The Kalamazoo Go Club

An introduction for beginners v0.9 – plus some other trivia

by Paul Miller
15kyu AGA
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1 Introduction

1.1 The Author(s)

Paul Miller [author]

I'm not really qualified to write this document. Well, I do feel qualified to explain this game to people below a certain skill level; but, in the grand scheme of things, 15kyu is really not very high at all. In fact, I'm a beginner. Though, in all fairness, many of the people I'd call experts might feel the same way.

If you were curious, I'm a computer nerd with a bachelors degree in computer science and an actual (good) job in the tech sector. I discovered this game in the year 2003 and cannot stop thinking about it.

Why did I start this club? Well, I really enjoy playing this game with real stones on a real board. Playing on the Internet can actually be quite fun, but in my opinion it's not a good enough substitute for the real thing. People are more interesting face to face and Go should be a social game.

I apologize for authoring this document in the first person. It seemed easier, for me and the reader; though I suspect it's less technically correct this way.

–Paul

1.2 This Document

My goals for this document are not very lofty. I wanted something to hand out if people wanted something to learn from. A good introduction to the game seemed appropriate. It also seemed like a fantastic place to produce some Kalamazoo Go Club culture. Go is a very old game. There are many different rules and scoring systems. There's also a variety of nomenclatures to choose from.

In this document I will silently favor all things Japanese (Japanese scoring, names, etc). I provide no justification for this whatsoever. It's simply what I'm used to and what I prefer; though, it should be noted that the American Go Association rules are very similar to the Japanese rules.

1.3 What is Go?

Go is a 3,000 year old game from China. The oldest known book on Go was written in A.D. 0094, was written in Mandarin, and is still considered applicable today! It is usually played on a board with 19 vertical lines and 19 horizontal lines.

Strangely for those readers used to chess, checkers, or nearly any other board game, Go pieces are played on the cross hatches instead of the spaces between them. There's an example (in figure 1) showing the first 10 moves of a game.

The game is often compared to chess although the two games are very different. Just about the only things they have in common are the colors of the pieces, the absence of chance, and that the pieces are meant to represent military units.

Another surprising difference is that the pieces in Go do not move. The board starts empty and the players fill it in; trying to gain as much territory as possible along the way.

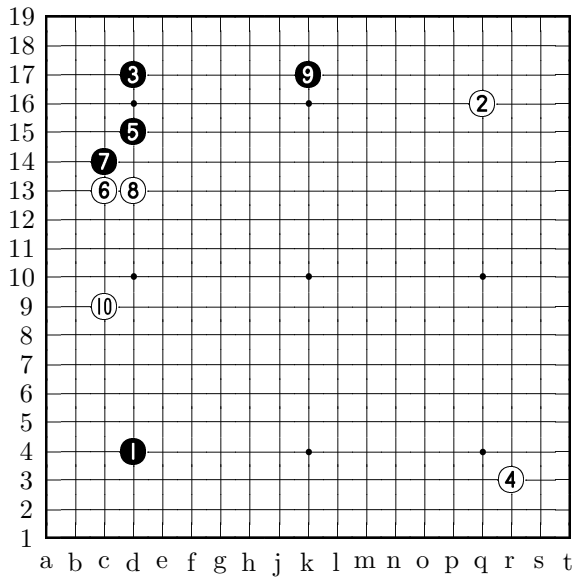

Figure 1: a full board

2 The Basics

2.1 The Rules

You can learn all the rules of Go in three minutes but it takes thirty years to master. I'm paraphrasing an old Go proverb. The point is, the rules are actually quite simple. One of the hardest parts is scoring, which can be a little confusing at first. Therefore, we'll save that for last.

Before I forget, Black always goes first and White is always the more experienced player.

2.1.1 Groups

Stones that touch each other form groups. Places where they touch are called a *connection* or *tsugi* . I have drawn four example groups in figure 2.

