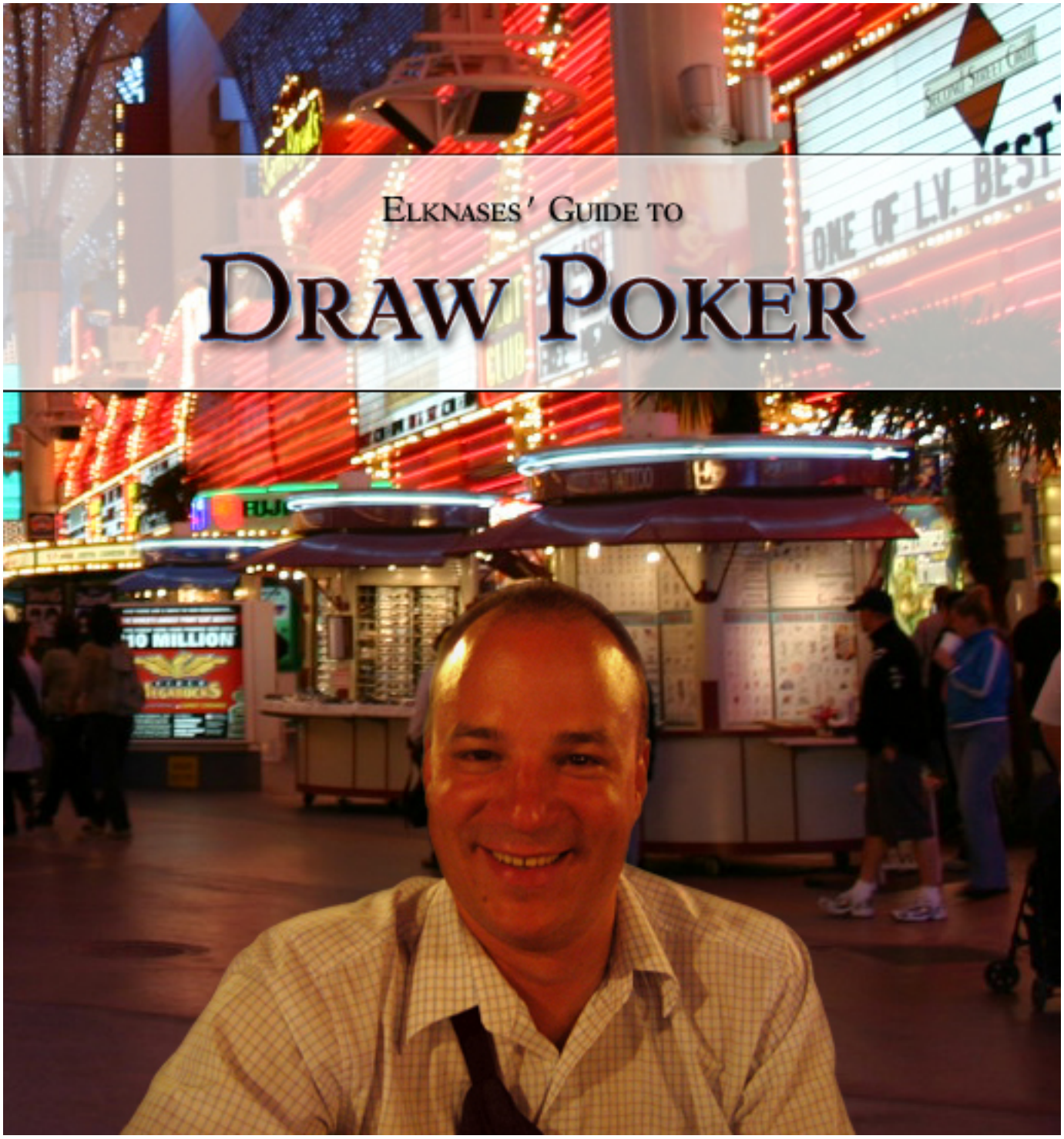

Dominic Dietiker

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You cannot survive (in poker) without that intangible quality we call heart. Poker is a character builder – especially the bad times. The mark of a top player is not how much he wins, but how he handles his losses. In this business you have to be able to win with adversity.

