

UP TO SPEED: THE GALACTIC HOT RODS OF *STAR WARS*

STAR WARS

THE OFFICIAL MAGAZINE



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WELCOME...



Whenever you hear the first note of John Williams' *Star Wars* main title theme, I'm willing to bet that the hairs on the back of your neck still tingle. That opening fanfare triggers so many fond memories for me, often entirely unrelated to actually watching one of the movies.

For those of us ancient enough to remember vinyl records before hyper-cool hipsters and audiophiles brought them back, the *Star Wars* Original Soundtrack album was a very special thing—it was literally the closest you could get to experiencing the film at home, the tracks on that double-LP a visceral link to the movie itself. As a kid, I would lie on the living room carpet for hours, my head precisely placed between my Dad's expensive stereo speakers, letting John Williams' soaring music whisk me away to a far-off galaxy. It's been a prized possession of mine since I appropriated it from my parents' record collection years ago, but as I've never actually owned my own turntable it's a good three decades since those discs have had a needle in their grooves. Luckily I've got it on more than one CD... and a download or two.

Of all the *Star Wars* soundtrack albums, it's the one I return to the most. It's a timeless work of art that reminds me of past times and loved ones long gone. Treat yourself and play it while reading our feature on Williams and the London Symphony Orchestra in this very issue. Altogether now: BAAAH da-da-da-da....

May the Force be with you.



Christopher Cooper
Editor

MEET THE CONTRIBUTORS...



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STAR WARS INSIDER

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The Grand Finale

Episode IX: Cameras Roll

August 1, 2018 saw filming commence at London's Pinewood Studios on the final instalment of the Skywalker saga, and director J.J. Abrams celebrated—and surprised fans—with this cryptic photo tweeted from the set, revealing a scene being shot aboard the *Millennium Falcon*.

The biggest surprise, however, was the welcome news that the late Carrie Fisher's Leia Organa will play an important part in the story, with previously unreleased footage shot during *The Force Awakens* being employed to include the character in Episode IX.

In a press statement released a few days prior to the production getting underway, Abrams said, "We desperately loved Carrie Fisher. Finding a truly satisfying conclusion to the Skywalker saga without her eluded us. We were never going to recast, or use a CG character. With the support and blessing from her daughter, Billie, we have found a way to honor Carrie's legacy and role as Leia in Episode IX by using unseen footage we shot together in Episode VII."

Stars from the previous episodes also confirmed to be returning for the new movie include Daisy Ridley as Rey, Adam Driver (Kylo Ren), John Boyega (Finn), Kelly Marie Tran (Rose Tyco), Oscar Isaac (Poe Dameron), Lupita Nyong'o (Maz Kanata), Joonas Suotamo (Chewie), Domhnall Gleeson (General Hux), and Carrie Fisher's daughter Billie Lourd as Kaydel Ko Connix. Veteran *Star Wars* actors Mark Hamill and Anthony Daniels will reprise their roles as Luke Skywalker and C-3PO, and cape fans can rejoice in the news that Billy Dee Williams makes his long awaited return as Lando Calrissian. Joining these established faces are newcomers Richard E. Grant, Keri Russell, and Naomi Ackie.

Behind the scenes, a number of familiar names return to the *Star Wars* fold, including composer John Williams, Director of Photography Dan Mindel, Costume Designer Michael Kaplan, Creature and Droid Effects Supervisor Neal Scanlan, and VFX Supervisor Roger Guyett. Due for release in December 2019, *Star Wars*: Episode IX will be produced by Kathleen Kennedy, J.J. Abrams, and Michelle Rejwan, and executive-produced by Callum Greene and Jason McGatlin.

"It's Been A While."

A War Left Unfinished… Until Now!

As our last issue went to press, and San Diego Comic-Con was in full swing, thrilled fans heard the news they thought they would never hear: the much-loved animated series *Star Wars: The Clone Wars* is coming back.

During a hot-ticket panel at the annual entertainment event, Lucasfilm Animation's Dave Filoni dropped the news in typically understated style, revealing an enigmatic trailer featuring clone trooper Rex, Obi-Wan Kenobi, Anakin Skywalker, and Ahsoka Tano that had remained top secret until that very moment—even to the cast members on the panel!

"Any opportunity to put the final pieces of the story in place is meaningful as a storyteller," Filoni told StarWars.com after the news was announced. "I'm happy for the opportunity to define these things and the end of this part of the Clone War."

The Clone Wars launched in 2008 and ran for five full seasons and a sixth season known as "The Lost Missions." The 12 all-new episodes are due to hit screens via Disney's direct-to-consumer streaming service, but an exact release date is yet to be confrmed.







Resistance Rolls Out

Animated *Star Wars* Adventures Continue

Star Wars Resistance, the exciting new series from Lucasfilm Animation, launched in the U.S. on October 7, bringing with it a colourful new take on our favorite galaxy.

In the hour-long premiere episode, "The Recruit," audiences were quickly caught-up in the adventures of new Resistance recruit Kazuda Xiono, played by Christopher Sean. Kaz is sent to the Colossus—a massive aircraft re-fueling platform—by Poe Dameron (guest star Oscar Isaac) with a secret mission to gather intelligence on the First Order. Working undercover as a mechanic in a repair shop run by Dameron's old friend Yeager (Scott Lawrence), Kaz meets new friends Tam (Suzie McGrath), Neeku (Josh Brener), and their battered astromech droid, Bucket—but even with the help of BB-8, his undercover assignment soon lands Kaz in deep trouble.

The voice cast also includes Myrna Velasco as Torra Doza, Donald Faison as Hype Fazon, Jim Rash as Flix, and Bobby Moynihan as Orka. Gwendoline Christie reprises her villainous role as Captain Phasma.

Created by Dave Filoni, the series is executive produced by Athena Portillo (*Star Wars Rebels*), Justin Ridge (*Star Wars: The Clone Wars*) and Brandon Auman (*Teenage Mutant Ninja Turtles*).

Overseas fans will soon get to join the action when the series is rolled out on Disney channels worldwide following its U.S. debut.





Chewie, We're Home Entertainment

Han's *Star Wars* Story Comes Home



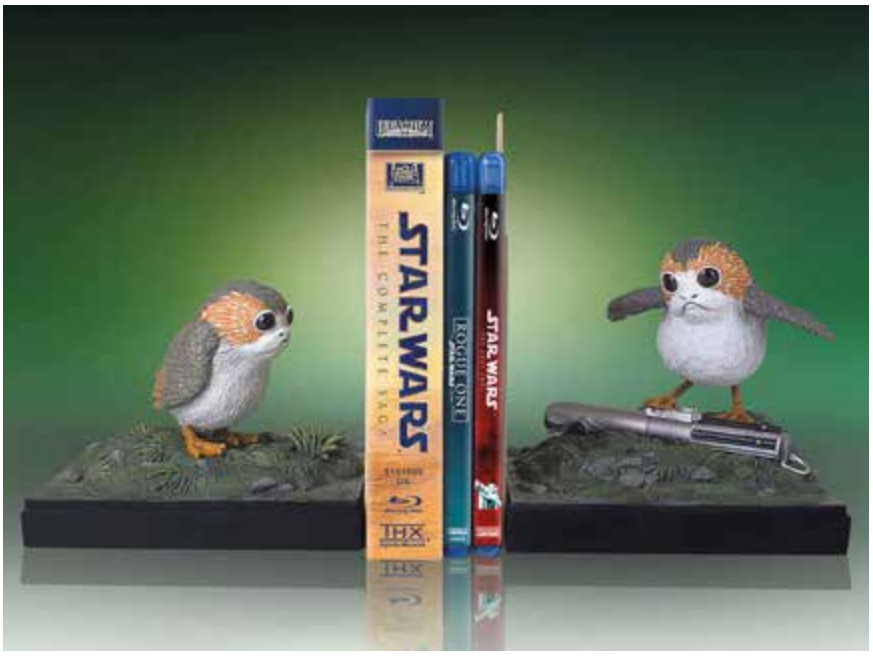
Out now on 4k UHD, Blu-ray, DVD and digital download, fans can relive the adventures of young scoundrel Han Solo on their home entertainment screen of choice. As is customary, the physical disc release comes packed with bonus features.

Along with eight previously unseen deleted scenes, 10 exclusive featurettes explore various facets of the movie, including an in-depth round-table discussion on the making of *Solo: A Star Wars Story* with the cast and director Ron Howard. Screenwriters Lawrence and Jonathan Kasdan discuss the writing of the film in "Kasdan on Kasdan", and fun extra, "Team Chewie," shows what it takes to bring your favourite Wookiee to the silver screen.

Millennium Falcon fans will be impressed by not one but three featurettes that focus on the famous ship. "Remaking the *Millennium Falcon*" follows the freighter's fate as it changes ownership from Lando to Han, while "Into the Maelstrom: The Kessel Run" tracks how this legendary event in *Star Wars* history unfolds. And for those looking forward to Disney Park's Galaxy's Edge, a hint of what's to come can be found in another exclusive bonus feature, "The *Millennium Falcon*: From Page to Park"—an exclusive look at translating the most famous *Star Wars* starship into one of the most anticipated expansions in Disneyland's history.

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Protect the Jedi Texts

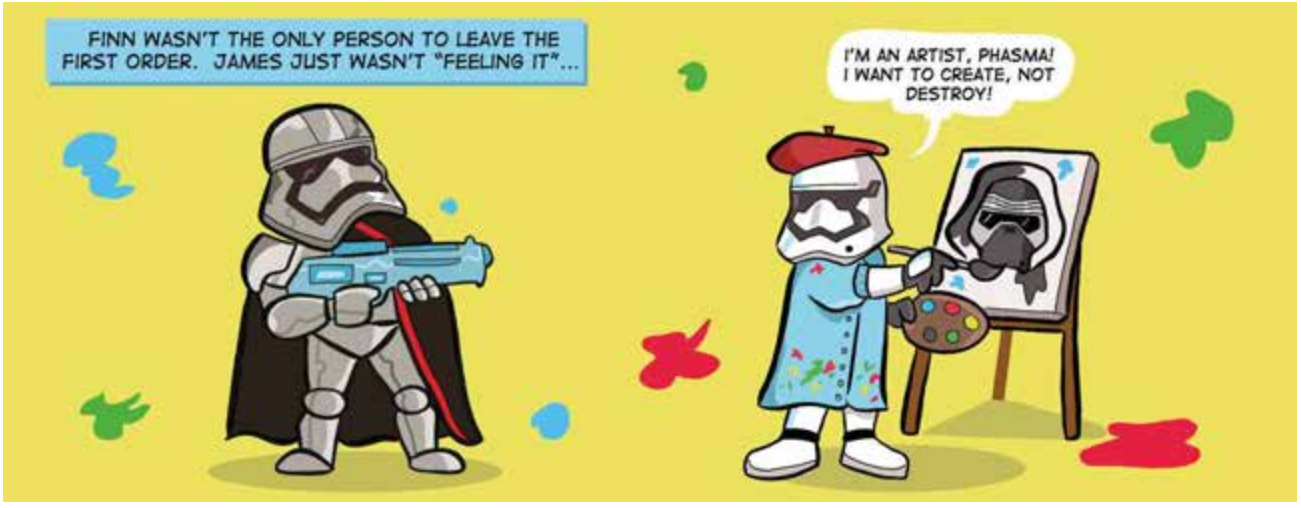
Keep your *Star Wars* library safe with porg bookends

Rather than stuff your *Star Wars* books into an old tree stump and hope they don't go mouldy or get struck by lightning, why not invest in a pair of adorable porg bookends, coming soon from Gentle Giant?

Due to ship in early 2019 and crafted from quality polystone, the porg duo are weightier than they look, and more than heavy enough to ensure your prized Jedi library remains stoically upright—just like the Jedi knights of old. Each limited-edition, hand-painted bookend comes with an optional extender to cater for taller items, and is individually numbered with a matching certificate of authenticity. For more details, and to order the $159.99 set, visit **gentlegiantltd.com**.

THE LIGHT SIDE

By Jamie Cosley



Dicing With Destiny

Han Solo's lucky dice get an official replica

Once a forgotten prop barely seen on screen, Han Solo's lucky sabacc dice have since become a totem of luck and love in the *Star Wars* universe. Now you too can benefit from Solo's (occasional) good fortune with your own set of officially licensed dice from EFX.

The 1:1 scale replica of the prop, as seen in *Star Wars: The Last Jedi*, was created using a digital scan of the original, which the artisans from EFX also photographed and documented in detail. The sabacc dice can be displayed in their custom-designed box or simply



slung over your car's rearview mirror as you make a hasty escape from the lair of the White Worms (alternatively known as your in-laws). Available for pre-order from **efxcollectibles.com**.

Going Solo Behind the Scenes

ILM announce *Making of Solo* book

Spending time on the set of a *Star Wars* movie during filming is the dream of many fans, but few of us will ever get that chance. Instead we've turned to books chronicling the making of our favorite sci-fi saga, which date back as far as 1980 when publisher Del Rey released Alan Arnold's incredible Once Upon a Galaxy: A Journal of the Making of *The Empire Strikes Back*.

The latest addition, *Industrial Light & Magic Presents: Making Solo: A Star Wars Story*, is an eyewitness account from ILM's own Rob Bredow, visual effects supervisor and co-producer of Lucasfilm's latest *Star Wars* movie, who documented the production. Set for release in April 2019, the mammoth 256-page book will retail for $50, and is available for pre-order now from online bookstores.



Timeline

Important dates in *Star Wars* history.

1946
Nov 1942: Special effects artist Denis Muren is born.

1959
Nov 5: Current R2-D2 actor Jimmy Vee is born.

1972
Nov 6: Thandie Newton (Val in *Solo: A Star Wars Story*) is born.

1978
Nov 17: CBS broadcasts *The Star Wars Holiday Special.*

1989
Nov 22: Young Han Solo actor Alden Ehrenreich is born.

1995
Nov 1: *Star Wars: The Essential Guide to Characters* by Andy Mangels is published by Del Rey.

2005
Nov 1: *Star Wars: Revenge of the Sith* is released on DVD.

2007
Nov 6: LEGO *Star Wars*: The Complete Saga videogame is released on multiple platforms.

1993
Nov 23: *Star Wars* Trilogy: The Original Soundtrack Anthology is released by Arista records..

2010
Nov 27: Film director Irvin Kershner dies.



Resist or Rebel

Step up to spell out your allegiance

Footwear manufacturer Po-Zu have released yet another range of cool *Star Wars* high-top sneakers, this time themed after the Resistance of *The Force Awakens* and *The Last Jedi*. In striking all-black or all-white chrome-free leather colorways, they feature the rebellion logo embossed on the side, with an organic cotton *Star Wars* label on the tongue.

If you'd rather rebel than resist, then the vegan-friendly Rebel sneakers might be more your style, available in easy-to-wear red or black organic cotton, again featuring the familiar rebellion logo.

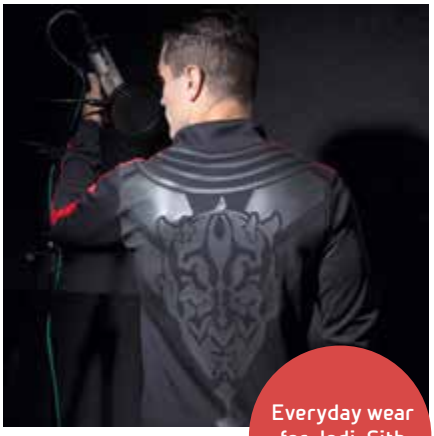
Find out more on pricing and availability at po-zu.com.

Available in U.S. sizes 5 to 11.










Everyday wear for Jedi, Sith and clones!

#Clone Wars Saved!

Her Universe celebrate 10 years of *The Clone Wars*

Founded by Ahsoka Tano actor Ashley Eckstein in 2010, Her Universe has been creating stylish *Star Wars*-based apparel and fashionwear to great acclaim ever since, and has now designed a brand new range of *Clone Wars* gear to commemorate a decade since the show first launched—just in time for its surprise return!

The garments, including items for both men and women, honor characters from Ahsoka Tano to Darth Maul, and transfer elements from their on-screen costumes into everyday clothes you can wear in any galaxy.

Her Universe also got busy gathering members of *The Clone Wars* cast to record a special video for their YouTube channel, in which Eckstein, Matt Lanter (Anakin Skywalker), James Arnold Taylor (Obi-Wan Kenobi), Dee Bradley Baker (Rex and his clone compadres), Catherine Taber (Padmé Amidala), and Sam Witwer (Darth Maul) look back at their days on the show. If you can't bear the wait until *The Clone Wars* returns, it's well worth a watch.



Signed, Sealed, Delivered

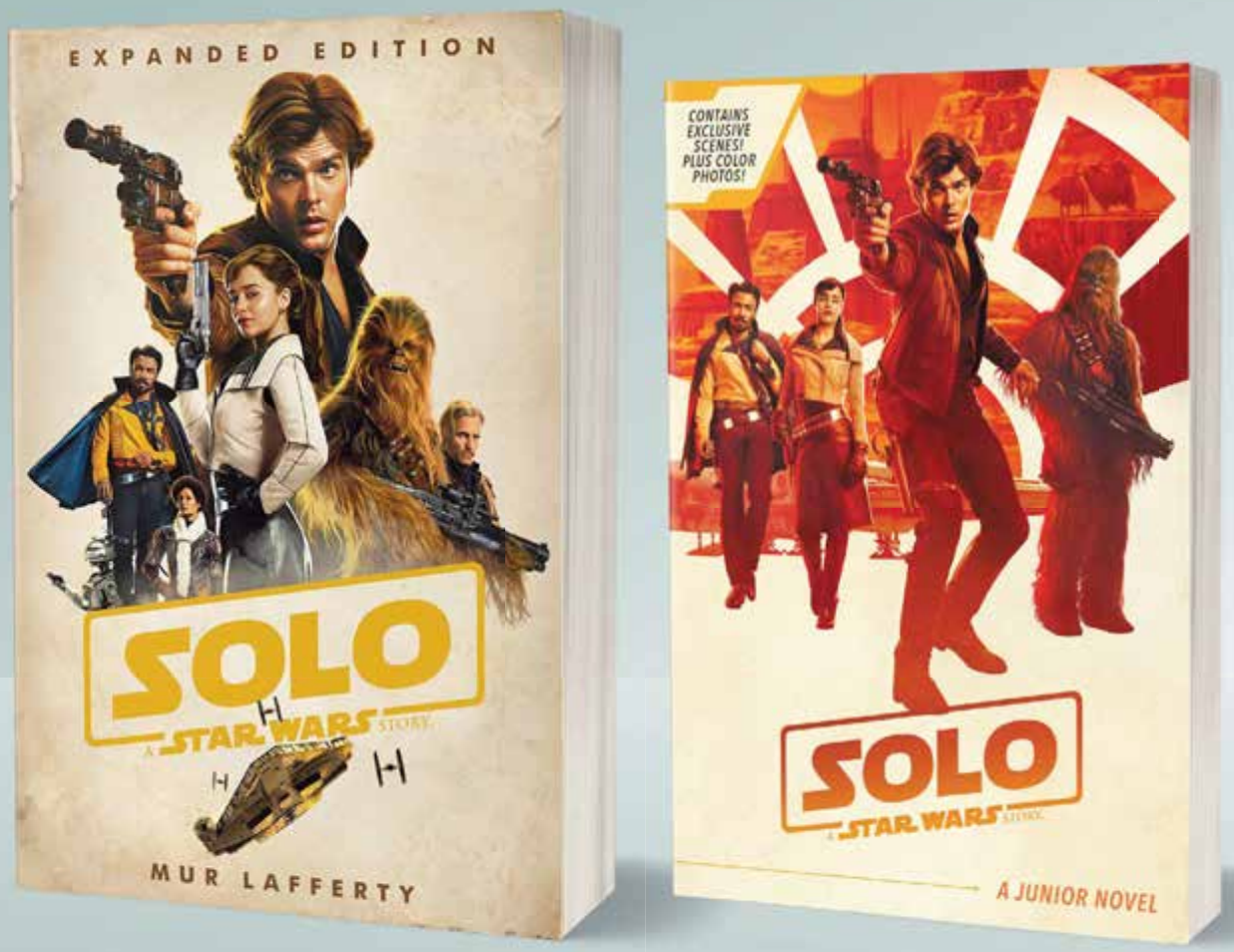
Topps Authentics' awesome autographs

Topps Authentics' range of *Star Wars* photographs autographed by the likes of Harrison Ford, Felicity Jones, Paul Bettany, and John Boyega, is now available to fans in the U.K. and Europe through **toppsdirect.com**. With prices ranging from £50 for Stephen Stanton (*Star Wars Rebels'* Obi-Wan Kenobi and Tarkin), to £800 for Harrison Ford's sigil, there are signatures suitable for any budget.

The *Star Wars* Authentics range also includes officially licensed photos, high quality wall art, and new autographed *Star Wars* Funko Pops, all available to U.S. fans at **starwarsauthentics.com**.

Book Club

From smuggling coaxium to cosmic self-help, the latest *Star Wars* books have got it covered.



Full Throttle!

Go beyond the movie with these *Solo: A Star Wars Story* novels!

Big screen caper *Solo: A Star Wars Story* received multiple plot expansions this September, with adult and junior novelizations of the movie that add brand new scenes enhancing the plot and backstories of its central characters.

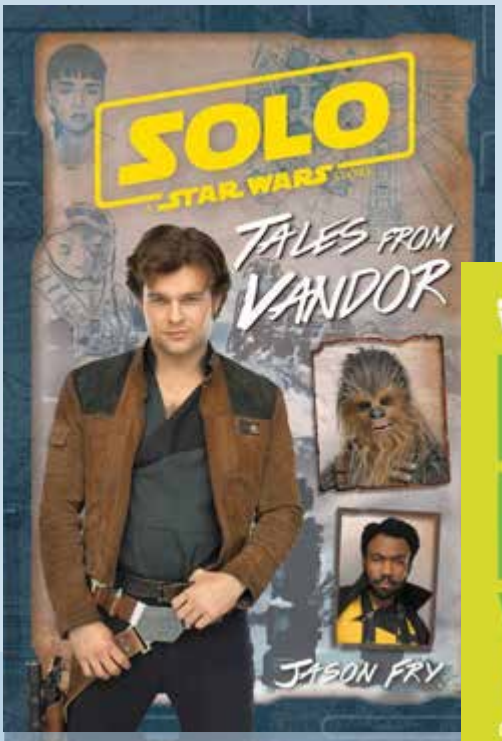
Written by Mur Lafferty, Del Rey's full-blooded adult novelization takes the form of an expanded edition, taking fans deeper into the underworld of the nefarious crime gangs that run rife in the galaxy during this era.

Lafferty's narrative broadens the horizons of the movie's final cut, thanks to new scenes inspired by alternate drafts of the script. Among the book's revelations are new insights into Han's Imperial Navy days, Qi'ra's unseen past, and even the birth of the Rebel Alliance.

Also out now from Disney Lucasfilm Press is the Junior Novelization of *Solo: A Star Wars Story*, penned by author Joe Schreiber in a lively style that hits the right beats for younger readers.

Among the book's highlights are new details on Chewbacca's personal history, a frantic chase scene on Kessel, and an eight-page section of full-color photos to help fans relive the movie.

01





02

03



01

Solo: A Star Wars Story Tales from Vandor

Plotting a different course to the two novelizations of *Solo: A Star Wars Story*, *Tales from Vandor* by Jason Fry explores the events of the movie from a different perspective, in the form of an in-universe journal.

This unique narrative, as told by Midnight—a local purveyor at the Lodge at Fort Ypso—reveals Han Solo's unvarnished thoughts on the aliens and outlaws that make up the galactic underworld he inhabits. Chewbacca, Lando Calrissian, Qi'ra, and Tobias Beckett are, of course, in on the action.

Plucked straight from the chilly environs of Fort Ypso, *Tales from Vandor* is a one-of-a-kind artifact that revels in *Solo*'s energetic, high-octane atmosphere.

02

Be More Yoda

The Force is your path to Jedi enlightenment in DK Publishing's *Be More Yoda*, an inspirational collection of the Jedi Master's greatest teachings from *The Phantom Menace* to *The Last Jedi*.

Author Christian Blauvelt (*Star Wars Made Easy*) selects Yoda's most memorable insights, while providing tips on how to apply such galactic principles to everyday life. 'Free your mind from distractions,' 'believe in your abilities,' and 'don't be afraid to fail' are just a few of the valuable life lessons that Master Yoda has picked up over 900 years and passes on in this handy guide. Make the diminutive green fellow's philosophy your own by studying *Be More Yoda*, and perhaps look just as good at his age, you will!

03

Be More Vader

Just because *Be More Yoda* hits stores at the same time, don't make the mistake of assuming that you can't get solid life advice from a Dark Lord of the Sith.

In *Be More Vader*, debuting in October from DK Publishing, you'll learn the ways of the dark side—but use them for a good purpose! Writer Christian Blauvelt offers wisdom from a different point of view, by way of a driven and disciplined Imperial leader who possesses an undeniable sense of presence. With lessons including the importance of clear expectations and the value of confident presentation, *Be More Vader* will help anyone shoot for Darth Vader-levels of success, without feeling the need to crush all who dare to resist.

Comics Roundup

Han Solo's adventures get even richer in our preview of new comic and graphic novel releases



Han's Double Header

Marvel's 5-part comic book adaptation adds all-new scenes to the *Solo* story

The comic adaptation of *Solo: A Star Wars Story* is part of a tradition as old as the saga itself, with previous adaptations of the *Star Wars* movies inviting comics legends like Al Williamson and Howard Chaykin to capture the galaxy far, far away in brightly-colored panel grids. Issue #1 of *Solo* kicks off Marvel's 5-part retelling of the high-octane tale of mercenaries and space smugglers, guaranteed to please any fan of the Corellian scoundrel.

In this adaptation by writer Robbie Thompson and artist Will Sliney, it's clear that the big-screen version of *Solo* didn't tell the whole story. Backstory beats and narrative detours that didn't make the theatrical cut of the movie enhance our understanding of familiar heroes, and of the new characters we meet on the ride, like reluctant mentor Beckett and Han's former flame and ambitious crime lieutenant Qi'ra. Issue #1 features a cover by Phil Noto and is out now.

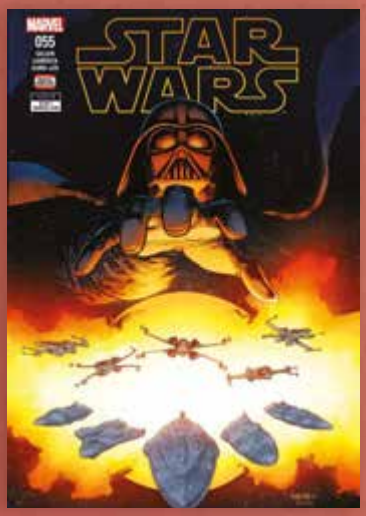


Solo: A Star Wars Story gets the graphic novel treatment from IDW Comics

Also available in October is an 80-page graphic novel adaptation of *Solo: A Star Wars Story*, tailored for readers of all ages. Continuing in the vein of IDW's previous graphic novel releases for *The Force Awakens*, *Rogue One*, and *The Last Jedi*, this streamlined, high-energy adaptation unites the talents of writer Alessandro Ferrari, artist Roberto Santillo, and cover artist Eric Jones and aims to satisfy longtime *Star Wars* fans and young newcomers in equal measure.

