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THE HORRIFIC ACTION OF TIMO TJAHAJANTO

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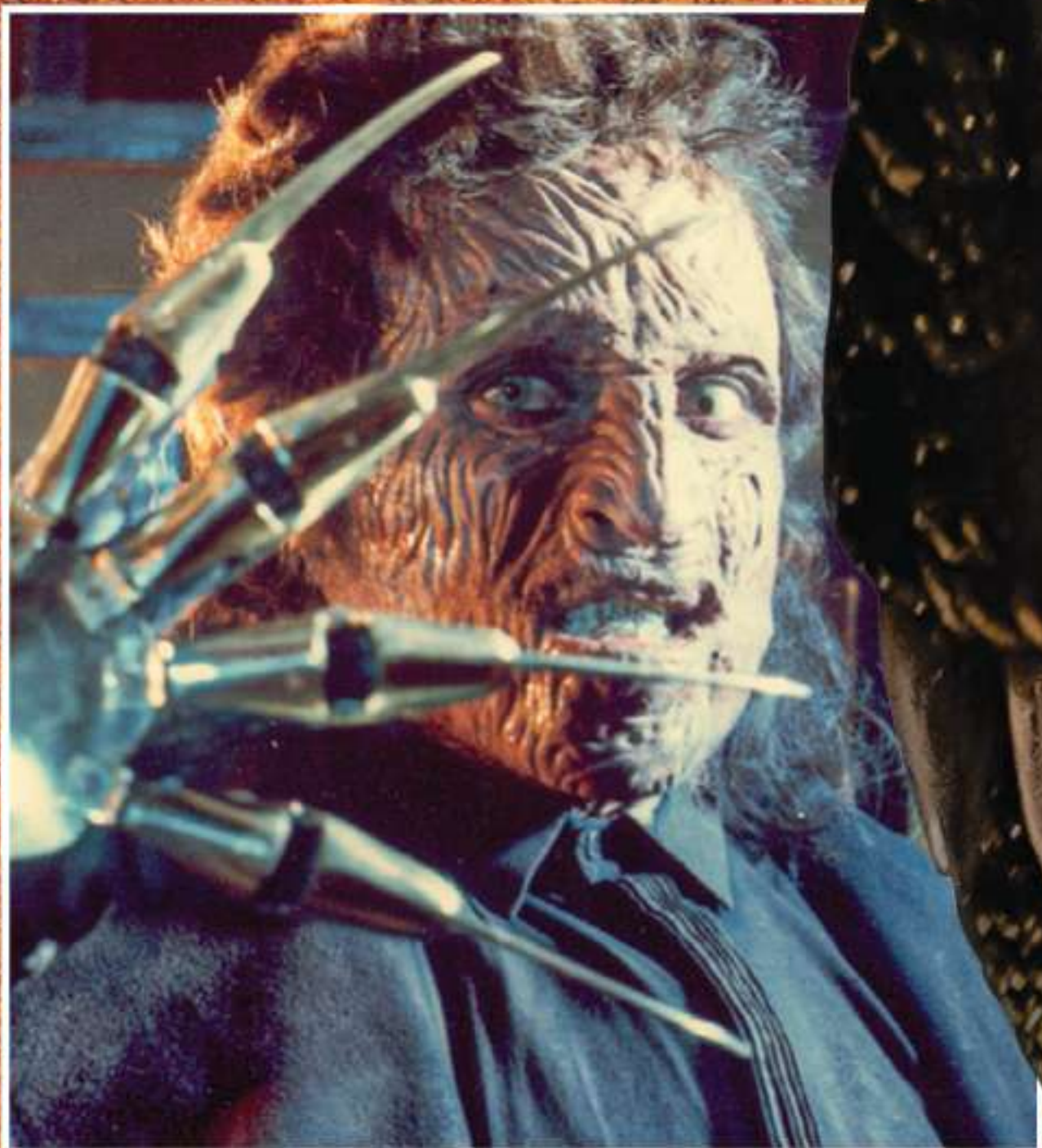
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HUMANS ARE HISTORY
JURASSIC WORLD DOMINION





CLAY AMONG THE PIXELS:
THE PRACTICAL MAGIC OF

JURASSIC WORLD DOMINION

BY ABBIE BERNSTEIN

Jurassic World Dominion chronicles what happens following the events of 2018's *Jurassic World: Fallen Kingdom*, when a horde of genetically-modified dinosaurs are freed from a laboratory. This is good news for the dinosaurs, but perhaps less so for the west coast of the United States, where the creatures proceed to wreak havoc.