– ***Bobby Baldwin**, Poker Legend*

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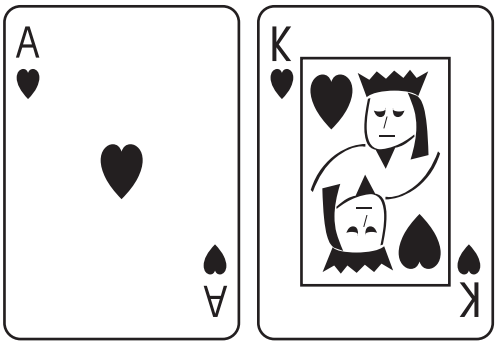
Preface

Welcome to **Elknase's Guide to Draw Poker** – which reflects my *draw poker experience* and renders a new view to *basic strategy*. I know that doesn't sound like much and you might think that you waste your precious time reading this text for *draw poker is dead since everyone plays Texas Hold'em*.



Adding the fact that draw poker doesn't gives you much room for creative plays you might think that this here document hasn't information to offer that will help you with other forms of poker. Given you are an experienced holdem player, you probably know that *position play* is a very important ingredient of successful playing strategy. This very ingredient is the **key concept** to *advanced draw poker strategy* and cannot be emphasized enough:

If you know the better part of position play you have a huge advantage over basic strategy players

This concept is so important that I want to render the *subtle strategies* and *related consequences* of *advanced position play* in distinct examples that follow in subsequent chapters.

Remember that ...

Examples *always* depend on the situation
because poker is a game of situations

There is, – *like Doyle Brunson said* – **no magic formula to poker**.

But there's *tactics*, *strategy*, *psychology* and *situational adaption*.

– Dominic Dietiker, January 5, 2007

Chapter 1

Strategies & Tactics

Mr. Moss, I have to let you go.
– Nick 'The Greek' Dandalos

1.1 Three Levels of Expert Strategy

I assume you know the rules of draw poker[1] so we start right off with some important basic concepts. As stated some time ago by David Sklansky[2], there are three basic levels of expert strategy that work in poker situations, they are:

Level 1: Expert mathematical strategy
Level 2: Expert counter strategy
Level 3: Expert mixed strategy

Level 1 is the first skill to be attained – simply because of the fact that Poker is a mathematical game. If you don't know the odds you really don't know what you are doing in a situation where you don't play a monster hand.

Level 2 is the knowledge of counter strategy. That is, you know what to do against a certain strategy that the results of your actions become profitable – at best to your *chips* **and** your *image*.

Level 3 is the art of mixed strategy. That is, you know what to do in a certain situation under certain circumstances that the results of your actions are profitable – at

best to your *chips* **and** your *image*.

The mastery of all three levels may take some time – if not years that is to say!

It takes tremendous playing experience to fully grasp the complexity of the game. And there might be a good many times *where you might have thought* that *you knew what to do in theory* but failed *to realize the situation in practice* and therefore, *didn't apply the appropriate optimal strategy*.

1.2 Optimal Strategy

The key to profitable play is optimal strategy. And *optimal strategy* is given by the intrinsic settings of a certain situation. This situation may change now and then and maybe because *you thought it changes*, or *some other players thought it changes*. That is, chances are pretty good that a situation changes a lot.

Therefore, *optimal strategy* is the best possible way to optimize your play to adapt to a certain situation at the right time, that the results of your actions are profitable – at best to your *chips* **and** your *image*.

1.3 Median Winning Hand

Statistically, the *median winning hand* is the hand to win most of the time. That is, you are an *underdog – more often than not* – if the quality of your hand has not improved and is below the median winning hand. On the other hand, you are a *favorite – more often than not* – if your hand is above the median winning hand.

The median winning hand in draw poker is two pair!
Expect Jacks-Up as a mediocre two pair hand.