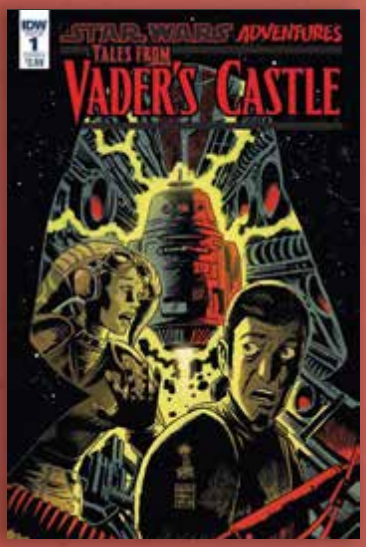
Star Wars #55

In part 6 of the "Hope Dies" storyarc, things have never looked bleaker for the Rebel Alliance. In the wake of Darth Vader's devastating attack on the Mako-Ta Space Docks, Leia, Luke, Han, and the other Rebels don't have a prayer of making it out alive when their exit is blocked by the Imperial Death Squadron and the Super Star Destroyer *Executor*. A sacrifice may be required if the rest are to survive, but who will make it? From writer Kieron Gillen and artist Salvador Larroca comes this epic tale of conflict, featuring a cover by David Marquez and is available in stores October 3.



Tales from Vader's Castle

The ramp-up to Halloween is made extra spooky this October with *Tales from Vader's Castle*, a weekly 5-part comic series from IDW. Explore the darkest corners of the *Star Wars* universe with writer Cavan Scott in stories starring Han, Chewie, Obi-Wan, Dooku, the Ewoks, and heroes from *Star Wars Rebels*, Hera, Kanan, and Chopper. With art by talents such as Derek Charm, Kelley Jones, Chris Fenoglio, Corin Howell, Robert Hack, and Charles Paul Wilson III, *Tales from Vader's Castle* is a can't-miss dose of seasonal creepiness set within the long shadow of Vader's lair!



Darth Vader #22

Years in the making, the tale of Lord Momin is finally revealed in part 4 of "Fortress Vader," a comic by writer Charles Soule and artist Giuseppe Camuncoli. Soule originally planted the seeds of Momin's backstory during his 2015 limited series *Star Wars: Lando*, and now delves into the twisted legacy of an ancient Sith sculptor whose artistic creations are capable of luring innocents to the dark side. Momin's saga unspools as the foundations of Vader's Mustafar castle are laid down, in an era when darkness is rising across the galaxy. *Darth Vader* #22 is available from Marvel on October 17.



Incoming

Don't Miss These Great Forthcoming Titles

OCTOBER

Star Wars Adventures **#15**
IDW Comics
Writers James Gilarte, Michael Moreci
Artist Mauricet
Cover Artists Mauricet (Cover A), Arianna Florean (Cover B)

Solo: A Star Wars Story **Adaptation #1 (of 5)**
Marvel Comics
Writer Robbie Thompson
Artist Will Sliney
Cover Artist Phil Noto

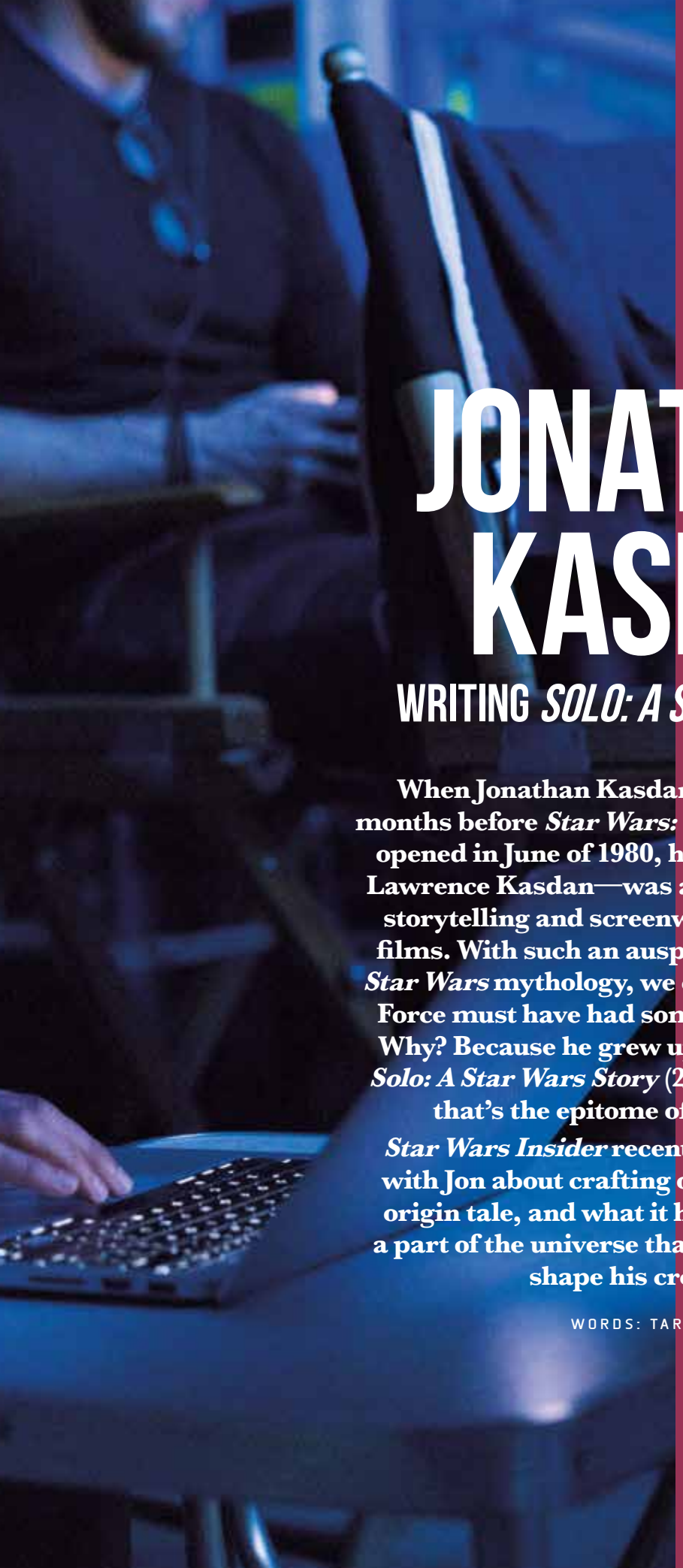
Star Wars **#55**
Marvel Comics
Writer Kieron Gillen
Artist Salvador Larroca
Cover Artist David Marquez

Darth Vader **#22**
Marvel Comics
Writer Charles Soule
Artist Giuseppe Camuncoli
Cover Artists Elia Bonetti & Giuseppe Camuncoli

Star Wars: Doctor Aphra **#25**
Marvel Comics
Writer Simon Spurrier
Artist Kev Walker
Cover Artist Ashley Witter







JONATHAN KASDAN

WRITING *SOLO: A STAR WARS STORY*

When Jonathan Kasdan was born, a mere nine months before *Star Wars: The Empire Strikes Back* opened in June of 1980, his father—screenwriter Lawrence Kasdan—was already knee-deep in the storytelling and screenwriting of the *Star Wars* films. With such an auspicious connection to the *Star Wars* mythology, we can only assume that the Force must have had some influence on tiny Jon. Why? Because he grew up to eventually co-write *Solo: A Star Wars Story* (2018) with his father, and that's the epitome of full-circle destiny.

***Star Wars Insider* recently had the chance to talk with Jon about crafting our favorite scoundrel's origin tale, and what it has meant for him to be a part of the universe that so significantly helped shape his creative path.**

WORDS: TARA BENNETT

01



01 Beckett's team arrive on Kessel.

02 Father and son writing team, Lawrence (right) and Jon Kasdan. (Opposite page)

03 Besties Han and Chewie. (Opposite page)

04 Alden Ehrenreich as Han Solo in *Solo: A Star Wars Story*. (Opposite page)

S*tar Wars Insider*: Let's start from the beginning. Was there a specific historical beat in Han's backstory that rooted the screenplay, or that created a foundation for the story?

Before I got involved, when my dad was preparing for *Star Wars: The Force Awakens* (2015), he wanted to do this as his one and only last *Star Wars* thing. He was really interested in the years that would be formative to Han's identity—which he considered to be the end of his adolescence and the beginning of his young manhood. He wanted to get a taste of his childhood and see what that was like, but he really wanted the bulk of the story to be about Han finding, essentially, his identity and his career in this criminal underworld; becoming a smuggler and meeting Chewbacca. He felt like those events were entwined. And so that was part of the premise going in as we started working together.

When you're looking at this period in Han's life, there's a threshold of maturity in terms of how far to take him. Did you play with that?

We did. And again, some of these were decisions that Larry had made, I think, not even consciously. What he imagined when the idea popped into his head, or when it was suggested that there'd be a young Han Solo movie, was that he didn't want to place it right up to where we meet Han in Mos Eisley. Larry thought the transition that made the character into 'that guy' was a long and complex one. He wanted to follow certain events in his life. He arrived [at the premise] that we could talk about a younger version of the character and aim it toward the Han that we all recognize, but not have him be there by the end of the movie. And that's a tricky thing because there's a certain expectation. Some people say, "Well, why isn't he more like the guy at Mos Eisley [in *Star Wars: A New Hope (1977)*]?" And other people say, "Well, he's too much like the guy at Mos Eisley." And you sort of get both. The tricky thing about writing a character like Han is that he's personal to so many people.

I think you see it in the difference of taking on someone like [Marvel's] Black Panther, for example. We know who he is, and we know he looks super cool and that he's a black super hero, but we don't have an opinion about his life the way we do with Han Solo. So, one of the fundamental challenges of writing this story was how much to give, and how to stoke those fires and dance with people's expectations a little.

"WE DID WANT TO GIVE IT THIS FEELING OF A GALAXY IN CHAOS. VERY EARLY ON, WE HIT ON THE NOTION THAT IT WAS AKIN TO THE WILD WEST."

Was there anything that you ended up changing Larry's mind about, or had him see in a different way?

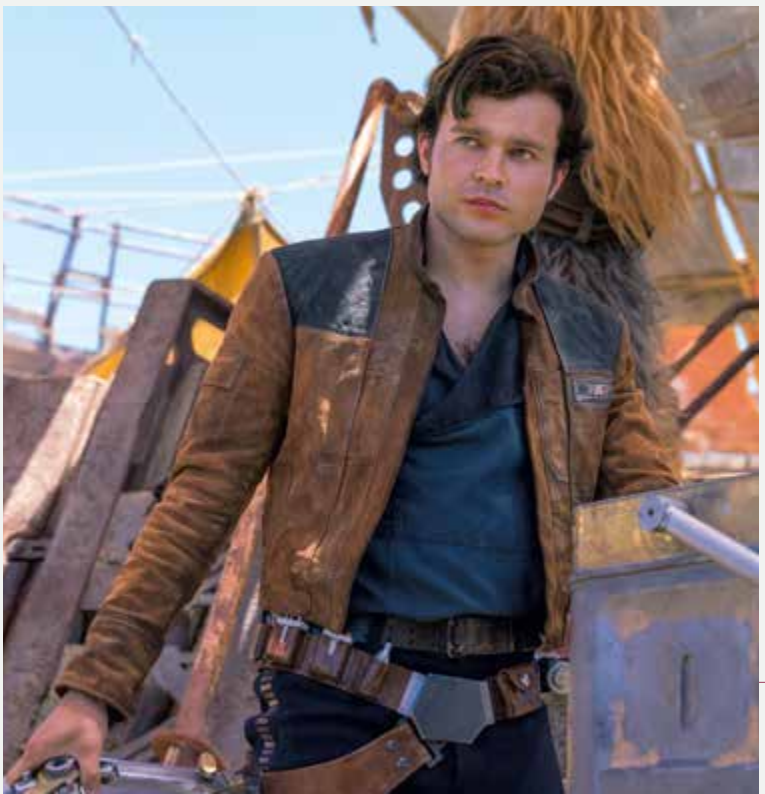
The idea that Han would actually be with the Empire in the beginning of the story was something that evolved. Initially, that wasn't



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"WE WANTED EVERYONE IN THE MOVIE TO HAVE A MORE NUANCED, MORE COMPLICATED, AND MORALLY AMBIGUOUS SET OF GOALS AND DESIRES THAN IN ANY OTHER *STAR WARS* MOVIE TO DATE."

exactly the concept, but as we started to explore the moment in history that this was taking place, [we realized] it was a complicated one in the *Star Wars* galaxy. We did want to give it this feeling of a galaxy in chaos. Very early on, we hit on the notion that it was akin to the Wild West, where there was a sense of conquering powers that worked, but also a lot of law-breaking and opportunity for people to make money, and be violent and so forth.

Beckett was an original character that you brought into the world. There's a beautiful swagger to Woody Harrelson's performance that you can see in future Han—was Beckett always crafted as a mentor/adversary for Han?

Absolutely. Before I became involved, there were elements that Larry was interested in and knew he wanted to touch on, but there was no story. At the point when I got involved, we both read *Treasure Island* as a maturation story. It's about a guy who goes from a more innocent existence, and through immediate people who are complicated, develops a little bit of experience of the world. We wanted to give Han a character that was as rich and fun as Long John Silver, who could really influence who he becomes. So, we definitely wanted to do exactly that, and create a sort of pre-Han Han. Then at the end of the story, we gave that character, Beckett, a very similar predicament to the one that Han faced in *A New Hope,* where he left Luke and the Rebellion behind. But here we had Beckett actually opt out, and rather than rescue his friend, he betrayed him. We thought that could highlight the nature of Han. Beckett is his role model, but in his heart, Han couldn't do likewise when the same opportunities were presented to him. Han's undoing, and his greatest strength, has always been that he's got a lot of love in him.

You presented a bit of Chewie's backstory, revealing that he has a story arc where he chooses to stay with Han. Was there even more to that arc?

There's a lot more. There were other Wookiee characters that briefly appeared in the story, in addition to Sagwa, who Chewbacca helps on ▸

05



Kessel. We wanted to get a sense—which I think is indicated pretty clearly in the first few movies and a little less clearly in the prequels—that this has a parallel to the broken nations of Native American culture. It's the idea of individuals whose people have been destroyed and are trying to make their way in a world where their culture has basically been ravaged by Imperial power. So, we always wanted to give it a little flavor of that. We stumbled on the idea of Chewie telling his story at the campfire, and we felt like there was something really rich in how he got into that situation, and how he was very much like Han: alone in the universe, in search of something, someone, or some people that may, or may not, even be alive. We thought that would reinforce the theme—which has always been there, through all of the *Star Wars* movies—of people making their own families.

We've always perceived Han as being framed around the singular romantic relationship he has with Leia, which was built during the original trilogy. But you got to create the woman who would influence all future romances in his life. Who did you need Qi'ra to be?

We wanted everyone in the movie to have a more nuanced, more complicated, and morally ambiguous set of goals and desires than in any

"QI'RA ABANDONING HAN WOULD BECOME A REALLY SEMINAL MOMENT IN HIS LIFE, WHERE HE WOULD LEARN THAT THERE WERE THINGS MORE COMPLICATED THAN HIS YOUTHFUL, ROMANTIC IMPULSES."



06

07



other *Star Wars* movie to date. We thought that one of the great things about Han was that he hearkened back to a Bogart-esque character who was always a little more complicated than the straight-up serial matinee idol George had originally found in Luke. We were leaning into the Han part of the universe, which was one where *everyone* had complicated motives. That actually led to a kind of female character who Larry was interested in, one essentially born out of 1940s crime movies. He described her as a character whose mind encompasses all of the other characters in the movie. She is wiser and savvier than they are capable of being. To have someone who was playing the various aspects of the situation against each other, who was in control more than Han even realized, was very exciting. It was different than Rey, and it was different than Leia—who was an idealist—and you wanted that from the get-go.

The other thing we felt pretty strongly about was that every one of the central relationships in the movie—which we really saw as Beckett, Qi'ra and Chewie—would have those positive or negative influences. I don't mean that literally, but like a positive charge or a negative based on his personality. Qi'ra abandoning Han would become a really seminal moment in his life, where he would learn that there were things more complicated than his youthful, romantic impulses. We liked the idea that at the end of the movie, he had to outgrow both his idealistic, romantic ideas, and his ideas of loyalty related to Beckett. It was the moment when all those things slipped away and this Wookiee was standing next to him, totally loyal; his true friend. Crafting the movie so that it would all come together in that moment of him seeing betrayal, and heartbreak, and loyalty—fused into one crystallizing moment in his life—was a strong way, emotionally, for the movie to end.

05 Han's romance with Qi'ra will shape his future relationships. (Opposite page)

06 Chewbacca and Han with Lando's impounded starship.

07 On Savareen, Han will face life-altering choices.

08 Jonathan Kasdan on the *Solo* set..

08



You secured a surprise with Qi'ra's involvement with Crimson Dawn. Had you planned more surprises?

Oh yeah. We envisaged it as the beginning of her story, and not the end of their relationship, either. We could tell more stories about the two of them and how that relationship would ▸

JONATHAN KASDAN: ON-SCREEN AND OFF

Born September 30, 1979, talented actor, writer, and director Jon Kasdan may be best known to *Star Wars* fans as one half of the father-son writing duo behind *Solo: A Star Wars Story* (2018), but the road to the galaxy far, far away has, in fact, been a long and varied one—and not always easy.

Born to Lawrence and Meg Kasdan (both successful writers and directors), Jon made his acting debut when he was just four years old in *The Big Chill* (1983)—a film penned by his father. A role in the acclaimed Western *Silverado* (1985) soon followed, with smaller parts in *The Accidental Tourist* (1988), *I Love You to Death* (1990), *Wyatt Earp* (1994), *Slackers* (2002), *Big Trouble* (2002), *Dreamcatcher* (2003) and *Darling Companion* (2012) continuing his big-screen journey. Appearances in *Freaks and Geeks* (1999), and *Dawson's Creek* (2002) also ensured he became a familiar face on TV.

However, having been diagnosed with Hodgkin's Lymphoma at just 17 years old, the younger Kasdan faced a difficult battle to successfully overcome the disease—which he ultimately did with the love and support of his family. He continued to carve out a career for himself as an actor, before seguing into a different role.

As with both his father and brother (Jake), Jon ultimately turned his attention to a career on the other side of the camera, and in 2007, after amassing writing credits on TV shows *Freaks and Geeks* and *Dawson's Creek*, made his directorial debut with the Kristen Stewart romantic comedy *In the Land of Women*, followed by the Sundance Film Festival award-nominated *The First Time* (2012).

09



"LARRY'S VOICE IS IN HAN THROUGH EACH OF THE MOVIES HE IS IN... THERE ARE THEMES AND IMPULSES THAT LARRY BRINGS TO THAT CHARACTER THAT ARE EVIDENT IN THE VERY EARLIEST STAGES OF HAN'S LIFE—AND THE VERY LAST."

continue to evolve. We thought that they both represented different sides of the same coin. Qi'ra is able to make some of the tougher decisions that Han is not capable of making in favor of her ambitions, or her career, one might say. And Han is always stymied by his impulse to help people and to do the right thing. We felt like that story was just beginning to be told, and I think there's an appetite among the fans. There's a long future ahead of them, and I think there will be a lot of opportunities to tell a lot of stories. So, I'm excited about that.

To touch on a philosophical point, Han essentially helps inspire the Rebellion with his choices, but he also makes a conscious choice not to be part of it. Do you think that is something he's still running from in the original trilogy?

I think that he is. What, hopefully, is established at the end of the movie is that this is the primary conflict in his life—between that impulse and the more self-serving impulse which keeps coming back in the form of the Empire. I think there's something funny, and true, and real about a cause that someone just keeps continually—by fate or chance—bumping into, and keeps rejecting. I think that our hope in designing it, certainly if you were to watch the Han movie in sequence with the other films, would be to see a real arc to his feelings; from a young man rejecting the cause to embracing the cause; from rejecting his son to embracing his son; and finally dying, literally embracing his son. One of the things I think time will tell about *Solo* is that there is something really nice about the fact that, with the exception of *A New Hope*, Larry's voice is in Han through each of the movies he is in. There is a consistency there and it's really palpable. There are themes and impulses that Larry brings to that character that are evident in the very earliest stages of Han's life—and the very last.

It must be something to have watched your father's career, and now be part of it?

It's an amazing thing. *Star Wars*, in general, is such a humbling thing to be a part of. You can hear about it, and be near it, but once you're actually on the set, it's overwhelming. It isn't like anything else because the iconography of it is so powerful. To see Chewbacca sitting in the director's chair always makes it so you can't believe your life. It doesn't get much better than that.

09 Han and Chewie bond after their escape from Mimban.

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STAR WARS IN CONCERT



STAR WARS INSIDER GOES BACKSTAGE AT HISTORIC MUSIC VENUE THE ROYAL ALBERT HALL AS THE LONDON SYMPHONY ORCHESTRA PREPARES FOR A SERIES OF SELL-OUT CONCERTS THIS NOVEMBER.

WORDS: CHRISTOPHER COOPER



"If I'm having a stressful day, I'll sometimes come down here during a rehearsal to reset," confesses Rick Burin, press manager at the Royal Albert Hall, who is giving *Insider* a tour of the renowned venue. We arrive in the vast, oval auditorium that is its main performance space to find the BBC National Orchestra of Wales on stage, rehearsing for the evening's concert—part of the summer-long BBC Proms season with which the world-famous Albert Hall has become synonymous. As the musicians perform a faultless rendition of composer Hugh Parry's Fifth Symphony, it is easy to see how such a time-out would beat any regular coffee break.

This is where the London Symphony Orchestra will perform John Williams' classic score from *Star Wars: A New Hope*, led by conductor Ludvig Wicki, while the movie plays behind them on a giant, high-resolution cinema screen. "We have one of the biggest cinema screens in Europe," Lucy Noble, the venue's artistic and commercial director tells me, "but of course it's the element of a live orchestra which makes these Films in Concert absolutely magical."

The Royal Albert Hall is a suitably epic location for the *Star Wars: A New Hope In Concert* shows, which take place from November 16 to 18, 2018; a mix of Victorian grandeur and strange, futuristic trappings, from the richly upholstered seating of the stalls to the three levels of private boxes (including Queen Victoria's modestly appointed Royal box), above which the ornate columns of the gallery level reach up towards a fluted aluminum ceiling, where numerous 'acoustic diffusing discs' hang like flying saucers (an addition made in the 1960s, affectionately known as 'the mushrooms'). Despite its impressive scale, the space has a warm intimacy. Outside, with its huge, 20,000 square-foot, domed roof, tiered façade, and mosaic frieze depicting the advancement of arts and sciences, the building would not look out of place in Naboo's capital city, Theed. It is a breathtaking piece of architecture, and a thrilling space in which to enjoy live music.

LOST IN SPACE

Opened by Queen Victoria in 1871, and named after her beloved husband, the Royal Albert Hall is no stranger to hosting big *Star Wars* events. The red carpet was unrolled for the Royal premiere of *The Last Jedi* here in 2017, and the connection stretches back some 40 years, as Sue Mallet, director of planning at the London Symphony Orchestra (LSO), reveals when I meet her at the Barbican Centre—another renowned music venue and the orchestra's official home.

"After we'd recorded the soundtrack for the first *Star Wars*, when the film had come out and been a huge success, we decided to put on a concert at ▸

the Royal Albert Hall called *The LSO in Space*," says Mallet, who has been part of the orchestra's administrative team since the late 1960s, and coordinated recording sessions at Denham Studios for the original film. "We planned to do a bit of Holst's *The Planets* suite in the first half, along with Strauss' *Also Sprach Zarathustra* from *2001: A Space Odyssey* (1968). Then the second half would feature the *Star Wars* music."

John Williams was booked to conduct the concert, and the venue confirmed for February 16, 1978. "We advertized," Mallet recalls, "but in those days the general public didn't know who John Williams was, or that he was the composer of *Star Wars*, so the concert wasn't selling particularly well. That's when I had the idea of having C-3PO come on and conducting the big encore."

Mallet rang her contact at 20th Century Fox asking if she could borrow the C-3PO costume, assuming one of the orchestra's musicians could wear it, but was told it was handmade for actor Anthony Daniels and that no one else would be able to use it. "Then they said, 'We'll ask the actor to come and do it,'" Mallet relates with glee. "I spoke to John Williams and asked if he could teach Anthony how to conduct the *Star Wars* main theme, and John said, 'Yes, I'm up for that!'

"What we hadn't realized is that when you see C-3PO in the film he looks quite mobile," Mallet adds, "but the reality is he has tunnel vision and can't hear a thing. Suddenly we're in the Albert Hall faced with an immobile, half-deaf, visually impaired C-3PO, and John then has to teach him how to conduct! But that's when we got all the publicity shots, and the concert sold out as soon as people realized C-3PO was going to be there. We also had R2-D2 sitting up among the timpani drums."

The LSO—which became the first self-governing orchestra in Britain in 1904, with each of its 96 playing members being a shareholder—will be reunited with John Williams at the Royal Albert Hall once more in late October, where he will conduct his way through a career-spanning journey that features his most magical scores. The opportunity to work with Williams again is a huge thrill for all at the LSO.

"It is fantastic news because he's such a legend," enthuses Mallet. "We've been trying to get him here to conduct us again, but John is a very busy man, he doesn't like long distance flights. Then he accepted an engagement in Vienna, and said, 'If I've got to go to Europe, I have to go and conduct the LSO.' That we have this concert coming up and, entirely by coincidence, we're doing *Star Wars: A New Hope* In Concert in November. It really is quite extraordinary."

01 Mark Hamill and Daisy Ridley at the European premiere of *Star Wars: The Last Jedi*.

02 The Royal Albert Hall during a "Films In Concert" performance.

01





02

THE SHAREHOLDERS' MEETING

Later, while waiting backstage at the Barbican to speak with four of the LSO's players—Christine Pendrill (Principal Cor Anglais), Ginette Decuyper (First Violin), Lennox Mackenzie (First Violin, Sub-Leader) and Gerry Ruddock (Lead Trumpet)—I hear what I assume to be a recording of John William's *E.T.* theme being piped through a speaker that I can't locate. It ends with a familiar fanfare that provokes rapturous applause—and with a start I realize I've been listening to the orchestra as they play live.

A few minutes later the musicians arrive in the green room set aside for our interview, clearly buzzing with the thrill of the performance. I ask them about the show, a space-themed family concert called *Voyager*.

"It's part of an education project," Gerry Ruddock tells me. "We do a huge amount of schools concerts where the whole orchestra plays, and we also go into different schools, and work with people with special needs."