Dominion's creature effects supervisor, John Nolan, would like it known that he's a lifelong FANGORIA fan. "I read *Cinefex* and FANGORIA all the time. I used to get my magnifying glass out and see the glue sticks on the shelves in the pictures, to try and get an understanding of how people built stuff. So, it's a real honor to be asked for an interview."

Dominion is the third entry in the *Jurassic World* trilogy, which follows the initial *Jurassic Park* trilogy (including 1997's *Lost World: Jurassic Park* and 2001's *Jurassic Park III*), based on Michael Crichton's novel. The original 1993 *Jurassic Park* was directed by Steven Spielberg, who today serves as an executive producer on all things *Jurassic*. The film's Oscar-winning special and visual dinosaur effects by the late Stan

Winston and his team (including Dennis Muren, Phil Tippett, and Michael Lantieri) remain iconic.

Nolan and his London-based John Nolan Studios are new to the *Jurassic* world, although Nolan himself has dinosaur-making experience dating back to the 1999 British miniseries *Walking with Dinosaurs*, when he worked for Jez Harris. *Dominion* chief sculptor David Darby's credits include *Prometheus* and *1917*. Both men separately get on the phone from England to talk about their *Dominion* work.

Dominion's line producer/associate producer Tim Wellspring had previously worked with both Nolan and Darby on Netflix's series *The Dark Crystal: Age of Resistance*, in collaboration with Jim Henson's Creature Shop. "We'd just wrapped two years on that," Nolan recalls.

"It [had] about three hundred puppets; we had a hundred and eighty-three-person crew."

Nolan adds that he and Wellspring had a great time together on *Dark Crystal*. But when Wellspring first contacted Nolan about *Dominion*, the producer could not divulge the film's title. As the result of a false rumor, Nolan guessed the project was *Gremlins 3*. "Tim says, 'I've got this film. You're going to go crazy, but it's right up your street, after doing these puppets with us.' So, I thought, 'This is *Gremlins 3*!' And I was running around the house..." Nolan sings the *Gremlins* theme music, laughing.

Then Wellspring called Nolan back and revealed the project was *Jurassic Park Dominion*. "I was like, 'You're joking.' That was mind-boggling. I met with the producers and Colin Trevorrow at his office."

Director Trevorrow – who also helmed the first *Jurassic World* and co-wrote the screenplays of all three films in the trilogy – kept the interview simple, Nolan continues. “He said, ‘So, do you like dinosaurs?’ ‘Yes. I love dinosaurs.’ ‘Do you want to make some?’ ‘Yes.’ ‘Okay, you’ve got the job.’ And then we went through the huge list of dinosaurs.”

Emphasizing his respect for his *Jurassic* predecessors, Nolan says, “Obviously, Stan Winston is an absolute legend, and it’s an honor to have been approached to build the dinosaurs for this one. Everyone of my generation that got into what we do, it’s because of Stan Winston and his studio.” Nolan likewise expresses appreciation of Neal Scanlan, the creature and special makeup effects supervisor on *Jurassic World: Fallen Kingdom*.

While Scanlan isn’t back, there are a number of *Jurassic* veterans on *Dominion*. These include paleontologist consultant Steve Brusatte. “He’s great,” Nolan enthuses. “Everything went through him. And of course, a lot of the sculptures went through Steven Spielberg and Colin. We’ve even got sculptors and some of the crew from Neal Scanlan’s team.”

Nolan was warmly received by the cast. “The first thing Laura Dern said to me was, ‘Welcome to the family,’

which was one of the nicest things to be on the receiving end of.”

