



Mulligans, Part 2

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The Play's The Thing
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As many readers noted, [last week](#) I didn't exactly spell out the new changes for the column. The main reason for the delay (as many of you guessed) was that we wanted to start making some of the changes and be able to get your reaction before we explained the big picture plan. What Scott and I have decided to do is to expand the column's scope to include anything and everything that you deal with when you sit down to play a game of **Magic**. That means I'll be able to more specifically cover a much wider variety of topics, such as fundamentals and theory, in addition to the scenario-based articles I've done earlier in this series. Often examples and reveal text will be an integral part of my approach but the format will loosen to allow me to adjust and choose the right approach for each week's topic.

For last week's article in particular I felt that it was worthwhile to take a week to establish the foundations of the mulligan decision and explain the terminology I use when dealing with mulligans before going on to examples and to more advanced questions. I always intended to follow up last week's article with one that includes example hands. It also gives me a chance to show off [the sample hand generator](#), a great new tool for getting a feel for decks you're not familiar with and for thinking about mulligans as well. (If you somehow haven't read Doug's article on the sample hand generator yet, [go do it!](#))

The Hand Generator

Theory is great but the only way to get a good feel for a deck is to play it. The first step in getting that feel is to look at sample starting hands. Those hands will give you a good feel for what types of hands you can expect to draw if you play the deck. The sample hand generator lets you do that for any decklist on the entire magicthegathering.com website. One particularly fun deck to take sample draws from is Pikula's Legacy deck from [Grand Prix Philadelphia](#):

Chris Pikula - Rogue Deadguy Ale: A Homebrew

GP Philadelphia 05 - Top 8

Main Deck 60 cards	Sideboard
4 Wasteland	2 Gerrard's Verdict
4 Bloodstained Mire	4 Duress
1 Tainted Field	4 Hymn to Tourach
4 Scrubland	4 Vindicate
10 Swamp	4 Sinkhole
23 land	4 Dark Ritual
4 Dark Confidant	2 Engineered Plague
4 Hypnotic Specter	2 Cursed Scroll
3 Nantuko Shade	15 sideboard cards
11 creatures	
	26 other spells

Click on the icon in the upper right hand corner of the decklist to open the sample hand generator and click new hand a bunch of times to take some test draws. Right away it becomes evident that the deck has a lot of things to do in the first few turns and that many of them have a good chance of disrupting its opponent's draw. No cards in the deck cost more than three mana and almost all of them have an impact on the game right away. It is rare for a draw from this deck not to play a strong first few turns and even

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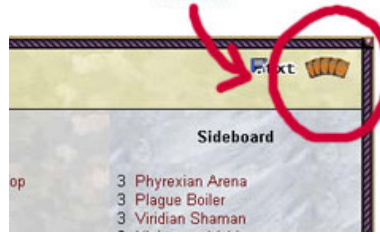

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later in the game you still often get what I refer to as the 'good stuff' feeling. Black isn't played much in Legacy but this deck gets to combine all of black's strongest legal cards except for Cabal Therapy.

the sample hand generator button



Let's look at a few sample hands from this deck. One of the biggest advantages of using Pikula's deck here is that there is no complex plan involved. Your plan is to mix good removal, discard and creatures. It's not trivial to play correctly but all the cards speak for themselves, which makes it perfect for this kind of mulligan discussion. For now, assume you're playing against an unknown opponent:



Nantuko Shade, Nantuko Shade, Dark Confidant, Sinkhole, Tainted Field, Scrubland, Swamp

Would you keep this hand?

A good mix of land and spells, good things to do on turns two, three and four. This hand is a keeper.



Engineered Plague, Duress, Dark Ritual, Hymn to Tourach, Vindicate, Wasteland, Wasteland

Would you keep this hand?

If you had a Swamp you would have a strong hand but you won't be casting any spells if one doesn't show up. Even if playing Wastelands will postpone the disaster, you can't take that risk. I would mulligan this one.