"We call it the Discovery program," adds Lennox Mackenzie. "We reach 80,000 people a year through our schools and community work, which is incredible."

Giving youngsters the opportunity to experience classical music and learn to play an instrument is evidently important to the accomplished musicians, who share a similar history.

> *"SUDDENLY WE'RE IN THE ALBERT HALL FACED WITH AN IMMOBILE, HALF-DEAF, VISUALLY IMPAIRED C-3PO, AND JOHN THEN HAS TO TEACH HIM HOW TO CONDUCT!"*
>
> SUE MALLET, LSO

"I started off with piano, and when I went to secondary school I was offered the chance to learn a second instrument because they thought I had talent," says Christine Pendrill, who has been a member of the LSO for 33 years and is a professor at the Royal College of Music. "The only reason I picked the oboe was because they had one in the cupboard and needed an oboe player in the orchestra," she says. "My local council paid for my lessons for a year, then I got a scholarship to the junior department of the Royal College."

"There was a brass band at my school," adds LSO veteran of 21 years Ruddock, "and one day there was an announcement in assembly: anyone who fancies a go on a brass instrument should come along at lunchtime. So I went and tried, and nothing happened—I couldn't get a sound out of it, at all! But a couple of hours later I got a message that I could be in the band, and that was where it all started. Up until that point I was pretty useless at school, I hadn't really grasped the need for an education, and this opportunity I was given grew into something that was very special for me. I worked harder at that than anything else. And with local authority funding, I went on to education beyond the school system."

Mackenzie, who played on five of the original *Star Wars* movies beginning with *The Empire Strikes Back* (1980), took up the violin when he was just five years old. "I was jealous ▸

SCREEN TEST

The Royal Albert Hall is a hugely adaptable performance space, reconfigured regularly depending on the requirements of each incoming show. In a venue that hosts everything from rock concerts to sporting events, awards ceremonies, and acrobatics, converting it into a high-tech cinema *and* music venue simultaneously is something the technical staff take in their stride. Ollie Jeffery, the venue's head of production and technical, talks *Insider* through the installation process:

How long does it take to transform the main space into a cinema?
Our AV partner, SFL, can do it in under two hours. The first thing they do is a build a large 21.5-meter-wide (70.5-foot-wide) screen—to provide the biggest impact possible—and then they install the screen surround and the surface for the projectors. While that's happening, there is a separate team setting the projectors up. We have three 4K HD Barco projectors. Showing a film and losing the picture is our worst nightmare, so we have three projectors running in unison. If one cuts out, the next one automatically kicks in very quickly and the audience won't notice any drop in luminosity. Obviously, the line-up of projectors is really important.

Once the equipment is in, at what point do you start working with the orchestra?
We will normally have a rehearsal with the orchestra at around three o'clock. Before we do that, however, we will run elements of the film, especially the dialogue. From a sound point of view, the main challenge in the hall is with the acoustics, so we like to spend time on the dialogue without the orchestra to give the team an opportunity to ensure there are no sync problems or audio delays. The dialogue rehearsal is very important because you can mix the dialogue more effectively without the music. After that they'll focus on the rehearsal with the orchestra, with the film running in the background. We're busy up until that rehearsal, which lasts about three hours, then there might be a little time for final tweaks before the auditorium doors open, usually about an hour before the show. The time goes very quickly!



03

of my big brother because he played the violin, so I insisted on having a violin of my own. Sixty years later and I still have one under my chin," he laughs. "I was very fortunate that I was brought up in Aberdeen, Scotland, which had a superb music department at that time. It's very sad to see that not every child is given the opportunity to learn a musical instrument these days."

Unlike her fellow players, Belgian-born Ginette Decuyper was already part of a musical family. "Both of my parents were musicians—my mother was a violinist, as was my grandfather. My father was an amateur cellist," she says. "I got my first quarter-size violin when I was six years old, although it was made of plastic and I broke it on the second day. I smashed it because I said I wanted a real one. When I was six and a half I started having lessons. I went to the conservatoire in Liège then the music chapel in Brussels. They were all subsidized by the state. Then I spent two years in the United States studying with Josef Gingold."

With each of them set on a life in music, their career paths would draw them towards the same destination: The London Symphony Orchestra, and a galaxy far, far away.

A LONG TIME AGO

"Do you know how it all happened, *Star Wars* and the LSO?" Mackenzie asks me. I shake my head. "The LSO had a large patch of no work; there was nothing," he says, "so the chairman at the time, Anthony Camden, spoke to André Previn, the principal conductor, and asked if he was composing any film music. André said, 'I'm not doing film music anymore, but why don't you give John Williams a ring?' Anthony said, 'John Who?' 'John Williams, he's a Hollywood composer. I'll give you his number.' So Anthony called John and asked if he had any work for a symphony orchestra in the near future. Williams apparently said, 'Well, you're the London Symphony Orchestra. vou're not going to be interested in this. I've got a film called *Star Wars* coming up, but there's going to be 18 sessions. You're never going to be able to fit it in.' Anthony replied, 'Oh yes we are!' And that's how the whole thing was set up; John Williams brought it over to London and that was the beginning of it all. And then he fell in love with the orchestra."

> "WILLIAMS APPARENTLY SAID, 'WELL, YOU'RE THE LONDON SYMPHONY ORCHESTRA, YOU'RE NOT GOING TO BE INTERESTED IN THIS."
>
> LENNOX MACKENZIE

Ruddock was among the musicians who played on that soundtrack, although he wasn't a member of the LSO at that time. "I did the first one, but as an extra," he says. An extra is an additional player brought in to cover for an absent regular. "I didn't do all of the first film but I did a lot of it." Ruddock eventually joined the LSO as it offered him the opportunity to play alongside legendary trumpet player Morris Murphy. "He played the first note of the whole thing," notes Ruddock. "Morris said that it was the first note he played as a member of the orchestra, on his first day with the LSO. And I think the first notes of that score were probably the first time that John Williams had heard the orchestra. That would've blown him away, I would've thought."

"When I did my first *Star Wars* movie, *The Phantom Menace* (1999), we rerecorded the opening theme," Decuyper remembers. "It's the only movie where we rerecorded it, and Morris was still there. That's not something I'm ever going to forget." ▸

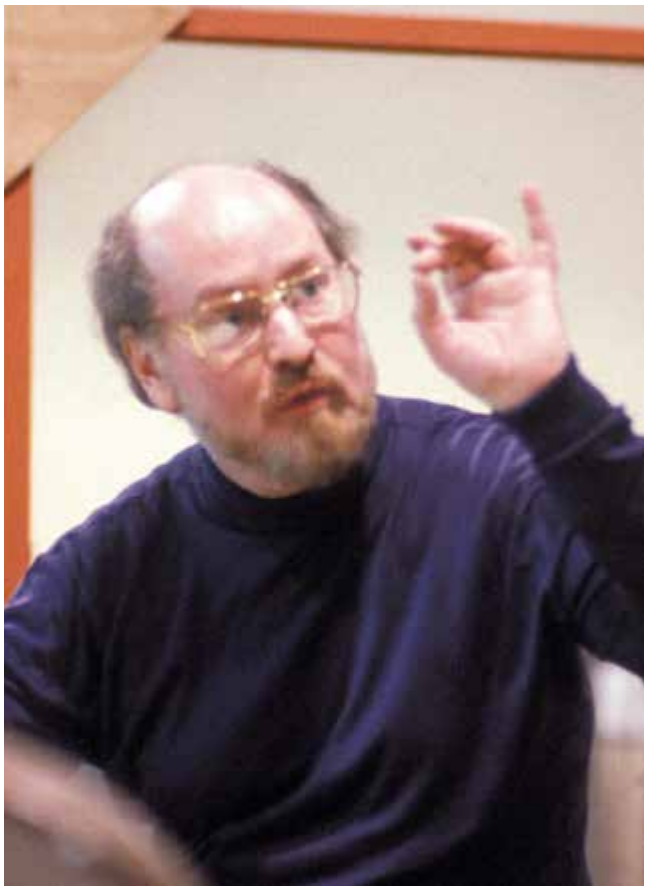
03 The LSO record the score for *Star Wars: A New Hope*, with John Williams conducting.

04 John Williams.

05 Surveying the score.

06 In the studio for *The Empire Strikes Back*.
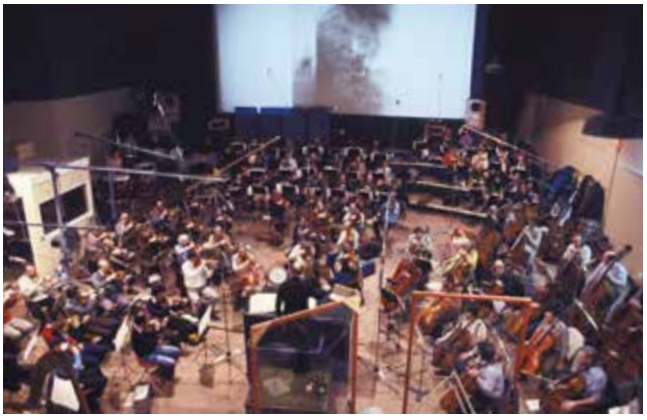
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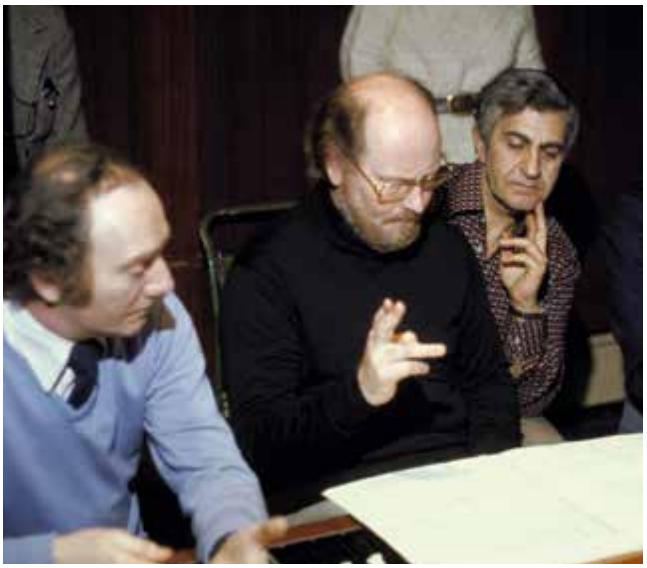
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THE MAESTRO

Talk of the recording sessions for the six original films inevitably leads to recollections of working with John Williams, and Gerry Ruddock has clear memories of his first day of recording at Denham Studios.

"I can remember going in there, and the studio was all in darkness," he says. "It was like going into an opera pit, and there was a great big screen at the back of the orchestra. John Williams absolutely directed those recordings, and fitted everything to the dramatic moments. He wanted everybody to put their individual stamp on it, as well as put it in the right place."

"Even to the point that he had a massive clock in front of his stand," Mackenzie recounts. "Once the film started he'd set the clock off, and at the end of a take he'd reset the clock back to zero. Obviously his score had various points that he had to reach exactly on time—I mean, there's no point having a cymbal clash if you've missed that intergalactic spaceship blowing up! That's gotta be bang on it."

"He's unbelievably skillful at that," adds Pendrill. "It was an absolute joy to watch him working, because not only did you get the precision but John would really show what he wanted musically, as well as keeping everybody on track. It was amazing! It was like juggling fifteen things at once and he never seemed to lose his cool."

Decuyper is equally complimentary of Williams' interpersonal skills. "What struck me was the connection I could see between him and the orchestra. I could see why he liked the orchestra, and it was why I had wanted to join the orchestra," she says. "We were doing a scene where there was a

07 John Williams at Denham Studios, England.

08 Recording the original *Star Wars* score took 18 studio sessions.

09 Williams conducts.

big spaceship, and I thought 'actually, this orchestra is like a big spaceship; but there are no passengers, there are only drivers.' And I think that's what he liked, that nobody was holding back. If it's not the LSO playing, you can hear the difference, believe me."

> "WILLIAMS' MUSIC HAS SUCH AN IMPACT; IT NEVER FAILS TO MOVE YOU, WHATEVER HE'S TRYING TO COMMUNICATE."
>
> CHRISTINE PENDRILL

Pendrill relates this back to their recently completed performance. "Williams' music has such an impact; it never fails to move you, whatever he's trying to communicate. Like the concert this morning where we finished with the theme from *E.T.*, and the kids were suddenly dancing in their seats and responding to it. From time to time we'll do classical concerts where the encore is the *Star Wars* main theme, and you can see this excitement rippling around the audience. It's fantastic!"

"It's almost as if *Star Wars* is the LSO's signature tune, you know," Mackenzie adds.

These days the LSO is much in-demand, and as they leave for Abbey Road Studios where two recording sessions await, their enthusiasm for *A New Hope in Concert* and their upcoming reunion with John Williams is clear. My mind turns back to my tour of the Royal Albert Hall, and standing in the wings where Williams and the orchestra will prepare to go on stage for a very special performance. I wonder who will be most excited at that moment—the audience or those about to perform?

10



10 The LSO at Abbey Road Studios.

That '70s SHOW

The Artists of *Solo: A Star Wars Story*

It takes a vast team of skilled artists to visualize even the smallest part of the *Star Wars* universe. Tirelessly working behind the scenes, an army of creatives use their talents to deliver the films that have become such an important part of popular culture, yet much of their artistic output won't necessarily see the light of day.

That, quite literally, is what being a concept artist is all about—discarded ideas are an essential part of the design journey, and make for a fascinating insight into the creative process, as *Star Wars*

01



01 Concept art by Will Htay (with Matt Allsopp and James Clyne) showing Han Solo, Chewbacca, Beckett, Val, and Rio Durant in a fireside scene.

02 Will Htay's concept art for the Imperial AT-hauler.

Insider discovered when we sat down with four such artists who helped shape the look of the latest *Star Wars* movie.

A Running Start

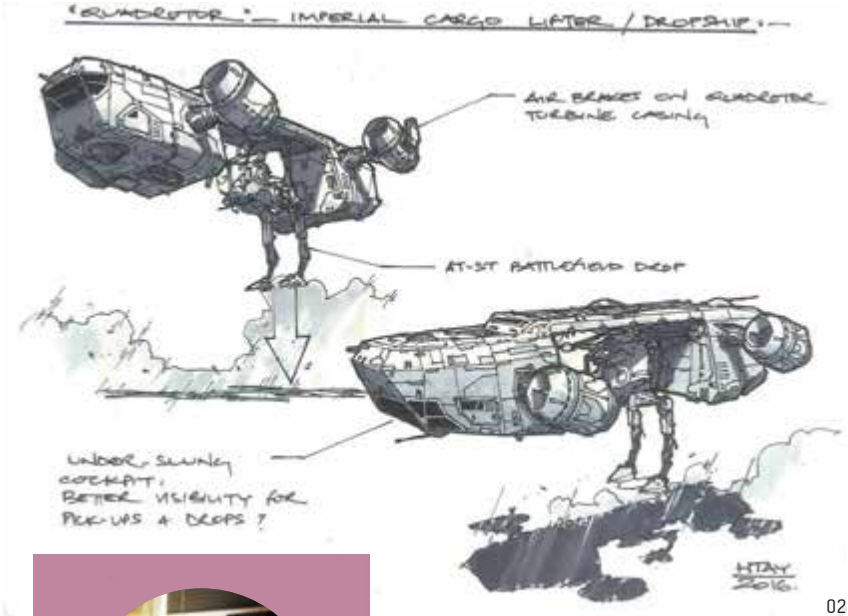
Julian Caldow, Will Htay, Vincent Jenkins, and Molly Sole are just four of the talented concept artists whose work is featured in *The Art of Solo: A Star Wars Story*, published by Abrams Books. Collectively, they've become steeped in *Star Wars* culture—in fact, that far-flung galaxy has been keeping them extremely busy for some time.

"I was actually still doing post-production on *Rogue One: A Star Wars Story* (2016) when I had initial design development meetings for *Solo*," Will Htay recalls, having previously worked on *Star Wars: The Force Awakens* (2015). "Being able to do two *Star Wars* films at one time was amazing!"

And his fellow artist, Vincent Jenkins, wasn't far behind. "I was also lucky enough to be part of *Rogue On*e and go right onto *Solo*," he reveals. "We didn't really have a break, we just went straight onto it."

For others, the Han Solo origin story was their first step into its wider world. "This was my first *Star Wars* movie," Molly Sole beams. "I came in quite late in the day, but I was so lucky because I still got to have a crack at basically everything! I think the only thing I didn't do was the Kessel stuff.

"I started off with Mimban, and those really key moments in the action



02



"What is 'the *Star Wars* look?' Everyone talks about it, and how to get it right."
Will Htay

where you have character interaction," she elaborates; "Ones that really sell that sequence. The producers were very keen to establish what was going on when Han and Chewie met for the first time. Were they in the trenches? Were they somewhere else? So I was illustrating a lot of grimy wreckage in the mud, traditional World War I-inspired trenches with all the wooden paneling, shrapnel everywhere, tanks—or AT-STs—going overhead, and the AT hauler. They said, 'Just chuck a load of these elements in, and see what comes out,'" Sole laughs. "I had a go ▸

and, miraculously, that was one of my images that ended up in the book."

United in their love and appreciation of earlier *Star Wars* concept artists, the 'art of' books from previous films were an essential resource as the artists got to work.

"What is 'the *Star Wars* look?'" Htay confirms was the question always at the forefront of their minds. "Everyone talks about it, and how to get it right: Is this vehicle right? Is this design appropriate for *Star Wars*? Is this architectural period okay? Should it be simple, or is there too much detail?" he adds. "You're constantly weighing these things up, while also considering how it's going to be shot; the technicalities of it, how much can be done in post-production, and how much it can be embellished."

However, with *Star Wars* scripts kept closely guarded, the artists do not always get to work from actual scenes. Instead, they are often issued with guidance notes on what the production might require.

"One of the things we knew for certain was that the Imperial forces were stamping their boots down on the galaxy, so in terms of Corellia, there was a heavy Imperial influence," Htay explains. "It was almost like they'd occupied this factory planet, and were using it for their own military machine and manufacture. I did a lot of design development for Corellia and came up with those pill-shaped islands which all had purposes—whether it was housing, manufacture or dry docks."

Step Back In Time

When it came to tackling design concepts for *Solo* and *Rogue One*, Jenkins reveals the team had a specific approach that was heavily influenced by the Earthly decade in which *A New Hope* was made.

"The different thing about the spin-offs to the sequel trilogy is that we treat them like period movies," he says. "They're set within a specific time frame, so it helps to study that era of filmmaking; they have to be in keeping with that 1970s design. It's very different from the later trilogy—in *The Force Awakens* they're doing the future. It's a very different mindset.

"With *Rogue One* we did a lot of homework for the look, keeping it in the era of the original trilogy," he explains. "So when we went onto *Solo* it was helpful that we'd been through that process already. We really nailed the look and feel of the original films."

03



That familiarity with the era undoubtedly helped, but the team are quick to point out that, although perfecting 'the look' was essential, they were very much encouraged to branch out and experiment when it came to creating a new vision for the latest *Star Wars* instalment.

"They wanted fresh silhouettes, they wanted new iconic shapes for people to attach themselves to and relate to—but it still had to be executed in a particular style, and that was the very traditional Ralph McQuarrie look," Sole explains. "We did a lot of that by going back to traditional methods of rendering—like using coloring pencils, for example. I haven't used coloring pencils in my work for years and years!" she laughs. "It helped me tap into the world I was trying to be in keeping with. Obviously, it's an established era, and you're working within a time frame that you know has been and gone,



"To immerse myself in those beautifully created worlds that I was given to play with—it's literally like playtime. It's the most fun you can have."

Molly Sole





03 Molly Sole's concept art depicting the natives of Savareen.

04 Han and Chewie make their escape on Mimban in concept art by Molly Sole.



04



06



07



05 Early concept art by Vincent Jenkins for Dryden Vos' *First Light*.

06 Han and Qi'ra make their getaway on Corellia, in art by Vincent Jenkins and Jack Dudman.

07 Vincent Jenkins' concept art featuring the showdown on Savareen.

but whereas I felt I had to work inside that, equally the producers asked for something fresh as well."

"It's fun trying to populate the galaxy with these different cultures and aesthetics, but still tie it together with a *Star Wars* aesthetic," adds Htay.

"There are particular artists on *Solo*, like Thom Tenery, who completely nail the *Star Wars* look," says Julian Caldow, for whom specific elements of that look inspired his design process. "One of the things you always notice in the older films are those lights that you identify with the Empire. You see them in the Death Star in *Star Wars: A New Hope* (1977) and on the stairs in the carbon-freezing chamber in *The Empire Strikes Back* (1980). They are very, very clear iconography. So while you're always trying to move into new territory, you are keeping the same sort of shapes.



"Neil Lamont said, 'Do you want to take a stab at the new *Millennium Falcon*?' I was like, 'Yes, of course I do!'"

Vincent Jenkins

You can go wild, but if you go too wild people will say, 'That doesn't feel like *Star Wars*.' We're always referring to the work of Ralph McQuarrie and Joe Johnston, as well as the other original concept artists."

Jenkins elaborates on their inspirations further. "We were looking at some of the old 1970s films like *The Driver* (1978), and old cop movies," he says. "We knew with the lens choices and camera style that the look of the movie was going to be very 70s. This is the thing about *Star Wars*; it's not just sci-fi. You can't just design sci-fi-looking things. Everything has to be clunky, almost like everything's cheaply made, because that's the look of *Star Wars*. So now, although we're designing these new films and we have the budget, we can't go too sci-fi crazy. We have to think, 'If I was making this with no

08



money, what would it be?' It would be an off-the-shelf prop sprayed differently with a stripe on it, and that looks like *Star Wars*!"

The Lost Legacy

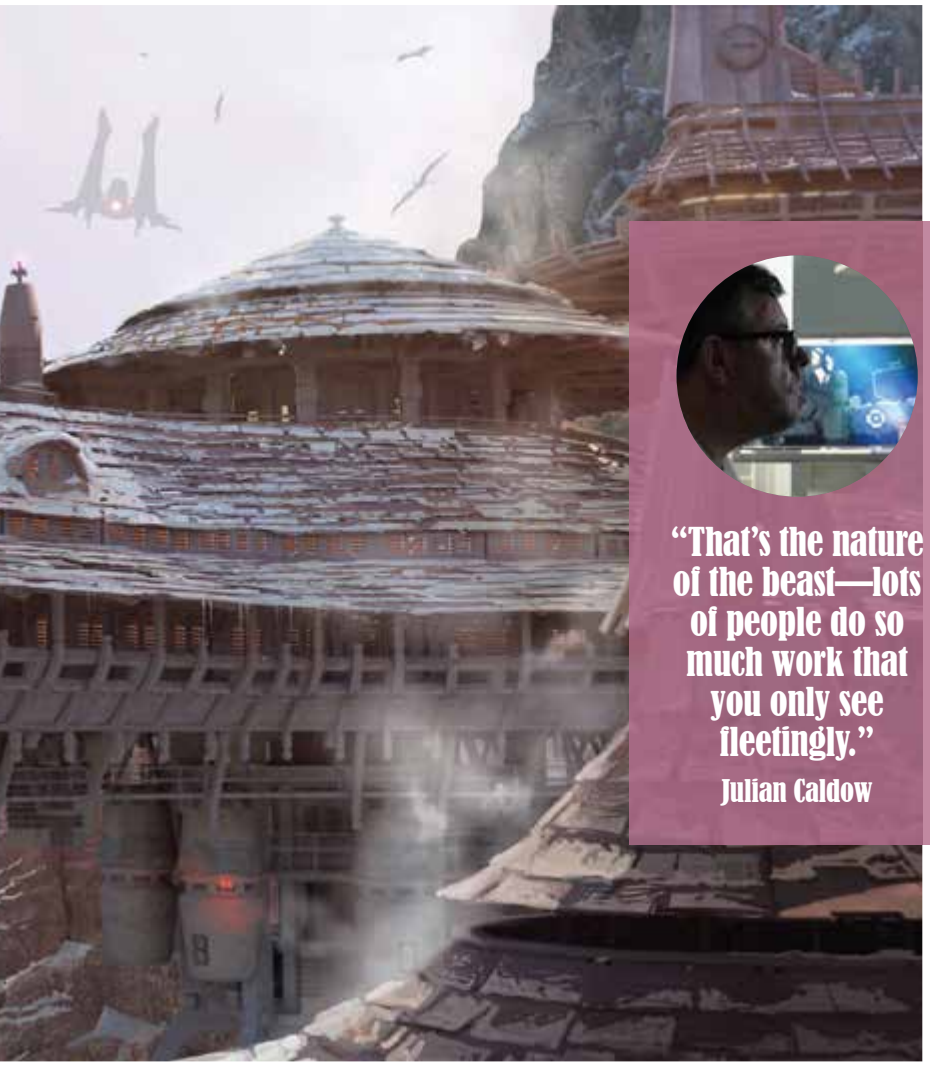
Inevitably, many concepts fall by the wayside as ideas are developed, storylines are revised, or entire sequences are jettisoned. For the artists, however, those lost ideas retain their value as part of their creative journey.

"Actually, the work that I'm most proud of on *Solo* didn't make it into the film," Julian Caldow admits with a chuckle. "There's a sequence where Han is forced into making a decision about joining the Empire. In the script you see him getting into this ship, so I did a lot of exterior environments with some of the loading machines and the ferries that would take emigrants away from Corellia. I really liked them, but in order to move the story along that scene isn't in there. I was very happy with those designs, but I don't think anybody ever saw them. They're not even in the artbook! But that's the nature of the beast. Lots of people did so much work that you only saw fleetingly."

Sole has a similar story. "There's an image which shows the Savareen culture; I did a series of those," she says. "The art director, Alex Baily, created a model which established the detail of the architecture, and then I was asked to texture it and put these crazy barnacles all over it. In the end they decided that was too much, so they didn't go for that look."

Despite such disappointments, Sole's devotion to the project and love of the work shines through. "To immerse myself in these beautifully created worlds that I was given to play with—it's literally like playtime. It's the most fun you can have," she affirms. "I was in my element. I'm so thrilled that one of those pictures got into the *Art of Solo* book."

Htay also has several standout achievements that spring to mind. "I really love the stuff that I did for Corellia; the exterior spaceport sets," he reveals. "I guess you don't see a huge amount of them in the film either. I was also really happy with the exterior of Dryden's yacht, and the saloon where we first meet Lando was something that I'd worked on from very early on. That was really fun. I actually got to play a bounty hunter in the background! Seeing that set come together with all the creatures and characters, and then



"That's the nature of the beast—lots of people do so much work that you only see fleetingly."

Julian Caldow

having all the principals on there, it had a really great vibe to it."

Drawing Inspiration

What becomes clear from talking to these artists is how collaborative a movie like *Solo* really is, to the extent that their concept designs can even have an impact on the storytelling.

