

# DISTANT ARMIES

**A Playing History of Chess**

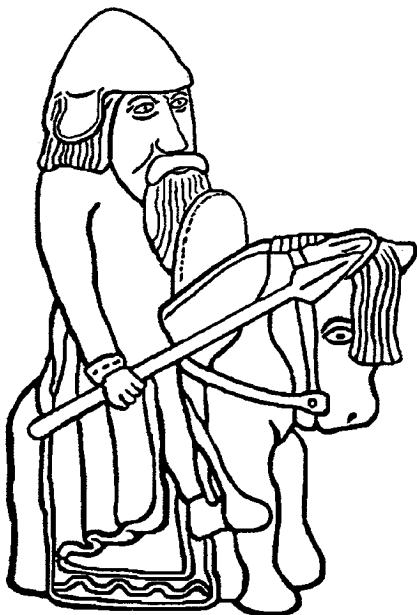


by  
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## 1. INTRODUCTION

Around the turn of the century, H.J.R. Murray began his monumental history of chess. Murray, a British schoolmaster, waded through chess histories and mediaeval manuscripts to assemble and write his book. He not only identified major currents, but also traced remote streams and forgotten tributaries in the evolution of chess. Most of his facts and conclusions stand unshaken by further research. Published in 1913, Murray's *A History of Chess* continues to dominate the study of chess history.

*Distant Armies* is a computer program grounded in *A History of Chess*. It includes computer versions of ten historical forms of chess and is possible only because all types of chess share a common theme: two symbolic armies of equal strength face one another on a board of uniform and limited extent with the objectives of checkmating the enemy king and defeating his army. *Distant Armies* begins with *chaturanga* from the sixth century and extends to a version of chess programmed for computer in the 1950's. Though this is not an exhaustive collection of chess forms, we tried to include some of the more representative and interesting games.

We added as much historical information about the individual games and the overall development of chess as disk space permitted. Though Murray is the major source for both game descriptions and histories, we found Richard Eales, *Chess, The History of a Game* (1985), helpful in interpreting and correcting many of Murray's conclusions. By supplementing the computer games with this information, we hope to present the ancestry of chess in a novel and entertaining way.

## 2. A VIEW OF CHESS HISTORY

A small number of literary references indicate the existence of chess by the beginning of the seventh century. Beginning in the ninth century, Islamic and Indian accounts show that chess was likely invented in northwestern India and was known as *chaturanga*.

The work *chaturanga* is Sanskrit and means four-limbed. This term was used to describe the four corps of an ancient Indian army: horses (cavalry), elephants, chariots, and footsoldiers. The pieces of a *chaturanga* set represented these four units of an army. A rajah and his minister commanded the forces. The relative powers of the corps within the Indian army helped determine the relative powers of the pieces on the board.

From India, chess passed at undetermined times east to Burma, northeast to China, and west to Persia. Moving east, chess evolved into numerous regional forms. A few of the descendants of these games are played today in Burma, China, and Japan. Arabs who invaded Persia around 640 brought the game into Islam where it was called *shatranj*. Muslim players concentrated on strategy and game analysis, contributing to the stability and sustained popularity of chess in Islam. Though reluctant to experiment with *shatranj*, some players invented entirely new forms of chess with unusual boards and pieces. One example was the round board of Byzantine chess.

By the eleventh century, chess had entered Europe through Italy and Spain. The chess of the Middle Ages was distinguished by regional differences in both rules and playing etiquette. The game slowly evolved as players tried various ways to quicken opening play. For instance, the two step move of pawns was introduced. Around 1475, players began to use the modern bishop and queen making chess the game we play today. Only minor rule changes, such as castling and the fifty move rule, were instituted.

As chess was further refined in Europe, the new rules spread back into Islam where the old game was still played. Perhaps inspired by these rules, the players in Islam experimented with their own changes until the European game finally began to dominate world chess play. One experimental piece of this time combined the moves of a knight and a modern queen. This exceedingly mobile piece was used in both Turkish and Decimal chess and makes consideration of positions particularly troublesome.

In the 20th century, much energy has been devoted to getting machines to play chess. In 1957, a group from the Los Alamos Scientific Laboratory in New Mexico reported the results of a chess program running on their MANIAC I computer. A computer program's ability to play chess is, in large measure, determined by the number of possible positions it can generate and score. Because the computers of the 1950's were slow by today's standards, the programmers reduced the number of positions the computer had to consider by reducing the board size and eliminating the bishops. *Distant Armies* borrows the 6 x 6 board of this early chess program for Los Alamos chess.

