

# How To Play Go

## Lesson 5: Ko And Ko Threats

### 5.1 Ko Threats

Let us consider Diagram 5-1. When black 1 takes the ko, white cannot take back the ko immediately. How should white respond?

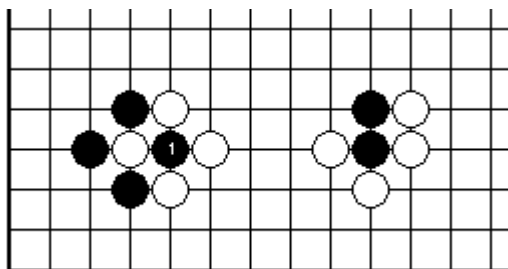


Diagram 5-1

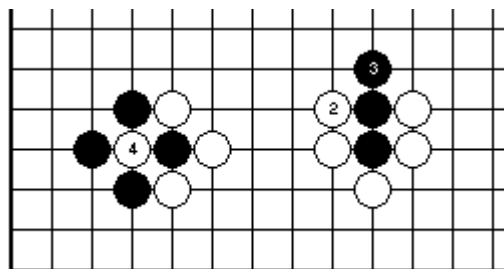


Diagram 5-2

White can try to play at 2 in Diagram 5-2 and atari the two black stones. If black saves the stones at 3, then white can now take back the ko at 4 as one turn has passed since black 1 takes the ko. Definitely, if black 3 connects the ko at 4, then white will play at 3 to capture two black stones as compensation for losing the ko.

Hence, white 2 in Diagram 5-2 is also known as a *ko threat*. A ko threat is some kind of a forcing move, asking for compensation elsewhere for losing the ko. If the opponent does not like this deal, then the player gets to take back the ko. Usually the number of ko threats each player has will decide the outcome of the ko – the one with more ko threats wins.

### 5.2 Applications Of Ko

The scope of the ko can range from the very small endgame ko to the ko that threatens connection to the life and death ko to those that practically decides the outcome of a game.

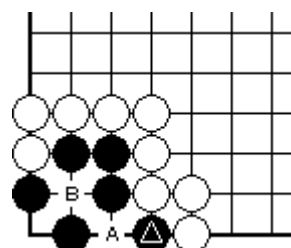


Diagram 5-3

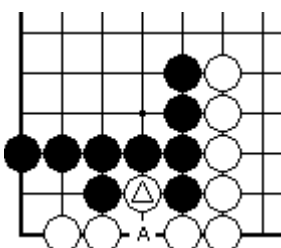


Diagram 5-4

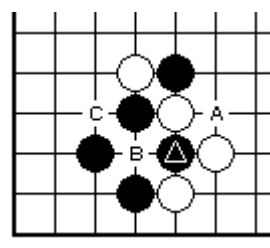


Diagram 5-5

Diagram 5-3 shows a black group in the corner whose life and death is threatened by a ko. If black wins this ko then he would certainly connect at A. If white wins this ko white would occupy both A and B (remove three black stones from the board) to kill black.

Diagram 5-4 shows a ko that threatens white's connection. If white wins this ko then he connects at A to save the two corner stones. If black manages to take the ko at A and then connect at the position of the triangle white stone then he would capture the two corner stones.

Diagram 5-5 shows a large ko with great damage potential to both players. If black wins this ko then he would play at A – and the remaining white stones are rendered totally useless on a strong black group. Similarly, if white can win this ko then white will take the black stones at B and C – and the rest of the black stones are also useless on a very strong white group. This ko is big, so whoever wins this ko is likely to gain considerable advantage in the game.

### 5.3 Impact Of A Ko

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The outcome of a ko may greatly impact a game, or leave no impact at all. Some kos may even favour one player.

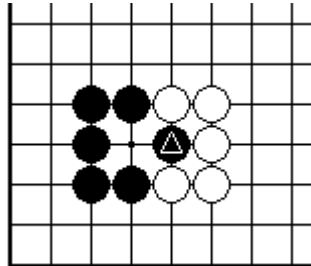


Diagram 5-6

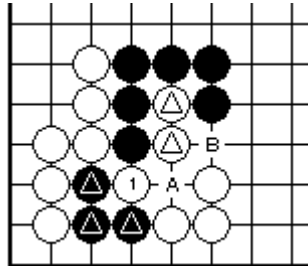


Diagram 5-7

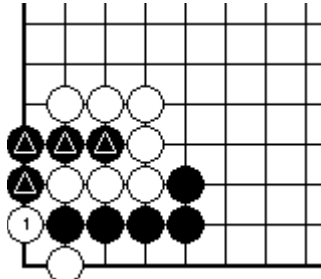


Diagram 5-8

Diagram 5-6 shows a very small ko usually referred as the *endgame ko*. Apart from the benefit of capturing one stone there are no other benefits. Such a ko is best left to the end of a game to fight over.