Scrubland, Dark Ritual, Dark Ritual, Dark Confidant, Dark Confidant, Nantuko Shade, Duress

How about this one?

You only have one land, but you have plenty of mana. Your plan is to open Dark Ritual, Dark Ritual, Duress, Dark Confidant and Dark Confidant. That gives you three cards every turn and four points of

pressure along with the disruption from Duress. Even without a second land this is an excellent hand. I would definitely keep it.



Swamp, Dark Ritual, Hypnotic Specter, Hymn to Tourach, Hymn to Tourach, Cursed Scroll, Gerrard's Verdict

Would you keep this hand?

Dark Ritual and Hypnotic Specter is the most famous turn one play in **Magic** that doesn't involve Vintage cards. You've put your opponent to the test: If they don't have a solution on the spot you're going to start taking cards out of their hand at random. You could take out their land drops or the removal spell they were planning to use to deal with the Specter – few things are more nerve wracking than having to prey that they don't nail your Wrath of God or lands long enough to get four mana onto the table. Even if they do stabilize later, they're often down multiple cards. This is the first turn you want, and a second turn Hymn to Tourach is a great follow up. The problem with this hand is that you don't have a second land. If your opponent has one of the more common solutions to this problem like Swords to Plowshares, Lightning Bolt or Force of Will then you're going to be deep in a hole without a quick second land. In my mind you still have to gamble. You can win games with first turn Hypnotic Specter even if you have to wait for your second land and it's rather hard to lose with this hand if you draw a Swamp.



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After writing that, I drew the top two cards with the 'Draw a Card' button: Two Swamps. The hand is now a monster, clearing the opponent's entire hand and then mopping up the ground with Cursed Scroll. I feel good, because I know I made a good decision.

That's how a lot of people think about their mulligan decisions, especially when they throw the hand back. Looking at the top cards, they either smile and applaud their good sense or agonize that they should have kept. People differ on this, but my opinion is that when most people do this, they learn the wrong lessons. The decision to keep or not keep an opening hand is made without looking at the top of your library. You're making a decision based on probability. If you kept a hand with no lands in it and drew four off of the top that wouldn't make your decision right. If you kept a hand with four spells and never drew another spell for the rest of the game that wouldn't make your decision wrong. That's why I have a hard and fast rule I believe everyone should follow:

Never look.

If you decide to take a mulligan, resist the temptation to find out what would have happened. Shuffle the top of your library away and never look back. That lets you analyze and learn from your decision later without being distracted by what was on top of your library. I've known players who end up keeping or throwing away hands because of what was on top of their libraries after previous mulligans; some of them didn't realize that was why they were doing it, but even when it is unconscious it is hard not to let such things get to you. Almost no one looks when they throw back an automatic mulligan; when you throw back one that was a difficult decision resist the temptation. Do make a mental note of what your hand was, and do talk it over with your friends (and when he's friendly, your opponent) after the match. Analyzing your decisions objectively is the best way to get better.

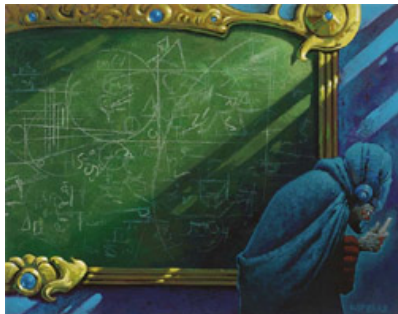
Now how about this hand, from a *Ravnica* draft:



Forest, Forest, Civic Wayfinder, Gaze of the Gorgon, Gorgari Brownscale, Gorgari Rotwurm, Strands of Undeath

Here's how I go about thinking about a hand like this. This is a hand with one missing piece. If I draw any third land then I will be able to get the mana I need to cast Civic Wayfinder and go get a Swamp. That buys me two more turns in which to draw the fifth mana to cast Gorgari Rotwurm. Even if you miss you still have four mana and both colors. The risk is that you miss that third land drop and as a result are unable to cast any spells at all, but the upside is a wonderful hand. This is when I ask myself the question: Am I playing first or drawing first?