### 3. GETTING INFORMATION

An important part of *Distant Armies* is the availability of information files that you can access from the *Information* menu or by pressing a function key. These files are divided into two groups.

The first group contains information that is specific to a game:

**History (F1)** is a history of the active game in the context of overall chess development.

**Rules (F2)** describes the rules and the moves of the pieces for the game. You can get immediate information on a piece by choosing **Piece Help** from the menu or by pressing the **Help** button on the keyboard. The hand will change to a pointer with **HELP** written below it. Click the left mouse button while pointing at a piece and the page in the Rules file that describes the moves of the selected piece will appear.

The second group of files contains general information that is available from all games in the collection:

**Overview (F3)** describes the development of chess as it moved from culture to culture.

**Guide (F4)** contains explanations of each menu item used within *Distant Armies*.

**Glossary (F5)** defines forty terms relevant to this program.

**Sources (F6)** is a bibliography of the sources that made the program possible.

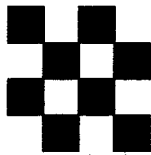
Use the arrow gadgets on the left and right cursor keys to browse through an information file. To return to the game, click on the small chessboard on the lower right-hand corner of a screen (or press the *Return* or *Enter* key).



*Move Back a Screen*  
(Left Cursor Key)



*Move Forward*  
(Right Cursor Key)



*Return to the Game*  
(Return Key)

Words or numbers that are rendered in blue are links to other screens of information. Click on a blue link and another screen will appear. The new screen will have a right angle arrow next to the ordinary browsing gadgets. Activating this gadget will cause the previous screen to reappear. If you move off a screen with a return link, the return link is broken and removed from the screen. For example, you will occasionally see a word that is printed in blue. Position the pointer over this word and click the left mouse button. A definition of the word from the glossary will appear. You can jump back to your place in the original file by clicking on the right angle arrow.



*Right Angle Arrow:*  
*Press this gadget to return to*  
*a previous screen.*  
(Down Cursor Key)

## 4. PLAYING A GAME

### 4.1 Choosing the Game

From the Workbench, double click the *Distant Armies* icon to start a game. After the title screen fades, a game requester will appear with a map and eleven gadgets. With the mouse, function keys, or cursor keys, select the game you wish to play. The map will show the approximate date and location of the game you have chosen. To play the game, click the *Play* gadget on screen or press either *Return* or *Enter* on the keyboard. The screen will immediately fade to black before displaying the game you selected.

### 4.2 Changing the Board

While playing *Distant Armies*, you might want to adjust the board. You can get a palette of the board and piece colours by selecting the 'Colors' item from the *Board* menu. When the palette is displayed, you can choose a colour to change by pointing at the colour on the

screen and clicking the left mouse button. Colour descriptions are available in the Red-Green-Blue (RGB) system, or in the Hue-Saturation-Value (HSV) system. Though the changes you make in the palette are not permanent, you can save and load a palette by saving and subsequently loading a game.

Selecting **Show Notation** will cause the program to display algebraic notation around the board. This is useful when inputting moves from the keyboard.

There are two different pointers available for grasping pieces. The default pointer is a hand that opens and closes. You can also use an arrow that turns red when you grab a piece. Get this pointer by selecting the **Point with Arrow** item from the *Board* menu.

You can have sound accompany the messages that occasionally appear in a game. If you select **Tones** from the menu, a sound will play whenever a message appears. Selecting **Narrator** will cause the computer to read the messages. You can change the characteristics of the narrator voice in the **Adjust Narrator Voice** requester.

To switch between two and three dimensional views of the board, select the **Use 3D view** or **Use 2D view** item from the *Board* menu. There is no three dimensional view of the Chinese board; the Chinese pieces are too flat and the Chinese symbols too complex to make this view useful.

### 4.3 Adjusting Play

You can choose who will play a game by selecting **Player vs. Player**, **Player vs. Computer**, or **Computer vs. Computer** from the *Play* menu. In **Player vs. Player**, the program will monitor play between two players, disallowing illegal moves and detecting checks and mates. To play a game against the computer, choose **Player vs. Computer**. The computer will play both sides of a game in **Computer vs. Computer** mode.

To play with the other side's pieces, select **Switch Sides** from the menu.