"When I met Jon Kasdan, the co-writer of *Solo*, he told me that without our concept art the script wouldn't have been what it was," Jenkins reveals. "He said that after he'd looked at our concept art he would change things, making rewrites because of the creative work that we were doing. It's an organic process, and there are no strict rules."

In fact, it's such an organic process that not only do the artists end up working on concepts and designs for almost every aspect of the production, even an off-the-clock doodle can end up being important, as Jenkins discovered.

"There was the logo…" he begins with a wry smile. "I didn't know the name of the movie was going to be *Solo*, but one lunchtime I thought to myself 'I'll have a bash at a logo.' So I sketched one out, thinking 'wouldn't it be cool if they called the film *Solo*?' I handed it in and it ended up on the teaser trailer! That was cool, because you saw it everywhere." He thinks for a second and shrugs. "Those things you do over lunch, that you never think anything will come of, sometimes they really hit the mark!"

08 Julian Cadlow's concept art showing Han and Chewie entering Fort Ypso.

09 The *Millennium Falcon* by Vincent Jenkins.



THE *FALCON* REFIT

A challenge that occupied the time of many concept artists working on *Solo* was how to retrofit Han's battered starship, the *Millennium Falcon*, to better reflect its period under Lando Calrissian's ownership.

Molly Sole acknowledges that the challenge was a daunting one. "The *Millennium Falcon* is such a simple outline, but it's so unusual," she says, as Htay nods in agreement. "The *Falcon* development was always going to be an interesting aspect to the film," he adds.

It may have been a challenge, but it was one that Jenkins was more than up for tackling. "The producers wanted it to look different—that was the brief," he explains. "I knew it was going to be owned by Lando, just from knowing the original movies, so I thought, 'If he were in Cloud City and still had his *Millennium Falcon*, what would it look like?'

"I took that Cloud City style and started incorporating it into the *Falcon*," he elaborates. "I had a model on my desk that was made by Neil Ellis, who's the best *Star Wars* model maker you can get. When I looked at it, I saw the greebles and all the pipe work and I thought, 'maybe Han and Chewie added all that.' So I started stripping them away, and it became quite streamlined. Then I thought I'd replace all the missing panels. It became very angular and the production designer, Neil Lamont, liked that look. I put a nose on it and painted it all one color—a clean, Cloud City white—and it immediately got everyone's attention. Neil Ellis built a new model, so then we had a little toy in the office. Every time someone came in, they picked it up, and that was the start of it. It won everyone over."

Although the design garnered a lot of love, Jenkins reveals that—not unlike the great Lando Calrissian himself—he had a couple of other options up his sleeve. "There were versions of the *Falcon* with an extra cockpit on the other side, and there was one that moved sideways with a whole other thing at the front," he says. "There was even one that looked like a NASCAR race car, which was blue with a number 21 on the side."

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THE MAKING OF *SOLO*

AS *SOLO: A STAR WARS STORY* COMES HOME ON BLU-RAY, DVD, AND DIGITAL DOWNLOAD, *INSIDER* GOES BEHIND-THE-SCENES ON THE MAKING OF THE MOVIE.



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INDUSTRIAL LIGHT & MAGIC

There were more than 2,000 visual effects on *Solo: A Star Wars Story* – in charge of pulling them together was visual effects supervisor and co-producer Rob Bredow from Industrial Light & Magic. With a global team of 1,200 artists and technicians, they created a galaxy of vehicles, character performances, otherworldly environments and unique spacecraft.


01

Did the effects demands on *Solo* push ILM to new limits?

Rob Bredow (visual effects supervisor and co-producer): I think we pulled out every trick in the book on this film, and developed a few new ones of our own. We took some of the oldest visual effects techniques, such as front and rear-screen projection, and updated them with the latest technology. This allowed us to film 360-degree environments on the stunning Dryden's Yacht set.

Were there ways in which you took a new approach to VFX?

We used the latest laser projection technology to surround the *Falcon* cockpit with screens. When we immersed the cast into hyperspace, they were actually experiencing it like you would on a simulator ride, only at feature-film quality that worked in-camera.

You combined rod puppets and creature costumes with state-of-the-art digital effects to introduce new characters such as L3-37 and Rio. How important was it to film in the real universe?

We made every effort to capture as much in-camera as possible, not only for the creatures and environments but also the incredible vehicles in the film. Those are real 550 horsepower speeders, and we used visual effects to remove the wheels and enhance the world around them. Even Phoebe Waller-Bridge, who played L3-37, wore a practical costume on-set for the parts we didn't create digitally. We had it all there right in front of us when we shot, lit by Bradford's beautiful lighting and ready for Ron's direction. Our visual effects team could work from that base reality, always having the photography to ground the shots.

What has been most special about working on this movie?

It was such a privilege to take fans into the *Star Wars* universe and visit a point in time that, while familiar, will be wholly new to them. To do that we utilized the best combination of modern technology and a 1970s filmmaking aesthetic. It's one of the things that makes *Solo* so unique.


02



"WHEN WE IMMERSED THE CAST INTO HYPERSPACE, THEY WERE ACTUALLY EXPERIENCING IT LIKE YOU WOULD ON A SIMULATOR RIDE."





01 The *Millennium Falcon* enters a projected hyperspace.

02 Phoebe Waller-Bridge as L3-37.

03 Han's speeder was a real 550 horsepower vehicle, with its wheels digitally removed.


04


05

SHOOTING *SOLO*

The lighting of a movie is vitally important in transporting the audience to another world—sometimes even another galaxy. Fortunately *Solo* had one of the best people on hand in the shape of cinematographer Bradford Young.

What were your first thoughts when you read the script for the movie?

Bradford Young (director of photography): It's a script that plays off the classics and has all the beautiful tropes and clichés of the classics.

One of the things that struck me was that the film had to feel natural; it had to feel earthbound, about characters putting their feet on natural surfaces. Everything had to be coming from the right place, whether it was where the camera was placed or where the light was coming from.

How do you achieve that on film?

If you want to feel, taste or smell the snow, or if you want to feel and taste the sand, nothing is better than allowing that sand or that snow to be lit by the sun or the moon.

Was it important for you to be able to highlight that realism?

Audiences are now really hyper-aware when things don't feel real. And this film had to feel real. It's more difficult to work that way, but it's something that I feel like I've trained myself to do, which is to find the moment, find the source, and then construct the moment around that.

What did you have on set that helped you create realism?

Neil Lamont designed sets that allowed us to light from within the set, so every practical light that you see in this film is actually lighting the subject. When the character steps away from the lighting source, they'll walk into the shadow. It might be a little intense for the audience for a moment, but the character will eventually step back into the light.

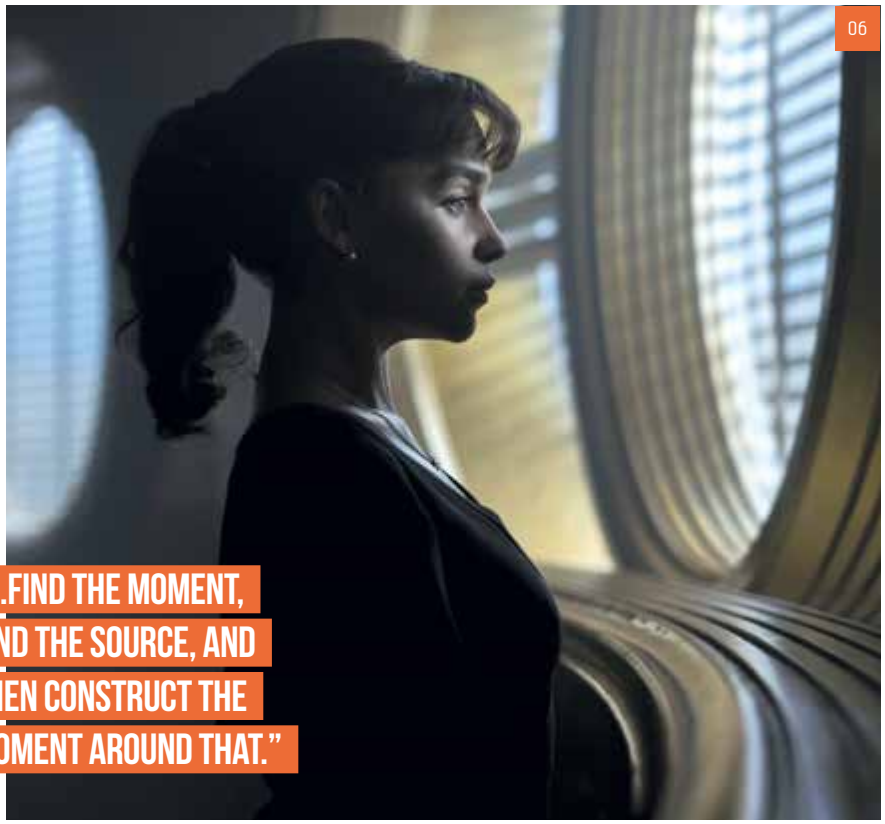


04 Beckett (Woody Harrelson) shoots his way out of trouble on Mimban.

05 Bradford Young lights the lair of the White Worms set.

06 Qi'ra (Emilia Clarke) aboard Dryden Vos' yacht, the *First Light*.





"...FIND THE MOMENT, FIND THE SOURCE, AND THEN CONSTRUCT THE MOMENT AROUND THAT."

A BRIGHT LIGHT TO THE UNIVERSE

THE CAST AND CREW OF *SOLO* ON WORKING WITH BRADFORD YOUNG

How does Bradford Young's vision for *Solo* set it apart?

Alden Ehrenreich (Han Solo): I think Bradford's work is one of the key things that distinguishes this from the other *Star Wars* films. It's this tougher, seedier world and story, and Bradford has lit it in a very organic and natural way, which gives the world an edge and a sense of danger. It doesn't feel glossy or removed.

What did you think of the lighting on this movie?

Simon Emanuel (producer): The director of photography can make the look of the film a real character in the story. Bradford's work is incredible. He truly is an artist who lights by instinct, lights by how he feels looking at the particular scene or particular shot.

Were you aware of Young's work prior to shooting *Solo*?

Thandie Newton (Val): I was very excited that Bradford was lighting the film. I've been a huge fan for a long time of the atmosphere he creates with light.

He has brought a very interesting feel to the film. He's very consistent with how he wants to make the film look, and he has a very clear and recognizable style while at the same time keeping it in the world of *Star Wars* that audiences have come to expect.

CHEWBACCA AND THE CREATURES

Neal Scanlan, twice Academy Award nominated for his creature work on movies *The Last Jedi* and *The Force Awakens*, was once again responsible for populating the worlds of *Star Wars* for *Solo*. During the lengthy design process, Scanlan and his talented team of artists produced an extraordinary array of more than 500 creatures for the film's many environments.

Was it important to look back at creature designs from the original trilogy to inspire you in creating new galactic species?

Neal Scanlan (special effects and makeup): I can imagine the conversations George Lucas would have had looking at old films from his youth, films like *Buck Rogers* and *Flash Gordon*, and encouraging his crew to use those references as inspiration, and push forward in time to find a new and unique version of that world.

For me, I think it was looking at those worlds, the styles and approach used, which made them new and fresh for the audiences then, and try to bring some of that into this project to place the film in this time zone, in this era. We need to be observant of *Star Wars*, and there is a great deal of charm and innocence to those designs. Some of the simplest creations happen to also be the most unearthly, and that's where we have tried to base our designs for this film.

The design of the creatures that appear within certain environments reflects the tone of those settings. Was that a conscious decision?

When one tries to set up a mood, everything needs to fit within that mood; otherwise, it's going to be jarring. We begin this film in a world that's quite dark, a repressed environment, and the creatures that we designed for these environments are not dissimilar. But the film brightens as it goes on, mostly because of the growing relationship between Han and Chewbacca, which is at the very core of what this film is about—ultimately finding the one being in the world Han can absolutely trust—and it happens to be this giant Wookiee.

How did you achieve the 'savage' Chewbacca look?

We were so precious about being accurate and honoring the original Chewbacca suit, that the idea of throwing mud all over him and wetting him down seemed abusive.

We got the hose out and literally doused Chewbacca down... and something magical happened! It made him immediately feral. He took on that sorrowful, bedraggled look, just like a domestic dog. It was interesting to see how quickly these animal qualities came out, and the whole premise is that he looks really animalistic. He's been in prison for some time, he's covered in mud, and he appears first as a shape in the shadow. That is terrifying for Han.

For the Wookiee slaves in the Kessel scenes, you used a cast of the original Chewbacca mask as a base. Was there a reason for that?

Chewbacca is the stud Wookiee, and all things come from him. I think it's been very successful for that reason. You still see Chewbacca in there somewhere, and that gives all the Wookiees a soul and an acceptability that they are part of this race, and I think that is crucially important to making them work as men in suits.

Your team referenced Indian deities like Kali to inspire the design of Rio. What was the thought process?

We started to sketch ideas of what that might look like. To have arms that emanate from the shoulders, with the dexterity of a monkey, enabling him to swing and work as well upside down as he can the right side up—essentially he can use his feet like his hands. It's very important to retain the humanity of a character visually, and create ▸

07



08





"WE GOT THE HOSE OUT AND LITERALLY DOUSED CHEWBACCA DOWN... AND SOMETHING MAGICAL HAPPENED! IT MADE HIM IMMEDIATELY FERAL."





09

CREATING CHEWIE

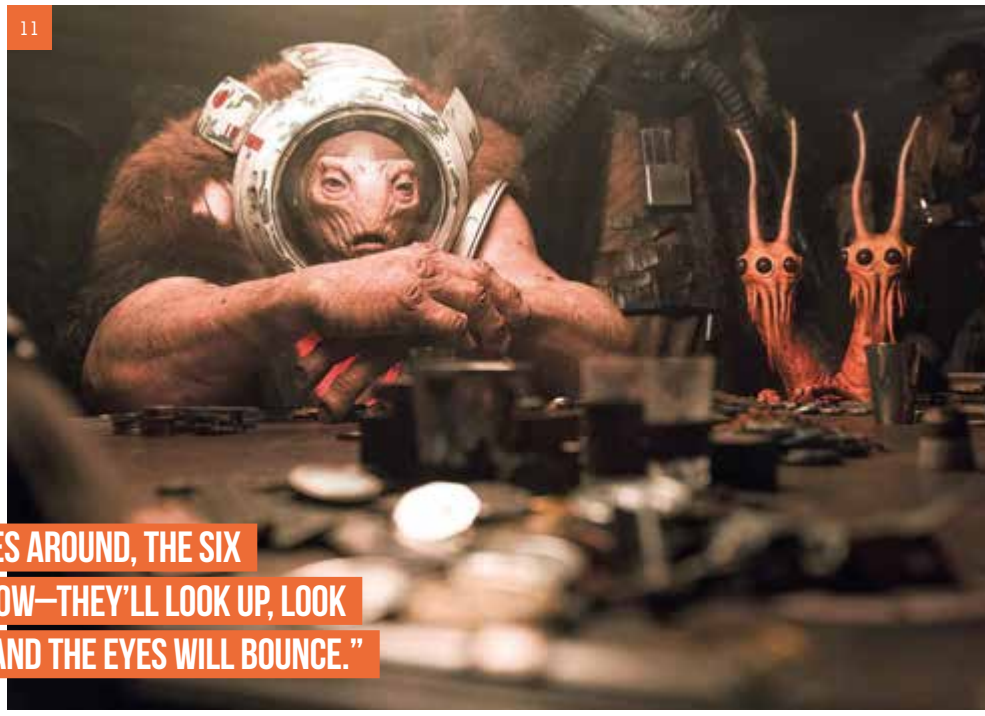
- The creature effects department produced eight Chewbacca suits and ten heads.
- The same supervising animatronics designer, Maria Cork, has worked with Chewbacca since *The Force Awakens.*
- Chewbacca's suit consists of a Lycra under-suit with a knitted cowl. This is a more modern material than the original, which was knitted in wool by the wife of original *Star Wars* makeup artist Stuart Freeborn.
- Chewbacca's hair, however, is exactly the same as the original suit, and is made of singular knotted hairs of yak and mohair.
- Cleaning the suit every day wasn't possible, so the crew created an on-set "Wookiee Wash"—a big shower unit rigged above a paddling pool.

07 The Chewbacca mask was the basis for all the Wookiee costumes.

08 The creature designs reflect the tone of their environments.

09 Chewie was literally hosed down for his first scene with Han Solo.





"AS THE PUPPETEER INSIDE MOVES AROUND, THE SIX EYES WILL AUTOMATICALLY FOLLOW—THEY'LL LOOK UP, LOOK DOWN, THE HEAD WILL BOUNCE, AND THE EYES WILL BOUNCE."

a design that is endearing, and not intimidating, so he appeals to a wide age range.

Tell us about how you came to the design of Lady Proxima, Moloch, and the White Worms...
We tried a lot of designs for both Lady Proxima and Moloch. We felt that Moloch and the White Worm aides all had to be derivative of Lady Proxima, so it was important to get that design locked first. The idea is that Lady Proxima is almost interconnected to her aides around her, through her, similar to a tree's root system, by which she feeds not only nutrients but also information to them. At some point Moloch would have broken free, become an independent entity, but is telepathically and almost physically connected to her in many ways.

The sabacc creatures were inspired by a Caravaggio painting. What was the thinking behind that?
It's a beautiful painting, an incredible composition, with a great atmosphere. The characters sit around a table, and many of them fall into the background, into the shadow. We substituted the humans for aliens at the same proportions as in the painting. The filmmakers chose the creatures from a catalog we were already drawing, and we pulled the ones that were most favorable, not only because of the way they looked, but also for their proportions.



10 An exotic partygoer aboard Dryden Vos's yacht.

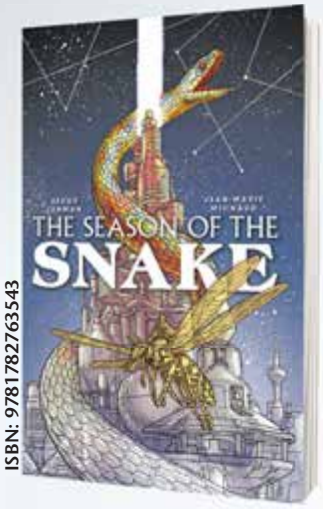
11 The Caravaggio-inspired sabacc game.

12 50 servo motors animated Six Eyes' complex mechanical head .

Six Eyes, a player in the sabacc game, has a complex mechanical head. How did it work?
The sabacc game, which is a poker game essentially, was the perfect place for a character like Six Eyes. He has the ability to look at anyone's cards at any one time, and the other players don't know which eye is looking at them!

There are 50 servos inside the head, with on-board intelligence. As the puppeteer inside moves around, the six eyes automatically follow—they'll look up, look down, the head will bounce, and the eyes will bounce—and all of that before you even start to add the directed performance into it.

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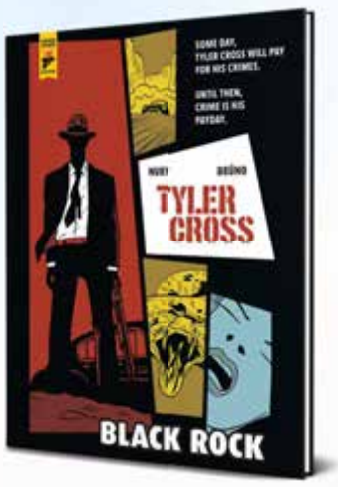


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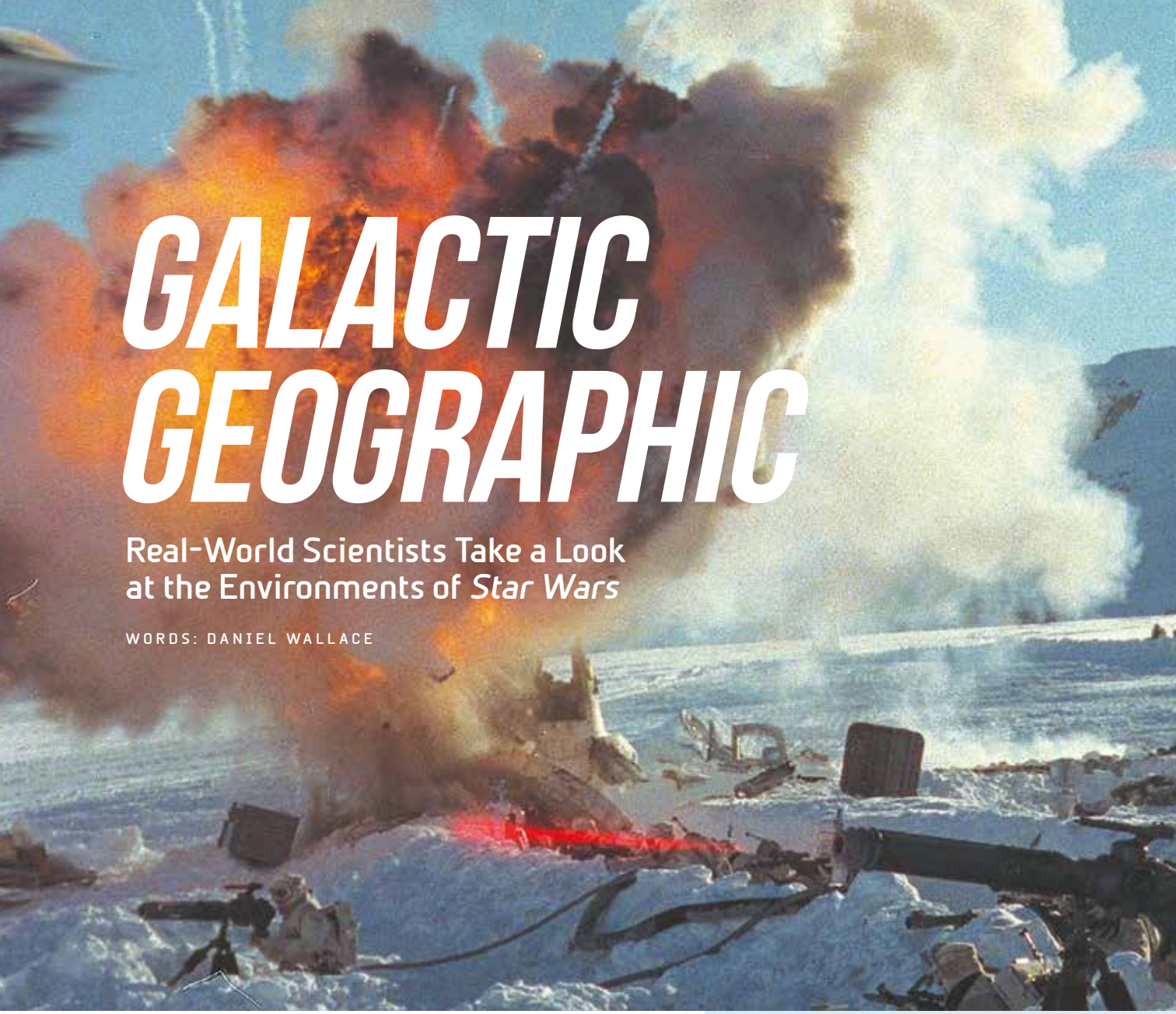
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GALACTIC GEOGRAPHIC

Real-World Scientists Take a Look at the Environments of *Star Wars*

WORDS: DANIEL WALLACE

A galaxy far, far away might be an ideal backdrop for a space fantasy, but can a fairy-tale setting stand up to actual scientific rigor? Clearly not, and that's okay. *Star Wars* isn't governed by literalism, but by narrative simplicity and the "rule of cool." The real-world principles of geography and anthropology, however, can reveal fascinating truths about the saga's unseen architecture—and shed new light on what makes our own planet so special.

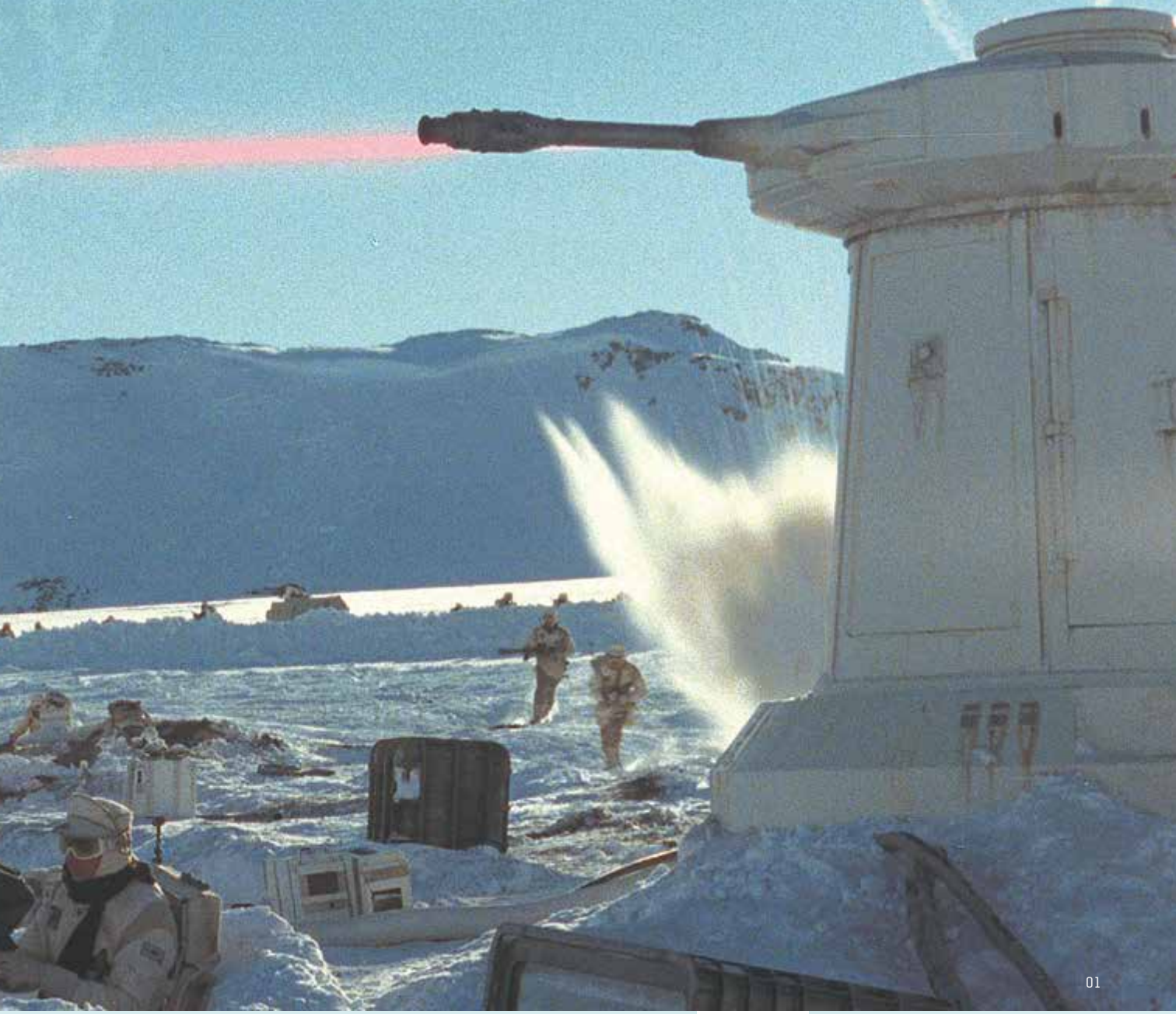
Each *Star Wars* world is typically defined by a single, dominant environment: ice sheets, sand dunes, forests, salt flats, and so on. Because these biomes all have their own Earthlike equivalent, credentialed scientists (who also happen to love *Star Wars*) are happy to put their degrees to work analyzing everything from the tundra of Hoth to the sinkholes of Utapau.

