

How to Improve

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Introduction

This is an article that aims to provide a wholesome view of the process of improvement in Starcraft. Because of this target, some sections will inevitably be useless to inexperienced player while newbies will be unable to make sense of some of the more advanced points. It can be read from start to finish, but most of the material is standalone and doesn't need the preceding section to make sense of it.

As the underlying approach is something I've used to achieve fast results in many other competitive pursuits, the overall methodology of this article will apply to other areas as well, for example Starcraft 2. The examples and analogies presented here would obviously have to be translated into the language of area you are applying it to and certain sections would not apply, but many overall lessons still fit to a surprising degree.

I. Goals

To what purpose are you trying to improve at Starcraft? The only reasonable approach is to figure out your goal first, then make your means fit that goal. This may seem obvious and it is, but it is rarely done or optimized remotely well. For example, if your goal is to reach the highest iccup rank possible as Terran as quickly as possible, irregardless of 'skill,' then the only sensible approach is to proxy bbs every single game. If race doesn't matter, then bulldogging foreigner Terrans on Longinus is a proven way to look awesome.

By doing either of these (or many other similar approaches), you will reach a much higher rank in a much shorter amount of time than you would by playing 'standard.' If that is your goal, then go and do it, and don't worry about all of the fools who pass judgment on you. Foreigners have an unhealthy obsession about "cheese" or allins, and it would do everyone good not to buy into it for a second. The means in which you take to win are solely dependant on what your end goal and tools are.

On the other hand, if your goal is trying to improve as much as possible, why would you waste your time doing allins at the start? What is that going to teach you but a small subset of the game? At best, you'll become [Horang2](#), a completely unpredictable entity that loses more than he wins because his core skillset doesn't exist. If you want to only steal the odd game from higher leveled players, then someone like [Horang2](#) is a great guide to follow. If you don't want to improve and just want to do whatever crazy strategy you think of, well just go do that. So before you start off, figure out what you want to aim for, then adjust the means to that goal.

The training method in this guide is primarily focused on building core skills to create a complete and all around player, so if that is not your goal then you should bypass that section. The core skillset, meaning that of a macro based player comfortable in all phases of the game, takes the longest to train, but it has by far the greatest consistency rate. Obviously that encompasses a huge variety of styles from [iloveooov](#), [Savior](#), and [Flash](#) to [NaDa](#), [July](#), [Jaedong](#), [Boxer](#), and [Bisu](#). If you disagree with this statement well too bad, because the history of every Bonjwa and great player mocks any other viewpoint.

If you want to be among the best or reach your highest potential, you must become a player that can win even if the opponent knows exactly what you will do. A player with a strong core skillset can and should learn allin or early aggressive strategies. However, they should be a compliment to his strengths in playing comfortably in all phases of the game, not his only option.

The best player to show this attribute is the current Flash: as the game goes longer, no matter who his opponent is, his chances of winning rise and rise. Flash knows that if he gets to the mid or late game intact, he is probably going to win. His opponents also know that and try to either kill him early or cut corners and get a decisive edge for the mid to late game. But this opens up weaknesses in build and mentality for Flash to win a quick game with an allin or aggressive opening. Even though Flash is not particularly amazing at those kinds of plays, the sole threat of his mid to lategame strength is enough to give them great viability in his hands.

On the other hand you have players like Shine: if he can't gain large advantages with early mutalisks or hydras, he is probably going to lose. The later the game goes, his chances of victory drop significantly. Unlike Flash, he does not get a bonus for being patricularly good at winning games quickly, because that's all he has. Simply put, a solid foundation of mechanics, understanding, and decision making gives the best of both worlds, while a one-dimensional allin player is just that, one-dimensional.

Part One: Removing False Beliefs

A lot of what holds players back is not only not knowing enough, but also possessing misconceptions and ideas that are just plain wrong. This is a serious issue that is definitely not given the attention it needs. Here are a few of the more commonly held beliefs.

II. Koreans vs Foreigners

One of the biggest problems is on the differences between Koreans and Foreigners. Quite often you will hear people say that someone plays a 'foreigner style' or 'korean style.' This is misleading, as the word style gives off the impression that it is up to preference, or that there is not a large gap.

For example, can anyone really argue convincingly that the aggressive Zerg style of July/Jaedong is better or worse than the defensive/management style of [Gorush](#)/Savior? Both paths have been proven viable and it's up to each player to decide which one suits them better. In this case the difference is a matter of choice.

Unfortunately that is not the case for the differences between foreigners and Koreans. There are not two viable "styles" here, there is a bad and a good one. Guess which is good? Some people consider it a plus to be different than the Koreans, which is complete garbage. Playing a "Korean style" is one of the biggest compliments to be given. On the other hand, if someone is known to be 'creative' or 'non-standard' they almost always use some pretty terrible strategies.

The most likely reason for problem is that foreigners are not punished to the degree they should be and would be in the Korean scene for doing stupid strategies. Winning with something versus players who don't understand the game is not a good test of an idea. It doesn't mean its bad, but it doesn't mean its good either. Contrast that situation with top pros: when Flash or Fantasy consistently wins with something against the best possible competition, you know it is worth using.

When you consistently win with something it's only natural that your belief in the validity of your strategy is reinforced constantly. For progamers this is a great way to test the strength of their ideas. If they keep winning with it, it's probably a good strategy because they are testing it against the very best. That however does not apply to foreigners testing their ideas against other foreigners. If Flash shows up to the MSL finals with 1 base bio openings he is going to get mercilessly crushed because Jaedong will know how to beat it. But foreigners can easily go higher than even b- with such atrocious strategies because they play against people who don't know how to react at all. The problem only grows worse because they believe their ideas are correct because they reinforce their beliefs by beating clueless opponents. When such things are possible, it's no wonder the overall strategic understanding becomes warped.

III. Wrong Sources

If you want to be good at Starcraft you must study from those who have come before you. There's no sense in trying to learn an accelerated 11 years worth of strategy on your own. The big questions are, and the area where far too many players go wrong, is who do you emulate, what do you learn from, and how do you learn it?

The very best who know what they are doing and play in the most competitive scene possible, or less knowledgeable and weaker players who speak the same language you do? The correct answer is you learn from the better players, no matter how tempting it might be to learn from someone who is in a similar environment and whom you can converse with. Now that doesn't mean you can't learn from a non-pro, not at all. It just means the only people you should be putting blind faith into are the pros, while carefully analyzing the ideas of others with how they match up with pro games. Sometimes bad ideas or thought processes will get installed but over time careful scrutiny of pro games will help cleanse any viruses.

Here's something slightly trickier: how do you learn from the best players? By watching said players yourself, or by learning from much weaker players comment on said players? This is actually a rather dangerous situation, because it can be so tempting to just serenade yourself with the ease of having someone who speaks english teach you. Learning from a second-hand and unreliable source is an extraordinarily big problem among new players because far too many people would rather take the easy way out and listen to someone for the sole reason that they can speak English than try to make sense of a bunch of pro games on their own.

The problem with this scenario is twofold. First, you don't know if your source is right and in all but the most extreme cases, their accuracy leaves a lot to be desired. They almost certainly are right on some things, and probably wrong on others. Many people have posted help threads that begin by saying "I need help winning with build I got from some foreigner" without ever considering that the build itself is part of the problem. Also, they end up mixing up the original source (the pro) and their source that explains the pro, and end up subconsciously working from the assumption that the person telling them what to do is completely correct and should be followed. Unfortunately the overall knowledge level is low enough that if you are getting builds and ideas secondhand there is almost always going to be a sharp drop in accuracy.

