THE GLOBE AND MAIL

Arts & Books

SATURDAY, AUGUST 17, 2019 | GLOBEANDMAIL.COM

SUMMER MOVIES
Japanese horror film Ringu has haunted **Cliff Lee** throughout adulthood
R4

MUSIC
Grammy-winning producer of The Weeknd and Frank Ocean gives back to Toronto
R5

BOOKS
Read an excerpt from smashing Québécois bestseller The Dishwasher
R9

Xavier Dolan reflects on The Death and Life of John F. Donovan

CHANDLER LEVACK

Dressed in Louis Vuitton, sitting on a couch in a hotel room with an ensuite bidet, 29-year-old Xavier Dolan wanted to assure me that he isn't afraid of failure.

"I haven't really lived failure, but I've felt how failures feel," said the Québécois auteur during a press junket at the Toronto International Film Festival in 2018 for his seventh movie in nine years, *The Death and Life of John F. Donovan*. "Not all of my films have been equally successful and there have been failures, either in convincing a community of journalists, or the public. The American market has always been one that I felt really didn't respond to the stories I want to share, so I have no expectations at all. There's no way for me to know what will happen to this film."

Death and Life, which opens in Canadian theatres on Aug. 23, is now largely considered Dolan's worst movie to date. His $35-million English-language debut boasted an all-star cast which included Natalie Portman, Kathy Bates, Jacob Tremblay, Kit Harington and Jessica Chastain, the latter famously cut out of the movie owing to "tonal issues." The follow-up to his Cannes Grand Prix-award winning *It's Only the End of the World*, *Death and Life* was Dolan's *Magnolia*, a star-studded ensemble film that was a hugely ambitious, yet painfully sincere artistic failure. (An original cut, then four-and-a-half hours long, had a prologue about the original genesis of Rainer Maria Rilke's Letters to a Young Poet, filmed in Prague and narrated by Michael Gambon.)

Co-written with his friend Jacob Tierney, the sweeping melodrama about a lonely child actor (Tremblay) who develops an unlikely pen pal in a famous closeted TV star (Harington) tackles everything from gay identity to white privilege to childhood dreams in an often egregious fashion, thanks to the martyrdom of the movie's titular privileged and painfully bland hunk. It is based on Dolan's experience growing up as an isolated child actor in Quebec, when he wrote letters to everyone from Leonardo DiCaprio to Celine Dion.

None of his idols ever wrote him back.

The film was speculated to premiere at Cannes in 2017, but spent the next two years stuck in postproduction turmoil as Dolan worked with a co-editor for the first time, Quebecois filmmaker Mathieu Denis.

It was then slated to play at Cannes again in 2018 and was pulled by Dolan from the lineup. Finally, it screened at TIFF in 2018 to a "meh"-ish, 17 per cent rating on Rotten Tomatoes. Sitting on the couch, Dolan admits his film has problems.

DOLAN, R5

CLOSE TO THE BONE

Last month, the Royal Ontario Museum's Hell Creek paleontology team, led by fossil-hunting rock star David Evans, headed for Montana's badlands to unearth the remains of a triceratops named Dio and a rich, prehistoric record of climate change

David Evans, a paleontologist at the Royal Ontario Museum, stands at a dig site in Jordan, Mont., last month. Whatever is collected here will appear in an exhibition on the effects of climate change, he says. TODD KOROL/THE GLOBE AND MAIL

JONATHAN DEKEL JORDAN, MONT.

Sixty-six and a half million years ago, a triceratops that would one day be known as Dio died on the shore of an inland sea in what is now Montana. Weighing somewhere between eight and 10 tonnes, its muscular body was likely soon scavenged by creatures big (its trusty adversary Tyrannosaurus rex) and small (bacteria), eventually separating its distinctive, 500-plus-pound tri-horned head from its core, leaving it face-down at the water's edge.