In the **Set Difficulty** requester, you can change the difficulty level of the game. Each setting corresponds to a length of time the computer takes to consider a move. The more time the computer takes to consider its move, the better it will play.

You can create a position in any game with **Set Up a Position**. In this mode you can add, remove, or re-arrange pieces of the board. The program will not allow you to add more pieces than can occur in the course of a game. For instance, you cannot put more than two kinds of the same colour on the board at one time. If the program detects an illegal position, the offending piece is removed and a message will appear informing you of the rule that prohibits that position. From the *Position* menu you can clear the board, restore the board to its initial arrangement, or select the side that moves next when you return to the game.

The pieces captured in the course of a game are displayed by selecting **Show Captured Pieces**. The pieces are arranged by piece colour and appear in the order they were captured.

From the **Version** requester, some of the games let you choose playing rules. Each version originates from a different historical source or reconstruction. They usually represent only slight differences in rules and are discussed in the online information files of each game. For instance, **Mediaeval chess** includes a choice of Spanish, French, or English rules.

In **Chinese Chess**, you can change the faces of the pieces from Chinese symbols to pictures that you might find easier to use while learning the game. To do this, choose **Change Picture** from the *Play* menu.

## 4.4 Moving the Pieces

You can move pieces in two ways. By using the mouse, you can grab a piece and reposition it on the board. You can also make a move by typing the move in algebraic notation. If the move is not legal, a message will appear telling you the move is illegal and, if necessary, the piece will return to its original position.

There are four commands for manipulating moves after they are made:

**Take Back a Move:** Takes back the last move made in the game. You can also take back a move by pressing the left cursor key.

**Replay a Move:** Replays a move from the move list that has occurred, but was later taken back. You can also replay a move by pressing the right cursor key.

**Take Back All Moves:** Repeatedly takes back moves until the beginning of the move list is reached. A game begins after the chess set first appears, when you select **New Game**, or after you create a position.

**Replay Moves to End:** Repeatedly replays moves until the end of the move list is reached.

It is possible to move back and forth through a game by using these commands. If you want to view a game, you should set the game to **Player vs. Player** mode. This will prevent the computer from making a move somewhere in the middle of replaying a game.

The user can interrupt the calculation of the computer's move. The time the computer takes to calculate its move is determined by the setting in the **Set Difficulty** requester. During these calculations, choosing **Force Computer Move** will cut short the computer's remaining time and cause it to make the best legal move that it has found up to that point.

For the computer to find its best move, it must determine its opponent's best response. You can find the move the computer has decided is your best move by selecting **Suggest A Move** from the menu. The best response is not available if the computer did not have sufficient time to calculate all of your possible responses. This will occur if the computer has not yet moved at the beginning of a game, after using **Force Computer Move**, or when there is a large number of possible moves on the board (for example, in **Decimal Chess**).

To find which of your pieces are in immediate danger of capture, choose **Show Threats** from the menu. The program will place a red shadow of the attacking piece on top of each of your threatened pieces. If two or more enemy pieces are attacking one of your pieces,

the piece of the least strength is displayed. Press any key or mouse button to remove the shadows.

You can find all of the possible moves for a piece by choosing **Show Legal Moves**. When you grab a piece with the mouse, silhouettes of the piece are shown at the destinations of all legal moves for the piece.

## 4.5 Saving, Loading, and Printing Games

You can save a move list and the current playing environment from the **Save Game** requester. Though *Distant Armies* will not load a file saved from one form of chess into another form, you should include the name of the chess in the filename (i.e. MYGAME.Chaturanga). There are two menu items in the *Project* menu for reloading a game:

1. **Load Game**: When you load a file after selecting this item, only the move list is loaded.
2. **Load Game/Settings**: When you load a file with this item, the exact playing conditions (colour, voice settings, difficulty level, view, etc.) are loaded with the move list. You pick up the game exactly as you left it. If there is a particular environment you like, you might wish to save a game without making a move. Before starting a game at a later time, you can retrieve the custom settings from this file.

The labels describing the piece colours, the players' names, and a short comment on the game are also saved. You can redefine each of these strings in the **Label Game** requester. The piece colour labels are used in the game messages and should reflect the colours of your pieces. If you change the colours from the palette, check the labels to avoid confusion. You can also use the comment line for dates, places, short comments, etc.

You can print the entire move list of a game in algebraic notation by selecting **Print All Moves**. By choosing **Print Each Move** from the menu, you can have the program send each move to the printer as it occurs.

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