

You're listening to Suspension of Disbelief. I'm Eric Molinsky.

One of the hardest tricks to pull off in fantasy or science fiction is having a live actor share a scene with a creature. One of the first movies ever was a vaudeville act between Winsor McCay and his cartoon brontosaurus Gertie.

The next big breakthrough came in in 1944, when Gene Kelley danced with Jerry the Mouse.

CLIP: KELLEY AND JERRY

In my childhood, the gold standard was Yoda – performed by Frank Oz.

CLIP: EMPIRE

The Jim Henson Workshop made the creatures in the Star Wars trilogy. They had to use dim lighting and dry ice to hide the wires and foam rubber – which added to the sense of mystery around these creatures.

When filmmakers switched to computer generated characters in the '90s – or CG as they're known in the industry -- it was kind of a shock to see these creatures just kind of saunter on screen. No dim lighting. No smoke machines. They did look more "realistic," but for some reason, they felt less believable than puppets or animatronics.

To figure out why that is, I met up with an old friend, Charles Allenek. He was in my animation program at The California Institute of the Arts, or as we called it, CalArts. Now he works for ILM. Yes, he did work on the Star Wars prequels, along with Pirates of the Caribbean, Avengers, and Transformers.

CA: I still remember one of the coolest moments for me was in the first Transformers movie, when I went to a theater to see the premiere, I was sitting next to this woman when Bumblebee transforms for the first time she said oh my God! And that was such a great moment for me because it's nice to know that we can still have that affect on people.

EM: Wait, wait, didn't you do the scene in Attack of the Clones where that bug looking creature and he walks over to Count Douku, and he opens out his hand and the little Death Star appears?

CA: Yes, your memory is better than me, yes that is Poggle the Lesser, he is a Geonosan and he did have the holographic plans for the Death Star.

EM: And by the way, do you know why? I recognized your walk.

CA: Oh! Really?! I don't know if that's a good thing or bad thing.

I don't mean the way Charles walked around school. The characters he animated in his student films had a very distinct, smooth, heavy walk.

CA: The kind of animation that I do, visual effects animation, weight is one of the key things that we always strive for and struggle with and work hardest at because that's really what makes a character be believable or not be believable in a scene. If they have a weight that seems realistic for that world, if they have a weight that marries in with live action people will believe them if they don't, if they seem too light for that world – which is almost always the case, characters rarely feel too heavy, they often feel too light.

EM: Did you do Yoda?

CA: Not in – wait no, I take that back. I did one Yoda shot in second movie, its one of the light saber shots where he's hopping around fighting Count Douku, and he doing these little spin moves and things like that but I got to expand that a lot more in the third movie Revenge of the Sith where I animated a decent size chunk of the light saber duel between Yoda and the emperor.

EM: Wow.

CA: So that was fun. That was good. Yoda's a lot of fun to animated especially when he dos the acrobatic moves.

EM: You sound like when someone works with a big actor and they're like, yeah, it was fun to work with George Clooney. He was a real professional.

CA: Yeah, Yoda was a pro all the way. There's no question. He always showed up on time, no tantrums in his trailer. It was really great.

EM: When you're doing this particular kind of thing of creatures with live actors, what were some of the rookie mistakes you made early on?

CA: That's a really excellent question. I think that early on I was maybe falling back a little much on my cartoon animation training and wasn't recognizing the fact that I working in live action environment now and some things had to be more realistic and didn't necessarily follow the rules of cartoon physics. And I think that took me a couple shots to wrap my head around.

EM: But then when you're working on Yoda and he's flipping around that's completely cartoony.

CA: Well, yes and no, it's cartoony in the sense that a human couldn't do it, that a human couldn't jump and spin like Yoda could but its realistic in the sense that he has to have realistic weight for a character his size, he can't squash and stretch like a Looney Tunes character could, or he can't have over done anticipations that you'd see on a more overtly animated contribution so we still had to treat him as small very athletic but realistic person.

EM: Really, like bouncing off the walls like that?

CA: It's a fine balance between making him feel like a little real creature whose doing this with their own muscle power versus Daffy Duck or something. It's a fine line, I acknowledge that but it is a slightly different mindset when approaching it.

EM: By the way, do you remember when Frank Oz came to CalArts?

CA: Absolutely it was terrific.

EM: Tell me what do you remember about that?

CA: I remember him absolutely transforming when he went into the Muppet character, and you could see this was something that he fell into so naturally, that it was like second nature. But I remember this one time when there was a little girl was in the audience. Was that it?

EM: Yeah.

CA: That was fascinating because it was probably a little probably 8 year old who went on stage and started talking with him, and the minute the Muppet came to life, she stopped paying any attention to him and immediately transferred all her attention to Muppet as if were a real person who she was talking to and

interacting with and that was so neat to see because even though the puppeteer was sitting right there next to this Muppet it came alive.

EM: I remember she whispered into his ear into Grover's ear and Grover doesn't have ear, and she said can I give you give hug? And he was like of course and as he hugged her, his head kind of tilted a little bit.

CA: I think that's exactly what we were talking about, in that moment, because Frank Oz is an actor, he reacted to her as well and reacted to her in a natural way, and so in turn she treated that as a live thinking feeling creature.

You how in life how you experience these moments, which are so magical, they become part of your arsenal of stories? When Frank Oz came to CalArts -- that was one of those moments. Since then, I've been wondering, WHY are the Muppets believable when they're interacting with human beings? Even puppteers like Stephanie D'Abruzzo wonder about that.

SD: One of the things that made me realize that puppetry was something special was when I was in college and I was building these awful characters, trying them out around the dorm once in a while and these jaded 20 year old college students would be looking at puppet not at me, I thought well, there's something here. I'm fooling 'em.