Over the next 500,000 years, flooding buried Dio's six-foot-long skull, allowing iron and manganese in the water to percolate through its bones, turning the calcified white exterior a chocolaty brown. When an asteroid hit the Earth more than 5,000 kilometres away – wiping out nearly all living dinosaurs and laying another 30 to 40 centimetres of sediment atop its final resting place, Dio was already well on its way to fossilization, wrapped in its rocky sarcophagus. Which is where it lay, mostly undisturbed, until July, 2018, when a research assistant at the Royal Ontario Museum named Danielle Dufault spotted its occipital condyle – the unique, nearly perfect sphere-shaped bone connecting its head to its socketed spine – sticking out of the ground of the fossil-rich Hell Creek Formation, and set a marker on the GPS.

She later named the fossil after her heavy-metal hero, Ronnie James Dio.

Last month in Jordan, Mont., the ROM's four-person Hell Creek paleontology team packed their gear into a Ford pickup truck and prepared to head back to the badlands to uncover the rest of the triceratops's massive skull.

The team, which includes Dufault, was led by Dr. David Evans, the museum's paleontological rock star, whose résumé includes dino-hunts in the Sudan and Mongolia, hosting a television series and helping to discover almost a dozen new dinosaur species.

ROM, R6

ROM: A quest for a T. rex kicked off the museum's Hell Creek expedition

FROM R1

Boyish, with shoulder-length black hair, Evans wore dark sunglasses, a dino-themed T-shirt and loose-fitting jeans, maintaining the wunderkind Indiana Jones aesthetic that helped land him the top paleo gig in Canada at the age of 26.

Now 38, he oversees the museum's dinosaur research and curation and serves as a professor in the University of Toronto's Department of Ecology and Evolutionary Biology.

"If you want to see the world, you come to the ROM," he later tells me, "and the gateway to the ROM is dinosaurs and mummies. We have more dinosaurs on display than the Smithsonian has. That's something we should be really proud of."

In recent years, fantastical exhibitions such as Zul. Destroyer of Shins, have kept interest in the ROM's mainstay department high. Like most century-old institutions, the museum under chief executive and director Josh Basseches is looking toward fare that is pop-culture friendly in the hopes of attracting a more diverse audience. This has, understandably, required Evans to keep the hits coming. And he knew none could be bigger than finding a T. rex skeleton.

With this in mind, Evans mentioned the museum's Holy Grail at a board meeting a few years back.

Afterward, a member asked him how much it would cost to bring one in. Acquiring a skeleton, as they had with Zuul, would be too costly. So Evans suggested a five-year expedition to Hell Creek, ground zero for Late Cretaceous fossils owing to the paleontological godfather Barnum Brown, who discovered the first triceratops and first tyrannosaurus in its earthy crust.

The Hell Creek Formation spans parts of Montana, North Dakota, South Dakota and Wyoming.

Much of the ROM's collection derives from Alberta, where fossil discoveries are the property of the provincial government. In contrast, fossils found in Montana's badlands belong to the land owner, who can sell that stake to the highest bidder. In leasing a possible fossil bed in Hell Creek – including the right to keep whatever they find – Evans saw not only an opportunity to discover a T. rex, but to enrich his data from the Late Cretaceous period and use the museum's research arm to better understand the drastic climate change and forced migration that happened before the asteroid precipitated a mass extinction.

> What I'm trying to find out is what type of animals made it through the extinction – what kind of characteristics they had, what type of circumstances precipitated an ecosystem collapse of that nature and how fast it took for those ecosystems to recover, so we can understand the consequences of what we're doing today.
>
> DAVID EVANS
> PALEONTOLOGIST

As a bonus, it would keep the digging rights away from commercial prospectors, who would have no interest in the clues the fossils and their surroundings might contain about climate change.

So, when a real estate agent told Evans that a ranch a stone's throw from where Brown's first T. rex was found had just been sold to a Wall Street banker, he quickly offered to lease the land.

Two years in, the ROM's Hell Creek expedition had yet to turn up a T. rex, but Dufault's discovery in the first year had possibilities for display as well as research potential, making it a valuable lead.