Playing First versus Drawing First



On the first turn the player playing first does not draw a card. That makes his chance to draw any given card off the top of his library in time for a future turn much lower than if he was drawing first. Far too many people fail to take this difference into account when deciding whether to mulligan missing piece hands. It wouldn't be fair to say that a player drawing first has an extra third of a land but that statement is closer to the truth than most players realize when deciding whether to mulligan.

In this case, suppose your deck has seventeen lands out of forty cards. The chance of a player drawing first getting his third land on schedule is $1 - (18/33)(17/32)(16/31)$ or 85%, which is a trivial risk compared to the dangers of going to six cards.* However, a player going first in this situation only has two cards to find a land: His chance of finding it is therefore $1 - (18/33)(17/32)$ or 71%, with an 85% chance of having that land by turn four. There's a huge difference between 71% and 85%. While I would keep the hand in both cases, I would be far less nervous drawing first. Drawing first I could keep a far worse hand so long as I had two lands and a Civic Wayfinder. If I was playing first my standards would go up considerably.

Most of the time players choose to play first because they think only about the rosy scenario where both players have a good mix of land and spells. In those situations you generally want to play first rather than draw first and the majority of games fall under that category. However, if either player runs into trouble then drawing first becomes an advantage. If you told me in advance that either player was going to mulligan I would draw first in every limited format, although there are constructed formats with decks that mulligan well enough that I would still play first.

An offshoot of this is the conclusion that you should strongly consider drawing first when one side or the other must get lucky to win, especially when that luck is unlikely to be based on raw speed. If you feel that many of your wins come from mana screw consider trying to amplify that effect; if you feel that many of your losses come from it, try to minimize the risk. I could continue on this topic but that will have to wait for another article. The important thing to remember is to consider how many cards you'll see before you need to find something on top of your deck rather than thinking about the number of turns.

To avoid requiring knowledge of any particular constructed deck (another article sometime) the remaining sample hands are all from limited decks. In all cases, the reveal text is what goes through my head.

You are playing Geoffrey Siron's deck from the top eight of Pro Tour: London.



Main Deck
40 cards

Sideboard

- 13 Mountain
- 4 Plains

- 17 land
- 1 Brothers Yamazaki
- 1 Ronin Houndmaster
- 1 Moonlit Strider
- 1 Ghost-Lit Raider
- 2 Kami of Fire's Roar
- 1 Blademane Baku
- 3 Frostling
- 1 Cunning Bandit
- 1 Sokenzan Spellblade
- 1 Ember-Fist Zuberu
- 1 Ogre Recluse
- 2 Akki Underling

- 16 creatures

- 1 Yamabushi's Flame
- 2 Barrel Down Sokenzan
- 1 Undying Flames
- 1 Honden of Cleansing Fire
- 1 Honden of Infinite Rage
- 1 Captive Flame

- 7 other spells

- 1 Ragged Veins
- 1 Frost Ogre
- 1 Shinen of Flight's Wings
- 2 Orochi Leafcaller
- 2 Kami of Tattered Shoji
- 1 Flames of the Blood Hand
- 1 Ire of Kaminari
- 1 Path of Anger's Flame
- 1 Sowing Salt
- 1 Minamo Scrollkeeper
- 1 Shinka Gatekeeper
- 1 Callous Deceiver
- 1 Uncontrollable Anger
- 1 Sokenzan Renegade
- 1 Stream of Consciousness
- 1 Descendant of Kiyomaro
- 1 Descendant of Soramaro
- 1 Inner Fire
- 1 Akki Underminer
- 1 Unearthly Blizzard

- 22 sideboard cards



Akki Underling, Frostling, Sokenzan Spellblade, Undying Flames, Plains, Plains, Captive Flame

Would you keep this hand?

