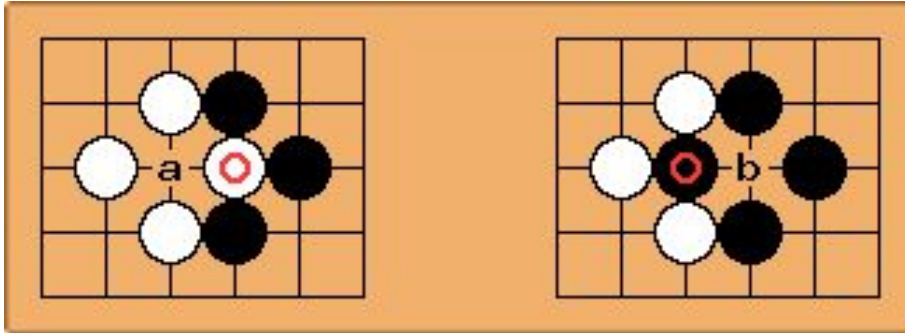


# Ko (I)



## What is Ko?

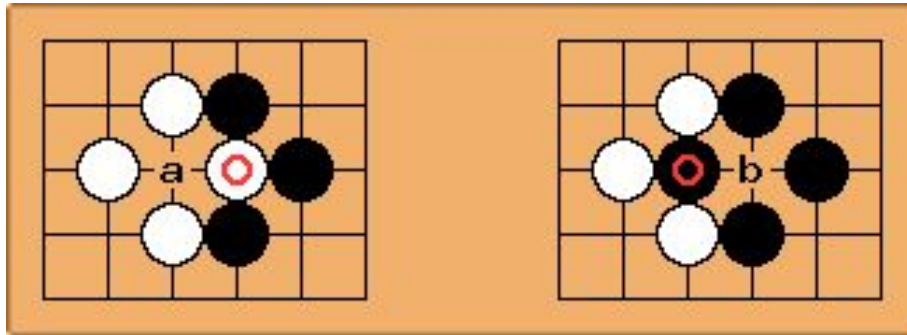
A rule to prevent deadlock in game



If one player captures the ko, the opponent is prohibited from recapturing the ko immediately.

## What is a Ko-Threat?

You play somewhere else important and if your opponent doesn't answer it consequence is huge. (Relative to the Ko itself)





## Facts about Ko

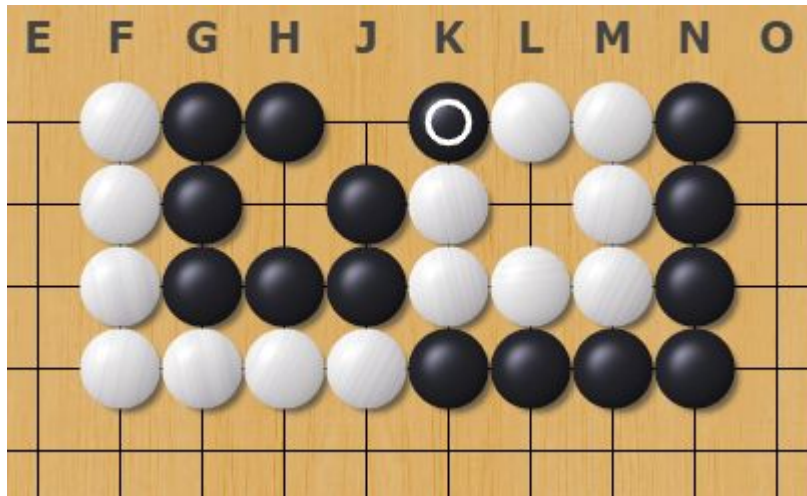
1. Simple yet difficult
2. Leads to the most complicated consideration in Go (exchange)
3. Increases uncertainty
4. Charming and lead to compelling games