Sometimes you need to pay a price to fight a ko. In Diagram 5-7 white 1 throws in a stone to fight a ko, in the hope of capturing the three triangle black stones by connecting at A next. However, when black takes the ko at A, the two triangle white stones are under atari. So white risks losing the two triangle stones if white loses this ko (black plays at B to end the ko). This is why sometimes you have to watch the timing to start a ko.

An example of a ko tipped in favour in one player is shown in Diagram 5-8. White 1 starts a ko, and if black loses this ko, black loses the four triangle stones as well. If white loses this ko he has nothing to lose. Hence this ko is

advantageous to white, and is also referred as a *picnic ko*. Diagram 5-3 and Diagram 5-4 are also examples of picnic ko.

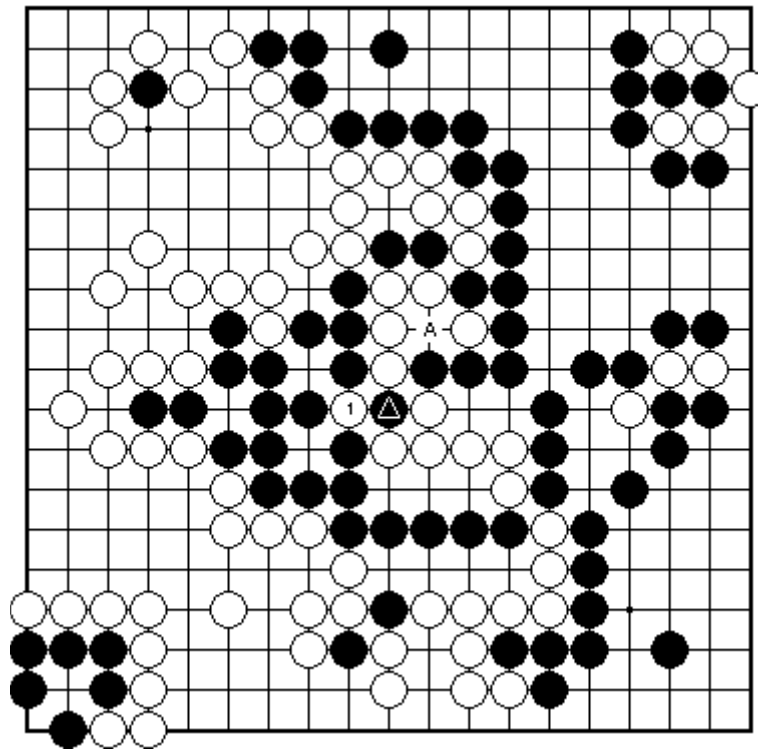


Diagram 5-9

Consider the situation in Diagram 5-9. If black wins this ko then black plays at A, taking five white stones and capturing the middle white group. If white wins this ko then white connects at the position of the triangle black stone, effectively killing the entire middle black group. As you can see, this ko effectively decides who will be the winner of this game. Such ko is known as the *all-dominating ko*. When white 1 takes the ko, black has no ko threats to this ko. Hence white will connect the ko and win this game straight away.

#### 5.4 Local Ko Threats

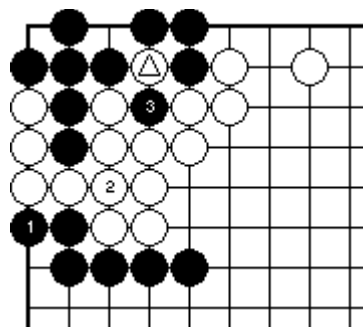


Diagram 5-10

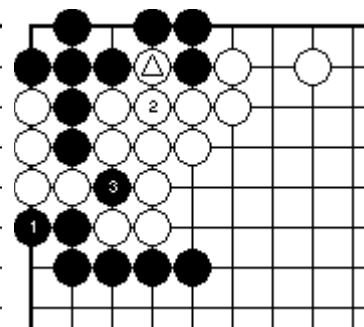


Diagram 5-11

In Diagram 5-10, white has just taken the ko at the triangle white stone in his attempt to kill the corner black group. However, black can atari at 1 as a ko threat, and white cannot resist it and must connect at 2. Then black can take back the ko at 3. Diagram 5-11 shows why white cannot connect the ko at 2. Black will then capture four white stones with 3. This exchange resulted in white failing to kill black and losing four stones instead. Black 1 is known as a *local ko threat* – the ko threat occurs in the same local area of the ko and the opponent must answer the ko threat to achieve his objective.

