and they are easy to win against, even for average human players. The moves **1. ♘c3??**, **1. ♘f3??**, **1. f4?**, and **1. h4?** have been known for seventeen years to be losing moves (see Taelman [16]), and they are solvable by skilled human players. The moves **1. h3?!** and **1. b4?!** are much more difficult, and they are solved in 2002/2003 by Nye and his powerful engine ASCP. The moves **1. f3?!**, **1. a3?!**, and **1. c3?!** are solved by Steenhuis in 2014/2015 using Watkins' software. The best-play results after the remaining moves, **1. ♘a3**, **1. b3**, **1. g4**, **1. ♘h3**, **1. g3**, **1. a4**, and **1. c4**, remain unknown.

Concrete opening lines are discussed in the final chapters. It is a kind of opening encyclopedia that covers a huge number of positions. First of all we have an exposition of the playing repertoire of author, while in some positions we have available several good moves. In the elaboration of opening all available resources were used: computer proofs, various Antichess tools, a big private database of games, as well as original ideas of the author.

Let us mention that our opening lines are not just fragments from the proof records. Moreover, very often we share our moves with a clear human plan, instead of complicated (for human) moves given by computer. We have tried to cover all the relevant responses to

our repertoire moves. Of course we handle the most resistant moves, but also, consulting our database, we cover the most frequently played moves and those with a good playing statistic.

We classify the concrete opening theory as following. In Chapter 1 we consider initial moves different than 1. e3, which is certainly useful for our Black repertoire. For White repertoire we recommend 1. e3 as the best move that is also very convenient for beginners. Various answers are covered in Chapter 2. Chapter 3 is very important for White, since about 75% of Lichess games have the answer 1...b5, and additionally covers about 6% of our Black repertoire through the transposition 1. b3 e6 2. b4. Chapter 4 is very important for Black, since we discussed the answer 1...e6 in detail. Finally, Chapter 5 deals with the strongest answers, 1...c5 and 1...b6.

I.5 Endgame

“The endgame is the most appealing stage of the game, a garden of surprises,” wrote Pritchard about Antichess [15]. It is also worth quoting the final Verney’s paragraph about Take me Chess (see [17, p.191]): “A curious feature of this game is that not until almost the last move can it be guessed which player will win; for it often occurs that when a player has only one Piece left on the board, his antagonist may by careful play cause this one Piece to take all his own Pieces which may be left.” So the subtlety of Antichess endgames was recognized even at this early stage (see Beasley [4]).

In the endgame generally there are no obstacles and the pieces can develop their true values. According to Liardet [12, *Les finales de "qui perd gagne"*], roughly speaking, we have ♠ < ♘ < ♙ = ♖ = ♗ < ♚. In general, the advantage is for the camp with more pieces and fewer pawns. Therefore, an important motif in the endgame is to push the pawns forward as soon as possible and promote them to some useful pieces which will remain on the board. Of course, it does not mean that pawns should never be left on the table for some tactical reasons.

In Antichess there are two basic ways for win, namely forcing and zugzwang. The *forcing* is reducing the opponent’s moves only to those that capture, usually by driving a piece into a losing machine. On the other hand, *zugzwang* is the most powerful weapon in deep endgame and describes the situation where the opponent has the choice of non-capturing moves, but all of them will spoil its position. Therefore one should learn how to apply the combination of these main ways, forcing the opponent into zugzwang or winning endgame.

Knowing the endgames in Antichess is of great importance and at least some work is needed in order to significantly improve our play. Speaking about the endgame, our recommendation is to take a look at two extraordinary articles by Beasley: “*Three-man pawnless endings in Losing Chess*” [3] and “*A first survey of Losing Chess endgame material published up to the end of 1999*” [4]. In addition, do not skip the website *Les échecs à qui perd gagne* of Liardet [12].

We split the concrete endgame theory as following. In Chapter III we investigate the simplest case of one piece against one. In Chapter IV we deal with endgames where one side has a lone king against two pieces. In Chapter V we cover other endgames and problems, usually as concrete studies.