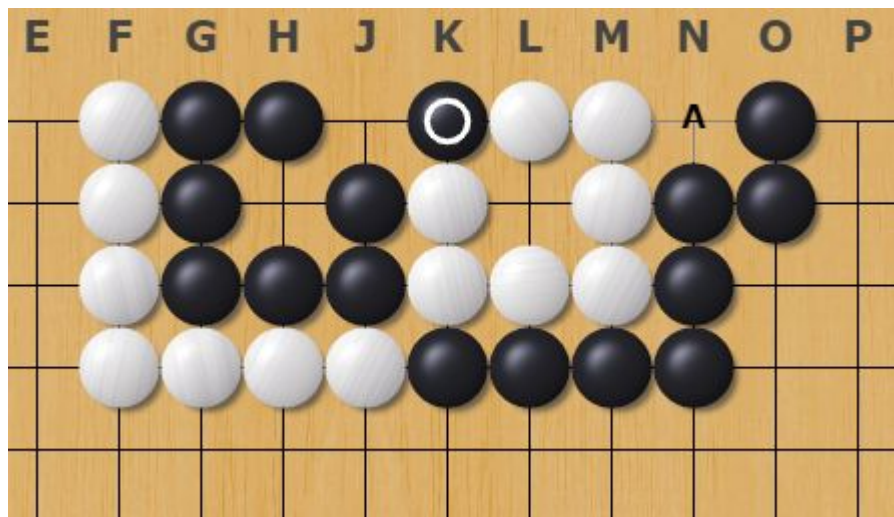
# Types of Ko

1. In terms of **liberty**
  - a. Direct Ko (紧气劫)
  - b. Approach Ko (缓气劫)
  - c. Too many move approach Ko (赖皮劫)
2. In terms of **numbers of Ko**
  - a. Single Ko
  - b. Double Ko (摇橹劫 连环劫)
  - c. Triple Ko (Triple ko cycle 三劫循环)
3. Others
  - a. Ten Thousand Year Ko (万年劫)
  - b. Hanami Ko (Worriless Ko 无忧劫)
  - c. Syrup Ko (糖浆劫)
  - d. Eternal Life(长生劫)
  - e. Fake ko (瞎劫) (～▽～)