Insider asked archaeologist Jeff Wedding and geologist Amy Brock-Hon to take a whistle-stop tour of the *Star Wars* galaxy, and interpret our favorite sci-fi landscapes through their uniquely professional lenses.

THE ARCTIC:
HOTH

Despite being a subzero glacial world, Hoth nevertheless sustains herds of tauntauns and solitary wampa predators. The Echo Base rebels survive thanks to thermal heaters and fur-trimmed parkas, and like Antarctic researchers at Earth's southern extreme, they don't dare risk death by venturing out during storm conditions.

Arid-environment expert Amy Brock-Hon notes a similarity between Hoth and the desert world of Tatooine (see overleaf). "Hoth is an arid region, too!" she says. "It's all about precipitation. If it isn't



01

in the form of water, then it can't be taken up by plants to cover the landscape. On Earth, Antarctica is considered one of the driest regions in the world."

From what we can see of Hoth during Luke's tauntaun patrol, its surface is composed of thick glacial ice. This means that the planet's true geography could be a hidden mystery.

"We might be able to use ground-penetrating radar to see the rock surface under the ice, but unless there's a peak of rock sticking out somewhere it would be very difficult to determine what's in the subsurface," explains Brock-Hon. Because Antarctica's ice is nearly 5 kilometers deep at its thickest point, one can imagine that conditions on Hoth would be equally severe.

"A big question is how the ice on Hoth is developing, and whether its ice pack is increasing," says Wedding, who raises the question of Echo Base's long-term preservation. "A glacier actually flows a few inches a year. If an airplane wreck is at the top of a glacier, it will move through the ice as the glacier moves downslope and probably reappear 70 years later, ground into pieces by the force of all that ice."

But if Echo Base finds itself on more stable footing, it would remain an exceptionally pristine archaeological site for generations of galactic historians.

"Everything in it would be freeze dried—almost like Han Solo in carbonite," Wedding confirms, noting that woolly mammoth carcasses are still found in northern Russia after nearly 40,000 years. "Because the water is in a solid state you won't have metal rusting, and the microbial community (microorganisms that populate the same living space) is probably very small. The encampments used by the early explorers to the South Pole are in a perfect state of preservation, and something similar would probably happen here."

01 Hoth's arid conditions could well preserve the remains of the rebel base for centuries.

THE SANDY DESERTS:

TATOOINE AND JAKKU

Tatooine is the first planet seen in the *Star Wars* saga, and its bone-dry dunes have appeared extensively throughout the films. The Jakku of *Star Wars: The Force Awakens* (2015) is a close match to Tatooine in climate, but its sandy wastes are dotted by the half-buried wrecks of Imperial Star Destroyers as opposed to the skeletons of krayt dragons.

What happened on these two worlds that resulted in such Saharan expanses? Geologist Brock-Hon has a specialty in the geo-morphology of arid landscapes, and she says she's seen it all before.

"I'm fond of deserts like these because of how extreme they can be, and how their unique features can be sculpted by the wind," she says, pointing out that Tatooine and Jakku have shifting landscapes that change from day to day. "The dunes are mobile, since sand grains are blown up one side and slide down the other, and they can move dramatically if the winds are blowing. And of course it's all driven by a lack of vegetation, since there's nothing there to hold that sediment down."

IF TATOOINE'S MOISTURE FARMERS ARE SCRATCHING OUT A LIVING ON THE RAZOR'S EDGE OF STARVATION, JAKKU IS EVIDENCE OF A THREAT OF A DIFFERENT NATURE.

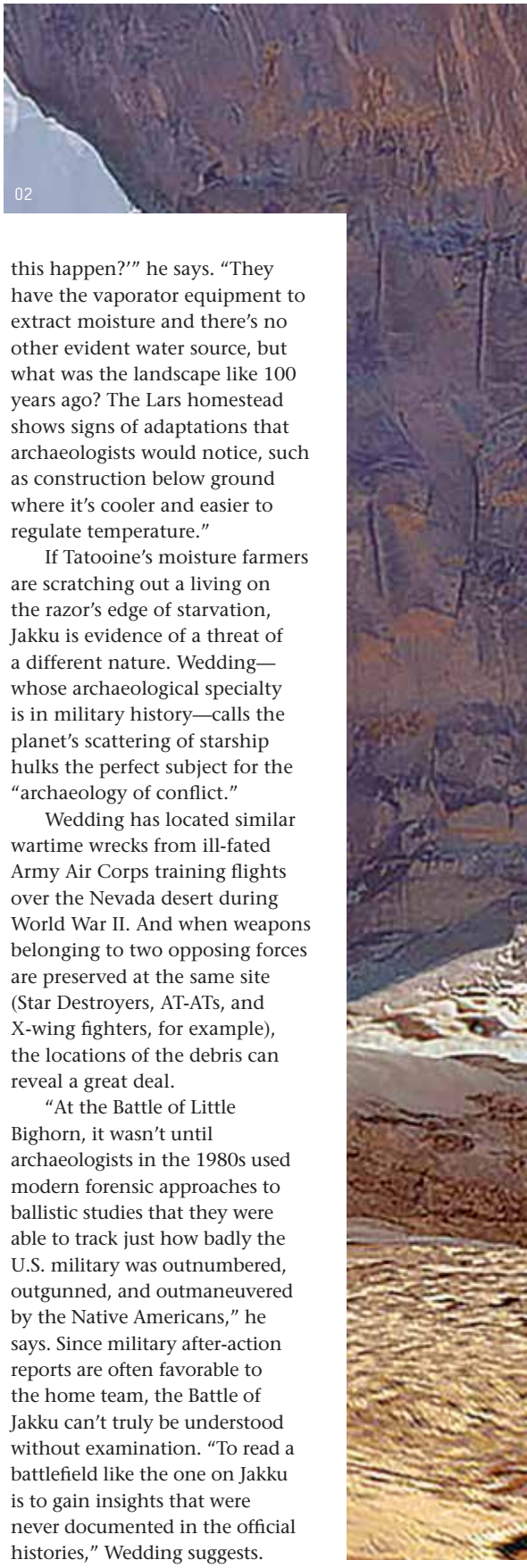
That near-global absence of greenery raises the question of how homesteaders like Uncle Owen and Aunt Beru hope to raise crops in such barren fields. The Lars homestead appears to get by using small-scale hydroponic farming, but terraforming larger portions of the Tatooine landscape is hardly out of the question.

"The area around the North Platte River in central Nebraska used to be dunes and is now grasslands," says Brock-Hon. "You can anchor a dune by placing soil and vegetation on it. But since the sand is super-permeable, it would be a problem for those settlers. Maybe silt, clay, or organic material could hold the water for irrigation, but their first goal would be to trap enough water."

That's where vaporators come in. According to *Star Wars* lore, they distill moisture from the atmosphere that can be collected and reused. It would make sense to build vaporator settlements near existing areas of moisture, and archaeologist Wedding thinks that this could offer a hint on the nature of Tatooine's pre-history.

"Southern Nevada is a desert now, but 12,000 years ago it was covered with lakes of standing water," he says. "As the area dried out and warmed up, the location of the remaining water sources forced human adaptation." Because the job of archaeologists is to apply models of human behavior to the surrounding environment, Wedding can't help but ask how Tatooine homesteaders started and perfected their craft.

"The first question is, 'who's here and where are they living now,' and the next is 'where is the water that makes this happen?'" he says. "They have the vaporator equipment to extract moisture and there's no other evident water source, but what was the landscape like 100 years ago? The Lars homestead shows signs of adaptations that archaeologists would notice, such as construction below ground where it's cooler and easier to regulate temperature."



02

If Tatooine's moisture farmers are scratching out a living on the razor's edge of starvation, Jakku is evidence of a threat of a different nature. Wedding—whose archaeological specialty is in military history—calls the planet's scattering of starship hulks the perfect subject for the "archaeology of conflict."

Wedding has located similar wartime wrecks from ill-fated Army Air Corps training flights over the Nevada desert during World War II. And when weapons belonging to two opposing forces are preserved at the same site (Star Destroyers, AT-ATs, and X-wing fighters, for example), the locations of the debris can reveal a great deal.

"At the Battle of Little Bighorn, it wasn't until archaeologists in the 1980s used modern forensic approaches to ballistic studies that they were able to track just how badly the U.S. military was outnumbered, outgunned, and outmaneuvered by the Native Americans," he says. Since military after-action reports are often favorable to the home team, the Battle of Jakku can't truly be understood without examination. "To read a battlefield like the one on Jakku is to gain insights that were never documented in the official histories," Wedding suggests.

02 Tatooine's Mushroom Mesa.

03 The magma-belching hell of Mustafar.

THE VOLCANO:

MUSTAFAR

Lit by flickering red flames and the orange glow of oozing lava, Mustafar is a hellish world of sulfur and brimstone first seen in (2005). It is here that Darth Vader lost his duel with Obi-Wan Kenobi, inspiring Vader to build a brooding castle retreat in later years, as seen briefly in *Rogue One: A Star Wars Story* (2016).

Brock-Hon thinks Mustafar could be a world that has suffered so many orbital impacts that its surface temperature has been raised to the extreme. "Maybe the atmosphere is no longer protecting it from meteor and comet strikes," she says. "That kind of bombardment would be constantly heating up the crust."

On the other hand, Mustafar could be an embryonic world—a work-in-progress planet that will eventually result in a far more hospitable environment.

"One of my lectures is called 'Birth of the Earth,' and I show an artist's image of a similar world that has volcanoes and a molten surface," she says. "Mustafar's fiery conditions could indicate it's a newbie planet, with a surface just like Earth's once was."

Volcanic rock dating indicates that Earth was formed over 4.6 billion years, so don't expect quick results from Mustafar. "It might be on a several billion-year timescale," admits Brock-Hon, "but as long as Mustafar experiences the same factors as our Earth, it might turn out just the same way."


03

THE ROCKY DESERTS:

GEONOSIS AND JEDHA

The arid expanses of Geonosis and Jedha seem similar to those on Tatooine and Jakku, but these are far more vertical. Rocky pinnacles, narrow canyons, and flat-topped mesas make for a zigzagging horizon, and a single force is responsible for shaping it all.

"Water," says Brock-Hon. "What we see with all those caverns and caves suggests that water was there in the past, even if wind activity is primarily at work now." Because the water-sculpted Utah Canyonlands contain structures similar to those found on Geonosis and Jedha, Brock-Hon deduces the existence of an unseen river system, or at least a similar water source that existed in the distant past. "After that water is gone, they might start to see more dunes migrating across the landscape," she says. "High winds will start to scour the surface and erode the rock formations, dumping the resulting sand grains into dune formations."

For an archaeologist like Wedding, the hive tunnels of Geonosis offer the tantalizing prospect of perfectly preserved alien artifacts.

"Dry climates allow for longer preservation," he says, "and in a desert area like Geonosis I'd expect to find differential preservation with stone artifacts well preserved in the open desert and wooden objects or skeletal remains preserved in sheltered areas like caves. In my field, sometimes we'll even find naturally dehydrated mummies."

Jedha is said to be one of the oldest-settled worlds in the galaxy, and as the rumored birthplace of the Jedi Order, it is home to temples and sacred sites venerated by various Force-worshipping sects. Jedha's Holy City is a walled architectural amalgamation that unites the work of generations inside a single sunbaked metropolis.

"In the older cities in Europe you often find something similar to Jedha," says Wedding. "There you'll discover neighborhoods that are hundreds of years old, with continuously occupied dwellings, and right next to them is a street where the buildings have been knocked down and rebuilt into something brand new."



04



JEDHA'S HOLY CITY IS A WALLED ARCHITECTURAL AMALGAMATION THAT UNITES THE WORK OF GENERATIONS INSIDE A SINGLE SUNBAKED METROPOLIS.



04 The rocky landscape of Jedha suggests water was abundant in the past.

05 Crait's salt flats are much like those of Earth's Death Valley.

THE SALT FLAT:

CRAIT

The climactic battle in *Star Wars: The Last Jedi* (2017) might evoke the conflict at Echo Base from *The Empire Strikes Back* (1980), but in truth, Crait has far more in common with parched Tatooine than snowy Hoth.

"What we see of Crait is a salt flat or playa," says Brock-Hon, "and they typically form in low spots between mountain ranges." New salt layers are made when rain washes weathered mineral material from the higher elevations into the shallows. "The arid surroundings quickly evaporate the water molecules from the dissolved solution, and what's left behind is lots and lots of salt."

On Crait, the alkaline environment can apparently support complex life forms such as the crystal-furred and fox-like Vulptices that tinkle like wind chimes when they move. In contrast, the Earth's salt flats are lifeless. Or are they…?

"A classic example of that type of environment is Badwater Basin in California's Death Valley, which is hostile to most forms of life," says Brock-Hon, who adds that a lot of work is currently being conducted on halophiles: salt-loving organisms that thrive in saline environments. "When I worked in South America's Atacama Desert, I got to know someone doing research on organisms that survived that hyper-arid region in the salt layers," she says. "This is the kind of research that could determine if there might be life on Mars."



06



07

THE TEMPERATE EARTH:

NABOO

First seen in *The Phantom Menace* (1999), Naboo has a surface environment of grassy plains and waterfalls, making it appear pleasantly Earth-like. Its undersea civilization and a warren of tunnels winding through the "planet core," however, hint at something far stranger.

For geologist Brock-Hon, any literal interpretation of submarine passages through the core implies the potentially catastrophic loss of the planet's magnetic field. "There's evidence that Mars used to have water and an atmosphere before it all went away," she says. "One of the leading theories is that Mars cooled off completely. Once its molten core cooled off, it stopped generating a magnetic field." Without that protection, there's the possibility that solar winds could have blown away Mars' atmosphere. Although any number of sci-fi factors could be invoked to save Naboo from a similar fate, Brock-Hon can't help but stress the real-world gravity of the situation. Should Earth's magnetic field ever weaken to that degree, "it'd be bad," she says. "It'd be really nasty."

Archaeologist Wedding is intrigued by Naboo's giant stone heads. These immense sculptures, festooned with ivy tendrils, stand guard over the misty swamps.

"The question is, who built these and what was their meaning and purpose?" he says. Though the movie offers scant clues, Wedding notes that Naboo's natives seem to be treating the monolithic sculptures according to a hands-off approach known as "arrested decay."

"They're not actively maintaining them, but they're not knocking them down either," he points out. "A lot of Egyptian temples fell out of favor and were simply abandoned, and the Moai statues on Easter Island don't have the same ties as they did to the groups that built them. These heads could be something the locals respect, but they've just decided to allow the natural weathering to continue."

THE FORESTS:

ENDOR AND YAVIN

In *Return of the Jedi* (1983) California's redwood forests formed the real-world stand-in for the forest moon of Endor, home to the arboreal, tree top-dwelling Ewoks.

"That kind of environment implies a lot of precipitation," says Brock-Hon, "possibly driven by the position of nearby mountain ranges. Our redwoods lie on the wet side of the northern Sierra Nevada, so I'd expect something like that." The omnipresence of Endor's greenery also implies a lack of, or significant distance from, the corrosive waters of saline seas. "Sea spray would be an issue, so I'd expect the forests to be far away from any coastline."

Archaeologist Wedding sees little hope for the long-term preservation of Ewok artifacts. "Wood naturally decays, and that kind of vegetation requires a lot of rainfall. With that much moisture, the microbial communities will cause the wood to rot and break down over time." Even the Ewoks' elaborate treehouses are at risk, which implies that the native builders engage in near-constant maintenance. "Those natural fiber ropes will break down very quickly," says Wedding, "and within a few years, the forest will start to reclaim everything."

That's not the case on Yavin 4, the jungle moon from which the Rebel Alliance launched its attack on the Death Star. The rebels constructed their HQ inside a sturdy stone temple, and exterior shots of the site were captured on location in Guatemala at the Mayan ruins of Tikal.

Wedding points out that the Rebellion's retrofitting of temples into war rooms has plenty of historical precedence. "When one population abandons an area, another typically moves in," he says. "And because they might not share the same beliefs, a temple might instead look like a pretty good barn. The rebels coming to Yavin are much more utilitarian. They have a very different purpose for being there."

The hewn stone blocks that make up Yavin 4's structures are naturally resistant to environmental erosion, and much like the Mayan temples they will most likely stand for centuries to come. Future galactic generations might even one day tour the hangars where heroes and villains once did battle.

"Locations like Yavin and Hoth might become the equivalent of our national historic sites and part of the heritage tourism industry," says Wedding. "People might go to Yavin to see where the rebel base had been, just like you might go today and visit the battlefields of Normandy."

06 The lush plains of Naboo.

07 Constant repairs to Ewok homes would be required in Endor's damp conditions.

08 Deep sinkholes are not unique to Utapau.

THE SINKHOLE:

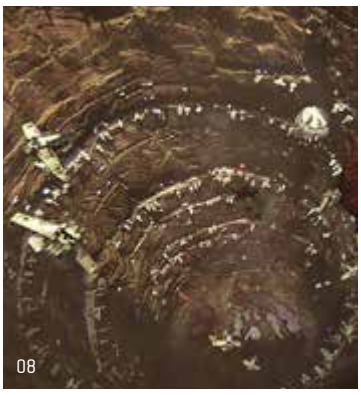
UTAPAU

Utapau might seem like one of the more exotic *Star Wars* environments, but sinkholes are hardly uncommon here on Earth. Brock-Hon notes locations in China and Vietnam with sinkholes and caves large enough to live inside, though certainly not at the scale seen on Utapau. The depth of the sinkhole cities, she notes, would allow the people of Utapau to access the subterranean water table and tap enough groundwater to supply their civilization.

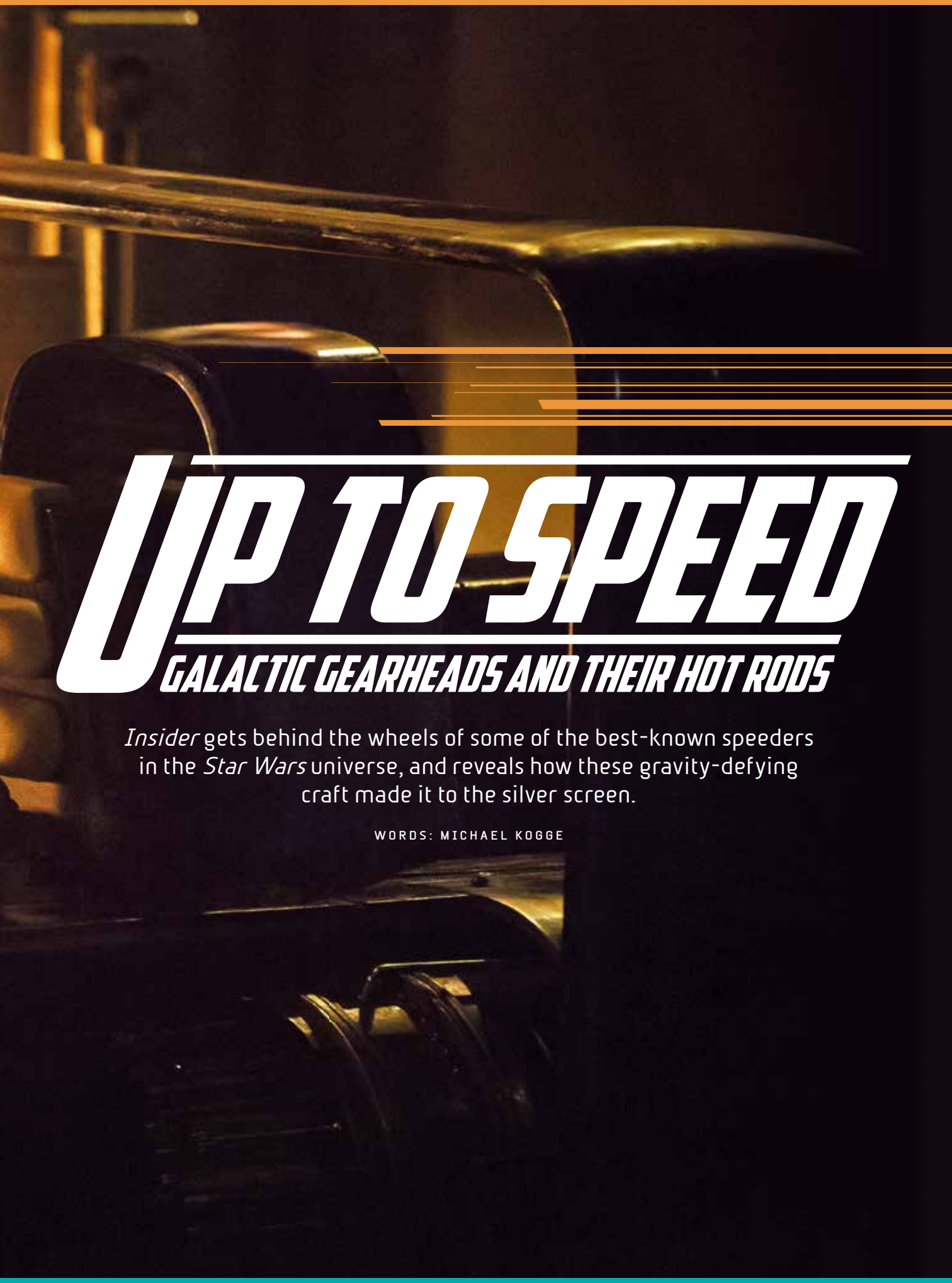
Because every lost object on Utapau would drop straight to the bottom of the sinkhole, Wedding sees the world as an irresistible opportunity for archaeologists. "I'd target the bottom of those sinkholes immediately," he says. "Stratigraphy (the order of strata, or layers) is our guiding principle: people drop stuff, it gets covered, and people drop more stuff. In theory, the deeper you go, the older the stuff gets. A *Pokémon* card on top, a T-Rex fossil way down at the bottom."

Each one of Utapau's sinkholes would be a historical treasure trove equivalent to Los Angeles' La Brea tar pits (home to millions of fossil discoveries), he notes, adding that similar natural pitfall traps accumulate an enormous amount of information across the eras.

The same principle also works on a smaller scale. "Working on an American colonial site, it's great when you find the foundations for the house," says Wedding. "But it's even better if you find the hole the family dug out for the privy so you can examine its contents."


08





UP TO SPEED

GALACTIC GEARHEADS AND THEIR HOT RODS

Insider gets behind the wheels of some of the best-known speeders in the *Star Wars* universe, and reveals how these gravity-defying craft made it to the silver screen.

WORDS: MICHAEL KOGGE

George Lucas grew up loving fast cars. As a teenager in the early 1960s, he and his friends used to cruise the streets of Modesto, California in their souped-up vehicles, pumping out rock 'n' roll from their radios and trying to look as cool as James Dean in *Rebel Without a Cause* (1955). The young Lucas also spent a good deal of time at the race track, working with pit crews and doing laps in the underground circuit, all the while aspiring to become a professional racing driver. But that dream died after he was involved in a near-fatal car accident, and his ambitions instead turned toward other creative ventures, most notably filmmaking.

Despite this shift in focus, Lucas' affection for fast vehicles—particularly customized joyrides with high-performance engines—never left him. Cars became the subject of some of his short films, and the cruising culture of his youth served as the backdrop for his second feature, *American Graffiti* (1973). But his enduring passion was perhaps most eloquently expressed in his science-fiction film series set amid a time of galactic upheaval. The vehicles that this universe's heroes operated weren't the pristine, sterile craft seen in most other outer space-themed films—they were dirty, oily jalopies, with oversized engines primed for acceleration. He called them "speeders," but in Earth lingo, we've come to know them better as hot rods.



01

LUKE'S LANDSPEEDER

FIRST APPEARANCE: STAR WARS: ***EPISODE IV*** A NEW HOPE

The hot-rod legacy began with Luke's landspeeder in *Star Wars: A New Hope* (1977). When writing the original film, Lucas wanted his hero to drive a vehicle that resembled the hovercars seen in science-fiction comics. While at first glance the ovoid, brown-and-tan landspeeder may have seemed more like a banged-up station wagon than a hot rod, under further scrutiny it could be seen just how much its design had been influenced by the cruisers of Lucas' *American Graffiti*.

Bearing all the hallmarks of a teenager's first car, the landspeeder was, undeniably, a bit of a fixer-upper, complete with dents in its grille, cowling missing from a turbine, a sand-scoured chassis and a sun-baked windshield. But looking beyond its aesthetic imperfections, this two-seater packed quite the punch when it came to Luke's lead foot. The young moisture farmer spent whatever money he had and his free time customizing his pride and joy in order to push its specifications to the limit, and his craft consequently sported such modifications as a pair of repulsor turbine wings which protruded like jet engines from the sides of the vehicle, as well as a third that rose above like a racing fin. The landspeeder may not have rivaled Luke's T-16 skyhopper in speed or altitude, but it was much easier to handle, rendering it possible for even a protocol droid like C-3PO to operate it over Tatooine's rough desert terrain.

MIRROR, MIRROR

Contrary to the claims of enthusiastic comic-book advertisements of the time, hovercars weren't readily available to buy in the 1970s. Nor were computers able to generate realistic cinematic imagery, so Lucas' team had to shoot the landspeeder scenes straight onto film—without post-production assistance—instead relying on clever tricks to create the illusion of the vehicle floating a foot or two above the ground for wide shots.

Despite the impressive finished result, in actuality Luke's landspeeder was nothing more than a futuristic chassis fitted around a Bond Bug (a three-wheeled "microcar" popular in England in the early 1970s). To hide the automobile's three wheels, an angled mirror skirted its sides, reflecting the barren ground of Death Valley and the speeder's shadow. Meanwhile, a broom was also placed on the undercarriage to brush up sand and dust in the speeder's wake. Although it took multiple attempts to achieve the in-camera effects, the crew finally nailed them by making the mirror so sturdy that if the vehicle was driven at high speeds, the reflection would be blurred to hide any inconsistencies.

For tighter shots, the landspeeder was rigged to a cantilever: a steel swing-arm which had the strength to lift the speeder—passengers included—clear off the ground.

LOOKING BEYOND ITS AESTHETIC IMPERFECTIONS, THIS TWO-SEATER PACKED QUITE THE PUNCH.