Secondly, this predicament implies a refusal to study pro games. For whatever reason there is pretty fierce resistance to careful and mass study of progames and it seems that many will do anything to avoid doing this, whether it be watching fpvods, mass gaming, or watching foreigner replays. But let's make this completely clear, for anyone who wants to become very good or improve quickly there is no substitute for studying progames, absolutely none. It doesn't matter whether iloveoov or some random person is your coach, you simply must study pro games extensively. There is no parallel to the accuracy and knowledge that is derived from them. I've coached close to a dozen people for fun and without exception the ones that improve the fastest are the ones who put the effort in to studying pro games firsthand. These people get the concepts much quicker and can recognize patterns sometimes after just seeing them once or twice. The others who either don't study pro games at all or just very little run into wall after wall. No matter how many solutions are given to them, they just keep on finding some other issue to stall on because they don't have the right patterns internalized.

Major Learning Problems and Solutions

There are two major obstacles with the 'pros-above all else' approach. The first is that it eliminates a large portion of gameplay that lower level players will be more exposed to. This occurs due to the very simple fact that pros will not use anything that doesn't work for long, thus removing many if not all available examples of how to play against it. An example would be one base bio ZvT, a poor strategy but something a beginning Zerg might have grave difficulties dealing with as they don't have anything to model for beating it. Unless they somehow stumble upon Leta vs Jaedong on Chupung Ryeong¹ or another hairpin in the haystack, they're essentially out of luck as many of the games which would show how to decisively win simply aren't available (practice games or are too old and not online). The second problem is that it can be very difficult for a newer player to relate what goes on in a pro game, where boundaries are pushed to their limits, for their own games are the exact opposite.

The first problem unfortunately doesn't have any optimal solution and is the chief flaw with this approach. Losing to stupid things will happen and there might be a point where you can beat a decent player who plays correctly yet lose to a poor one who uses inferior strategies. This bizarre situation occurs because you are jumping over a large period of growth by rigorously learning from the correct ideas (those by the pros) instead of learning much slower, but more incrementally, by personal trial and error. Thus there will come a point when you have a gap in your knowledge: you understand what is right, but not why it is right, and thus do not have the know how without a direct example of how to defeat inferior ideas. Seeking explanations certainly does help here as the accuracy on solved problems is usually better than for unsolved ones, but on its own it might not be enough. If you have the skill to play as other races, playing from the other side of the field is a great fix. Try playing that 1 base bio against a bunch of Zergs and see what happens. It really helps to feel, not just read about, the problems from the other POV. Regardless, this is a problem that will vanish after your understanding grows, but it may make a painful bump in the road.

The worst part about the second problem is that due to the inherent nature of learning, the initial period of growth is always slow and will show little results. A beginning student cannot effectively comprehend the nature of what they are seeing because they have not built the mental framework to place it in: to them an SC game, especially a pro one, is just a series of actions happening for seemingly incomprehensible reasons. They can't understand their own games, so how could they even begin to relate to one played many levels higher? The slow growth during this period can easily lead to discouragement and is a stumbling block for many people; the inability to establish a mental framework is likely the reason why only a small fraction of SC players can ever get above the level of a d/d+ iccup player.

The mental framework is a structural glue of sorts that stores and relates every known idea about the subject. It cannot be fully realized until one can, at least at a basic level, incorporate together the patterns that govern the activity. For example, show a typical starleague TvP to a pro and they will be able to effortlessly evaluate the position at almost any given time, accurately predict at what future point a player might have a timing window, and see what options each side has, among many other things. Their mind has already constructed an accurate model that can fit inside the game they are evaluating and, even though the evaluation game is a unique occurrence, their overall understanding of patterns will allow them to analyze it as if they had seen the exact simulation many times. On the other hand, show that same player an otherwise impossible scenario of say, a TvT where each player starts off with 30 scvs and a battlecruiser, and their

¹http://www.teamliquid.net/tlpd/korean/games/11297_Jaedong_vs_Leta/vod

ability to evaluate the game sharply drops.

One of the most important steps I took when going through this period was to find every single example possible of a very good player crushing someone much worse. Games between equal strength pros were all well and good, but what really helped was seeing the difference between skill levels. WCG progame replays, invite tournaments that a handful of pros attend, any and all ladder replays, and even proleague/qualifying games where a top pro massacres a weak one, are all superb sources of learning material.

When deeply analyzing games it is crucial that you be actively pausing and thinking, asking questions such as: "What would I do here? Why does he make this move or idea instead? What's the purpose of this action?" Actively compare your thought processes and decisions with what the pro actually makes. Along with putting quality effort into studying pro games, merely watching very large quantities of pro games will help in establishing subconscious patterns. Quality of players selected matters as well: studying 1 Flash game is a lot more valuable than watching 10 Leta games.

Study of these games should be paired with seeking out as many solid explanations of game scenarios you can. As previously mentioned, it's important to take every explanation from a less reputable (non-pro) source, at least ones of more complex problems, with a grain of salt. Seek them out, learn what you can, but don't make them the cornerstone of your understanding. Instead, use them to fill the gaps, to give you ideas of what to look for. Actively think about them and don't just take them for granted. Instead, relate them to the pro games and come to your own conclusions.

The type of explanation you ask for is also very important. A player with a solid foundation already can sometimes just ask a specific 'what' question. For example, what are the only valid openings against 12 Nexus TvP. But a player who doesn't have that foundation won't be able to make use of that information except for just choosing an opening. They instead need to seek out why certain things do or don't work. They need to know that the reason why 2 factory flounders against 12 Nexus is because 2 Factory is designed to hit in a window where the Protoss has temporarily stopped tech/goon production to start their expansion. But in the case of 12 Nexus, the Protoss started their Nexus before making a gateway. Thus their economy, instead of suffering a slight dip when the 2 factory would hit, has more goons, more gateways, and better tech because they already paid the sacrifice to start the expansion far earlier. Of course it is up to the player themselves to ask the right questions instead of simply asking 'help' or 'what did I do wrong;' it scarcely needs to be said that the right questions are almost never asked or answered.

One last source for explanations and the best of them all, is from the progamers themselves. This does require a fair bit of searching because most interviews will be total duds. But once in awhile you'll find some real gems that make the search more than worthwhile.

IV. "I know what to do I can't just execute it"

The better one understands any complex activity, the more they realize how much more they have to grow. Starcraft is no exception, yet there are scores of players who think they somehow have a Flash-like understanding of the game but just can't move their fingers like him. At certain points early on in

comprehension Starcraft can look deceptively simple and will lead players to make dumb limiting beliefs that only cripple themselves.

There are massive gaps in knowledge between even the very best handful of pros and the majority of good A-teamers, and the gap is just as wide at every dividing line in skill. Starcraft is simply so complex and some knowledge can really only be gained through playing it too. Lastly, there is a significant difference between understanding an idea and truly getting it to the point where they can use that knowledge to react instantaneously to a new situation. Every good player has both attributes, but the person who complains about their poor mechanics will never have the latter.

V. "I want to be different from the rest."

You don't want to be like everyone else, copying those some old standard builds. You want to be creative, not a boring macrobot. There's nothing wrong with having those thoughts and basing your play off it, I'm the same way. The issue here is how you go about it. Are you doing something different just to be different? Or are you doing something different because it is good? A good approach that is also unique will achieve better results than something of similar strength but well-known. However, being different just to be different is a worthless pursuit. In order to get around this conundrum you must first understand that What is good almost always becomes the standard; the only time it does not is when it is too hard to comprehend or is not used frequently or in popular games. So in order to find something worth using that is not standard, you have to either find an idea so complex that few people would bother with or find something in a low profile match that nobody will watch.

It's all too common on iccup to see legions of players who are trying to use strategies that are either plain bad or literally can't work. These players are forever bashing their heads against an unclimbable wall, yet they are far more common than those who are practicing solid concepts.

Another problem is that many players try to innovate, thinking that either they can't execute the builds the pros do or that they don't want to copy someone else's builds and that they can make better or equally good builds on their own. Fortunately for the former, this is simply a limiting belief. Yes complex builds like [Valkonic](#) are extremely hard to pull off, but the vast majority are satisfactory on virtually every level. So don't despair and think that the pros are out of reach; use them as your examples, your guideline of how to play.

