

JUMP POINT

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GREETINGS, CITIZENS!

This issue, we've got the Scythe uprez WIP. There isn't a corp for the Scythe; instead, we're featuring Flashfire, the universal weapons mount manufacturer. January's Galactic Guide focuses on Tiber, on the UEE frontier with the Vanduul.

Meanshile, we go behind the scenes with the new Foundry 42 in Great Britain, which adds another country in the Cloud Imperium march to global hegemony.

Aspiring SC authors: We've actually gotten a lot accomplished, but that won't be apparent to those of you to whom we still haven't responded. Please assume you're still in the queue if you haven't heard from us; I'll let you know when I think we're all caught up. We start two new stories this week (Robert Waters' *Hunter & Swan*, here in **JUMP POINT**, and Marina Lostetter's weekly serial *Dateline: Sesen*, in Spectrum Dispatch). I think you'll enjoy them both.

Meanwhile, I'm delighted to announce that after some careful calculations (we had a hard weight limit), we've figured out how to create a volume of printed, hardbound (!) **JPs** for our yearlong Imperator subscribers. The downside: we're gonna ask you to pick up shipping if you want it. Bonus: it'll have the name of every subscriber from 2012-13. If there's enough interest, we'll be making a paperback version for other subscribers — more on that later.

Hold on, it's gonna be a wild ride!

David

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SCYTHER STATS

The symbol of the Vanduul race, the Scythe is the foot soldier in every raid and the target of every Human fighter pilot. Featuring a hefty weapons payload, the Scythe's real asset is its mobility, found in the two main and twelve maneuvering thrusters.

Manufacturer: unknown

Length/Beam/Height: 29/19/9 meters

Crew (max): 1

Mass (empty): 18,000 Kg

Focus: Fast attack craft

STRUCTURE STATS

Cargo Capacity: 3 tonnes

Power Plant: unknown (max 3)

Factory Shield: unknown (max 2)

Factory Engine: unknown (max 2x TR4)

Maneuvering Thrusters: unknown (12x TR2)

HARDPOINTS

1 x Class 1 (size 4; wingtip): 1x Type IIG Heavy Maser

2 x Class 1 (size 1; nose): 2x IM Neutron

1 x Class 3 (size unknown; shoulder): 4x Chemically Reactive IR missiles

Starboard Wing: 1x Scythe ramming blade

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ROVING CORRESPONDENT: BEN LESNICK

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COVER: FORREST STEPHAN & ZANE BIEN

PAGE 24: FLASHFIRE LOGO, DAVID SCOTT

PAGES 27-36: PHOTOS BY MICHAEL MORLAN (31, 33, 35), NICK ELMS (27), JOHN REITZE (28, 29); CONCEPT ART BY ANDREW LEY (30, 32B, 34T), STUART JENNETT (32T, 36), DAVID HOBBS (34B)

PAGES 37, 39: TIBER SYSTEM, ELIJAH MCNEAL

PAGE 44: RYAN ARCHER



FROM THE HICKORY

Scythe UpRez

Back in March, we ran a WIP article on the Vanduul Scythe. Since then, we've made significant improvements in ship design, and it was time to improve ("uprez") the Scythe. The task was given to Nathan Dearsley (ND), artist extraordinaire with Foundry 42. Our other Work In Progress contributors this month include:

Chris Roberts (CR)

Chris Olivia (CO) Chief Visual Officer

Mark Skelton (MS) Art Director

Harry Jarvis (HJ) Art Producer

Paul Jones (PJ) Foundry 42 Art Director

Alan Precourt (AP) Lighting Artist

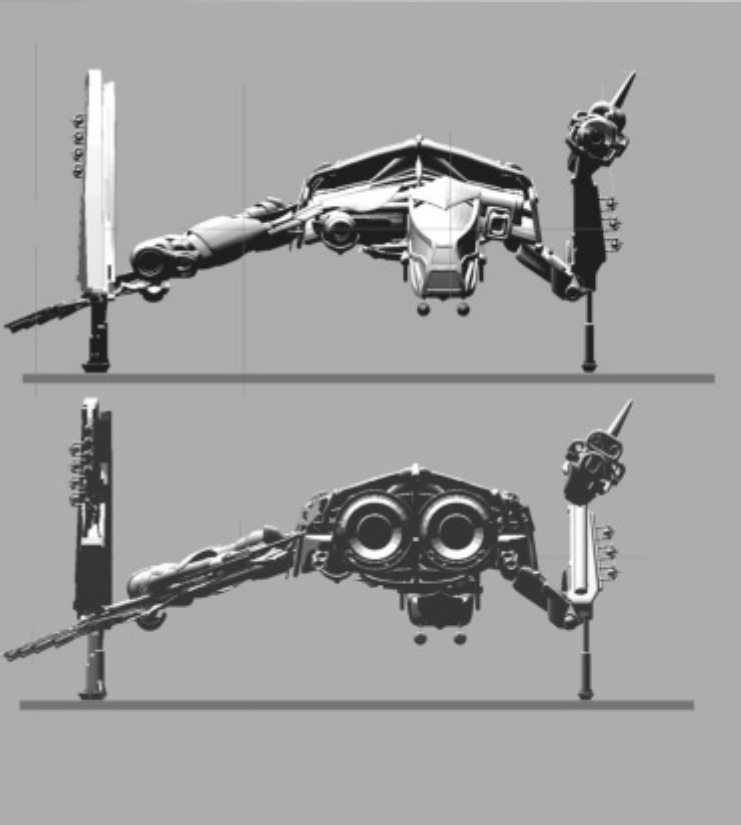
In addition, we have (in black text) more commentary from Nathan.