02

ANAKIN'S PODRACER

FIRST APPEARANCE: STAR WARS: *EPISODE I* THE PHANTOM MENACE

Though not nominally a "speeder" in *Star Wars* terminology, Anakin Skywalker's self-built podracer, as seen in *Star Wars: The Phantom Menace* (1999) was most definitely a hot rod. Repulsor engines comprised much of the mass of this and similar vehicles, and for those pilots daring enough to enter competitions such as the Boonta Eve Classic on Tatooine, it was definitely a case of the bigger the better. For his racer, Anakin utilized two Radon-Ulzer engines that he had repaired after his master, Watto, had discarded them as junk, and strapped them onto a small control pod with throttle levers and a cockpit rangefinder. By winning the race, Anakin showcased not only his piloting skills, but his mechanical prowess in piecing together a worthy craft from salvaged parts. Amazingly, this little grease monkey was only nine years old at the time of his memorable victory.





THE SOUND BARRIER

For *The Phantom Menace*'s seminal race sequence, both physical and computer-generated models were made of the various podracers, yet the most defining element of the race wasn't visual, but aural. Sound designer Ben Burtt created distinctive sounds for each of the racers, mixing the engine revs of Mustang muscle cars and turbocharged Porsches with effects from a synthesizer. Director George Lucas held off on using music until the end of the race, forcing the audience's ears to focus on the noise instead. This had the effect of highlighting the individual sounds of each podracer, transforming them into discrete characters and expanding the storytelling into an immersive dimension far beyond simply what was seen on the screen.



LOST AND FOUND

Rey's speeder was based on Luke Skywalker's landspeeder, with the original brown chassis turned vertically instead of horizontally. It was a 1922 Aston Martin on display at a motorcar revival festival that inspired Gary Tomkins, the art director for vehicles and spaceships on *Star Wars: The Force Awakens* (2015), to give Rey's speeder a similar aluminum front grille. For her perch on the afterburner, everything from horse saddles to motorcycle seats were studied to create the final design of a small, leather cushion, tilted upward to keep Rey's body leaning forward.

03

REY'S SPEEDER

FIRST APPEARANCE: STAR WARS: *EPISODE VII* THE FORCE AWAKENS

If there's one thing that *Star Wars* has proven, it's that regardless of age, gender, race or social standing, the human fascination with speed endures. Decades after Anakin, Han, and Luke tested their need for speed, on Jakku, one young scavenger had manufactured a speeder of her own and was (unknowingly) about to embark on a life-altering adventure. Referring to her craft as a "junker," it basically comprised one massive engine block from a cargo-hauler attached to a racing swoop's afterburner. Rey assembled it by trading scrap with Jakku's reptilian Teedos, sifting through stacks of rusted parts at the Niima Outpost, and salvaging wrecks for the best tech at the nearby Starship Graveyard. She even fitted a tiny saddle to the top of the afterburner, which in addition to its acceleration boost, served as a great seat warmer on cold desert nights. Like Anakin's podracer, Rey's speeder had tremendous lift, owing to the repulsorlift generators she had salvaged from various downed T-65 X-wings. She often imagined herself piloting such a star-fighter while at the controls of her own speeder. Not one to enter competitions, nor a thrill-seeker, despite her natural piloting abilities Rey customized her speeder primarily for one purpose: carrying the scrap she needed to collect in order to survive on the harsh world of Jakku. As far as Rey was concerned, her hot rod was quite literally her lifeline.



04

SOLO'S SPEEDER

FIRST APPEARANCE: SOLO: A STAR WARS STORY

When Han Solo acquired an M-68 landspeeder during his formative years on Corellia, he did it the tried and tested scrumrat way—via hotwire. Unfortunately for the would-be pilot, neither he or his partner, Qi'ra, had time to acquaint themselves with the finer elements of the vehicle before they found themselves being pursued through the dockyards of Coronet City by Moloch, the White Worms' enforcer. Although the Grindalid proved to be a formidable foe, Han couldn't have been in a more perfect getaway vehicle. With its boxy body that emitted a strong repulsor field, a spoiler to cut down drag, and two exhaust nozzles for added thrust, the M-68 was, in its day, the hot rod of hot rods—outperforming many military-grade speeders in both the velocity and maneuverability stakes. Perhaps unsurprisingly it became a favorite for street racers throughout the galaxy, with few speeders able to match its power.

REPULSORS AND REALITY

Repulsorlift technology in the *Star Wars* universe appears to be based on the concept of antigravity, which would theoretically liberate an object from the constraints of gravity. This might be as simple as opposing and reversing the gravitational field (using, for example, magnetic repulsion), lifting an object like a landspeeder off the ground, or creating a new force of its own through antimatter. While advances in physics have occurred since the first *Star Wars* film debuted in 1977, antigravity remains for the moment a dream of science-fiction writers and filmmakers.

Nevertheless, craft that employ differences in air pressure to hover off the ground have been in existence since the early 20th Century. These craft possess blowers that create a pocket of air underneath that has a higher atmospheric pressure than the surrounding air and lifts the craft above a surface. Although theoretical research dates back to as early as the 1700s, it wasn't until 1915 that the Austrian engineer, inventor, and naval officer Dagobert Müller von Thomamühl, designed and built the first torpedo hovercraft for use in sea combat. Powered by two underwater propellers and five aero engines, the Luftkissengleitboot partially flew above the water on a cushion of air trapped below the front of the craft. However, von Thomamühl's visionary invention was never deployed during the Great War, and it wasn't until the 1960s that true innovation and commercialization in the field occurred—eventually leading to the development of hover vehicles for both practical and recreational use.

THE M-68 WAS, IN ITS DAY, THE HOT ROD OF HOT RODS.

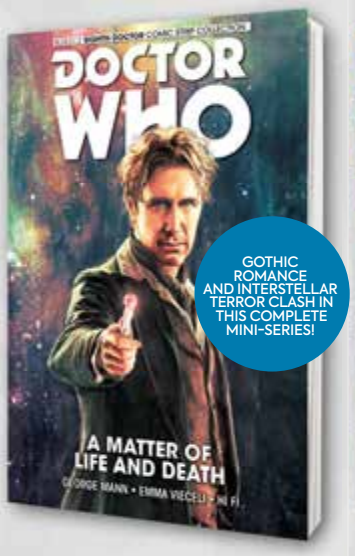
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TITAN COMICS

STAR WARS INSIDER

JEDI MASTER'S QUIZ

From Ord Mantell to Bespin and beyond, if you've got a price on your head there's no hiding from a certain kind of scum. How well do you know your bounty hunters?

Compiled by Tom Miller.

"MY KIND OF SCUM!"

Test your knowledge of the *Star Wars* galaxy's meanest mercenaries.

REPUBLIC ROGUES

1. Which of the following deadly tests was not faced by Cad Bane in "The Box"?
A / A dioxis gas chamber
B / A room full of lazer spikes
C / A ray shield trap
D / A nest of acklays

2. Where was Jango Fett recruited by Darth Tyranus?
A / A Coruscant bar
B / Takodana
C / A moon of Bogden
D / LinkedIn

3. Rako Hardeen was hired to kill which respected Republic figure?
A / Chancellor Valorum
B / Obi-Wan Kenobi
C / Bail Organa
D / Jar Jar Binks



4. What poisonous creatures did Zam Wessel try to kill Senator Amidala with?
A / Zillo Beasts
B / Kouhans
C / Womp rats
D / Klatooine paddy frogs

5. Which former Jedi Padawan-turned-dark-side-warrior also worked as a bounty hunter?
A / Barris Offee
B / Dooku
C / Plo Kloon
D / Asajj Ventris

THE INFAMOUS FETTS



6. Who was the bounty hunter that mentored Boba Fett?
A / Cad Bane
B / Aurra Sing
C / Greedo
D / Rako Hardeen

7. Which Gand findsman did 4-LOM often partner with?
A / Zuckuss
B / IG-88
C / Coltsee Vers
D / Amanaman



8. Name the 1978 television show in which Boba Fett made his first on-screen appearance?
A / *The Star Wars Holiday Special*
B / *The Donnie and Marie Show*
C / *Happy Days*
D / *The Six Million Dollar Man*

9. Which actor provided the original voice of Boba Fett in *Star Wars: The Empire Strikes Back*?
A / Temuera Morrison
B / Michael Sheard
C / Jason Wingreen
D / Dave Prowse

10. Jango Fett's ship, *Slave I*, was a modified version of which spacecraft?
A / *Firespray*-class patrol and attack craft
B / Industrial Light hauler
C / A *Crossfield*-class hopper
D / A Rodis-Jamero bomber

BOUNTY HUNTED

11. What was the bounty Jabba the Hutt placed on Han Solo's head?
A / 410,300 credits
B / 1,000,000 credits
C / 224,190 credits
D / 666,666 credits

12. What were the last words of hapless bounty hunter, Greedo?
A / "Yes, I bet you have."
B / "I'm lucky I found you first."
C / "I've been looking forward to this for a long time."
D / "Tell that to Jabba."

13. Which actor voiced Dengar in *The Clone Wars*?
A / Harrison Ford
B / Simon Pegg
C / Domhnall Gleeson
D / Greg Grunberg

14. Name the ship that Bossk used to pursue his bounties?
A / *Dog's Dinner*
B / *Wolf's Blood*
C / *Hound's Tooth*
D / *Cat's Cradle*

15. Who suggested to Princess Leia that she should steal Boushh's armor?
A / Sabine Wren
B / Chewbacca
C / R2-D2
D / Maz Kanata



TERMS AND CONDITIONS APPLY

Name which characters said the following:

1. **"BOUNTY HUNTERS! WE DON'T NEED THEIR SCUM."**

2. **"I'M JUST A SIMPLE MAN, TRYING TO MAKE MY WAY IN THE UNIVERSE."**

3. **"HE'S NO GOOD TO ME DEAD."**

4. **"I'LL TAKE ON ANY JOB... FOR THE RIGHT PRICE."**

5. **"Going somewhere, Solo?"**

HUNT THE HUNTERS

Identify the four bounty hunters pictured:

1.



2.



3.



4.



QUIZ: 1 D, 2 C, 3 B, 4 B, 5 D, 6 B, 7 A, 8 A, 9 C, 10 A, 11 C, 12 C, 13 B, 14 C, 15 D

TERMS AND CONDITIONS APPLY: 1 Admiral Piett, 2 Jango Fett, 3 Boba Fett, 4 Cad Bane, 5 Greedo.

HUNT THE HUNTERS: 1 Zam Wesell, 2 Aurra Sing, 3 4-LOM, 4 Dengar

BOUNTY EARNED, OR SHOULD THERE BE A PRICE ON YOUR HEAD?

0-9 You're even greener than Greedo.

10-19 Stick to hunting for that rare Boba Fett action figure.

20-24 Name your bounty—you're hired!



DROID RIGHTS!

In *Solo: A Star Wars Story*, breakout character L3-37 made us question our understanding of droid-kind and their place in the *Star Wars* galaxy. *Insider* examines the ideas of sentience and equal rights that the plucky droid championed.

WORDS: TRICIA BARR



Ubiquitous in their presence across the *Star Wars* eras for millennia, droids are such a common sight that they go about their business unnoticed, on worlds far and wide. These complex and varied utility devices, designed only to better the lives of those they serve, can be upgraded or replaced at will, and cast aside when their circuits are worn through. Taken from the perspective of mythic archetypes, when a droid 'dies' does it really matter at all?

01



When discussing his storytelling perspective on writing the original *Star Wars* movie, George Lucas has often cited one particular inspiration he drew from Akira Kurosawa's samurai classic, *The Hidden Fortress* (1958): a film told through the eyes of a pair of peasants who were "the two lowest characters" in the tale. From Lucas' perspective, that is what R2-D2 and C-3PO originally represented. In terms of myth, their fates are the least important—far removed from the epic stakes fueling the journeys of Leia Organa, Luke Skywalker, and Han Solo. Droids are the lowest of the low—metal, plastic, and programming pieced together to work tirelessly until they are obsolete or damaged beyond repair. Or at least, that's how many within that fictional universe see them.

02



All six of Lucas' *Star Wars* films rely on R2-D2 and C-3PO as their central droid characters. Though in some ways they could not be more opposite, each contains important notions about servitude and sentience for droids in a galaxy far, far away.

L3-37 forces us to do a double-take on that viewpoint. The "self-made" droid is an independent being, with her own forthright opinions and beliefs; she is Lando Calrissian's partner in crime, his friend not a glorified ratchet—and she certainly doesn't see herself as his property. We shed a tear along with Lando when L3 meets her unfortunate demise, her parts scattered across the deck of the *Millennium Falcon*. As the light flickers out of her photoreceptors, she dies, and that death means something to us.

The fact is that these droid characters *do* matter; we care about them—and their fates. Is that simply because the droids feature in so many cherished fan memories, like R2's determination to deliver Leia's message to Obi-Wan Kenobi or C-3PO's comically timed interruption of Han and Leia's first kiss on the *Millennium Falcon?* Or is it because we have come to see the droids as fully realized characters who have wants and needs, just like their human counterparts? R2-D2's determination to support his friends at any cost to his personal safety is made clear on numerous occasions, while in C-3PO we recognize other attributes, such as his strong desire to continue serving his master as best he

can and, perhaps more selfishly but understandably, to survive another day without being blown to bits. They act with free will, with forethought, and with full understanding of the impact of their actions. That's actually better than many humans manage.

No Loose Wire Jokes

Following in the footsteps of *A New Hope*, all six of Lucas' *Star Wars* films rely on R2 and C-3PO as their central droid characters. Though in some ways they could not be more opposite, each embodies important notions about servitude and sentience for droids in a galaxy far, far away.

C-3PO's origins allude back to HAL-9000 in Stanley Kubrick's 1968 masterpiece, *2001: A Space Odyssey* (see sidebar on page 72). In the original trilogy, his role as a protocol droid—a kind of interpreter and butler for a diplomat-turned-insurgent princess—leads to his eagerness to assist his human compatriots, whilst trying to avoid even the hint of mortal peril. Constructed from spare parts by Anakin Skywalker to make his mother's life easier, C-3PO goes on to serve Shmi and the Lars family for a decade until the young Jedi's fateful return to Tatooine, whereupon he assumes his familiar protocol droid functions for Leia's mother, Padmé. Throughout the Skywalker saga the movies play C-3PO's intended purpose for laughs. After all, when exactly has he ever made things easier for anyone other than the audience (for whom he delivers light relief from the unfolding drama)?

R2-D2, on the other hand, displays far more creativity and rebelliousness. For much of the original trilogy he plays the role of a trickster god for Luke, from deceiving the young farmboy into removing his restraining bolt to escaping into the Tatooine desert; from his antics on Dagobah to his covert operation to infiltrate Jabba's palace with a concealed lightsaber. But he can also be the god of luck, making a fortuitously timed repair to the *Millennium Falcon* or slicing into an Imperial dataport to slam closed a blast door in the nick of time. In the prequel trilogy he plays much the same role for Anakin and Padmé—and in fact their adventure would never have begun if the brave astromech had not performed a critical repair to Queen Amidala's Royal starship during its escape through the blockade above Naboo. It wasn't until *Star Wars: Revenge of the Sith* (2005) that a long-suspected notion was confirmed: R2 possesses an elevated status among droids for not having had his memory wiped across the decades. Like HAL in *2001*, he knows more than the humans he serves.

In addition to portraying R2-D2 and C-3PO with personalities reminiscent of human characters, Lucas' films also introduced the idea of free will among droids. From the Jawa sandcrawler to the Lars homestead, the existence of restraining bolts implies that a droid can—if they wish—choose to do things they would *prefer* to do ▸

03



01 More than just a co-pilot, L3-37 is Lando's friend. (Opposite page)

02 L3-37 instigates a droid uprising on Kessel. (Opposite page)

03 R2-D2 is determined to complete his mission, even when captured by Jawas.



UNDERSTANDING SENTIENCE

The Merriam-Webster dictionary defines the word "sentient" in three ways: Firstly as, "responsive to or conscious of sense impressions;" secondly as, "aware;" and finally as, "finely sensitive in perception or feeling." Though there are many deeper philosophical nuances, this basic definition explains the core components of the concept. As human beings, we can understand such concepts of awareness, of our situation and surroundings. The droids of *Star Wars*, from tiny MSE-6 units to battle droids and countless protocol droids, comprehend them too, and we see this from their actions and reactions to various stimuli in scenes from every movie. While L3-37 is occasionally portrayed as oblivious (perhaps deliberately so) to the sideways glances and general incredulity of her human associates, she clearly possesses such understanding.

The question is, has such awareness merely been programmed into them, or have millennia of technological and manufacturing improvements resulted in droid processors as complex—and as capable of sentience—as biological brains?

The idea of what is and isn't sentient has changed significantly in the last half century. The generation of school kids that witnessed *A New Hope*'s initial big-screen success may remember being told that an animal is not sentient. However, in the years since then, many scientific discoveries have proven that dogs have simple but identifiable emotions and dolphins can hold a conversation. Science hasn't yet proven animals capable of complex emotions, although the sheer number of internet memes of guilty-looking dogs (guilt is a complex emotion) suggests that scientists might want to keep studying.

ANTHROPOMORPHIC AUTOMATONS

Anthropomorphic stories have attributed human traits to animals and gods for as long as there has been recorded myth. That a supernatural power who created mankind might look like a human stems from the tendency to relate to higher concepts through ideas we already understand—or, as a droid might put it, to reverse engineer a solution to a puzzle. Not all cultures imagined their creators or deities as humans, however. For the Incan gods, they were their sources of life: the sun, moon, earth, and sea; various Native American groups and ancient Egyptians worshipped divine forces in animal form; and African fables often had trickster gods appear in the shape of animals as well. Popular tales in the late 1800s and early 1900s, including *Alice in Wonderland*, *The Jungle Book*, *Winnie-the-Pooh*, and *The Chronicles of Narnia* seeded in the minds of children the idea that animals had distinct lives and even understood complex concepts like betrayal and salvation. Not remarkably, these classic childhood stories went on to become famous films.

It is little surprise, then, that the rise of science fiction brought with it the idea that anthropomorphic characteristics would exist in machines and technological devices, especially sophisticated ones. The seminal *2001: A Space Odyssey* (1968) portrays an artificial intelligence on the spacecraft *Discovery One* as malicious. HAL-9000, called "Hal" by his crew, is believed to be foolproof, but he faces an existential crisis when his programming requires him to lie to his shipmates about their true mission. Film critic Roger Ebert wrote that HAL, "behaves in the most human fashion of all of the characters." In *Terminator 2: Judgment Day* (1991), Industrial Light & Magic famously rendered a robot comprised of malleable silver metal capable of taking on human form and exercising human-like ingenuity in fulfilling its mission: to hunt down and kill humans. Fortunately, mechanical sentience can be charming, too. Pixar Animation Studio, originally a graphics group of Lucasfilm's computer division, provided proof of concept for computer-generated animation by bringing to life a desk lamp, now part of its iconic studio logo. Since then the studio has portrayed cars, planes, and childhood toys as sentient beings in a catalog of animated full-length features. *WALL-E* (2008) follows the adventures of the titular character, left on a trash-ridden Earth and continuing to work after gaining sentience that has allowed him to self-repair. He crosses paths with EVE, a robot designed to search for signs of life, and a romance ensues against the backdrop of the fate of the human race.



04

over their intended assignments. If a droid is programmed only to follow his master's bidding and cannot do otherwise, then what is there to restrain him/her (aside, perhaps, from technical malfunctions)?

When L3-37 ignites an impromptu droid uprising on Kessel, we witness the freedom and joy experienced by droids the instant their restraining bolts are removed. What's more, those droids immediately set about freeing all the other slaves trapped in the mines, suggesting empathy for their fellow prisoners that can only be a result of sentience.

Enemies and Allies

As we've noted, not only do the mechanized characters display intelligent responses to stimuli and self-awareness of their existence (and "mortality"), but also complex emotions and interpersonal empathy, just as humans do. The portrayal of droids in *Star Wars* stories has expanded far beyond the iconic duo from the original film, bringing with it the increasing notion that they are sentient beings on a par with humans and aliens.

Examples of this pepper the films. The B1 battle droids of the prequel trilogy are controlled from a central computer and display only primal emotions such as fear. Mister Bones in the *Aftermath* trilogy of novels or R0-GR in *The Freemaker Adventures* animated series (2016-2017) imply that even seemingly simple mechs are only a few sophisticated processor upgrades away from memorable personalities. In *Star Wars: The Clone Wars* (2008-2015), the super-tactical droid known as Kalani is far more competent than the Separatist

In addition to portraying R2 and C-3PO with personalities reminiscent of human characters, Lucas' films also introduced the idea of free will among droids.







05



06 07

04 BB-8 exhibits a determined streak when his friends are in need of help. (Opposite page)

05 On Scarif, K-2SO is willing to sacrifice himself in aid of the rebel cause.

06 Restraining bolts crush the free will of droid slaves in the mines of Kessel.

07 K-2SO is not short on self-awareness or sassy comebacks.

humans he nominally serves on Onderon, ultimately killing King Rash when he is no longer of use to the Confederacy. More than a decade later on Agamar and no longer bound by allegiance to the long-defeated Separatist cause, Kalani initially deploys his battle droids against Ezra Bridger and Captain Rex (*Star Wars Rebels*, "The Last Battle"), but then agrees to ally with them after he determines that the Empire is the greater threat to his autonomously chosen objectives. The family droid of the *Ghost* crew, Chopper, acts as though he only begrudgingly participates in the activities of his organic crewmates, but by the series finale we know better, having seen him scheme, mourn, and celebrate right along with them.

In the sequel trilogy, BB-8 emotes like an actor, increasing the anthropomorphic quality of his actions. On Jakku he might well be calculating that his chances of successfully delivering the much sought-after map are greater with Rey's help than on his own, but on Takodana he chooses to leave Han Solo and Maz Kanata—two people even more likely to help complete his mission—to accompany Rey down into the bowels of the castle and then into the woods beyond. This determined streak continues in *Star Wars: The Last Jedi* (2017), where we witness BB-8 attack Canto Bight police, help DJ steal a starship, and gleefully blast stormtroopers from an AT-ST. (Deleted scenes reveal that BB-8 stows away—or in other words, tags along on the mission of his own free will.)

Then there's K-2SO of *Rogue One: A Star Wars Story* (2016), the Imperial security droid reprogrammed by Cassian Andor to serve the Rebel Alliance. K2 certainly has no shortage of self-awareness or indignation, and one could be forgiven for wondering whether his loyalty to Cassian is a result of his programming or rather by choice. In the end, however, his final act cannot be contested: K2 willingly gives his life to ensure that Cassian and Jyn Erso are successful in stealing the Death Star plans.

She's Got It Where It Counts, and Then Some

In *Star Wars: The Empire Strikes Back* (1980), C-3PO bemoans what he calls the "peculiar dialect" of the ship when asked to communicate with it to help fix the stricken vessel. Thanks to *Solo: A Star Wars Story*, we now have some insight into what the *Millennium Falcon* has to say for herself, as we've spent a decent amount of time in the company of one of the ship's most single-minded components—the prickly L3-37 herself.

Even more than K-2SO, L3-37 has autonomy in ▸

08 L3-37 revels in her victory, moments before she is shot down.

09 The fighting droids of Fort Ypso.



08



09

her deeds and motivations as well as her dialogue. She sticks up not only for herself, but also for the fighting droids at Fort Ypso and the mining crew at Kessel, and exults in the liberation accomplished by the droid who goes on to free all the organic slaves bound to servitude in the Pyke Syndicate's mines—surely the fact that so many droids of all types have self-awareness and emotions lends credence to her belief that they deserve rights as well?

Moments after this powerful expression of self-purpose occurs, L3-37 is mortally wounded. Her dying words are personal, shared with Lando alone, and it's clear that they share an emotional as well as a professional bond. But for a droid, "death" isn't necessarily as terminal an end as it is for organic life. Soon after, Lando and Qi'ra upload the droid's central processor into the *Falcon*, in a desperate attempt to survive the Akkadese Maelstrom. If you subscribe to the theory that at its heart, *Solo* is a story about individuals with varying degrees of selfish intentions (sometimes in alignment and sometimes not), then it seems no coincidence that L3's processor saves the lives of everyone on board the *Falcon* during this daring escape. Whether what remained of L3-37 was saving herself or Lando is up for debate, but the droid's single-minded determination lived on.



With a part of L3's mind at the heart of the *Falcon*, a whole new light is lent to many events taking place years later: surviving the asteroid field beyond Hoth; escaping the explosion of the second Death Star at Endor; the frantic escape through the Starship Graveyard of Jakku; and navigating the narrow caverns of crimson crystal on Crait. While the Jedi may speak of the will of the Force, perhaps these incidents, in their own way, are the will of the *Falcon*—and the self-determination of its droid brain with a mind of its own.

Even more than K-2SO, L3-37 has autonomy in her deeds and motivations as well as her dialogue.

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Collectors of all five Kotobukiya ARTFX+ Bounty Hunters will be rewarded with all the parts required to build this exclusive Boba Fett figure.

STATUESQUE

Bounty Hunting with Kotobukiya

From humble beginnings in 1947 as a single toy store selling dolls, Kotobukiya has become one of the most respected manufacturers of high-end kits and statues based on familiar fantasy icons, including a stunning collection of *Star Wars* characters.

As the firm prepares to unleash its new line of 1/10 scale ARTFX+ Bounty Hunters on the galaxy, *Star Wars Insider* spoke to Kotobukiya's Global Content Division manager Masahiro Miyazaki about the company's upcoming releases.

WORDS: CHRISTOPHER COOPER

How inspirational has *Star Wars* been to your sculptors? Are *Star Wars* projects the ones your artists clamor to work on, and are they fans of the saga?

We have many *Star Wars* fans among our staff, and I think the quality of our products is proof of the passion our craftsmen have for the series. Since it's easy these days to create statues and kits directly from 3D data, the number of products made completely from scratch is decreasing. However, for the older films there isn't existing 3D data or even a great deal of reference material to work from, so I think it takes a lot of love to make these products.

What is Kotobukiya's history with *Star Wars*? What has been your most popular kit with fans, and is there a specific product that is a company favorite?

Kotobukiya has its roots as a toy retailer, but when we began working as a manufacturer we knew that the *Star Wars* license was one we had to have. As such a small company, in the early days we were really worried about being able to do the series justice. However, we were lucky that there are people at Lucasfilm who collect our statues, and they know how much detail we put into them, as well as the fact that there are concepts that only we can bring to the table.

We try to create product that is not only uniquely Japanese, but is also something that completely captures the spirit of a character. Often, we will present them in a pose or setting outside of what you've seen in the movies, but one that still looks entirely natural for them—as if you have caught this person at a different moment in their story that didn't happen to be captured on film.

Our Darth Vader ARTFX statue was the very first *Star Wars* product we did. Standing still, with his cape billowing out behind, he has this very Japanese, almost Akira Kurosawa, "stillness and motion" ▸



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aesthetic. For those reasons, and due to Vader's evergreen popularity as a character, that remains one of our favorites. I think it's safe to say that Vader's popularity is timeless and crosses generations.

What inspired the new Bounty Hunter series?