If I don't draw a Mountain quickly, I'm dead. Even if I do, the hand is nothing special. Going first, you've already missed out on playing the turn one Frostling and I only have a one in three shot at that. Even if I do peel the Mountain off the top I'm not that happy. I can't keep this hand.

Now let's move into the modern era: This is using Scott Wills' draft deck from his last Limited Information column.

Limited Information



40 cards

- 5 Swamp
- 1 Dimir Aqueduct
- 1 Golgari Rot Farm
- 6 Forest
- 2 Plains
- 1 Svogthos, the Restless Tomb

- 16 land

- 2 Elves of Deep Shadow
- 1 Roofstalker Wight
- 1 Transluminant
- 1 Stinkweed Imp
- 1 Shambling Shell
- 1 Centaur Safeguard
- 1 Nullmage Shepherd
- 1 Golgari Rotwurm
- 1 Gleancrawler
- 1 Siege Wurm

- 11 creatures

- 1 Terrarion
- 1 Clinging Darkness
- 1 Last Gasp
- 1 Shred Memory
- 1 Seeds of Strength
- 1 Farseek
- 2 Selesnya Signet
- 1 Strands of Undeath
- 1 Gaze of the Gorgon
- 1 Brainspoil
- 2 Pollenbright Wings

- 13 other spells



Forest, Forest, Forest, Selesnya Signet, Seeds of Strength, Gaze of the Gorgon, Golgari Rotwurm

Would you keep this hand?

Four mana sources isn't bad, the problem is that this is two tricks and a creature I can't cast without drawing a black source. I have a decent number of those and if I draw any creature I can cast then the hand becomes good. This should work out fine, I can keep it.



Siege Wurm, Swamp, Golgari Signet, Pollenbright Wings, Forest, Plains, Gaze of the Gorgon

Would you keep this hand?

That's a great long term hand but its short term is non-existent aside from a second turn Signet. It's hard for the hand not to either let me cast Siege Wurm or give me other creatures worth casting and I have all three colors of mana. However, this is the second out of three test draws (the other one wasn't interesting) with this same problem. Is this deck creature light? Looking back at the article, it is clear that it is. Given that I'm running eleven creatures, two of which are Elves of Deep Shadow and two of which cost six and seven mana respectively I certainly can't be complaining about a draw like this one. It's an important point: the better you know your deck, the better you know what expectations are reasonable. For other decks this hand *might* be a mulligan, but for this deck it's going to be a pretty typical hand.

That expectation game is crucial. You need to know what you have a 'right to expect' out of your deck. If your expectations are too high, you'll end up throwing a ton of hands back. There are decks where aggressive mulligans are part of their strategy – for example, there was a deck based around Hermit Druid that would throw away any hand that couldn't put one on the table by turn two. In the extreme, there was a deck I built during the brief time Yawgmoth's Bargain was legal that would mulligan any hand that couldn't outright kill the opponent on turn one. Generally these decks don't care about a mulligan that much because they don't plan to be around long enough for the missing card to matter: They either do their thing or they don't. If they don't pull it off they lose, if they do pull it off they tend to win. Most decks don't work that way, and you'll need to adjust your mulligans accordingly. It's just one more reason that, even though many players take them for granted, how well you make your mulligan decisions will make a significant difference in your results.

Real World Roundup

These hands were all generated using the random hand generator. In a future article I hope to do another set of examples but this time to draw those examples from real opening hands. Include all the information you consider relevant to the decision. For each I use I'll show what I would weigh in making the decision.

* There are thirty-three cards in the deck, fifteen of which are lands. Therefore your chance of drawing a nonland card next is eighteen cards out of thirty-three. Your chances of drawing a nonland card given your first card was also not a land is seventeen out of thirty-two and so on. Drawing a land is the same as failing to draw three nonlands. This is the way to calculate the chance of drawing any given type of card in a given number of card draws, although of course during games an approximation needs to be used.



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