Dominion production visual effects supervisor David Vickery at ILM had also been on *Fallen Kingdom*. “All his inspirations come from the same films as myself and Colin,” says Nolan. “He’s ready to do anything he can do to help us in visual effects. I loved that. Because when I first got into [practical effects], back in the *Harry Potter* days, people said, ‘Ah, why are you getting into it? We’re a dying breed, visual effects is going to take over.’ Well, *Jurassic* is a perfect example of how digital and practical complement each other.”

Darby admits to being one of those who formerly believed practical effects were on the way out. “I remember going to see the first [*Jurassic Park*], and thinking that was the death of animatronics, because the CG was so good, but then, working on this one, there was a boatload of animatronics. It was quite a turnaround.”

Sculpting both practically and digitally, Darby notes that different dinosaurs call for different techniques. Of the first four the team worked on, “One of them was the compy [short for Compsognathus], the little lizardy-type things. We kept those digital. I reworked the old ILM [digital] model to make it more user-friendly for animatronics. The other three were the Nasutoceratops, the Dimorphodon, and the Dilophosaurus. We tackled those ones

traditionally, sculpting them in plaste-line, which is like an oil-based clay.”

The sculpture team was on *Dominion* for over a year, through preproduction and into production. Darby says, “We originally had about eight sculptors. On the Giganotosaurus, we upped it to about ten. One person would be the lead sculptor on each dinosaur, and then they would be joined towards the end, which would be the detailing, by either one or two other people.” Different sculptors were rotated for each part of each dinosaur, because if one sculptor does all of the neck, and someone else does all of the head, “It starts to look like a patchwork quilt. We like people to move from the head to the foot. As long as people have a good understanding of anatomy, they can do pretty much anything.”

While visual effects and ILM remain crucial to any *Jurassic* film, Nolan observes that *Dominion* has “the biggest practical approach from all of the films. We built thirty-eight dinosaurs, fourteen species, I think. Some were tiny, like the compies. And then the Giga, which has a head the size of a car.” They are built full-scale, although some parts are either off-camera, or augmented by CGI. “To go from one scale to the other is a challenge in itself, but it’s exciting. We had to work out how you perform something on a



THE DILOPHOSAURUS
AND ITS GLAM SQUAD.

“WE BUILT THIRTY-EIGHT DINOSAURS, FOURTEEN SPECIES, I THINK. SOME WERE TINY, LIKE THE COMPIES. AND THEN THE GIGA, WHICH HAS A HEAD THE SIZE OF A CAR.”

— JOHN NOLAN

CREATURE EFFECTS SUPERVISOR
JOHN NOLAN AND FRIENDS

PHOTOS: JOHN WILSON/UNIVERSAL PICTURES AND AMBLIN ENTERTAINMENT

small scale, but then how you can control something on a big scale. It was something Colin really wanted to explore.”

Darby says his sculptures are primarily “real-world scale.” Sadly, the production files relating to the original size of the *Dilophosaurus*, first seen in the first *Jurassic Park*, were nowhere to be found. “So, we were looking through magazines, books, and old video references to try to find the exact scale. In the end, we printed out three different-sized scales on foam board, using the photocopier and the printer. We presented those to Colin Trevorrow and [production designer] Kevin Jenkins and David Vickery, to see what size would work for them.”

Reza Karim, foam department head at John Nolan Studio, was the lead *Dilophosaurus* sculptor.

It was important that the dinosaur looks the same as it did in the first film, Darby adds. “You don’t want to update it, you want to pay homage to it, and how it was in the original, because fans love it. Colin was very particular about, ‘It should look like the original.’” On the other hand, “We did have fun with some of the new ones we did. If Steve, the paleontologist, approved of it, then Colin loved it.”

One new dinosaur is the *Dimetrodon*, which, Darby relates, “was probably my favorite dinosaur that we sculpted. It’s your classic dinosaur with the big sail on its back. We found pictures of the skeleton and the skull. [The sail is] an extension of the spinal cord. The teeth were pretty much like shark’s teeth, in the shape, and because it also had serrations on the edges of the sides of the teeth.”

The creature effects team hugely enjoyed seeing the actors respond to the larger full-scale dinosaurs, Nolan reports. “When we switched the Giga on for the first time, the cast just screamed. To be able to build stuff and for it to interact with the cast and to see their reactions was incredible.”