Unfortunately for those who wish to be unique, creating valid strategies in Starcraft since 2000 requires an extremely high level of knowledge that only a few people in the world possess. Sadly, that list probably isn't going to include you or anyone who can read this. Even in the pro scene there are only a select few people per era who really create game-changing strategies and the rest simply copy them. That is simply the truth of how complex SC really is (as well as a result of progamer training regimes). The difficulty of creation is exacerbated by the inability to test against very strong opponents, making creation of a unique idea a virtual impossibility especially in this age.

Hidden Strategies

The only feasible way to get around this barrier is to focus on the legitimate, but less used or hidden strategies. For example, I happened upon the 2006 game Boxer vs NaLrA on Blitz² in late 2008: Boxer opens up 1 factory vultures/mines and immediately double expands against 12 Nexus behind the cover of mines, gaining a strong economic lead and finishing off rA with ease. A further search revealed that Light used it once (Jangbi on Andromeda)³ in a vod and once in an iccup replay (on Blue Storm). Incredibly, I couldn't find any other examples even though the strategy made a lot of sense and certainly had great promise. Some analysis of the 3 games and the concept behind the build revealed an optimal transition (into a 3 base allin timing attack), and from then on, I found myself at a large advantage against the hardest opening Terrans face. Did I have the ability to create that strategy? Absolutely not. But I recognized the value of the opening while others somehow did not. Now 4 years after its creation MVP suddenly pulls it out of thin air and crushes Best⁴ and Stork⁵, two much better players otherwise. Maybe it will catch on now, maybe it won't. But the gem is still there whether it is popular or not.

For another example that eventually did get popular, consider the dominating ZvP strategy of 2009: the Mutalisk transition after producing from 5 Hatch Hydra. This strategy really caught on after the Jaedong/Bisu proleague ace match in December of 2008⁶, but guess when it first started appearing? January and February of 2008, possibly even earlier. Jaedong and Savior both were using it during that period, albeit rarely. Jaedong played with it a few times against weak opponents, then quit using it altogether until one game in July, then mostly ignored it until that important December match. Savior stuck with it almost every game he played, but his lacking play otherwise resulted in very few ZvP's, none versus notable opponents. All of these games were low-profile, and somehow their ideas didn't get noticed or didn't stick.

If someone had the knowledge and foresight to look at those few games of Jaedong and Savior and say "this idea will singlehandedly flip the balance of ZvP upside down," they would've had a significant advantage over anyone they faced, pro or not. Jaedong himself apparently did not have the full realization of what he had created until nearly a full year later.

A good source for these kinds of underutilized ideas, for Terran players at least, is none other than the SKT1 Terrans. Their strategies are rarely used by other players, Light being the main exception again, but they are extremely potent and have propelled Fantasy and Canata to achieve far greater results than they could otherwise. Savior was a good reference for Zergs as well, even outside of the previous ZvP muta idea; some of his games provided early insight into playing against mech and among others, he displayed a very promising economic 2 hatch lurker opening against Sea on Colosseum in WWI 2008.

Yet the best place to find unnoticed ideas and strategy is by studying older champions. There's a lot of unknown territory out there to explore and realistically, almost nobody is going to look back in time to find ideas since they naturally assume everything has been learned and improved upon. Which is absolutely false, What you want to do is to look for great players whose success is insufficiently explained. For example,

²<http://www.teamliquid.net/tlpd/korean/games/4114-BoxeR-vs-NaLrA/vod>

³<http://www.teamliquid.net/tlpd/korean/games/11272-JangBi-vs-Light/vod>

⁴<http://www.teamliquid.net/tlpd/korean/games/36476-Best-vs-MVP/vod>

⁵<http://www.teamliquid.net/tlpd/korean/games/36475-MVP-vs-Stork/vod>

⁶<http://www.teamliquid.net/tlpd/korean/games/10750-Bisu-vs-Jaedong/vod>

iloveoov, according to the popular view, is the 2nd best player ever because he was great at macro. This of course is absolutely nonsensical, as macro is the easiest skill to master and it's not like there were more than a handful of decent players after Nada who did not have solid macro. In oov's play there was a goldmine of ideas unmatched by any modern player, yet he has been completely ignored for years. Along similar lines, can July's success be just explained by great attacking senses and micro? Was Nada really just an extremely consistent multitasking monster? What great ideas of rA have went unnoticed?

Is it easy, or remotely practical to find these treasure troves early enough? Not at all. But it is possible, and certainly easier than trying to create something good from scratch. Many ideas often take time to get mainstream attention and approval, and some never really do. If you want to be different while still using good strategies, these kinds of underpublicized games are what you want to look for.

VI. Mental Attitude

Most people typically don't talk nor think about their attitude in game, but it is nonetheless a critical component of skill that most lack. The type of attitude is rather simple to see once pointed out, but the actual implementation of such attitude is a completely different beast. Furthermore, many people simply do not even consider this an important aspect to focus on or ever think about what the right attitude is. Simply knowing what is an optimal attitude can help greatly and open the door for many long term benefits. The path to reach it is long and arduous, but just knowing the destination will at least get you going in the right direction.

To really go into depth on this subject is well beyond the scope of the article. Rather than trying to discuss the subject of attitude halfway, here are two powerful quotes of champions in different fields which might give insight into the mindsets of the best. Understanding the mindset of a pro is much more important, and much more helpful to achieve the desired objective, than any idea.

"When you play, you have to start off with a mind to turn the game into a rape."

-iloveoov

"A single negative thought is what gets you hit in the face."

-World Champion Boxer Ray Mancini

VII. Strategy vs Mechanics?

Probably one of the most popular questions posed by new players wanting to improve is where to focus their attention first, on strategy, or on mechanics. Unfortunately, this question operates from a flawed premise that mechanics and strategy (in this case meaning knowledge of the game) are separate skills that are not related. The correct answer to this is both. More specifically, your time spent improving should be a balance between theory and practice. Mechanics and game knowledge are inexorably linked together and cannot be completely separated and focused on individually. Therefore they are best worked at synergistically from two angles:

1. Theory is divided into gaining new knowledge by studying pro games as well as going over your own games to refine your play.
2. Practice is both practice against human opponents but in addition, practice in single player is invaluable to get down core skills and should be done first and frequently upon making any major strategy change.

It's important to note that pushing too far in either direction will run into diminishing returns. Mass gaming without reflection or study of progames leads to stagnation or worse, learning the wrong things. On the other hand, it doesn't matter if you understand the game better than Flash or iloveoov if you never play enough to subconsciously execute strategies. Yes balancing these two areas is an optional step for some, for example those who might want to become the next [BackHo](#), but for the rest of us optimization is a key factor in an efficient learning method.

The rationale behind this approach is that mechanics will naturally improve both as you understand the strategy you are using more and as you gain enough experience so that you can start executing the strategy subconsciously. Similarly for overall game knowledge, there is a remarkably big difference between knowing a concept in such that you can discuss it, and knowing it deep down, so that when you are put in that situation the right response is instantly and automatically made.

Part Two: Skills

The following section will break down the primary in-game skills of Starcraft and go through them individually. The goal here is to both understand each skill and look at ways it can be improved.

VIII. Micro

What does having good micro mean? If you look at Jaedong's mutalisk micro, a few things come to mind. Firstly, his clicks are deadly accurate and consistent, he almost never misclicks and loses a bunch of units. Just as importantly, he knows exactly what to click when.

Lastly, he is particularly adept at predicting what his opponents are thinking that he will do and making the appropriate actions against that. For example, if he thinks the enemy's marines will run forward and try to snipe a muta, he will fire earlier than normal and retreat before all the marines get in range. If he believes his opponent is about to run away, he'll charge forward and snipe a fleeing marine. Because of this mental "mind-game" aspect, micro is the most unique out of all the mechanical skills.