FILLING THE GAPS

The Y Hanging Diamond ranch sat 43 km north of Jordan, on the south bank of the Missouri River. About 800 metres from its fenced-off eastern border was a dry patch of land with clear sightlines across the horizon and a dinosaur skull sticking out of the ground. Dio's remains were found at the bottom of a steep incline surrounded by trees and cows, making the only viable approach by foot.

GPS in hand, Evans had ROM paleontological technician Ian Morrison pull the truck as close as possible to the spot before the rest of team – Dufault's and Evans's lab students Cary Woodruff and Ryan Wilkinson – jumped out and started unpacking several tanks of water, pickaxes, shovels and buckets. Unlike in the movies, dinosaur fossils are almost never found fully articulated on the surface, and Hell Creek's uneven terrain has made ground-penetrating radar impossible to use. As such, paleontological excavation had changed very little since Brown's day. Coupled with the lack of cell signal, it has the heroic quality of time travel.

The previous year, the team encased Dio's protruding piece in plaster, then wrapped that in a garbage bag to protect it from the winter elements. Approaching the site, Evans and crew were happy to discover it had mostly been left alone, making the dig a relatively easy task.

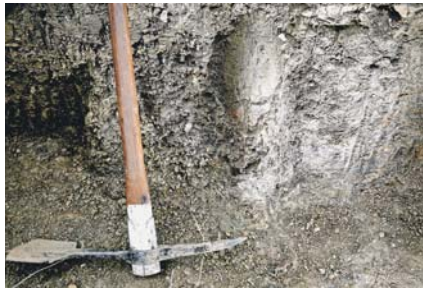
Typically, the first day of an excavation requires a heavy amount of moving earth. Under the dry, hot sun, the next several hours were spent digging a seven-by-eight-foot quarry into the ridge, carefully removing and redistributing the earth so as to not disturb any wayward fossils. Morrison, the elder of the group, reminded all parties to drink water. "I've had heroes pass out," he said.

To while away the time, the team discussed a wide range of topics: ranking Metallica albums, favourite podcasts and the retroactive effect of the #MeToo movement on Woody Allen's oeuvre among them. To amuse his crew, Evans recounted the time actor Mary Elizabeth Winstead shadowed him for her role in the remake of *The Thing*. "She told a reporter we were throwing fossilized bones around the ROM warehouse," he said with a laugh. "I can assure you we did not do that."

When the team eventually took shelter atop a tree-lined mound for lunch, Evans's tone gained a more serious timbre. Whatever is collected here, he explained, will ultimately appear in an exhibition on the effects of climate change. And beyond what the public sees, he said, there would be ample scientific data from the area that can help humanity as a whole better navigate the rapidly accelerating Anthropocene-influenced extinction event.

"Everybody agrees the asteroid impact is what ultimately led to the extinction of the dinosaurs," he said, looking down on the dig site. "What I'm trying to find out is what type of animals made it through the extinction – what kind of characteristics they had, what type of circumstances precipitated an ecosystem collapse of that nature and how fast it took for those ecosystems to recover, so we can understand the consequences of what we're doing today."

The Hell Creek Formation, which spans parts of Montana, North Dakota, South Dakota and Wyoming, is ground zero for Late Cretaceous fossils, owing to American paleontologist Barnum Brown's discovery of the first triceratops and tyrannosaurus bones in its earthy crust.



Paleontologist David Evans, centre, leads the Royal Ontario Museum's crew at a dig site near Jordan, Mont., last month to uncover the rest of Dio, a 66-million-year-old triceratops. The dinosaur was first spotted by ROM researcher Danielle Dufault and was named after her heavy-metal hero.

At 38, Evans still maintains the wunderkind Indiana Jones aesthetic that helped score him the top paleontological gig in Canada at the age of just 26. Now head of the ROM's dinosaur research and curation, he also serves as a professor in the University of Toronto's Department of Ecology and Evolutionary Biology.
PHOTOS BY TODD KOROL/ THE GLOBE AND MAIL

Noting that the vast majority of dinosaur remains found in the area had been triceratops, Evans theorized that this imbalance must have been caused by mass migration as the environmental conditions shifted. "So [we need to study whether] those stressed ecosystems were caused by climate and sea-level changes, and did that exacerbate the effects of that asteroid impact?"