1.4 Quality of Winning Hands

The more players – the better the average winning hand! *That's because the more cards are dealt, the better the chances more good cards being dealt.*

From that statistical fact follows the following complement:

The less players – the worse the average winning hand! *The less cards dealt, the better the chances less good cards being dealt.*

1.5 Bluffing

- **The more players –** ***the worse the chances that bluffs work***
  A bluff usually doesn't work against more than two players. The more players, the better the chances they play good cards – and the better the chances someone has a real hand!

- **The less players –** ***the better the chances that bluffs work!***
  That's because of the combined chance that (**a**) your opponents have poor *pot odds* because of fewer players, and (**b**) your opponents think you might have a better hand, and (**c**) your hand actually might hold up against your opponents' if you are *semi-bluffing* before the draw.

The more players – the worse the chances bluffs work! *A bluff usually doesn't work against more than two players. The more players,the better the chances they play good cards – and the better the chances someone has a real hand!*

The more players – the worse the chances bluffs work! *That's because of the combined chance that (**a**) your opponents have poor pot odds because of fewer players, and (**b**) your opponents think you might have a better hand, and (**c**) your hand actually might hold up against your opponents' if you are semi-bluffing before the draw.*

Chapter 2

Math / Probability

Make learning your reason for living.

– Chinese Proverb

2.1 Bayes Formula

2.1.1 Definition

The probability that an event **A** occurs once **E** has occured or, specifically, the *conditional probability of **A** given **E***, written $\mathbf{P}(\mathbf{A}|\mathbf{E})$, is defined as follows:

$$\mathbf{P}(\mathbf{A}|\mathbf{E}) = \frac{\mathbf{P}(\mathbf{A} \cap \mathbf{E})}{\mathbf{P}(\mathbf{E})} = \frac{\textit{Probability of event occuring by desired means}}{\textit{Total probability of event occuring at all}}$$

The above equation is called *Bayes' rule* or *Bayes formula* or the formula for *a posteriori* probability, after the English mathematician Thomas Bayes (1702–61).

2.1.2 Examples

Now, let's get some practical examples ...

Example #1

Frank goes either out or not depending on the weather. It's either *good weather* or *bad weather* – each 50 percent of the time. Given it is sunny, he goes out 90 percent of the time. Given it rains, he goes out only 30 percent of the time.

Frank was out yesterday. What is the probability it was good weather?

Bayes Formula states that: The probability of **A** *given* **E** **is equal** to the probability of **E** *given* **A times** the probability of **A** **divided by** the probability of **E** given **A times** the probability of **A** **plus** the probability of **E** given *not* **A** times the probability of *not* **A**.

$$\mathbf{P}(\mathbf{A}|\mathbf{E}) = \frac{\mathbf{P}(\mathbf{E}|\mathbf{A}) \times \mathbf{P}(\mathbf{A})}{[\mathbf{P}(\mathbf{E}|\mathbf{A}) \times \mathbf{P}(\mathbf{A})] + [\mathbf{P}(\mathbf{E}|\mathbf{A^c}) \times \mathbf{P}(\mathbf{A^c})]}$$

If we substitute 'good weather' for A and 'go out' for E we have what we want to know: The probability of good weather yesterday given Frank went out is equal to the probability of going out given there is good weather times the probability of good weather divided by the probability he goes out given there is good weather times the probability of there being good weather plus the probability he goes out given bad weather times the probability of bad weather.

$$\mathbf{P}(\mathbf{good}|\mathbf{out}) = \frac{\mathbf{P}(\mathbf{out}|\mathbf{good}) \times \mathbf{P}(\mathbf{good})}{[\mathbf{P}(\mathbf{out}|\mathbf{good}) \times \mathbf{P}(\mathbf{good})] + [\mathbf{P}(\mathbf{out}|\mathbf{bad}) \times \mathbf{P}(\mathbf{bad})]}$$

$$\mathbf{P}(\mathbf{good}|\mathbf{out}) = \frac{(.9)(.5)}{[(.9)(.5)] + [(.3)(.5)]} := .75 := \mathbf{75}\%$$

This tells us that if we didn't know whether or not Frank went out, we would say that it had a 50% chance of being good weather yesterday. But once we know he went out, and we know how the weather effects the probability of him going out, we can say that since Frank went out yesterday it had an 75% chance of being good weather yesterday.