WORK IN PROGRESS

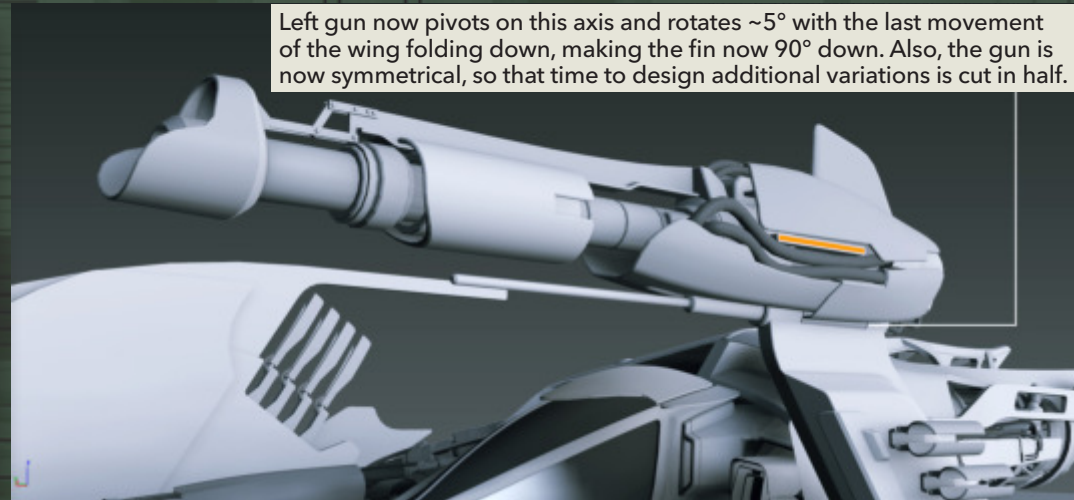


The Starting Point. The last time we checked in on the Scythe (in March '13), it looked like this. Jim Martin and CGBot combined for the original design and execution. It was pretty sharp, especially from a distance, but it had very little interior detail.



WORK IN PROGRESS

ND: This is an update of where I'm at with the Scythe, including several before-and-after shots. I've essentially had to remodel the whole ship. In the new shots you will notice a lot of hard edges; this will obviously be sorted once I've sorted UVs on these parts. Max does a good job of sorting chamfered edges UV-wise, but we'll always double-check it, as each UV shell creates extra verts in engine. So, I've tried to stick as close to the overall shape, etc., of the original and haven't pulled anything too far out of place. The primary focus was really on the shape, form and balance of details, and noodly angles around the silhouette from all views. I confined detail to local areas so the eye can relax on other areas whilst viewing. All the animations are being redone, so that sections now don't go crazy when animating, no cutting through wings, landing gears vanishing into nothing – everything has its place and works. Every pipe and tube has a proper mounting point and end point, and none of the pipes run through each other. The ship is physically more plausible, with beefed up landing gears and ground lighting in place. Hopefully the images will make sense, also. I think it's a happy mistake that it looks better. Upon placing a camera in the cockpit the cross section that used to be there took up quite a bit of your view; I think it looks sweet without it myself, thoughts?



Left gun now pivots on this axis and rotates ~5° with the last movement of the wing folding down, making the fin now 90° down. Also, the gun is now symmetrical, so that time to design additional variations is cut in half.



Midway through the landing gear retracting, landing gear and ground light units rotate and retract back into the wing's structure.



Is it possible for these fins all to rotate together ever so slightly?

Separate parts on these plates now slide up whilst in rotation, creating additional blockage to center.



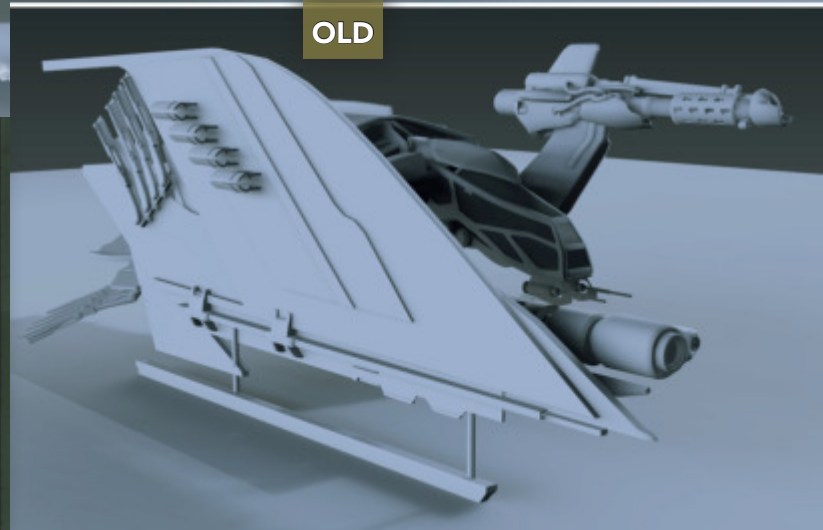
WORK IN PROGRESS



NEW
OLD



NEW
OLD



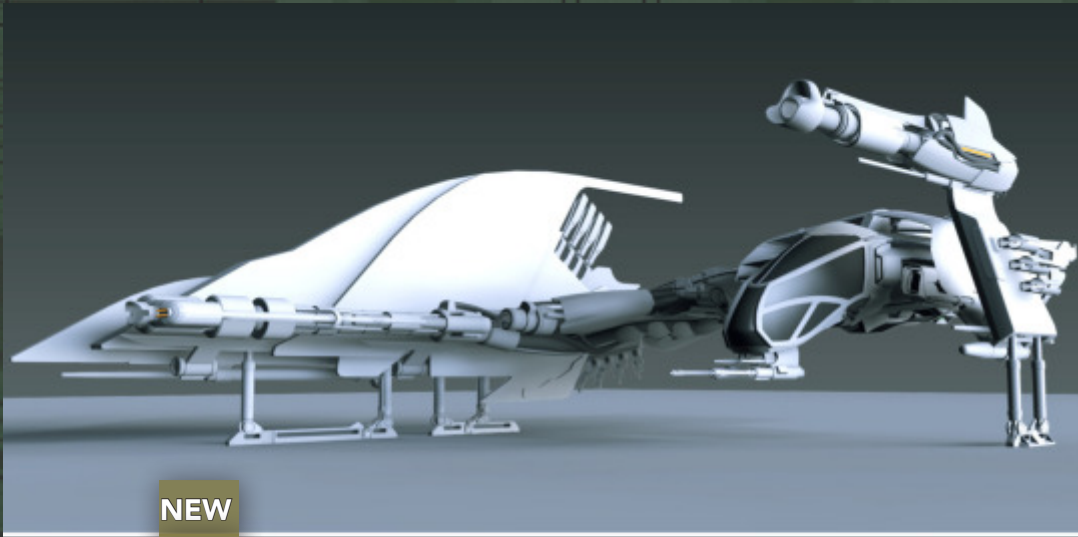
WORK IN PROGRESS

CR: Nice work, Nathan!

In general I think it's an improvement, especially in areas like the landing gears, rear engine and cockpit shape.

