animation
tips &
tricks

BY SHAWN KELLY

Winner of the 2008 VES Award for The Best Single Visual Effect of the Year for his work on Transformers

www.AnimationMentor.com

Animation Tips & Tricks

BY: *Shawn Kelly*

FOREWORD

Hello everyone! Welcome to the first collection of the Tips & Tricks articles that you've been seeing in our monthly newsletter over the last few years. If you're a regular reader, I just wanted to thank you for all the support, all the encouraging emails, and for all of the great feedback and follow-up questions! If you're a new reader, however, there are a few things you should know. First, I love animation. LOVE IT. I love everything about this art form. Doing it, talking about it, studying it, etc. Which is probably the root cause of the second thing you should know: as much as I seem to continually promise to be less wordy in these articles, it never really happens, so don't hold your breath. And third, after re-reading a lot of these tips and tricks, I clearly have an unhealthy obsession for fried chicken and Bacardi Anejo y Coca, so just be prepared for that as well! :)

Anyway - I hope you have fun reading (or re-reading) these articles. For the most part, they're just me rambling on about this or that, but it's been amazing to hear from so many of you that you have found them helpful. Thanks again so much for all the great feedback! Please continue to send in your questions and comments to tipsandtricks@animationmentor.com - I read and reply to every email that comes through, and a lot of your suggestions end up becoming great article topics!

Keep animating, and as always -- have FUN!

SHAWN KELLY

INTRODUCTION

Welcome to the First Edition of *Animation Tips and Tricks*. This treasure trove of information will give you an in-depth look at techniques professional animators use to create the movies, TV shows and special effects you love. This ebook is a collection of articles written by Shawn Kelly who is a co-founder of AnimationMentor.com. He is also the winner of the 2008 VES award for The Best Single Visual Effect of the Year for his work on *Tranformers* and he continues to work full-time at Industrial Light & Magic as an animator. Here he's sharing proven tips and tricks he's learned over the years so you can become the best animator possible. Now we're sharing them with you so you can learn some of the cool stuff we're teaching at AnimationMentor.com. If you'd like to find out more about our school, and keep getting tips and tricks, please sign up for our newsletter.

LETTER from
AnimationMentor.com Founders

Congratulations!

If you're reading this book, that means you want to be an animator, the coolest job in the world! We are animators from Pixar and ILM who love our job and wanted to share what we know with others so they could experience it too. That's why we decided to start AnimationMentor.com a few years ago. Since then we've graduated 335 students and seen them go on to exciting careers. We'd like to help you do the same thing. Because we went to traditional art schools, we had to learn most of what we know about animating from our years on the job. However we were lucky enough to find people to mentor us along the way. Now it's our turn to share what we know. Our 18 month program teaches everything we know about character animation.

We hope you enjoy this book. It's just a sample of the great stuff we're teaching at AnimationMentor.com. We hope to see you in class!

Bye for now,

Bobby Beck   Shawn Kelly   Carlos Baena

FOUNDERS BIOS

Bobby Beck

Bobby was an animator at Pixar in Emeryville, CA where he worked on TOY STORY 2, THE INCREDIBLES, CARS and the short film BOUNDIN', before being promoted to senior animator/character developer on MONSTERS, INC. and FINDING NEMO. For MONSTERS, Bobby co-developed Boo and for FINDING NEMO, he was the developer of the youthful fish Nemo. In both cases, Bobby determined the characters' appearance and how they expressed their essence through gesture and movement. In September 2004, Bobby left Pixar to devote himself full-time to running AnimationMentor.com. Bobby and his team at AnimationMentor.com strive to provide their students with the highest quality and most personal learning experience possible.

Shawn Kelly

Shawn Kelly realized his dream to animate films with the help of three mentors who took a personal interest in his career. A summer internship at ILM in San Rafael introduced Shawn to another influential mentor, animation director Wayne Gilbert, and to the knowledge that he wasn't learning what he needed at school. He left school in 1996 for a job as character animator at former video game and educational company Presage Software, and to continue his studies via twice weekly meetings with Gilbert. In 1998, Shawn fulfilled his aspirations and landed a job at ILM. Since that time, he has worked on numerous films including DAY AFTER TOMORROW, where he was on the team that animated the wolves; WAR OF THE WORLDS, for which he animated tripods and probes; and STAR WARS: EPISODE III – REVENGE OF THE SITH, where he helped develop and animate the vulture droids and animated Yoda in a pivotal swordfight. Shawn just finished working as a lead animator on TRANSFORMERS and was recognized for creating The Best Special Effect for the TRANSFORMERS Desert Scene by the Visual Effects Society (VES) in 2008. Additional credits include THE INCREDIBLE HULK, STAR WARS: EPISODE 2 – ATTACK OF THE CLONES and AI: ARTIFICIAL INTELLIGENCE.

Carlos Baena

Carlos is an animator at the Emeryville, California studio Pixar Animation Studios. His first job was animating commercials at Will Vinton Studios in Portland, Oregon and four months later, he headed back to San Francisco to work on spots and short films at Click 3X and WildBrain, Inc. before moving to Industrial Light & Magic (ILM). At ILM, Carlos worked as an animator on JURASSIC PARK 3, MEN IN BLACK 2 and STAR WARS: EPISODE 2-ATTACK OF THE CLONES. Captivated by fantasy and comedy, Carlos left ILM for Pixar in 2002. Since then, he has worked on FINDING NEMO, THE INCREDIBLES, CARS and RATATOUILLE and the short film BOUNDIN'. For CARS, Carlos animated several scenes with the two Italian cars Guido and Luigi (he describes them as two of the funniest characters he has ever animated) and received an Annie Award nomination for his work. For RATATOUILLE, he worked mostly on the chief villain Skinner, who expresses his anger in many subtle and funny ways.

Learn Character Animation from Professional Animators who are Working at Leading Studios!

If you're interested in creating animation, you'll need to learn more than just these tips and tricks. That's why Shawn co-founded the first ever online character animation school with Bobby Beck and Carlos Baena. AnimationMentor.com is the online animation school that teaches everything you need to know to create a killer demo reel and land a great job in just 18 months. We're always looking for the next great talent, so check us out and see how we can help you reach your dreams.

ANIMATIONMENTOR.com
The Online Animation School ™

TESTIMONIALS

"Three things come to me right off the bat. First of all Shawn's 'Tips and Tricks' are fantastic. I've printed them all out and keep them near as a reminder of...well all the different things he's written on! I love how every week he apologizes that it is so long, but I'm always wanting more! And the promises that next week won't be so big, but they are usually even bigger!

Second, right when I started Animation Mentor Shawn had a live Q&A and talked about all sorts of things. It was so inspiring. Everything from showing the many items on his desk to talking about Transformers, and the story about coming up with the idea for Yoda throwing the lightsaber! I freaked out when he said that because just a few days earlier me and a fellow Star Wars fan were talking about how cool that very shot was!

Third super awesome thing is when I got to go to Siggraph this year. I was walking around and just happened to see Shawn and some other Animation Mentor employees walking past me on the first day. I waved to them and said "I'll be seeing you around the booth!" I kept walking because I figured they all had somewhere to be, but as they were all walking past me Shawn stopped and came back over to me and shook my hand and asked my name saying thanks for being part of the school! This not only made my day, but it made my Siggraph!

Thanks Shawn! You're everything every animator wants to be!" **-Chris Schmidt**

 "Shawn's 'Tips & Tricks' are extremely helpful and insightful to all animation students, even those who are not part of the Animation Mentor family. I had subscribed to the newsletter for at least a year before joining Animation Mentor. Shawn's words of wisdom are one of the huge reasons I finally made the decision to apply.

Speaking of words, Shawn definitely never runs out of them. As much as he apologizes for "talking" too much it is honestly one of the reasons the "Tips & Tricks" section is so helpful. When reading, it feels less like a textbook and more like Shawn is talking directly to you, the student. In some way that tends to stick in my head more than most of the books I've read. Also, thanks to Shawn, the critiques I give other students tend to have the same feeling in the sense that I just my give thoughts in a straight-ahead manner, typing from the top of my head. One or two sentences turns into an essay that seemingly always ends with me apologizing for babbling too much. Thank you Shawn...for everything." **-Anthony (Tony) Barty**

"To be honest, Shawn Kelly has always been one of the reasons that I was, and still am, so thrilled about Animation Mentor - even before I started here. I read the newsletter months before I got into the program and Shawn's 'Tips and Tricks' were the stuff that got me hooked on animation the most. These articles gave me a solid base of the technical terms of animation and sort of a head-start for the first term. But what is more important, with the way he writes, he showed me how much you can love animation and how passionate you can get about it. His articles gave me the last push I needed to persuade animation as a career. And I am very thankful for that! **-Philip Rudolph**

"I can't even begin to describe how amazing Shawn is! He embodies all the wonderful traits of an animator, let alone of a human being. I remember seeing him at SIGGRAPH 2005 and being supercharged about animation. I instantly saw the possibility of studying to be an animator. I was in tears before long. Shawn's enthusiasm and sheer love for animation convinced me that Animation Mentor was for me. Aside from being an animator, Shawn is a genuine and outstanding human being! Witnessing his caring nature in San Diego (SIGGRAPH 2007 & Graduation), I was again convinced of another thing. I made the right choice to be part of Animation Mentor and the wonderful family created by everyone in it, especially Shawn, Bobby & Carlos. Your unending energy and hard work is appreciated beyond words, Shawn, luv ya man! You are AWESOME!!!"
Much love and thanks **-Henry Santos**

"I have never found the kind of knowledge anywhere else that I have found in the 'Tips and Tricks' articles. I think that the articles are the rare and very very valuable source of in-depth animation knowledge and they are just great. There are lots of tutorials available, but those articles are right from the great animator of the industry himself. And one of the nice things about the Tips and Tricks articles is that they are filled with Shawn's humor, which I love a lot. Not only the articles help me, but Shawn is so great that he also gives his valuable time to answer my questions about animation even beyond his 'Tips and Tricks.' I want to say to Shawn thank you, you are the best.
 -Muhammad Zohaib

Animation Tips and Tricks
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PLANNING

Because this is the first article, I'd be remiss if I didn't start with probably the single most important tip most professional animators are likely to give a student: PLAN YOUR WORK. Planning is probably the step most often missed by students, and at the same time, it is probably the most essential tool in your entire animation toolbox, especially in the first few years of your animation life. You should never sit down in front of your computer, animation disc or puppet, until you know exactly what poses you are planning to use, when you are planning to use them, and why.

Before you begin any shot, it's so important to study references, work out your thumbnails, and make your timing and acting decisions on paper. This may seem like an "extra" step to some of you, but believe me, it will save you time in the long run and your work will look so much stronger than it would have otherwise.

All of my best feature film shots are also the ones I spent the most time planning out. The shots where I got cocky and thought "Aw, I know how to animate that, I'll just sit down and do it" are, almost without exception, the shots that ended up being "okay," but never as good as they could have been. I'll always regret missing the opportunity I had to make those shots special, but at least they taught me an invaluable lesson: Planning Comes First, ALWAYS!

Tune in next time for some practical tips on how you can plan your shot!

OBSERVATION

Okay, so last month I was going on and on about how important it is to spend time planning your scene before you sit down in front of your computer, your animation disc, or your stop-motion set. But HOW do you do that? What's the best way to plan a scene?

Well, the first thing you absolutely have to do is OBSERVE.

Sounds simple, right? Well, it isn't quite as simple as you might first think, but it will become second nature eventually. The important thing to realize is that observation is not passive or casual. Observation is much more than simply "seeing" something interesting - it's ACTIVELY studying the world around us. Sure, a certain amount of curiosity is natural, but you have to take your natural curiosity for noticing things and train yourself to crank that curiosity knob to 11 if you want to become an animator.

Let's say that you see a little girl trying to feed her lollypop to a monkey at the zoo, and her mother grabs to stop her, knocking the lollypop into the air where it sticks in the mother's hair. Seeing that happen might have been funny, or maybe you felt bad for the mother, or embarrassed for them -- either way it was probably pretty memorable. It's something you might even tell your friends about that night.

However, simply remembering and relating that overall story is not observation. An animator would notice SO MUCH MORE in that moment than the mere fact that the lollypop got stuck in the woman's hair. An animator will see the overlap on the girl's hand as the mother smacks the lollypop into the air. An animator will see the frightened expression on the girl's face, or the way the monkey reacted to the whole thing, or the frozen moment in time when the lolly landed in Mom's hair and they both just freeze for an instant as they realize their situation. The way Mom's shoulders might slump with resignation, or maybe how the little girl tried not to laugh, or maybe it's even the way that their dresses spun in the wind as Mom picked up her daughter and hustled off to cut her hair in the bathroom.

That's observation, and it's the single biggest animation tool you will ever have. Any time you see something interesting - be it the bounce of a squirrel, the flutter of a feather, or the twitch of an about-to-cry eyelid - file those things away in a little filing cabinet in your head. You never know what you will find helpful down the road, and the bigger library of observations you can build in your head, the better equipped you will be to deal with any scene a director might throw at you. Not only that, but you'll be able to come up with scenes and actions that are not cliché and that feel real and ring true to an audience - and the reason the audience will identify with the action or emotion you animate is because it's something you've seen in your past, or in a film, or on TV, or even in a mirror.

All strong animation starts with observation, so train yourself to do more than passively notice the world around you. Soak it up, file it away, and start using the amazing things around you in your art! Your work will only become stronger and less cliché the more you allow yourself to truly study the motions, actions, reactions, and emotions of those around you.

Next month we'll tackle reference! In the meantime, if you want a fun observational exercise, hit a zoo or a park or a shopping mall and just sit on a bench and watch people. You can even bring along a sketchbook to draw what you see and take notes, but the important thing is to watch the people around you and truly study them.

Oh, and don't forget to wear sunglasses so you don't creep them out!

REFERENCE MATERIALS

We've been talking so far about the importance of planning. Last month we covered the importance of observation, but this week we're going to get a little more practical and tackle the concept of reference materials.

There are many types of reference materials that will be invaluable to you as an animator. Photography, comic-books, live-action movie reference, animated reference, and footage of yourself and your friends acting out a scene will all be incredibly useful as you sit down to plan your shot. It might be the most practical and useful planning of all, in fact.

One misconception that I often hear from students is that "using reference is cheating." Well, if using reference is cheating, then 99% of the world's top animators are cheaters! Nothing could be further from the truth. Using reference is essential, especially for animation students, to finding the most believable and unique performance for your scene.

First, let's talk about some of my favorite reference photography for a second. Eadweard Muybridge's books can be a big help, especially when learning about walk cycles and run cycles - both for humans and animals. My favorite, however, is the work of Dr. Harold Edgerton. His book "Stopping Time" is incredible, and documents his work as he pioneers incredibly fast flash photography, which allowed him to capture something at speeds upwards of 100,000th of a second. At these speeds, you can really truly see how the principles of animation exist, even on a very subtle level, in real-world situations where you might have imagined they wouldn't apply. Check out the squash and stretch on a golf-ball, or the way a baseball bat slightly bends as it whips around -- pretty incredible stuff to examine. We use both Muybridge and Edgerton's work in our classes at Animation Mentor, and I'd recommend their books to any animator interested in delving deeper into learning why the principles of animation exist in the first place.

Next up, we have one of the must underrated animation reference resources of all: comic books. If you're interested in learning about dynamic posing, there is no better place to look than your local comic book shop. Check out some of Jim Lee's recent Batman work, or J Scott Campbell's "Danger Girl." Comics are (and always have been) underrated in the "art community," but you would do yourself a disservice by ignoring the work of some of the best comic book artists out there. Many of them come from an animation background, such as Mike Kunkel, creator of Herobear (awesome!), and you can learn more about line-of-action and dynamic posing by spending ten minutes in a good comic book than you can by watching hours of movie reference.

Live action and animated reference are next on my list, and these can be some of the most helpful. It's important, in my opinion, to keep a solid reference library of films if you're going to attack this monster known as "animation." The pile of DVDs on my shelf at home come in handy on every single show I work on. It's incredibly useful, for example, to be able to pull up some footage from the olympics to study how someone throws a javelin if you're going to be animating a guy throwing a spear. If you're going to be animating flying birds, what could possibly be more useful than spending some time studying the documentary "Winged Migration?"

Finally the most important reference of all - video reference of yourself and your friends. If you have an action shot to work on, set up a camera and get up and actually DO the action. Over and over and over and over. Do it until it feels natural. Film your friends doing it. Get as much reference as you can - at least until you know for a fact that you've filmed at least one take that you think would work well. Then it's up to you to study that take and glean what you can from it.

If you're working on a dialogue shot, that's a whole other ball of wax and can easily involve much more pre-planning as you attempt to truly get into the character's head, getting to know your character's motivations, back-story, emotional state, etc. That's a whole other ball of wax that we'll tackle someday down the road - for now, let's stick with this reference stuff.

The important thing here is that with all of these types of reference, you don't just look at them. Don't just look at the photographs. Don't just flip through the comic book. Don't just watch the movie. STUDY these materials. Find what makes the poses so appealing, or what maybe even makes a pose confusing or bad. You can learn from good *and* bad reference, so just soak up as much as you can. If you're animating a bird, and you turn on "Winged Migration" and find the appropriate bird, watch it many times. Watch it in slow motion. Frame-by-frame. Look at how the wings work, find the key poses that the real bird is actually using. DRAW them in a sketchbook so that you remember them. Make notes to yourself.

Then when you get back to your desk, start applying the principles of animation to what you've just watched. This is KEY. Do **NOT** just copy it. Copying reference verbatim generally results in a robotic lifeless feel. Your job as an animator is to take that reference and apply your ART to it.

Remember - animation is an art. It isn't math. It isn't something where there is a formula that will work 100% of the time. But that doesn't mean that you can skip over the essential step of planning your scene, and regardless of what the animation style you're going to work in is, it's always helpful to examine the way that body mechanics and emotions play out in the real world.

Next time we'll talk about thumbnails, and I promise I'll be less wordy. :)

THUMBNAILS

Welcome back!

This month we're going to talk about thumbnails (and as promised, I'll be more brief!). So, what are thumbnails? Well, animators often use the fingernails on their thumbs to animate with. If you use your thumbnails to click your mouse buttons instead of your forefingers, you get a much better result.

Wow, was that the all-time worst animation joke in the history of animation jokes? I think it must be, though I'd also hazard a guess that the "history of animation jokes" is probably pretty short.

Okay, so - for real now - what the heck are thumbnails?

Basically, "thumbnail" is a term used to describe a small "thumbnail-sized" drawing that describes a pose, an action, or an idea.

The first rule of thumbnails is, don't talk about thumbnails.

Jeeeez. I just did it again. Second worst animation joke in the history of animation jokes. Sorry. It won't happen again, I promise.

Okay, the first rule of thumbnails is: LET THEM BE ROUGH.

They are SUPPOSED to look rough. They are not meant to be pretty pictures. Don't spend (waste!) a lot of time making each thumbnail look like a piece of art. Don't waste time shading it in, drawing all the little details, etc. They're meant to be fast and sloppy. The entire point of doing thumbnails is that it saves you time.

How does it save you time? Well, if you do thumbnails as part of your planning process, then you can work through all of your ideas BEFORE sitting down in front of the computer, and it's inarguably much faster to doodle a little stick-man doing a pose than it is to pose him out in the computer.

We use thumbnails to work through our ideas. To get past our first ideas (remember - your first idea is always the worst and most clichéd idea. The first idea you think of is probably the first and most obvious idea that the audience will think of too!), and get on to the ideas that count. The later ideas will be the good ones. They'll be the most inventive ideas, and the most original. But to reach those ideas, you'll first have to work through the clichéd ideas, right? Thumbnails are, without a doubt, the fastest way to do that.

The quickest road to a great idea, then, is through thumbnails!

When you get a new scene, sit down and start doodling. Maybe it's just poses. Maybe it's working out full actions. Either way, you're quickly discovering what will work and what won't, and it's all on paper. Quick and dirty - that's the way to do it. Use a stick-man, even. Many of the best animators do their thumbnails with what is essentially a stick-man. As long as you can see where the character's hips are, the angle of the hips, the angle of the shoulders, angle of the head, and the position of the limbs - that's ALL you need to know at this point, and you shouldn't be worrying about any other details yet, generally speaking.

So, the first rule is to stay rough, and the first *use* of thumbnails is to discover the best ideas for your shot.

The second use of thumbnails is to get fast feedback.

You can save yourself days of work (and a great deal of frustration) if you run your thumbnails past your lead or your director before diving into the actual scene. Nothing is more frustrating than spending 3 days blocking in something that you think is great only to find out, once the director gets a look at it, that you're doing something he doesn't like at all. It's always a great idea to run your thumbnails past them first, so you can save yourself the headache (and heartache!) of hearing the dreaded "start over" words from your director.

The third use of thumbnails is to translate your video reference.

Filming video reference is great, but as we talked about last time, you can't just coy it or you're going to end up with a scene that isn't as alive as it could have been. Thumbnails are a great way to translate that video reference into poses and timing that are infused with your knowledge of the art of animation. Sure, you can find some great posing and timing ideas in your video reference, but that's only step one. Whip out a sketchbook and start doing little stick-figure drawings of what you are observing (and STUDYING!) in the reference you're watching.

But as you draw those thumbnails, you can start to inject the principles of animation into them. Exaggerate the poses, push the lines of action in the body, and make the poses more dynamic and forceful. You can also jot down timing notes, and maybe you can even start exaggerating your timing at this stage. Right there in your thumbnails you can be making decisions about timing - give this part a little more ease-in, make that part a little snappier, etc.

The goal, as far as I'm concerned, is that before you sit down in front of your computer, you have a piece of paper or an exposure sheet that has dynamic and timed thumbnail poses, so you know exactly what pose will happen on exactly what frames. By the time you have turned on your computer, every major animation decision should have already been made. Without exception.

If you work this way, I guarantee you will end up with stronger, more dynamic, more communicative, and more memorable scenes than you would if you just sat down and started saving keys. Even better, I guarantee this entire planning process will save you time in the long run.

I think, as a general rule, I probably spend about 20% of my time planning. If I have a week to do a shot, I'll spend the first day completely away from the computer. A two-week shot might get 2 days of planning. If I only had 2 days to do a shot, then maybe I'd only spend 2 or 3 hours planning, but I would make the most of those couple hours. I'd spend it studying video reference, filming myself and my friends, doing thumbnails, etc. I do that because I know without a doubt that by spending that first day planning, I just saved myself a couple days (or more) worth of "noodling" the shot, and tinkering with it, trying to make it work.

Again, the best scenes I've ever done, and the ones I finished the quickest, are the shots that I spent the most time planning.

Over and out.

- Shawn

BLINKS HAVE MEANING

Tip 1: Blinks Have Meaning!

I feel like writing about blinks today. Why? I just saw a commercial on TV (name of product withheld to protect the innocent) starring a character who had a severe blinking problem.

Now, I don't mean the character blinked too much. I don't mean he blinked too fast. I don't mean the character's blinks were too far offset, too slow, or too few.

No, this character was plagued by a disease that has been running rampant through animation (particularly student work, though not Animation Mentor students, of course. Everything they do is perfect and wonderful in every conceivable way... Well, okay, that's not exactly true, but I haven't actually seen it as a problem in the school. Probably because we harp on stuff like this ad nauseum).

Where was I?

Oh yeah, the disease...

Let's call it "Randomblinkitis."

Many animated characters currently living out their lives on demo reels around the world suffer from this terrible disease, causing their blinks to feel random and meaningless. While some characters use their blinks to convey thought process and emotion, these poor Randomblinkitis victims are forced to slog through their daily existence unable to properly communicate their emotions and thoughts to each other, let alone to recruiters around the globe.

It's a tough life for them, folks, so let's do something about it!

See, the medicine for this heartbreaking disease is Observation. It's easy to do, and it'll mean so much to your animated characters (and to the recruiters forced to have to try to communicate with your characters!) if you can just take a little time to observe the blinks of your friends, your family, your co-workers, your favorite movie star, and yourself before you start plowing ahead into acting scenes.

Listen, I know about the whole "I just discovered animation a month ago and must do an acting scene IMMEDIATELY!" thing. I know you all want to do acting scenes. I know you think they're the most fun. I know you think they're your ticket into Pixar. And I also know that for some of you, all the "honestly, spending 6 months practicing basic body mechanics and force will give you far stronger acting scenes than you'll ever be able to do without that foundation" advice in the world isn't going to keep you away from playing with some acting shots...

So, if you absolutely must do some acting shots (or, better yet, are advanced enough to do acting shots properly), then please, give some attention to the eyes of your character.

We've probably all heard people say "90% of acting is in the eyes" or something to that effect. Shoot, some of us have said that

ourselves. And I actually think that's true, and is great advice (aside from the fact that if you don't sell the acting with the body first, all the facial stuff in the world isn't going to save your scene), but when you hear that "90% of the acting is in the eyes," I know most people immediately jump to "eye darts" and "eye direction," etc., completely skipping over one of the most essential acting tools you have - the blink.

When I was in school, I was told that "animated characters should always blink every two seconds."

Well, that's just about the worst advice I ever got, other than some advice I recently was given during a trip to Singapore, which was "giant fish eyeballs taste really GREAT," but animation-wise, I think the "blink every two seconds" is probably the worst. Actually, both of those pieces of advice are equally true (or rather, equally completely-and-utterly-untrue!).

Look around. Do you see anyone who is blinking every 2 seconds?! (If you do, please report them to your government, because chances are they are some kind of android spy from Mars or something.) People don't blink on any kind of set time schedule anymore than giant fish eyeballs taste "great" (and for all of you out there who maybe think fish eyeballs DO taste great, probably because you have some kind of steel-reinforced taste buds like the Singaporeans I was with at that restaurant -- which I do admire and am completely jealous of, by the way-- then that's fine to like your giant eyeballs, but just trust me on the blink thing anyway, okay?)

Look - if you do a scene where your character doesn't blink at all, and don't have a reason behind it, you have a fair chance of that character feeling a little dead. However, there are plenty of times when you'd WANT the character to not blink -- maybe he's scared out of his mind, or she's looking longingly into her husband's eyes, or you're doing some homage to A Clockwork Orange...

We'll get into that stuff in a minute - for now, I just want to point out the reasoning behind the "blink every 2 seconds" rule. Ostensibly, it's so your character feels alive. That's the idea they're shooting for, anyway.

Sadly, this is a very outdated concept. If you choose to animate according to this rule, and have every character blink every 2 seconds, two things will happen:

1) First off - congratulations: no one will wonder if your character is dead, or if his eyes are getting enough moisture. Mission (sort of) Accomplished.

2) Instead, they'll be wondering if your characters are meant to be robots. (D'oh!)

Blinks are so much more than the merely physical act of moistening our eyeballs! We blink for a variety of reasons, and the absolute least important of these reasons to you, as an animator, is the "I'm just getting my eyeballs wet" blink. Forget about that blink. File it away in your head for future use, I guess, but file it in the back of the bottom drawer, right next to "My Aunt Martha's right eyebrow shoots upwards every time she says 'pretzel.'" It'll come up about as often in your work, and be about as useful as well.

People blink for a reason.

Blinks are so much more than any kind of physical dry-eye response.
Blinks are the key to selling many emotions. Fire up some of your favorite films and study the eyes of good actors.
When do they blink?
Why?
What does it feel like?
How does it make you feel?

Right off the bat, the number of blinks can affect emotion in dramatic ways. Rapid blinks can make a character feel shy, nervous, uncomfortable, relieved, or like they are about to cry. Not blinking at all can feel angry, stoned, dead, or super intense.

Check out Tom Hanks in Forrest Gump when he's meeting his son for the first time. As soon as he realizes it's his son, he stops blinking completely. He's transfixed. Tom Hanks holds back his blinks to communicate the idea that his character is THAT intense about what he's realizing. Then a blink, and boom - he's on to his next emotion, which is guilt. He feels guilty. Shouldn't he have been there to raise his son? Did he do something wrong? The blinks are coming fast and furious now, to indicate his discomfort, his worry.

Then a thought occurs to him: "is he slow, like me?" He doesn't say it right away, but you can feel the exact moment that crosses his mind, because suddenly his blinks stop again, and he's back to that intensity, and finally he works up the courage to ask Jenny his big question: "is he smart, or is he...?" Huge eyes, locked on, almost afraid to hear the answer. "He's the smartest in his class." And the blinks are fired back up again, which communicates his relief.

That whole scene is amazing for eye stuff. He even asks "can I go see him?" using only his eyes! Sure, his head moves barely as well, but it's 90% just his eyes, and you totally know exactly what he's saying. He delivers a line without ever opening his mouth. And it feels so real. To me, that's a great scene, and something we should all aspire to in our work.

So your first set of big blink questions is this: "what's my character's emotional state right now? What are they reacting to? How is that making them feel?" And your second set of questions, just as important (if not more so) is this: "well, how do I blink when I feel that way? How do my friends blink when they're in that situation? How did my favorite actor blink in that amazing scene I saw the other day?"

Figure out the emotional state of your character, go observe that emotional state in as true a form as you possible can, and then study the heck out of those eyelids. Better yet, act the scene out over and over and over until you aren't thinking at all about what the actual dialogue lines are anymore, and all you're thinking about is the emotion you are truly making yourself feel, and the context/subtext of the scene, and videotape it, and study it!

That's it. It's pretty simple really. Just like with every single conceivable aspect of your animation, you don't do ANYTHING without a reason. You don't move a single finger without knowing why your character is moving it, and the eyes (and sometimes even more importantly, the blinks) are no exceptions. Never move ANYTHING on a character unless you know exactly why you're moving it. So if anyone ever tells you to animate something randomly, unless it's the tiniest subtle "add a little 'dirt' to this movement so it feels a little less smooth" type of thing, then you should probably say, "No way!" Unless he's your animation director. Then you probably shouldn't say, "No way." That might be a really bad idea. You should instead say "Right away, no problem!" while you silently think "man, I wish my animation director would take some AnimationMentor classes..."

Where was I? Oh yeah - nothing is random. Well, neither are blinks.

The most important use of a blink is to show thought process. We do blink sometimes just to wet our eyes, and we blink on a rapid head turn, we blink on a major change in eye direction, and all those other "blink rules," but in my opinion the most important time is when we have a change in our thought process. When we're having an idea, or when we're switching from one emotion to another, or when we're realizing something. Those are the gold-mines in terms of blinks - that's when a perfectly placed blink will take a scene from being merely "good" and make it "great."