## 5.5 Multi Stage Ko

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Sometimes the ko exists in such a way that to win the ko, one must win the first ko, which creates a second ko which must be won, and in turn may produce yet another ko that has to be won, and so on. Such kos are called *multi stage ko*.

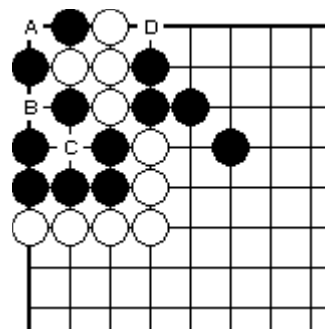


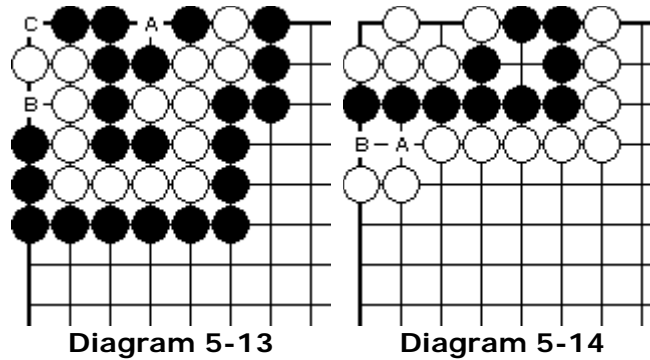
Diagram 5-12

Diagram 5-12 shows an example of a two stage ko for white. In order to win this ko, white has to win the ko at A, followed by the ko at B, before taking all the black stones at C. If black wins this direct ko fight, he would take the four white stones at D.

## 5.6 Approach Ko

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Sometimes the ko exist in such a way that one must ignore more than one ko threat in order to win the ko. In such cases we call the ko an *approach ko*. A ko where either player needs to ignore only one threat to win (i.e. not a multi stage ko or approach ko) is also called a *direct ko*.



In Diagram 5-13, white cannot play at C – this would be suicidal as black will then play at B to take the white group off the board. However, this is also a two move approach ko for black as he needs to win the current ko fight, then play at B to make it into a direct ko. Thus he needs to ignore two ko threats of white's before he can end this ko by playing at C to kill the white group.

A three move approach ko is shown in Diagram 5-14. In this diagram white has to play at A and B before the ko is turned into a direct ko fight. We can also say that this ko is in favour for black.

If a ko arises and it is a many stage ko (say five) in favour to one player, in 99% of the case, it is as good as saying that the player wins this ko. That is because the opponent is not likely to have so many ko threats. Even if he has, the player will be able to play many consecutive moves at other places to make up the loss due to losing the ko.

## 5.7 Double Ko

It is possible to have two kos to appear together in a system to form a *double ko*. Double ko is interesting as one player takes a ko, the other player takes the other ko and the result is back to square one.

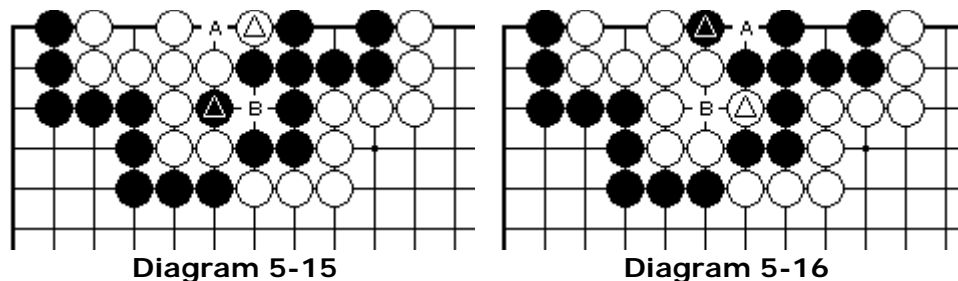
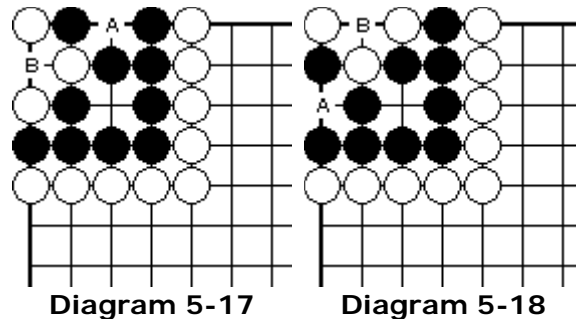