Chapter 3

The Draw

There's no magic formula to poker.

– Doyle Brunson

3.1 Gathering Information

The number of cards drawn provide valuable information. The draw is the most reliable moment of *information gathering* in a draw poker hand – *the number of cards drawn indicate your opponents probable intentions*.

What is a player holding determined by the number of cards drawing?

Drawing 4 cards: The player has *an ace* or *a king*.

Drawing 3 cards: The player has *a pair*.

Drawing 2 cards: The player has (**a**) *a pair with a kicker* or (**b**) *three of a kind* or (**c**) represents *three of a kind*.

Drawing 1 card: The player has (**a**) a *flush draw* or (**b**) a *straight draw* or (**c**) *two pair* or (**d**) *three of a kind*.

Drawing no cards: The player has (**a**) a *pat hand* (full-house, flush, straight, three of a kind, two pair) or (**b**) represents the former.

3.2 Draw Statistics

Learn the stats to determine your *pot odds* and your *implied pot odds* in order to render your chances to win the current pot.

3.2.1 Basic one-card high draw chances

If you're drawing one card to ...	Probability making complete hand expressed in percent ...	Odds againts making complete hand are ...
Open-end Straight-Flush	31.91%	**2.13** to **1**
Inside Straight-Flush	25.53%	**2.92** to **1**
Two-Pair	8.51%	**10.75** to **1**
Trips with a kicker[1]	8.51%	**10.75** to **1**
Flush	19.15%	**4.22** to **1**
Open-end Straight	17.02%	**4.88** to **1**
Inside Straight	8.51%	**10.75** to **1**

3.2.2 Drawing three to a pair I

Making Specific Hands ...

You draw three to A♡-A♢, discarding 4♣-3♠-2♢ ...	Expressed in percent	Odds againts it ...	Number of possible combinations
4-Aces	0.28%	**359** to **1**	45
Full House[2]	1.02%	**97.3** to **1**	165
3-Aces	11.43%	**7.75** to **1**	1854
Aces-up	15.99%	**5.26** to **1**	2592

Number of possible combinations: 16215

[1] Four-of-a-kind counts as a complete hand

[2] or better

3.2.3 Drawing three to a pair II

Making Specific Hands or Better ...

You draw three to A♡-A♢, discarding 4♣-3♠-2♢ ...	Expressed in percent	Odds againts it ...	Number of possible combinations
4-Aces	0.28%	**359** to **1**	45
Full House[1]	1.30%	**76.2** to **1**	210
3-Aces[1]	12.73%	**6.86** to **1**	2064
Aces-up[1]	28.71%	**2.48** to **1**	4656
No Help[1]	71.29%	**0.40** to **1**	11559

Number of possible combinations: 16215

3.2.4 Drawing two to three-of-a-kind

Making Specific Hands and Specific Hands or Better ...

You have K♡-K♢-K♣, discarding 3♠-2♡ ...	Expressed in percent	Odds againts it ...	Number of possible combinations
4-Kings Exactly	4.26%	**359** to **1**	46
Kings-Full Exactly	6.11%	**76.2** to **1**	66
Kings-Full[1]	10.36%	**6.86** to **1**	112
No Help[1]	89.64%	**2.48** to **1**	969

Number of possible combinations: 1081

---

[1] or better

3.3 Draw Statistics Applied

3.3.1 On a flush draw – how many bets do I need?

You *know* 5 cards out of 52. 4 of the same suit. There are 9 cards that make the flush and the remaining deck has 47 cards. The probability making the flush is ...

$$\mathbf{P}(\mathbf{X}) = \frac{9}{47} := .19 := 19\% := 4.2\ to\ 1$$

The *expected value* derived at looks like this:

$$\mathbf{EV} = (.19)(x) + (.81)(y)$$

Where x is how much you win 19% of the time and y is how much you lose 81% of the time.