There's a great book called "In the Blink of An Eye," by Walter Murch, who is an amazing film editor. Murch is an incredibly accomplished film and sound editor, with a bunch of Oscars on his mantle, and great work in such films as Apocalypse Now, The Godfather Part II, The English Patient, and The Talented Mr. Ripley. Part of that book is about his theory that we blink to edit the film of our lives. We blink throughout the day to cut from one scene to the next to the next to the next. And he uses that theory in his film editing. He looks for when the main character blinks, and often uses that as his cutting point, figuring that it's probably the most natural-feeling place to cut for the audience.

As animators, we can hijack his theory and apply it to our own work and our acting. We can study the same phenomenon that he noticed, and we will all find the same exact result - people blink when their brain shifts from one thing to another, whether it's an emotion or a thought.

We blink for a bunch of reasons, but the most important to me are these:

1. We blink when we shift our thought process
2. We blink to show or hide emotion
3. We blink in the middle of a fast head turn

For me, those three things dictate 99.9999% of the blinks I've ever animated, and I'll tell you what - not one of them has anything to do with any "2 Second" rule.

Ok, so let's start with number 3, since that's the most basic. This is one that most of you have heard about, and use often. Personally, I think it's a great rule, and seems to work really well. If your character's head does a really fast head-turn, drop a blink in there near the middle or near the end of the head turn, and it'll give it a nice natural feel. This is something I've definitely observed in people, and it's a great rule of thumb to generally keep in mind.

I'm not sure why we blink mid-turn, but I think it might have something to do with having too much visual information zooming past our eyes, and our brain says, "Holy moly! Too much information! Gotta shut those things for a moment!" I have no idea if that's true, but it sounds like it might be right, and that's good enough for me...

Let's jump back up to good old numero uno - blinking to show a shift in our thought process.

This is an absolutely essential and endlessly useful tool in animation - something you can truly use over and over again, in shot after shot. Like the idea of advanced "anticipation," this really can be one of those few "lifelines" of communication you can have with your audience. A way to reach out to them, and whisper, "Hey, check it out! He's thinking right now! Oooh! And now he's made up his mind!"

Anyway - back to shifting our though processes...

The eyes are the windows to the soul, right? We've talked about that cliche, and how right it is, and how important it is to communicate with your character's eyes. (I think we have, anyway. Haven't we? This is month 19, so it's getting a little fuzzy in my memory! I could look it up, but we both know I'm too lazy to do that...)

Personally, I feel like 70-80% of the emotion of your character is going to be sold in the face, and 90% of THAT emotion will be sold in the eyes. The timing and direction of your eye darts will communicate more than almost any other thing in your scene.

But a HUGE part of that communication is with eye blinks. We can talk more about eyes later, if you guys want, but as far as blinks go, all the great eye animation in the world will not work without carefully planned blinks.

Your character is in a basement. Scared. Backing into a dark corner, unsure of where the villain is hiding. His eyes are wide, darting all over the place, searching frantically. For help. For a way out. For a weapon. For a hiding place.

So far, so good. No reason to blink, right? He's scared for his life, searching DESPERATELY for help. His eyes want to suck in as much information as humanly possible, because if they don't figure something out quick, his eyes might stop seeing anything at all pretty soon.

If you're animating this scene, you're going to be taking the "no blinks at all" approach so far in this scene, unless it's gone on for a REALLY long time. If the eyes are desperate enough, I think you could get away with not blinking for even 10 seconds or more. There are countless scenes of some of our best actors showing their intensity and emotion by not blinking for much longer than 10 seconds, but at some point, a sustained shot of "scared guy" is going to get stale and boring, so I'd say a shot like this will get boring long before you'd HAVE to throw a blink in there...

So, he's scared and desperate. No blinks yet. His back bumps against concrete, and he realizes he is cornered. His eyes are even wider. Searching. Hoping. Suddenly, they lock on! He spies a shovel! A weapon! He's found hope!

Guess what he does?

He grabs the shovel, right? Well, yeah, he does, but what does he do first?

He blinks.
Why? Well, it's sort of the Walter Murch thing. He's "cutting" his film. His "scared and hopeless" scene has ended, and it's time for the "try to be a hero" scene, starring him and his shovel.

In other words, his thought-process has shifted. He's gone from one idea to another idea, in his head. He was scared out of his mind, and now his fright has morphed a little bit. It's evolved. He's probably still scared, but I bet his eyes are a little narrower, now that he

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has his shovel in hand. His eyes are darting a lot less. He's still frightened, but now he's a little hopeful, and maybe even a little mad. Who is this lunatic hunting him down in his basement?! Who does he think he is!? He's going to get a face full of shovel if he doesn't get out right now!

Right?

When you first get handed a scene like this, you're going to study the amount of time you have to work with, you're going to plan out your motions and timing, figure out your dynamic poses, etc. Just as with any other bit of planning, it's essential to search through your scene and try to find a moment of change – when an emotion changes, or an idea shifts. These are ALWAYS the meatiest moments for you as an actor and animator, and these are generally the moments when you will carefully choose when to blink.

A shift from scared to hopeful? Blink. Happy to nervous? Blink. How about something really subtle, like sad to sadder. Blink!

Those blinks will SELL the changes in thought process more than anything else other than possibly overall posture changes. Ok, and then lastly, we have the idea of using blinks to sell emotions.

Well, let's go back to our previous example, with the scared basement guy. How do we know he's scared? Well, hopefully you're using as many small things as possible to show his fear. Hopefully his movements feel afraid, his head and eyes are darting around, his overall actions and broad movements can even show fear.

But having those wide, unblinking freaked out eyes - THOSE are going to sell the fear as much as anything else. Maybe even more than anything else, right? So right off the bat, we have an emotion being sold through blinks, or rather, through the lack of blinks. What would it look like if he was blinking a lot in the basement? He'd look flustered, maybe he'd look like he's thinking rapidly about a lot of different ideas, or trying to remember something. He might look shy, or maybe even nervous. But he probably wouldn't look scared, no matter WHAT you did with the rest of him.

Once Mr. Scared finds his shovel, he blinks to show that realization (and the timing and number of blinks at this point, by the way, will totally define the mood of the performance. A long pause, with two wide-eyed blinks would be funny and played for comedy, whereas a quick blink and dash for the shovel will keep it in the "scary" realm), but now that he has his shovel, we're going to use our blinks in a whole new way.

He's still scared, but not so desperate that he can't blink now and then. Now we'll have quick "scared" blinks (slower blinks would feel too laid back) now and then, maybe when he's shifting his gaze from one place to another, or if he hears a sound in the other corner of the basement, etc.

The timing and number of your blinks are an invaluable way of letting your audience know what's going on in your character's head. Not only how he's feeling, but when those feelings are changing.

To me, this concept is one of the most fundamental foundations of any good acting performance, and I think it's something worthwhile for us all to continue to study and deconstruct.

If you've been reading this column since the beginning, you've read my tips about scene planning and know how essential it is to plan your performances. Part of that planning should often be video reference, of either yourself or friends or actors. If you truly get into your character's head, and truly begin to feel the REAL emotions of the scene when you are acting out your video reference, you WILL see the properly placed blinks, showing these shifts in emotion and thought process. If you aren't sure where to blink, be sure to go through this process, it can be really helpful.

Another great idea is to just study the blinks of your favorite actors. Think of your favorite film, and choose a scene that stood out to you as being especially believable acting. Pull it up on DVD and study the actor's blinks. Check out Forrest Gump meeting his son for the first time - it's amazing. Also, Robin Williams' blinks and eye-darts in One Hour Photo are great to analyze. Any of your favorite actors will have valuable reference for you to study. Check that stuff out! How does the timing and frequency of the blinks communicate the emotion at just the right precise moment to make it feel true... How does it make you feel? Why?

It's a great idea to sit down and really study that stuff. Make notes for yourself, and really dig into it. You don't have to be an acting

expert to find value in that reference, it can really be helpful.

Let's see, to recap:

1. Blinks Have Meaning!
2. Skipping a strong foundation in the basics in order to get to acting scenes quicker shoots yourself in the foot.
3. Never animate anything without a reason.
4. Don't say "No way!" to an Animation Director.
5. We blink to cut the "film of our life."

If you have an opinion about what kinds of "tips" or more "tricks" you'd like to see in the future, email me at: tipsandtricks@animationmentor.com and let me know!

That's 5 tips for the price of one. I better start being stingier or this'll be a short-lived column!

Hope you found it helpful. See you next time!

THE FACE

Hey there animators! Welcome back to my Tips & Tricks column!

Last month we talked (endlessly, I know. Sorry!) about blinks. How we blink for a reason, and how important it is to avoid randomblinkitis.

This month, I think we'll do a complete 90 degree turn and change it up with an overall facial animation tip:

TIP 2: The Face Is One Cohesive Unit

Most facial rigs break the face into somewhere between 15 and a gajillion different face shapes. So, once you've finished all of your planning, and you've got the most emotionally communicative reference you can get your hands on, it's time to sit down and actually start animating all of those face controls.

Some facial rigs are made up of joints, some are blend shapes, and some are a combination of the two. Some of you have facial GUI's, some of you have overall expressions you start from, some of you start from scratch and just dive right into the individual shapes. Some of you even sculpt the shapes yourself as you find you need them.

None of that matters one bit.

Sure, some methods are faster than others, and some give you more control than others, but for me - the single most important thing in facial animation (other than the overall overriding super-mega-ultra-most-important thing: make sure your emotions read clearly!) is that the face works as a single cohesive unit.

One of your biggest goals with facial animation should be to make sure that the face doesn't look like a bunch of independent shapes moving around.

I'm sure many of you have already experienced this problem (I know I have in the past!) -- you've got a gajillion different ways to control the face, so you're potentially animating a gajillion different things at any given moment in the face, particularly if you're doing realistic or subtle facial work. It is VERY easy to end up with a facial performance that feels more like a gajillion different little parts moving independently of each other than a single face acting and reacting to the world around it.

Think of the face NOT as a collection of "facial shapes" or a bunch of "joints." Study your reference, find the simplest way of recreating (and hopefully plussing) the emotions and movements you see in your reference, and then as you're animating those gajillion controls, be sure to remember, every step of the way that the face needs to read as one unit.

Different parts of the face need to affect each other, and be affected BY each other. Exactly the same way you make sure your character's body doesn't look like a bunch of independently moving limbs, your face is a series of connected bits that all work together to communicate with the world around it. All those gajillion controllers should be working together to create the illusion that there is only ONE controller -- the brain -- and you should use those gajillion controllers to support the ONE main idea of the

scene!

That's when your character will truly come to life. That's when the performance will be memorable to the audience.

That's when your character will be "animated" in the truest sense of the word.

However, be careful not to key all of your face shapes on the same keys. You'll want to keep track of overlap. Remember the principle of lead and follow, and apply it to the face. What moves what? What moves first? Do the eyes lead the facial performance? Do the brows lead the eyes? Study things like this in your reference, so the face doesn't feel robotic.

For example, the eyebrows almost always lead expressions. Is your character going from sad to angry? It'll probably read best if (after already selling the thought process in the eyes) you start the actual physical transformation in the brows. Have them push down into the eyes, which then would either narrow the eyes into angry slits, or give the eyes the "flat-top" wide-eyed look of a guy about to rip your arms off.

Is your character being surprised by something? It's probably best to yank his eyebrows up before widening his eyes at all! Sure, it's probably only offset by a frame or two, but this sort of thing can add a wonderful organic quality to your animation that would otherwise be missing, leaving your scene feeling stiff and dead.

Since I'm already talking about it, a great way to think about this stuff in the eyes/brows is that the brows push and pull the eyes around. That won't be the case 100% of the time, but it's a decent rule of thumb that can help you through the majority of your scenes.

Okay, that's two tips for the price of one! I guess that's better than last month's "5 for the price of one" shenanigans, huh?

See you next time!

-shawn :)

OPERATIVE WORDS

Hello Animators!

Welcome back to our little monthly Tips & Tricks article. I was thinking that since we've been talking a lot about the face and blinks already, maybe it'd be fun to switch gears entirely, and talk just a tiny bit about some acting/dialogue stuff. Specifically, the concept of operative words:

Tip #3: Build Your Performance Around Carefully Chosen Operative Words

Okay, so first off, what's an operative word? Well, an operative word (sometimes called the "main word") is the word or words most enunciated or most emphasized in the delivery of your dialogue. Sometimes it's simply the loudest word, but in some cases it may even be the quietest word. It probably has the highest change in volume or pitch, but not always. It's essentially the most important word in the line, and the coolest part is that choosing it will be entirely up to you.

However, you must carefully choose your operative word(s), because it's this single choice that will most dramatically affect all of the acting decisions in your shot. Because of that, it's important to understand how powerful operative words are.

We all use operative words every day of our lives. We have them in almost every conversation we have. Unless you speak just like that dude on Ferris Bueller's Day Off (Bueller? Bueller? Bueller?), in a complete monotone, you're going to be constantly choosing operative words to use in order to properly communicate (or hide) the truth of what you're saying.

Even in a short sentence, a chosen operative word can radically change the meaning of the sentence (which is why operative words and subtext are so closely related, but that's another article all together!).

A classic example of this is the phrase "I love you." Even in a 3 word sentence, you have 3 completely different meanings depending on the operative word chosen by the actor. For example, if the actor most powerfully exaggerates the first word: "I" and you have:

I love you.

What does that mean? Say it out loud to yourself, with the enunciation all on the first word. What's it sound like? He's not just saying "I love you," is he? More specifically, he's saying "He doesn't love you!" Right?

Now, if we move on to the next word, we have:

I **LOVE** you.

This is putting all of the exaggeration on communicating the depth of the love that is being felt. It's got nothing to do with some other guy, as the first example does, now it's all about the two people in love, and how powerful that love is. Completely different meaning, right?

Now onto the third word:

I love **YOU!**

Whoa! Now we've got a third meaning that is entirely different! What's he saying now?

I love *YOU!* = I don't love HER!

So you can see, even in a 3 word sentence, the choice of operative word radically shifts the subtext of the phrase. We do this subconsciously all day long, and when we analyze it, it seems like common sense, but it's the sort of thing most people would never consciously think about, but exactly the sort of thing animators MUST study.

Okay, so that's what an operative word is, but how do I use that in my animation?

Well, in a couple ways.

First, if you're recording your own dialogue, the importance of carefully chosen operative words should be clear. But as animators, we rarely record our own dialogue, so for the most part, the importance of understanding operative words is mostly centered around the fact that we need to be able to clearly communicate what actors were trying to convey with their delivery. We have to be able to listen to their dialogue, often months after it was recorded, and know exactly what they intended.

This is not to say that we should be locked into animating exactly what the actor performed - not at all - but the most closely you can tie your performance to their delivery, the more believable, entertaining, and emotional it will be. So it's essential that you have the skill to analyze the delivery of a line, and pluck out those operative words, and not only know which ones are most important, but WHY.

One important thing to mention at this point is that we must be extra careful not to choose too many operative words. Ideally you want one in every scene, but sometimes there are two. If it's a *really* long delivery, there might even be three, but normally you want to limit it as much as you can in order to avoid overacting.

Overacting? Yup - the most common source of overacting, in my opinion, is animators (or actors!) subconsciously choosing too many operative words. Why? Because other than knowing the subtext of a line, the other most important use of operative words is that they function as a road map for our acting performance. They are the signposts that say "do your biggest gesture here!" or "this is your big acting moment!" or "have your largest moment of contrast right at this exact moment!"

You see, we build our performances around these specific words, because that's what the delivery of the line calls for. That's what the deliver DEMANDS, actually. Choosing the wrong operative word is just as bad as choosing too many, and it will stand out as bad acting, or at the very least, "weird."

Let's go back to our "*I* love you" example, and let's say that the delivery we have been given is the first delivery (with the emphasis on "I" - meaning "He doesn't love you!").

So you listen to that line, where "I" is clearly the operative word.

However, let's say you make a mistake and choose "you" as your operative word. Your acting would all now be built around the word "you." Your character's main gesture will happen on that last word instead of the first, where it naturally would occur most of the time. Act it out yourself right now. Feel how weird it feels to say "*I* love you" but gesture (point at her, maybe) on "you?" We see this in student demo reels constantly, and it looks even weirder in animation than it feels to you right now!

The other common mistake is choosing too many operative words. Let's say you decide all three words will be operative words. Now you've got the character pointing to himself on "I", clutching his heart on "love" and pointing to his girl on "you."

Go ahead and act that out. It's completely ridiculous. No one would really communicate like this in the real world. The only way that acting performance would work is if the characters are deaf and are using sign-language. But once again, you'd be amazed at how much of this we see on demo reels.

So, to make a long story short - choose your operative words, try to keep it down to one or two main words, and then use those words as the moments that you will do your biggest acting/actions on. Your biggest gesture (or only gesture) should almost always happen during the operative word. Your biggest change in body posture should almost always happen during the operative word. The main ideas of the scene should be communicated usually during an operative word. Your biggest change in facial pose? Yup, you guessed it - make sure it's during an operative word.

Oh, and one other thing. Sometimes, you'll be handed a line of dialogue that's either completely devoid of operative words (it's boring, monotone, etc) or on the other hand, is jam-packed full of them. In both cases, these poor deliveries will make your job more difficult, but it will still be up to you to first decide what it is that you truly want the character to be communicating, and then choosing the operative word that will best do the job.

If there are no operative words, you may have to just make them up.

You'll have to choose the subtext for yourself, choose an operative word, and go from there. Your job as the animator is to take whatever dialogue delivery they give you, and MAKE it work. If it's a terrible delivery, well, maybe it won't be the best scene of all time, but hopefully you can at least elevate it from terrible into "passable."

That's a big part of your job. It can be challenging, but then again, it's also really fun to see how much emotion and communication you can try to squeeze out of even the most boring line delivery.

Conversely, you have the instance of having too many operative words to choose from. Unless the goal of the scene is that the character is manic and crazy and speaking a mile a minute and you're also working in a very wacky style, you're going to have to rein in your animation imagination (which will go bananas at the prospect of cramming a zillion ideas into the shot) and choose just one or two and ignore the rest. If you don't, you run the risk of your character feeling overacted, and your scene will be a jumbled mess of confused ideas that the audience won't be able to follow.

So.... choose those operative words carefully!

And, as always, have FUN!

-shawn :)

SPOTLIGHT YOUR EXPRESSIONS

SPOTLIGHT YOUR EXPRESSIONS

Hello there! Welcome back to yet another Animation Tip. Hopefully you aren't bored out of your minds yet, but honestly? Even if you are, I'm still having fun writing these down, so tough luck - you'll have to just put up with me for now.

Last time, we talked a lot about faces and facial animation - mostly focusing on the idea that the face is one cohesive unit that we use to communicate. We talked about how important it is that you don't let your facial performance end up looking like it's a mishmash of 100 different sliders and controls, and instead how we must always push towards the goal of having the face feel like it is a single communication device controlled by a single brain. It's so easy, when given those 100 different facial controls, to end up with sections of the face that looks disconnected, disjointed, and unrelated to each other.

And why do we fight so hard against that? Well, for one thing, it's going to look fake. It might *almost* look right, or maybe even 90% realistic, but it's that final 10% that makes all the difference between something truly feeling alive, or something feeling just slightly robotic or creepy.

The other reason we strive so hard towards creating a cohesive facial performance is for the sake of the audience. As with any aspect of animation, the overriding goal - at all times - is simply this:

Communicate the emotions, actions, and ideas of scene as clearly and truly as possible to the audience.

If you do a bunch of animation that is mechanically correct, has beautiful arcs, and some really nice timing, but it doesn't communicate the idea to the audience, what's the point? No one will care if our animation "looks pretty" if they miss the story point that they should have noticed, or can't identify with the character's emotion.

Along those same lines, this month I wanted to touch on the idea of ensuring your facial expressions are correctly placed in the scene so that they aren't missed by the audience.

With that said, here's **Tip #4: Spotlight Your Expressions!**

There's probably no more important facet of your animation for the audience to immediately "read" and clearly understand than the facial performance. The first thing an audience is going to see is your character's eyes. The second thing is the character's overall face. The third might be the overall pose of the character, or, if the character is pointedly looking at something (or someone) in the scene, they'll probably look immediately from the character's eyes/face over to whatever has that character's interest.

The point is, probably by frame 8 the audience is looking at your character's face. Why? Well, because they are there to be entertained! They want to feel involved in the story. They want to identify with the character's emotions or situation. I'm sure another day we'll get pretty deep into eye animation, but at the most basic level, people truly do look at eyes to discover emotion and truth - so the first place any audience will be looking, will almost always be the eyes of the main character in the scene.

So - you know that the audience will be staring your character smack in the face, so what do you do?

Well, for one thing, you want to spotlight that expression. By that, I don't mean to stick your character's face into a bright light (though lighting can be an enormously important factor in your expressions reading, and I'd encourage you to find out as much as you can about the lighting of your scene before staging your facial performance, what I mean by "spotlight" is to make it stand out just a little bit. Not to the extent that it's unnatural - not exaggerating your facial expressions beyond the realm that the style you are working in would allow - simply making sure that the staging and timing of your facial expressions (most importantly, *changes* in facial expression) can be immediately understood by the audience.

There are a couple quick little tips I could throw at you to help in this regard, and the first one is this:

Expression Changes Get Lost in Movement

This is a fundamental concept for facial animation. Never stage an important face change to occur mid-motion. Ever.

For example, let's say your director says, "Okay, Joe Animator, in this scene, your character needs to start off sad, and then as this other character enters from screen left, she needs to look over at him, and suddenly she's going to be really happy."

Okay, so that direction is a little vague, but the important thing here is that many junior animators and students would be tempted to set up the scene in a way where the character is standing there sad, then quickly turns to the left, and during that turn, the face (and body pose) will go from sad to happy.

This is a trap, so watch out! It won't be terrible, but it certainly won't communicate nearly as well as it had the potential to.

What you'd usually want to do is slip the timing of the facial transition either earlier or later. Have her face start to transition into happiness just before the head turn, or leave it sad, turn the head, and then move from sadness to happiness once she sees the other character.

This has two benefits. First, and arguably foremost, the facial expressions (and thus, the changing emotion of the character) will be much clearer to the audience. If you give them a chance to actually see the transition between facial "poses," the performance will feel so much more real and connected to them. If the face transitions in the middle of a fast head turn, the facial performance will suddenly feel disjointed, or disconnected. I suppose there are situations where you'd break this rule (like every other rule!), but as a general rule, you can't find a much better one than "don't do a complete change in facial expression in the middle of a fast head movement."

The second benefit of slipping the change in emotion before or after the head turn is that it will give your character more life. Seeing that facial change will give your character a feeling of having an internal thought process.

If the face begins to change *before* turning, you can play it in your acting performance as a sense of hopefulness. She's still sad, but suddenly there is light at the end of the tunnel. It will seem as though she hears the other character arriving, and the audience will read their own thoughts and feelings into her facial performance, imbuing it naturally with all kinds of great stuff. They might imagine that she has some inner turmoil going on - she's sad, suddenly hopeful, but doesn't dare turn to look until she can build up more courage. Maybe she's scared to look at this new character and discover that her newfound hope is misplaced, and sinking into an even greater despair.

Now, let's say you choose the opposite strategy, and you save her facial change for *after* the head turn. Now you have a whole new set of things to play with! She's sad, so she turns her head sadly. It's probably a slower head turn now. Maybe you close her eyes, you drop her shoulders, and her chin sinks down to her chest. Maybe you play it as a halting look to the left - maybe she's still doing the "afraid to look" thing. Once she gets there, and sees the other character - now you have the chance to give her a moment to stare at him - still sad. Frozen. Maybe even an "about to cry" moment. You have a chance for her now to have a moment to REALIZE what she is seeing. For it to sink in! You're giving her the opportunity to show an inner thought process before welling up with joy and only THEN, finally showing that joy in her face and eyes!

Now, tell me EITHER of those wouldn't make a more interesting scene than just turning and instantly being happy?! Obviously, the relevant story points will play heavily into this, but I do think that the audience WANTS to read into your animation. They WANT to fill that character with feelings, thoughts, or inner conflict.

You just have to give them a chance to do so.

So, in any situation where the character's head is moving around a lot - turning, jumping, jogging, in particular, because of its bouncy nature - can be really hard, and if you have to place a change of emotion during a jog, you'd probably want to try your best to cram it into the hang time at the top of the character's arc. The top of that bouncing arc will be the moment of least movement in the character's head, which automatically makes it the best moment for any facial change. Why? Because that's when the audience will SEE it best!

Okay, am I beating a dead horse yet? Sorry, movin' right along...

The other thing I wanted to throw at you is this:

No Expression Changes in the First or Last 8 Frames of Your Scene

This is another of those "rules of thumb" rules that you occasionally have to break, but should usually hold to.

If you have a facial transition happening at the very beginning of the shot (within the first 6-8 frames) or the very end, no one in the audience is going to properly see or understand it. Worse, it will draw their eye (in a negative way) and will feel like a "pop" to them. Instead of thinking "wow - she's so sad, but now she's happy!" they'll be thinking "what the heck was that sudden movement on that girl's face?" Suddenly, you've got your audience wondering about what's wrong, and remembering that they're just watching a movie, instead of hopefully having them engrossed in the performance, enjoying the ride of living vicariously through your character.

As a general rule, whenever the camera cuts to a new angle or location, it takes about 6-8 frames for the audience to see and understand where they are. I'd suggest being conscious of not doing ANYTHING of importance with your character within those frames, and caution you to avoid any kind of quick pose change or changes in direction within those "bookend" frame-ranges. Just like with the face, any overall body change in direction will also read as a "pop," and be very distracting to the audience.

Okay - I'm outta here. Hopefully that stuff was helpful!

Keep animating!!

See you next time,

-Shawn

KEEP SECONDARY CHARACTERS SECONDARY

Welcome back to this month's Animation Tips & Tricks article!

Last month we talked about showcasing (or "spotlighting") your facial expressions to make sure they are clearly readable by the audience. We went over how you need to be careful to stage changes in your facial expressions so that they aren't lost in movement - such as flipping emotions during a quick head turn. As always, your primary concern needs to be clear communication - staging every aspect of your shot in the way that best describes the actions, emotions, and story. Facial expressions are no different than any other aspect of your shot, so try not to treat them as an afterthought, particularly because they are one of the most (if not THE most) communicative aspects of your scene.

So, enough about staging facial expressions. I'm pretty sure I beat it into the ground last month, so how about we talk about something completely different?

In my long tradition of segueing from one unrelated topic to another, this month we're going to spend a few minutes talking about multiple character shots.

So, if you're an animation student, which I'd assume the vast majority of you are, you've probably tried your hand at animating at least a single-character shot. If you're reading this newsletter, and you aren't currently an animator or an animation student, then you must be one of the following:

1. An animation student on the inside, dying to bust out of the shell and dive into this fun and challenging career head-first

Or

2. My Mom

So, other than my Mom, I think it's safe to say that you're probably an animator or student, and you've probably tried animating at least a single-character shot. Many of you have taken a crack at multi-character shots, too, but I just had a couple quick tips to throw at you guys regarding shots with multiple characters.

So here we go - **Tip #5: Keep Secondary Characters Secondary**

Particularly the first few years of your animation life, we are constantly plagued by the nagging, overwhelming need to have our characters doing SOMETHING at all times. We're animators, after all, and we want to animate! A character can't just stand there doing nothing! He'll look dead! He should always be doing something, right!?

The danger in this, of course, is twofold - movement ceases to be initiated for a reason and just becomes movement for movement's sake, and constantly active characters have no contrast in their performance.

In a multi-character shot, this tendency to give every character something to do can completely ruin the flow of conversation, will look far too "busy" visually, and will destroy any control you have over the eye of the audience.

The goal with a multi-character shot, as always, will be to clearly communicate your ideas, right? Well, in order to communicate those ideas, it will be your job to direct the eye of the audience, to lead them through the conversation. You want to stage your scene, and plan your timing in a way that allows you to hold their hand, and walk them through the animation. You need to whisper in their ear "hey, listen to what this guy is saying... okay, now - quick! Look over there! See what that other guy just did? That's important to the story. Okay, now forget that guy, instead, pay attention to this other guy over here..."

If you can't do that, your scene will be a jumbled mess of confusion, and at best, will never be as entertaining as it could have been. Story points will be lost, jokes will be missed, and emotions will be muddy.

The key to making things read, is to only allow secondary characters to do secondary actions.

Secondary action is probably an article all on its own, but the quickie version, if you don't know, is this: Secondary actions are actions that add to the character and augment the emotions WITHOUT distracting from the primary actions in the scene. The term "secondary action" is sometimes confused with concepts such as "overlap" or "follow-through," but it's actually quite different.

Character 1 is shyly asking a girl out on a date, but behind his back he's subtly fiddling with his pencil. The "fiddling with the pencil" would be a secondary action in that scene, and we know this because in almost any instance, the animator of this scene would want us focused on the character's faces, or physical interactions - the "fiddling with the pencil" is there to subtly boost the feeling of nervousness in Character 1.

Okay, so let's say you have a scene with three characters. They all have lines at different points in the scene. Just to make it even harder, maybe they even have lines that overlap each other. They're talking quickly, frantic about something, or joking around. Let's say their names are Chris, Andy, and Jay.

Well, that's going to be a hard scene, but with some careful planning, you should be able to direct the eye of the audience, almost regardless of what the dialogue says, or how it is delivered.

The basic idea is to direct the audience's attention through movement, anticipations, eye direction, and through the contrasting rhythms of who's active and who isn't at any given moment. Let's say Chris starts the scene off. His line is the setup for the joke that the scene is going to revolve around. Well, that sounds like a pretty important bit of dialogue for the audience to pay attention to, doesn't it? Simply hearing the words is not going to be enough for the audience here (otherwise, they may as well be listening to a radio-play! You need to create a performance that brings the mere "words" to another level - that's why we love watching a good acting performance!), so you need to make sure the audience not only hears Chris, but they see what he's doing and understand his emotional state. How do you do that with three characters in the scene? Well, there are a lot of ways, actually. The most basic of all, is to have Chris be the only character who is moving. If Chris is setting up the joke, and Andy is doing jumping jacks while Jay is running around in a circle, there is an excellent chance that the audience's attention will be on anything other than Chris, correct? So, at the most basic, fundamental level - if Chris is talking, Andy and Jay aren't doing anything at all. Now, that's not going to usually be the absolute best choice for your scene. It's probably a pretty boring choice, actually, but you know what? Better it's boring and clear than visually stimulating, but confusing. In my opinion, it's better to have Andy and Jay basically "die" on screen, than to steal the attention of the audience away from that important story point of the moment. That said, though, you're much better off finding character-specific secondary actions for Andy and Jay to be doing. Maybe the three of them have just been jogging together, and now they've stopped to rest on some benches in a park. Chris is setting up a joke, which means that at that precise moment, he is the most important character in the scene, making him the "Primary Character." Once you have that bit of information, you know exactly how you need to stage things. Chris' facial expressions should be staged clearly to the audience while he's talking (if possible), and his gestures should, generally speaking, be far bigger and/or faster than anything Andy and Jay are doing. They should probably be listening to him at this point, while doing some kind of secondary actions (since they are the secondary characters). Maybe Andy is heaving, because he's heavier than the other two, and is really worn out from the run. So maybe he's just sitting there breathing heavily. That could be his secondary action. Maybe Jay, who is more athletic, is sitting calmly and wipes the sweat from his brow while listening to Chris.