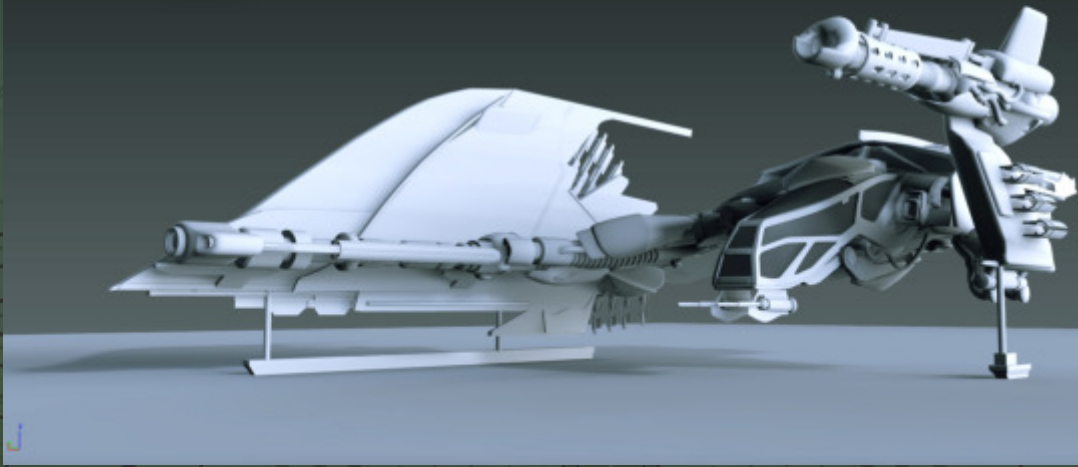
Things I miss and would like to see back:

- 1) The big ribbed tubing on the original model – that was a key element of the original concept and I like it aesthetically on both the concept and the old model.
- 2) Big muzzle brake / suppressor on the left gun – I thought that was a cool detail and made the weapon more fearsome.



NEW

OLD



CR: Things to improve on from the old model:

1) Maneuvering thruster detail, position and animation – the Scythe is meant to have 12 maneuvering thrusters. I feel like you’ve beefed them up somewhat but we could go further. There should be 4 on the bottom (point down), 4 on top (point up) and 4 on the side (2 on each side pointing out). The two front side thrusters could articulate forward to help with braking, otherwise just place two retro thrusters either side of the cockpit.

2) Missile pylons – they were always a bit simple and could do with a better release action / animation (plus we could do with a cool looking Vanduul missile).

3) Canopy struts could be a little thinner (for better interior vision).

4) A cool right wing / ramming blade deploying animation (more than just extending – maybe sharp blades protruding).

Looking forward to seeing you develop the cockpit.



WORKING IN PROGRESS

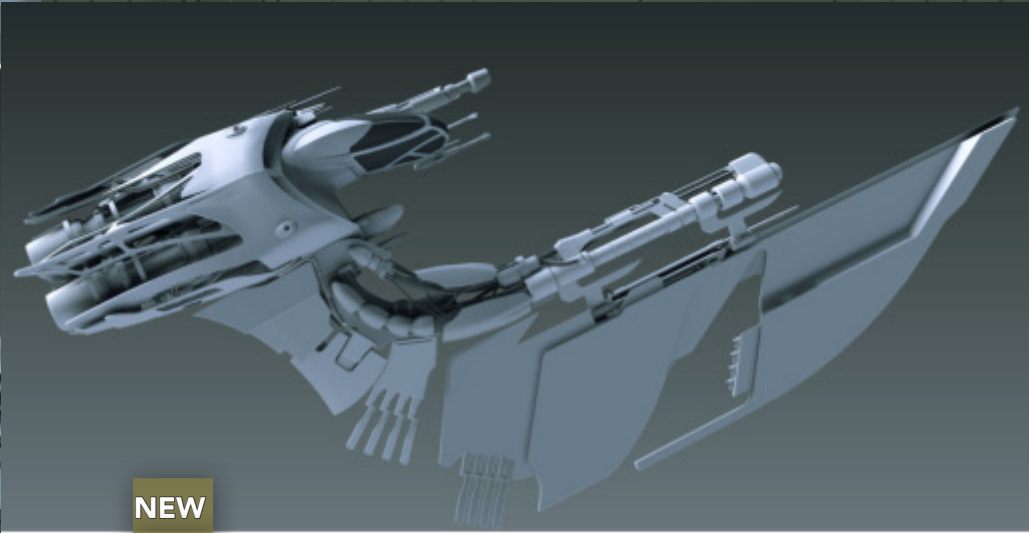


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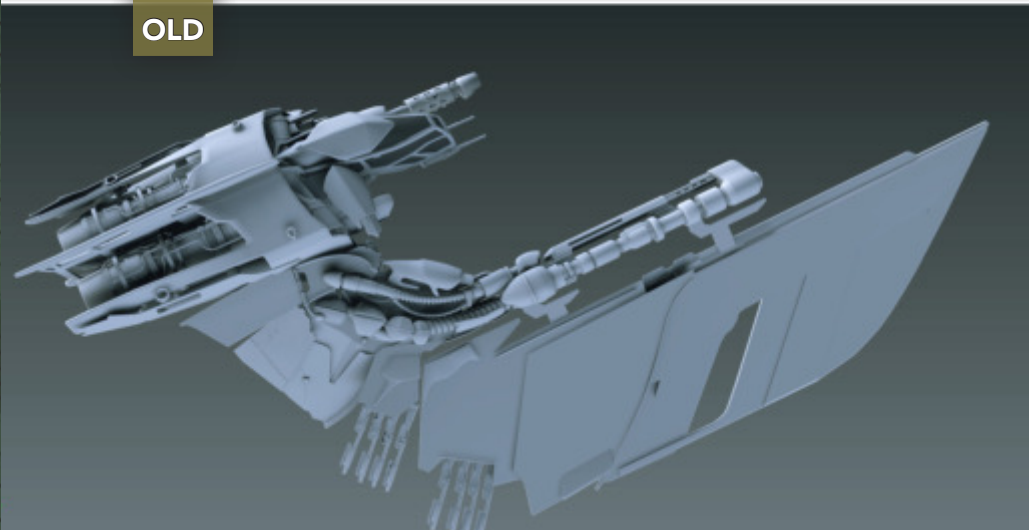


OLD

CR: One other note. The maneuvering thruster setup I described is basically fixed and axis-aligned, so animation on the thruster should be about the nozzle flaring with more power output (which could also be the case for the two rear engines).