All of the creature designs start with reference and research. In the era of Google, there is much to be found on the internet. And, Nolan points out, “With *Jurassic*, we’ve got the luxury of looking at the previous films. Unfortunately, [much of] the archives, the images of previous work, all the molds, don’t exist anymore, so bringing back certain dinosaurs that were in previous films, we had to do so much research, freeze-framing the original films. We would then get into the sculpting, either in more traditional wet clay, or in 3D [digital] sculpting. We would look at the muscles, and [skin] textures.”

A different department is responsible for creating the animatronics that make the practical dinosaurs move. Nolan refers to the animatronic equipment as “the robot. With the muscles, once we’ve got the skin, we have to create something that fits between the robot and the skin, which is what we call the core and the muscle shapes.

“The core is like a skeleton that we put over the robot, and that holds the skin onto the [muscle] shapes. When it moves, you can’t have fiberglass [visible in] the hard forms. You have to have separate padding. The fabrication department builds muscles that are attached to elastic, so that when the puppet moves around, rather than things popping and getting crushed by the robot that’s inside it, you have these lovely muscles that move around underneath the skin and hold the skin out into the correct shapes.”

Nolan adds that this is much how CGI creatures are designed: a 3D digital skeleton is built, muscles are laid over the structure, then skin is added, textured, and colored.

However, Darby says, for sculpts used to design practical dinosaurs, “We do it differently. I use the [3D computer sculpting] program Z-Brush, so I would start sculpting big shapes, the head,



“JURASSIC IS A PERFECT EXAMPLE OF HOW DIGITAL AND PRACTICAL COMPLEMENT EACH OTHER.” - JOHN NOLAN

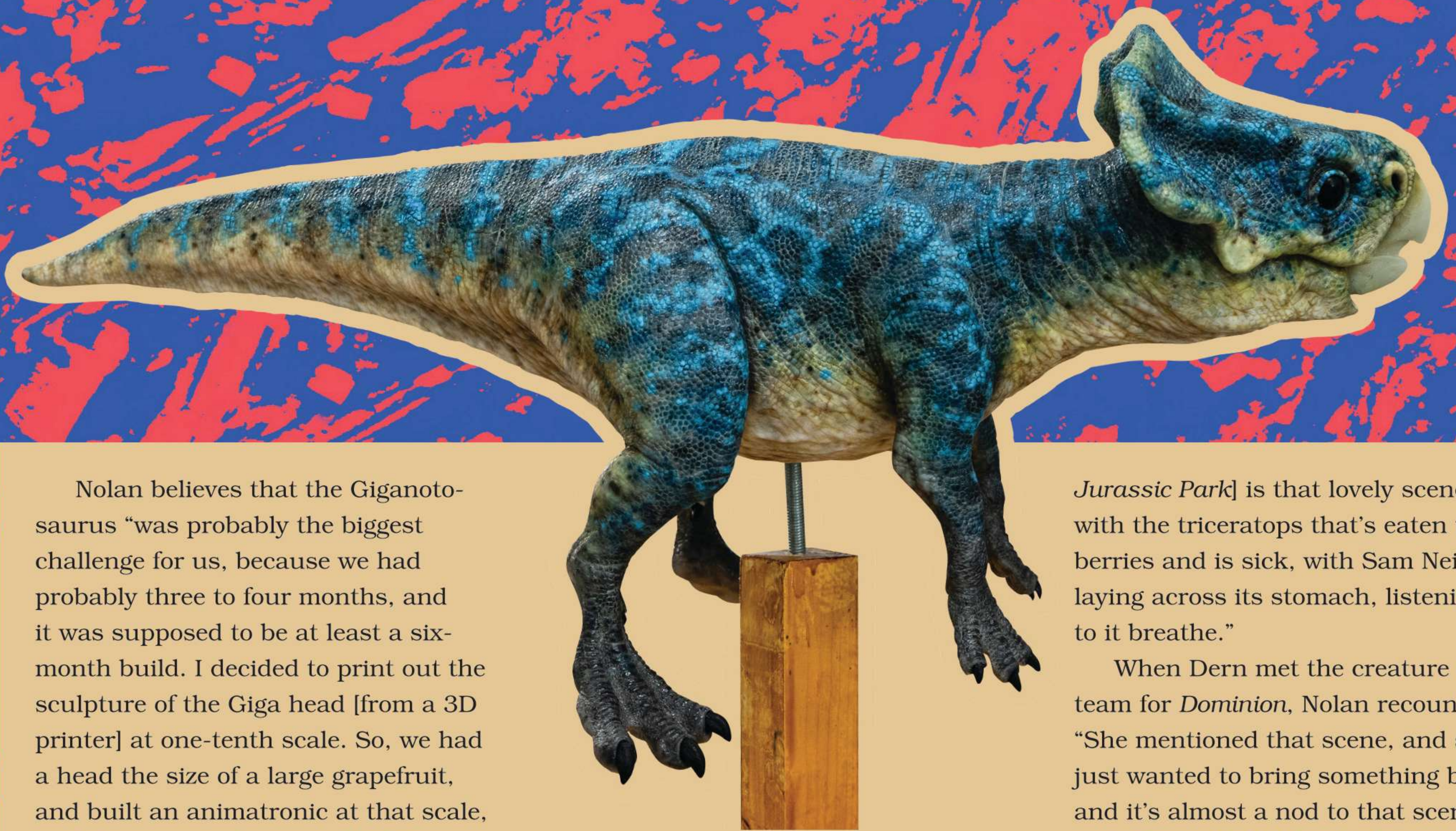
IT TAKES A VILLAGE: THE EFFECTS TEAM HARD AT WORK ON CREATING A TACTILE WORLD.