For the average player, just playing a lot without purpose is not going to improve micro that much. When microing, your hands need to be able to quickly do the right commands without a moments delay. That means first of all that you need to automatically know what to do right when it happens, and secondly your hands must be comfortable enough with doing that action to automatically do it. When those 12 lurkers burrow right in front of your army, your hands should already be grabbing those marines, stimming, and moving them away before you can consciously realize what's going on and make a decision. If you have to stop and think "Oh he's burrowing his lurkers, I should move my marines away and maybe stim them too," it's already too late. That is a simple example that can be gained from practice alone, but there are many more difficult reactions that you can learn much more quickly by watching the pros and applying what you learn.

Ergo it's not enough to know the information as in being able to answer a question about the subject. You have to intrinsically know it subconsciously so that when you get into that situation, it feels like the right, perhaps only action to take. That means you have to study a lot of pro games of great muta micro'ers in order to be so comfortable with exactly when they do this and when they do that. You have to know when x number of mutas can handle x number of marines at every angle, when they use hold position, when they engage x number of turrets, when to prioritize scvs or marines, and much more. In short, you have to raise your knowledge level to the point that you can understand any kind of new situation as soon as it pops up, not just memorize common situations. Watching FPvods of progamers is a really helpful step here because you can see exactly what they are doing to micro and of course how they react from limited information.

And of course, you have to be able to do it yourself. Studying the progames is a short cut to figuring out the optimal actions in all situations. By understanding the best decisions to make in microing you can save a lot of time by practicing the right way from the start. This also makes it much easier to go over games and think about how you could've microed this fight better because you already know what you have to do.

Knowing what to do and doing it go hand in hand. There is no one without the other.

Micro requires:

1. You have to know how to react in every situation (obtained from studying pro games)
2. You have to make the right actions when you need to (obtained from practice)
3. You have to be able to do the right actions consistently (practice)
4. You must be able to predict your opponent's actions and react to that prediction accordingly (study/reflection/experience)

IX. Macro

Having good mechanical macro is both by far the most important and the simplest mechanic by far, and once you get to the top there is little to distinguish one player from another in terms of macro. At the lowest level, you can go astonishingly far just by doing a good build order and having solid macro. Along the same line, no matter what other skills you may have, you will never get anywhere if you can't macro.

Many posters come into the [strategy forum](#) and say straight up "I know I macroed bad but what else is the problem?" Well that right there is their ONLY problem: that they are concentrating on other factors besides their bad macro. For anyone new who wants to raise in skill quickly, prioritizing macro is so much more important than anything else it's inconceivable that something besides macro should be worked on first. Now that it's clear just how important macro is, what does macro require?

Quite simply all macro requires is knowing exactly what you have to do and drilling it in yourself so that you do it subconsciously. That's it. This means a few things.

First, one build at a time. Until you can get one build down subconsciously, don't even bother with anything else, you'll just make it worse. Thus it is of great importance that you choose a good build to emulate. That's what the recommended games section is at the end is for. Use that as your guide here.

Secondly, you need to get very familiar with the build by studying pro games. This may be difficult at first for new players to make sense of everything, so in addition to simply watching a lot of vods/replays it is more than worth your while to search in the strategy forum for posts on that build and to take a look at Day[9]'s podcasts and videos to see if he has covered that build. There is nothing wrong with asking questions like "What is the purpose of this build, why do you want to get this building or upgrade at this time?" in the strat forum. These are a much better use of everyone's time than the much more popular, "what did I do wrong this game? Oh and please excuse my macro I know its bad." The first player is learning something they actually need to, while the second is simply wasting their time focusing on trivial matters.

Lastly, you must become proficient at executing the build. This is simply a matter of constantly thinking about what you need to do and doing it over and over and over in single player. The first step of this process is to have constant worker production or larvae usage. If your command centers aren't blinking 95% of the time, something is wrong. Once this step is down the build will actually start flowing correctly as soon as you are able to keep spending all this money you get in at the right points on the right things. From here you need to primarily concentrate on keeping your production buildings constantly working as well as predicting when to make supply depots and automatically doing it.

Once you can make your build are subconsciously down, once you are trained to hit the hotkey to go back to your production area every x seconds, once you reflexively make supplies at the right times, you're golden. Macro is really that simple. It's rather silly: macro is the easiest area to improve as well as the most important. And yet huge numbers of players can't macro at all but can do other things mildly well. For that large group, rejoice, for you can raise your level of play faster than anyone else. Just practice macro over and over. If your macro is not close to perfect, why should you possibly care about anything else?

Macro requires:

1. Understanding what your build and plans are (study)
2. Repetition of your build over and over (single player practice)
3. Reptition of your build under pressure (experience)

X. Multitasking

Multitasking is very similar to macro; indeed, multitasking is at the lowest level the ability to macro and do something else. Macro is the most important use of time so its always the priority.

To make it clear, multitasking is not actually doing two things at once. The point of multitasking is to triage ruthlessly, to eliminate any wasteful action and to focus on the most important actions at the right times. One of the most common habits of newer players has always been to focus on watching a battle, even when there's nothing they can do. But better players will rarely focus on the battle unless there is a very important action like emp'ing arbiters, they will be expanding, macroing, or sending reinforcements in because the benefits from doing the latter outweigh any minor advantages from microing or idly gazing when it's not really needed. Improving multitasking heavily comes down to internally knowing which actions you can triage more to replace them with more efficient methods.

Subconscious repetition is really key to improving multitasking, not only from knowing what to do subconsciously but also just doing it over and over. It is somewhat easy to become complacent with your speed when practicing a lot; in order to keep improving your multitasking, you must keep playing players that are better than you, that push you, who make you struggle to even stay alive.

But there is another component to multitasking, awareness. Better players put quite a bit of their time

focusing on the minimap so that they can instantly react to anything that enters their vision. Before that reaver even lands, scvs are already running away and tanks are streaming in. This is one of the more difficult habits to learn because it's hard to know when as well as simply be able to recognize and react when a red dot enters your peripheral vision. Minimap awareness is best improved by making it a habit to consciously glance at the minimap even when nothing is going on to gradually make it a subconscious process.

Execution Speed

The most important area of multitasking is that of execution speed. Execution speed is a factor that really differentiates pros from amateurs and others from those a level or few lower, yet it is scarcely talked about at all. The easiest way to understand is with a demonstration. Take for example mid to lategame TvZ, right after swarm is out and the Zerg is busy securing their 4th gas. During this period one approach is to pressure the Zerg enough so that the Zerg makes a mistake or leaves an opening that can be exploited. Should the Terran not do any damage before the Zerg can start pumping out 4 gas ultra/ling, the Terran ends up at a mild to severe disadvantage. Ergo the Terran will naturally march around between various points of entry throwing irradiates, killing isolated units and sunkens, sieging up, and dropping the 3rd or the main. The primary factor in deciding victory in this scenario is which side is faster.

If you want proof, go through the best pro TvZ'ers and look at their games in this section of the game. In virtually every single example you will be unable to point to more than a few second window (at most) where their army is idle. Some infantry may be providing scourge cover for Vessels to irradiate a defiler or lurkers, other infantry might be denying an expansion or forcing a dark swarm, but something is always happening. What is more, the Terran army never sits still even if it is not attacking. It provides pressure by moving constantly, forcing the Zerg to be uncertain to the timing and intentions of his opponent. If the Zerg is not prepared for the speed of the Terran's movements, some aspect of their defense will be open and they will either die or get crippled. So not only is it important to be able to initiate the movements at a non-stop rate, but you also must be able to react to high-speed movements as well. If not, that very same Terran player might find themselves victim to a terrifying plague or flank that just came a second earlier than they expected. When you look at games of weaker players in the above scenario, you'll see how their armies stop moving quite often, they don't make enough threats, they don't put on enough pressure; in fact, they just seem to sit around often. Without the direct pro comparison it doesn't seem that abnormal, but the difference between an army sitting in the middle and an army fighting on your doorstep is worlds apart to the opponent. Should you pit that slower amateur against a pro, the pro could simply win, irregardless of every other skill, simply by striking faster and more often than his opponent is prepared to handle.