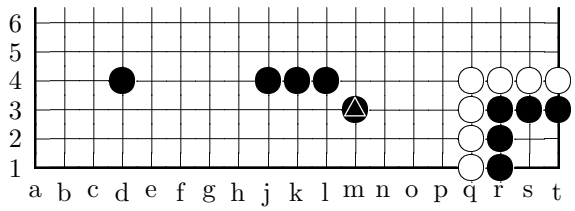

Figure 2: group examples

The single stone at D4 is a group of one stone. The group at K4 is a group of three stones with an

additional group of one stone ▲ next to it. Once again, the center group is really two groups because stones do not connect diagonally. Finally, the strange black group in the corner is a group of 5 stones. They are connected vertically from R1 to R3 and horizontally from R3 to T3.

2.1.2 Liberties

You may actually be wondering if there's anything special about the group that's touching the edges. You may have heard that, since this game has something to do with walls and territory, that it's probably a wall or a fort or something. It's not. Actually it's a special kind of dead group (see section **??** on pg. **??**).

Go, besides being about territory, is all about life and death. A stone is said to be alive if it has open *liberties* ; that is, a place around the stone where one of the cross hatches sticks out. Note that a stone on the edge of the board has only 3 liberties instead of three and a stone in the corner has only two. Unless they're connected to something they're already at a disadvantage if they're on the edge.

Now, back to figure 2. The group (one stone), at D4 has four liberties. The group in the center (not counting the marked stone), has eight liberties. That five stone black group on the corner has only three liberties!

2.1.3 Life and Death

If the liberties on a group are ever reduced to 0, that group is dead (or captured) and the pieces are removed from the board. There will be many examples on the topic of life and death in this document. In figure 3, by playing Ⓘ, the marked black stones (▲) die and will be removed from the board. Unmarked white stones should be assumed to have already been there and unmarked black stones will not be killed by the move.

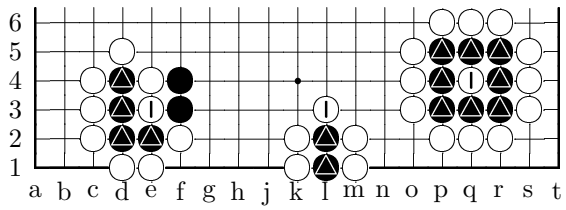

Figure 3: example kills

The move at Q4 is interesting and special. Black could not have played it. If Black had played that position it would have reduced the groups liberties to 0. If reducing a group's liberties to 0 kills it, then this would constitute a *suicide* move. You cannot make a suicide move in the Japanese and AGA rules. You can in some rule sets, but that is beyond the scope of this document.

Again, since you cannot make a suicide move, Black could not play Q4. White can play the position because the black stones die, thus opening liberties for the stone. Another way to think of it: Black dies before White needs to breathe.

You can make positions that are unkillable. There are several examples in figure 4. The positions are unkillable because White can never play both marked positions at the same time. Technically, you can't play the first position because a suicide move is illegal; but even if you could play it, the stone would die and wouldn't be there on your next turn.

Each of the holes in the black formations are known as an *eye* or *me* . When there are two eyes in a group, it is said to be unconditionally *alive* .

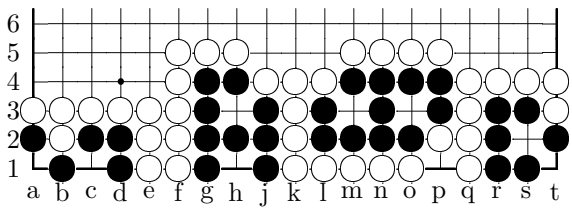

Figure 4: eye examples

We must also be careful, however, to guard against the dreaded *false eye* or *kake-me* . Each of the examples in figure 5 shows a group with at least one *false* eye. Note that at least one set of stones in each group is killable with one move.

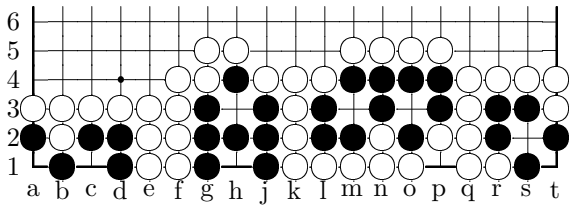

Figure 5: kake-me examples

2.1.4 Ko

H2 and O3 in figure 5 are actually interesting in that they lead into this section on *ko* . They are bad examples, but they count. Pretend that it's White's turn and consider the position in figure 6, specifically D3.