## Start with a basic Ko



## One-move Approach Ko

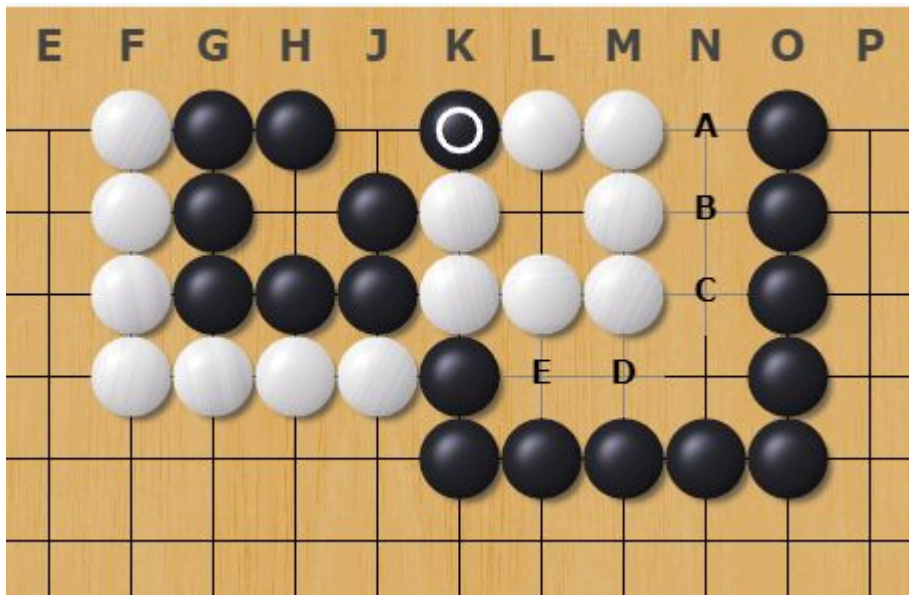


## Three-move Approach Ko

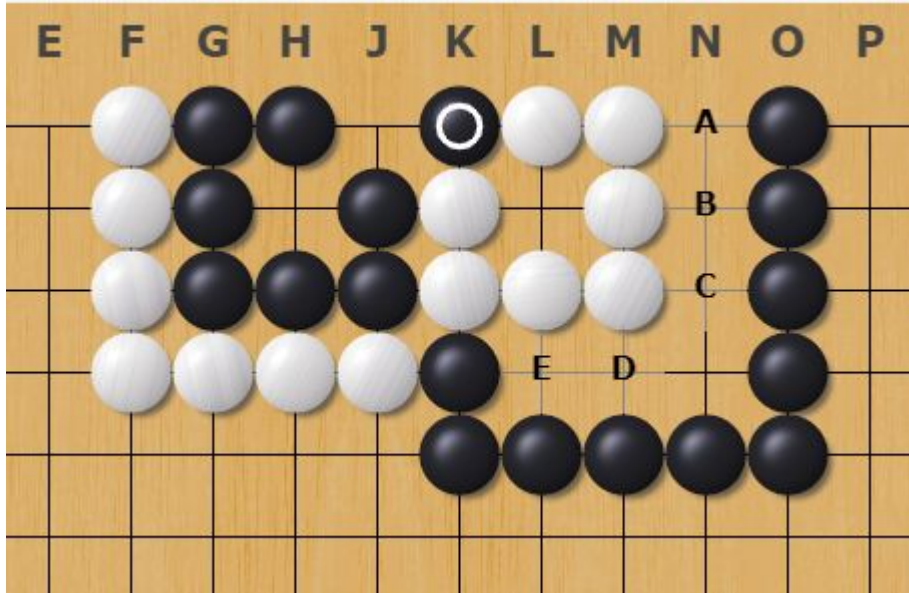




# N-move Approach Ko

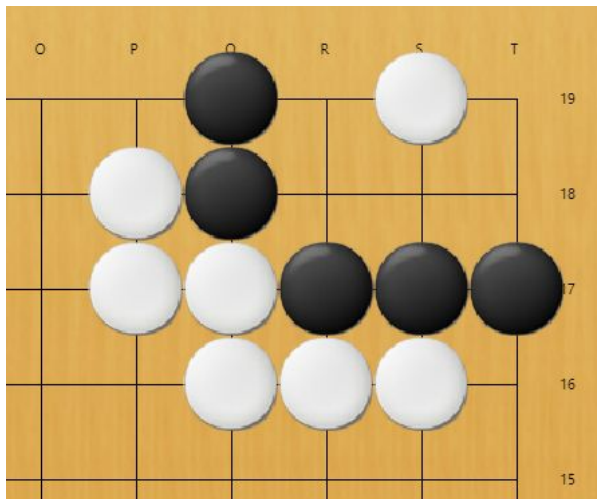


