

In Search of Seussian Style

Blue Sky crew tried to be true for "Horton Hears a Who!"

By Bruce Shutan

The eponymously named elephant who stars in "Horton Hears a Who!" proved to be an altogether different animal for the crew at Blue Sky Studios, whose previous such creation was Manny the Mammoth from the celebrated "Ice Age" franchise.

Whereas their imagination could run wild with Manny, who made his animated debut in 2002 with a sequel released four years later, Horton has been part of popular culture since 1954. That's when the beloved book, upon which 20th Century Fox Animation's CG animated feature film is based, was first published. Author Ted Geisel wrote it under the pen name Dr. Seuss and went on to sell more than 200 million copies in 15 languages.

From a creative standpoint, that meant expectations couldn't be running any higher.

"Like any other kid growing up in the U.S. in the '70s and '80s, I learned to read from Dr. Seuss, and now I read Dr. Seuss to my kids," says Danny Williams, the film's lead character modeler. "In that respect, it was an honor, and frankly a lot of pressure to make sure we didn't screw it up."

Fantastic journey

"Horton Hears a Who!," which opened March 14th, is the story of an imaginative elephant (voiced by Jim Carrey) living in the jungle of Nool where he hears a faint cry for help from a tiny speck of dust attached to a pink clover that floats through the air. Our lovable hero then embarks on a dangerous mission to relocate the speck to safe ground atop Mt. Nool once confirming that there is indeed life on the speck, which houses an entire city named Who-ville that's inhabited by microscopic Whos. The town is led by its mayor (voiced by Steve Carell), who first converses with Horton through a drainpipe outside his office.

A skeptical kangaroo (voiced by Carol Burnett), fearing the impact of Horton's belief on the young and impressionable marsupial in her pouch, spearheads an aggressive campaign to steal and incinerate the speck with the help of Vlad Vlad-I-Koff, a villainous eagle with oily feathers and a large jagged beak (voiced by Will Arnett). But Horton's explanation provides compelling food for thought to all his skeptical friends: "If you were way out in space, and you looked down at where we live, we would look like a speck."

"Horton Hears a Who!" was directed by two gents with a crew background: Jimmy Hayward, a groundbreaking animator for Pixar, and Steve Martino, an art director known as a pioneer in computer animation. "Jimmy is definitely an animator's director who knew the process," according to Aaron J. Hartline, the film's supervising animator. "He's

very freeing. There was a sense of trust that he knew we were in control.” Williams adds that Martino and art director, Tom Cardone, managed to catch “every little wrinkle that didn’t feel Seussian.”

Seussian logic

Hartline’s biggest challenge was capturing the authenticity and originality of an iconic tale in hopes of pleasing a demanding audience. “Everyone remembers Dr. Seuss from their childhood,” he says. “It’s held so high, and you don’t want to ruin something that’s pretty sacred to a lot of people.”

The animators did some pretty organic preparation, printing and posting several pages from Dr. Seuss books on the wall and circling patterns or techniques involving anything from simple hand drawings to certain signature smiles. Together, they noticed many of the Who-ville characters frequently lifted their heads and closed their eyes or pressed two fingers together with an extended pinky for hand gestures.

Who-ville also is heavily populated with wacky tube-armed citizens whose elbows bend into letter L or S shapes or whip into motion with exaggerated gestures. “We put that into the design of the characters so they can get their arms all tangled up in knots,” Hartline reports, noting the repeated use of daring physics in a cartoon world where anything goes. “This film was like an animators dream. We really got to pull up old Chuck Jones and Tex Avery cartoons, and tried to match that stuff into 3D.”

Once in production, Hartline sought to ensure everyone was on model. “We would really try to honor his style and flavor throughout the movie,” he says. “I think everybody felt a sense of commitment to this film.”

Several key tests were conducted to nail down the so-called Seussian logic or exaggeration. One involved a tea-sipping scenario during which one of the Whos pounded a table, which sent his cup flying into the air and flipping twice before being caught on a finger, gliding down an arm and landing gently back down onto the table.

Another depicted a bicyclist flipping over cars and rolling along hills as he peered upward while reading a newspaper. The prevailing attitude is one of complete control in a sea of chaos. Despite all the complex layers of detail that inform Geisel’s instantly recognizable drawings, Hartline explains that the underlining themes are still always happiness and harmony. “If you look at the book, you’ll see what I mean,” he says.

Squash and stretch

Williams’s team, which became well-versed in the Seussian style, shape language and modeling, swelled to 17 from the usual 10 to 12 staffers for “Horton Hears a Who!” – the biggest yet for a Blue Sky production – because there were more characters and environments expected than on previous projects. “We knew we had to collaborate with

other departments much closer than we had in the past to achieve on a technical level some of the things we thought were inherent in the Dr. Seuss zany designs,” he says.

Another explanation was the need to master “squash-and-stretch” techniques that transcended the boundaries of animation physics and character performance and believability in order to capture the wonder and imagination of a Dr. Seuss story.

The aim was to produce extreme looks and movements, including an effect to make their legs move so quickly that they smear on screen. The filmmakers intertwined two memorable scenes for a cause-and-effect treatment of these techniques, with the Mayor of Who-ville nervously anticipating the injection of a giant hypodermic needle while visiting the dentist while Horton carefully crossed a long, rickety bamboo bridge overhanging on a deep gorge.