For a long time, the 1/7 scale ARTFX series—with its original dynamic poses and elaborate bases—was our main focus, but we wanted to create a series that would make it easier for collectors to display a large number of pieces together, and also draw customers back to specific scenes featuring favorite characters.

For the Bounty Hunter series we wanted to go back to basics. Previously, even the most obscure characters from the series would be made into figures, and valued by the fans as an important part of their collection, but we wanted to create a series that would pay homage to the collectors of the past while also representing the modern era by giving the sculpts an updated appearance. With this in mind, the bounty hunters seemed like the perfect choice to make into a series. And in a market where statues are increasingly sold individually, we wanted to create a series that would be fun to collect as a set while also showcasing the progress that our craftsmanship has made over the years.

In addition to scaling down the statues and simplifying the bases for the 1/10 scale ARTFX+ series, we switched to magnets for swapping out different elements like limbs and weapons, giving collectors more flexibility options for their displays while also maintaining the unique aspects of each character.

The ARTFX+ statues come fully painted. Can you explain how the color choices were made?

We proceed as carefully as possible with regards to coloring, paying close attention to our reference materials, and we watch the films over and over again. However, there are numerous details that remain unrecorded, even in the films and photographs. In those instances, and with a little help from Lucasfilm, we do our utmost to imagine what those unseen parts might have looked like. There are a lot of characters that have multiple costumes and appearances throughout the films, which makes painting one of the hardest elements to get right.

What do you imagine fans will particularly like about the Bounty Hunter series?

One thing I'd like to point out is the posing. It is based very closely on the famous scene from *The Empire Strikes Back* (1980), when the bounty hunters are gathered by Darth Vader. We worked hard to re-create each of them in the most natural way possible, while capturing the essence of the film. Working out the small details that weren't shown on-screen, such as IG-88's feet, really helped remind me of the attention to detail that we give to each character in the series. This is one of my favorite things about *Star Wars* statues, and I think it really encompasses the mindset of stripping things back and starting from scratch that this series builds from.

01 Former protocol droid 4-LOM.

02 Kotobukiya's first statue of Darth Vader.

Opposite page:
03 Painted and unpainted examples of the line-up.

04 Bossk bares his teeth at 1/10 scale.

05 Details like Dengar's scars are a big selling point of the new range.

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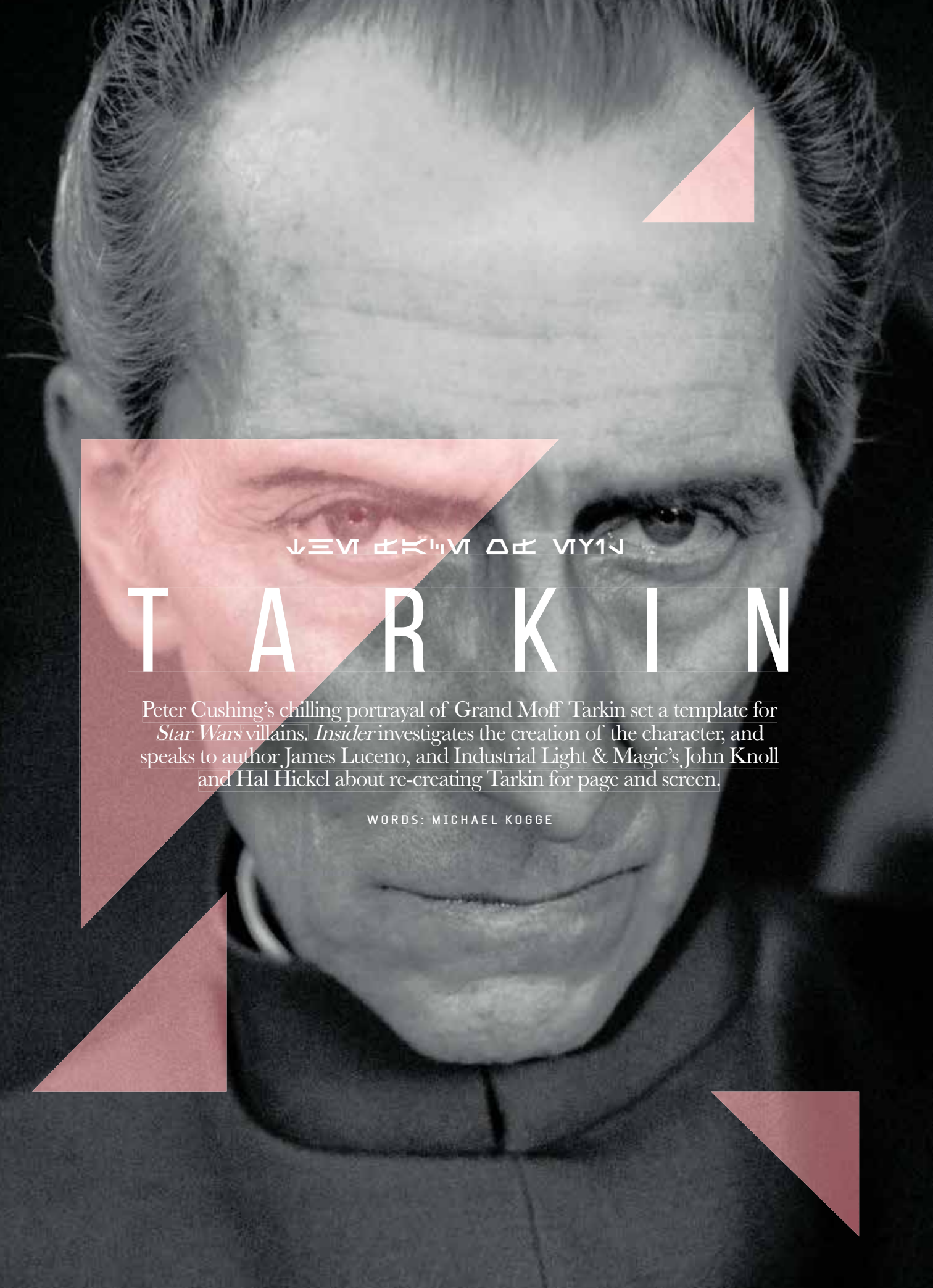


"We try to create product that is not only very uniquely Japanese, but is also something that completely captures the spirit of the character."

Are there any special features or standout design elements that fans should look out for?

In *The Empire Strikes Back*, the characters are only ever shown from one camera angle, but as statues they can obviously be viewed from every perspective, and therefore seen in a whole new light. Although these figures are at a smaller scale, we wanted to show off our craftsmanship as a Japanese manufacturer by re-creating the characters in as much detail as possible. I think the subtle details in the characters' faces and the wrinkles in their clothes are one of the biggest selling points of this series.

The bounty hunters require some assembly, so we've made sure to create them in such a way that they are easy for anyone of any ability to assemble. Finally, the bonus parts to make Boba Fett that are included with each statue will also make the series fun for our most dedicated collectors.



GRAND MOFF

TARKIN

Peter Cushing's chilling portrayal of Grand Moff Tarkin set a template for *Star Wars* villains. *Insider* investigates the creation of the character, and speaks to author James Luceno, and Industrial Light & Magic's John Knoll and Hal Hickel about re-creating Tarkin for page and screen.

WORDS: MICHAEL KOGGE

When developing *Star Wars*, writer-director George Lucas realized he would need more than one villain. The Darth Vader envisaged in the concept art of Ralph McQuarrie was a fierce presence, but his helmet and breath mask would conceal an actor's most essential tool for expressing emotion. There was a real possibility that audiences of the late 1970s might dismiss a performance that would be dictated by voice and gesture alone. Giving Vader an equal in evil, but without the armor and mask, could help ground the film in a more ordinary reality. Lucas recognized that he needed a villain with a human face.

In earlier drafts of his screenplay, Lucas had created a character named Tarkin; initially a radical priest bent on fighting General Skywalker and toppling the New Galactic Empire, and then as a commander of the Rebellion. Instead, Lucas turned Tarkin into the "governor of the Imperial outland regions," a cold and cunning commander who was as shrewd and heartless as Vader was blunt and vengeful. Bearing the title of "Grand Moff," Tarkin would be the only character who could issue orders to the dark lord—and have him comply.

The Face of Evil

All that Lucas needed now was to cast an actor who could hold his own next to Vader's towering form, and the director found everything that he was looking for in Peter Cushing, a British veteran of stage and screen, best known for his roles in popular horror pictures produced by Hammer Films from the 1950s to the 1970s. Although initially approached to play Obi-Wan Kenobi, when Lucas witnessed Cushing's gaunt physique, sunken eyes, and the severity of his features for himself, he was quickly convinced the actor would instead be perfect for Tarkin.

While Cushing later acquiesced that it would have been nice to play Kenobi, he was also genuinely flattered by the young director's desire to cast him. "When you're over 60," he told *Starlog* magazine in 1985, "you think you're on the shelf. Then, you get offered a movie like *Star Wars* and you realize it's because you've become established from all the work you've done."

With the role of Kenobi going to Alec Guinness, both Mark Hamill (Luke) and Dave Prowse (Vader) as hero and villain, had an established English actor by their side to support them. Thanks to their impressive back-catalog of work, Cushing and Guinness were also the most recognizable names attached to *Star Wars: A New Hope* (1977). While it might have initially seemed an odd choice for a Hollywood picture to rely on two esteemed British performers instead of bankable American stars, Lucas was soon rewarded for his casting choices, with the revered actors giving his space-fantasy film a gravitas and a seriousness it might have otherwise sorely missed.

GIVING VADER AN EQUAL IN EVIL, BUT WITHOUT THE ARMOR AND MASK, COULD HELP GROUND THE FILM IN A MORE ORDINARY REALITY. LUCAS RECOGNIZED THAT HE NEEDED A VILLAIN WITH A HUMAN FACE.

A Star is Born

Born on May 26, 1913 in Kenley, England, Peter Wilton Cushing had two passions in life: acting and his marriage. The first led him to the second, and the second would guide him back to the first when his career was floundering in later years.

Cushing was bitten by the acting bug early in life. As a boy, he loved films, particularly westerns, and idolized the American cowboy star, Tom Mix. The young would-be actor put on puppet shows for his family and friends and took part in many school productions, often as the lead. After finishing his education he spent three years in his father's line of work as a surveyor's assistant, but he loathed the job, wanting to train as an actor instead. His father was wary. He had family in the theater and feared his son would get lost among "the rascals." But Cushing was determined, and wrote countless letters to London's Guildhall School of Music and Drama begging for a scholarship until, eventually, they relented and offered him a place.

After his training, Cushing took odd jobs in theaters while acting in bit roles and playing supporting characters. In 1939, Cushing's father finally agreed to help finance his son's dream to be in the movies, and bought him a one-way ticket to America. Cushing arrived in Southern California with just £50 in his pocket, but thankfully it didn't take him long to find his way in front of the camera. He landed small parts in *The Man in the Iron Mask* (1939) and the Laurel and Hardy comedy *A Chump at Oxford* (1939), before director George Stevens cast him in a supporting role in *Vigil in the Night* (1940).

However, a homesick Cushing wanted to contribute to the war effort against Nazi Germany, so he returned to England. Despite his wishes, a childhood rugby injury prevented the young actor from enlisting in service, and so he joined the Entertainments National Service Association (ENSA), an organization formed to entertain British troops on the front line. Cushing soon found himself as the male lead in Noel Coward's *Private Lives*, cast ▸

opposite the gifted Russian actress, Helen Beck. The two fell in love and within a year, they were married.

When health issues forced Cushing to leave ENSA, finding steady work as an actor proved to be almost impossible and he eventually accepted a job for a silk manufacturer designing ladies' head scarves, in order to support himself and his new bride. Nearing his 40th birthday, the actor was depressed and discouraged by the fact that the career he dreamed of still proved so elusive. However, as was so often the case during Cushing's fallow periods, his wife Helen helped him carry on and look to other outlets, beyond the stage and cinema. This time, it was to the small screen and the burgeoning medium of live television.

Hammer Time

Cushing became a fixture on British television, appearing in numerous live plays and serials including adaptations of George Orwell's *1984* and Jane Austen's *Pride and Prejudice*. He won major acting awards for his performances but was still living from one paycheck to the next, and longed to work in film. Live broadcasts demanded a physical and emotional immediacy from an actor, while film allowed for a more considered, thought-out performance, which was preferable to Cushing.

In the mid-1950s, the actor read that the production company Hammer Films was preparing a cinematic version of Mary Shelley's classic Gothic novel *Frankenstein*. He had loved the novel as a boy and relayed through his agent that he'd be interested in playing the scientist, Victor Frankenstein. Hammer had previously tried (and failed) to woo Cushing to be in its earlier pictures, and quickly said yes, eager to have a billable name to give its new film some prestige.

The horror genre would never be the same again, following the release of *The Curse of Frankenstein* in 1957. Shot in vibrant color, the film emphasized blood, gore, and a gothic sensuality that pushed the cultural boundaries of decency at the time. Audiences around the world flocked to movie theaters to see what all the fuss was about, and *Curse* recouped its tiny budget of £65,000 many times over. The film became a box office juggernaut that launched what we would now term as a franchise for Hammer's "house of horror."

Cushing's next role was as the heroic Doctor Van Helsing in the Hammer version of *Dracula* (1958), and returned to his mad-scientist role in *The Revenge of Frankenstein* (1958). Over the next decade and a half, Cushing would appear in a further 18 Hammer productions, including a turn as Sherlock Holmes in *The Hound of the Baskervilles* in 1959. However, perhaps his best-known performances from that era are those with his Hammer co-star, Sir Christopher Lee. The six-foot-five Lee used his commanding height to portray Hammer's most iconic creatures, from the gangly, loping Frankenstein's monster to the great Count Dracula himself, but in real-life Lee was no villain—like Cushing, he was a polite English gentleman, and the two became close friends during their time performing on film together. Surely by no coincidence, Lee joined the *Star Wars* saga 25 years after Cushing, when Lucas cast him as Count Dooku in *Star Wars: Attack of the Clones* (2002).

> "THE DEPTH OF SUCH ROLES RESTS ON A COMBINATION OF ONE'S OWN IMAGINATION AND THE WAYS IN WHICH ONE LOOKS ON A PARTICULAR CHARACTER."
> PETER CUSHING

The Life You Have Been Given

On January 14, 1971, tragedy struck, delivering a devastating blow from which Cushing would never fully recover. Following hot on the heels of one of the most successful periods of his career, respiratory failure took the life of his beloved wife, Helen, leaving Cushing bereft. Helen had been Cushing's guiding force—running over his lines with him, boosting his confidence when he wasn't getting the parts he wanted, and accompanying him on location. "Without her, I would have been nothing," the actor later said.

Grief-stricken, Cushing even contemplated following his beloved wife, but in death, as in life, Helen had left a final word of counsel for her husband in a letter which told him to, "not be hasty to leave this world, because you will not go until you have lived the life you have been given." He buried his sorrows in his work, taking on role after role until the respectability of the parts and the films slowly declined, and Cushing was again on the verge of becoming a forgotten name. But then, six years after Helen's passing, he was offered a role that would prove to be the crowning achievement in his career. With his hair combed back, he donned the gray military uniform of the Galactic Empire, and turned himself into the ruthless overseer of the Death Star: Grand Moff Tarkin. And an entire galaxy trembled in fear.

The Role of a Lifetime

Tarkin strode onto the screen in *A New Hope* as a fully formed character, due in no small part to Cushing's choices as an actor. He depicted the Grand Moff as the ultimate technocrat, who had his hands on the levers of power and was not afraid of manipulating them for his own gain. Employing movements that were slow and deliberate—as if Tarkin considered and calculated every physical act for the most advantageous effect—perhaps the most chilling aspect

01 Actor Peter Cushing on the set of *A New Hope*.

02 Tarkin lent a human face to the evil Empire, in contrast to Vader's mask.

03 Tarkin's advisors analyze the chances of a rebel victory.

04 Peter Cushing as Grand Moff Tarkin.

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of the actor's performance was his sheer physical presence; he exuded a quiet malevolence that cast a shadow even over Darth Vader.

"The depth of such roles rests on a combination of one's own imagination and the ways in which one looks on a particular character," Cushing once said. "I stress the human element, the sadness, the loneliness of evil."

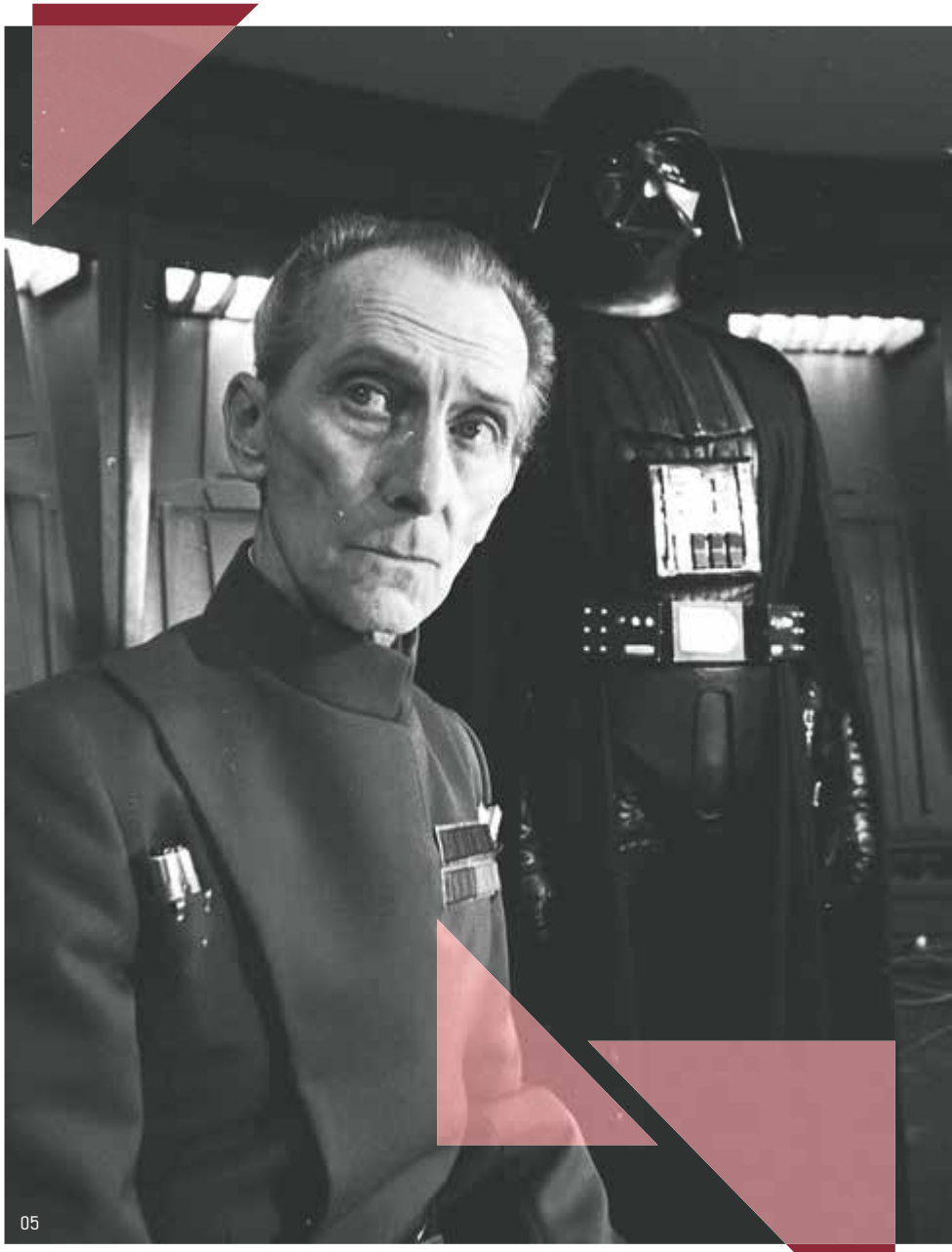
The venerable performer's appearance in *Star Wars* may have amounted to a mere four minutes, yet in those drama-filled moments Cushing dominated the screen. It is a testament to the power of—and lasting impression created by—his performance that even now, decades after the release of *A New Hope*, fans still hanker to learn more about his character. Who was this governor with the strange honorific? Where did Tarkin come from? And just how did he become the cruel and callous man seen aboard the Death Star?

Making of a Moff

Despite a brief glimpse of Tarkin during the final scenes of *Star Wars: Revenge of the Sith* (2005), and several subsequent appearances in *The Clone Wars* and *Rebels* animated series, we would only learn more about the Grand Moff's earlier life from the eponymously titled 2014 novel *Tarkin*, and *Catalyst*—a prequel to the movie *Rogue One: A Star Wars Story* (2016)—both written by author James Luceno.

"Peter Cushing was said not to have been a fan of science fiction, and yet he stepped into the ill-fitting boots of *A New Hope*'s Governor Tarkin with the same ease he did those of Victor Frankenstein, Doctor Van Helsing, and Sherlock Holmes," says Luceno, during a conversation with *Star Wars Insider*. He drew inspiration from Cushing's filmography to capture the character, and expand his background as a young man.

"I looked to those films when fleshing out Tarkin's character," he adds, "beginning with Cushing's earliest work in *The Man in the Iron Mask* through to his later roles in the Hammer horror productions.



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05 Cushing said of his roles, "I stress the human element, the sadness, the loneliness of evil."

06 Tarkin was voiced by Steven Stanton in both *The Clone Wars* and *Star Wars Rebels* animated TV series.

Once I'd found the cadence of Cushing's speech, Tarkin's words came more easily."

Luceno purposefully painted Tarkin's history as distinct from Cushing's. "Raised in affluence, Peter Cushing brought an upper-crust sensibility to many of his roles, including that of Governor Tarkin," he says. "It might have been natural to give Tarkin that same sort of background, but Lucasfilm's Pablo Hidalgo encouraged me to consider having Tarkin spring from a colonial background. Instead of benefitting from privilege, Tarkin had to use his wiles to reach the top."

In both *Tarkin* and *Catalyst*, Luceno revealed to readers the breadth of the Grand Moff's life, from his boyhood survival trials in the wilds of Eriadu to his rise to power in late adulthood, winning his position in the highest echelons of the Empire not through wizardly means, but by playing the military and political game better than anyone else. "Of every *Star Wars* villain, Tarkin—his inhumanity notwithstanding—is the most distinctly human of them all," the author explains. "In lieu of having the Force, Tarkin had willpower. More importantly, he was a true believer in the need for control from the top down; perhaps more so than Palpatine, and certainly more so than Vader and Dooku, each of whom were more besotted with the dark side of the Force than with the preservation of the Empire.

"Throughout his political and military careers, Tarkin was able to prosper by getting to know the lay of the land, as it were," Luceno adds.

> "OF EVERY *STAR WARS* VILLAIN, TARKIN—HIS INHUMANITY NOTWITHSTANDING—IS THE MOST DISTINCTLY HUMAN OF THEM ALL."
> JAMES LUCENO

GETTING THE BOOT

Cushing's giant feet (U.K. size 12) simply would not fit into the knee-length black military boots made for his character. To avoid grimacing with pain at every step, he wore soft-soled slippers in place of the boots and director George Lucas shot most angles of Tarkin from the waist-up.

"There I was, stomping around, shouting orders to cut peoples' heads off right and left, and I was really wearing carpet slippers," Cushing remarked to *Starlog* magazine. "The next time you watch *Star Wars*, notice how seldom you see my feet. And when you do, I hope you will realize the torture I was going through. That is why Moff Tarkin was so hostile all the time—his feet were killing him."



"During the Clone Wars he brought his keen powers of observation to bear on the Jedi Order, and then on Emperor Palpatine during the post-Clone War years when the Death Star was in its infancy; and in *Catalyst*, *Tarkin*, and *Rogue One*, on any would-be threats to the integrity of the Empire."

But Tarkin was not without flaws, according to Luceno. He was, after all, only human. "Tarkin's brilliance and attention to detail—much like Cushing's— was beyond dispute," the author says. "But he was undone by hubris. In *A New Hope* he admonishes Princess Leia for being too trusting, but in the end so was he; unable to conceive that the Death Star had been compromised by both Galen Erso's treachery and Director Krennic's incompetence."

A Moment of Triumph?

The final shot of Tarkin in *A New Hope* is one of the great images of both the film and Cushing's performance. A close-up of his profile set against the illuminated panels of the Death Star control room: his fingers curled, touching his thin, almost razor-like lips. His gaze is ruminative; dark eyes narrowed at some off-screen monitor. Most likely he's focused on the rebel base that is about to be destroyed, yet other interpretations come to mind. Perhaps Tarkin is contemplating his own stubborn blindness; how he so vastly underestimated his opponent. Perhaps he is wondering how lowly snubfighters could penetrate the Death Star's defenses and put the most powerful battle station in the universe at peril…? Or perhaps, in this brief instant, Tarkin is cognizant that he is about to die.

Cushing lamented his character's passing with the destruction of the Death Star as it precluded him from appearing in any sequels, and sadly any opportunity for him to reprise the character in a prequel wouldn't present itself during Cushing's lifetime. He died on August 11, 1994, at the age of 81. However, some 20 years later, Tarkin—and Cushing—would return.

Lucasfilm received permission from the Peter Cushing Estate to use the actor's likeness when it was decided to resurrect Tarkin as a villain in *Rogue One*. After months of intensive motion-capture and graphics work, the Grand Moff was born again, courtesy of three-dimensional computer-generated models of Peter Cushing and a compelling new portrayal by British actor, Guy Henry.

An appearance from beyond the grave may have even given Cushing cause to smile, being somewhat in keeping with his roles the Hammer horror films, but also because it fits his philosophy on mortality. "Everything dies—but what happens again next spring?" he asked interviewer Peter Williams, during an appearance on British TV series *The Human Factor* in 1990. The actor anwered his own question: "It all comes to life again."



DIGITAL DOUBLE

John Knoll, chief creative officer of Industrial Light & Magic, and animation supervisor Hal Hickel, reveal how ILM brought Tarkin back as a photoreal digital human character.

WORDS: MICHAEL KOGGE

***Star Wars Insider*: Was Tarkin always going to appear in *Rogue One*?**

John Knoll: He wasn't in my original pitch. Once director Gareth Edwards and writer Gary Whitta started reworking the story, I was asked how I would feel about Tarkin playing a non-trivial role in the film, and I was very excited by the idea. I encouraged them to do what's best for the story and we'd figure it out—and if that meant putting a digital re-creation of Peter Cushing front-and-center, then we would make that work.

They were particularly keen on adding some intrigue into the politics of the Empire, a power struggle between Krennic and Tarkin over the Death Star and who controlled it. The more they talked about it, the more they realized that it would be really hard to tell that story without Tarkin being there. He could have appeared as a hologram, but that wasn't their first choice, as they wanted Tarkin and Krennic to have direct confrontations.

Was there an option to recast Tarkin rather than go digital?

JK: Peter Cushing has such an unusual face that he isn't the kind of person you can simply recast with another actor. I think it would've been jarring to cast someone else and call him Tarkin.