## N-move Approach Ko

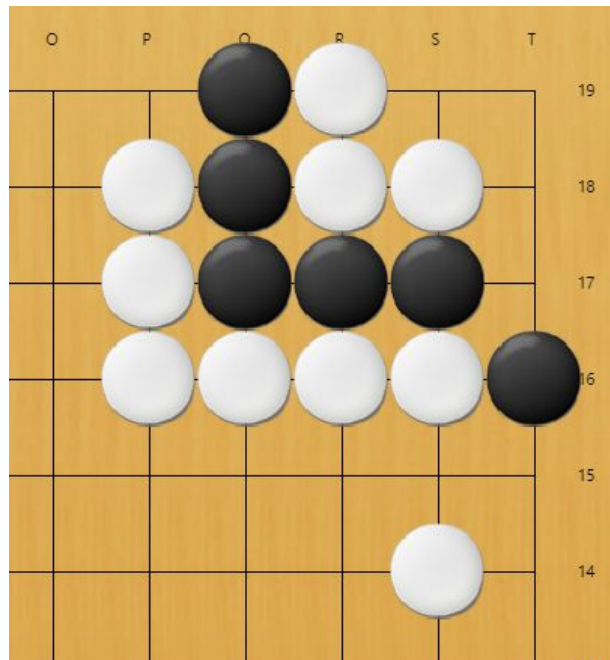


# Practice Questions

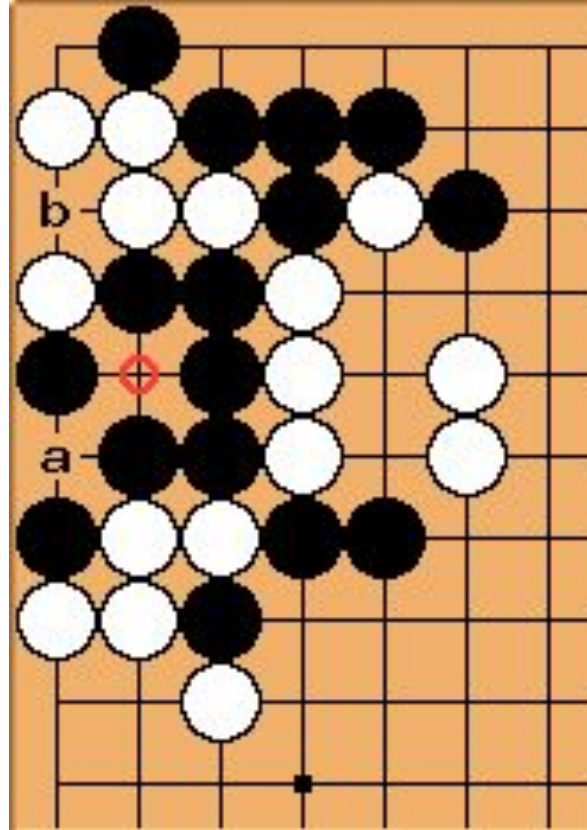
Black First, live by Ko



Black First, live by Ko