As long as Jay doesn't start furiously scrubbing at his forehead, no one's attention is going to linger on Jay during this moment. They

might glance at him to gauge his reaction to what Chris is saying, or to notice that he's sweaty, but they'll immediately look back to Chris, since Chris is primary and Jay and Andy aren't doing anything interesting enough to hold their attention.

So right there, you've controlled the eye of the audience. You've made a conscious decision to stage the acting performances in a way that keeps people focused on Chris.

Now, let's say that Jay replies to what Chris has just said. At this moment, your job is most likely to transition the audience's attention from Chris over to Jay.

Jay's line of dialogue is enough to get you started. As soon as he starts talking, Chris and Jay trade places in the hierarchy of the scene. Jay is now top dog, and Chris has become a secondary character. Because of this, the audience will likely at least glance over to Jay as he starts talking, but this is one of many crucial moments in the scene. If Chris continues to be as animated as he was while he was talking, and Jay continues to just sit there wiping sweat from his brow while delivering his line, most people will look back at Chris.

The solution, of course, is to immediately flip Chris to doing something secondary instead of continuing his primary action, and vice versa for Jay. At this point, Jay could forget about the sweat on his brow, and be gesturing with his dialogue, or doing an even bigger action, like taking off his shoes and throwing them over his shoulder or something. That's a big, primary, "hey everyone, look at me!" action. Since he's talking, that's a great place to put an action like that. With Jay talking, and Chris throwing shoes around, once again, the audience will be looking at the wrong person.

So - if your character is secondary, keep them with secondary actions only. When you want the audience to look at a certain character, give him something bigger to do. Or conversely, sometimes you make him SUPER still amidst a lot of movement - either choice will draw the eye right to the character you want people to see at that moment. The point is you have to make the conscious decision to direct our eye, so we know what we should be looking at.

The main point is that nothing should ever distract the audience from whatever it is you want them to be looking at. If one character is really active, the others should likely be pretty calm unless the story calls for a more chaotic, frantic scene. Even in a scene involving a heated debate, or very quick dialogue where the characters are talking over each other, you can use this trick of "who is secondary and who isn't" to lead the audience through the scene, ensuring that they don't miss a single emotion, gag, or story point.

If you watch your blocking and feel that the characters are competing for your attention, it's a good sign that something is wrong, and the solution is very likely going to be toning down some of the characters during another's "primary" moment.

This is getting kind of long (sorry! I always do this... D'oh!), but I just want to quickly touch on some other ways you can direct the eye:

1. Eye direction. If five characters are all looking at a sixth character, every person in that audience is going to be looking at the sixth character too. If the characters suddenly look screen left, we're going to look screen left as well, expecting that whatever or whoever they see will be revealed to us. In these instances, you are using eye movement to direct the audience's eye through the frame.

2. Anticipation. That one's huge, and would be a full article all on its own, but basically, you can use a character's anticipation to direct the audience as well. One way it would relate to a multi-character scene would be to have the character who is listening but about to speak - that character could anticipate their response. For example, let's say Andy is talking about being so tired from the run and how he wants to quit, and Jay, who is more athletic, is disagreeing with him. Maybe 3 seconds before Andy is finished talking, Jay could start shaking his head (indicating he disagrees with him). This shaking of the head would not only lead nicely into Jay's next line, but it serves as a nice way to transition the attention of the audience from Andy over to Jay, and when Jay starts talking, the audience is already focused on him.

3. Contrast. This plays along with the "primary/secondary" idea, but just to clarify, I think you can think of that whole concept as "contrast." If you have 5 characters dancing around, and one is standing still, we're going to look at the still one, at least until he bores us. If you have 5 characters standing still and one dancing around - well, it's obvious which we will focus on. The dancer! The point is, making someone "primary" doesn't always mean you are giving them bigger and broader actions (though it often does), it simply means that they are doing something that contrasts enough with the characters and environment around them, that it

draws our eye.

4. Composition. Definitely an article all on its own, but it's certainly a factor in directing the eye of the audience. Where you place characters within the shot not only can inform their status and emotion, but can certainly affect the likelihood of the audience paying attention to them at any given moment.

So, these are just some of the tools that you can use to work your way through a multi-character shot - something that can easily become a confusing, jumbled mess. Always err on the side of caution - you are much better off having a less entertaining scene with clear communication than you are with a visually active confusing scene.

The goal, of course, is to land somewhere in between, with something that is visually interesting, fun to watch, and clearly communicates the story points, actions, and emotions of the characters!

Good luck, and have fun!

Keep animating...

-Shawn :)

ACTING

Hello Animators!

Welcome back! Last month we talked about multiple character shots, and in particular, about how important it is to keep your secondary characters doing secondary actions. How you usually want to try to have only one primary character in any shot at any given moment, and to use your knowledge of composition, staging, and motion to lead the eye of the audience through any shot, no matter how many characters are talking, or how busy the scene is.

If you've read more than a couple of these, you know I'm just jumping randomly around to whatever happens to seem interesting to write about each month, so sticking with tradition, this month we're making a big random jump out of the "practical application" world and taking a short detour into something a little more conversational. A little more intangible, I guess.

This month I want to talk about acting just a little bit.

Not how to do it, but why it's important to try.

Here's a little pop quiz: raise your hand out there if you're an actor...

Anyone?

Okay, well - that's sort of a trick question. If you are an animator, you *ARE* an actor. If you want to become an animator, then you're signing up for a lifetime of studying acting, and I think it's important that you think of yourself that way.

TIP #6: A great animator IS a great actor, and that needs to be a goal for each and every one of you.

Don't believe me?

Okay, what is an actor's job? An actor's job is to become their character so completely that they can deliver a performance that an audience can believe in. An actor's job is to take the direction from the Director, and to deliver the required story-points, emotions, and actions -- all without any dialogue or narration, if necessary.

How is that any different from an animator's job?

We have to do the same exact thing, only on top of the actor's job we also have to be masters of body-mechanics, physics, and artistic presentation (composition, staging, silhouette, etc.) In fact, I'd argue that our job is often more difficult than an actor's job, because we have to do almost everything an actor does, and then on top of that, we have to have the ability to break that performance down into tiny 24-frame-per-second increments!

Actors have the luxury of living in the real world. They have real props, and real actors to interact with. If an actor is going to storm out of a door, he gets into the character's head, tries to feel the emotion of his character as truly and deeply as he can, makes sure he knows where his marks are, and that's it! Off he goes, storming through the door, angry as all get-out, and slams the door behind

him.

That actor doesn't have to think, "Okay, I'm really really mad, so I'm going to storm through that door. So, hmmm... Okay, first, I want to take a step with my left foot, so I better shift my hips over my right foot, and rotate them on the x-axis so my right hip drives upwards as the weight of my body comes to rest completely on that right foot. Oh, and I better remember to counter that with the shoulders, and offset the overlap of the arms as I swing around to take that first step, or I'll probably just fall over."

NO! An actor just thinks "storm through the door" and that's it! His body will automatically do all of the things you have to truly break down into minute individual (but deeply inter-related) actions.

Animators have to create a performance (hopefully) every bit as evocative as that actor, AND be a master of how the body mechanics will work and everything else besides.

It isn't an easy job, but boy is it a fun puzzle to tackle, and so satisfying when you really nail it.

Here's the thing - people don't give animators enough credit.

Remember the first time you saw that T-Rex in Jurassic Park busting through the trees, almost on top of the jeep? The whole theater screamed! Afterward, people were talking about how scary that T-Rex was.

What? What T-Rex? It wasn't real! The T-Rex didn't scare anyone! The *ANIMATOR* made them all scream! Sure, the music, and directing add to any scary moment, but the animator is the single person who brought that dinosaur to life to such an extent that a theater full of people screamed.

How cool is *THAT*!?

Or what about Buzz and Woody from Toy Story? How many times have you heard kids talking about how funny Buzz and Woody are?

But Buzz and Woody never made anyone laugh. They never made anyone cry, or scream, or feel inspired. Buzz and Woody are only ideas. They're a bunch of math, and that's it. They're a file full of bits and bytes and ones and zeros!

The Pixar animators breathed such life into Buzz and Woody, that children all over the world believed, truly believed - even if only for those 80 minutes, that those characters were truly alive. That Buzz had real feelings. That Woody had real dreams.

That's some pretty powerful stuff, if you ask me.

It's the closest we've got to real magic.

Sometimes, as an animator, you might wish for some recognition, or dream of the day when a poster trumpets the fact that a character was animated by Glen Keane or James Baxter, rather than pointing out that Mr. Bigshot Celebrity spent two whole days recording the voice track.

Will that ever happen? Maybe. I doubt it, but who knows. Either way, it doesn't really matter, because in the end, the magic of this animation stuff doesn't have anything to do with individual recognition. It inspires kids! It spreads laughter around the world. It gets people thinking about things they normally might not think about. It lets people of all walks of life recognize universal truths about themselves and their neighbors. At the very least, it lets people escape their lives, no matter how hard those lives are, at least for a couple hours.

The point, I guess, is this: if you don't make a conscious effort to study at least the rudimentary basics of acting, you will NEVER imbue a character like Woody with the life that Woody's audience so wants to see. They WANT to believe in him. They WANT to identify with him. You only have to give them a real chance! If you don't truly become your character when you're filming your reference, you are short-changing the audience, and whatever performance you come up with will never be as powerfully evocative as it could have been.

If you ignore the principles of acting, you might be a good animator, but you will never be great. In short, you will have blown it as an animator. You will have squandered an opportunity to help entertain, inspire, and touch people, even in that small way for that short period of time.

And honestly? If you aren't gunning for becoming "great," then you might as well just give up now, because you'll never get past "mediocre" with that attitude.

Am I the best actor? Am I "great?" Of course not! Not even close. I have a ton to learn about acting (and always will - yet another of the many facets of our art form that are far too complex to ever completely master), but I do know enough to know that the pursuit of acting skills is as important to my animator's toolbox as any nice figure-8 arcs are.

And I also know that getting lazy, stopping your learning process, and saying "okay, I'm good enough" is Step 1 in the "How to Become a Washed-Up Burned-Out Has-Been Animator" manual.

Will I ever be a "great" actor? Will you? Beats me. That isn't the point. The point is that I'll spend the rest of my career trying to push my art to that level, and even if I'm never the Greatest Actor/Animator On Earth (which, come on - let's face it - probably isn't ever going to happen), at least I'll know that I spent every day trying my best to get there.

And in the end, isn't that what truly matters? Isn't that what will give your life, (and by extension, your work) that feeling of satisfaction, growth, youth, and fun?

I should apologize for how preachy that got. I just think acting is such an important and overlooked skill for animators. Future articles might get into more practical "acting tips," but then again, I never really know until I sit down what I'll be blathering about, so who knows.

Whatever the next article is about, I promise it'll be more practical!

As always, keep animating, and have FUN!

- Shawn

EXAGGERATION

EXAGGERATION

Hello there!

Welcome back to our monthly Tips & Tricks article, where I pretend to know all kinds of mysterious secrets of animation. Hopefully they've made at least a little bit of sense so far! Last month I veered off onto a tangent about how we are all actors, and how we must think of ourselves that way, but I also promised to be more practical this month, so what to talk about?

Well, this morning I got an interesting question from someone about exaggeration - specifically, how much exaggeration is too much? Where do you draw the line?

Sounds pretty practical to me, so that's what we'll be talking about today! (See how lazy I am? Good thing he didn't ask me about my favorite socks, or else you'd all be hearing about the magic of Thorlo socks for 2 pages!)

Okay, so...

If you're an Animation Mentor student, you've seen the video lecture about exaggeration, and know how important it is. You know John Lasseter describes exaggeration as "accentuating the essence of an idea via the design and the action." You know the amount of exaggeration is probably the single biggest defining aspect of the style of the animation. You know how to use it to sell the weight of a character, or to spotlight a story point. Above all, you know that exaggeration is used for clarity. Clarity of ideas, clarity of jokes, clarity of personality, and clarity of physical traits.

But that overriding question comes up again and again, especially in our first few years of animating -- how much is too much?

So, here's my two cents on that:

Tip #5: It's Too Much Exaggeration When the Audience is Confused

Yeah, I know that sounds like a "duh" statement, but I really think that's the answer. Once again, it boils down to the fact that animation is both a collaborative and a communicative medium. You aren't just animating something for yourself and your Mom, you're trying to create a piece of art that speaks to people. That will make them laugh, or tell a story, or further a plot point, or show off a cool character trait.

The only way to know if your animation is working, once again, is to show it to someone. To make the conscious effort to seek out quality feedback on your work. Again, your best bet is usually to show it to a fellow animator, but almost anyone can give you feedback on your work. Your father might not be able to tell you how to fix something, but he'll probably be able to at least tell you whether or not he can read the emotion of the character, or understand what's going on. Even that can be a huge help to you.

Anyway, if the whole point of exaggeration is clarity (which would be a whole series of articles alone, so I'm not even going down that road right now!) then the only way to know if you've used exaggeration successfully is to show it to someone. You can go really far with your animation without showing it to anyone, but at a certain point, you *must* get the opinion of someone who hasn't seen it before, and doesn't know ahead of time what is intended to be happening in the scene. If they get it, then congratulations, you've nailed it! If they don't, then it's time to take a hard look at your scene and figure out why they've missed the story point, or the gag, or whatever it is you were trying to sell in your shot.

Exaggeration is a very delicate thing to play with. You must balance reality with your exaggeration -- you have to ground it in a foundation of our universe. If you just start randomly exaggerating everything in sight, the scene will be convoluted, confusing, and impossible to watch. You have to give the audience a foothold in reality, or they will have no way to connect to your work.
This applies to every level of exaggeration, in my opinion. Exaggeration in cartoonier work (such as Warner Brothers), realistic work (such as Weta), and everywhere in between.

A lot of people mistakenly think that exaggeration has no place in realistic animation, by the way, and they couldn't be further from the truth. Even in studios such as ILM, Weta, and Sony, where we are trying to painstakingly create something as believable as the actual human actors our characters/creatures/monsters/aliens are standing next to -- we still employ the idea of exaggeration every day. We simply use it on a much subtler level than it would be used for say, Ice Age 2 or Madagascar.
As Ollie Johnston said, "Don't make it real, make it believable."

That applies just as much to the "realistic" work of the FX studios as it did to Disney's. Again, it's all in how much you use.

A tiny bit of exaggeration can take realistic work and push it into something dynamic, entertaining, and exciting, but still believable. Anyone who's worked with mocap knows the amazing difference a bit of carefully applied animation principles can make - bringing it from a truly realistic (but often dull and lifeless) performance, and turning that into something worth watching.

The more exaggeration you apply, the cartoonier your work gets. Madagascar is cartoonier than Ice Age is cartoonier than Incredibles is cartoonier than Kong. The only reason for this is the varying levels of exaggeration used in the movement, and that level of exaggeration is defined by the chosen style of each of those films.

So, as far as "how much is too much?" the first question you need to ask yourself is: "What is the style of this project?" Is it super stylized? Exaggerate your heart out! Realistic? Better reign that exaggeration in, or your supervisor is going to be wondering what you're smoking!

So, how much is too much? Well, it's too much if you exaggerate beyond the bounds of the style you are working in, for one thing. I can't exaggerate a dragon in Eragon nearly as much as someone could exaggerate a dragon in Shrek, for example. But I'm still exaggerating. I'm exaggerating poses and timing to try to have something look as dynamic as possible. I push those silhouettes, accentuate the lines of action, etc. I just can't be as broad on this film, as I could have if I had worked on something like Ice Age, that's all.

Neither is better, of course, it's just applying the same exact principles in different amounts.

If you are new to animation, the first thing I'd suggest is watching a LOT of animation and trying to absorb the differences between the various styles you see. The second (and more important) thing I'd suggest is to get in there and start experimenting. If you animate a bouncing ball, do a few different variations of exaggeration levels. Maybe do one that looks real, one that looks super cartoony, and one that's somewhere in between.

But again, how do you know when you've crossed that line? You show it to someone!!!

If you are scared to show your work to someone, well, I'm really sorry, but get over it. The truth is that if you are going to be a successful animator, a part of your job will be having a thick skin. You have to train yourself to like criticism. To seek it out, in fact! There aren't very many jobs where people have to actively seek out criticism, but without it, your animation will never be very strong. It's how we learn, and it's how we grow.

In a studio, you'll sit in dailies, surrounded by your peers, many of whom will be more experienced than you. You'll have to see your

work, as rough as it may be, shown up there on the big screen to a room full of people who's job it is to judge you. You'll have to be open to their comments. You'll have to listen to them talk about your mistakes.

The first few times you're in dailies, this is the scariest thing in the world, but eventually your skin hardens into a criticism-repelling shell, and you can see the comments for what they truly are - people trying to make the project as good as it can be.
Okay, I can feel myself being pulled down yet another tangential causeway into a whole new topic of being open to feedback, so I'm going to flip this boat around and get back to exaggeration before it's too late, and we're lost for all time...

Exaggeration. How much is too much? It's too much if you break the rules of the universe your work takes place in (different rules for different projects, of course. The universe of the Matrix is slightly different than the universe of Star Wars, just as the universe of the Incredibles is slightly different than the universe of Toy Story, for example. And secondly, it's too much if you push things to the point where the audience does no longer clearly understand your work.

And for both, the only way to know, is to (I know, how many times can I say this in one article?!) show it to someone. (That's the last time, I swear).

The whole point of exaggeration is to make things more clear, but it's easy to zip right by the world of clarity and into the Land Of Confusion, so be really careful, and get some other eyes on your work before you spend too much on it. (Oops, okay, THAT was the last time. Really.)

And like anything else, planning exaggeration is essential. You don't just guess. You don't just start scaling curves to create bigger movements all over the place. Exaggeration should be as carefully planned as any other aspect of your scene. If everything is exaggerated, your scene will be a mess. If only one thing is exaggerated, it's going to stick out like a sore thumb and feel very unrealistic in all but the cartooniest work.

Okay, that's it. See ya next time! And don't forget to email me with your questions at tipsandtricks@animationmentor.com.
Have fun, and keep animating!!

FORGET ABOUT THE LEGS

FORGET ABOUT THE LEGS

Hello animators!

Okay, get ready for a shocker...

I'm actually going to talk about something *PRACTICAL* for once! No, really! I'm totally serious. I know you think I'm going to *start* to talk about something practical, and then careen off into some bizarre tangent that's only barely relevant to anything you're working on, but this time, I'm really going to pass on an honest-to-God, bona fide "trick."

I mean, this is called Tips & Tricks, isn't it? All I've talked about are tips, mostly, I suppose. Mostly esoteric animation stuff I've probably spent FAR too much time thinking about... Not much in the way of "if you save a key on this frame, and then a key on that frame, a good trick to favor one over the other in your timing is to blah blah blah" so far, right?

Well, forget tips for this month. It's trick time.

Trick #1: Forget About the Legs

Okay, so here we go. First of all, like most great tricks, this isn't something I thought of myself. It was handed down to me by who I consider to be one of the most talented animators I know (Glen McIntosh, Animation Supervisor at good old ILM), and boy oh boy did I have a hard time wrapping my head around it.

The trick is this: if you're doing an action scene, you hide the legs until you're happy with the body animation.

That's it. It isn't terribly complicated, but man - it was really scary for me at first, but I have to say, I've found it extremely helpful. Basically, the idea is this -- if you nail the timing and posing of the body (hips, torso, etc), then the position of the feet will already be dictated by the position/timing of the body, so if you just hide the feet and legs to begin with, and block in the body, you get the feet/legs for "free."

My first reaction to this was incredulous. "How do you know where to put the hips if you can't see the feet!?" I had a really hard time imagining working this way. I've always been a pose-to-pose guy for the most part. Thinking about my scenes as a series of (hopefully) strong full-body poses. I couldn't imagine ignoring such important parts of a pose when blocking in my work.

What I've found, however, is that this method can save you some time, as long as you still do your planning, and know (at least in your mind) what your main poses need to end up looking like. You'll likely have to get in there and adjust the hips and body position slightly to accommodate issues that might pop up when you start dropping in your leg animation, but for the most part, if the body truly looks right, the feet ought to work.

The big bonus is that you don't have to slow down to reposition your feet constantly if your character is running around, flipping, spinning, jumping, etc. I was amazed to discover what an anchor the legs were on my "blocking time," and how much spending time with them really slowed me down.

I've used this method on four films now, and I'm finding that in any action-intensive scenes, I'm relying on this method more and more to block my work in quickly.

As an example, there was a scene in Star Wars 3: Revenge of the Sith where I had this idea of having Yoda chop this guy down and then throw his lightsaber at another guy, leap up onto his chest, pull out the lightsaber as the guy falls, and then leap over the dying guy's head to attack the next clone trooper in line.

This was one of the first times I really used Glen's trick of hiding the legs, and it worked so well for me that I used his method throughout that entire sequence.

First thing I did was hid his legs and feet, including the nurbs-curves of the foot controllers. So now I've got legless Yoda just standing there. I left his arms showing, left his head on, and kept his butt/hips so I could at least see the line of action going through his body (which helped me plan where I'd want the feet to plant later on, in order to have the strongest poses and silhouettes.) I blocked in the whole shot this way. Legless Yoda floating around, killing clones, throwing his saber, jumping, landing on the guy's chest - all of it. Once the timing of the body felt right to me (which, by the way, meant that it didn't feel floaty at all, but felt like he was actually landing on feet, of course), then I turned the legs back on.

The legs are IK, so of course he was basically just flying away from his feet, and he looked like a ridiculous green midget Superman at first, but as I started to block in the feet, I was blown away by how easy it was.

I placed his feet on the first frame into the pose I had already been planning to aim for, and then simply moved frame-by-frame through the shot (animating the feet in a continuous "straight-ahead" style) and looked for the frames where his legs would suddenly hyper-extend and do the wonderful "IK-POP" we all know and love so much. When I'd find that frame, I'd simply back up one frame, save a key on that foot, and then start to raise it on the next frame. I'd go forward until his body started to "fall" onto the foot (the down part of his run), back up a couple frames, plant that foot that had just hyper-extended a few frames before, and viola! He was running around!

In other words, his body position was dictating when I'd *have* to lift the foot, or else the legs would hyper-extend and pop.

So far, I've animated 2-legged Yoda this way, 3-legged walkers in War of The Worlds, and the 4-legged dragon in the upcoming Eragon, as well as a couple things I'm not allowed to talk about yet (sorry! Don't you hate that?!), and it's been incredibly useful in every case, regardless of the shape of the creature or how many legs it happened to have...

You might be thinking this sounds insane, which is exactly what I thought when Glen tried to convince me, but it's worth giving it a try if you've never experimented working this way. Maybe, like me, you'll find it handy.

Yes, it's a slightly "layered" approach to your animation, but I still think of my work as 100% pose-to-pose. I'm merely putting off adding the feet to the pose that I already know I'll eventually want.

The benefit of this is primarily a savings in time. Instead of mucking around with the feet as your move through the shot, inevitably creating a lot of keys that will probably have to be adjusted throughout the blocking process, you're ignoring them until you know exactly where they will need to be placed, and exactly what they're timing will have to be in order to accommodate the cool timing of the body that you've just nailed down.

Hope that helps someone!

So there it is, our first actual mega-practical "trick." If anyone actually reads this column and has an opinion one way or the other about whether they'd like to see more "tips" or more "tricks" in the future, email me at: tipsandtricks@animationmentor.com and let me know!

Keep animating, and as always - have FUN!

- Shawn

TRACK YOUR ARCS

Okay, before I get started this month, I just wanted to take a second to thank all the people who wrote in with comments, ideas, thoughts, jokes, etc. It was a kick to hear from you, and honestly, kind of weird (but exciting!) to find out that people other than my girlfriend and my Mom actually read this article!

From here on out, feel free to continue to hit me up with any thoughts at: tipsandtricks@animationmentor.com

A lot of the feedback I got was very positive in terms of last month's deviation into the world of practical "tricks," which seems to have been a particularly nice diversion after so many months of sometimes intangible animation theory.
In light of that, how about another trick?

I'm kind of torn, here, between feeling like a lot of the tricks that spring to mind are commonly known among animators, and thinking that there are also a lot of newer animators out there reading this article who may not have already been to animation school.

Last month's "hide the legs" trick was pretty advanced (again, I wouldn't recommend trying that method until you've animated for a couple of years or so at least,) so this month let's give you newer folks something easier (but not less helpful) to try!

TRICK #2: Track Your Arcs!!

I'm sure many of you have already discovered the fantastic combination of dry-erase markers and your monitor. Like peanut butter & jelly, prosciutto & melon, and fried chicken & my taste buds, these are two things that were destined to make a great team.

For the rest of you, the trick is this: use a dry-erase marker (such as the ubiquitous "Sanford EXPO" or an "Avery Marks-A-Lot") to track your arcs, through time and space, by tracing the movement of your character across your screen.

Now, before we go any further, let me quickly touch on a *****VERY IMPORTANT***** difference between a "dry-erase marker," which are traditionally used to draw on white-boards and are easily wiped away, and a Sharpie, which is traditionally used as a non-smearing permanent marker.

Dry-erase markers are, as their name implies, easily erased.

Permanent markers, such as Sharpies, are.... yup, you guessed it! Permanent!

It may sound like common sense to you that one would work well drawing on your computer monitor, and one wouldn't.

Well, I think it's important to talk about anyway, because I happen to know of an animator, who will remain nameless but may or may not write a monthly "Animation Tips & Tricks" article for the newsletter of a certain online animation school, who got a little too caught up in the excitement of polishing up one of his shots one night at home. This Anonymous Animator, who may or may not love fried chicken, intelligently kept all of his pens in one jar on his desk (smart, huh?).

Felt-tips hanging out with Hi-lighter pens... Ball-points chillin' with metallic ink pens... Sharpies buddy-buddy with... yup, once again, you guess it - with dry-erase markers.

So, this anonymous animator, who may or may not be.... um.... me, snagged the nearest fat pen out of his jar and started tracking his arcs on his monitor. Luckily, his animation-induced euphoria only lasted for the first two dots before he realized he was marking his monitor with a fat-tip PERMANENT SHARPIE!

That's right. Sharpie. Guess what happens when you put permanent sharpie ink on your monitor? It stays there! PERMANENTLY! I... I mean, the Anonymous Animator, had to live with two beady little black eyeballs dotting his monitor for the next few years.
So, trust me when I caution you to be extremely careful which pen you use to do this trick, ok? Dry-erase only! Make sure it says dry-erase on the marker, or don't put it anywhere near your expensive screen.

Okay, back to the trick...

You've likely already heard the importance of building nicely flowing arcs and figure-8 curves into the movements of your characters. (If you haven't, shoot me an email, and maybe I'll make that my next topic!) That's all well and good from a theory side of things, but practically speaking, how do you make sure your arcs are nice?

Well, there are a couple of ways of doing this (many animation programs have a ghosting function you can use to see the arcs, for example, but I find this difficult to use in complex motions,) but my favorite, and the favorite of most professionals that I know, is the simple act of plotting a dotted line on your monitor with your trusty dry-erase marker.

You should be thinking about your arcs in the planning stages of your work. Certainly, in the thumbnails you should be considering whether or not the head will move in an over-arc or an under-arc, or how the tail might swish back and forth with the tip tracing a figure-8 pattern. Next will be the blocking stage, and you should DEFINITELY have your arcs in mind when blocking in your keys and breakdowns. One of the primary functions of the breakdown, in fact, should be to define the arcing path of the hips and limbs, in my opinion.

However, no matter how well you plan your arcs, and how well you block in your scene, your arcs are not going to be perfect most of the time. You might play your scene back and think, "wow, my arcs are great!" but if you really get in there and track them, and truly smooth them out, you will see a subtle but powerfully fluid difference in your next render.

Here's what I do:

Once I feel like I'm about 80-90% done with my work, I bust out my trusty Marks-A-Lot or my Expo, and get to work.

First, make sure you're working from your camera view. Those of you creating in-game 3D work for video games will have an even bigger challenge as you'll track the arcs from many different angles, but for many of you, your animation will end up being seen on a flat 2D surface (a computer monitor, a TV screen, a movie theater screen, etc.) In those cases, the only camera we're worried about at this moment is the actual camera view, because that is the arc that will matter.

So, in my camera view, I'll first select the hips of my character. In Maya, I can select the nurbs sphere that I use to control the placement of the hips and hit the "w" key, putting me into "translation" mode. This is nice, because it brings up your little multi-axis icon, and that icon has a little box in the center of it. This is an easy way to see the exact center of the hips on any given frame.

So, I'll go to any parts of my scene where the hips are doing something big. Let's say my character is going to ring a bell by pulling down on a rope. Through planning my scene, I've discovered that all of the force the character is going to use to pull on that rope is through a wave action that moves from the hips, through the spine, and finally out into the arms, and that wave action is caused by a clockwise outwardly-spiraling arc of the hips.

Wow, was that confusing? I wonder if I could possibly have chosen a more complicated example for this... jeez. Well, it's too late now, folks. We're in too deep. See, we're already two paragraphs into this example, and I haven't eaten dinner yet (nope, not fried chicken tonight... I wish!) so there's no way I'm going back now! We'll just keep slogging through the bell-pull. Trust me, we can do

it...

Anyway, the hips move in a clockwise spiraling arc that goes like this: They move back and down a bit, then up, then forward, then down and forward, and then down and back, and then start to move up and back.

Jeeeeeez. That was even more confusing than before. Holy moly. Are any of you following this at all?

Basically they're moving in a circle, but it's getting wider as you move through time.

Okay, never mind. Let's just move on before I confuse you any more than you already are...

So, in my blocking, I'll hopefully have the hips traveling in a somewhat circular pattern.