NEW



OLD



WORKING IN PROGRESS



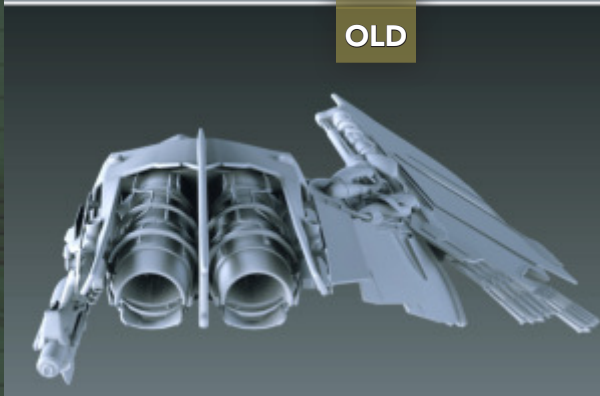
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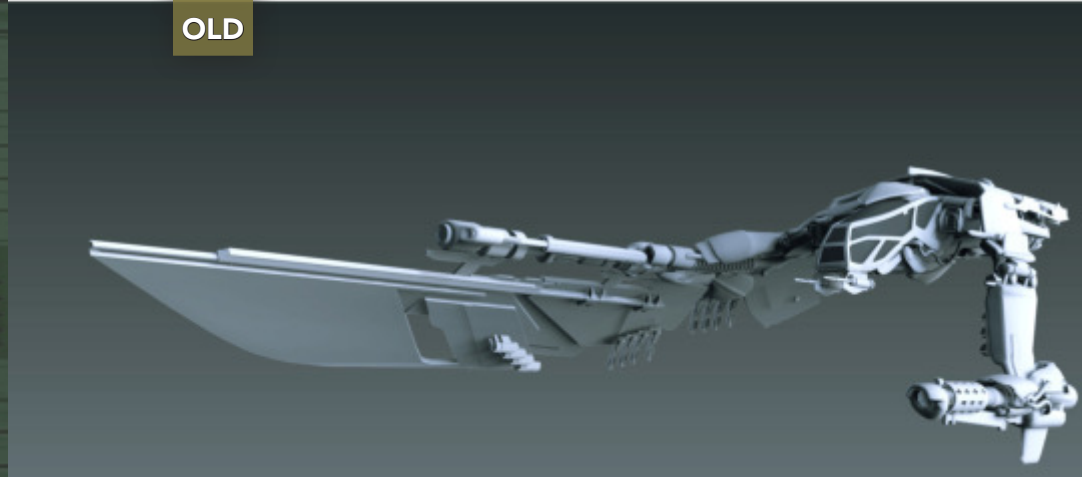


OLD

ND: No problemo, the piping was always going to be the way it was. It's just easier for me to leave it alone right now and UV in place, then cut loops and relax back after. That's faster in the long run. If I can't get a more interesting result using pom silhouette, I plan on making all pipes over a given radius nice and intricate – not just rubber, but with ribbed metal caging, etc., possibly with tribal patterns tiled for this. The maneuvering thrusters were copied more or less identically from the original; when you say side, do you mean front/back or left/right?



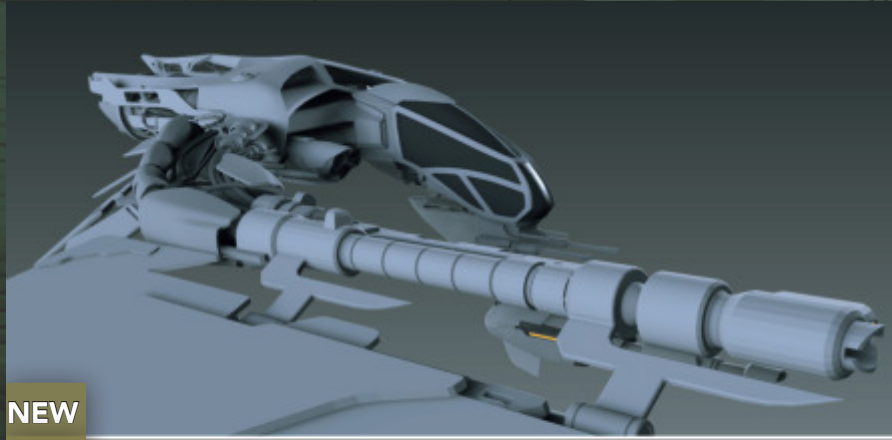
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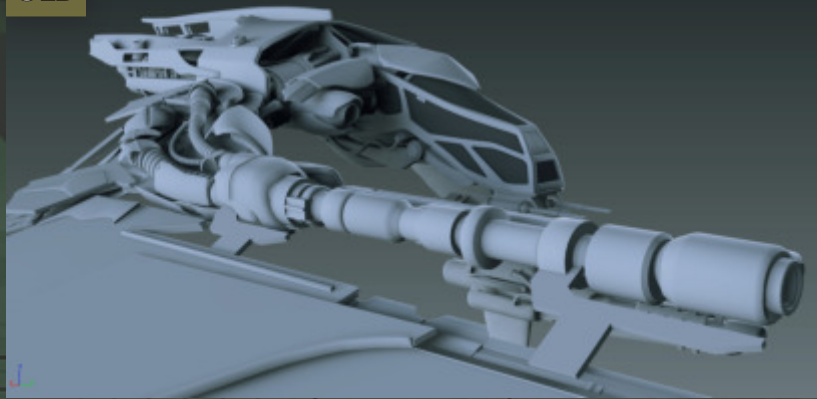
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WORK IN PROGRESS



NEW
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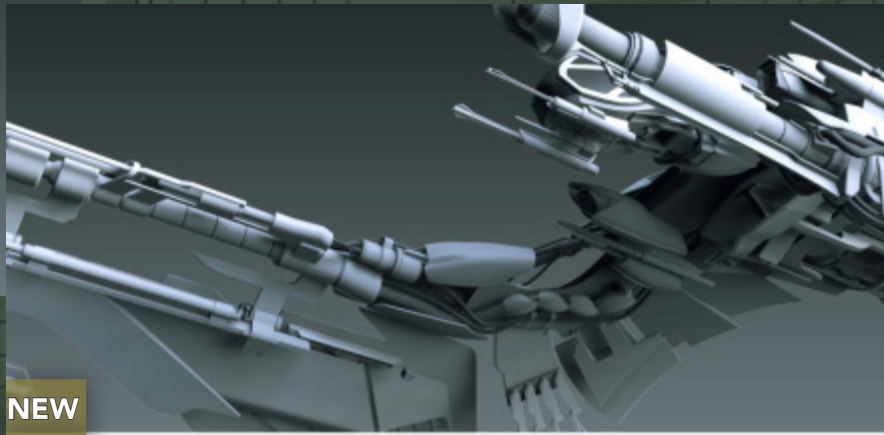


WORK IN PROGRESS

CR: Sounds great on the piping!

