Pawn Endings

Last week, we talked about the first stage of a chess game -- the opening. In today's lecture, we will talk about the third and final stage, known as the endgame.

There is no clear definition of what constitutes an endgame. Normally, we classify a position as an endgame if:

a) The queens have been exchanged\(^1\), or

b) The majority of pieces have been traded.\(^2\)

In this lecture, we will talk about a specific type of endgame: the **pawn ending**. As the name suggests, pawn endings are endgame with just kings and pawns on the board.

Today, we will study several important pawn ending techniques (**breakthrough, opposition, and triangulation**) and also list some key positions that we should memorize.

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1 Recall that an *exchange* occurs when both players capture a piece of the same type, usually on consecutive turns.

2 The words *traded* and *exchanged* can be used interchangeably.
I. Breakthrough

A *breakthrough* in pawn endings is a method of gaining a *passed pawn* (a pawn that has no enemy pawn opposing it), usually by means of *sacrificing*, or giving up, material.

A typical example is displayed below:

*(For the remainder of the handout, it is recommended to set up a chessboard in front of you so that you can follow along the moves)*

![Diagram 1](image)

Both sides have three pawns each, but black’s king can attack white’s pawns more easily than white’s king can attack blacks. However, white can decide the game immediately by means of a breakthrough: 1.g6! hxg6 2. f6! gxf6 3.h6, and white’s pawn promotes. Note that if black played 1...fxg6, then white could win with a symmetrical sacrifice on the other side: 2.h6 gxh6 3.f6.

II. Opposition

Consider the position below. Both sides’ kings are posted *directly in front of each other*, so that neither can move forward. This is known as opposition. Note that the player who is to move will have to allow the enemy king forward -- this is termed *losing the opposition*. 
Of course, in this simple position, it doesn’t matter which side has the opposition; it is a draw no matter which moves either side plays. But in endgames with pawns, having the opposition often makes the difference between a win or a draw -- or even a loss!

In this position, it is black to move. If he plays 1...Kd8?, then white gains the opposition with 2. Kd6! and wins following 2...Ke8 3.e7 Kf7 4. Kd7.

Black needs to stop white’s king from advancing. Therefore, the move 1...Ke7! is indicated. After 2. Ke5 black should, once again, avoid 2...Kd8? 3.Kd6!, but play 2...Ke8! (see next diagram).
A critical idea to remember! After 3.Kd6 Kd8! black gains the opposition, and after 4.e7+ Ke8 5. Ke6, the position is a *stalemate*, as shown in diagram 5.

How should white continue in the following position?
When playing pawn endings, one should always put the king in front of the pawn. White can gain the opposition with 1.Kg5!, forcing black’s king to give up space, and after 1...Kf7 there follows the critical move 2.Kh6!, outflanking the black king. After 2...Kg8 3.Kg6!, white again puts the king in front of the pawn, as seen in the next diagram.

![Diagram 7](image)

Black’s king has to give space with 3...Kf8³, and white performs the final outflanking: 4.Kh7!, followed by simply pushing the g-pawn to the promotion square.

It is important to note that positions with the h- or a- pawns are always drawn if the enemy king can reach the promotion square of the pawn. There is not enough space for the side with the pawn to outflank black’s king, since there is only one file adjacent to the a- and h- files.

III. Triangulation

A chess player would normally give everything for the right to move. In some cases, however, having to move is actually a disadvantage -- every move worsens your own

³ A better defence is 3...Kh8!, hoping for 4.Kf7 Kh7 5.g5 Kh8 6.g6?? stalemate! Instead, however, white can play 6. Kg6! Kg8 7.Kh6! Kh8 8.g6 Kg8 9.g7 Kf7 10. Kf7 and wins. This, however, is not pertinent to our lecture.
position. This is known as zugzwang. One such example is seen below:

Here if white plays the direct 1.Kc5?, attacking black’s pawn, black wins with 1...Ke4!, and white has to move his king, thereby losing the d4-pawn.

It is necessary, therefore, to lose a move. White plays 1.Kc6!, attacking the d5-pawn. Black is forced to defend it with 1...Ke4, and then there follows 2.Kc5!

The white king moved from b5 to c6 and then to c5. If you look closely, this path forms a triangle. Now we can understand why this maneuver is called triangulation.