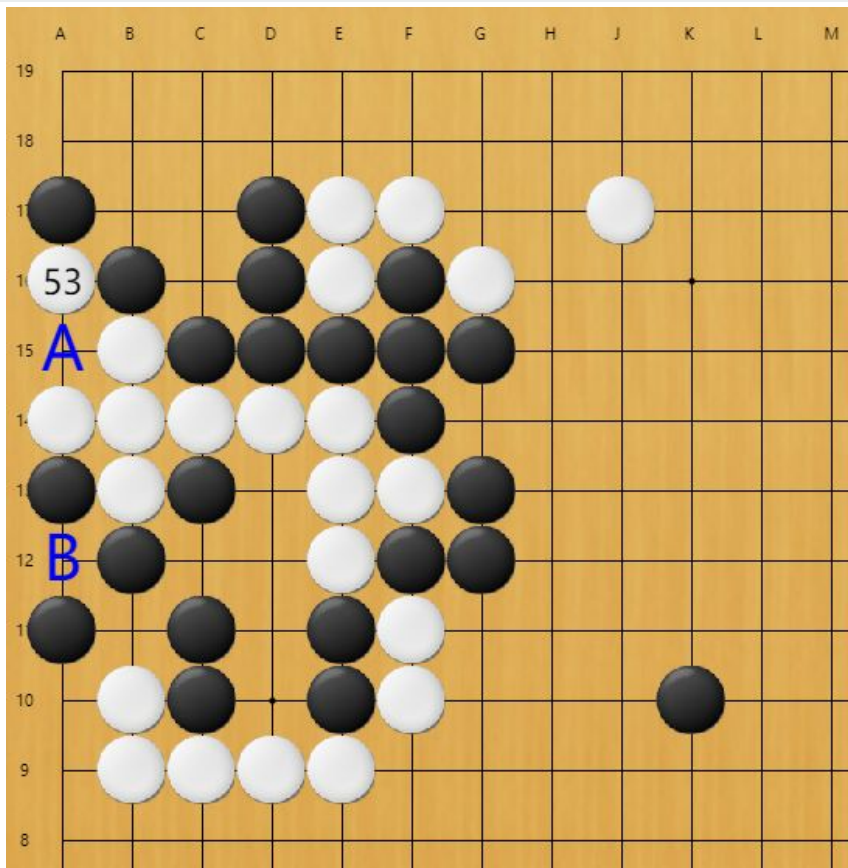


 Double Ko



Large avalanche  
大雪崩

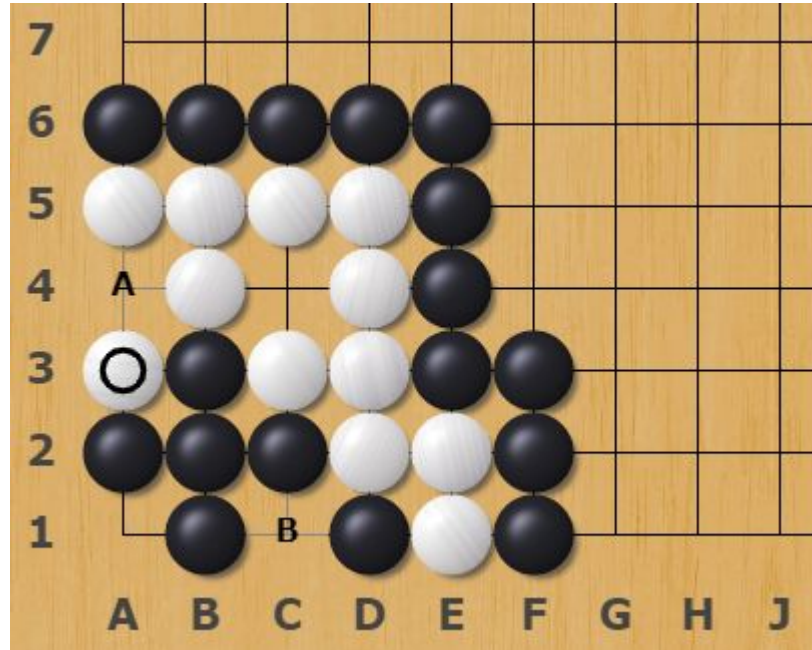
Double Ko



黄龙士 VS 徐星友  
血泪篇  
9th Game

Longshi Huang VS Xingyou Xu  