Execution speed is often the factor in many losses attributed to other causes. Think back to some of the games that you might have lost where the deciding factor was that swarm blocking a winning attack at the last moment, that Terran army that attacks too quickly and emps your arbiter a second before you are ready to strike, or the Protoss army that attacks out of the black and crushes your hydralisks because you didn't have the time to organize them for battle. Once you get to a (not particularly high) level where everyone has great macro, everybody's micro is solid, and awareness is nice, execution speed is the main mechanical skill that differentiates great from good.

Improving this all-important attribute is going to be gradual, and oftentimes enough from the results

of improving the rest of your skills. Practicing with a concentrated effort to move your armies faster and faster will obviously help propel this along, but that alone will not do it. In order to increase the speed and effectiveness of your attacks, you will also need to have the knowledge of what kind of movement, where to move, and when to move all down subconsciously. This will be acquired both from studying progames and from your own experience.

Lastly, one final approach that may help is playing from the other point of view. A Terran player working on ZvT or vice versa is a particularly great case because of how important execution speed and reaction is in both sides of that matchup. By doing this, you will get to experience directly just how important execution speed is. You will lose many times over to those mm that strike right before your defense is entirely setup, or the lurker/ling that rams into your natural under swarm while you are still assembling your army. An even greater way to experience this factor and gain insight on how to improve your own play, short of finding a practice partner of much higher skill, is to play against a team melee team. As one person is always controlling the army, it will be abundantly clear how much benefit they reap simply from always being able to move their forces faster than you have experienced.

As we can see every mechanical aspect requires both knowing what to do and actually doing it. One is a knowledge component gained from both experience and careful studying of pros, the other is a mechanical/subconscious component gained purely from experience. Of all the mechanical skills, multitasking is the most dependant on experience and repetition. The shortcuts come from knowing what to do; the rest depends on doing the same things over and over and slowly optimizing them.

Multitasking requires:

1. Understanding exactly what you are doing and why (study/experience)
2. Becoming so familiar with every action that the process becomes subconscious (practice)
3. Optimizing your actions to focus on the most important while ignoring the trivial (experience)
4. Becoming extremely aware of the minimap (practice/experience)
5. Force yourself to become faster by playing against opponents who punish you severely if you don't (practice)
6. Improving your execution speed (study, experience, practice)

XI. Strategy

Strategy in this context is the overall plan and approach one takes. Or simply, the combination of a build order with specific targets. 14 cc TvZ is not a strategy, it is an opening. 14 cc with factory after 3rd rax into a pre-defiler timing attack is a strategy. Essentially the only real way to improve strategy is to understand the game better, making it a heavily theoretical skill. Below are two examples of how improving strategy in terms of build choice and planning.

The two subsets of Strategy are:

1. Choosing the best builds and plans
2. Understanding said builds and plans

Improving Strategy is rather hit and miss. It is the area that can hold someone back the longest without them realizing it, and it is also the biggest chance for a rapid jump start. A complete newbie can use a much stronger strategy than even some progamers if they stumble upon the right source to emulate from. Now of course the newbie runs into the problem of actually being able to understand the strategy, and in the end the strategy might not even be the right fit for the newbie's strengths. However, if the newbie does luck out and chooses from the start a very good strategy, they will save a lot of time practicing and learning an excellent strategy from the start instead of wasting it learning rubbish and only later realizing they need to learn something entirely different.

Improving Your build

For example, a PvT build that is quite popular among foreigners on iccup and has been talked about somewhat often in the strategy forum is 2 gate obs into double expand. Why do they do this? To be good against aggressive and allin Terran build orders, namely the 1 fact 1 port and 2 fact openings which give the standard 1 gate expand a lot of trouble. Now any good player will tell you that a 2 gate obs opening has a lot of problems. It puts you economically behind versus a standard fact cc and opens an otherwise nonexistant timing window of 2 base timing attacks. The only advantage it has is safety. But is that even necessary?

A lot of players are scared of 12 nexus because they erroneously think they end up behind against bunker rushes or don't have the mechanics necessary to milk the auto win against 2 fact/1 fact 1 port builds. 12 nexus may be hard for low level players because of these factors, but once they are taken care of, it is a gigantic leap forward. It not only accomplishes the goals of the 2 gate obs to block Terran allins and aggressive openings, but it leaves none of the aforementioned weaknesses and can transition into any number of equally viable strategies: 2 base reaver into carrier, fast 3rd, 2 base arbiter, etc. Now 12 nexus has limitations, namely that you can't use it 10 times in a row on the same opponent and not auto lose at least once to BBS. But compared to the enormous problems of 2 gate obs nexus, who cares. The amount of players who know how to play against 12 Nexus properly are very few, even at the pro level, and are simply not worth fretting about when improving an overall strategy focus.

Before anyone objects that 12 Nexus is simply an opening, it must be realized that it is such a different opening than any other one for Protoss that the strategies that transition from it are completely different. Normal timings get thrown completely out the window and you gain a lot more flexibility and can even increase the advantage significantly. Thus inherent to 12 Nexus is the ability to choose from very different followup strategies that are normally not possible.

Probably the best way to see what strategies are worth using from the start is to take a progamer who

is one of the best as his race or matchup. Bisu, Stork, Flash, Fantasy, Jaedong, Calm, among others. Go through their match list and just take a general note of what they use the most, and win the most with. The strategies that rank the highest in both categories are going to be pretty safe bets to go with. By going through this rather simple process you eliminate the normal difficulty in figuring out what you should be practicing from the start.

Improving Your Planning

To look at a more conceptual planning area and less of a build order aspect, consider bio TvZ as a whole. The general dynamic revolves around the Terran pressuring and attacking, while the Zerg strives to block these thrusts. Only in two points of the game, during the initial mutalisk phase and the lategame ultra/ling stage, does the Zerg have any reasonable kind of initiative. Even then, the Terran can still win control of the game with just one effective attack. That's simply the nature of bio TvZ.

Now let's look at what one of the worst weaknesses of lower level, and even many better players: panicking. There are many reasons one may panic but the majority of the time it is because they are under attack. There is just nothing quite the effect of finding those two dropships landing in your undefended main. It takes a considerable amount of mental resources to deal with the breach without it affecting the rest of your gameplay, something newer players and many better ones simply do not have. And these kinds of situations occur multiple times per ZvT, at the minimum. Weaker players are going to make many blunders under any kind of pressure or threat and when they do, they will blunder badly.

Combine these two truths and what do you end up with? A Zerg player that runs into incessant troubles in ZvT. A Terran player, especially one playing these lower level Zergs, can design an overall game plan to take advantage of this situation: focus your attention on the attacking part of the formula and attack as frequently as possible. A low or mid level Terran player who wishes simply to do the best he can at his current level would be well advised to focus most heavily on a very aggressive bio style, similar to Iris or Light. Playing a Flash-style of bio defense, mech variation, Valkonic based timing attack, or bio into mech transition is simply not as effective at weaker levels. There's no point in getting all fancy, with valid, but much more difficult strategies, and likely confusing yourself further when just getting in his face with lots of units will produce the best results while still leading to great long term growth.

One can change their focus based on this concept not only for choosing between various builds and transitions, but also in time management. Since all that matters is getting armies in his face and making him mess up, macro, and ordering the attacks should take priority above all else. Even poorly or unmicroed units can do the job because the onus is on the Zerg to take advantage of the lack of attention. More likely the Zerg will self-destruct from all the pressure and threats before he is able to take advantage of any lack of attention. A lot of weaker Terrans simply don't know just how important it is that they be always attacking with lots of units at the expense of all else. Merely shifting their focus to achieving that goal alone can improve their play dramatically.