Humans are causing similar conditions today, he continued. "We're making ecosystems more sensitive to tipping. It's a cascading effect where the extinction of one thing precipitates the extinction of another on a global scale. Those are where everything falls apart."

After taking a few bites of a sandwich, he added that the current rate of climate change is much faster than what preceded the five previous mass extinctions, when more than 75 per cent of the species on Earth were lost. "And if we continue at the rate we're going, we're probably going to reach those levels in most of the major groups of animals. We're talking five hundred to 1,000 years."

As for this particular dig, Evans admitted it was too early to know if what would be found would ever be seen by crowds of children.

"There's this perception of scientists that they're all trying to cure cancer or find a new dinosaur. That's not really how science works," he said. "The way you cure cancer is by using all the little baby steps that people have taken to understand how cells divide and multiply. … You're just contributing where you're seeing gaps in knowledge, and eventually the picture becomes clear.

> There's this perception of scientists that they're all trying to cure cancer or find a new dinosaur. That's not really how science works. The way you cure cancer is by using all the little baby steps that people have taken to understand how cells divide and multiply.
>
> DAVID EVANS
> PALEONTOLOGIST

"So we want to discover as many fossils as we can, and of course we'd love to collect a T. rex for the museum, but we're also collecting data to fill in the gaps. … What we're doing to the planet is happening so fast, we can't really study it and make projections in real time. And we certainly can't appreciate the long-term effects of what we're doing to the planet. The fossil record holds important lessons in that regard."

Evans ended the lunch break by saying that the first day's dig has moved faster than he expected. When the team returned to the valley below, they switched to smaller handheld tools, delicately digging in the hopes of better understanding how Dio's skull was angled. Woodruff, a Montana native who took pride in his own homemade pick, soon discovered more of Dio's frill. A glue solution was applied, giving the fossil a preserving sheen. With mosquito hour drawing near, Morrison and Evans agreed to call it a day. Before heading to their campground for the night, the group decided to reconnect with the rest of the world at Jordan's Hell Creek bar. Checking their phones, everyone save for driver Morrison sat silently with a crisp light beer under the watchful eye of taxidermy deer heads.

'DINOSAURS WILL ALWAYS BE COOL'

Three weeks later, Evans sat in his office deep inside the ROM. Surrounded by bones collected on his expeditions, he gave a situational report: He'd just been on a satellite call with Morrison, who, along with Wilkinson, had stayed behind to encase Dio's fossilized skull in plaster and find a way to safely get the cast, which weighed more than a tonne, out of the valley and to Toronto. "Helicopter is an option," he half-joked.

Two days after the initial quarry dig, the crew had discovered Dio's horn and orbital bone, orienting it almost perfectly downward. This meant the majority of its skull had remained intact.

"Everything is more or less where it should be," he said, beaming.

As for its future, the ROM's collection lacked an articulated adult triceratops skull, Evans explained. So assuming the plastering, unpacking and cleaning went well, Dio's chances for display were quite high. At the very least, "it's something we can take out for special events" until the climate-change exhibit was ready.

And while that would be a big early win for the museum's Hell Creek expedition, Evans admitted he still dreamed of bringing a T. rex to the ROM. Maybe even a baby. It's a quest he'd been on since he first fell in love with the giant lizards in this very building at the age of 4. And it's one he was determined to complete. But for now, eyeing a wall of preserved embryos the museum's previous curator left behind, Evans allowed himself to take pride in his job.

"Dinosaurs will always be cool. They were cool 100 years ago, when the ROM started collecting fossils, and they're even cooler now," he announced. "The fossils that we're collecting and the research we're doing carries on this legacy. It makes our historic collections more relevant. "They're always going to be one of the most important things that we do here," he added. "Certainly if I have anything to do with it."

Special to The Globe and Mail