*Blood and Tears*

## Seki with Double Ko

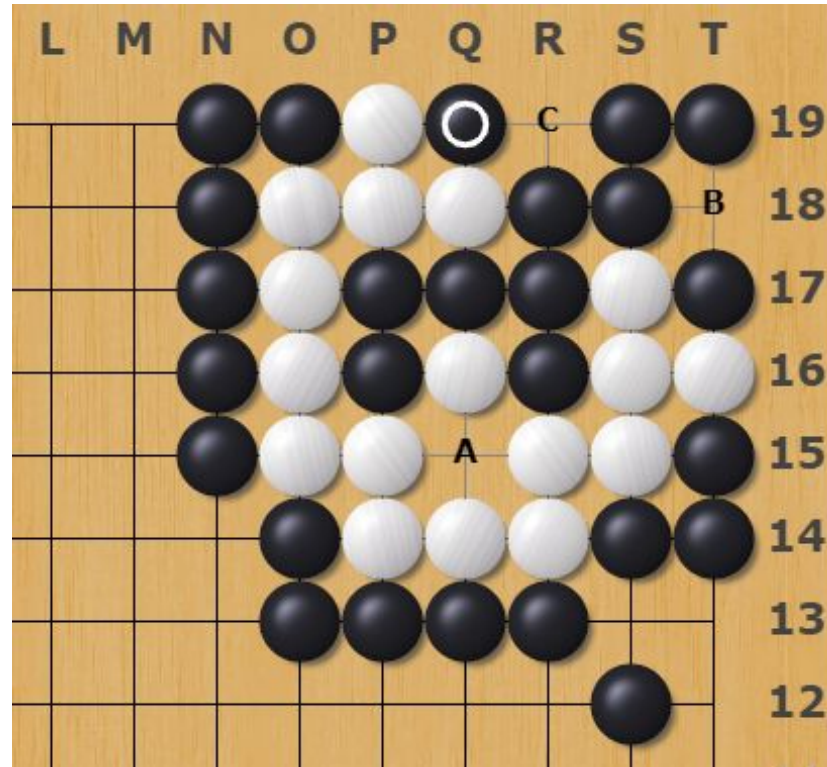


Terms  
Seki: Mutually Alive

# Triple Ko

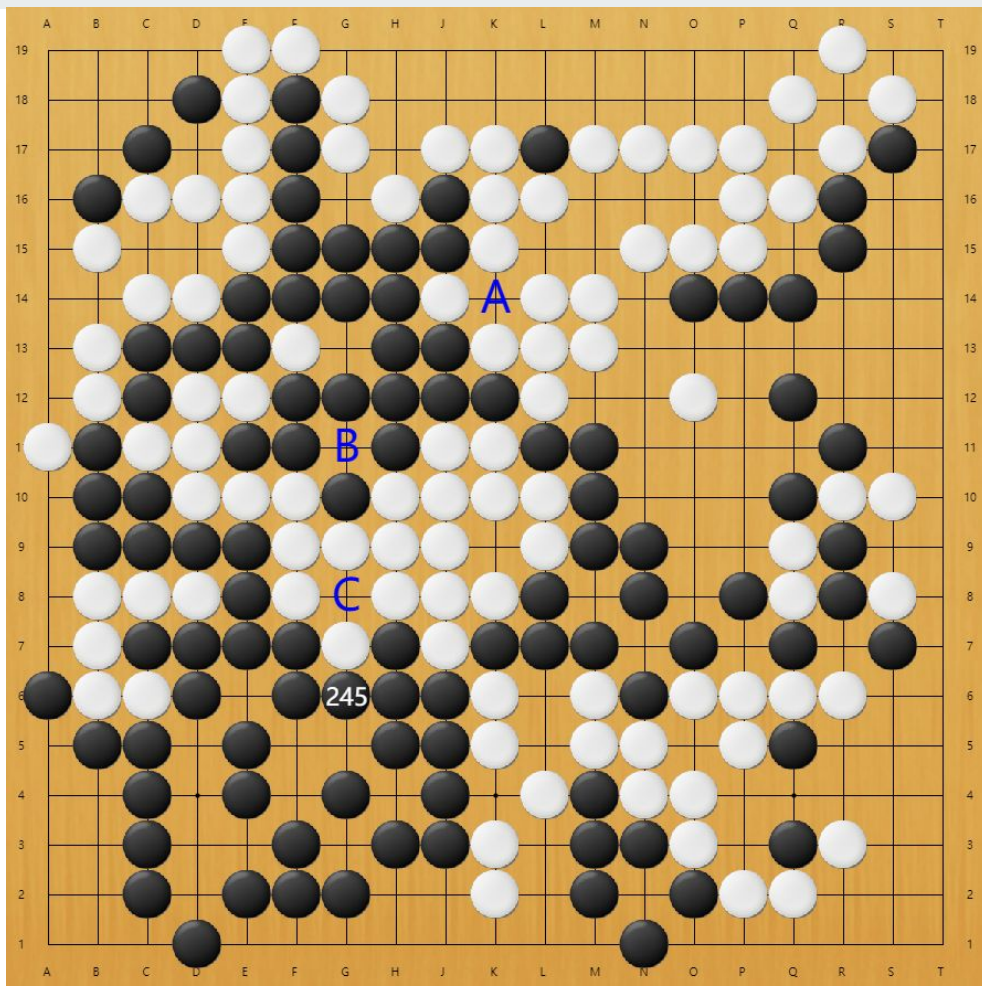
Triple Ko forms  
an infinite cycle.