Because Strategy is such a difficult skill to improve overall, there is no real concrete plan for improving at it beyond a certain point other than continuing to understand the game further via studying progames

and comparing your own results. The above examples are just there to show how improving strategical knowledge can be made practical.

Lastly, there is no one-strategy fits all, and a little bit of experimentation may show that you win much more and feel more comfortable opening 1 gate reaver instead of 12 Nexus PvT. Similarly, comparing the data of your successes and failures with various plans may show that you are poor at late game defense in TvZ, and instead win a much higher percentage trying to cripple the Zerg before they can start making 4 gas ultra/ling. Recording win percentage of various strategies may give eye-opening data on what kind of approach you should be using.

XII. Decision Making

Decision making is possibly the hardest skill to acquire overall, but it is something that like multitasking, can really differentiate between people who are otherwise comparable. It can be so valuable that it has almost singlehandedly (along with gamesense and strategy, both to a lesser degree) propelled Flash to a completely different level of play at multiple points in his career, particularly the past 9 months. Even though Flash is at times mildly to very mechanically deficient in comparison to many of his peers, he is just incomparably better at decision making it doesn't make one bit of difference. It might even be said that with decision making, for all practical purposes, there is no upper limit.

Because it is so hard to consistently make great and even good decisions, it is probably the area that the majority of players of all levels lack the most. It's simply too hard, so most don't really focus on it and just let it improve naturally, meaning very slowly, as they get better in other areas. Thus for those who wish to be unique, improving your decision making is a great way to differentiate yourself from the rest of the crowd.

Decision making comes from two sources: know-how, and ability to subconsciously execute it. Being good at decision making is impossible if each decision has to be thought of as it comes up. Not only will results be slow, considerably dropping your speed, but also the decisions themselves will likely be worse overall since they are thought of on the spot rather than pre-programmed.

Improvement Methods

Due to the abstract nature of decision making, trying to elucidate an improvement process similar to the mechanical skills would be more trouble than it's worth. Instead let's consider a few abnormal yet highly effective approaches.

One of the likely reasons for Flash's amazing decision making is the extraordinary amount of time he spends thinking through game situations instead of just rote practicing. He has mentioned multiple times that for much of his career he only practiced a fraction of the games his peers did, instead spending that time

analyzing and thinking through various concepts and decisions. His method lets him save time by being able to jump around to any point at will instead of having to play through the early and midgame to practice the lategame (not coincidentally his chief strength), is a lot more reliable and consistent (what percentage of games are really quality practice?), but it also conserves energy. By doing so he is able to be prepared for unique positions and quickly yet accurately respond to them far better than anyone else.

Another alternative method comes from Savior. Back in 2006 and 2007 his ZvT was so good nobody could even comprehend half of what he was doing, and nobody has ever come close to mimicking his success and unique skills. However, the most surprising part about it all was that Savior was spending the majority of his ZvT practice as Terran! While his situation was somewhat unique given his mastery from the Zerg side, Savior credits a lot of his success to playing and comprehending from his opponent's perspective.

There are many aspects of Starcraft that only are apparent from experiencing the perspective of one side. In some cases the ideas simply won't come to mind any other way: for example, Savior learned how his opponents would be focusing their attention at each given moment and how they would instinctively react to various situations. This knowledge was crucial in designing a variety of tactics that took advantage of these otherwise hidden or ignored factors. In addition, you can really only know some aspects when you experience them yourself. As a Terran player, moving your army to attack is no big deal. You might spend time worrying or preparing for lurkers, but otherwise you're just doing the routine task of moving your army to attack. But from the Zerg's perspective, that army which suddenly comes stimming out of the darkness can be very scary and difficult to properly deal with. Reading these words is one thing, but really seeing it in game is quite another. Similarly, it's not just playing the reverse matchup itself that is important, but doing so with the specific intention of gaining a new perspective.

Give one or both of these a try for awhile and see what happens. They certainly have a proven track record and you just might be surprised by the results.

XIII. Game Sense

A simple definition of the rather abstract Game sense is your in-game know-how, particularly about timing. It is what tips you off that something isn't right and DTs are coming, exactly what time you need to start making turrets to block mutas, or how you can know exactly when the right time is to move out and attack. The term game sense is used pretty liberally, sometimes to just mean knowledge of the game overall, but let's just keep things simple with the initial definition for now.

Game sense is primarily built through experience and review. While having a strong theoretical background will help greatly, it may not trigger the appropriate reaction in-game until the experience is there as well. One important way to develop game sense is studying your own replays exhaustively. Even in simple games where anyone can understand why someone won or lost, it is well worth going back through the replay, at x8 or x16 speed if you want.

This review should preferably be done shortly after playing the games so the experience is fresh in your mind. The primary benefit of doing so is to merge the details of your in-game perceptions where you are

hindered by limited information with the accurate assessment of the replay. By doing so you can improve the accuracy of your in-game predictions greatly over time. The assessment applies not only to supply counts and who has an advantage, but also correct or incorrect views you may have had on various situations and choices. 'Should you really have been afraid of his attacking threat at that point? Why did you think his army was so much smaller than it really was and suicide your army?' If you continuously compare your predictions with the real data, your predictions will definitely become better and better until it might feel like you don't really need the replay at all to know exactly how the game unfolded.

Along with reviewing your own games and comparing, another method is to simply review a large number of pro games. When applicable (FPvods, replays), the same limited vision technique used to review your own games also works. But overall, just seeing the patterns of a large number of pro games will really aid in improving over time as it will ingrain into your subconscious how properly-played games unfold.

Lastly, the methods described above of Flash's visualization and Savior's analyzation from the opponent's perspective will aid game sense greatly as well without really having to try for it. It's not at all a coincidence that they are two of the three players with the sharpest game sense ever.

XIV. Overall Improvement Strategy

The point of analyzing each game skill individually is to be able to use them to accurately rate your own strengths and weaknesses. Understanding the state of each individual area is critical to improving. Otherwise, how can you know what to fix if you don't know where the problem lies? How can you focus on your strengths and minimize weaknesses if you don't know what they are?

Logically your overall plans should play from your strengths and try to limit the weaknesses. Choosing to use the Flash build TvP, for example, is not an optimal choice if your strengths are your micro and multitasking, while your game sense is lacking. For such a player, oov's build would be a more ideal fit.

While planning should be done from the strengths, the focus of improving is often best done from the weaknesses up. This is partially because continuing to solely focus on one area will hit diminishing returns at a certain point. If you put all your emphasis onto improving mutalisk and defiler micro in ZvT while neglecting everything else, it's pretty obvious what the result will be. The micro growth will also be stalled because the lagging skills inhibit your ability to play against stronger opponents who could really challenge and improve your micro further. Similarly, the weaknesses are often the areas most quickly improved to a respectable level. Lastly, weaknesses often hold one back more than one or two strengths can prop them up. This of course depends on the area in question, as solid macro can more than circumvent nonexistent micro at a certain level. But a player that is using poor strategies and plans can only compensate for that weakness in other areas for so long before it brings everything down.

Gaining clarity about the next steps to improve is often more important than the individual processes for improving. Having a clear focus of what to improve next can really accelerate overall growth rather than haphazardly playing and studying.

XV. Improving as Terran guidelines

Here is a mini-walkthrough that solidifies the core ideas presented here into an easy-to-follow plan. This approach was prompted by what I observed after helping out fellow Terrans here for a year and a half. Essentially every single Terran help me thread has the exact same problems. If you are thinking of posting another help me thread, you probably aren't unique and your question has been more or less answered in a previous thread. While this mini-guide will work for other races to a certain degree, Terrans have somewhat of a unique scenario in their ability to dictate the pace of both matchups. Here are the similarities of the help threads:

1. The player has either a bad strategy, bad understanding of their strategy, or a poor execution of the strategy. Usually all three. Macro is a very important factor in the execution of course.
2. The player has a nonexistent or bad game plan. If you ask them what precisely they are aiming at and optimizing towards it's highly unlikely they would know.