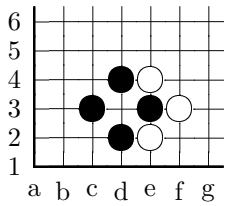

Figure 6: ko example

If White plays D3, then Black plays E3, then White plays D3, then Black plays E3, then White plays D3, then Black plays E3 ... well, they invented a *ko rule* to prevent this sort of silly play.

A ko is this kind of position that could repeat forever. Be careful that some things look like a ko when they are not. If the position doesn't repeat precisely, it's not a ko. Some rules state that it must be only

one stone, others do not[1].

Simply, when White captures by playing D3, Black may not play E3 until he plays somewhere else first. Then, on White's turn, she may choose to fill the ko, or go answer Black's last play. If White answers Blacks play, rather than filling at E3; only then may Black play E3 to capture back.

This sort of exchange is called a *ko fight* and is actually one of Go's most charming features. The more skilled you are at Go, the more you'll get out of a ko fight .

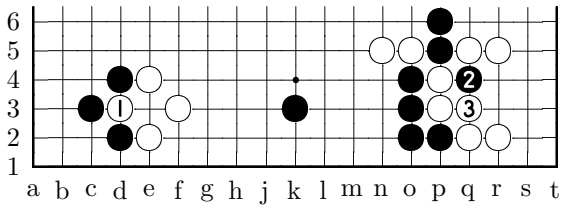

Figure 7: another ko example

In figure 7 I have layed out a very simple ko fight. After ①, Black cannot play at E3 because it is a ko . So, Black makes the move at ❷ which is known as a *ko threat* [2] because it threatens the capture of the stones at P3 and P4.

White is now put to the decision. Will White play E3 to end the ko fight (letting Black capture at ③)? Or will White save her corner in the lower right? This case isn't 100% clear. It depends on what's nearby! But hopefully you see some possibilities about how ko fights could play out. And if not, don't worry. Play games. It will become obvious in time.

2.2 Scoring and Handicaps

Scoring is a frustrating topic for beginners. Scoring itself is fairly simple, which you will see, but deciding when the game is over is a bit subjective.

A game of Go is over when both players pass on consecutive turns. You can pass on any turn, but if both players pass, it ends the game. Like any other move in Go, deciding when you're done is a strategic decision. We'll get back to that. First, let's score a game. The game in figure 8 is over. Both players have passed and it's time for the scoring.

Scoring is simply counting the number of *points* or *moku* (the cross-hatches ┼), under the control of each player. Count Black's territory in the upper right corner. There are 18 moku that I can count. The sum of all of Black's territory (in this fashion) is his score.

There are some places that you should not count. L13 and O13 are *neutral* or *dame* points. Your stones do not count toward your score; so, neither White nor Black has bothered to play L13 or O13. If they had, it would not have changed the number of moku under their control.

There are some places that we count twice! The groups at C13, C8, R3, and F2 are all dead. Neither player bothered to kill such stones before the end of the game because they felt confident that their territory was *very secure* or *kautei-ji* .

[1] The author is actually referring to the Ing Ko Rule and the SuperKo Rule; neither will be discussed here.

[2] Ko is sometimes translated as *long time*; but, probably means threat. The often used term ko threat is, therefore, probably redundant – but is still the saying of choice.

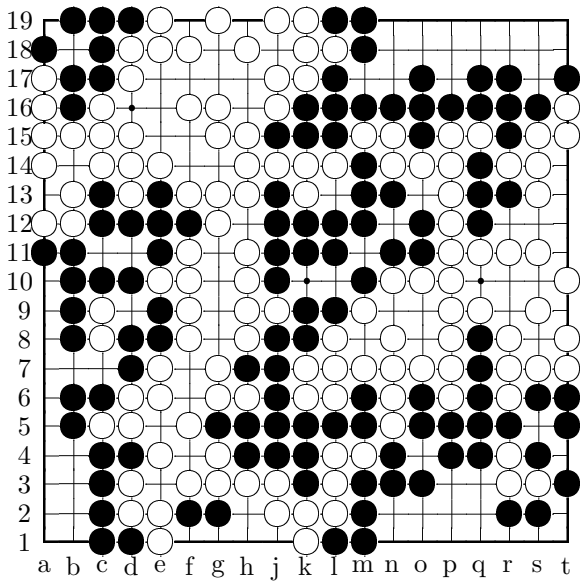

Figure 8: a real game

They felt that even if the surrounded groups tried to make two eyes, they would be unable to find the room to do so. For example, if White tried to play Q3, Black would play Q2. The situation has not improved for the White group. Then, if White played P3, Black would answer P2, thus capturing the group of stones.