I mean two thrusters on the left (facing out), two on the right (facing out) and two in the front (facing out).

ND: Got ya. I'll sort that out along with the other feedback before I start shaders, etc. Yep, piping is key on this ship – if we can get cool patterns on the go that complement the Vanduul shapes, it will be great, look interesting, and well, pipes react to light so well. :)



NEW
OLD

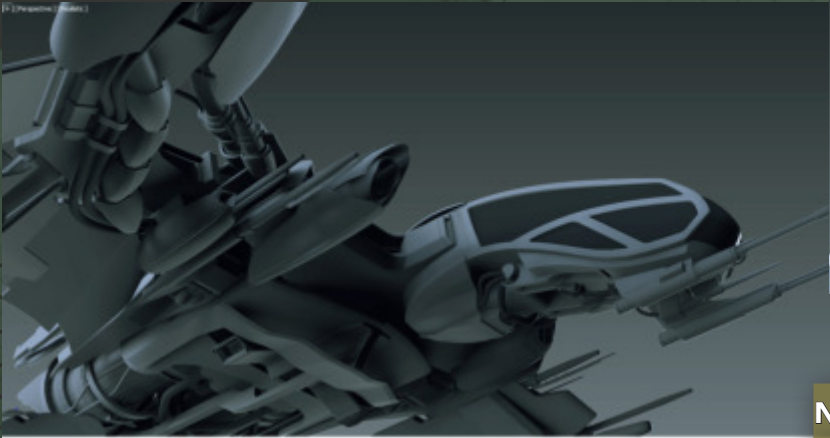




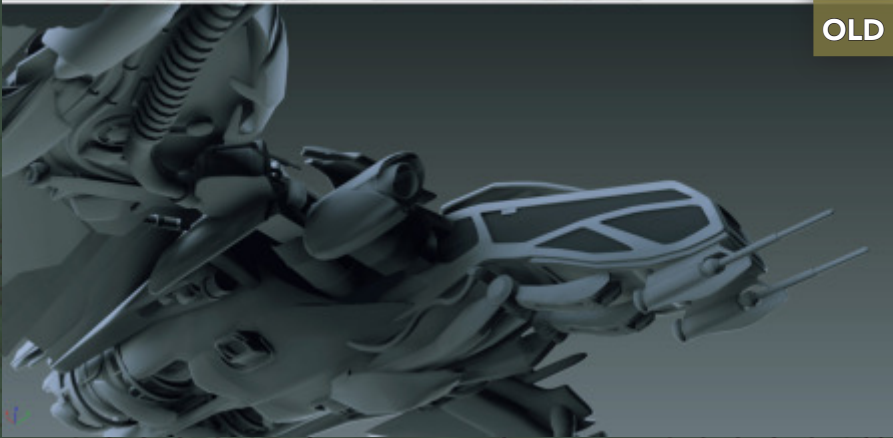
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NEW



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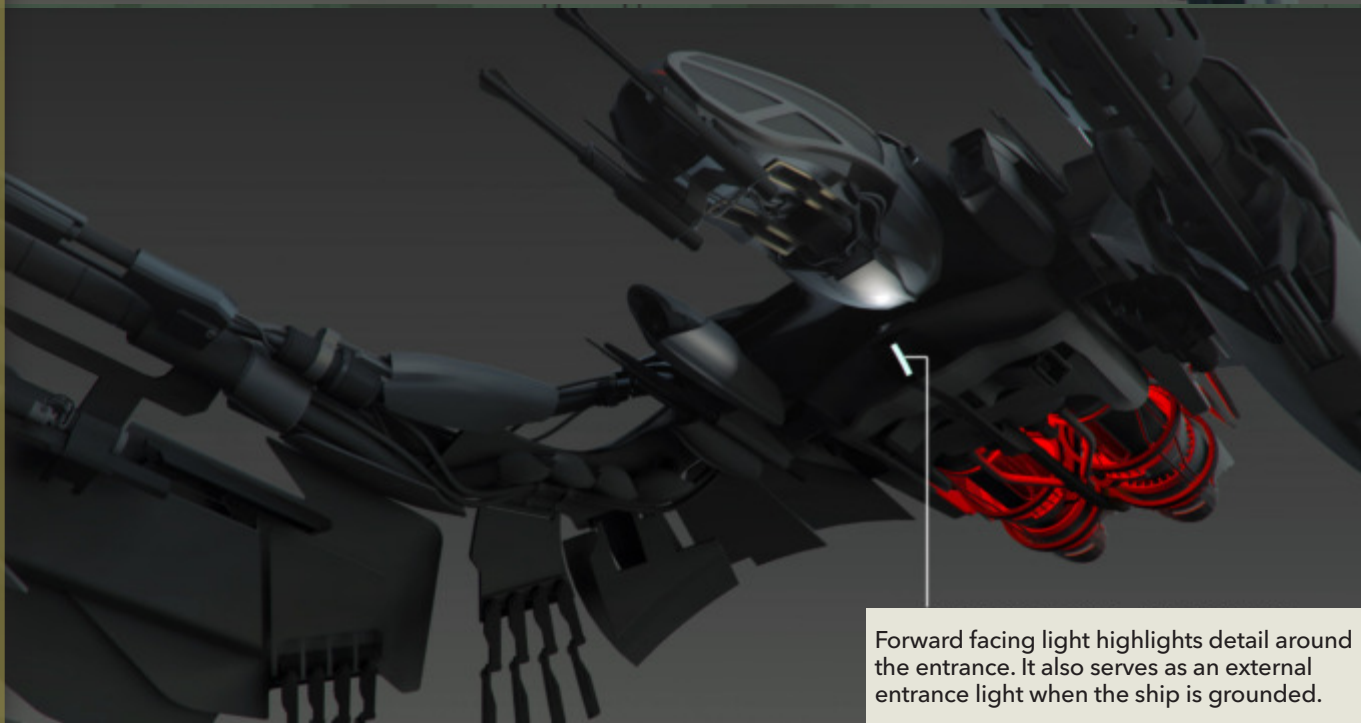
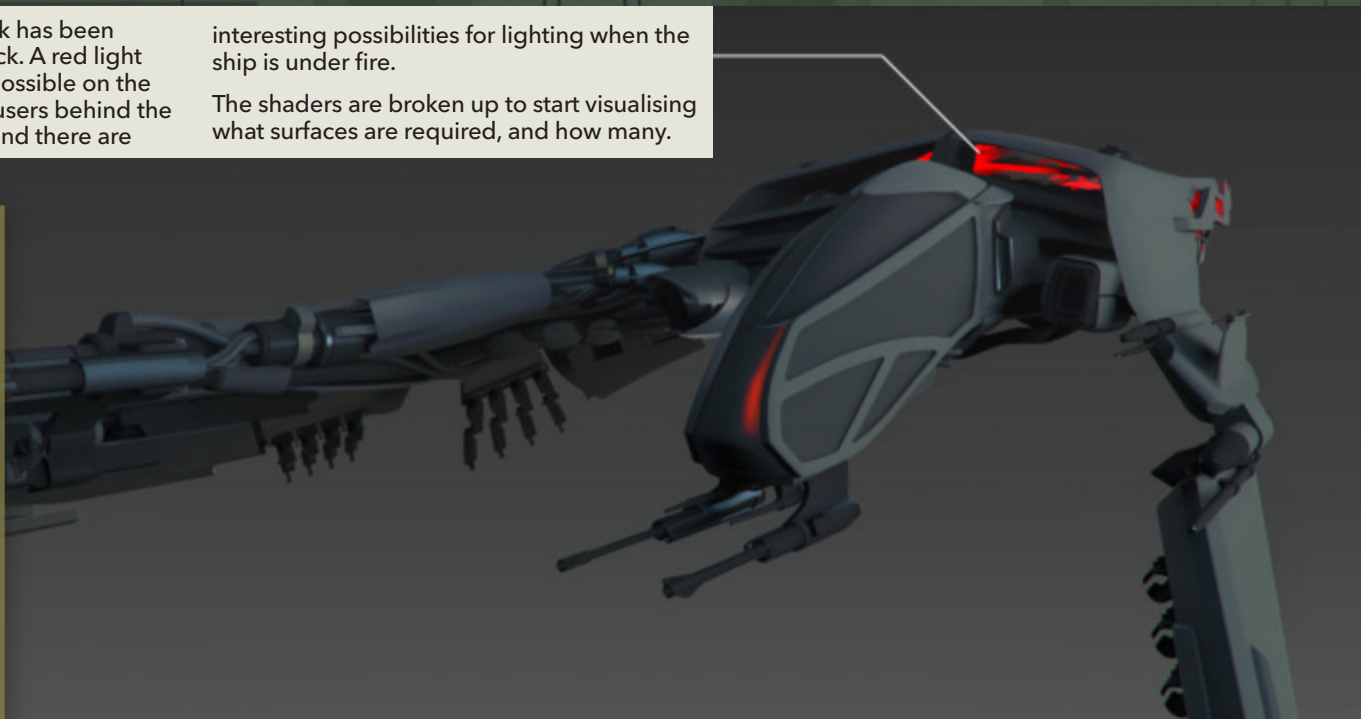
WORK IN PROGRESS