Example 1: You are in a draw game with 4 other players. The ante is \$5, the bet \$20. Player 1 opened and two players call. The pot is $(\$5 \times 5) + (\$20 \times 3) = \$85$.
You call and the player behind you folds. Now, 19% of the time, you win the pot less your investment $(\$85 + \$20) - (\$5 + \$20) = \$80$. 81% of the time, you lose your investment $(\$5 + \$20) = \$25$. Now, let's calculate our expected value:

$$\mathbf{EV} = (.19)(+\$80) + (.81)(-\$25) = -\$\mathbf{5.05}$$

In this case, we lose \$5.05 on every call. But how much money do we need to have in the pot to justify a call? In order to find an appropriate formula, we designate **P** being the probability of success ...

$$\mathbf{EV} = (\mathbf{P})(x) + (1 - \mathbf{P})(y) = 0$$

... and resolve the equation for x:

$$\frac{(\mathbf{P}y - y)}{\mathbf{P}} = x \qquad \Longrightarrow \qquad \frac{[(\mathbf{.19})(-\$25)] + \$25)}{\mathbf{.19}} = \$106.5789474$$

We test our new formula ...

$$\mathbf{EV} = (\mathbf{.19})(+\$106.5789474) + (1 - \mathbf{.19})(-\$25) = 0$$

We need to win **more** than \$106.6 in order to justify a call. If we subtract the antes $(\$106.6 - \ antes\ = \$81.6)$, we learn that we need at least 5 bets – *even 4 bets are not enough!*

Chapter 4

Opening

There's no magic formula to poker.

– Doyle Brunson

4.1 When to open

Never open!

Chapter 5

Calling

There's no magic formula to poker.

– Doyle Brunson

5.1 Calling by number of bets if not raised

Calling by number of bets if not raised designates calling by *pot odds* and *implied odds* under the condition that there was no raise before you in relation to your *hand quality*. Thereby, you *optimize* your *risk-reward ratio* by *adapting your decision to call* based on the ratio of *the number of bets* relative to *the probability to win the pot*.

Regardless of playing against *maniacs* or *rocks*, *playing tight* is a good starting point but never the optimal strategy. *Playing tight* creates a *tight image* and your profits decrease, because everyone folds to you *more often than not* because they think you only play *high quality hands*.

Poker Tip: A *reckless image* is more profitable than a *tight image*.

Regardless of the game, you want to project a *loose image*, simply because it's more profitable. That's where the strategy of calling relative to N bets comes in neatly. You are *apt* to play more hands the more bets are in the pot. Thereby, you play more hands than a *tight* player by playing in *relative position* to *the number of bets if there was no raise before you*. This strategy has the nice side-effect to support *schooling rookies* to become *calling-stations*.