However, it most likely isn't PERFECTLY on a nice arc. This is where my pen comes in. I'll go to where that specific hip motion begins, select the hips, hit "w," and then put a dot right in the middle of my translator icon. Then I'll do the same thing on the next frame, and all the following frames until that motion is pretty much done.

Now you just play the "connect-the-dots" game you might have played as a kid. Guess what you'll find? An arc vaguely resembling a nice spiral, but also vaguely resembling a spiral drawn by an over-caffeinated monkey. You'll probably see that some dots are too high or too low, and the resulting path you traced has jitters and bobbles and wobbles and bends. It might even double back on itself, or hit sharp 90 degree corners and career off to the next key.

This is normal, and will be worse the less-experienced you are, so relax.

The next step, is to draw onto your monitor the path that you WANT to have. You can do this with a different color, or you can just amend the path you just drew. Either way, the goal is to end up with a nice drawing of the spiral curving arc that you'd ideally like to have.

Now all you do is go back to your keys and breakdowns, and readjust the hip controller to always be on that path. Sometimes you'll have to do this on every frame, but usually you can just adjust the key poses and breakdowns. Most likely these will be subtle adjustments, but sometimes you really screw things up early on and this step can occasionally become a major construction zone, with some serious reworking needed to make the path work correctly.

If so, just suck it up and do it, because believe me - it'll make all the difference.

In fact, I think a lot of the time, the difference between amateur animation and professional animation is nothing more than some really clean and pleasing arcs in the motion. It can truly make all the difference.

Since the hips can often affect the position and movement of the rest of the body, it's important to begin there before moving on. Once I've got the hips on a nice path, I can move on to the rest of the body.

For this scene, my next targets would be the hands. I'll select the right hand controller, hit "w," and go to the frames where he's lifting his hand to grab the rope. I'll track each frame, connect the dots, rework my path, and make sure his wrist slides nicely along it. Most likely, this will be a skinny, interrupted figure 8 path, with the hand moving up slightly higher and further forward than it needs to go, and then arcing over and back down a bit as it grabs the rope.

In any given scene, I'll usually do this exact process with the following points:

1. Hips (unless the character is pretty much just standing there)
2. Hands (always)
3. Feet (depending on how active they are)
4. Tail (I'll always track the tip of any tail on a character to make sure it's always flowing along an appealing path of arcs and figure 8's)
5. Nose (the nose is always a nice point on the head to track, for head turns, etc)

6. Mouth corners (sometimes it's really nice to get them moving on tiny little arcs as they curl up into a smile, etc)
7. Props/weapons (such as the tip of Yoda's Lightsaber)

I think this really hit home with one of my Yoda shots. I had him doing all these laser-blocking moves as a crowd of clone troopers were firing at him, and I thought it looked pretty cool. Then I realized I was being lazy, and I kicked myself in the butt and got in there and tracked the tip of that lightsaber for every single frame in the shot and made sure it was always on flowing looping figure 8 patterns (which were completely separate from the arcing path of the hands, in order to loosen the saber up a bit and not look like a stick glued to his palm.)

Holy cow - what a huge difference! I couldn't believe how much more appealing it looked, how much more clear the actions were, and how much easier it was to watch. That's when I added number 7 (props/weapons) to my list of things "Shawn Will Always Track." Every once in a while, there may be other things to track, such as an elbow, or even occasionally a shoulder movement or something, but most of the time you won't have to get that in-depth.

Does everything move in perfect arcs in real life? Well, not always 100% perfectly, no. But generally speaking, everything organic on this planet moves in an arc MOST of the time. The only things that don't move in nice arcs are machines built by man, maybe some insects (which are most likely just moving in arcs too small for us to register), and our eyeballs, which to me, are the only "darting" movements on the body that could be thought of in a more "robotic" way.

From the tip of a tree swaying in the wind to the throwing arm of a baseball pitcher -- every living thing moves in an arc. Whether we know it consciously or not, that's how we're used to seeing the world, and believe me, if the audience sees some jagged angled "arcs" up there on movie screen, or on their television, or in their video game, they are going to feel that it's fake. Maybe even subconsciously, but they'll feel it.

So, get out your dry-erase markers and start connecting some dots! I bet you'll be surprised at what a difference it'll make.

Okay, that's it! If my calculations are correct, next month will be the one year anniversary of this article, (wow!) so next month let's all celebrate together. When you read next month's article, read it with a bacardi anejo y coca in one hand, and some fried chicken in the other. That's how I'll be writing it!

Keep animating! And, as always, have FUN!

-Shawn

TRACK YOUR ARCS – PART II

Well, guess what time it is?

It's time to celebrate!! That's right, this is the one year anniversary of our famously rambling tips & tricks article!
A year ago I thought this was going to be a three part article about planning your scenes... Knowing my tendency to ramble, one of the fellas at work said he doubted that I could keep my "planning article" to a mere three parts. Well, here I am a year later, still rambling on and on about all things animation, so I guess he was right!

Anyway, I've been having a lot of fun writing it, and even more fun hearing back from you guys (hit me at: tipsandtricks@ animationmentor.com), so it's time to sit back, reflect on a year of tips, and most of all - to celebrate! I warned you that I'd be mowing down on fried chicken and drinking a celebratory Bacardi Anejo y coca (that's aged Bacardi, which tastes approximately 1000 times better than regular Bacardi, and Coke), so that's exactly what I'm doing!

In light of that, I should probably try to write fast, because if I start to get tipsy, there's no telling how long this article might get, or what bizarre tangency we might find ourselves pulled down... I can only guarantee true animation talk for 2 drinks, at most. If I hit drink #3 and we're still all sitting here, there's a very real danger that we'll start talking about a lot less about animation and a lot more about fried chicken, why I hate moths, and the dream I had last week where undercover agents were attacking me with angry attack chickens...

Anyway, if you're of drinking age and want to join in with me for my One Year Anniversary celebration, you'll need the following:

A glass.
5 pieces of ice.
1/2 can of Pepsi (or Coke, if you think Coke tastes better than Pepsi, but you're wrong)
1 1/2 shots of Bacardi Anejo (or a little more, if you're feeling especially macho)

Mix all of those things together, and prepare for some tasty goodness!

So... First off, I want to address a few comments I got in the email last month:

I heard some great tips about removing permanent maker ink from your monitor (where were you guys when I needed you!?!), so while I have no idea if these ideas actually work, if you find yourself with ink on your monitor (as I did), you could take Yudhatama's advice and try paint thinner to remove it... Or you could listen to Chad T, who found that going over his permanent marker mistake with a dry erase marker made the ink erasable! (Great tips! Thanks!)

Someone also pointed out that I should have elaborated more about using dry-erase markers on an LCD monitor. If you don't want to draw directly on your monitor (which isn't the greatest thing for your LCD monitor, potentially), some people get a hold of a piece of plastic, or Mylar, or a clear animation cell and attach it to their monitor with tape. When they want to draw, the simply flip the cell down in front of their monitor, track their arcs, fix their work, and then flip the cell back over their monitor. (Thanks to Jeff G for this great idea!)
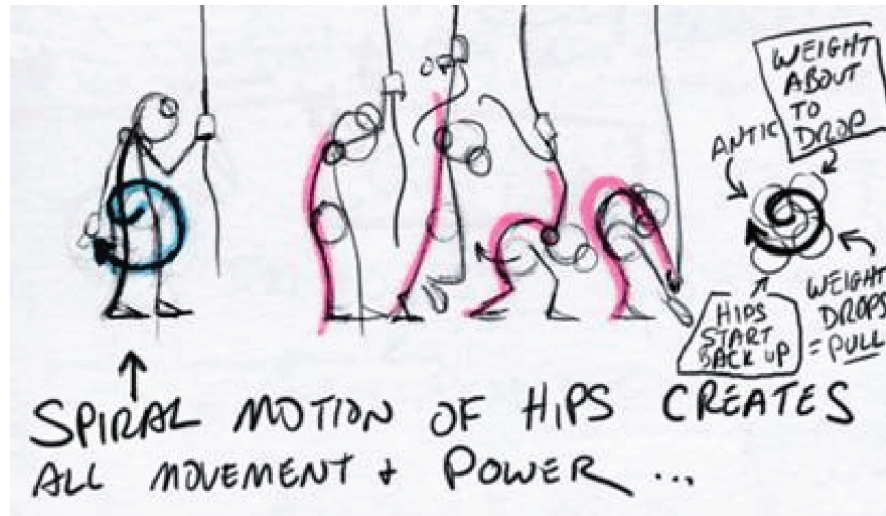
And since we're in reader-feedback mode, I had a request from Jessica Duenke to send out a visual example of my bell-pull description from last month (which she kindly neglected to mention was the most confusing description of an animation example in the history

of animation examples). In case you are a new reader, or (more likely) your horrified brain immediately rejected and erased the memory last month, I was talking about the spiraling motion of the hips generating all of the power in a "bell-pull" example.

I dug around through my notebooks, and happened to see an old quickie sketch I had done for some students in a class once when we were talking about something really similar, so I went ahead and scanned it in.

While this was a very quick drawing done on the spot, it's actually pretty exemplary of the extent of my drawing skills these days, so in case you've been harboring any illusions that you're reading a tips & tricks article written by someone who can draw like James Baxter, prepare for immediate and sobering disappointment.

Shawn Kelly's bell-pull example:

...Okay, for those of you who didn't immediately close the newsletter in disgust, the blue line is the exaggerated spiraling path of the hips I was talking about tracking the arc of, some of which is roughly broken down on the far right as well. Obviously this is only one of a gajillion ways to animate a bell-pull, but it was a way to illustrate my point. (James Baxter did an amazing bell-pull at the beginning of Hunchback of Notre Dame that's worth frame-by-framing, by the way. (Awesome example of force).

Anyway, that was a pretty awesome drawing, huh? Check out how when he stretches up onto his toes, he's the exact same height as when he's standing there hunched over. Talk about volumes being all out of whack... Yikes! And those circles at the top of his arms are supposed to indicate shoulders, by the way... ugh.

Wow. Looking at it now, it's really....embarrassing.   I'm so tempted to delete this, but I'm way too lazy to redraw it properly...   Hang on a minute, time to refill Mr. Bacardi Anejo before I get too depressed.

Okay, I'm back and feeling much better! Mr. Bacardi Anejo was just telling me that it's "okee dokee artichokee" not to redraw the abomination you see above, and is helping me justify my laziness by claiming that I'll have more time to write if I don't spend time redoing an old drawing... Wow, cool! Thanks, Mr. Bacardi Anejo! You're such a swell Anejo! (even if you do use words like "artichokee...")

(uh oh, drink #2 is showing, huh? I'm pretty sure that when you're having a conversation with your drink in front of around 18,000 people, you're officially tipsy).

Anyway, what I had written last month was the following, and hopefully it might make more sense now, unless the drawing is so horrible that I've confused you even further. (If so, then I apologize, but respectfully blame the combined efforts of Jessica and Bacardi Anejo):

"Let's say my character is going to ring a bell by pulling down on a rope. Through planning my scene, I've discovered that all of the force the character is going to use to pull on that rope is through a wave action that moves from the hips, through the spine, and finally out into the arms, and that wave action is caused by a clockwise outwardly-spiraling arc of the hips.

Wow, was that confusing? I wonder if I could possibly have chosen a more complicated example for this... jeez. Well, it's too late now, folks. We're in too deep. See, we're already two paragraphs into this example, and I haven't eaten dinner yet (nope, not fried chicken tonight... I wish!), so there's no way I'm going back now! We'll just keep slogging through the bell-pull. Trust me, we can do it...

Anyway, the hips move in a clockwise spiraling arc that goes like this: They move back and down a bit, then up, then forward, then down and forward, and then down and back, and then start to move up and back."
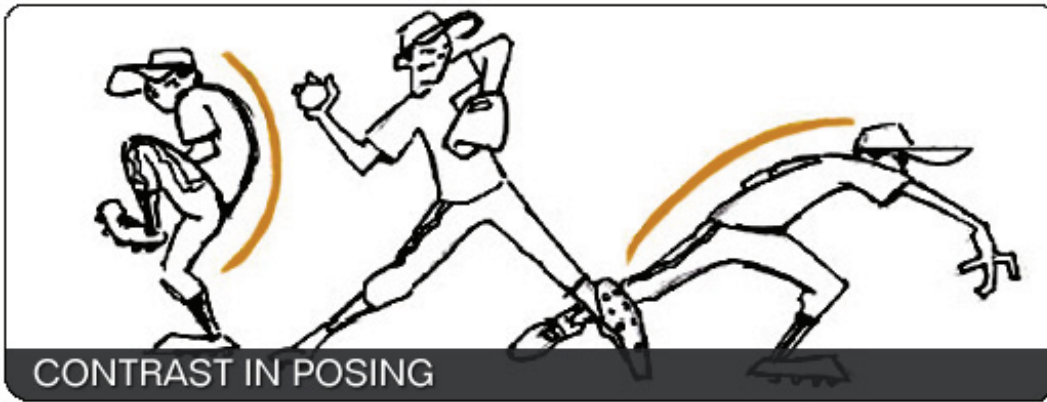
Does that make any more sense now that you've seen my masterpiece drawing? Hope so!

Okay, so this month's article is getting pretty heavy on reader-feedback. I think I'd better turn it into an all-reader-feedback article! Otherwise we're all going to be sitting here for a VERY long time, and longtime readers know that when I say "very long time," I mean "it's going to take you more than one day to read this."

So let's do a little more reader feedback, drink the rest of our Bacardi Anejos, and do our best to forget about Shawn Kelly's drawing abilities (or lack thereof)...

I got a couple emails asking about figure 8 arcs, which I had considered writing about tonight, but I think it'll have to wait for an upcoming article since we're rapidly approaching Drink #3, and we all know what happens then...

...Angry Attack Chickens. Need I say more?

CONTRAST IN POSING

CONTRAST IN POSING

Wow! I'm thinking of making a New Year's resolution to be more concise with these articles, but if you've been reading this column for a while, you know that's probably pretty much impossible for me, so why even bother. I get too excited about this stuff, and I have the unfortunate (for you) skill (thanks to my Mom's typing lessons 20 years ago) of being able to type 105 words per minute. (Yes, I just took an online typing test, and yes, that was thinly-disguised bragging.   ...to whom, I have no idea. Typing teachers, I guess). The consequence of this, of course, is that before I even start talking about today's topic, I know this is going to be a long one!

So buckle up, because this one's meaty. I am, by no means, the expert on this subject, but I'll go ahead and share the bits I've picked up along my animation journey...

Contrast.

If you're newer to animation, you're saying, "Huh? Contrast? Like the TV setting?" which was pretty much my first reaction too. What's contrast? Well, on your TV, your digital camera, or in Photoshop, it's the amount of grayscale that exists between black and white. But contrast exists in all things and in many forms, in every day life. Contrast is the difference between things. What's that have to do with animation?

TIP #13: Contrast Is The Key To Entertainment, Part I (Contrast In Posing)

There is nothing that will add more life to your scene than contrast. Contrast makes a scene fun. It gives it interest. It imbues it with a sense of immediacy and power. Contrast draws an audience into your scene and locks their attention. Without contrast, the world is flat. It's boring. Robotic. A scene without contrast is like being forced to listen to a monotone voice over and over, while a scene that has been carefully constructed to make use of contrast opportunities will pop from the screen.

People enjoy change. Maybe not when it's happening to themselves, necessarily, but we all enjoy WATCHING change. Regardless of how it affects us emotionally, we are drawn to tragedy, triumph, tears, and joy. We gobble up love story after love story, horror movie after horror movie.

But what's a love story without first seeing the characters before they fall in love? We pay for our ticket to see them actually FALL IN LOVE. To see them change. To see the process of the characters moving from lonely isolation to finding each other, falling for each other, screwing it all up, breaking up, realizing they are meant for each other, getting back together, blah blah blah. We watch to SEE these changes, these moments in time that are full of energy and drama. If a movie started with 2 people madly and happily in love, and we watched two hours of them simply going on romantic picnics, having dinner with their loving welcoming families, dancing under the stars, and then the movie ends and they're still just in love... well, come on! Could there possibly BE a more boring movie? That movie would put all but the most diehard romantics to sleep. And what about horror? We go to a horror movie to be scared, right? I want to be frightened. Creeped out, grossed out, whatever - I paid my $10, just make me feel scared walking back to my car after the movie and I'll be happy. But what would a horror movie be like if it was just endless non-stop "scary" images for 2 hours? It would all degenerate into noise after 15 minutes. It could be the creepiest, scariest imagery imaginable, and we'd all be bored out of our minds (and probably disgusted) in no time flat. Why? Because in order for a genuine scare to happen in a movie, there needs to be some periods of calm. Moments of levity. Give us some daylight, and a giggle at a funny conversation, and something happy. Then, and only then, can you WHAM us with something that'll really scare us.

It's that contrast that will truly frighten and entertain us. It's that contrast that will make us flinch and spill our popcorn and then laugh. And it's that contrast we paid to see. Just as the best photographs contrast the preconceived ideas of the viewer with the results they find, or how the best mysteries conclude with a revelation that starkly contrasts our expectations, or how the best comedies (or any good joke, for that matter) contrast the normal world with the absurd -- contrast likewise fills any animation scene with that most elusive and desirable ingredient, entertainment.

In short, it gives your audience a reason to look at it.... and better still, it gives them a desire to keep looking!

Animators use contrast in two key ways. We hunt for opportunities to use contrast in POSING and contrast in TIMING.

Let's talk about posing first.

Anyone who's taken a figure drawing class knows the most boring pose you can possibly draw is of a person just standing straight up, arms at their sides. Zero contrast. On the other hand, poses filled with contrasting shapes and angles create a sense of dynamism and strength, and give the artist a chance to convey the power and weight of the body. One of the most commonly drawn poses, the classic "contrapposto," evident in everything from classical renaissance sculpture to today's modern superhero comics, is simply a way of contrasting the angle of the hips with the angle of the shoulders, creating a far less stiff (boring) standing pose that helps us feel the weight of the body balanced over one foot or the other.

So right off the bat, we know that symmetry is boring. Why? No contrast! This is the basis for the concept of twinning, which should probably be its own article so I won't go into it here (want to hear more about twinning, or anything else under the sun? Hit me back at tipsandtricks@animationmentor.com) other than to say you should almost always avoid it. Anyway, the point is, if the right arm is raised and pointing, you should (as a general rule of thumb, but not 100% of the time) usually try to find something else to do with the left arm in order to create a more interesting, dynamic, and contrast-filled pose.

Where else could you contrast poses? Well, instead of just thinking about the static pose of a single frame, how about finding ways to contrast the poses that occur throughout a scene?

Reversals, as one example, are the most commonly employed facet of this idea. Reversing the curve of a spine from a "(" curve to a ")" for example. This basic principle - essentially a distilling of the wave/whip action that rolls through the body, driven by the arc of the hips and the shifting balance of weight - is what gives the power and force to a baseball pitch or the bell-pull I talked about a couple months ago. So, mechanically, you're pretty much forced to put reversals into many actions simply because the rules of body mechanics dictate that they must be there, BUT you should also be aware of the contrast you are building into these overall pose shapes, and the entertainment value they inevitably add to your shot.

Reversals are one of the most powerful tools an animator has in his arsenal for creating dynamic and powerful movements. You'll use them in everything from lifting a heavy object to big emotional changes, such as shifting from shy to confident. (A shy character will be hunched over, with the spine bent down, but when he discovers that confidence, it will likely be best communicated to the audience through an overall spine reversal, now being bent back, head held high, etc).

You can even apply this idea of contrast on a very subtle level to animation cycles.

I should qualify this by saying that if you have to do a short cycle, a 30 frames walk cycle for example, then you should probably steer clear of contrast for the most part. If you've done any cycle work, you know that anything of interest that happens in a short walk

cycle (say, a blink, or one hand having a different style of swing than the other, or one step being slower than the other) is going to jump out at the audience and scream "I AM CYCLED ANIMATION!!!!" from the mountaintops, so you usually want to keep short cycles as vanilla and bland as possible. Some characters, obviously, will require more "character" to their walk (say, a strutting gangster or a stiff military commander) which might require contrast between the steps, but otherwise, keep it mostly symmetrical. This allows other animators to use extrapolated versions of your walk-cycle in other scenes of the production and then build on top of your work to add in the necessary contrast throughout the scene.

Anyway, caveats aside, if you are doing a walk cycle that will be 10 steps or so, then I'd definitely encourage subtle (SUBTLE!) contrast throughout the walk. Maybe the left footstep takes 12 frames one time, and then a couple steps later that same step takes 11 frames. Then it takes 13, maybe. Or maybe the right shoulder drops a little on the 4th step, or the hips fall barely harder on the 7th step than they did on the 5th step. Tiny little additions like this will give your cycle a sense of organic life, and all these barely discernible differences will culminate in a more interesting, more "alive," cycle.

Okay, so have I harped on contrast in posing enough, yet? Thought so.

Let's move on to Timing.

You know what? Actually (sorry for the tease), this is already getting pretty long, and I have a *lot* to say about timing. If I dive into timing right now, we'll be here all night, and this article will be twice as long as it is now. I'll go ahead and save Contrast In Timing for next time.

In the meantime, it's been awesome hearing from you, so please feel free to continue to email any comments, suggestions, fried chicken recipes (thanks, Rosie!), or typing test scores to me at tipsandtricks@animationmentor.com.

So.... until next time, keep animating!

And as always, have FUN!

shawn :)

CONTRAST IN TIMING

CONTRAST IN TIMING

Hello animators!

Welcome to part two of contrast! It was great hearing from you guys last month (tipsandtricks@animationmentor.com), and hopefully this will expand on contrast enough to answer some of your questions.

Last month, we talked about the overall importance of contrast in entertainment and any art, be it sculpture, painting, photography, joke-telling, storytelling, horror movies, or love stories, and more specifically, we talked about the importance of using contrast in our posing. If you haven't read it yet, I'd encourage you to start with last month's article, which you can link to in our archives.

This time around, we'll talk about applying the concept of contrast to an area of animation where it's arguably even more vital than with posing: timing.

So, Tip #14: Contrast is the Key to Entertainment, Part II (Contrast in Timing)

Gene Deitch, in "How to Succeed in Animation" says the following:

"The art of animation timing is related to a basic element of all art, and that is contrast. What makes a painting, a drawing, a sculpture, a building, a play, a movie, or a piece of music or ANY object visually or aurally interesting and dynamic, is contrast. Dark vs. Light, Large vs. Small, Blur vs. Sharp, Straight vs. Curve, Rounded vs. Angular, Near vs. Far, Loud vs. Soft, Slow vs. Fast, Pause vs. Action. These last pairings are at the heart of animation timing."

For the most part, the only things on this planet which move at perfect spacing at all times are machines. Contrast not only adds fun to your scene, or that elusive sense of life, but building contrast into the timing of your scene adds organic believability.

Putting contrast into your timing, like anything else I've ever written about here, is going to take careful thought and pre-planning. It will become second-nature after a while, but for the first few years of your animation journey, it isn't something that will magically appear in your work. During your planning process, consider different uses of contrast (timing and posing), and how those moments might best be used to communicate emotion changes, sell jokes, show weight, or simply imbue your character with more entertaining and dynamic movement.
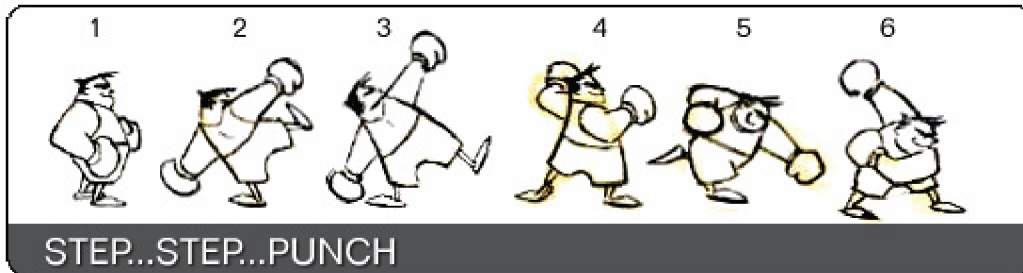
Let's say you have a scene in which a boxer needs to take two steps forward and throw a punch at someone. So, the basic breakdown is two steps and a punch, right? Pretty simple. But you'll find that contrast can be put into any sequence of movements or emotions that are made up of three or more parts. So what jumps out at me right away here is "oh, three things are happening. Cool. Could be a good chance for some contrast." And then I'll play with those three things in my mind, or on paper, or in my video reference, and exaggerate different levels of contrasting timing between those three things to see how it feels.

For example, let's say you do what 90% of young animators will unconsciously do when they are given that scene. They'll block it out, and without even knowing they are doing it, those three actions will be timed evenly, as though set to the tick-tock of a metronome.

Step...Step...Punch. I had a big problem with this in my first few years of animation, where senior animators were constantly pointing out to me, "um, your actions are all timed evenly," and they'd clap their hands to the beat of my scene, and I'd be shocked to find my character's big moments to be animated to a steady beat. It wasn't something I was trying to do, it was simply something that happened without my noticing it.

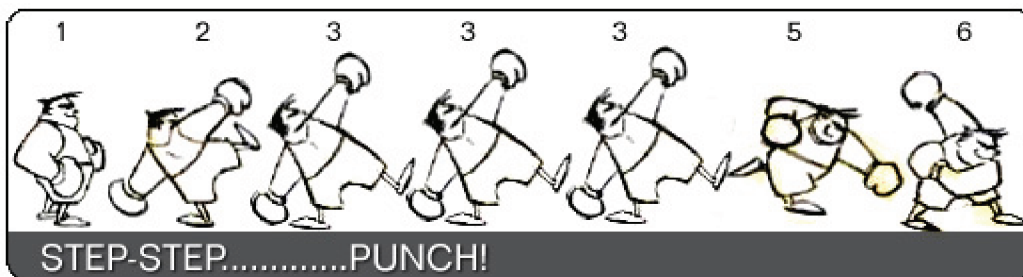So, 8 years ago, I may have animated it like this:

Step...Step...Punch. Even timing.

STEP...STEP...PUNCH

But what would be better?

Well, if you look at those three actions, and picture them in your head, almost any other version of the timing between those three actions would be far more dynamic, powerful, and interesting to watch. For example, what if it were two quick steps, then a big pause where the character leans WAY back to throw the punch and then he delivers it?
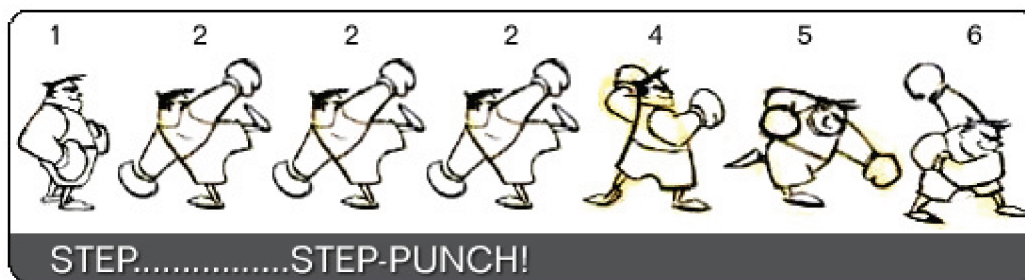
Step-Step.............PUNCH!

STEP-STEP.............PUNCH!

This would be so much better. It creates a moment of tension. It's the calm before the storm, and that builds interest. The audience is left on the edge of their seats, just for a minute. "Will he throw the punch? Will it land? Is he rethinking his move? He's really winding up for quite a hit!" Suddenly the audience's brains are churning, and better yet, you have sucked them into your scene, and they are watching as though they are truly there with the soldier. They're in the movie now. They aren't bored, they aren't checking their watch -- they're hanging on your every move.

Another idea might be to take one big step with the left foot, pause for a moment, arm cocked back, and then quickly take a huge right step and immediately swing his torso around to throw the punch with his right arm.

Step................Step-PUNCH!

STEP................STEP-PUNCH!

45

This might not offer quite as many opportunities for the audience to involve themselves in the shot (pausing just before the climax is usually the most dramatic), but it's still far superior to the even timing in every way. The punch will be much more powerful, you've created a sense of a "wind-up" in the body and a rapid un-winding as he quickly steps and spins to throw the punch, adding a lot of force and dynamism to the move. And you still have an actual bona fide pause in the scene, which is the key ingredient to any contrast, and an absolutely necessary one if you want to give the audience a chance to enjoy the action, or to involve them in it. Even in this version, that early pause does give the audience a chance to think "oh my gosh! He's going to throw his big punch! Wait, is he? Yes, he IS!"

Either of these versions will undoubtedly be more exciting, fun, and alive to the audience, creating a memorable moment for them in the movie, game, or TV show.

Contrast creates rhythm, and we should strive constantly to create rhythm in our work.

Think of your scene like a song. Actions should rise and fall, rest for a bit, rise into a bigger swelling crescendo, and then drift back again. Imagine if a song were constant crescendo? We'd be reaching for earplugs after less than a minute. We'd be worn out! Meanwhile, having no crescendo at all is just as bad, as the boring song would put us all to sleep.

Think of your favorite film scores, the best themes. The crescendo of the Superman Theme is amazing, but if the entire song was just like the crescendo, the crescendo loses any power it had, and the song dissolves into noise. What lends that theme its power is the slow build and mini-crescendos that lead up to the climax of the song. In short, the contrast is what makes the crescendo exciting, and without it, it's just a bunch of loud noise.

So it is for your animation as well. Your scene is a song, and while your crescendo may sometimes be a very subtle one, perhaps nothing more than a small eye adjustment, even that can be the crescendo within the context of your scene,. The audience loves the feeling of building tension, and then the release of that tension. Maybe your scene is simply one of a series of scenes in which the tension is building. You can STILL find opportunities for contrast, and within your overall goal of "building the tension," you can almost always still create tiny pauses and ups and downs that give "texture" to your scene.

A by-product of this, will be adding that organic believability to your shot as well, because once again, we are not machines. We don't slowly escalate from "calm" to "furious" on some constant rate, our face morphing evenly from one emotion to the other! Our brains are churning, (as seen through our eyes), and as we consider the situation, we become angrier and angrier, but those moments come in spurts and rushes, separated by moments of thought.

Something else to consider with contrast, is that while your scene is a song, it is likely only one part of a much larger song: the overall story arc, or at least the more immediate arc of the sequence. You need to consider the whole song when composing your small part of it otherwise you cannot know how far you ought to push your crescendo. For example, let's say I'm doing a scene in which Yoda hears some terrible news and gets very angry. Well, my inclination as an animator is that I want to exaggerate those emotions as much as I can. I want to show the world that he's FURIOUS! I want the coolest, angriest, bad-ass Yoda I can create, right?