Overall, more modelling work has been carried out based on feedback. A red light source for the rear recess is possible on the back side of the main air diffusers behind the cockpit. It looks aggressive, and there are

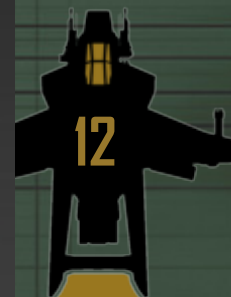
interesting possibilities for lighting when the ship is under fire.

The shaders are broken up to start visualising what surfaces are required, and how many.

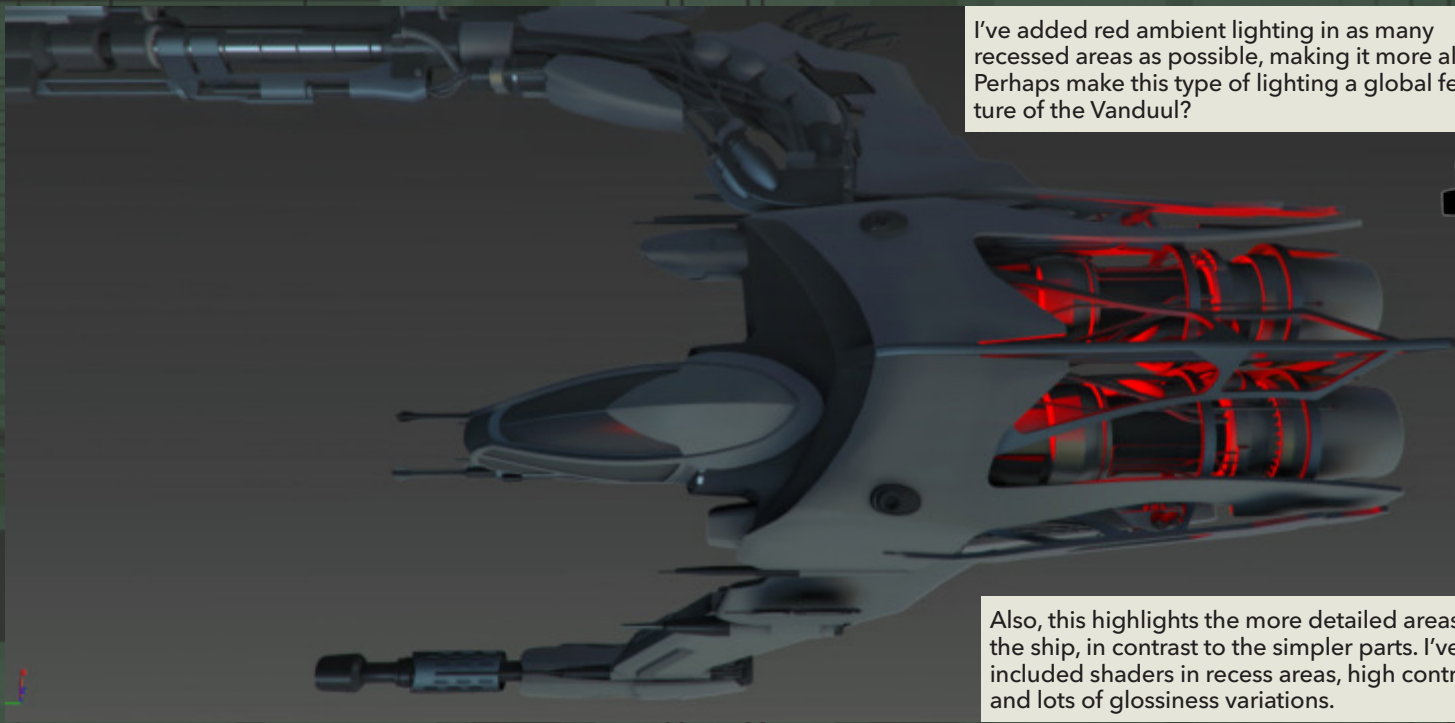
ND: I've got further modelling processes done and feedback worked in. I still have maneuvering thrusters on the rear side and back to resolve. Materials are now broken up in Max purely to visualise a more broken-up surface than what was displayed before, helping me understand how to break up texturing and so on. Alan and I have also been chatting regarding the lighting and doing something a little more interesting than real-world stuff, as it should be alien. I've added notes on all images to describe what I've done; this might be something we could make a global Vanduul ship feature with not only lighting, but also shader libraries used and so on – making these two complement each other early on to avoid a noisy result in the future.