The needle winds up in the Mayor’s arm instead of his mouth as Horton stumbles across the bridge – every one of his awkward movements rocking Who-ville to its core. As the Mayor flees his dental appointment, his flaccid limb stretches to 30 feet and accidentally smacks a few of his fellow citizens across the face on his way home.

Style vs. realism

The chief objective of Kirk Garfield, the film’s visual effects supervisor, was to balance style and realism for static drawings that would filtered through today’s 3D approach to animation. The trick was not trying the hands of animators who were used to flexing their creative muscles on previous projects.

“When you’re trying to do simulations with things that are moving quite physically correct, they break very fast,” he says. “There were fishbowls throughout the movie that the Mayor carries around. So we had to come up with some ways of keeping the water in the bowl and keeping it from exploding.”

For smoke development, early tests indicated a need to pay closer attention to the way smoke curved and dissipated through the air so that it didn’t defy the laws of physics. While the initial effort was interesting, there was a certain threshold where the effect looked too fake.

Another way to mimic Seuss’s style was adhering to the way things were staggered in Geisel’s drawings. For example, debris and splinters filled the bridge sequence. “If you look at his illustrations, you can see a rhythm to how he spaces things,” Garfield explains. “We would make sure the effects were staggered in a similar way.”

It helped to have a deep bench in terms of both talent and technology. Take, for instance, John Thornton, a senior effects animator who worked for Disney about 11 years. He brought a traditional animation sense to CG effects when creating iconic shapes.

Other key players included Alen Lai and Sean Palmer, both technical directors in the VFX department who used wind effects leveraged from technology developed for all the furry characters to blow away piles of clovers and interact with the scene. A similar technology was used for a scene depicting a nut falling off a tree and blasting into a field of dandelions where it dislodges scores of seeds for a bomb-like effect.

Hand-based techniques were employed in the opening shot of dew dripping down a leaf, which snaps off from the water's weight – topped off with a procedural technique for filling in the rest of the area. "It was a neat combination between our effects animator, who does a lot of hands-on work in a very macro way, and one of our more technical staffers to figure out how to put more droplets on a leaf and get them to interact with his drops," Garfield mentions.

Beyond Maya

Hartline and his crew largely relied upon Maya, along with had various plugs-ins to speed up workflow, as well as Linux boxes. An old tool called Follow Through was plied for tails, hair and anything that would flap in the wind. "Just by turning it on and tweaking the settings, you basically wouldn't have to animate the tail," he says. "It would figure out the tail's density and what it would be like if you were to jump up and down. It would automatically do the motions for you."

The real breakthrough was with hair, which can be labor-intensive and costly for animators. Since the Whos are essentially furry creations whose outfits are shaved into their fur, there could have been problems with penetration of objects such as a table. The trick was turning on the fur bodies in sections versus all at once. "You're able to see the fur in Maya without rendering it or going through the other processes," Hartline explains.

The modelers used Maya, and to some extent (largely because it was uncharted ground), Pixologic's ZBrush and Autodesk's Mudbox to rough out models, which helped with the editing process. Maya's ubiquitous presence also could be found in the VFX department, which used Shake and Next Limit Technologies' Real Flow 4.0 to export the data and proprietary tools, including CGI Studio where shots are rendered and processed, to massage and manipulate the data.

Memorable sequences

Hartline was extremely pleased with the results. One stand-out sequence involved Vlad dropping Horton's beloved, dust-specked pink clover into a giant field of matching clovers. "There's this sea of pink and the wind is blowing gently through all the clovers," he says. "It's like watching the whole ground sway, and there's this mammoth in the middle surrounded by pink. That blew me away."

He also recalls a particularly dark sequence for a Blue Sky production when the kangaroo visits Vlad's lair where they hatch a mean scheme. The aim was to create a throwback to

old Disney films whose menacing villains actually struck fear in the hearts of moviegoers.

“When I kicked off the sequence I thought, ‘If we can make one child cry, I’d be happy,’” Hartline quips. But he’d be even happier if 20 years from now, “Horton Hears a Who!” runs every Christmas or Easter, becoming a staple that kids truly remember.

Williams was particularly fond of Vlad’s scenes, which he thought were well-executed and featured funny dialogue. He sings the praises of Sal Melluso, the film’s lead environment modeler, for coming up with gorgeous landscapes and cool props that brought the pages of this story to life. Hayward did a yeoman’s job keying in the crew to the performance needs of each character, which helped managed expectations with various department heads, according to Williams.

“It’s our best all-around film and visual effort,” he says. “We had very few character models ever come back to modeling once they were in production.”

As for his reaction to the film’s final cut, Garfield says the payoff comes only after an endless gauntlet of meetings where scenes are viewed in their unfinished form and the final step of delivering his team’s work to the lighting department. “We usually don’t see it again until it’s on film in all of its glory,” he says. “Once the final materials, plus lighting and music are done, seeing it all put together really makes all the efforts and stresses worthwhile.”

Bruce Shutan, a Los Angeles-based freelance writer, has written for several entertainment publications and Web sites, including Daily Variety, Weekly Variety, emmy, the 55th Annual Emmy Awards program, Below the Line News, Film Score Monthly, Computer Graphics World and VFXWorld.