So I take his facial controls and sculpt his face into a mask of absolute rage. And then I sit back and say, "Cool! He looks so angry! My supervisor is going to love this."

Well, maybe that's true, but if I haven't considered the needs of the whole sequence, it might also turn out I'm being a cocky dimwit, and that 10 scenes later, Yoda finds out something even worse, and needs to become ENRAGED!

Well, if I already pushed his face as angry as it can go in my scene, what is the animator supposed to do 10 scenes later? My crescendo has inadvertently overshadowed his, and what will happen? Well, what will happen is that I'll be the one redoing my scene and slowing down production, that's what will happen! No matter how well I did the animation, the needs of the story will outweigh what I have done, and I'll have to adjust my scene to be less angry in order to save the anger for the moment the story truly demands it.

As long as you are keeping the context of your scene in mind, however, contrast is always something you should actively pursue. The key is often finding ONE MOMENT to build your entire scene around. This moment is your crescendo, and everything else around it must be "smaller," or "slower," or else at least helping add to the build-up to the crescendo, or contributing to the release

after it. Once you choose your moment, be sure not to overshadow it elsewhere in your scene with a bigger or faster move. Let the crescendo be your moment, and use the rest of your scene to contribute to its power.

Be sure not to choose multiple crescendos in your scene, unless it's a really long scene, or in the rare case that the story demands multiple climaxes in your scene. You want to focus on one idea at a time. Give the audience one thing to be looking for. Don't confuse us with mini-climaxes going on all over the place, or your scene will feel scattered and spastic. Your chosen crescendo can be incredibly subtle, but whenever possible, try not to have more than one. This is especially important in 2-character scenes, by the way, where you might want some back-and-forth happening between the characters. They might each have their own crescendo, but the best scenes usually have one character "winning" the "crescendo battle," otherwise it devolves into a shouting match. They should interact in a believable, but rhythmic way

- their beats working together like instruments in your song.

The last thing I think I'll say about this is one other tip -- sometimes you need to ignore some dialogue beats in order to properly create a contrasted performance.

To me, a "beat" at its most basic level is a change from one emotion to another or a change from one subtext to another. The best lines of dialogue have at least two beats, or - in other words, at least one shift in emotion. The character moves from angry (Beat 1) to furious (Beat 2) or from scared to heartbroken, or from joy to disappointment.

Those are the meaty scenes you can truly sink your animation teeth into.

But sometimes, especially in a longer monologue, you might feel you can hear many beats. And sometimes, especially with a less gifted actor reading the words, it might sound like a lot of moments could be crescendos. Or worse, the operative words (the most enunciated and exaggerated words in the monologue) might be very evenly spaced, as though he's speaking to a metronome. Well, it will be up to you, as the animator and true actor of this scene, to pick and choose your beats. In other words, you're going to make the conscious decision in your planning to ignore some of the reader's beats, and to ignore some of these operative words. Why? Well, if you don't, you won't have any contrast in your scene.

You'll have multiple crescendos competing for dominance, and evenly spaced gestures throughout the scene. Instead, you should make smart decisions about which crescendos you can bring down slightly, if not ignore completely, and which operative words you can get away with skipping. Unless the line reading is absolutely horrible, you're probably only going to be ignoring one or two operative words at most, letting them go by with merely a small head motion to accompany them, saving the bigger body stuff and gestures for the operatives word(s) you've chosen to build your scene around.

In other words, if you have to dumb down a couple of moments that the dialogue sounds big, in order to focus on what you feel is THE MOST IMPORTANT MOMENT, and in order to create some pauses and calm in the scene to contrast with the bigger moments, then go for it.

Or, to put it even simpler: don't let a bad line reading force you into even timing and overacting.

Are there times when you'd WANT to have a scene that is "all crescendo?" Sure! If the story calls for a frantic, spastic scene, then that is exactly what you should do. Likewise, sometimes you'll want even timing (most often in relation to a joke), such as in the Wrong Trousers (the end of chapter 5), when Wallace's toast-making machine goes through its motions. All of the things it does are done on an even timing to really drive the joke home when the toaster pops open, no toast pops out, and then you have the beat just before he gets a face full of jam, where there SHOULD be toast, but isn't. This is an interesting case, as it's also a wonderful use of contrast (that moment of pause before the punch line is probably my favorite 1/2 second in the whole film), but it's also interesting to note how the even timing helps sell the no-toast joke.

Or consider the way we all laughed at the monotone teacher in Ferris Bueller's Day Off , intoning over and over, "Bueller? Bueller? Bueller? Bueller?" His monotone voice was used for comedic effect, and was hilarious. So, there are always exceptions to any rule, but (and yes, I know this is the oldest cliché in the animation book) you need to make sure you understand the rules before you break them.

Well, that's it for contrast, I think. Still awake? Hope so! Feel free to email any thoughts to: tipsandtricks@animationmentor.com
Keep animating, and as always, have FUN!

shawn :)

YOU ARE A TOOL

Hello gang!

Welcome back for another round of Tips & Tricks! As always, feel free to hit me back with comments, questions, criticisms, and fried chicken recipes at tipsandtricks@animationmentor.com.

The last couple of months we've been talking about contrast, but I think it's time to leave contrast behind us. I think we've said pretty much all I really want to say about it, and in keeping with the original mandate of writing about "whatever I feel like writing about on any given day," we're going to talk about something else that's been on my mind a bit today. It's a little less concrete than contrast, but no less important.

Before we dive in, I want to say one thing. This article might sound a little more negative than normal. It's about a slightly unpleasant subject, but I feel like it's something that isn't talked about enough in schools, and I feel it's an important topic. It's something I've struggled with in the past myself, and a topic that you won't have to worry about on a regular basis, but one we'll all face at one time or another as professional animators.

If you've read any of my previous articles, you know that I think I have been blessed with the single most fun job imaginable, and I love literally every moment of it. That doesn't mean that some of those moments haven't been difficult or frustrating, but I love it all the same. I might not get along with my brothers every hour of every single day of my life, but I don't love them any less, you know? Animation can be a cruel mistress sometimes, but even on the difficult days, it sure beats a "real" job!

So, caveats out of the way, let's jump in.

Tip #15: You Are A Tool.

Whoa. Is that an awesome title or what?! I think that's pretty much the best tip title I've come up with. Let's just let it sit there for a second...

You are a tool.

So obviously, I don't mean "tool" in the negatively modern sense of the word, I mean it much more literally. As a professional animator, your job is to be someone else's tool, used by them as a means to an end. You've been hired by them to create pretty much whatever it is they want you to create.

Seems pretty obvious, right? I mean, if you're signing up for this animation biz, you probably realize that you aren't going to be directing the first project you work on, and someone else will be telling you what to do. It's not that simple though, and it's

incredibly easy to get so caught up in the "rights" and "wrongs" of animation, that you forget what your true job is....

Your job is to be the tool of the director. That's it. That's your whole job.

Let's say you're a construction worker, and the foreman needs some rivets pounded into something with a hammer. Your tool is the hammer, right? Well, the foreman's tool for getting those rivets pounded is...   ...Can you guess? It's YOU. You're his tool. Get it?

Now, let's say you're me. My "tools of the trade" are primarily Maya and the mountain of proprietary software that ILM's coding ninjas regularly crank out for us. So, for the sake of discussion, let's say Maya is my tool. When I look at Maya, I don't think, "ok, do whatever you want, Mr. Fancy Computer Program." No, I say, "you're my tool, and you're damn well going to do what I tell you to do!"

With one major exception, that's pretty much the exact relationship you will enjoy with your first few directors on your first few projects.

Ouch, right? You're like a soulless computer program? What?!

Okay, it isn't as bad as it sounds. The one major exception I mentioned is that the lead on your project, or the director of your film, is also going to be relying on your artistic sensibilities as well as your expertise in movement and performance. In theory, that's the whole reason they've come to you in the first place, and usually that's their mindset. So, that person will be relying on you to bring something to the table, much more than I rely on Maya to bring anything remotely artistic to the table. (repeat after me: your computer is the world's worst inbetweener! FORCE it to look right!)

Anyway, let me get to my point. Right now I'm working on a big action-packed movie, which is being directed by one of the most successful directors around. For this story, let's call him BigTime Director. My animation tool is the computer, right? So.... what's BigTime Director's animation tool?

Me.

Well, me and 18 other people, but you get the idea. The entire animation team is his animation tool. And together we'll do our best to put his vision up on that screen.

As with any good director, he has specific ideas of how he wants these creatures to move, and my sole job at ILM is to make sure that they do EXACTLY what he wants. It's up to the animators to bring that vision to life as best we can. Sure, we get to offer a lot of suggestions, and bring a lot of ideas to the table, but at the end of the day if it doesn't make BigTime Director happy, then it's wrong.

No matter how cool it is, no matter how fun it is, no matter how "right" it is, it's wrong. All the timing might be perfect, the posing dynamic, and mechanics absolutely solid, but it's still wrong.

It sounds so simple, but it's really not. By the time you're working on a professional project, you probably have years of experience studying animation. If you're one of our students, the fundamental principles have been drilled into your head until you know them like the back of your hand. The basic concept of overlap is as intrinsic to every shot you animate as holding your breath when you go swimming.

It's instinctual.

Essential.

You get a new shot that you're really excited about, and you block it in. Of course, since you've done your planning well (see the first few months of this article) you know exactly when and where your overlapping actions will be, so you block those in as well. The shot looks great! Hooray! You rush to your project lead and sit her down and show them your impeccable animation blocking.

That person looks at your blocking and says, "This is great, but I don't want any overlap."

Huh? No overlap? But that's wrong!

You try to explain, "No, see, it has to be there, otherwise it's going to look fake. Look, I can't do it in my own body without overlapping or I fall over."

Doesn't matter. She still doesn't want any overlap in that specific shot. It doesn't match her vision for the shot.

Guess what? No more overlap. That conversation is over. You blocked it in, and she didn't like it. You even made a case for it and explained why it's necessary. She still doesn't like it.

At this point, your job as a good professional animator, is to go back to your desk, and animate the best you possibly can while using no overlap.

Painful, I know. Visions of a cool demo reel shot that were dancing in your head an hour earlier disintegrate into a bitter haze. But at this point, all you can do is use your training and skills to make the shot as cool as you possibly can IN SPITE OF the weird direction you just got.

Why? Because you're her tool, and you've been hired to put her vision up on that screen, or on that videogame machine, or on that computer screen, or on that TV. That's what they pay you for. Sure, they also pay you because you've got the great animation skills, the enthusiasm, and the fun ideas to put into shots, but at the end of the day, it all boils down to them paying you to create whatever is in that project lead's head.

Here's why I bring this up... This is a trap I find difficult in my own life, and worked on a project in my not-too-distant-past where we dealt with this issue constantly. Being asked to animate something in a way that flies in the face of everything you know and believe about animation is incredibly difficult, and can quickly become frustrating. I had good days and bad days, and the few inevitable "I-don't-care-anymore" days, but we just had to constantly remind ourselves that it wasn't OUR movie. It wasn't OUR creature.

It was the director's movie, and I am the tool of the director, for better or for worse.

And you just power through it, and you try to keep your enthusiasm as alive as you can, and do the best job you can to make sure you represent your studio well. To make sure the director leaves with the movie he wants to leave with. That's pretty much all you can do in those situations.

Now, it isn't like this is something you'll face every day as an animator. It's pretty rare that someone is put in charge of an entire project without having some measure of talent/skill/vision to back that position up with. Generally speaking, your project leadership will usually be open to ideas, and willing to place a lot of faith in your abilities and trust in your expertise.

But in the rare (but inevitable) cases they're not, repeat this mantra over and over in your head: "I am the Director's tool. It's his project, not mine."

I know this sounds really miserable, and the honest truth is that it sometimes CAN be pretty miserable, but only if you let it. Only if you let it get to you. I'm totally guilty of letting it get to me sometimes. It's something I always feel like I can work on more. I'm much better with this now than I was when I was a rookie. 10 years ago, changing my work into something "wrong" or "less cool" drove me absolutely insane the few times it came up.

These days, I try really hard to not fall in love with my shots, and I think that's the biggest piece of advice I can pass on in regards to this stuff. Don't fall in love with your ideas. You might block in the coolest ideas of all time, but if the director doesn't like them, then you're going to be getting rid of those ideas, no matter how much you stew about it. Sitting at your desk with your arms folded, complaining endlessly about your terrible direction will solve nothing, and will serve only to perpetuate the vicious downward spiral of creating ever-worsening morale, not only in yourself, but in the rest of the team around you as well.

You might as well get over it as quickly as you can, and attack the shot with renewed vigor, determined to come up with something even cooler. The director doesn't like your dynamic pose? Come up with one that's even more dynamic! Doesn't like overlap? Wow,

that's a toughie, but maybe you can find a way to make it work! Find a way to satisfy the director's request while making the shot even better than it used to be.

Sometimes, you simply won't be able to achieve this goal. I certainly have finished shots that I know are not as cool as they could have been, but at least you can try. And you can stay positive about the work if you remember that it isn't YOUR project, it's the director's project.

Think of it like this - the shot you are working on right now, if you are a professional animator, is not for your demo reel. The director is paying you to do the shot for **HIS** demo reel. If the shot turns out to be awesome, and you want to include it on your own reel as well, then all the better, but your primary goal needs to be satisfying that director's wishes for his own "demo reel," by which I mean the movie or game or TV show you've been hired to help create...

If you don't want to "be a tool," and want to answer only to yourself, then that's certainly fine, and there's absolutely nothing wrong with that. Unless you want to be a professional animator, that is... You'll animate your own films and be your own tool, and if you can animate as a hobby, then more power to ya! But the vast majority of you who write in are interested in animation as a career, or are already animating professionally, and it's you I'm talking to.

Well, you and me both, I guess. I could use reminding of this myself sometimes, that's for sure. We all can, I suppose.

So.... that's it. You're a tool. So am I.

But you know what? 95% of the time, being the tool of the director is one of the most challenging, fulfilling, and FUN jobs you could possibly have. It's pretty rare that you'll be asked to animate something that you know is absolutely wrong. For the most part, this is going to apply primarily to more general "ideas" in the shot not being accepted much more than being asked to ignore any animation principles, etc. That actually is fairly rare, lucky for us!

But either way, you and I? We're tools.

And sometimes we'd both do well to keep that in mind.

See ya next time!

And remember, even as a tool, you'll still have FUN!

CONSTRAIN TO PROPS, NOT TO THE CHARACTER

CONSTRAIN TO PROPS NOT TO THE CHARACTER

Hello everyone! Welcome back to my endlessly rambly Tips & Tricks article. As always, feel free to send feedback, suggestions, and complaints to tipsandtricks@animationmentor.com. Thanks to everyone who's been writing in, it's been fun meeting you, and I appreciate the suggestions and feedback! Thanks especially to those of you who've been sending me the fried chicken recipes!!! I think I have plenty now, so if you really need to send me a recipe for something, hit me with your favorite cocktail. (My current fave is vodka and 7up, but I also love a good Bacardi Anejo y Coca!)

Last month you discovered that you are a tool. I was sorry to have to break the news to you, but hopefully it softens the blow to know that I am a tool as well. This week, you'll be happy to know that I'm not going to be calling you any names at all! In fact, I have a bonafide "trick" for you, but first, let's go to Disneyland...

Okay, so my fiancée's family has pretty much the coolest tradition ever: Each year, they spend the holiday of Thanksgiving in the happiest place on Earth - Disneyland! This year we were there for a few days, and it was an absolute blast. (Best rides: Indiana Jones, Screamin', and that Grizzly rapids ride in California Adventure!)

Anyway, it was a ton of fun, but since this isn't my diary or a blog, that's not why I bring it up. I brought it up because in California Adventure (the sister park to Disneyland, right next door), they have a building dedicated to the art of animation. Inside, you can walk through a museum of original animation art, you can put your voice to classic scenes from your favorite Disney movies (in our case, Belle and Beast ended up having a huge argument about flushing the toilet), you can create 2D animation and put it on a zoetrope, and you can interactively hang out with Crush from Nemo, which is basically someone doing live and instant performance animation and is pretty darn impressive to watch!

It's all pretty cool, and each of those exhibits branch off of a huge "lobby" area in the building. Inside of this lobby are gigantic screens showing scenes, drawings, and concept artwork from some of the best animated films of all time. Glen Keane's roughs from Tarzan, design work from The Incredibles, etc.

We didn't get to spend a whole lot of time in that room, but I have to say - I found it incredibly inspiring, and when I think back on our trip, it really sticks with me as a highlight. The permanence of our art really hit me in a big way. We create a scene, and once we're done, it exists forever. For better or worse, our great-great-great grandkids will likely be able to watch it and (hopefully) be entertained by it.

How cool is that!? Isn't it amazing to think that the team working on Jungle Book 40 years ago was just like us (only more talented), toiling away on their scenes, hoping someone might like their project? Hoping they might make someone laugh, or give a little kid that wide-eyed look of wonder at being presented with an army of singing monkeys? And here we are, 40 years later, still every bit as entertained and inspired as audiences were back then!

That's 40 years of inspiration. 40 years of laughs. 40 years of 3-year-olds mimicking King Louie's dance and making their parents laugh.

...40 years...

Maybe it's silly, but it really hit me in that room that no matter how trivial some of our work is, or how bad some of our projects turn out to be, we're all working towards nailing that one show or game or film that will be entertaining people long after we're gone. It's like we have a chance to not only inspire people, but to bottle that inspiration into a time-capsule, and launch it into the future to inspire future generations.

For me, THAT is inspiring, and as worthy a goal as any other. ...Well, okay -- other than curing Cancer, feeding the hungry, sheltering the homeless, ending poverty, etc. Those are the "Big Goals" with a capital G. I'm talking about wimpy artist goals, and we mostly use small g's. Making people think is about the best we can usually shoot for, but using media to get people to think can be a powerful tool, and we can be a part of it!

Okay, enough of that. Tip time! Are you ready?

TIP #16: Constrain TO Props, Not To The Character!

So, if you're animating characters, there's a decent chance that at some point, someone is going to ask your character to interact with something. He'll need to hold a broom, or she'll need to hold a sword, or whatever it is.

The natural inclination of the beginning animator is to constrain that prop to your character's hand, and then as you animate your character's hand, the prop will go along with it.

With some exceptions, this is generally a big mistake, and if you care about arcs at all, will often lead to some big headaches.

Now, I'm going to just assume that you're using IK (inverse kinematics) on the arms rather than FK (forward kinematics), even though I know that some of you probably DO use FK. Personally, I hate using FK on the arms, as I feel like it creates a lot of counter-animation work for me. I know some of you love it, but we'll just have to agree to disagree here.

If you really have to use FK on your arms, then you'll probably have to constrain the prop to your character's hand, and that's that. If so, you might as well save yourself some time and move along. Hopefully the Disneyland story was enough to feel like you didn't get ripped off this month, and I'll see ya next time!

Ok, you IKers still with me? Let's get back to our regularly scheduled program:

So.... why on Earth would it be a bad idea to constrain a prop to a hand?

Well, the biggest problems arise when you have a large or long prop.

Let's say it's a sword, for example.

If you constrain a sword to your character's hand, you will have a fine time blocking things in, and everything will be fine. At first. But if you are animating a sword, you know that you need to make sure that the tip of that sword is traveling along nice figure 8's and smooth swirling arcs (the only exception is when it makes contact with something. No matter what!), so after your blocking is done, you'll eventually need to go in there and track your arcs on the tip of that sword, right?

Well, if the sword movement is based on the rotation of your character's wrist, you've just created a big pile of unnecessary work for yourself.
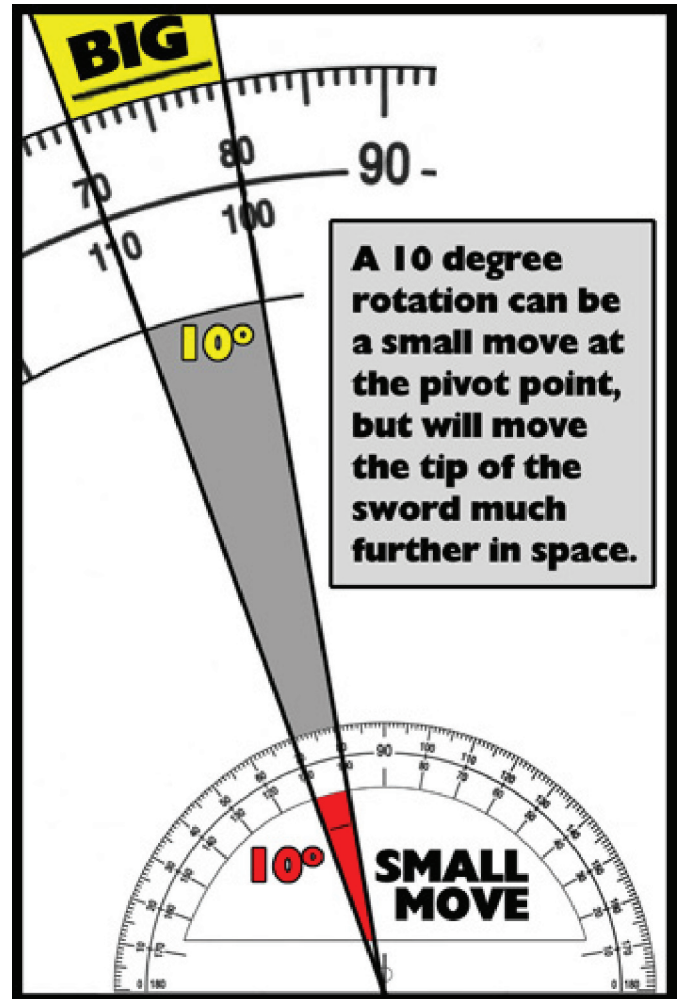
Why?

Well, because every little rotation of your wrist will be magnified exponentially in the position of the tip of that sword. It's so far away from the wrist that a 5 degree rotation will suddenly have the tip of your sword a foot or more out of place! Editing this in a way that doesn't make the hand look stiff and/or jittery is very time-consuming.

Additionally, if you're using IK, the angle of wrist is very likely being affected by the translation of the elbow controller (or arm twist attribute), and is probably also subtly affected by the movement of the shoulders. Normally, this is great, and helps keep your animation feeling connected throughout the arms, but if you're trying to have finite control over the angle of the wrist, it can be a real bear to edit in the curves, because suddenly the angle of the wrist is being affected by 3 different things, and you're trying to fix curves on three objects that are all affecting each other! In other words, it's a pain in the butt!

A far better method is to switch those constraints around, and block things in where the sword is the thing being animated, and the arms are "along for the ride." You constrain the hand TO the sword, and THEN you dive into your blocking. Of course, you'll have to be vigilant to make sure that your timing and poses indicate the body and arms are moving the sword, and you'll have to be careful to avoid that "IK" look, as you would in any shot.

(uh oh - here comes a tangent:)

If you are new to IK in general, there will be a tendency for your animation to look like the wrist is moving the arm around, because that's the way the model is chained. Your job as the animator is to make sure that it looks like the shoulder is moving the arm, and the arm is moving the wrist - not the other way around. If you are doing proper planning, and have spent time focused on body mechanics (weight, force, anticipation, all that good stuff), then this shouldn't be much of a problem, and you'll be blocking in your key poses and breakdowns just as you would with FK.

A 10 degree rotation can be a small move at the pivot point, but will move the tip of the sword much further in space.

In other words, a well animated FK scene should look EXACTLY like a well-animated IK scene, because both should be using the same poses and timing - you're simply using different controls to get them there.

Anyway, the point is, if you animate the prop rather than the hand, you will always have a far easier time creating nice organic arcs and a more pleasing realistic motion. You'll have far more control, and have to take much less aspirin during the polishing phase of your scene.

One caveat to that is if you have a small prop, such as a pencil or something that wouldn't take the strength of the wrist to move. In that case, I'd recommend constraining the pencil TO the hand, rather than the other way around. The fingers will be doing far more of the work, in that case, and the arcs of the pencil will likely have little to do with the arcs of the hand...

Okay, that's it. Have a great month, keep the emails comin' (tipsandtricks@animationmentor.com), and keep having FUN!!!!

TWINNING

TWINNING

Hello!

Last month, we were so jazzed about our first graduation that we wanted to say a few words about that instead of your regular monthly dose of tips and tricks, but this month we're back on track! I wish the photos and video could have given you a better appreciation for what an amazing evening it was, but suffice to say, it was probably the most exciting night of my life. Feeling the enthusiasm of the graduates was easily the most inspirational moment of my life, and I felt really honored to get to be a part of the night.

I'll resist the (strong) temptation to write more about the graduation, and instead, let's dive into this month's topic!

Now, I've been getting a lot of email suggestions from you guys (which is terrific! Keep them coming! tipsandtricks@animationmentor. com), and more than a few have requested more information about the elusive subject of "twinning."

Here's a transcript of a conversation between myself, and my partners in crime, Bobby Beck and Carlos Baena, from sometime in 1995, back when we were a bunch of kids in art school, trying to figure out this animation stuff as much as we could...

Me: Hey, I met an animator from ILM, and he says we should avoid twinning.
Bobby: We should? Ok.
Me: Yeah, it's bad. He said student work has "tons of it."
Bobby: Um... what's 'twinning'?
Me: I don't have the slightest idea... I was hoping you would know!
Bobby: Never heard of it. Carlos?
Carlos: Ummm.... You guys want to get some pizza?
Me: Maybe it's when you have multiple characters that look too similar?
Bobby: Maybe. Or maybe it's when different characters move the same way?
Carlos: Guys, can we focus on what's important? I need pizza!

Ok, maybe that isn't word-for-word, but it's pretty close. Before I move on, I do want to say one thing -- don't underestimate the value of a friendship with a fellow animator. If I hadn't been friends with Bobby and Carlos, there is a decent chance I would have forgotten all about twinning, and never would have sought out the knowledge of what it is, or how to avoid it. I also wouldn't have got to eat nearly as much good pizza, but that's a different story.

Anyway - make use of your animation friendships as much as you can. I learned 100 times more from Bobby and Carlos in school than I ever did from any of my classes. Hopefully that isn't the case at all schools, but finding other students similar to you, who are interested in investigating similar topics, is an invaluable part of your education. Whether you find them at Animation Mentor, or your current school, or even a forum online - it doesn't matter. What matters is that you find people you can feel comfortable asking

"stupid" questions, and who you can learn from and with.

Our discussion about twinning was pretty typical for us back then. We were constantly reading about animation, watching every animation documentary we could get our hands on, and especially in 1994 and 1995, I think we were probably stumbling across a completely new animation concept every single week that we were all equally mystified by. Twinning was one of dozens, but it was a biggie for us.

As was always the case, we went into full Animation Investigation mode, and eventually, the three of us were able to piece together enough information to get the general concept. My understanding of twinning, as with my (still limited) understanding of everything else in animationland, has evolved over the years since, and has led me to the following irrefutable mathematical formula:

TIP #17: Mirrored Posing + Even Timing + No Explicit Need For Either = Recruiters Turning Off Your Demo Reel

Now, right off the bat, I want to say two things. First, I want to acknowledge that there are absolutely times, albeit rare, that you will want to specifically use "twinning" in a shot. In fact, I'll point out a successful use of twinning in a little bit. Secondly, I want to say that this subject is covered very briefly in my contrast articles from a couple months back, because the two topics are very closely related. So closely related, in fact, that I almost decided to skip this one altogether, but there were too many emails asking for clarification, and frankly, I'm far too lazy to reply to all of you individually with an answer, so here we are.

What is twinning?

Well, the most basic explanation, from my point of view, is that "twinning" is less a tangible "something" than a lacking of correct overlap and contrast. It's almost like giving a name to "not having good arcs" or "having confused expressions that don't communicate properly."

In short, it's a "wrong" not a "right." (okay, okay - usually. See how I covered my bases? Pretty slick, huh? Now you can't email me and say, "Hey, art doesn't deal in absolutes!")

What twinning really is, is listed in that "math" formula above. It consists of two distinct facets: twinned posing, and twinned timing.

Let's hit the posing thing first.

At it's heart, "twinned posing" is basically the exact opposite of what I described a few months ago in my article on finding contrast in your posing, though this is a little more specific. "Twinned posing" generally refers to a pose that feels like a vertical mirror is being held up along the center of your character's body.

For example, let's say you wanted to have a character holding his arms out to his side, preparing to give the biggest hug of his life.

Well, most students would (possibly unconsciously) create this pose by spreading the feet a little bit, maybe rotating them out a little bit, and pulling the arms straight out to the sides.

Is this bad?

Well.... I don't know if I'd go so far as to use the word "bad," because they are going to communicate the correct idea with this pose. When you see this pose, there is a chance that you'll say, "oh, he's about to hug someone." Then again, you will more likely say, "oh, I guess he's a robot zombie who's about to hug someone," because this pose could clearly be much stronger,

more organic, and far more interesting to look at.

What's wrong with it?

Well, if the left hand has been pulled out to the side in exactly the same way as the right hand, and the feet are both rotated out by 10 degrees, and pulled apart an equal distance, this character is going to look incredibly stiff and robotic. You've created the all-too-common problem of a symmetrical pose, and symmetry is (usually!) the death-knell of imbuing your character with life.

Here's the thing - no matter how symmetrical you think someone's pose is in real life, or how perfectly the arms seem to be identical in your video reference, recreating them that way will almost always result in a "dead" pose. A "twinned" pose. This is one of those times where it is absolutely essential to apply your mastery of the fundamental principles of animation to what you are seeing in your video reference, or in the people around you.

This is one of those moments where you are going to say, "hmm,

that pose is kind of interesting, but if I apply what I know about contrast, this pose is going to be so much better!" NOT applying your knowledge of contrast to that pose is what will create a "twinned" feeling in the pose, and the result, at best, is a boring pose. At worst, it'll feel like your character isn't truly alive. Either way, you've just twinned yourself into a big problem.

Lucky for you, twinned poses are some of the easiest things to fix in animation! This is a double-edged sword, however, because if you forget to fix this, they will stand out even more on a demo reel, and scream "I'm inexperienced!" to recruiters, so be sure to fix your twinned poses!

Fixing them are the easiest thing in the world, and I'd recommend fixing them in the graph editor using the curves. This way, you can fix them in a non-destructive environment and usually not have to redo any of the animation. Using the example from above, for instance, I'd go into the curves for my right arm, and raise it a bit. Then I'd rotate the right hand up a bit, so it isn't at the same angle as the left wrist.

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Next, I'd go down to the feet. Uh oh, they're still identical to each other. BORING! The first thing I'd do at this point is rotate the left foot out a bit more than the right foot.