5.1.1 Number of Bets Calling Table

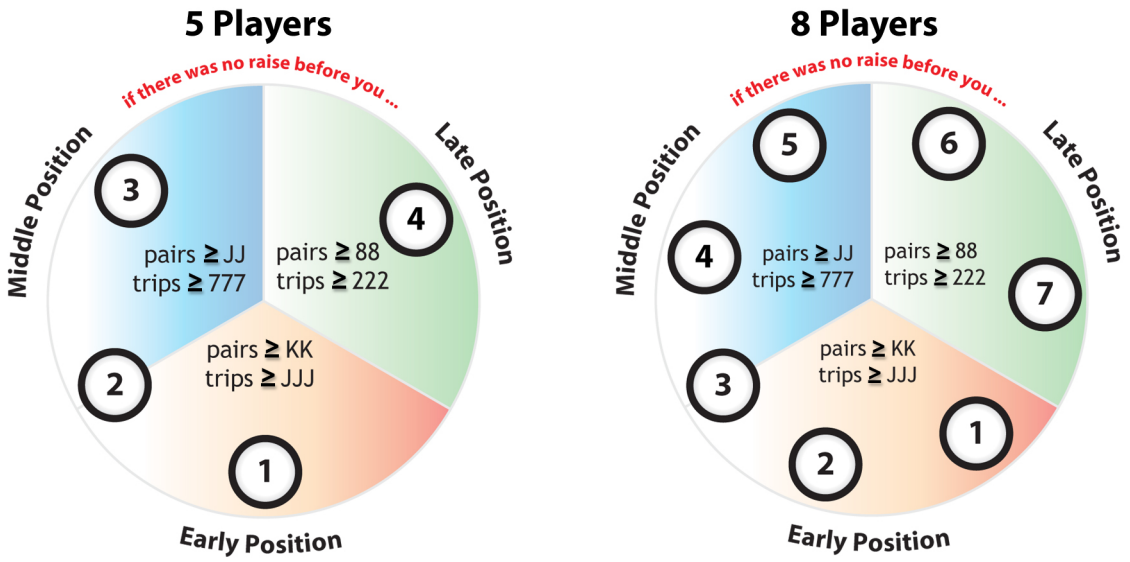


Figure 5.1: Number of Bets Calling Table

In figure 5.1, numbers **always** indicate *N bets* in *relative position* to the *opener*. For **5 players**, 2 *bets* intersects *early position* with *middle position* – for **8 players**, this is 3 *bets*, respectively. These *numbers* are left for you to assign to their respective "fields".

In order to illustrate the concept, imagine there are **5 players** and you are *under the gun*. You and players 2,3 and 4 checked. Player 5 opens. Therefore, your *relative position* is **1** or there is *one* bet in the pot. Looking at the table, you should **only** call with *pairs* $\geq$ KK and *trips* $\geq$ JJJ. Regardless of your position, you *call* relative to *N bets* in the pot.

In another situation with **8 players**, you are *on the button*. Player 1 opens. Player 3, 4, 6 and 7 call. There are *five bets* in the pot. It's up to you. If you look down and see a *pair* $\geq$ JJ or *trips* $\geq$ 777 you call, because you get the *right odds* relative to *N* players in the pot. *Sandbagging* will be explained later.

Chapter 6

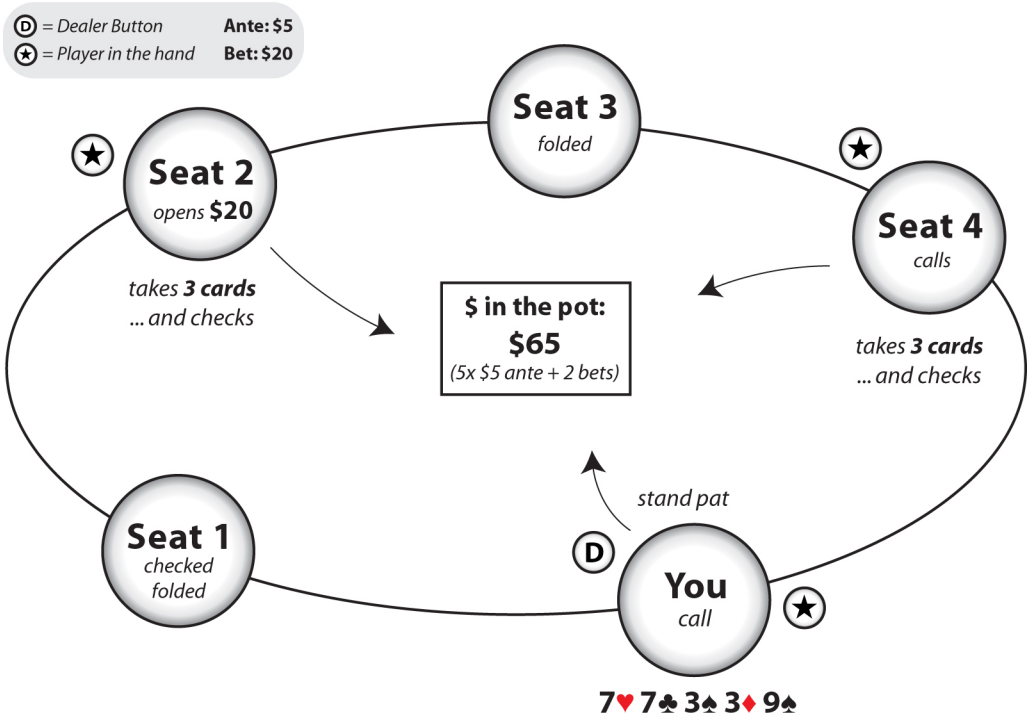
Practice Situations

Mr. Moss, I have to let you go.