the neck, the body, tail, legs, and work that way. Because all we're worried about is what it looks like on the outside, so we can get it printed, because [after that], the animatronics take over, and they rig the cable on the inside, all the mechanical work.”

There is a huge amount of labor involved in the sculptures, Darby observes. “Every dinosaur was hand-sculpted, using sculpting tools, mainly.” Alas, there is no tool for making individual dinosaur scales. “I wish there was, because it would have made our job a lot quicker. You can get really lost in sculpting all that stuff. When you look back, and you see how many scales you’ve sculpted, you think, ‘Wow, okay, that’s a lot of work’,” he laughs.

In other circumstances, Nolan says, miniatures might have been used. “If a dinosaur is too big, then we might build it on a smaller scale, shoot it as if it was larger, and then [composite] into a shot.” But on *Dominion*, “Everything was live animatronics, or hand-puppeteered, and it was all full-scale. Obviously we crossed over with visual effects, because of the way that we work nowadays, and because of technology, we actually sculpt in 3D now, and then we 3D-print the forms that we made.”



Nolan believes that the Giganotosaurus “was probably the biggest challenge for us, because we had probably three to four months, and it was supposed to be at least a six-month build. I decided to print out the sculpture of the Giga head [from a 3D printer] at one-tenth scale. So, we had a head the size of a large grapefruit, and built an animatronic at that scale, and threw it together quickly. That was something that we performed in front of the director and the producers and all the other departments, and said, ‘This is what we propose for the movement of the Giga. We just need to work out how to do it on a larger scale.’”

After that, Nolan’s department began collaborating with the visual effects department on the whole of the Giga, “because we knew that we were only going to build the neck and the head practically, and they would extend it in CGI. All the interactive stuff with the film set would be us. We could get the head to smash through a window practically, and snap at the cast.”

The on-set practical special effects department also became involved, Nolan continues. “We gave Paul Corbould and his amazing special effects team all the rigging points, which related back to David Vickery and his visual effects team. All the pivot points and all the anatomy of the creature had to match perfectly for each [practical and digital version]. Once we got those pivot points from a rigged [CG] animated version of the Giga, we put that into an animatronic, gave the full animatronic and our drawings to special effects. They did a fantastic job of creating this huge hydraulic-controlled neck mechanism, and we stuck an animatronic head on top of it.”

The animatronics are operated by the same type of radio controls used in remotely piloting drones. For dinosaur

heads, these operate elements like eye blinks and lip snarls.