After that, we come to probably the single most important change of all. Having the feet space evenly apart is boring, that's clear. And the way you fix this problem is equally clear, right? You have to pull one leg further out than the other. Ok, so I'll choose the left foot. I grab the curves of the left foot in the graph editor, and pull them up a bit to move his left foot further out.

Uh oh! What happened? Well, what likely happened is that the leg hyper-extended, because it pulled too far away from the hips.

So guess what? Now the model is FORCING me to create a more interesting and dynamic pose! I have to grab my character's hips/torso, and pull his further to the left, and probably down a bit as well. In order for this to look correct, I'll now have to rotate his chest a bit in x, so that his left shoulder is lower than his right shoulder, and have to rotate his hips the opposite way.

Ta-daa! Consciously avoiding "twinning" has now basically forced you to implement the ideas of contrast, weight, and dynamic posing, not to mention giving you an automatically more pleasing line of action flowing from his right toe up through his spine!

The end result, of course, is a far stronger and communicative pose that is full of life. As with any art (usually!!), the more interesting angles and twists you can put in without hurting the core idea, the better. (Obviously you could take this idea too far, and quickly end up with a pose that looks like more like he's being electrocuted than preparing for a hug!)

So, to recap: a twinned pose is a mirrored pose. It's boring, and shows extreme inexperience - mostly because you have to ignore so many other animation concepts (dynamic posing, line of action, arcs, contrast, weight, etc) to get there.

Yikes, this is getting way too long. Man, am I terrible about that or what?! Ok, I'll keep this next section shorter, since hopefully you're getting the idea now...

The other type of twinning, and by far the more common one, is twinned timing.

Now that you're understanding what twinned posing is, I bet you'll have a much easier time figuring out twinned timing! Yup, it's when the spacing on the keyframes of your character's limbs/body are all equally timed out. In other words, it's when the left foot stops moving on the same frame as the right foot, or when a cheering character's arms both hit their extremes on the same frame.

The most common type of twinning I see is when inexperienced animators skip over all the tried-and-true animation assignments and decide they want to jump immediately into acting scenes and dialogue tests. Unfortunately, this (understandable) impatience, leads to nothing but a waste of time and effort, and 99% of the time simply results in a dialogue shot that does more to show off their lack of animation knowledge than anything else.

We see endless demo reels full of acting tests that might have some interesting acting choices, but clearly show no knowledge of basic body mechanics (weight, balance, anticipation, force, etc), bad arcs, and twinned timing. A character's right hand will rise into a gesture and "hit" that extreme of the gesture on the exact same frame that the head stops moving, which happens on the exact same frame that the left hand clenches into a fist.

Similar to the way it affects posing, this "twinned" timing shows that the animator is not thinking about anticipation, overlap, or arcs. A scene with proper body mechanics and arcs and overlap cannot, by definition, result in twinned timing. Worse, twinned timing creates an extremely robotic feel to the whole piece, and becomes a huge red flag for recruiters.

Now, if you see this in your work, don't panic! It is incredibly common, especially in student work, and just as with twinned posing, it is very easy to fix.

Once again, I'd just dive into the curve editor, and experiment with offsetting some keys. First, I'd make sure that my gesturing hand is hitting it's extreme on the correct frame (which will almost always be the vowel of the sentence's Operative Word, remember, from last year?), and then I'd adjust everything else around it. I might let the head hit it's extreme a couple frames early, and delay the fist-clench of the other hand by a few frames. (Oh, and just for clarification, I'm not talking about moving the entire curve and offsetting a controller's animation globally throughout the whole scene, I'm just adjusting this one area of the shot).

Even just those simple adjustments should make a world of difference to your scene, and once you find the amount of offset you like, you'll still have to go back in there and make sure your arcs are correct, your overlap is working nicely, etc., but this should give you a better foundation to build upon.

The other way you might hear "twinning" used, is in reference to the timing (or posing) of multiple characters. Do your characters stop walking on the same frame? Twinning! Do your characters wave at the same time? Twinning!! Do your characters both stop with their right foot forward and left hand on their hip? TWINNING! This is the worst type of twinning, and is the most unnatural of all, so avoid it at all costs.

One of the reasons this comes up so often is because people DO move in twinned ways at times. A sports fan on the edge of his seat will explode into the air when his team scores that goal, and both of his hands might fly up into the air and "hit" their extremes at the exact same moment of time. A music conductor's hands might (for brief periods) move together in a very lyrical and powerful way as the music crescendos. A couple holding hands walking down the street might have the exact same strides, their feet hitting on exactly the same frames. A man bowing and praying might have his outstretched arms not only stopping on the same frame, but he will likely be twinning his pose as well.

Well, guess what? Those are all perfectly valid times to consciously decide to USE twinning in your posing and timing in order to best sell the ideas of your shot. Having that praying man posed with one arm stretched out to the side will simply not look like a praying/ bowing man. Letting that sports-fan's hands explode up into the air at the same time might feel pretty powerful, depending, as always, on the style of animation your piece requires. (Realistic animation, in my opinion, should rarely, if ever, have any twinning at all, and in the sports-fan example, I would still off-set his hands by a frame to make it feel more organic. The more cartoony and exaggerated the style of your project is, the more you can safely twin WHEN YOU HAVE A REASON to do so).

The couple walking with twinned footsteps has a lot of potential to look like bad animation cycles, but if you're careful in constructing it, you might be able to use the idea of twinned strides to show just how in love they are! They're so in love that when they hold hands, they share the same stride. Think it sounds crazy? Go sit on a bench for a while at a shopping mall and watch the couples wander by - I guarantee you'll see more than a few twinning like crazy. The majority of the time, of course, you'll want to offset these steps by a frame or two in your animation, in order to have a nice organic feeling of life, but I do think a talented animator could potentially use this idea to emphasize the connection the characters share.

The music conductor is a most perfect example, and we've all seen how nicely it worked out for Mickey Mouse in The Sorcerer's Apprentice. It was a big moment of realization for me, after Bobby, Carlos, and I had finally figured out the evils of twinning, committed ourselves to a twin-free life of animating, and then realizing that our heroes twinned Mickey Mouse like crazy in Fantasia! I think it was the first time I learned the invaluable lesson that there is an exception to every rule, and that the masters can break those rules when they have a reason to do so.

For me, the best use of conscious twinning is to create a contrast between your "contrasted" posing and timing and a specific moment where you want to really emphasize an idea or sell a joke. For example, you could have some nicely overlapping animation, fun dynamic ("contrasted") poses and timing of your character sneaking through an alley, and then the character hears something and zips into a shadow where he stands bolt upright, eyes wide in fear. This "twinned" pose might really sell your idea of "fear," and if you are working in a more cartoony, style you could twin the timing as well.

Overall, though? Overall, you'll want to avoid twinning like the plague 99% of the time.

Hopefully that answered your questions! If you have any other suggestions or topic requests, be sure to email me - I respond to everyone, and am genuinely interested in hearing your thoughts.

And as always, keep animating, and have FUN!

-Shawn :)

BLACK OUT YOUR CHARACTER

Ok, so it's time for more animation rambling. Sometimes I start out acknowledging that I wrote WAY too much last time, and will endeavor to be more succinct this time out, but for some reason, those articles tend to be the longest of all -- so this time I'm going try some reverse psychology, and announce that this will be a really long article! The longest ever. You're going to be so sick of animation by the time you finish this article, that you'll unsubscribe from the Animation Mentor newsletter!

(Ok, hopefully we've fooled it into letting this be a quickie. Cross your fingers!) And before we go any further, I just wanted to thank you guys again for all the great questions and suggestions you've been emailing me. I love the feedback, and it's great to hear about what you're keen on us discussing next. Keep those mails comin': tipsandtricks@animationmentor.com. (In fact, this week's topic was requested by Anas Mohammad from Dubai, who asks about the importance of silhouette!)

So, last week we dove into the concepts of twinning, as it applies to timing as well as posing. We talked about the robotic flavor inherent in all aspects of twinning, that twinning is the arch enemy of dynamic posing and believable performances, and we also discussed how to not only recognize, but hopefully FIX your twinned scenes.

This week, thanks to our friend Anas Mohammad, we're going to stick with the practical "nuts and bolts" stuff, and leap over to the concept of silhouette.

So, other than being a really difficult word to spell/type, what's this "silhouette" stuff?

Well, what's your most important goal as an animator?

Is it to make someone laugh? Is it to tell a good story? Is it to create a compelling acting performance that causes people to think? Is it to create a great fight sequence, or show your characters' deepest emotions?

Hopefully it's some or all of those things, and guess what? Every one of those can be summed up into one overall goal that you need to have as an animator: to communicate clearly with your audience.

Your goal, in almost every scene you will ever touch, is clarity.

If your goal is to make someone laugh, the staging of the setup and punchline of your joke had better be clear, or no one is going to be laughing.

Try telling a good story without clearly showing the major plot points, or a strong acting performance where you can't see your character's eyes or have a good view of the posture. Have a go at creating a dynamic fight scene where the punches are all staged away from camera so you can't see them thrown or whether they hit their target. You are going to find that your work simply doesn't

connect with the audience. Your story will leave them baffled, the acting will fall flat, and the fight will never be the thrill ride you intended, instead your audience will be confused by what you are showing them.

As animators, our objective is to tell good stories and create these great scenes and performances. But without carefully staging every aspect of our scenes with the audience's perspective in mind, our art loses any value or relevance it might have beyond anyone but yourself and your Mom.

The single most important ingredient to a communicative scene is clarity:

- clarity of ideas, and clarity of poses. Anyone want to guess what the most important ingredient to clarity is?

That's right, it's silhouette. Ok, here we go:

Tip #18: Black out your character. Can't read the emotion or the action? Then it's poorly staged.

Ok, so what's a silhouette?

The "silhouette" of a body is the overall unified shape of the outline of the figure. Find a photo of yourself, grab a black sharpie marker, and color your body completely black. All of it - head, limbs, face, everything. That's a silhouette.

So, basically you throw out all the little details of the body - the eyes, the folds in the clothing, the color of the pants, etc, and what you have left is the single unified shape of the overall body.

This shape, this "overall" shape, is the very first thing we register when we see someone. The very next instant, we flit to the character's face, seeking out the eyes, which immediately become our main focal point on the character - our "anchor," if you will, as we watch the character or person move around, act, react, etc. But the instant before we find the face, we find the overall shape of the body.

Why? Beats me! Maybe because we're looking to recognize an overall body posture, which may be more communicative of attitudes and emotions at distances too great for faces to tell us much. Maybe our brain is just looking at the overall shape to find the placement of the head, so it knows where to look for the eyes. Or maybe that's just the way our brains work - like children learning to color, to find the outline of things before filling in all the details.

I don't know, but what I do know, is that it's true, even if it's most subconscious in our daily lives. I know it's true because of the way it affects animation. There's a reason that it's been one of the rock-solid principles of our art for so many decades!

(Right about now is when I'm starting to fear that our reverse psychology attempt is starting to fail-- I feel a case of the rambles coming on, so I'll try to be quick, I swear!)

Ok, so how does this affect animators?

Well, the most basic way you apply this principle is when attempting to show the emotional state of your character. Selling the emotion through the overall body posture of your character is absolutely critical, since that's the very first thing the audience will see. The audience has a restless eye, and you might only have a split second to tell them all the information they need to know. Is your character shy? Devastated? Exuberant? The posture of the body needs to tell this to the audience as fast as possible.

Before moving on, we need to clarify the importance of body language.

Without getting too deep into it (because I think body language would probably benefit from an article unto itself), body language, as an animator uses it, can be employed to show the truth of an emotion or thought, regardless of what the actual line of dialogue happens to be.

It can be used to show us the personality of your character (stiff businessman vs. laid-back surfer dude, for example). Body language can tell us a lot about a character's state of mind, and it's absolutely essential that you connect the body language to the facial

performance (particularly the eye animation).

If your character is "exuberant," or "really really happy," you can create the happiest facial expression on the planet, but if you've left your character in the wrong body pose, it isn't going to work. At best, it will just be confusing to the audience. If your character is in a shy pose, but has a really happy face - that's just going to look bizarre. The body and face work together to communicate emotion, right? Never fall into the trap of thinking of them as separate entities-- they need to support each other in your acting performances.

In short, (and without flying off on a complete new tangent), the emotion of the character should always read first in the body language, and you should always think of the facial performance as the "icing" on your cake.

So, if it's so important that the body and face support each other, and you need the audience to be able to instantly "read" the emotion in the body, how do you employ silhouette to help you out?

Having a clear silhouette of this posture is essential to such rapid communication with your audience.

In that instant where the audience is looking solely at the "overall outline" of the body, they aren't going to see anything that's "lost" inside the shape of that body, right? Yes, they'll be seeing the face soon enough, and will start to fill in details from there, but in a medium where we break things down into 24 frame-per-second chunks, we often need to make sure that not a single frame is wasted. You have an opportunity, in that instant, to make your scene that much clearer to the audience, and you should seize it!

The simplest example of this is staging the arms to be completely "lost" inside the outline of the body. Let's say your character is going to be drinking a bottle of water. Well, you *could* choose to stage the drink in a way that as he drinks from the bottle, it's facing right at camera, which would mean the arm-- and even more importantly, the bottle-- are "lost" within the silhouette. Will the audience figure out that he's drinking a bottle of water? Yeah, probably, but not as quickly as they would if you used the tool of silhouette when choosing your staging.

Pull that bottle out to the side - make it a 3/4 shot to the camera, or even a profile view. Build your acting performance around that pose instead, and everything will start to come together in a much more pleasing and communicative way. Even pulling the bottle out just enough to see some negative space between the chest and the crook of your characters elbow can make all the difference in clarity.

Of course, there are always exceptions to these rules, and there would be some great ones with these examples. For instance, the further you push a silhouette, the cartoonier and more "theatrical" the acting will get, so the style of the project is something that must be considered when choosing how much to exaggerate your silhouette. Also, a great way to show an attitude in your character is sometimes to have his arms folded across his chest. Well, that isn't much of a silhouette, but I bet that if you're clever and careful, you can at least make sure to stage his pose in a way that his silhouette makes it clear that his arms are folded!

This becomes a big deal in two specific instances: dynamic action scenes, and plot-points.

In an action scene,(which I sure hope you generally want to be as dynamic and exciting as possible), things are going to be moving quickly, at least some of the time. The audience will have even less time than normal when attempting to figure out what's going on. A good fight scene must be carefully choreographed throughout in order to be clear, and there are probably no scenes with more "confusion potential" than a big fight scene. It's so easy for the fight to degenerate into one big messy blur, and suddenly this big exciting thrill ride of a scene has become boring!

Throwing a punch is a great example - don't hide the anticipation of that punch in the outline of either combatant's body - try to at least get a nice silhouette on the antic whenever possible, and it's always nice and strong to see a good silhouette on the follow-through of the punch as well. I personally don't think it's all that important that the connection point between fist and chin has any great silhouette (sometimes it's really hard to find a way to stage this) as long as the antic and the follow-through are nice and clear, it'll still read really well.

As for plot-points, let's say that a key story point is that everyone's been trying to find this certain wristwatch, because it's got a secret code scratched into the back of it that opens a safe or something. And in your scene, it's the big moment where one character

is going to pass the watch to another character.

Boy oh boy-- if that isn't a time for silhouette, I don't know what is. There would be many ways to stage this in a silhouetted way, ranging from subtle to completely over the top, but all of them would be far better suited to telling your story than "hiding" the watch hand-off within the outlines of the two bodies. Try to show the watch in between them, and get a nice silhouette on their arms, or at least their hands.

Different body languages will tell us if they are nervous about being caught, angry to have give the watch away, or reluctant to let it go-- but all of these can (and should) be staged in silhouette.

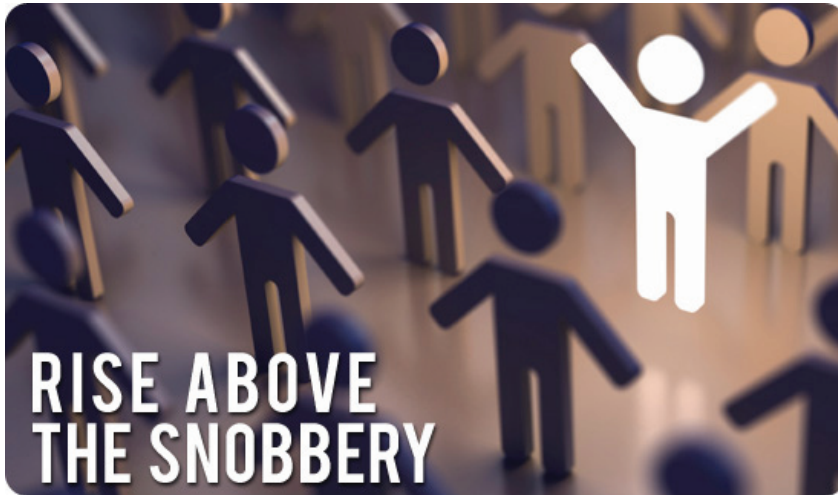Oh, and before I go, here's one more quickie tip:

TIP #18b: In Maya, if you're using the basic default lighting setup and you hit the "7" key, Maya will show you the silhouette of the character for free!

Okay, that's it! Hope that was helpful to someone out there...Hope you're having fun with this animation stuff. As always, feel free to hit me with some feedback or topic requests at:

tipsandtricks@animationmentor.com

Have fun!!
-Shawn :)

RISE ABOVE THE SNOBBERY

Okay, here's the thing. If you're reading this, you're probably either an animation student with a head and heart full of big dreams and aspirations, or else you're already an animator and looking for a different perspective on the art you already love. Or you're my Mom.

Those three categories pretty much cover every one of you, so I think it's safe to say that for the most part, we're all in love with this animation stuff, and we all have big dreams for the magic we hope to create with the tools of our trade.

 We're keen on learning more and more about our tools, in order to create more beautiful and moving art with them, right? I think we're all on the same page there. We want to know more about the software, yes, but hopefully we're also more focused on diving ever-deeper into the actual principles of animation – like finding a new way to think about anticipation, or a new angle on how to use arcs – all that fun stuff.

If you've spent any time at all hunting down this sort of animation information, you've realized that it's a nutty bunch of people who have thrown themselves into this life. Creative people, sure, but animators also seem to be an unusually energetic and enthusiastic group of people. Maybe it's because we have to have a childlike nature to be so willing to immerse ourselves in what has culturally been thought of as a "children's art form," at least here in the US. Maybe it's because we spent most of our high school days cracking jokes and doodling in the corner rather than wearing prom crowns or winning sports trophies, forcing us to develop <gasp!> actual personalities.

Personally, I think it's this: despite the childlike halo that surrounds the idea of "doing animation," it isn't easy. I've said it before and I'll say it again - this animation stuff is hard.

In fact, it's damn hard.

It takes a certain kind of person to not only have the patience to put in the hours and days and years of practice required to gain even a modicum of confidence in this art, but - and this is the important part - it takes a truly unique person to power through all those hours and emerge at the other side filled with even more excitement and enthusiasm than when they began.

I had the honor of interviewing one of our true animation greats, Eric Goldberg, for Animation Mentor. One of the things he said to me, which really rings true, was that it is impossible to make it in this industry if you don't TRULY love animation as an art. "You have to love it," he said. And that's the absolute truth. If you don't have that passion for the art, you will never have the patience to power through all the years of learning. To some, these years were tedious and frustrating, but for those of us who truly love what we do, they were rewarding and incredibly fun.

Those of you who are in love with seeing your characters brought to life know that for us, it's worth the struggle of learning, and worth the "tedium" of the actual creation of the performance. Those of us who are in love with animation find joy in the details, thrills in the excitement of new discoveries, and resolve in the face of the continually new and ever-more-daunting challenges posed by new characters, new shots, and new projects.

Why am I saying all this? What does this have to do with my Tips & Tricks article?

Well, here it is -- we have a problem in this industry. It's been a problem for years, especially (for some reason) among students. It isn't going away, and frankly, I think it hurts countless animation students.

We're…snobs.

There, I said it. We're snobs. Animation snobbery has reached epidemic proportions, in fact. I can't count the number of students who have explained to me that their skills would be wasted on anything but close-up acting shots, or how many students I hear about who have scoffed at job-offers to work on high-profile projects that may not be destined for critical acclaim, but would at least have given the students their first feature film credit!

I honestly find it shocking. To turn down your very first animation job because you don't feel the movie or game is good enough for you, or because it isn't Pixar or ILM - I'm sorry, that's just asinine. It's just as ridiculous as turning down a job because you'll be going in as a "mere" junior animator, or because you won't be guaranteed the much-vaunted "acting" shots.

I don't think all snobbery is necessarily evil, of course, but snobbery should be directly proportional to your experience level. If you've been in the business a while, then sure, I think you have certainly earned the right to be choosy about what you work on, and have also won the right to request to focus on certain types of work, shots, or characters.

I'm mostly talking about the next generation of animators, here, the new folks coming up. At Animation Mentor, we're really lucky to have an incredibly open and energetic student body - students willing and excited to learn from their mistakes as well as the mistakes of their peers, and frankly we put a lot of thought and effort into making sure we help continue to foster that attitude. As a whole, they seem genuinely eager to create a well-rounded animation career, and they understand that for 99.99999% of them, that career will not begin as a lead animator at Sony.

However, for whatever reason, I would say that at least half of the young animators I meet who haven't been involved with Animation Mentor (and yes, even a few who have), seem to have surprisingly skewed expectations of what their first few years in this industry should be like. They're all smiles on the outside, but you can't help but squint in the blinding glare of egos going supernova.

Everything is owed to them. They all think they're the next Glen Keane. "Don't waste my talents on smaller shots even though I have zero professional experience, I'm clearly the greatest animator known to man and you should allow me to bless your studio by placing me on only the most important shots in the film." Ugh.

And you know what? They might be right. Maybe they're great. Maybe they *COULD* have been the next Glen Keane. But guess what? With an attitude like that, they will never get the chance to rise to that stature. No one is going to be able to stand them long enough for them to prove their worth. Do they think Glen Keane showed up at Disney one morning, demanding to start right in on the biggest hero shots in the film? Please. He put in an incredible amount of time learning and studying from the more experienced animators who surrounded him at Disney. I've never had the pleasure of meeting him personally, but I have no doubt that he'd tell us that he owes much of his animation knowledge to the time spent studying under the greats who came before him.

That should be the goal of every new animator, in my opinion. Get yourself into an animation studio - be it games, features, television, whatever - and learn as much as you possibly can from the more experienced animators around you.

So here's this month's tip:

Tip #18: Rise Above The Snobbery

Animation students live and work in a relatively tiny community. The same way that a virulent cold can sweep through an office, infecting all the co-workers, the double-headed monster of unwarranted snobbery and big egos in a competitive field has run rampant through the student community. It's up to YOU to help change that, because to be honest, it's YOU who this will hurt the most if it continues to go unchecked.

I mentioned that it takes a special kind of person to become an animator in the first place, and that a big part of that was passion. We're passionate people. We're excited about what we do. We have the patience to put in the practice time, and the enthusiasm to remain invigorated by the work. However, that passion can easily mutate into the very snobbery I'm talking about here. We love this stuff so much that we can easily become laser-focused on whatever type of work we perceive to be the "worthwhile" work. Your peers talk endlessly about acting shots, acting shots, acting shots. It isn't hard for animators to start to feel that a close-up acting shot is the only worthwhile use of their talent. They're completely wrong on many different levels, but it isn't uncommon for that attitude to fester.

Animation snobbery is also perpetuated in large part by those of us who are teaching, as well. Students hear their teachers bad-mouth certain studios, look down on different mediums, or blast rival projects. Is it any wonder that students get it into their heads that they should only accept a position at Studio A when Studios B, C, D, and E have all been pilloried by their teachers, for whatever reason? Teachers, most likely desperate to gain the respect of their students, pathetically try to bolster their own image by tearing down the images of their rivals. I've seen it happen in classes I've been in, and I've known teachers and animators who take this approach.

These teachers should absolutely be allowed their opinions, and as an animation student, you (sadly) WILL hear them talking like this.

Whether it's coming from a place of bitterness, insecurity, or simple ego, it *is* going to be something you will come across in this animation journey.

I'd love to think that this will change someday, but realistically there will always be egomaniacs out there trying to teach. At [Animation Mentor](), one of our most stringent rules is our "no ego" policy in hiring mentors. An egotistical reputation will kill the application of even the most experienced and talented animators hoping to mentor for us. I'm not sure if other schools are rigorous about this as well, but we all should be. It's surely one of the things perpetuating these absurd expectations in today's students. Anyway, it probably isn't going to change. All that means is that it's now on YOUR shoulders to simply not let it affect you negatively. If your teacher is bad-mouthing certain studios, do not let that get to you. If your fellow students are blasting certain types of animation or mediums, do not let that get to you. If everyone around you wants to be a picky snob about what they will animate or what studios they will deign to grace with their presence, fine - LET THEM BE SNOBS. In fact, their snobbery merely means that you will have more job opportunities to pick from!

All you can do is decide to NOT be a snob yourself. If you don't have experience, go after that "bottom-rung of the ladder" job as a junior assistant animator somewhere and immerse yourself in the culture of that studio with gusto. Have fun, and learn everything you possibly can! As you do, you will CLIMB that ladder, and I can absolutely guarantee you that you will hit the top of that ladder while your snobby peers are still standing around wondering why they still haven't been named Supreme Lord of Animation at the one studio they're willing to work for.

Especially in your first few jobs, it will be absolutely critical that you are genuinely eager to animate pretty much anything the studios are willing to throw your way. Don't be demanding; don't go in expecting the flashiest of shots. DO, however, go in expecting to learn something every single day, and don't let a day go by where you don't. Improve every day. Grow as an artist, every day. Make yourself more and more valuable to the studio every single day.

If you have an ego, find some way to get rid of it. Just let it go. It isn't worth keeping around - it's a virus that will drag you down in front of your peers, and be an anchor on your career.

In short, have a GENUINE heart to learn, and wear your humility like a badge of honor. Don't let the egos of your peers infect you too, no matter how many of them there are.

Just focus on yourself, because frankly, I don't even really want you to try to convert the egomaniacs around you. I think I can speak

for most recruiters when I say that no one really wants to waste their time interviewing them anyway.

Ok, that's it. You can probably guess that I ran into a few egos this month, which is less frustrating than it is saddening. I wished these people weren't so blatantly shooting themselves in the foot, that's all. I know this is kind of a hardcore subject this month, but I wanted to throw it out there. Who knows, maybe we can start to turn this ego trend around, huh? Here's hoping so!

Hit me with any feedback/comments/requests, if you want:
tipsandtricks@animationmentor.com

As always, have fun and keep animating!!!!
Shawn :)

ADDENDUM TO SNOBBERY CHAPTER

Wow. My email box overfloweth!

I received about 10 times more email than I normally do about last month's "We're A Bunch Of Snobs" article, almost all of it very positive and encouraging, so I guess it must have struck a bit of a chord with some of you. It was great to hear that I wasn't the only one worried about this trend, and I got a lot of great comments and stories from all over the world. Thanks to everyone for emailing in!!!

Betty Martin wrote from Arkansas to say "Don't ever give up your dream to become an animator, don't ever lose your love for your talent. Be happy with each accomplishment of your work. The start of a great future could begin with a small advertisement brochure. Be proud of everything you do and be thankful for any offer in your field. Build on being positive to those around you."

Dhar Jabouri from Newark, CA had this to say: "This is a lesson not only for animation lovers, it is a lesson in life in general. Snobs are disliked no matter where they are. Arrogance is a path to abasement. The higher a person thinks of himself, the lower he will be in the eyes of people. It never fails. This issue is as old as man. ...Instead of being arrogant, the animator should be grateful, in humility, for being given the chance to do something that he enjoys."

And Brandon Kern of San Francisco, CA refreshingly wrote in to say: "Personally I'll be excited if ANY studio lets me animate ANYTHING. I will be more than happy to animate a background blade of grass or the snot dripping from a background character's nose. So much to learn! I just hope I get there. With Animation Mentor I think I will."

Now *THAT's* the attitude to have, especially when you are first breaking into this animation business! The more Brandons we have out there, the happier this industry, and the stronger the work will get.

MOVING FROM TRANFORMERS TO CARTOONS
HOW TO TRANSITION YOUR STYLE

"Oh man, I feel great.

You know that feeling you get when you finally achieve a long-held goal, or you've been working on a project for a year and finally wrap it all up? You cross that last "t" and dot that last "i" and can sit back and say, "wow - it's done!"

That's how I feel right now. A couple weeks ago, the best team of animators I've ever had the honor of working with just finished Transformers, and I couldn't be more proud of the animation in the film. As Transformers fans from childhood, we really put our heart and soul into the animation, and worked hard to make those shots as cool as we could get them. The uber-challenging work, some long hours - none of that mattered, we were just excited to have the chance to work on the movie, and whether it turns out to be a success or not, we'll always have the satisfaction of knowing that we got to be a part of something that inspired so much imagination in us as kids.

Why do I bring up Transformers? Well, it sort of plays into what I want to write about today. You see, for a little over a year, I ate, breathed, and dreamed giant transforming robots. They were my life, quite literally. On a project like that, if you want to perform at the level you're expected to perform at, you really have to throw yourself into it as wholly and completely as possible. Maybe this is a sad commentary on the way films are made, but the reality is that we spent more waking hours with our robots for that year than we did with our families. Far more.

The point is, the project becomes a huge part of you, in a very real and tangible way.

You spend more time thinking about how to make a robot smash through a bus, or climb up out of a swimming pool, than you do thinking about your friend's birthdays or the list of household chores you know you won't get to until the movie is done.
The project becomes your life.

And that's OK. It's supposed to. That's what they pay you for, you know? And you should go into this business with that expectation.

That said, it's important to try to "leave the robots at work," if you will, as much as you can. Time with your family, or playing with your 360, or vegging out in front of the TV watching Heroes - this stuff is important as well, because in a way, that's your chance to recharge your animation batteries and avoid feeling burned out. Get outside on the weekend and relax a little bit. Whatever it is that you enjoy, don't put it off for the length of the project, make some time for it wherever you can, as meager as that time may be.

Maybe you'll spend more waking hours with your work than you do with your loved ones, but the key is to make those hours at home count as much as possible, so hit the beach, or hug your family, or fire up Halo2, or watch Hiro learn how to use his sword. Whatever it is, make some time for that too, ok?

Ok, so... back to the feeling you get when you finish that project.