Stephanie works for Sesame Street. She's been there for 20 years. She also developed the character Kate Monster for the Broadway show Ave Q.

CLIP AVE Q

SD: And when we did the first readings of it we didn't try to hide puppeteers, he were at music stands, we just held the puppets, and everybody said what a bold creative choice that was to show the puppeteers and we all went thank you? Because there had no intension to show the puppeteers until we realized --- oh my Gosh, our faces are going to be subtitles for the characters' emotions.

EM: Was that weird for you through or was it something new, something different?

SD: I remember when we first did readings it was easy to know where to look because we were looking at your books. And then during songs, which obviously you sing them enough, you have them memorized, you don't need to look, I

would look at the puppet and I felt really cut off from audience. And I didn't know why. I really didn't know why. And once I started emulating Kate or at least looking where she was looking, it all came together for me as to how that process worked.

Performing on stage was hard because Muppeteers usually take advantage of a TV screen or a movie screen to create the illusion that the Muppets are listening or thinking.

SD: The eye's relationship to a camera lens tells you everything. If a puppet's eyes are just above a lens, it can give a thoughtful look. If it is right in the camera lens it can be deadpan or direct address. If it's below the camera lens it can be sad or pensive. These are things that you wouldn't think about unless you really watched it, and if you watch it, you'll see it, you'll see it constantly. So we use those angles to do things with puppet eyes that human actors don't even think twice about what they're doing with their eyes.

A puppeteer's relationship to the camera is even more complicated. They can't see what the puppet is doing. They're hunched down below, trying to get their head out of the shot. They watch their performance on a monitor.

SD: And we have lines taped to the monitors too, there's too much going on in our heads to memorize these days.

EM: That is beyond walking and chewing gum at the same time, that's like riding unicycle.

SD: And the monitor is showing a backward image, it's not a mirror image, so when we move to our right its camera left.

EM: Really? Why?

SD: Well, Jim Henson decided early on, and I think the technology to flip a monitor existed but not everywhere when he started in the '50 and '60s and he wanted to be 100% sure that he could pull in a good performance no matter where he was even if they couldn't flip the monitor, so we all learned in unflipped way, and once in a while I've been in a situation the tech guys will play a trick on us and they'll will flip the monitor, and it's like we're blind. Even through it's a mirror image we're so used to that monitor image being what it is but it takes time to learn.

So why are Muppets more believable sometimes than computer animation? Stephanie says its because the Muppets are in the scene with their co-stars. The human actors may be looking at characters with plastic eyes, but those are the eyes of the character – not a tennis ball on a stick or a voice actor in a body suit.

SD: All the technology in the world can't really portray – you can put up all the green blocks with dots on them but if you're patting Grover on the head there just is no way to replicate that in really truly believable way. And I'll tell you the other thing harder for an animated character to do with a human being is ad lib. I mean it's impossible, you'd have to have the voice performer there on set, but they can only adlib lines. They can't ad lib a reaction. Grover can give a hubba wha?! Or they can duck down, or they can tickle them, or kiss them or give them a hug out of the blue, something unscripted, those are the best moments.

You can see they're physical objects – right down to the mistakes.

SD: There are certain things you can't emulate and one of them is rubber cracking.

EM: Rubber cracking?

SD: Yoda's face is made of rubber and you move it enough and it starts to get these little cracks in them and that's a really hard thing to replicate in CG. Its' not something you would think to, it's an imperfection in the latex foam that Yoda was made from, molded from and it's going to start to break down in various places non-symmetrical ways and an animator is not have that in mind but those are things that exist in something intangible.

But according to Charles, even Frank Oz got frustrated with the puppet.

CA: One of the interesting things was when Frank Oz saw the CG Yoda, one of thing he mentioned you that we had put jiggle on the ears which was interesting because when he was puppeting it, he tried very hard to keep jiggle out of the earns and then we went and we looked at puppet when we were referencing for the animation and we put jiggle on to the ears because that's what Yoda's ears do, they jiggle, and to get realism you want the ears to jiggle. So it's this sort of funny push and pull, something he didn't want to put there originally but it

became kind of trademark thing that we ended up recreating digitally even though we could've kept them rigid.

Let's be honest. We all love the Muppets, we're not heading into a golden age of puppeteering on film. Nor should we.

CA: While puppets are still really great for what they're good at, you do reach a sort of limited returns with puppets where there's something they just can't do. And as movies get more and more fantastical, directors are going to want bigger and more dynamic scenes than a puppet can really deliver I think.

When I was at CalArts, our instructors used to tell us to stick by the acronym K.I.S.S. – keep it simple, stupid. I didn't want to call myself stupid all the time - so I changed the acronym to “keep is simple and sincere.”

That's my theory about why the Muppets are so believable – their simple designs read very well from far away -- and we connect with their sincerity. Every animator should stick to those rules, even if they're using the most sophisticated tools. If a character is a great character -- we can forgive any technical shortcomings.

That's it for today's show, thanks for listening. Special thanks to AIR: The Association of Independents in Radio, Jonathan Mitchell, Charles Allenek and Stephanie D'Abruzzo.

SD: I remember someone once asked me, can you sing without the puppet?

EM: Hmm?

SD: Can you sing without the puppet?

EM: I don't even understand what that means.

SD: Are you capable of singing without a puppet on your hand?

EM: (LAUGHS)

SD: I'm not kidding you! Can you sing without the puppet? I couldn't believe it!

You can like the show on Facebook, or leave a comment in iTunes. I tweet at emolinsky. The show's website is Suspension of Disbelief dot net.