What are the main obstacles in creating digital humans?

Hal Hickel: In all honestly, no project is much fun unless there's a challenge, but this one was pretty terrifying. In terms of animation and visual effects, Tarkin and Leia were going to be the hardest things we had to do on the movie, so we started on them early.

To begin with, digital humans are terrifically hard to do, even now. And when you're re-creating someone as well known as Peter Cushing it makes it a thousand times harder. Audiences are also aware that the actor is no longer living, so they are bound to be on the lookout for any mistakes or loose seams because they know that it can't be a real person. It's impossible to overcome that. We had previous experience with the Sunny Baudelaire character for Lemony Snicket, and we did a young Arnold Schwarzenegger for *Terminator Salvation* which really helped us.

How was Guy Henry cast as the motion-capture actor to help portray the digital Tarkin?

HH: They wanted somebody with the required acting abilities, but also somebody who just had the right kind of face. You can almost believe that Henry and Peter Cushing are from the same stock—they have the same high cheekbones and so forth, and I think he has the right bearing, the right tonality to his voice. We needed somebody who was a good actor who could do a voice that reminded you of Tarkin, and then we would have to do the rest in transforming them into this incredible character.

Can you describe the process of re-creating Tarkin?

JK: There was a conversation with the estate of Peter Cushing to get their blessing that it was okay to do this. Then we gathered all the

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01 Guy Henry in a mo-cap helmet-cam.

02 Henry on the *Rogue One* set with Ben Mendelsohn (Krennic).

03 Animators added subtle Cushing-like nuances to Guy Henry's performance.

04 The digital Tarkin is seamlessly placed into each shot.

references we could, and got hold of a life cast of Peter Cushing that had been done by Stuart Freeborn for a movie called *Top Secret* (1984), which was a really fortuitous find. We scanned that life cast as our starting point for making a CG model. It gave us the basic proportions, but you only get so far with a life cast before you run into problems: it doesn't have ears, it doesn't have a back, its eyes are closed, the weight of the alginate tends to distort the features a little bit. And this cast was from 1983, so it was seven years later than the age we were trying to reproduce.

HH: We had Guy Henry on set as Tarkin acting out the role, so that we could capture his performance in a unified way. There was no postproduction capture—it was all captured right there on set, in the moment. On his head he wore something that we call a helmet-cam, which has a couple of tiny cameras placed at about chin level focused on dots marked on his face, and they recorded his facial performance. We would track the movement of those dots into data and apply them to our digital Tarkin head.

We still had a fair amount of animation work to do on top of that because we didn't hire Henry to be a facial mimic of Tarkin—Guy Henry smiles the way Guy Henry smiles—so we spent time modifying the animation to give it more of a Tarkin-looking smile, while retaining the acting choices of Henry.



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How did you refine your digital version to match Cushing's original Tarkin?

JK: You go through an iterative process of making adjustments, then rendering the animation, comparing it to photographs and footage, then going back and making more tweaks. We had footage that we'd pulled from *A New Hope* of Peter Cushing, and had a picture-in-picture window of his most relevant performance for his attitude or expression at a given moment, so we had that to compare to when looking at lighting and compositing.

Were there any major bumps in the road?

JK: We did some lighting tests to match the on-set lighting, and discovered that how the character was lit had a very powerful effect on how much our digital character looked like Peter Cushing. So I then suggested that it might help us to light the scenes in a similar way to how Cushing was lit in *A New Hope*, but then it wouldn't have matched the rest of the movie.

The first scene where we put the CG Tarkin model in, we found that for some reason he looked a *bit* like Tarkin, but more like his brother or cousin. As an experiment we ignored the on-set lighting and lit him like one of the shots in *A New Hope*, and it improved the resemblance enormously.

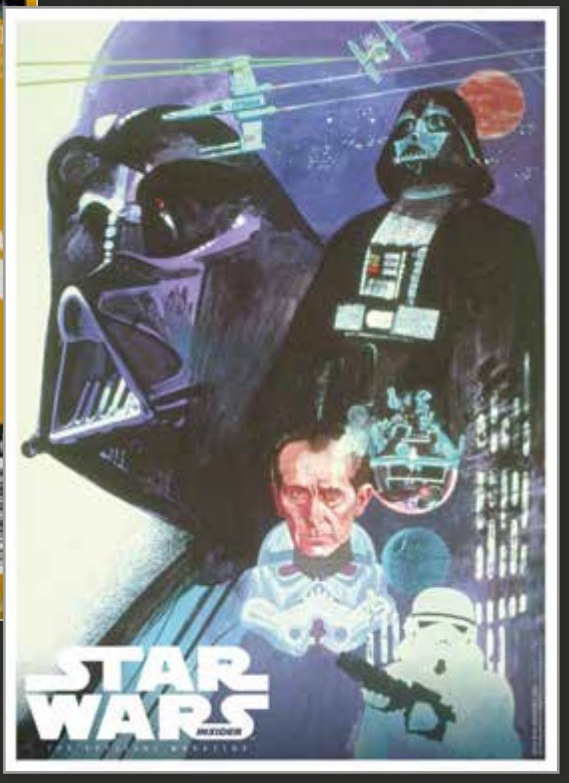
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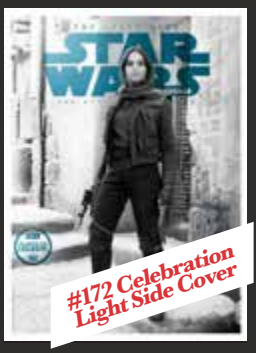
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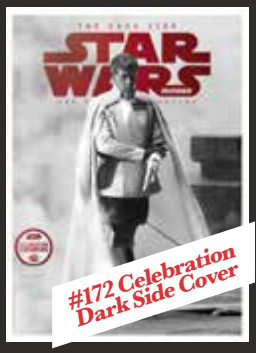
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RIVETED BY ROSE

Cosplay with a meaning

Chelsea Cheng's remarkable cosplay repertoire includes such *Star Wars* favorites as Rey and Princess Leia, but Kelly Marie Tran's introduction as Rose Tico in *Star Wars: The Last Jedi* (2017) sparked Cheng's imagination, prompting her to re-create the Resistance's toughest mechanic.

"When Rose's character was first announced, I knew I had to make her costume immediately," states Cheng, who has been cosplaying regularly since 2014. "She's the first leading Asian woman in *Star Wars*, and that was such a meaningful, emotional thing for me as an Asian American woman. To finally have that representation was key."

As a fan who grew up enjoying the original trilogy with her family, Chelsea's heartfelt reaction to Rose marked a special moment in her life. "It is very much a thing of my childhood, and with the release of the sequels, my love for *Star Wars* just reignited and became a new experience as an adult."

Cheng's connection to her inspiration increased after seeing Rose deal with her sister Paige's death and other challenges in *The Last Jedi*. "I love Rose for her fighting spirit and her earthliness. As a character, she's suffered this great loss, yet still she's committed to fighting for the cause that she believes in, no matter what."

Rather than simply dressing the part, Chelsea took time to examine Tico's mindset, making some astute observations pertaining to Rose's resolve. "She's willing to stand up for what she believes in, regardless of who you are. She idolized Finn, but the moment she sees him about to desert, she calls him out and then puts him in his place."



Photo by James Vallesteros

In addition to Rose's ethical fortitude, Chelsea also gravitated toward the technician's upbringing. "She's really normal. She has no special bloodline or rank; she's a maintenance worker, and I think that makes her relatable."

INSIDER NEEDS YOU!

We want to hear from you! Tell us about your *Star Wars* experience. What made you want to become a fan? What have you done in the name of *Star Wars*? Tell us your *Star Wars* story by sending your photos, art, and letters here:

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Photo by Nick Ruiz

Cheng's analysis runs parallel to *The Last Jedi's* central theme that one does not need a marquee family name to enact change in the galaxy. "I like the message that so-called ordinary people can make a big difference."

ARTISTS' ALLEY

Talented *Star Wars* fans share their amazing drawings inspired by the galaxy far, far away...



01. DARK LORD OF THE SELFIE

"I was very drawn to Darth Vader's story," says fan Michelle Lodge. Utilizing her creativity and Clip Studio, the North Carolina-based artist portrays the brighter side of the Sith. "I love drawing him in humorous situations—sort of a 'what he might be like on a vacation' kind of thing. I like to imagine what he might be like if he was a bit less scary."



02. UNLIKELY ALLIES

A *Star Wars* fanatic since he saw *A New Hope* as a five-year old, Jeff Keller utilizes pencil and ink to craft eye-popping portraits. To bring Casian Andor and Boba Fett to colorful life, the Ohio-based artist reveals that his artworks, drawn on 2.5 x 3.5-inch trading card stock, are "colored with Copic and Prismacolor markers, then finished with white-colored pencil and a white-gel pen for highlights."



BOUNTY HUNTERS

Scouring the galaxy for the stars of *Star Wars*...

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Joonas Suotamo, known for portraying Chewbacca in *The Force Awakens* (2015), *The Last Jedi* (2017) and *Solo: A Star Wars Story* (2018), impressed fan Bethy Ghoul at MegaCon Orlando in May 2018. Ghoul brought along her cherished "little Chewie" pillow, a keepsake that recently watched over her grandmother in hospice care.

"In every *Star Wars* film featuring Chewbacca, he is fearless, loyal, and such a protector," explains Ghoul. When asked what the item lying next to her grandmother was, Bethy summoned the strength to say, "That's Chewbacca, he's keeping her safe."

In Orlando, the real Chewbacca bonded with his stuffed counterpart. "Joonas seemed quite amused by this little furry square. And he was such a kind person," recalls Ghoul. "I so wish I could have told him about the true significance of my little Chewie."

01



Photo by Redriver Rose Photography

02



01 Bethy Ghoul and "little Chewie" meet Joonas Suotamo in Orlando.

02 Little Chewie watches over Bethy Ghoul's autographed keepsake, featuring Suotamo as Chewbacca, in the *Millennium Falcon*'s cockpit.



EMPIRE IN ESPAÑA

Trooping for patients and puppies

Esteban "Ebe" Sánchez, also known as TB-21055, serves as the executive officer for the 501st Legion's Spanish Garrison. With more than 600 members, the Spanish Garrison lives up to the costuming organization's mantra of "Bad Guys Doing Good," spreading cheer across the nation.

"Without a doubt, one of the things in my life that I am most satisfied with is having entered the 501st Legion," explains Sánchez. "It is the best way to combine my love for *Star Wars* and to be able to help those in need." From animal rescue leagues to hospitals, and from blood banks to public gatherings, the garrison is deployed wherever their joyful presence can help make a positive impact.



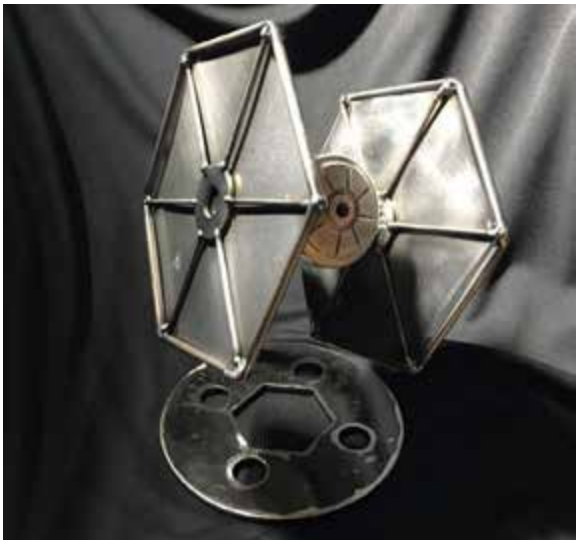
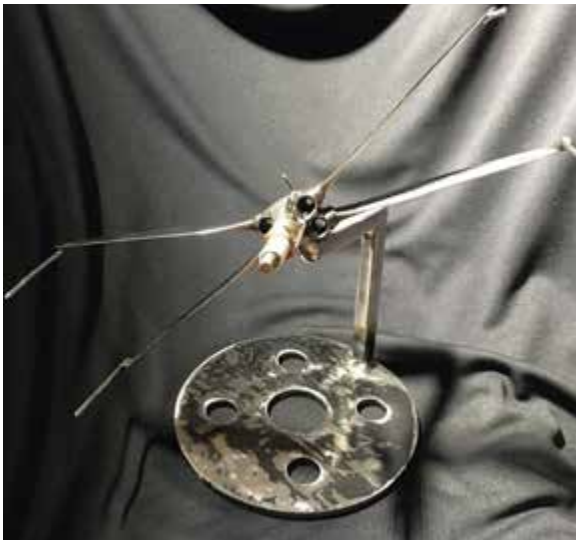
The armor aficionados have a packed schedule. "We have around 15 events planned throughout the national territory, including parades, hospital visits, and collaborations with various benefit associations," reveals Sánchez. Those trips are well underway, as evidenced by photos the garrison's XO shared from two recent outings.

Member TI-15890 docked their TIE fighter in Madrid at an animal protection adoption fair, where the Imperials inspected a local canine for rebellious tendencies.

Meanwhile, a brave patient introduced member TK-17185 to an alien game called "foosball," at a new playground at the La Fe hospital in Valencia. While the competition bore no resemblance to sabacc, the unfamiliar activity offered its own tactical challenges. First Order stormtrooper TK-17185 even risked a reprimand from Captain Phasma to learn the skills necessary to defeat an opponent.

The Rebellion and Resistance often stake sole claim over selfless gallantry, but the Spanish Garrison proudly carries the 501st Legion's philanthropic legacy forward. As Sánchez succinctly notes, "We enjoy our *Star Wars* suits, and making time to help the needy."



THE METAL MAKER

Recycling scraps into *Star Wars* sculptures

For fan Julian Soliz, expressing his interest in *Star Wars* through metal artwork proves to be as therapeutic as a swim in a bacta tank. Constructed mostly from recycled steel, Soliz's expanding fleet of vehicles showcases familiar Imperial and rebel designs with a unique artistic flair.

This journey of discovery was not initiated by a wise Jedi master, but rather by... Bib Fortuna! When Soliz's older brother, Jeff, showed him an action figure of Jabba's top henchman, the strange alien reeled Julian into the *Star Wars* galaxy.

Prior to his passing, Julian's late father praised the hobby. Soliz recalls: "I have always been artistic, and my dad strongly encouraged me to push hard with my metal art—to use my talent as an outlet. He was very practical, and of course always wanted the best for me. With that being said, it really meant a lot to me when he encouraged me to pursue art."

As a result, Soliz scavenged around to locate material for his projects, which include a TIE fighter, X-wing, AT-ST, and a speeder bike. "Everything I use in my art is 99-percent steel," explains Julian. "It comes from various places—scrap bicycle parts, old motors, junkyard parts. But if something specific is needed, I'll buy it."

Each metallic marvel has a built-in base, with the TIE fighter and X-wing poised for head-to-head space combat. The AT-ST stands on alert, prepared for any renegade rebel attacks, while the speeder bike awaits a rider, whether that's a daring scout trooper or a curious Ewok.

Soliz finds solace and humility in his wonderful sculptures. "Art is a way for me to calm my mind; it is my therapy. It brings me so much joy when someone notices the detail, the amount of effort, and the passion behind my work."



STAR WALLS!

The phantom murals

Fear not: there are no trash compactors in sight! This tale of *Star Wars* walls centers on fans who have chosen to adorn their homes with stunning imagery from across the saga.

The only thing Sarah Wherry's family loves more than *Star Wars* is one another. So when her son, Matthew, asked if he could have a special mural on his wall, Sarah grabbed her acrylic paint and jumped into action at lightspeed. "I painted a very loose abstract background straight onto his bedroom wall. Then I drew the detail over the top and filled it in, as you can see in the pictures," the Australian artist told us.

Sarah portrayed the sands of Tatooine, the tundra of Hoth, and the forest moon of Endor in a single, sweeping vista (pictured above). Additional elements, ranging from an Imperial AT-AT walker to the second Death Star, make this mural a perfect tribute to the original trilogy. "He is insanely happy with it," beams Sarah.

Fellow fan Jay James brought order to his corner of the galaxy with an astounding wraparound mural influenced by his fascination with the Empire and the First Order. "As a kid, for me it was all about the Imperial costumes and ships—they were a lot cooler looking," says Jay. Originally from Wales, the Texas-based artist recalled his fondness for the Empire when decorating his home. "Originally I had started a different artwork on there, and then I randomly painted the Royal Guard, and that was it—the whole room had to be dark side-themed."

In just three days, James applied simple, household paint with 1-inch and 2-inch brushes to decorate his walls with evil visages ranging from a Praetorian Guard and Captain Phasma to Kylo Ren and Darth Vader. His Imperial efficiency would surely have impressed Emperor Palpatine!

Our next family posted a bounty on Boba Fett with... Post-it Notes! Siblings Lukas, Max, and Elena adore *Star Wars*, like their mother, Julie, and father, Paul, before them. "Max took a liking to Boba Fett early on, and even went through a phase during which he'd wear his Boba Fett mask out in public," recalls Julie. "I began collecting many colors of Post-its with the idea that I would make a mural at some point. I never did. But on a sick day home from school, Max got inspired."

With a style reminiscent of 8-bit video game characters, Max expressed his connection to the legendary bounty hunter through a design comprised of his mom's Post-its. "He took most of the day, square by square, starting with the scout trooper and then moving on to the more ambitious Boba Fett piece," recalls Julie. The intricate interpretation of Fett would make any Sarlacc salivate.







01

02



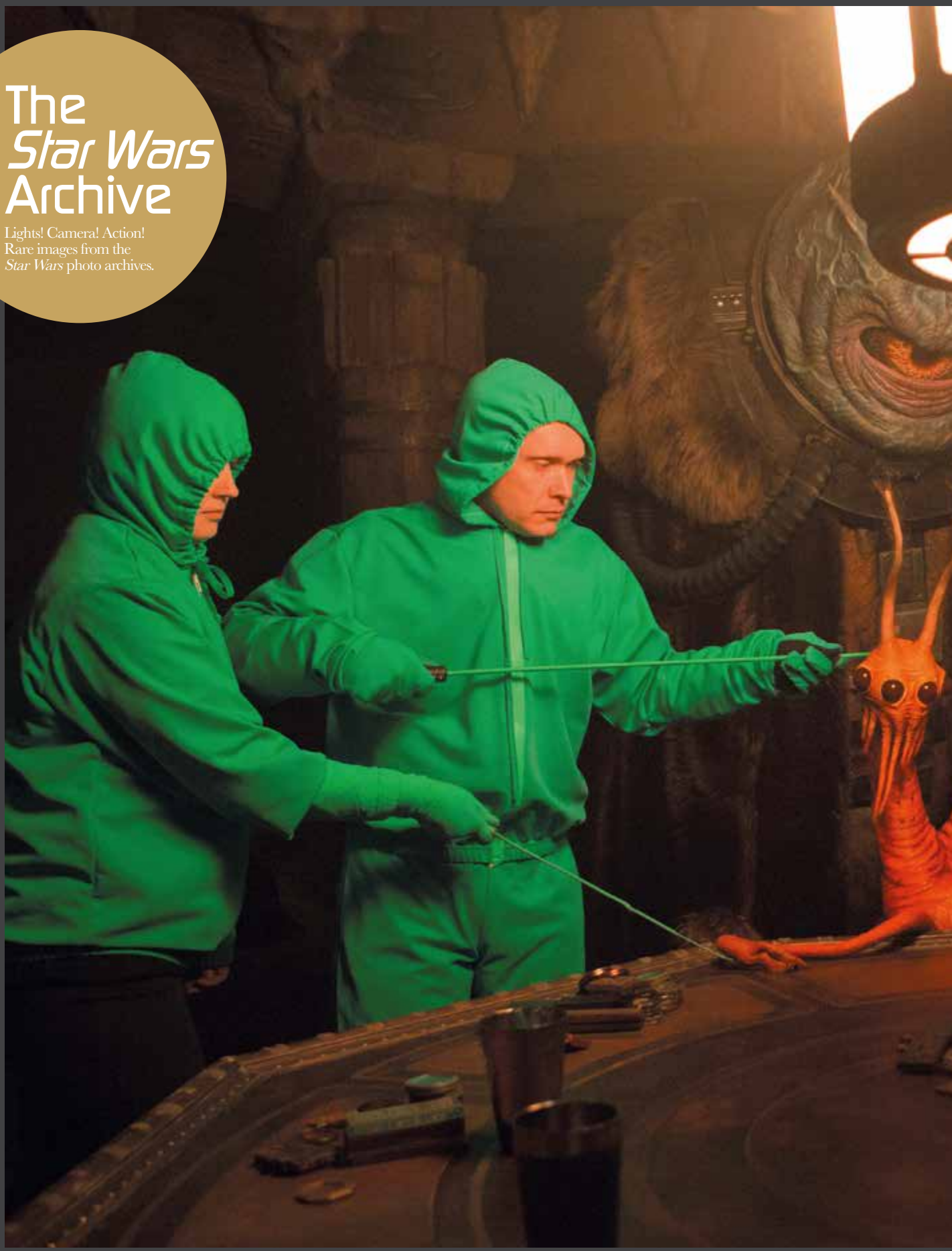


01 Jay James' striking mural (above) was inspired by the Empire, the First Order, and their nefarious allies.

02 Young fan Max's Post-it Note rendition of Boba Fett (left) would surely fetch a high bounty on the art market.

The *Star Wars* Archive

Lights! Camera! Action! Rare images from the *Star Wars* photo archives.





Puppeteers operate 'Lark and Jonk' as the *Solo: A Star Wars Story* 2nd unit crew shoot an element for the Fort Ypso sabaac game.
Photo: John Wilson

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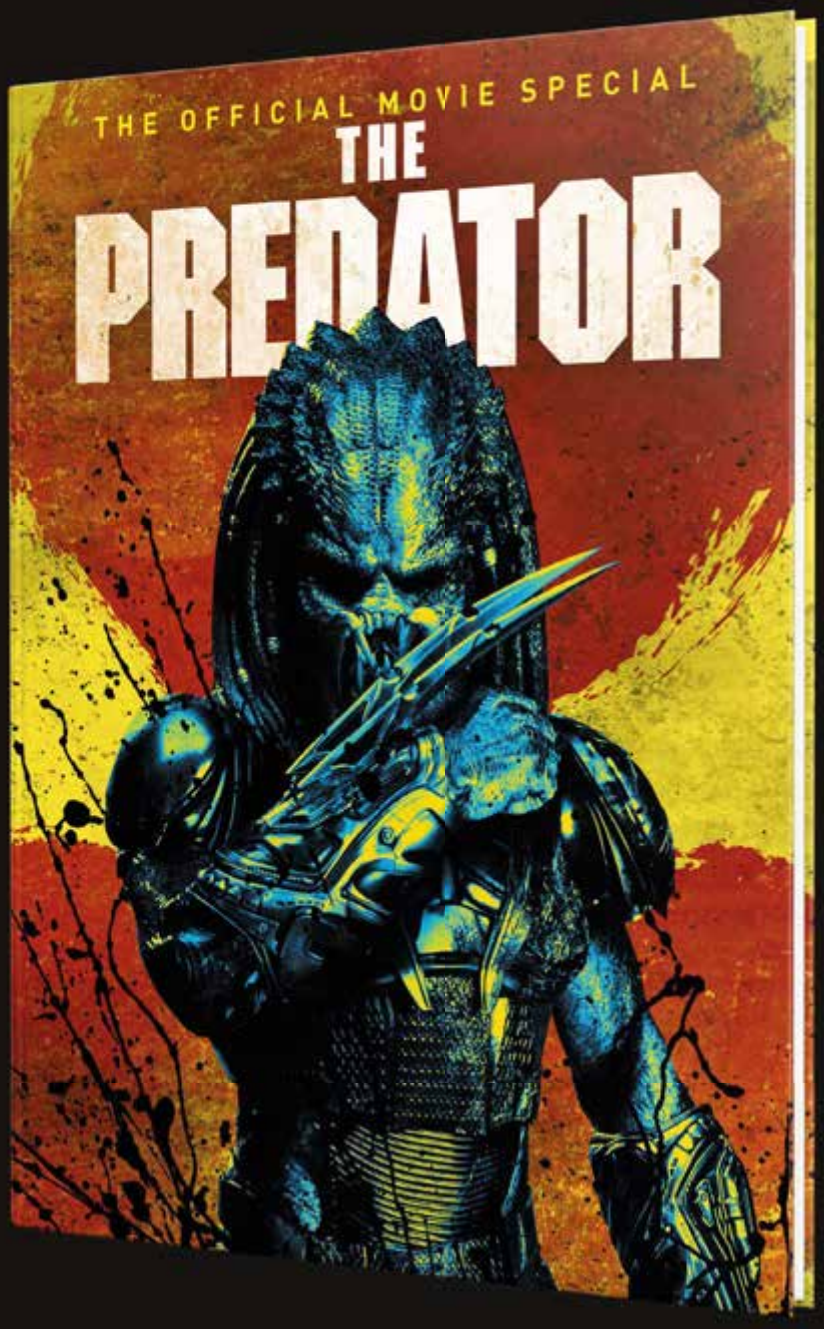
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The incredible costumes of *Solo: A Star Wars Story*.

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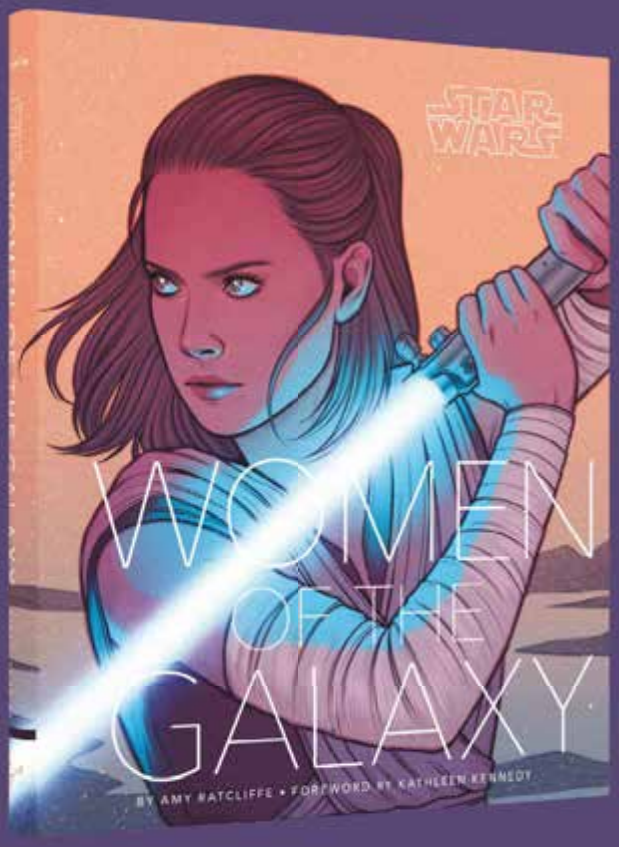
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BY AMY RATCLIFFE

FOREWORD BY KATHLEEN KENNEDY

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