Each capture is worth one point and each moku is worth one point. This is why some places are counted twice. The stones at R3 are dead. They're worth 6 points in total: 3 points for the removed stones and another 3 points for the territory underneath them.

If you count the lower right corner, counting the dead stones twice, you should get 23 points – don't forget O4, S5, and T4! Now, if you count every point on the board (which I don't recommend, but have done), you will find that White has 47 moku plus 6 captures, or $47 + 2(6) = 59$. Black has 60 moku plus 5 captures, or $60 + 2(5) = 70$. So, the final score, Black wins by 11 points ($70 - 59 = 11$).

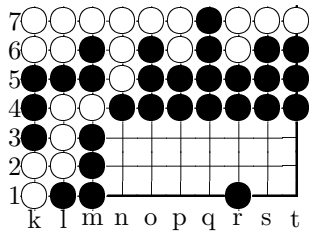

Figure 9: LR after seichi

There is an easier way to count. If you rearrange the stones into countable shapes it can dramatically reduce the chore of scoring. Let's look at the lower right corner. We know there is 23 points there; however,

they're a bit difficult to count. If we rearrange the stones into straight lines (shown in figure 9) we can simply multiply the sides and subtract the lonely stone at R1: $7 \cdot 3 - 1 = 20$.

Rather than counting the 3 captured white stones as black territory, I have moved them into secure white territory. Subtracting the 3 moku from White's territory is additively equivalent to counting them as Black territory. I have done the same thing with the captured black pieces.

I have also filled in the dame points (marked with triangles). It is important when filling dame points, you use fresh pieces and not pieces from the board! Using pieces from the board to fill dame would alter the score.

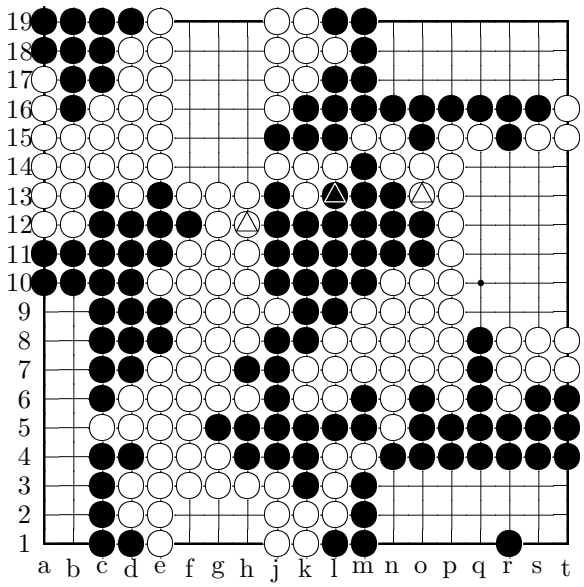

Figure 10: the board after seichi

There is a Japanese word for rearranging the stones like I did. It is called *seichi* . The entire board, after seichi is pictured in figure 10. Let's count it. Black has both lower corners and the upper right one: $(2 \cdot 9) + (7 \cdot 3 - 1) + (7 \cdot 3) = 59$. White has the other three areas: $(3 \cdot 6) + (2 \cdot 3) + (6 \cdot 4) = 48$. Now, these point totals do differ from the area described above, but the final score works out the same: $59 - 48 = 11$. Black wins by 11 moku .

You may be feeling quite baffled right now. Trust me, it's easier than it sounds. Count both diagrams if need be. Or better yet, go to the club every Thursday for practice!