This often leads  
to a rare tie in Go





# Triple Ko



<https://www.101weiqi.com/chessbook/chess/10204/>





## Triple Ko

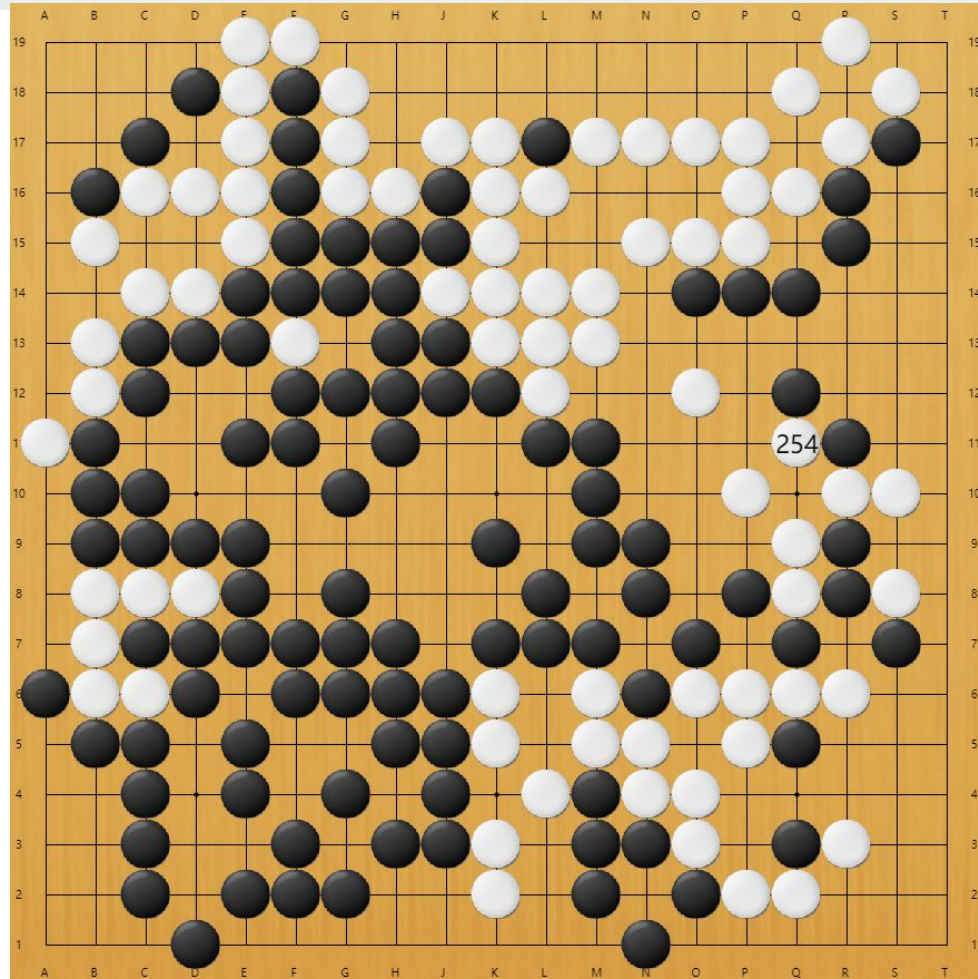
But there's a genius who once break this deadlock...

It happened on 3rd game of semi-final of the *10th Samsung Cup World Open Baduk Championship*, 1996, when **Xihe Luo** play against **Choi Cheol-han**

A extremely rare yet huge triple ko cycle occurred at the middle of the game and everyone thought this game was going to become a tie.

Yet Xihe Luo gave up the triple ko worth more than 100 scores. And he won the game eventually by doing a genius exchange with this ko.

# Triple Ko



<https://www.101weiqi.com/chessbook/chess/10204/>



## Glossary

Ko	劫
Ko-threat	劫材
Direct Ko	紧气劫
Approach Ko	缓气劫
One-move Approach Ko	缓一气劫
Double Ko	循环劫 摇橹劫
Triple ko	三劫循环