– Nick 'The Greek' Dandalos

Practice situations are probably the best way to teach poker. Poker is a *complex game* because *playing decisions depend on situations*. There is *no magic formula* or *no holy grail* that make you invincible. It all depends on the situation and its intrinsic settings and only *experience of situations* can teach you, and here they come – at least some of them ...

6.1 Situation #1



Situation #1:
You are late position – last to act. Player 1 checked. Player 2 opened. Player 3 folded. Player 4 called. You called. Player 1 folded. Now, player 2 takes 3 cards. Player 4 takes 3 cards. You stand pat. After the draw, player 2 and 4 both check to you. *Do you check, bet or fold?*

Situation #1: Short Answer
Both players took 3 cards each to *better a pair*. It's 2.48 *to* 1 against or 28.71% of making *two-pair* or better. That is, $100\% - 28.71\% = 71.29\%$ one does not improve. If you combine both chances of *both players not improving* you arrive at the chances that your *low two-pair* wins the pot when both players did not improve:

$$\mathbf{P}(\mathbf{X}) = (.7129)(.7129) := (.7129)^2 := .5082 := 50.82\% := 0.96\, to\, 1$$

Your chances of winning are better than 50%. If you check, you give both players a free *showdown* and they *learn what you had and how you played it* – something you should avoid whenever possible. **You should definitely consider betting.**

Situation #1: Comprehensive Answer

Given **you bet** *after the draw* and both players fold, 50.82% of the time, you win the pot less your investment ($\$105 - \$45 = \$60$) and 49.18% of the time, you lose your investment of $45. Your *expected value* holds a positive:

$$\mathbf{EV} = (.\mathbf{5082})(+\$60) + (.\mathbf{4918})(-\$45) = +\$8.1$$

Regardless of your *image* – if *tight* or *loose* – you *stood pat* and did not give away any information about your hand.

What could you have? Given your *image* is *loose* and both players are *loose*, they probably both call and you win the pot 50.82% of the time. Given your *image* is *tight* and both players are *loose*, they call anyway!

Given your *image* is *loose* and both players are *tight*, player 2 probably won't consider calling *if his hand did not improve* because of *early position* and the *tight image* of player 4. Well, player 4 probably folds also *if his hand did not improve* and you win the pot without risking a *showdown*. Given, player 2 made *two-pair* and calls your bet, chances are good player 4 folds a *two-pair* hand because of the *tight image* of player 2. Given, player 2 raises, player 4 definitely folds *top two-pair* or even *trips* because of the *tight image* of player 2. **Fold** if player 4 calls the raise of player 2 or if player 4 *re-raises*.

Given both players *vary* their play and try to *steal the pot with a raise* some of the time. Does it make sense to call *the raiser some of the time* if we expect to catch him 5% of the time when we call the raise?

That's because of two things. First, chances are players attempt to steal the pot some of the time. Second, you *advertise* a *reckless image* and opponents tend to perceive you *playing loose* and therefore call you more often than not.

But in general, if you perceive *the raiser* playing *tight*, you should **fold** to his raise.

Given your *image* is *tight* and both players are *tight*, they probably both fold *when not improved* but seldom raise with *top two-pair* or *mediocre trips*. If you have one or two callers and a *showdown* follows, your *image* might change from *tight* to *loose*. On the other hand, if player 2 or 4 raises while they both consider you *tight*, expect the raiser made a *full-house* or even *four-of-a-kind* and **fold**.

Why stand pat with two-pair? Odds are 10.75 *to* 1 against improving to a *full-house*. That is, you seldom improve. *Why give away information about your hand if it does not help the situation?* By *standing pat* you represent a *big hand* and both players checked to you. Given one player improved to *trips*, *slow-playing* would not make sense because he does not have enough information about your hand. He doesn't have a clue. If the player checks his *set* because he thinks you have him beaten, your bet won't help him make a better decision.

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