2.2.1 Komi and Handicaps

I left out an important part of scoring. Since White is at a disadvantage for going second she is awarded $5\frac{1}{2}$ moku . So really, in the game above, Black only won by $4\frac{1}{2}$ points. $5\frac{1}{2}$ is the *komi* given for a 19x19 game in the Japanese rules. On smaller boards $5\frac{1}{2}$ moku can be a huge amount.

Though you can't tell from its appearance at the end of the game, Black in figure 8 (pg. 6), was given a four stone handicap. In the Japanese rules, the stones are placed on the *star points* or *hoshi* in the corners.

Though, in other rules, the stones can go anywhere and some experienced players simply don't care where the handicap stones go. A five stone handicap setup is shown in figure 11.

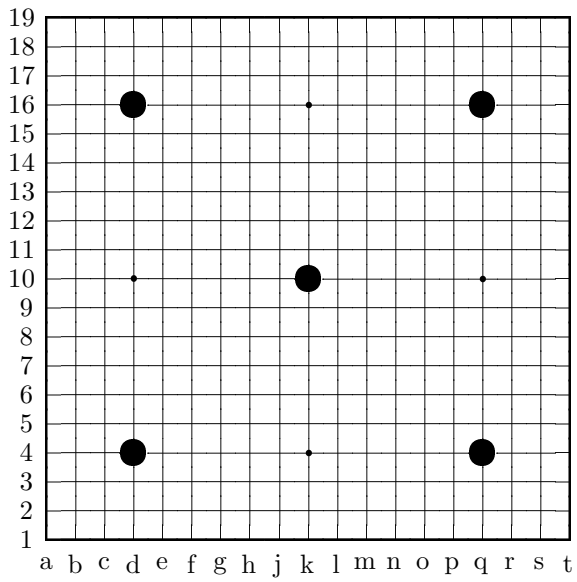

Figure 11: H5 setup

Typically, when Black is given a handicap, White will get a komi of $\frac{1}{2}$. A komi of $\frac{1}{2}$ means, more simply, that White takes ties. There is sometimes some confusion about how to setup a one stone handicap game. Basically, there's no such thing. Black goes first like normal, but White takes a komi of $\frac{1}{2}$ instead of $5\frac{1}{2}$.

In some games, Black is given the komi instead of White. This is known as a *reverse komi* . It gives Black the opportunity to play out their own *opening moves* or *fuseki* (see see section **??** on pg. **??**) instead of being stuck with the standard handicap positions.

2.2.2 Skills and Ranks

Just how much is a handicap stone worth? There have been numerous debates about that. "About 25 years ago [bill@SL] did some statistics on pro-pro handicap games and concluded that each handicap stone was worth around 13.5 points[3]. . . "

If you play Go, eventually someone will guess your rank. Go ranks, run from 30kyu to 1kyu. 30kyu is the lowest rank you can have and 1kyu players are nearly masters of the game.

The difference between a 22kyu and a 24kyu player is *about 2 stones*. So, if you play an 15kyu (like myself), and you find you win about half the time given a 4 stone handicap, then you are probably a 19kyu. If you find that your rank should be something like 40kyu or 50kyu when you're first starting, report your rank as 30kyu – it is the lowest rank.

Beyond the kyu ranks are the dan players. They are the true masters. Dan ranks run from 1 to 7 or more – higher numbers being better. The difference between amateur dan ranks is typically a stone or so.

[3]Taken from *http://senseis.xmp.net/?Handicap*

There are professional players all over Asia. Professional dan ranks are a little different. A pro first-dan would be about 5dan amateur. The difference between pro dan ranks can be as little as $\frac{1}{3}$ stone.

There are professional tournaments in Asia that can award over a million U.S. dollars!

3 Japanese

Although Go is a Chinese game (originally), most American players refer to familiar moves and shapes by their Japanese names. It is said that this is because Go was brought to America through Japan. Forgive me for not including the Kanji (Japanese pictographs) with these terms. They really should be in here; but they were too difficult to include for this printing.

This may seem like a large number of terms, but believe me, it's a tiny fraction of the Japanese words you'll encounter playing this game. Also, please note, there's no real reason to learn these. You'll pick them up in context as your skills improve.