Dominion’s practical effects extend even to when a dinosaur is eating a human, though care was taken not to mangle any actors or stunt people. “With the Giga,” Nolan recalls, “we had rubber teeth, and there were safety precautions. If the robot was switched on, it’s a huge rig, so that thing could crush you. You’ve got a head the size of a car with a jaw that’s controlled with huge hydraulic rams. So, we had [members of] a crew who had ‘dead man’ buttons. If they let go of the button, the power for the robot would shut down, and it would stop instantly. We worked out the best way to do it with the cast and the stunt team. No one was ever in danger.”

Another *Jurassic* tradition is making dinosaurs that can express emotion without becoming caricatures. “When we sculpt dinosaurs,” Darby says, “we have the mouth open, the eyes slightly closed, almost like they’re squinting – we keep the brows up if they have brows. Otherwise, it’s harder for the animatronics to get expressions out of the character.”

“That’s the challenge of our job,” Nolan observes, “to create a dinosaur that has that emotion. You see it in all the previous films. We have this wonderful scene with Laura Dern where there’s a baby Nasutoceratops. The last time that she was looking after a practical dinosaur [in the first

Jurassic Park] is that lovely scene with the triceratops that’s eaten the berries and is sick, with Sam Neill laying across its stomach, listening to it breathe.”

When Dern met the creature effects team for *Dominion*, Nolan recounts, “She mentioned that scene, and she just wanted to bring something back, and it’s almost a nod to that scene as well. So, we looked at different ways of building the animatronic. Our job is to try and make something that’s very engineered, made out of heavy metal, but that looks as organic as possible, with pivot points and curves and fluid, natural movements. We tried to create as much emotion within these dinosaurs as possible.”

This had to be subtle, though, as real reptiles are known for keeping their feelings to themselves. “But,” Nolan says, “I think a perfect example is the pupil dilation in the eyes, which we did with in-camera effects. That really helps, and [so do] sounds, and even the saliva. And just small breathing – they have fast air bladders, tubes, underneath the skin, and that can create emotion. We’re not doing things like dinosaur smiles, but there are definitely ways of getting emotion across.”

What’s most unique about *Jurassic World Dominion* for Darby is that “Stan Winston had set a design. We wanted something that lived up to that quality. And I think we have achieved it.”

In conclusion, Nolan says of practical creature effects, “We might be able to create a dinosaur that can thrash its head around and smash through a wall, but if it’s got to run from A to B, you know that you’re going to be relying on visual effects to take over. So, *Jurassic World Dominion* is the perfect blend of all the three disciplines: special effects, creature effects, and visual effects.” 🦖



WELCOME TO...

JURASSIC MERCH

PROMOTIONAL PRODUCTS, 65 MILLION YEARS IN THE MAKING

BY JASON KAUZLARICH

Before the original novel by Michael Crichton was even finished, Steven Spielberg and Universal Studios had *already* bought the movie rights for what ended up becoming one of the biggest blockbusters in history. *Jurassic Park* has gone on to spawn five sequels, three theme park rides, as well as an animated series for Netflix. And, of course, as soon as that original movie was unleashed onto the audiences, *Jurassic Park* merchandise exploded onto toy store shelves and into McDonald's Happy Meals.

FANGORIA is taking a look at some of those items released in 1993, as well as some of the newer merchandise that has kept the amber-filled legacy alive.



McDonald's collectible
Jurassic Park cups. 1992



McDonald's employee
Jurassic Park cap. 1993

Jurassic News
promotional poster
brochures. 1993



Jurassic Park
Raptor Eggs
candy. 1992



Assorted
Kenner
Jurassic
Park toys.
1993



Mondo - Jurassic Park
Original Motion
Picture Soundtrack 2XLP
(Dilophosaurus variant). 2015





Complete set of
Topps Jurassic Park
trading cards. 1993



Sega Genesis cartridges for
Jurassic Park and Jurassic
Park: Rampage Edition.
1993/1994



Complete set of
Skycaps Jurassic
Park pogs. 1993



Promotional Burger King
watches for The Lost World.
1997



Jurassic
Park Spitter
(Dilophosaurus)
Mask and
claws. 1992



Jurassic Park
Original Hero
Overhead
Anorak. 2021

PHOTO BY ALYSSA VIDALES



LEGEND

JASON KAUZLARICH'S
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