Diagram 5-15 shows a double ko indicated by the triangle stones. Assuming black first, he takes the ko at A, causing an atari of the white group and forcing white to take the ko at B. Then the result is Diagram 5-16. Now black still want to capture white – he finds a ko threat, then takes the ko at B. But

white can now take back the ko at A, and the result reverts back to Diagram 5-15. Suppose white starts off in Diagram 15-5 and tries to capture black, then the result is still the same. *Ruling: since neither black nor white can capture the other group, this condition is treated as a seki.*



Another double ko is shown in Diagram 5-17. Black can take the white stones off the boards by playing at B, but if white plays at A, then black will definitely take the ko at B – resulting in Diagram 5-18. Still, black can capture the white stones at B. However, it is also useless for white to try to find a ko threat, then take the ko at A, for black will respond at B, and the situation goes back to Diagram 5-17 again. *Ruling: as white can never kill black, and black can kill white as and when black likes, this condition is treated as the corner white stones considered dead, and the black group alive.*

## 5.8 Triple Ko

Like a double ko, a *triple ko* is one that has three kos in the system.

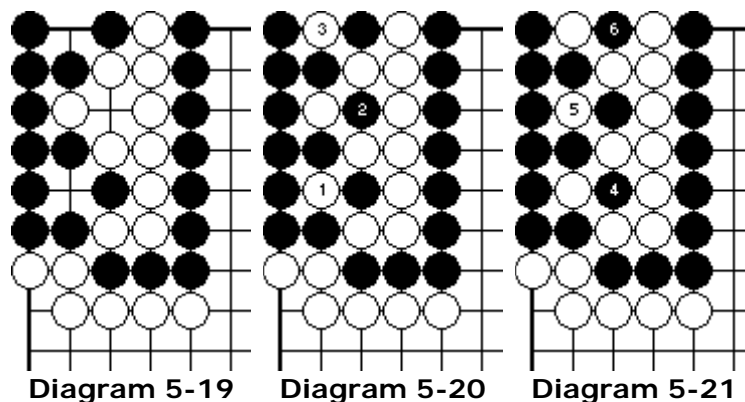


Diagram 5-19 is a diagram containing three kos, or rather a triple ko. What is the result, assuming white goes first? So in Diagram 5-20, white will take a ko at 1, putting black in atari. As black cannot take white 1, so he takes at 2 instead. Similarly, white takes the ko at the top with 3. We continue in Diagram 5-21: black plays at 4, white 5, black 6, and we are back to Diagram 5-19. It is white's turn again, so the cycle repeats itself.

Usually the Chinese or Japanese rule is applied during a game. *The ruling says that if both players do not give up on a triple ko, the game is considered a draw.* (Note: under Ing's rule, a triple ko must be treated like a normal ko – when a player takes a ko in a triple ko, then the opponent player must wait one turn before he can take back any of the kos. That is, when white 1 in Diagram 5-20 takes a ko, black must find a ko threat before taking the ko at 2. This rule will prevent draw games arising from triple kos.)

### **[More Stuff] – The Strength Of A Go Player**

Go players can be classified into two types: amateur and professional. Amateur players usually play Go just for fun, but professional players play Go to earn a living through major Go tournaments (the prizes are huge – definitely not less than chess or sports competitions!). Nonetheless, there is a way to indicate the strength of a Go player. The term *Kyu* is given to weaker players while the term *Dan* is given to stronger players.

For amateur players, 30 Kyu is the strength of players who just began to play Go. As they progress, the Kyu number decreases until 1 Kyu. Then the next rank is 1 Dan. As Dan players get stronger, the Dan number increases. An amateur 6 Dan player can be considered a high Dan amateur player.

For professional players, the same ranking system is used, but amateur 6 Dan may not even qualify as a professional Kyu player. World Go champions have a ranking of professional 10 Dan.