3.1 Pronunciation

Japanese is amazingly easy to pronounce. Two of the Japanese lettering systems are phonetographs. That differs from an alphabet in the following way. Each letter is a sound or set of sounds that doesn't change. The "a" sound in f*a*ther and f*a*te differs a great deal. The Japanese system would have a whole new letter for that sound. Actually, the sounds mostly come in consonant-vowel pairs – except for just a couple sounds.

Having learned two of the writing systems does give me a huge advantage, but on the whole it's still very easy to pronounce. First, imagine breaking up the words into consonant-vowel pairs. Let's try the word *mokuhazushi* .

If you split it up into it's Hirigana sounds it's: *mo-ku-ha-zu-shi*. And you say it stutteringly, *mo*, *ku*, *ha*, *zu*, *shi*. Though, I have also noticed that fluent Japanese speakers tend to try to say everything as fast as possible. There's only two things left to know. In Japanese, like Latin, you pronounce every single vowel. So, *miai* is three syllables: *mi*, *a*, *i* (each one being it's own letter).

Oh and there are two of the exceptions. In Hirigana the only letters that are not composed of a consonant-vowel pair are *a*, *i*, *u*, *e*, *o* and *n*. Though, there is a letter for things like *ni*, and *na*. The exceptions are mostly used for word endings.

The only thing left to know, for the most part, is the sounds the vowels make. They are listed in figure 12.

a	"a" in f*a*ther.
e	"e" in b*e*t.
i	"ee" in s*ee*.
o	"oa" in b*oa*t.
u	"oo" in b*oo*t.

Figure 12: Japanese vowels

Using the chart above and our new syllable discovery tools, *hane* is now known to be a *ha*, followed by a *ne*, rather than the reflexive single syllable *hain*-type noise you might be tempted to make.

3.2 Some Basic Japanese Go Terms

- shicho – A ladder. There is no escape for the marked stone.

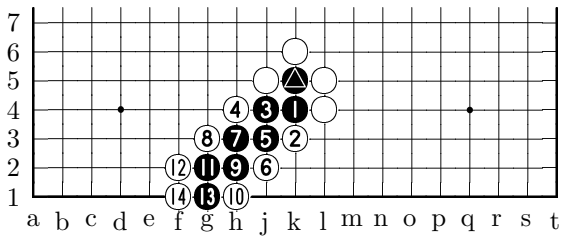

Figure 13: shicho

- semeai – capture race.
- miai – more than one move
- tsumego – problem with only one solution
- tesuji – skillful move
- atari – one liberty left
- hane – reach around
- moyo – territorial framework
- keshi – erasing move
- hasami – pincer
- me – eye
- kake-me – false eye
- tsuke – a play that touches your opponents stones
- tsugi – connection
- kake-tsugi – hanging connection
- keima – knight move
- oogeima – big knight move
- kosumi – diagonal move
- atekomi – a play that cuts one of the miai to connect a kosumi
- oiotoshi – connect and die

- san-san – 3-3
- hoshi – 4-4 (or more generally, any star point)
- komoku – 3-4
- mokuhazushi – 3-5
- takemoku – 4-5
- shimari – corner enclosure
- kakari – shimari that's half white, half black
- yose – the end game
- fuseki – the opening moves
- dame – worthless points
- moku – point
- tengen – center

4 Credits, Colophon, etc

Orien Vandenbergh [typesetting help]

My friend Orien Vandenbergh helped me fix and repair a Go style package for typesetting the Go diagrams herein.

Leigh Tsuji [Japanese help]

A co-worker, Leigh Tsuji, double checked the section on Japanese Pronunciation (see section 3.1 on pg. 9) for me. He is fluent in Nihongo (Japanese).

Danna Miller [English help]

My beloved wife helped me a great deal by proofreading this document exhaustively. Note that the tone of this document is intended to be quite colloquial and that should not be a reflection on her skills as a proofreader.

Colophon

This document was typeset in entirely in LaTeX2e. The revisions are kept in a CVS repository. This version is:

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Actually, there are several more parts to the document. And if you're interested, all of the source files and compiled documents are available online at:

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http://www.voltar.org/kgs/tmp/latex
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