These two steps are not only universally shared problems with all lower level Terran players (and other races as well) but they also are the most important ingredients in improving to a respectable level. It doesn't matter how good you are otherwise are if you are bad in the above two categories. Players in question might be decent in some areas, or bad in all, but they are virtually always suffering from one or both of the above two ailments.

The greater problem is that many people posting for Terran help don't realize that they are suffering from the above two problems and focus on many areas which just aren't that important. This leads to a lot of well-intentioned people replying to help giving bad or unimportant advice because they are simply focusing on the wrong factors as well. Keep it simple early on and don't worry about the rest. Once those two factors are properly taken care of, the rest falls into place without too much trouble.

Here is a simplified improvement process that you might find helpful to use as a guide. The purpose of this improvement process is to develop a correct foundation and build upon it to avoid misuse of time in practicing the wrong stuff. Obviously everyone learns their own way and this shouldn't be used as a rigorous manual but a guideline to use as reference.

1. Find 1 good, pro-proven build per matchup. Make sure to get this information straight from the original source, no exceptions. The best person that can tell you how to play the Flash build is Flash himself. Choose a versatile build that you like the playstyle of and stick with it.
2. Look at every single vod/replay available of a pro player doing that build properly (see list below for a start). When you are watching it, pause every 10-15 seconds and think: "what would I do in this situation?" Then watch it and see how their decision differs from yours. Compare your decisions with theirs, see why it is different, and use this process to build up both the familiarity with correct decisions and understanding of the game. If watching a replay, make sure to watch it both normally and with only your race's pov so you can see how they react from their limited information.

3. Practice that build in single player (alone, not vs computers) until you can execute it as well as a pro can in single player. If you have to think about what to do next, you haven't practiced it enough. Practice until the build is subconscious, that way you can use your time in game to focus on reacting to your opponent.
4. Play that build over and over against the best possible competition. Do not get bored and switch. Stick with it. You will have some harsh losses at first because people will do weird things that you have no idea what to do against. As you get more experience though, those silly losses will become fewer and fewer. While it is dangerous that bad habits might be developed, it's worth it to experiment by tweaking the build and decisions in extreme directions and seeing what results. It will lead to more losses but will also accelerate the process of understanding the game.

The end result will be a strong foundation from which other skills and strategies can be built upon in any way you want.

Recommended VODs

All of the following games have been watched and certified as a useful teaching tool.

You will probably notice that certain builds aren't listed or noted in certain situations. For example there will be no games of ordinary mech on Medusa because ordinary mech sucks on Medusa, so that would be a bad recommendation. Also it will be pretty obvious that a certain few players will occupy the majority of the recommendations and that is no accident either. These players are the ones worth watching, because they set the trends and show the right ways of thinking!

Almost all of the vods are of the Terran players winning, because obviously that is best to illustrate how to play these strategies. There will be a few where the player loses for other reasons and when applicable, those reasons will be noted in addition to the teaching value of the game.

TvP

2 Fact

- http://www.teamliquid.net/tlpd/games/11127_free_vs_HiyA (Colosseum 2, siege)

FE into 2 Fact Timing

- http://www.teamliquid.net/tlpd/games/28925_Flash_vs_Stork (Transitions to Flash build)
- <http://www.gomtv.net/videos/680> (Flash vs. Pure, Destination, fake contain)
- http://www.teamliquid.net/tlpd/games/11558_Bisu_vs_fantasy (Return of the King, beautiful transitions)
- http://www.teamliquid.net/tlpd/games/9313_Flash_vs_YoonJoong (Athena, not 2 fact but timing attack from scouting 1 gate obs double expand)
- http://www.teamliquid.net/tlpd/games/8999_Flash_vs_Stork (Blue Storm, 2 base reaver with a fast 3rd)

4 Fact

- http://www.teamliquid.net/tlpd/games/30577_HiyA_vs_Shuttle (Fighting Spirit, allin vs 2 base arb)

- http://www.teamliquid.net/tlpd/games/28866_Bisu_vs_Flash (Return of the King, vs 2 base Arbiters with too fast 3rd)

Flash Build

- http://www.teamliquid.net/tlpd/games/12355_Flash_vs_YoonJoong (4 base off 2 fact)
- http://www.teamliquid.net/tlpd/games/11798_Flash_vs_SangHo (Protoss takes 4 base off 2 gates)
- http://www.teamliquid.net/tlpd/games/11119_Flash_vs_Reach (Tau Cross, transition from failed timing attack)
- http://www.teamliquid.net/tlpd/games/11082_HiyA_vs_Kal (Destination, aggression and weird timing attacks)
- http://www.teamliquid.net/tlpd/games/11081_HiyA_vs_YoonJoong (Neo Harmony, harassment and recall defense off 4 base)
- http://www.teamliquid.net/tlpd/games/10995_HiyA_vs_SangHo (Andromeda, toss 6 base vs 3, timing + recall defense)
- http://www.teamliquid.net/tlpd/games/9398_Flash_vs_Kal (Colosseum, 4 base)
- <http://www.gomtv.net/videos/929> (Flash vs. Shuttle on Heartbreak Ridge, how to win lategame)
- <http://www.gomtv.net/videos/930> (Flash vs. Shuttle on Outsider, 4 base vs mass shuttles)
- <http://www.gomtv.net/videos/750> (Flash vs. Reach on God's Garden, 3 base carrier)
- <http://www.gomtv.net/videos/749> (Flash vs. Reach on Medusa, 4 base timing)
- <http://www.gomtv.net/videos/681> (Flash vs. Pure, 2 base reaver)
- <http://www.gomtv.net/videos/81> (Flash vs. Stork on Blue Storm, toss delays 3rd)
- <http://www.gomtv.net/videos/77> (Flash vs. Stork on Katrina, 2 base reaver to carrier)
- <http://www.gomtv.net/videos/70> (Flash vs. Anytime on Katrina, 2 base reaver to carrier)
- http://www.teamliquid.net/tlpd/games/9307_Flash_vs_Rock (Othello, guess Rock's build)
- http://www.teamliquid.net/tlpd/games/9185_Flash_vs_free (Colosseum, 4 base)
- http://www.teamliquid.net/tlpd/games/8982_Bisu_vs_Flash (Blue Storm, lategame vs carrier/arb)
- http://www.teamliquid.net/tlpd/games/9243_Flash_vs_JangBi (Colosseum, vs mass recall)*
- <http://www.gomtv.net/videos/538> (Flash vs. Bisu on Medusa, 4 base off 2 facts, going for win vs recall)*
- http://www.teamliquid.net/tlpd/games/8981_Bisu_vs_Flash (Katrina, lategame strategy vs mass arb)

oov Build

- http://www.teamliquid.net/tlpd/games/10964_DaezanG_ilooveov (Neo Harmony, 12 nexus)
- http://www.teamliquid.net/tlpd/games/10963_ilooveov_vs_Rage (Colosseum 2, 12 nexus contain into early 4th)
- http://www.teamliquid.net/tlpd/games/11455_HiyA_vs_Stork (Medusa, continued harassment)
- http://www.teamliquid.net/tlpd/games/16843_fantasy_vs_Stork (Outsider, continued harassment vs speed shuttle counters)
- http://www.teamliquid.net/tlpd/games/12399_fantasy_vs_Kal (Destination, first attack behind the nat)
- http://www.teamliquid.net/tlpd/games/12469_fantasy_vs_Movie (Outsider, big lead from harass, then Outsider happened)