Generally, I feel great to be done with Transformers, but if I'm honest, with this project completed I also feel sad. It was unquestionably the most fun I've ever had as an animator, and I miss it already. A lot.
Not only that, I'm having a hard time getting over it. Not the sadness, or anything mushy like that - I'm having a hard time getting myself out of "robot animator" mode.

And that is what I want to write about.

For a year, everything I've animated was made of steel. Gears, pistons, and giant armor plates. 30 foot tall warriors in hand-to-hand combat. How does a giant heavy guy with wheels for feet move down a highway? How can I try to make something as detailed and complex as this have poses that read as clearly as possible? How do we give them weight, but also the speed they'd need to be the badass robot warriors that we want them to be? That's where my head is at. I've spent a year thinking of pretty much nothing but that, as far as animation goes.
Well, that show's over, and it's time to work on something else. On this new project, I'm suddenly animating a fleshy 5-inch tall medium-cartoony creature.

Now, if you can come up with a more radical changing of animation gears than "30-foot Steel Warrior" to "5 inch cartoony guy," I'd love to hear it.

I've been on this new project for one week, and I'll be honest. I had a really hard time that first week. Changing those gears in my head has really hit me hard. Suddenly all the things I've been training myself to focus on for the last year are borderline irrelevant. It's like I spent the last year in Venice (I wish!) speaking nothing but Italian, and suddenly someone flew me to Paris, dropped me off, and pointed at me, laughing "forget Italian, it's time to speak French! Oh, and hurry!"

Now, don't get me wrong - a lot of the stuff I learned on Transformers (and let me tell you - working with that group of animators, it was impossible NOT to learn!) is totally applicable to what I'm doing now, and will be very useful knowledge in the long run, no matter what character I'm working on.

Remember the trusty "filing cabinet" we keep in our heads for observation and animation knowledge? Well, I'm just cramming some of it in there to draw on later, and hopefully I won't lose too much of it over time. That's pretty much all you can do when it's time to move onto the next project. You almost have to make room in your head for this whole new set of files or something...
However, you still have the problem of wildly conflicting STYLES, which brings me (finally!) to today's tip:

*Tip #19: STYLE FIRST!

*What I mean by that is that the style of the project is paramount in importance - beyond any animation principles or specific animation techniques.

So here I am, on this new movie. No more robots battling, it's time to animate something a little cartoony. He's fleshy. Bouncy. Quick movements. Incredibly intricate facial stuff.

Even if you are new to animation, I'm sure you can envision the idea that the animation I'm doing right now couldn't possibly be more different, both in substance and style, from Optimus Prime. So now the trick is to flip this switch in your head, where you shove all your "badass robot warrior" stuff to the back, and start searching through that filing cabinet for the stuff to replace it with.

This is exactly what I'm struggling with this week. I feel like I'm almost there. Tonight, just at the end of the day, I finally felt like maybe I wasn't a completely lost cause after all, and that I was finally starting to get the hang of it a little bit.

To be totally honest, I had to almost completely start my shot over mid-week. The blocking was a mess. It was just all over the place

stylistically. Too fast here, dead there, hyper and cartoony here, realistic there... Ugh. Just awful - trust me. The new blocking is finally feeling like maybe things will work out, but it took me some time to switch those gears.

And in retrospect, I think "style" is what my problem was. I didn't really take the time to properly consider the overall style of this new project. I just jumped right into it, as though it was just another robot shot.

What I should have done, was study as much footage as I could from the work that had already been done on the movie. I did watch a lot of footage, but if I'm honest, that's all I really did - watch it.

Watching it isn't enough - I should have studied it. I should have taken the time at the beginning of the week to REALLY figure out how this character moves, and why.

I should have figured out exactly what the rules of this movie's universe are. How does gravity affect this character? Where does he fall on the "Tex Avery - Davy Jones" scale of cartoony vs. real? How many frames is an average footstep for him? How does he carry his weight? Personality quirks? Acting traits?

Basically, I should have taken my own advice from the beginning of this column 20 months ago, and remembered that planning is not only essential for every shot, but for every project as a whole.

Anyone who has been doing this animation stuff for a while knows that every movie has its own style. The more realistic the work, the less variance in the style, I suppose, but it still exists nonetheless, and it's important to really nail it down before you sit down and start saving keyframes.

Think about Davy Jones on the big screen, Peter Griffin on TV, and Tony Hawk skating across your Playstation. They are all great animation examples, and done perfectly for their respective mediums and universes, but if you plucked any one of them and swapped them into each other's worlds, they would look ridiculous.

Tony Hawk's animation in the games are terrific. They're really well done, consisting of a great blend of complex animations that are carefully timed to be responsive to the crisp controls of the gameplay.

He pulls off his amazing tricks with great poses that blend perfectly from one to another as you try to string your skating tricks together, and then always manages to get back to its default "skating" pose.

(Unless I'm playing, then Tony always manages to end up at the "Tony just cracked his head on the side of the skate ramp" pose).

So, in the world of the Tony Hawk games, that animation is perfectly done, in my opinion. However, if you took Tony Hawk and had him skating around on Davy Jones ship up there on the big screen, his animation would look very out of place and odd. For one thing, because his movements are designed in the game to be able to quickly react to your controller, he can move really fast. He'd look like a hyperfast spaz on Davy Jones ship, probably, just as the super-detailed Davy Jones would look startlingly out of place wandering around Tony Hawk's skate park.

Do I even need to mention what either of them would look like sitting in Peter Griffin's kitchen on Family Guy? Or how Peter would look on Tony's skateboard?

These are all obviously very different styles of animation. None of them are "better" than the other, all are carefully tailored by talented artists to meet the demands, expectations, and challenges of their mediums. Davy has to look real and emote. Tony has to do cool tricks and react really fast. Peter has to have the funniest comedic timing on television.

Nail down the style of the animation first, because the style will inform every animation decision you are going to make on that project. Timing will be based on the style. Posing will be based on the style.

Most of all, acting decisions will all be made based on the style of the work. Is the style really cartoony, or realistic and contained? I may have mentioned the ideas of "Representational" acting performances vs. "Presentational" acting performances in the past, but basically those ideas break down into two different art forms.

You've got "Representational," which is all about what is real. Photography, still-life paintings, and most modern film acting would all be considered "representational." They depict what life actually looks like.

On the other hand, you have "Presentational," which is more about "showing" the audience something slightly more abstract or "showy." Theater, Picasso, Cirque Du Soleil, and Tex Avery are all examples of "Presentational" art forms.

Again, neither one is better, and neither could be said to be more "artistic" than the other. Optimus Prime and Davy Jones would be said to be representational, while Scrat from Ice Age would be somewhat presentational. Something like Nemo would probably fall somewhere in between, and often that can be where the most magic is at - right smack in between the two.

Anyway - you need to figure out right away where your character and project are at on the ol' "Presentational vs. Representational" chart before you'll know how they will move, or, more importantly, what sort of acting choices they will make.

Specifically, this will inform the amount of "exaggeration" you will be applying to the principles of animation in your shots, and will affect the level of theatrics in their movements.

Ok, that's it! Hopefully that was helpful to someone other than me...

Once again, if you have any thoughts, ideas, complaints, cocktail recipes, etc - feel free to email me personally at tipsandtricks (at) animationmentor.com. It's been awesome hearing from you!

Oh, if anyone has a time machine and can send this article back in time to me one week ago, that'd really help me out, by the way... I really could have used it! :)

Special thanks, by the way, to my beautiful bride-to-be for the great topic suggestion for this month! Funny, smart, artistically amazing, a knockout, and can talk about animation styles too? Man, did I luck out or WHAT?

That's it for me. Keep animating, and as always, have FUN!

-Shawn

HOW TO IMPRESS RECRUITERS

Hello there!

Ok, I think for once, this article is ACTUALLY going to be shorter than my usual hundred pages of rambling. No, really! Honestly, this time it really will be. Don't believe me? Check this out:

TIP # 20: Mute Your Characters Until You're Truly Ready To Let Them Speak

Did you see that? Boom! Right into the Tip! Come on, quit pretending not to be impressed! There was no preamble at ALL! I know for a FACT that most of you are thinking at this very moment, "Oh thank God, he's actually talking about animation before paragraph 20 this month!"

I know, it's a miracle, right? I haven't talked about Fried Chicken, Bacardi Anejo, or my Mom at ALL yet, and already we're talking about this month's tip!! I didn't even mention that you can mail me at tipsandtricks@animationmentor.com!

Oh, wait...I guess technically we're mostly talking about how I'm talking about animation, but I'm not really saying anything about animation yet! D'oh! I'm doing it again!!!! NOOOOOOO!

(Ok, quick - we gotta get back on track. Pretend that I just blurted out the tip, and didn't say any of that stuff about Fried Chicken or Paragraph 20!)

Mute your characters? What on Earth could that mean?

Well, I'm just going to throw this out there as bluntly and plainly as possible. Below, I'm going to outline a typical demo reel that we see time and time again:

> Shot 1: A character stands in one spot and delivers funny dialogue from the animator's favorite movie.
> Shot 2: A medium shot (torso, arms, and head) of a character delivering dialogue from another favorite movie.
> Shot 3: A floating, disconnected head doing facial animation to dialogue from another favorite movie.
> Shot 4: A shot of a character sitting behind a desk, doing dialogue from (yes, you guessed it) another favorite movie.
> Shot 5: Another disconnected floating head, usually with a white or black background, doing lip-sync.
> Shot 6: A character tries to pick up a heavy box and fails.
> Shot 7: A final medium shot of a character delivering dialogue from yet another favorite movie.

Ok, so... on the surface, I think that a lot of animation students see this list, and truly think, "Yeah, that demo reel would rock. Those studios would eat that up!"

Sadly, this couldn't be further from the truth. The demo reel described above would have an incredibly hard time landing you an animation job at any medium-to-large studio working in any medium, be it games, features, or TV.
"But, why?" you might ask, and I'm glad you did. I'll tell ya!

It's because that demo reel will tell the recruiter literally almost nothing about your animation skills, with the possible exception of one shot.

Huh?

Ok, here's the thing...acting is very important. I've written ad-nauseum about the importance of studying acting, of creating memorable and moving performances, etc. A believable and moving acting performance is, to my mind and probably to yours as well, the very pinnacle of the art of animation.

But it's just that - the *PINNACLE*. In other words, it's the culminating point of our art. It's the *TOP*.

If you were a mountain-climber, and your goal was to reach the pinnacle, then the end-goal of all of your mountaineering training would be to, someday, be skilled enough to climb Mt. Everest, right? But would you START at Mt. Everest? Heck, no! Only if you were suicidal! Tackling Everest as a beginner, and actually attempting to reach the peak, would almost certainly result in your death.

So obviously, you don't start with Everest, right? Do you start with some smaller mountains? Maybe. Most likely, you start even more basic – at a short rock-climbing wall, or a hill outside of town! You start SMALL, you learn the basics, and you work your way up, right?

Animation is no different. I can't think of anything more detrimental to the progress of your animation education than to start doing dialogue shots before you've mastered the basic fundamental principles of body mechanics, physics, weight & balance, arcs, etc. Anyway, I'm veering off-track. We can come back to that stuff in a minute. Let's get back to that demo reel, and I'll dissect it for you.

And you know what? Let's pretend that the dialogue tests are good.

Really good. Let's pretend that the acting is really strong and emotional, ok?   Here we go:

First off, we saw a character standing in one spot delivering dialogue from a movie.

Since this is the very first shot, most likely the recruiters aren't going to judge it *too* harshly if the acting is at least solid. However, the key problem with this shot is that the character is standing in *ONE PLACE*. His feet commonly look nailed to the ground, and if his performance is at all active, there's a fifty-fifty chance that his ankles look broken as well.

So you've got this great acting performance going on in the top half of the character. Nice facial stuff, some cool hand gestures... but guess what? The character isn't MOVING around at all. He isn't using the space of the scene. Unless it's key to his performance that he's stationary (he's devastated, hiding, or his feet have been dipped into cement blocks - which is what these shots often look like), you've just tossed away an excellent chance to show the recruiters that you know how to animate.

Yes, they want to see acting. It's super important. But, honestly? It's even MORE important that you show that you know how to make that character walk around during his performance. To take steps that emphasize his emotions, or even just shifting the character's weight!

An acting shot where the feet don't move tells me one thing and one thing only, regardless of the strengths of the performance - it tells me that the animator doesn't know the basics of animation yet.

Next on the reel, we saw a medium shot of a character doing another performance.

This one is a little more forgivable, because at least it won't stand out so badly that the feet aren't moving, but once again, the

recruiter has no idea of your true animation skills.

Next is the classic "floating head on a black background doing lip-sync." I don't know how this started, but it is starting to become common on demo reels. Maybe this is valuable to recruiters in other mediums, but for features and film work, I'd definitely recommend against including this sort of thing on your reel. The recruiter is far more interested in seeing how you integrate the facial performance with the overall body performance and gestures than in the facial stuff itself.

Not to mention that the sight of a disembodied head is unsettling and disorienting anyway!

Then we come to the guy sitting behind a desk, delivering his dialogue. You see where I'm going with this, right? He's sitting. *SITTING.*

Well, I guess you've done a good job showing the recruiter that you know how to bend the legs into a sitting pose, but beyond that, you haven't really shown them anything.

If this character is swiveling around in his chair, or walking in and sitting down in the chair at the start of the scene, or getting up out of it, or jumping onto it excitedly mid-sentence – well, then that's another story! THOSE are the shots that will show the recruiters that you not only have nice acting ideas, but that you know how to execute the strong physical dynamics that they're so desperately searching for.

If your character is sitting, and his emotional state is at all upbeat, you really NEED to find ways to bring him to life. Move that chair around, for Pete's sake. Remember, his butt isn't super-glued to the chair, it's going to move around a bit, and affect the chair as well! It's essential to show that you have these abilities, particularly when you're stuck doing a scene of someone sitting. There are great opportunities, even in a seated shot, to show off your animation skills- you just have to find and exploit them!

Then we had the second disconnected head, because once is just never enough...and then we came to the heavy box lift.

Now, cliché and overused or not, we've finally hit a bit of animation that is actually going to show the recruiter what you're capable of. In my mind, this is the most valuable shot on this entire reel, with the possible exception of also getting to see some nice acting stuff in some of the other shots, which is nice if it's truly impressive, but not nearly as telling as this box lift.

Here is where we will finally see if the animator knows arcs, weight & balance, overlap, anticipation, line of action, reversals, force, and all the other goodies that we're hunting for in this demo reel.

Thank goodness the animator included this test on the reel, but it's too bad that it's the only one. Most likely, this one lonely example of physical animation is not going to be enough to convince the recruiter that you're ready for his/her time. Even if the acting is really great, there's still a good chance that the utter lack of physicality throughout the rest of the reel is going to scare them away, particularly if they are a game studio (EA, Lucasarts, Bungie, Page44) or a visual effects studio (ILM, Tippet, Sony, Weta). Even most feature studios (Pixar, Blue Sky, Disney, PDI) are going to pass on this reel.

As focused as all of the above studios are on the importance of believable and communicative acting, they also all realize that a shot with great acting choices but poor body mechanics is going to be a failure.

Here's the straight scoop. Check out this list of concepts below. These aren't all of them, but they're a good cross-section of the basics of animation. If any one of these isn't very familiar to you, you should not be working with dialogue yet:

line of action
reversals
weight & balance
arcs
anticipation
overlap
secondary action (which is NOT the same thing!)
spacing

force
silhouette
pantomime
dynamic posing

There are more topics for sure, but these are just some off the top of my head that I would expect anyone doing dialogue to have already mastered, generally speaking. If any of these are unfamiliar to you, put that acting shot aside, and start learning about it. Find some books about the subject, find a mentor, read about it online, or hey - join our school! (Had to get a plug in there, right?!) :)

Anyway, let's get back to Everest.

I understand completely why so many beginning animators jump right into dialogue tests. They're fun! They're funny!! The allure of the dialogue test is almost irresistible to anyone who's learned how to save a keyframe.
I get it. I do.
The first dialogue tests I ever heard of were at a Siggraph presentation by Pixar back in 1996. They did a full-day "making of" of Toy Story that blew my mind right out the door, and part of it included Woody tests where he was animated to clips of Tom Hanks dialogue that had been taken from other Tom Hanks movies.

I suppose this probably wasn't the first dialogue test, but it was the first we had heard of. To me, this was the most radical and amazing and wonderful idea EVER, and it fired me up like nothing else. I couldn't wait to get home and start choosing what Star Wars line I was going to animate to. So, believe me - I do see the appeal, and personally do find dialogue shots to be a ton of fun. Luckily, soon after that trip I met my mentor, Wayne Gilbert, who explained the importance of studying the fundamentals. He straightened me out, and got me on the right track. (Thanks, Wayne!)

If animation is our mountain range, and the dialogue shot is our Everest, my advice would be to take the time to tackle those rock-climbing walls and the hills outside of town before you try to ascend the highest peak in the art form. Find a mentor, plug into an online animation community, learn whatever you can from anyone you can! Train yourself to observe life. Study how the body works - what moves what, and more importantly, why?

Going straight for Everest is artistic suicide, and you'll be setting yourself up for failure. Your results, no matter how good, will be far inferior to the acting tests you will be able to do once you have a solid understanding of body mechanics under your belt.
In that light, not only do subpar acting shots ruin countless demo reels, but they slow down your learning process tremendously. You waste so much time working on these "acting shots" that will never be good enough to get you that dream job you are aiming for. You're so much better off working on your physical skills, and THEN moving into the world of acting only after you are extremely comfortable with all of those basic animation concepts.

The worst part of all this is that if you don't have that all-important grasp of the fundamentals, then you simply don't have the skills yet to realize that the acting test isn't all that hot. This is not a reflection of your talent or artistic sensibilities; it's simply the result of a lack of essential knowledge. It'd be like me judging a space shuttle. Pretty much any kind of space shuttle might look cool to me from the outside, but that doesn't mean it's actually going to fly. I simply don't know what it takes to make the shuttle actually work! A shuttle I think looks great might have glaring problems to a seasoned shuttle designer, right?

Well, the recruiter is that shuttle designer, and you want to make sure that you know as much as they do about this animation stuff before you show them your space shuttle, ok?

Wow - this article has so many metaphors! It's almost as if this article was a tree, and metaphors were nuts, and I was a squirrel, and....

oh jeez - never mind.

See you guys next time! Thanks again for all the feedback and great suggestions!! Keep those emails flowin' to Tipsandtricks@ animationmentor.com   While it sometimes takes me a little while to find time to reply, I do read and reply to each one personally. Oh man, and I also just realized that once again, I've written a freakin' BOOK instead of a short article. I was SO SURE this was going to be the short one! Did you see how fast I got down to business? It was the second paragraph! I can't get started any quicker than that!! D'oh!

Oh well - thanks for reading anyway... Keep animating! And as always, have FUN!

-Shawn

REVERSALS

Well hello there!

Last month was all about muting your character. Remember that? If you don't know this principle or that principle, then you aren't ready to animate acting tests yet? Well, you might remember that one of those principles was called "reversals."

Reversals aren't terribly complicated, but I know a lot of people haven't heard of them before if they aren't in a good animation school, so let's dive in!
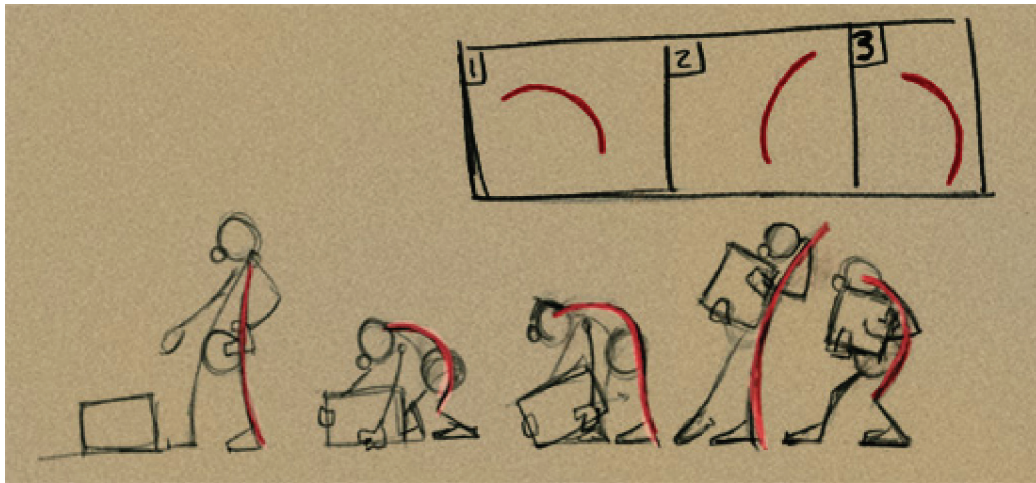
What the heck is a reversal?! When you first hear that word, you probably think of someone changing their mind. They wanted pizza, but now they want fried chicken (and come on, who wouldn't?!) - they've reversed their opinion. They've flip-flopped, right? Well, in animation, a reversal is essentially the same exact thing.

A reversal generally refers to an arc or line of action through the body mirroring into it's "opposite" shape. More specifically, a reversal is usually associated with the curve of the spine mirroring in shape.

Get it? Ok, cool - see you guys next month!

Just kidding. That probably didn't make sense at all, huh? Ok, let's go through a more practical example. The most common would be the good ol' box lift. It's hard to find a better animation assignment than the classic, tried-and-true box lift. A box lift tests your skills in a wide variety of animation principles, and reversals are definitely one to look for in any box-lift assignment.

Buckle up, by the way, because I'm about to hit you with one of my shockingly primitive drawings. While I'd love to pretend that this drawing is so unimpressive merely because I'm feeling too lazy to re-draw this first thumbnail of my ideas, the truth is that it wouldn't really get much better even if I re-drew it, so you might as well just stick with this one...

Ok, so what's going on in this picture? Well, the crappily drawn stick-man is about to pick up a crappily drawn box. Are you with me so far?

So, here's the deal. Knowing the idea of reversals HELPS the animator know the mechanics of the body. Check this out - this gets pretty cool:

We know certain things about how this crappily drawn dude needs to pick up his box, because of the principles of force, weight, balance, line of action, etc - all of these things that you are studying dictate the way this guy's body HAS to move, crappily drawn or not!

If this box is heavy, certain things MUST happen in this guy's body in order for him to pick up the box. For one thing, he needs to get his butt and at least one foot as close as possible to the box, right?

Otherwise, he's going to fall forward, because the sudden introduction of the weight of the box will have to be held up by his feet, and compensated balance-wise by where he places his butt.

Another thing we know is that he is going to anticipate the lift a little bit by lowering his bum just before he lifts. We also know that his butt will probably lead the action, moving upwards until at least one of his arms straightens out. We also know that once that happens, if the box is really heavy, he will have to heave with his shoulders, keeping his arms mostly straight (usually).

The final thing I want to mention, is that we know that as he heaves that box upwards, he is going to fall over if he doesn't quickly scoot his butt forward to be beneath the box, so that the weight of his body and the weight of the box line up above his feet as much as possible.

Well, guess what happens when his shoulders go up/back, and his butt comes forward?

A REVERSAL!
Ta daa! See how it all comes together?

Check out the pose marked #1. It's sort of a) shape. Well, that's the best way I can show it on my keyboard anyway. But when those shoulders heave, and his butt comes forward to save him from falling over backwards, his spine REVERSES into a (shape, as you can see in pose #2.

For me, this is the sort of thing that makes animation so interesting. You've got this giant (endless!) pile of skills and principles to learn, and they all really do come together magically when you're creating an action like this. All of those things we just talked about can really be described by ONE animation concept - the reversal.

From #1 to #2, all you really need to know is that his spine will do a reversal, and boom - you've just built a great foundation of solid body mechanics into your scene! Now, it *IS* important that you know *WHY* there is a reversal. It's essential to know what's creating that reversal in order to really sell it, but this is a great example of one animation idea boiling down the essence of a variety of others into one key concept.

So, guess what happens between pose #2 and pose #3? Ok, dumb question, right? Another reversal.

But why?

Well, when he lets the weight of that box settle into his stomach or onto his waist/hips, what's that weight going to do? It's going to shove downwards. The shoulders are going to relax as much as they can, dropping downwards. His hips will fall a bit as the weight settles into the legs. His spine is going to have to bend a bit for the box as his hips come forward a bit more in order to save him from falling forward.

All of these body mechanics are happening in order to keep this guy on his feet, and keep the box in his hands. And all of these body mechanics are creating this reversed spine as well!

Now, the great thing about reversals is that they can show power. They can communicate weight. Now that you're thinking of them, watch how much you see them in the world around you. You'll find them helping to create powerful baseball pitches, javelin throws, or tennis serves, not to mention jumps, pushes, pulls, and nearly any other forceful physical action you can think of.

The reversal is the visual description of what is going on in your body as it tries to build up force and power, as it curls around itself in order to coil and build power, or prepare to spring into action. We all know that anticipations create the power necessary for many actions (if you don't believe this, try jumping without dropping your hips at all first!), and as do many other body mechanics, anticipations are a big part of what creates these reversals in the first place. Overlapping action, arcs, force, etc - all of these work together to CREATE the reversals, but the concept of reversals in and of themselves can be a powerful tool for the animator, and an easy way to meld so many animation ideas together into one performance.

I'd caution you not to think of it as a shortcut, however. Don't jump into a scene thinking "I'm going to create a reversal." Rather, think about the body mechanics, what has to happen in order to sell the weight and action, and THEN look for opportunities to accentuate reversals and exaggerate the lines of action in the body to push that ever-elusive sense of weight even further!

Hey! I think I'm done!!! Is this my shortest article ever? Gosh, it really might be! I better shut up, then, before it's too late!

Thanks for reading, and an extra special thanks to those of you writing in with your thoughts and ideas! Feel free to continue to hit me up at tipsandtricks@animationmentor.com

Have fun, and as always - keep animating!!

-Shawn

RECHARGE YOUR ANIMATION BATTERIES

Today's topic is about your Animation Batteries. You know the ones. That bank of Double-A (for AnimationAnimation, of course!) batteries that sit in your heart, and power your animation passion.

Guess what? Those batteries don't last forever. I don't care if they are Super Ultra-Ninja Double-Mega-Strength batteries, eventually they are going to run down. Hopefully, they'll never die completely, but they darn sure get low sometimes.

Animators are passionate people. We're artists, and we love our art dearly. We care about it. We study it, find ways to improve it, to grow ourselves as artists. We have the passion, and our batteries are so maxed out when we start down this animation journey that they're practically exploding with energy! We're bringing stuff to life! What could be more fun, right?

Well - eventually, no matter who you are, and no matter how much passion you have, your animation batteries are going to need some help. Which brings us (finally!) to today's tip:

Tip #22: Recharge Your Animation Batteries!

Here's the deal - you might be the most passionate animator in the world, and your batteries might be firing away at 100% for a few years even, but eventually, we all hit that moment where it becomes a grind. If you're working, it suddenly becomes a Job, with a capital J. Something we're required to do, but man, we'd rather be doing almost anything else under the sun. We've made a million changes to the shot over and over for the client, or just can't get this certain acting beat to read properly, or we've spent more hours animating in a week than we thought actually EXISTED in a week, or the project is just so far removed from the high hopes you felt at the beginning, and our hearts are just suddenly NOT in it anymore.

Whatever the reason, we just don't care anymore. Well, that isn't quite right - we don't care about the thing that MATTERS anymore. We care about keeping our jobs, or we care about getting the assignment done, or whatever, but when it comes to the ART of what we're doing, forget it. We don't care. We're done. We go into "Animation Roboto" mode and just push keys around and scale curves and do whatever little iterations we can do to keep the shot moving forward, but we put zero creativity or art into it.

This, my friends, is when our batteries are toast. Maybe they aren't dead yet, but they're old and tired and starting to leak acid all over our passion.

At this point, you have two choices. You can either pull those Animation Batteries out, throw them away, and wander around looking for some new kind of batteries (may I recommend Fried-Chicken Batteries? The world can always use more Fried Chicken Innovation! Why haven't I ever seen Coconut Fried-Chicken? Or Fried-Chicken-flavored toothpaste? Come on, people, get on it!), or

else we can decide that no, we don't want to quit, and instead start finding ways to RECHARGE those animation batteries.

How do we do this? Well, I guess it'll depend a little bit on who you are.

For me, it's all about getting a little space from this animation stuff sometimes.

Ever since I got my dream job at ILM, I've had a long-standing rule that I don't animate outside of the office. Ever. I know some of you will think that's lame, or weak, or like I don't love to animate or something, but you know what? I've seen too many people get burned out. I had too many "teachers" back in school who had dead batteries. That isn't going to be me, if I can help it, and part of the solution is to have a life outside of animation!

I animate all day long, five (and sometimes six) days per week. When I go home, I need to do things that recharge my batteries whenever I can. Things like reading a good book, or digging through some comics, or watching some great TV shows... I'll write a story, or I'll watch a movie, just for the fun of it, and turn off my hyper-critical animation brain as much as I can and just try to enjoy it for what it is instead of picking it apart or frame-by-framing anything. I'll fire up my computer and look at some of my favorite artists latest work - again, not really to study it, but just to ENJOY it.

Having just returned from my vacation/honeymoon, some of which was spent on the most beautiful beach I've ever seen, I can vouch for the fact that travel, seeing exciting new things, meeting new people, and some serious hammock-time can also really do wonders for your batteries!

In short, whenever I can, I'll find things that inspire me like crazy – not even necessarily inspiring me as an artist, but even just inspiring me as a person – and just experience those things as much as I can.

I realize that earlier in your animation career, this isn't a real option, because for the first few years, you probably DO need to be animating as much as you possibly can - both to learn and to create new stuff for your reel. However, once I built a demo reel I was comfortable with, I set aside the need to constantly animate my brains out every waking moment of my life, and instead focused on making sure that I was relaxed, inspired, and excited to go to work and animate every single morning.

So, that's a good way to avoid having your batteries get low in the first place, but what about when they are really starting to bottom out?

My wife (whoa - that was such an awesome way to get to start a sentence, I'm going to start it over!)

My wife had some cool things to say about this tonight over dinner. (Yes, she's an animator too - how awesome is that? Which sort of makes up for her not really eating much fried chicken, I guess...)

She does a lot of the same things I do - watches movies, reads some comics, whatever, but for her, recharging is less about doing these as an escape from animation, and instead about finding how these things relate to her animation passion, and using them to feed it.

For her, it's all about finding things that inspire her to think about animation even more! It's watching animated-films and their making-of documentaries. It's seeing some amazing artwork in a comic book and really studying WHY that certain pose feels so dynamic. It's sitting down to draw in her spare time and invent new characters and stories. It's watching amazing animation over and over and just getting so inspired that it completely fires up her animation batteries, and she's ready to charge back into the fray the next morning, totally rejuvenated!

This is a great point, and an interesting distinction. She worries less about avoiding the battery drain in the first place, and instead just stays constantly inspired. I, on the other hand, tend to worry less about finding constant inspiration than I do about avoiding the drain in the first place, and instead run my batteries off of an older charge.

Which is better? Beats me! In the end, it's probably pretty much the same thing, just handled a little differently. It doesn't really matter. What matters is that you are conscious, in SOME way, of your battery charge. When those Double-A's are getting low, get off your butt and DO SOMETHING ABOUT IT, and don't just sit around doing the old mope-n-hope, where you're whining about your

situation and hoping the batteries magically recharge themselves and fire you back up.

That's the worst thing you can do. If you're in that mode, guess what's going to happen? Your work will suffer. And if you're in a studio, guess what happens when your work suffers? People start to notice. Which endangers your job. Which, I think we can all agree, is not a good thing.

And like a lot of problems in life, the earlier you catch this, the better. As soon as you notice that you aren't really caring about this shot or that shot, stop for a moment, figure out why, and then re-inspire yourself SOMEHOW. If that means trying to get away from it for a little bit, then try hard to do that. If it means popping in your favorite animated film and marveling at some amazing animation, then do that! Maybe it means drawing some funny drawings, or playing some Halo3, but whatever it is, find it for yourself before it's too late. You owe it to yourself, and you owe it to your project, and if you're at a studio who has taken a gamble in investing in you and entrusting their work to you, then you owe it to them as well.

Now, it would be a cop-out not to acknowledge (or for you students out there, "prepare you") that the single most common cause of battery-drain is an indecisive or hyper-picky client. While your batteries can sometimes drain because of your own missteps – you get stuck on something in your shot, or it just isn't working, or the emotion isn't reading - these are not the real danger areas for your batteries. In fact, it's relatively easy to avoid any drastic battery drain from this stuff, because you'll find renewed inspiration from the solutions you'll discover to the very challenges that were draining you moments before. No, the hardest battery-drainers to face are the outside-influences you are forced to deal with.

It doesn't matter what medium you work in, or what studio you work for, eventually you will find a client who just CANNOT make up their mind. Maybe they just don't know what they want in the first place, or have no imagination or vision and can't even discuss a shot until they see a version of it which they inevitably change a dozen times over, or maybe they just like to suggest changes in order to feel important or like an integral part of the process.

You WILL meet these people. If you're lucky, they will be in the minority, but I'd be surprised if you could go a decade in this business without working (suffering?) under a director or supervisor afflicted with a bad case of "I-Don't-Knowitis."

The key to surviving these projects, and coming out the other side with a positive attitude and your passion in tact, is to first acknowledge the moment that you no longer truly care about the work, and then to do something about it.

I know those experiences can be frustrating, but I know from experience that wallowing in the muck of your misery on a tough project will only lead to more misery and frustration in the end, and you're so much better off just powering through the experience, forcing yourself to stay excited about any little aspect of the work that you can latch onto, and seeking out as much inspiration as possible elsewhere.

Just remember that this project isn't the end-all, be-all of your career, and in all likelihood it'll eventually dissolve into a funny anecdote you'll tell people about years later when you're sharing animation war-stories with your peers.

Most importantly, if a project, shot, or director is hammering away at your batteries on a daily basis, don't let them kill it for you. It's your art, and you had a passion for it. Remember when Animation was WOW for you? It can be again! It WILL be, if you can hang in there! It's up to YOU to protect those batteries and fill them back up. Don't let one project, or one co-worker ruin this magic for you. It's yours, and no one can really take the love of this art away from you unless you give up and let them.

Ok, that's it! It's great to be back, and thanks again for all the nice messages you've sent! Feel free to hit me with any feedback, complaints, or topic suggestions at: tipsandtricks@animationmentor.com   Thanks again for last month - the tribute blew my mind, and I'll always treasure it. Special huge thanks to the AMers who set it up (whose true identity I still don't know! Sneaky, aren't they?), and extra special huge mega thanks to my beautiful bride for my 24/7 smile, although it might be nice if you could be a little less wonderful now and then, because my cheeks are starting to hurt.

See y'all next month! I promise it'll be shorter (no one really believes that anymore, do they?), and significantly less sappy next time.

Keep animating, keep those batteries charged, and as always - HAVE FUN!!!!!!

-Shawn

IT AIN'T OVER TILL THE CHARACTERS LIVE

Just a reminder, if you have a special topic request for next time, or just want to get your favorite cocktail tried out, then be sure to email me at: tipsandtricks@animationmentor.com right away! Something else I'm toying with is a "lightning-round" of question-answering for questions that I've received that don't need a giant article-long answer, so if you have even a tiny topic suggestion or quickie question, send it along!

Ok, and now back to our regularly-scheduled newsletter article...

Today's topic was suggested by Avner Engel, who emailed to ask a really great question. Basically, he's wondering how you know when you stop working on a shot, call it done, and move on to the next one. It's a tough question, and one I've heard pretty often when talking to students, so I figured it'd be a good one to tackle!

I mean, it *is* something that we all have to wrestle with, to one degree or other. Obviously all of us have our own particular situations and set of circumstances. Some of us have directors to contend with, some have teachers to follow, some are just animating at home, or working on a piece for their demo reel. But no matter the circumstances of where we're at in our career (or hobby), we all at some point have found ourselves leaning back in our chair, watching our animation looping over and over, and wondering, "So... am I done?"

That's such a HUGE question, isn't it? How many times have you asked yourself that? If you're an animator, I guarantee it's in the thousands. Every time you render your work to take a look at where you're at, you're asking that question. Am I done? Is this good enough? Does it work? What do I have to change?

In a way, this is the most basic primal question that an animator constantly wrestles with. When are these characters finally, truly, alive? When can I set this aside and move on with my life!?

There's really no easy answer to this, but I'll give it the ol' college try...

TIP 23: It Ain't Over Till the Characters Live

In my mind, it seems like there are three times that you know when you're finished with a shot:

1) When there is nothing mechanically wrong with the movement and the performances truly LIVE
2) When you're out of time
3) When the director says so

Obviously, the first one is the one that we should all strive for with every single shot we do. This is the ideal in animation. A believable

performance in every way - physically *and* emotionally. But then again - the question is still hanging there as to how we know EXACTLY WHEN the performance IS believable. I mean, we've seen this stupid shot ten gajillion times by now, and we're so used to it we can't possibly see it through fresh eyes, right? Of course the emotional performance reads perfectly to us, we CREATED it! We could tell you the exact frame that she flips from content to worried!

If we're so intimately familiar with our shot after spending so many hours tangled up in it, how can we pull back and figure out if it's really working?

Well, guess what? We can't.

Ok, well - sometimes we can, it depends on the shot. Especially shots that are primarily physical - these we can usually more accurately judge, but even with these, we still need to try to find a way to figure out if the sucker is actually FINISHED or not.
Some people use the mirror method, which I think I've mentioned here before – basically, you hold a mirror up to your screen and watch your animation in the mirror. This tricks your brain into seeing the shot "fresh" and can be a huge help in determining where you are at with the shot. I do this myself sometimes and find it very helpful.

However, the most accurate and helpful way to determine your shot's true level of completion is to (buckle up for this one!) SHOW IT TO SOMEONE!

I know you all know that, but it bears repeating. We're too close to the shot, and once it comes close to being done, you absolutely *must* show it to someone who hasn't seen it 10,000 times already. Ideally, you'll show it to a few different people to get a better cross-section of your potential "audience."

Keep in mind, these people do NOT have to be animators. You can show your parents, your friends, your siblings, the neighbor, a janitor - ANYONE. They all have a valid point of view, since they all are potentially the audience for the work you are doing, and at this point, you aren't necessarily looking for a real animation critique – if you think you're finished, you're more just looking for people to validate that suspicion.

You just need to see if regular people know what the character is doing, feeling, and why. That's it. Ask a few people. If they do, and you think the physical movements are feeling right, then ta-daaa! You're done! Time to pack up and move on down the road to the next shot.

The second way that you know you're done with your shot (and sadly, this can sometimes be more often than actually scaling the mountain of animation perfection and planting your flag in Perfect Shot Peak) is when you're out of time.

Bummer, I know. But I also know that a LOT of you have banged your head up against this very often in your animation career. We've all come up against this one at one time or another.

Deadlines are a fact of life in this industry, and sometimes that deadline rolls along and your shot is only halfway up that mountain, and you have to set it aside. While this isn't ideal for your demo reel, it *is* potentially ideal for your project's schedule, not to mention for your continuing success in your current job. Deadlines are paramount, and if you are animating for a living, there is little that is more important than hitting your deadlines.

I know that's no fun to hear as an artist, but it's simply the way the world works. If we want someone to pay us for creating this art, then we have to understand that the trade off is that they will need that art to be finished by a certain time. That's it.

But what happens when we run out of time and the shot doesn't look quite right yet?

Well, it doesn't matter. You're out of time, so that's that. You put it away and move on.

HOWEVER, that's not to say that you can't go back to that shot someday, heave it back up onto its feet, and like Sam carrying Frodo up Mount Doom, drag it the rest of the way up the mountain to Perfect Shot Peak.

Remember, these animation files aren't going to magically disappear if you can save them somewhere! My advice if you are on a

project where the deadlines are too tight to create anything you'd be truly proud of on a demo reel, would be to create a special folder for shots that you think have real potential. When you run out of time, put those special shots into that folder. Then, after the project is over, or in your spare time, or on a weekend or whatever, open up one of those shots and polish it up into the gem you know it could be!

The important thing is to truly set it aside during work-time if working on it is going to steal time away from working on the next shot. If you keep hanging onto your shots for an extra hour here, one more day there, you'll really find yourself in a pickle by the end of the project, and the production staff on the project aren't going to like you very much. If it makes it easier to let them go if you know that you aren't throwing them away forever, then keep that special folder of unpolished gems around!

Lastly, you know when your shot is done if the director of your project says it's done.

Like many of you, I've been in a situation where I know for a fact that my shot is not done yet. It's barely past blocking, for crying out loud, and low and behold, the guy in charge of the project sees it and proclaims it to be "Perfect! Just what I need. Final!"

If you're like me, you reacted in horror to this news, and probably lost some respect for the person heaping praise on your half-baked- still-in-progress animation. But guess what? It's done. It's his project. If he likes it, and says it's what he wants, then who are we to argue? (See the "You're A Tool" article from a few months ago...)

I think your response to this situation has to depend a little bit on exactly who this person is. Do they know animation? Probably not, if they're happy with your unfinished animation even though the deadline hasn't hit yet. If that's the case, you can sometimes get away with polishing the shot up on your own time and then turning it in, but my advice would be to be very honest about this and not try to sneak it in. There's a chance that he really liked some specific thing about your shot, and regardless of whether or not it was "wrong," he may be very upset to suddenly discover it missing, even though the animation is technically "better."

However, if you have time, or even in your off-hours, if you do create a better version of the shot, most people are pretty happy to be presented with a newer "upgraded" version of the work as long as they still have the option of choosing to go with your earlier version.

So, I guess when you really boil it down, knowing when your shot is finished really depends on who you are animating for. If you're animating for yourself, and doing a cool new piece for your demo reel, then striving to reach the top of Mount Animation Perfection should be your goal every single time. Many of you, however, aren't only animating for yourself, and are lucky enough to have found someone to actually PAY you to do what you love. In these cases, you're more often than not going to be striving to climb that mountain in SPITE of the situation you are in (up against deadlines, less-knowledgeable "superiors", and producers who care - or are often forced to care - more about short-term gains in productivity than long-term profitability due to increased quality), but that's still no excuse to not strive with every shot to get it as high up those mountain cliffs as you possibly can.

It's often said that no animator actually "finishes" a shot, they just have it taken away from them. To some degree that's true, but it isn't always true, that's for sure. Sometimes – not all the time, but every once in a while – the stars align and everything comes together just perfectly, and the shot is well and truly DONE. It's magic, and you watch it over and over and marvel that you actually created that, and you might not even be quite sure how you pulled it off, but wow - look at that!

Those are the shots that become the center-piece of your demo reel, and those are the shots that make this whole crazy career truly worth it.

Because SOMEONE is going to see that shot someday, and SOMEONE is going to be moved by it, and they're going to be inspired by it, and they're going to be amazed that SOMEONE out there managed to create something so entertaining or moving or scary or funny or heartfelt...

...and guess what? That someone is you!

How cool is THAT?

Keep animating! And as always, have FUN!

Shawn :)

ASK SHAWN YOUR QUESTIONS

Hello everyone!

Ok, there's some big news in Tips-and-Tricks-Land! I had so much fun answering your questions directly in last month's "lightning round" series of questions, that I'd like to keep that idea rolling! I got some great feedback and some fun new questions in the email from you guys this month, and I'd really love to experiment with staying in the "Q&A" type of format for a bit.

So here's the scoop - I need your help!

In order to do some more Lightning Rounds, wherein I'll answer your questions directly with (theoretically) short and concise answers, I need you guys to hit me with some fresh questions!

****So... if you are curious about anything animation-related at all,
email your question to me at tipsandtricks@animationmentor.com****

It'd be great if you could indicate where you are writing from and whether or not it's ok to use your name if the question gets used in the article as well...

So, what do you think? Sound fun? I hope so! I'd love it if our little corner of the newsletter could evolve, at least temporarily, away from me talking AT you about animation, and instead morph into more of a dialogue or conversation between us about animation.

In fact, I'd love to read your thoughts on animation as well! If you disagree with something I've written, or have an interesting animation experience or observation that you don't mind sharing with the planet, mail me! If you want to remain anonymous, that's no problem at all, just be sure to say so in the email. But how fun would it be if this space in the newsletter turned into a true open forum for all of us sharing our animation ideas? I'll answer any questions, address any criticisms, and comment on any observations you care to send. Sound fun?

Ok, one more time: tipsandtricks@animationmentor.com

Without your input, this format won't work. No question is too silly, no observation too small. Hit me with your thoughts, and maybe you'll see them published and commented on right here!!

Lastly, just to shake things up even more around here, we're going to start having the occasional guest writer chime in here now and

then. The first one will be next month, and I'll keep his identity a surprise for now, but suffice to say that you will NOT want to miss it! The article will be about something many of us have struggled with at one time or another - weight. And it'll be written by someone who really "knows his onions," as the saying goes... I can't wait to read it, let alone get to share it with you guys!

Ok, so... the format is changing, at least for a little while. In the meantime, I think there's still room in here to answer a question, so let's hop to it!

KEY POSES, BREAKDOWNS AND IN-BETWEENS

*Q: What's the difference between a Key Pose, a Breakdown, and an In-Between? -*Ravaka Ramasimpaniry, Madagascar
*
*Answer: Hmmmm, I might not be able to be as "concise" with this one, but I'll tackle it anyway!
For keys, breakdowns, and inbetweens, think of them like this:
*
Key Poses* are the "key" moments that most clearly describe the important physical actions or emotional moments in a scene. These are basically your most important poses -- in fact, these are so essential to the movement/acting that if you removed any one of them from the scene, it would no longer work.
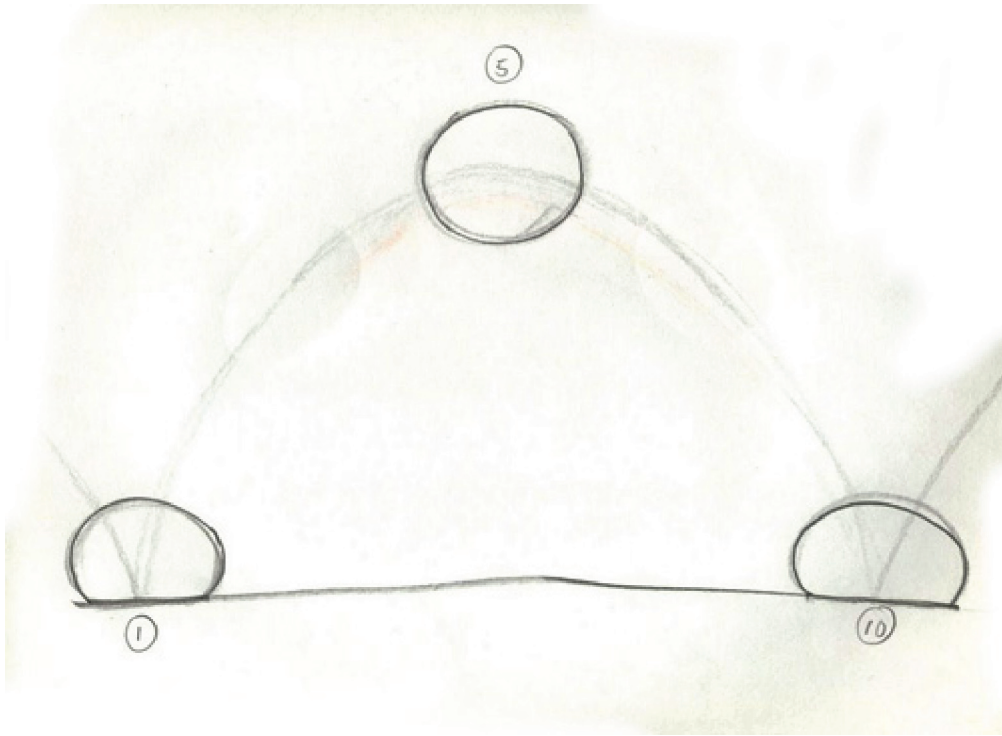
For me, I use a LOT of key poses. I find it helpful to be very detailed with my key poses. In a full-figure animation, a key, for me, will be any moment something important changes. It could be that the character is going to take a step to the right, so he has to shift his weight to the left first. Even though it isn't a "big" action, I will think of the weight shifting to the left as a "key pose" or an "extreme," which are both terms that are often used to describe the same exact thing, depending on who you are talking to. So, I will save a key on every controller on the frame before he starts to shift his weight (this is a key pose for me), then I'll go to where his weight shift finishes, and I'll pull his body to the left some. Then, even though I've only moved a couple controllers, *I'll save a key again on EVERY controller on the character,* including hands, shoulders, etc. This is another key pose or extreme, for me. I save keys on everything because it makes it much easier to edit later on, and much less confusing in the graph editor when you are blocking. Eventually, I will have to break up my keys somewhat as I get into fine-tuning the animation and polishing it up, but for now, it's good to work this way.

An easier example to think about might be a bouncing ball animation, and the key poses would simply be the frames where the ball hits the ground, and then the frames where the ball is at its highest peak.

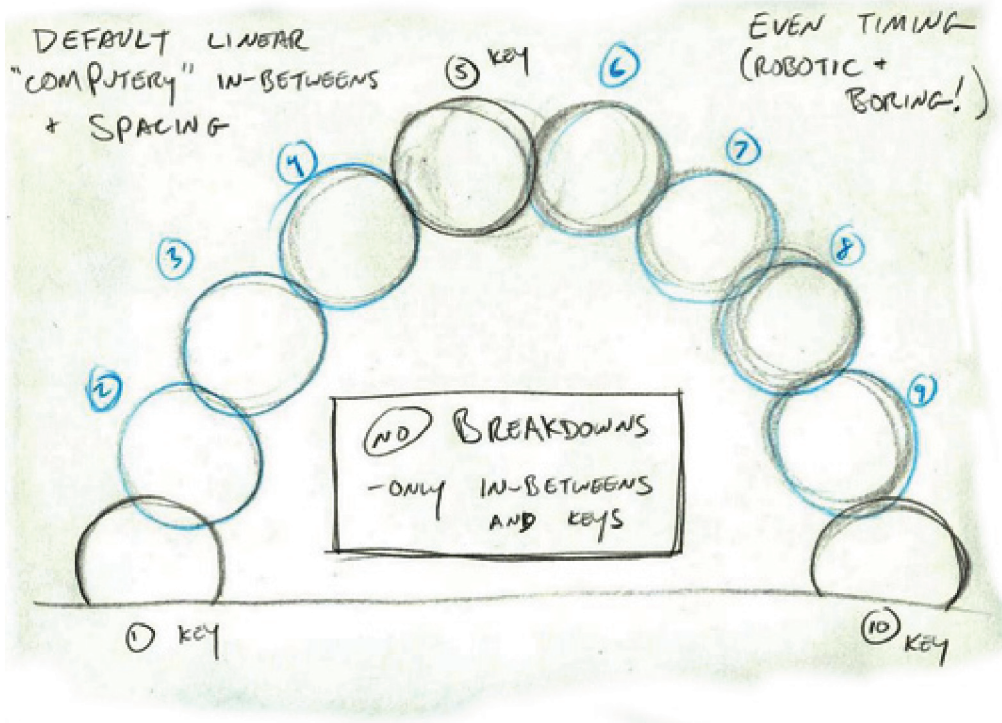A *Breakdown* is basically a pose that describes the timing of the scene.

This one is a little more confusing, but is *REALLY* important.

Let's imagine that you've animated various bouncing balls in your animation career. For the sake of discussion, let's say you've animated a soccer ball, a bowling ball, and a ping-pong ball. Now, even though each of these balls has been (hopefully!) animated to show different weights and physical properties, all three animations have essentially the same exact "key poses," simply at different frames and sometimes different positions, but on all three you have poses where the ball is contacting the ground, and where the ball is at the peak of it's bounce up into the air.

What makes these three animations different from each other is essentially the timing, right? There are other important differences, but the most important is the timing. Well, one way to think about timing is with breakdowns. Let's pretend that for your soccer ball animation, you have the ball on the ground on frame 1, the ball bounces up and reaches the top of the bounce on frame 5, and then hits the ground again on frame 10. So your "key poses" are frames 1, 5, and 10.
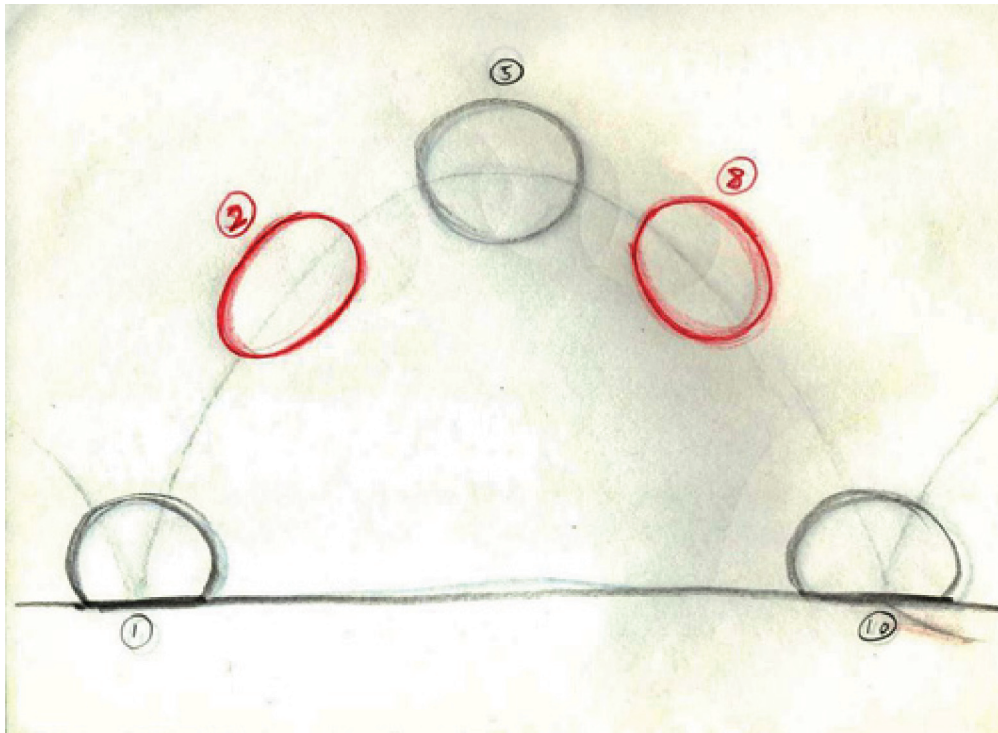
Well, if you only put in those 3 poses, and don't adjust any curves, what does this look like? The timing is perfectly even, right? Robotic.

The computer will help you try to smooth things out with curved interpolations in the graph editor (instead of linear), but even this will look wrong because the default shape of the graph will give you essentially a bell-curve, with perfectly smooth ease-ins and ease-outs in all the wrong places.

A breakdown, then, is one way to think about fixing this horrible attempt by your computer to create the timing. Between pose 1 and pose 5, you have 3 frames to play with. Right now, they are evenly spaced between 1 and 5, giving you a linear movement. However, if you take frame 3, and decide to turn it into an important breakdown, what you do is you go to frame 3, and you drag the ball upward, closer to the pose 5.

If you do this, you end up with a correct bounce timing, where the distance the ball covers between frame 1 and frame 2 is much further than it will cover between frame 3 and frame 4, right? This creates an "ease-in" as pose 3 is now "easing into" pose 5, which slows it down, and which is precisely what you want at the top of a bounce, as I'm sure you guys know.
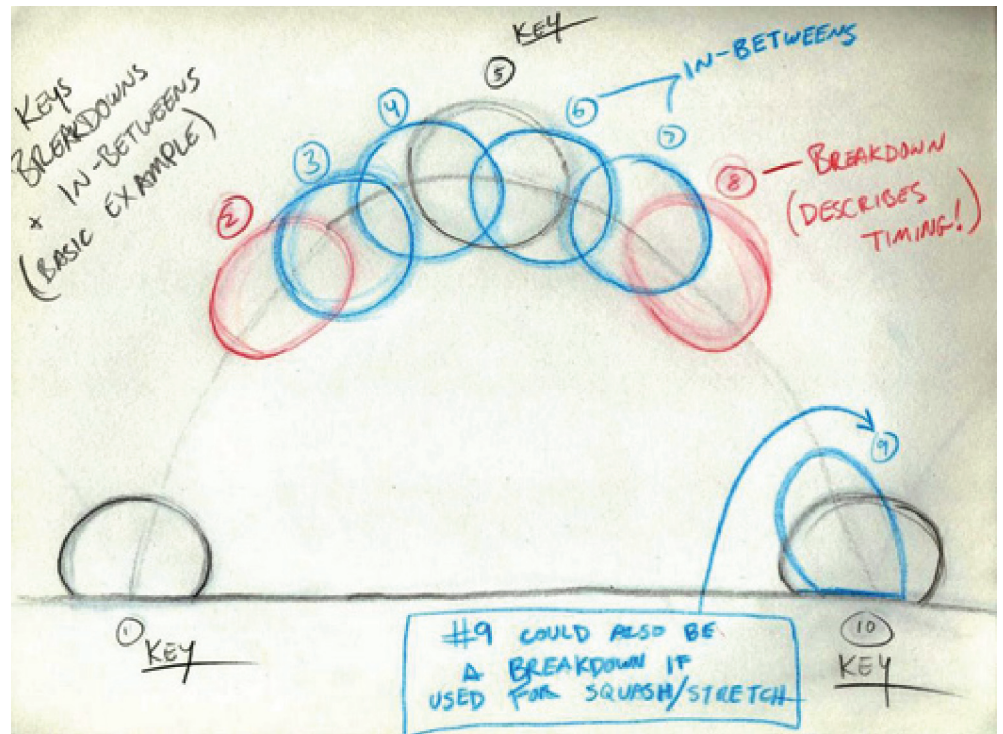

Basically a breakdown is there to describe timing, and usually is being used to either create ease-in/ease-outs or else it's there for an important bit of body mechanics or physical actions that are necessary for believable movement. You might make a breakdown to have a nice arc on a swinging arm, or to create overlap after the anticipation of someone starting to walk or something.

Last, we had *In-Betweens*, which are simply the frames left over! They're just the frames that sit in between all the important key-poses/extremes and the breakdowns. If you do your extremes and breakdowns correctly, you don't need to worry about these at all. Be careful not to have *too* many of these in a row, though, that you haven't adjusted yourself. If you find that you have 20 or more frames between breakdowns somewhere, you need to really take a good look at it to make sure it doesn't feel "floaty" or robotic. The computer will try to keep it "smooth," which often just results in things looking drunk or wobbly...

I would say that at least in my work, I rarely have more than 4 or 5 frames go by where I don't have a key on at least one controller on the character, just as a point of reference for you.

Well, I hope that helped! That was a pretty complicated question, and I ate up half of my space begging for you guys to mail in, so let's just call it a day. I'm really excited about this new direction for the Tips & Tricks space - hopefully you are too! I'm hoping to hear from a lot of you over the next few weeks and have a great bank of questions to draw from in the upcoming months...
Let's see... what else?

Someone asked me if I'm working on a personal project -- yup, it's called [Animation Mentor](#)!

ANIMATION ADVICE

I also got a couple of questions from people just getting into animation (woo hoo!) curious as to what my "most important tip" would be for them. Once we get the archived articles up and running, check out the first few, which are all about planning. My biggest tip would be to not rush into animation. To spend the appropriate amount of time planning your shot, and really thinking through every aspect of it *BEFORE* you sit down in front of your computer, drawing disc, or puppet.

The best advice I was ever given was when Steve Williams (of Jurassic Park fame) visited our school and said, "If you want to become an animator, take your computer and bury it in the backyard. Then learn how to animate. Then go dig up your computer and start using it as your tool."

That advice changed my life in a very real way, and I know that without hearing that from professionals, I would have continued down the path of learning tools and technology instead of the art of animation. It really drove home the idea that animation is a craft, independent of whatever tool you happen to be using at the time.

It was shortly after that that Wayne Gilbert sat me down and explained scene planning in a way I had never heard discussed before, and once again, it was all about the work you do before you sit down in front of your tool. His advice was that the more time you spend planning, the better your shot will turn out, and the easier it will be to animate.

Those two pieces of advice ("it's the art, not the tool," and "PLAN your work!") are easily the best two pieces of animation advice I've ever received, and would always be my "most important tips" to pass along to anyone diving into the world of animation!

Okay, that's all I've got. Drink #2 is gone, so unless you want to start hearing about why moths are evil or Angry Attack Chickens, I think we should call this article finished! (Wait, that's actually not a bad idea for a short film! Angry Attack Chickens vs. Evil Moths! Yeah!! ...Wait. Oh. Okay, yeah, that's a horrible idea. ...Never mind. See what I'm talking about? I better end this one FAST or we're in serious trouble...)

Keep animating, and, as always... have FUN!

- shawn :)