Hiya Build

- http://www.teamliquid.net/tlpd/games/11453_HiyA_vs_JangBi (Andromeda, cross positions, normal 4th timing)*
- http://www.teamliquid.net/tlpd/games/12354_Flash_vs_YoonJoong (Outsider, failed 2 base reaver)
- http://www.teamliquid.net/tlpd/games/11230_Flash_vs_Kal (Medusa, contain -; kill 4th and expand)*
- http://www.teamliquid.net/tlpd/games/9006_Bisu_vs_Flash (Andromeda, dt drop)
- <http://www.gomtv.net/videos/207> (Flash/Lucifer, Andromeda, kill 4th directly)

Misc

- http://www.teamliquid.net/tlpd/games/30758_Light_vs_Violet (Heartbreak Ridge, counterattacking/defense when behind lategame)
- http://www.teamliquid.net/tlpd/games/14282_Flash_vs_yoOn (Destination, lategame Desti tutorial)
- http://www.teamliquid.net/tlpd/games/10702_fantasy_vs_JangBi (Sin Chupung-Ryeong, adapting to 2 base arbiter)

TvZ

1 Rax FE

- http://www.teamliquid.net/tlpd/games/31182_Flash_vs_HoGiL (El Nino, Standard Timing Attack)
- <http://www.youtube.com/watch?v=HEIWCJDELV8> (Flash/Zero, *Ultimatum*, lategame decision making guide)
- http://www.teamliquid.net/tlpd/games/30613_Flash_vs_HyuN (Tornado, abnormal timing attack)
- http://www.teamliquid.net/tlpd/games/30573_Flash_vs_Kwanro (*Fighting Spirit*, muta defense + timing attack)
- http://www.teamliquid.net/tlpd/games/34843_Flash_vs_Jaedong (*Fighting Spirit*, delaying 3rd vs 3 hatch muta)
- http://www.teamliquid.net/tlpd/games/11301_Flash_vs_hyvaa Rush Hour 3, 2 hatch muta into 3 gas guards)
- http://www.teamliquid.net/tlpd/games/11189_Flash_vs_Jaedong (Sin Chupung-Ryeong, SK Terran vs 2 hatch muta)
- http://www.teamliquid.net/tlpd/games/11155_Flash_vs_Jaedong (Neo Harmony, 2 hatch muta lurker into guards)
- http://www.teamliquid.net/tlpd/games/30600_Flash_vs_hero (*Heartbreak Ridge*, Aggressive 4 rax vs economic 2 hatch muta)
- http://www.teamliquid.net/tlpd/games/25090_fantasy_vs_Jaedong (*Outsider*, lategame play with tank timing)

Defending allins/gimmicks

- http://www.teamliquid.net/tlpd/games/34773_Flash_vs_type-b (*Eye of the Storm*, 2 base 8 rax allin vs muta -j, ultra)
- http://www.teamliquid.net/tlpd/games/10605_Flash_vs_GGPlay (*Athena*, timing vs 4 gas hive)
- http://www.teamliquid.net/tlpd/games/9927_Flash_vs_July (*Return of the King*, 3 gas muta allin)
- <http://www.youtube.com/watch?v=0ZNeRktDWhA> (Flash vs. Zero, *Odd-Eye*, 12 pool lair into 3 gas guardian)
- [http://www.teamliquid.net/tlpd/games/9311_Flash_vs_YellOw\[ArnC\]](http://www.teamliquid.net/tlpd/games/9311_Flash_vs_YellOw[ArnC]) (*Colosseum*, semi-allin mutaling)
- [http://www.teamliquid.net/tlpd/games/11452_Flash_vs_YellOw\[ArnC\]](http://www.teamliquid.net/tlpd/games/11452_Flash_vs_YellOw[ArnC]) (*Andromeda*, allin muta)

Valkonic/oov Fake Mech

- http://www.teamliquid.net/tlpd/games/11277_iloveoov_vs_ZerO (Sin Chupung-Ryeong, 2 fact)
- http://www.teamliquid.net/tlpd/games/11719_fantasy_vs_Jaedong (Medusa, 2 hatch hydra break)
- http://www.teamliquid.net/tlpd/games/21646_Canata_vs_Jaedong (Outsider, 8 rax, vulture win)
- http://www.teamliquid.net/tlpd/games/27099_fantasy_vs_Jaedong (Heartbreak Ridge, post defiler delayed timing)
- http://www.teamliquid.net/tlpd/games/11541_fantasy_vs_Luxury (Return of the King, lurkers)
- http://www.teamliquid.net/tlpd/games/11542_fantasy_vs_Luxury (Sin Chupung-Ryeong, mass muta)
- http://www.teamliquid.net/tlpd/games/23565_Canata_vs_Jaedong (Heartbreak Ridge, 8 rax, fast hive timing win)

Misc

- <http://www.gomtv.net/videos/863> (Flash/Hoejja Garden, good SK Terran play)
- [http://www.teamliquid.net/tlpd/games/34612_Flash_vs_YellOw\[ArnC\]](http://www.teamliquid.net/tlpd/games/34612_Flash_vs_YellOw[ArnC]) (Tornado, aggressive 4 rax vs 2 hatch economic muta nat bust)
- http://www.teamliquid.net/tlpd/games/18029_Flash_vs_Kwanro (Carthage, 14cc)
- http://www.teamliquid.net/tlpd/games/30924_Flash_vs_sAviOr (Tornado, 14cc -i timing attack)
- http://www.teamliquid.net/tlpd/games/16842_EffOrt_vs_Flash (Holy World SE, proxy bbs)
- http://www.teamliquid.net/tlpd/games/28853_EffOrt_vs_Flash (Destination, best way to play desti)
- http://www.teamliquid.net/tlpd/games/11009_Flash_vs_Hyuk (Sin Chupung-Ryeong, ayumi build)
- http://www.teamliquid.net/tlpd/games/10125_fantasy_vs_GGPlay (Medusa, Fantasy Build)
- http://www.teamliquid.net/tlpd/games/10127_fantasy_vs_GGPlay (Chupung-Ryeong, Fantasy build)
- http://www.teamliquid.net/tlpd/games/28852_EffOrt_vs_Flash (Outsider, optimal version of Flash fake mech, good SK terran)
- http://www.teamliquid.net/tlpd/games/34909_Flash_vs_Jaedong (Heartbreak Ridge, 7 proxy rax ovie kill -i bunker rush map specific allin)
- http://www.teamliquid.net/tlpd/games/34803_Flash_vs_HyuN (Match Point, lategame how to play SK Terran)
- <http://www.gomtv.net/videos/966> (Flash vs. July on Heartbreak Ridge, lategame decision making)

TvT

NOT FINISHED

Double Expanding After FE

- <http://www.gomtv.net/videos/998> (Flash vs. Iris on [Medusa](#), solid example)

FE into Mass Vult

FE into fast Dropships

- http://www.teamliquid.net/tlpd/games/12612_Flash_vs_go ([Outsider](#), dships vs 3 fact tank)

FE into 3 fact Tank

Lategame Tutorials

- http://www.teamliquid.net/tlpd/games/12304_Flash_vs_Leta ([Medusa](#), comeback from down 1 gas with a clear winning plan)
- http://www.teamliquid.net/tlpd/games/10340_fantasy_vs_Flash ([Andromeda](#), maneuvering and concentration of force)
- http://www.teamliquid.net/tlpd/games/11255_Flash_vs_Hwasin ([Medusa](#), comeback from positional disadvantage)
- http://www.teamliquid.net/tlpd/games/11237_Flash_vs_Leta ([Destination](#), comeback by defending all drops)
- http://www.teamliquid.net/tlpd/games/14286_firebathero_vs_Flash ([Medusa](#), 2 major comebacks from material and positioning disadvantage)

Misc

- http://www.teamliquid.net/tlpd/games/12396_Flash_vs_Iris ([Medusa](#), proxy rax bunker on cliff)

- http://www.teamliquid.net/tlpd/games/11329_Flash_vs_Light (Neo Harmony, 14cc vs 2 fact close positions)

Other Sources:

- <http://sc.replays.hu/download.php?download=156>

Repack of top pros, particularly Flash. Nearly all of the Flash games are must watches.