Forward facing light highlights detail around the entrance. It also serves as an external entrance light when the ship is grounded.



WORK IN PROGRESS



I've added red ambient lighting in as many recessed areas as possible, making it more alien. Perhaps make this type of lighting a global feature of the Vanduul?

Also, this highlights the more detailed areas of the ship, in contrast to the simpler parts. I've included shaders in recess areas, high contrast, and lots of glossiness variations.



Livery/wing light goes roughly here. A similar light is required on the underside.

AP: Nathan is the man!
Maybe move the livery light over one panel to the right? Give the guys more room to write something insulting in Vanduul across that panel with a decal.

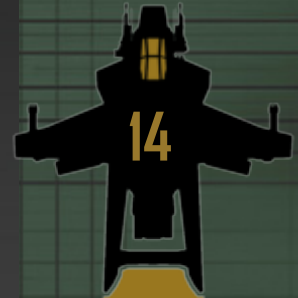


WORK IN PROGRESS

MS: Very cool. I like the animal feel and the pose.



Forward searching spotlight is on when the wing is deployed. This takes advantage of the glossy surface displayed.

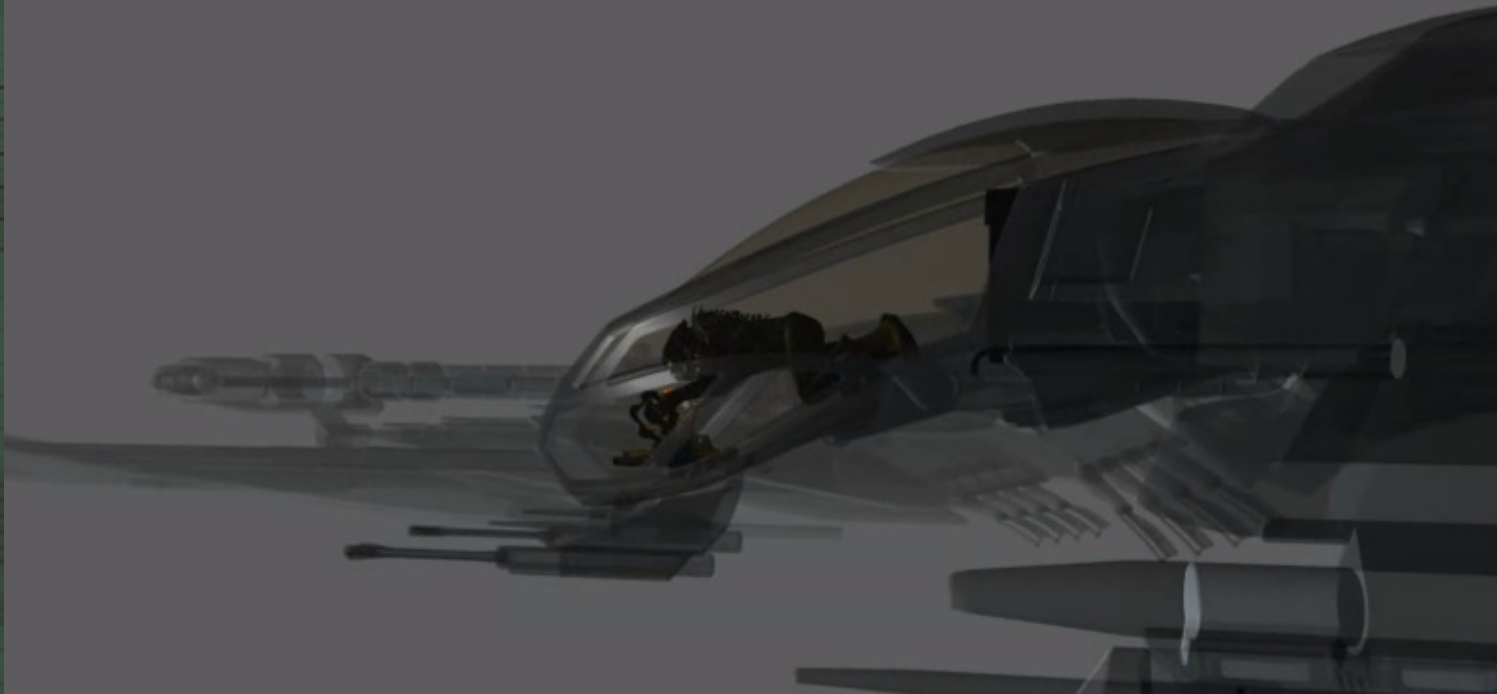


WORKING IN PROGRESS

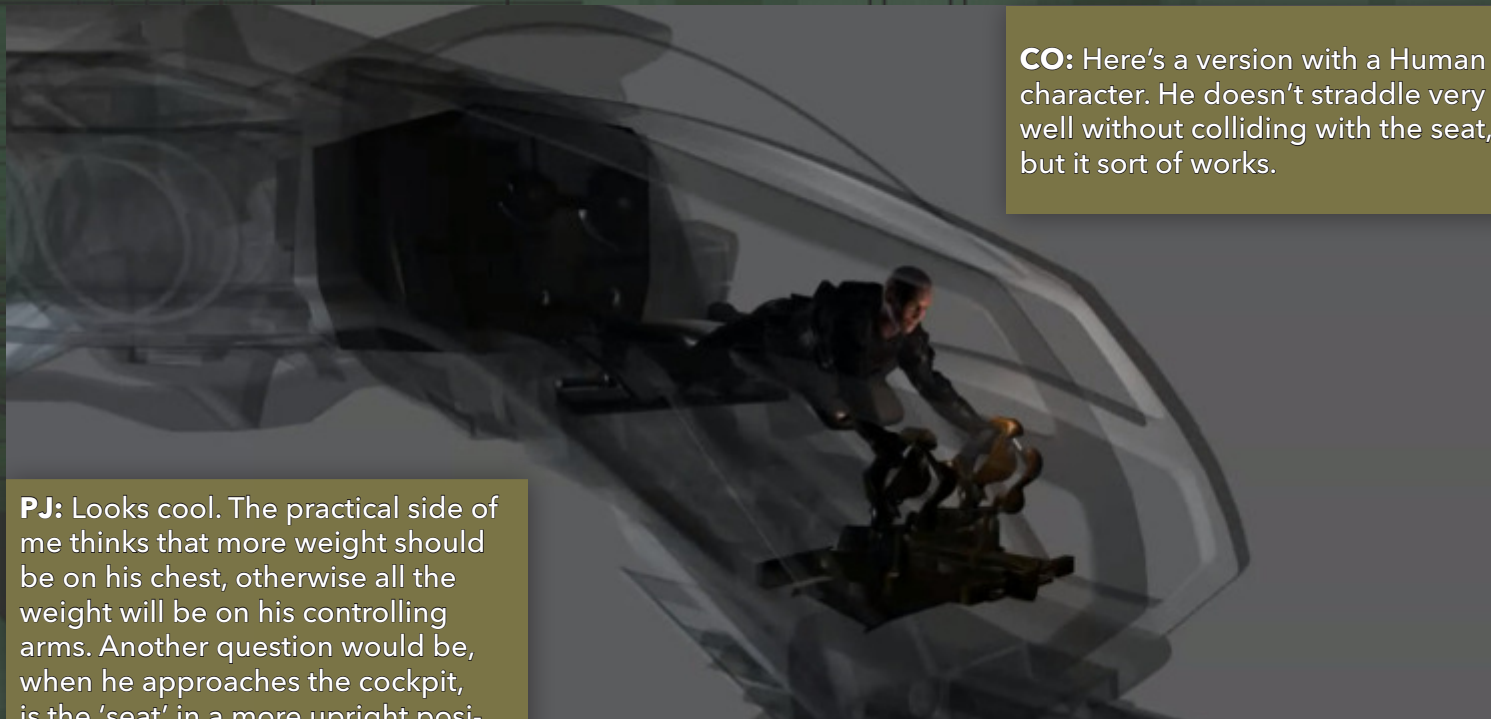


CO: Here's a turntable of the Van-duul character in new Scythe, using the original cockpit interior layout. Are we good with this position for Nathan to build from?

CR: I like it. What about the Human modification/use?

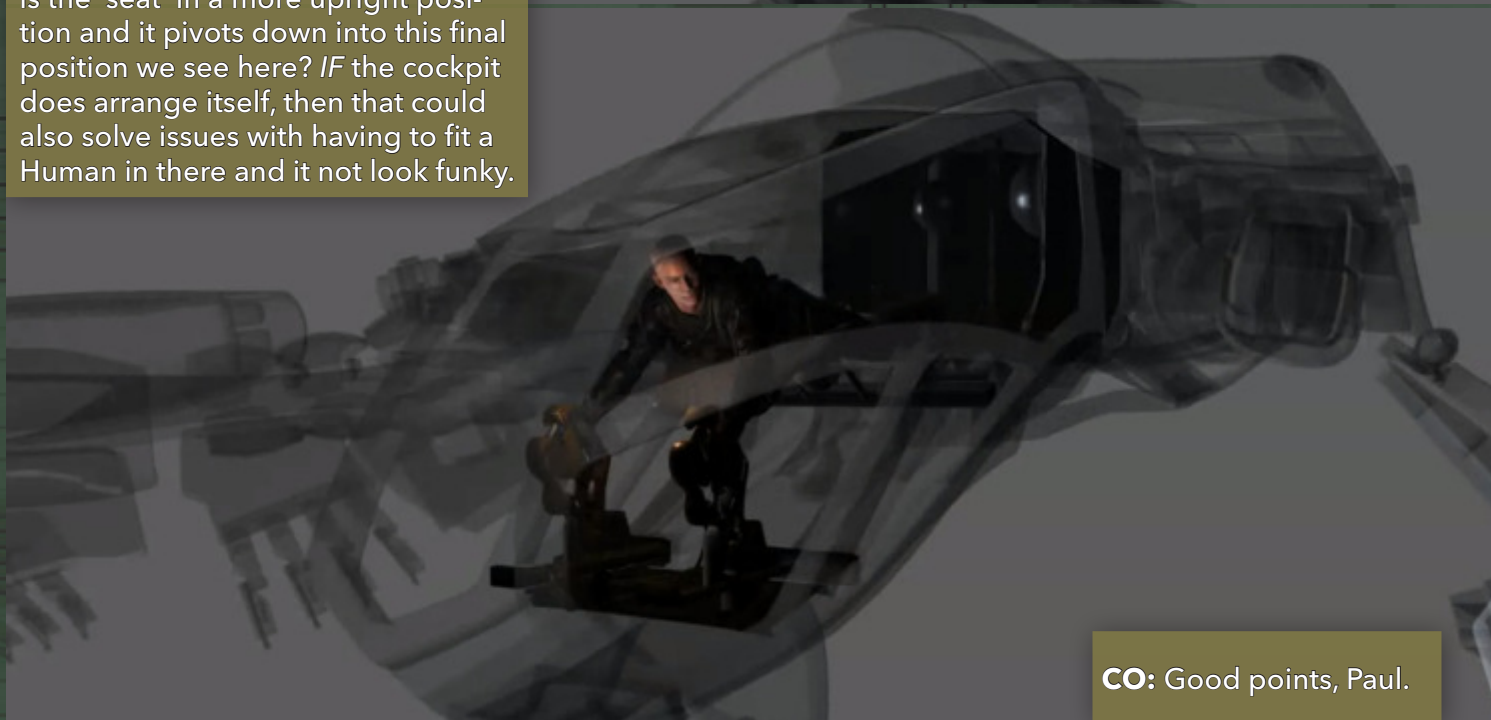


WORK IN PROGRESS



CO: Here's a version with a Human character. He doesn't straddle very well without colliding with the seat, but it sort of works.

PJ: Looks cool. The practical side of me thinks that more weight should be on his chest, otherwise all the weight will be on his controlling arms. Another question would be, when he approaches the cockpit, is the 'seat' in a more upright position and it pivots down into this final position we see here? *IF* the cockpit does arrange itself, then that could also solve issues with having to fit a Human in there and it not look funky.



CO: Good points, Paul.



WORK IN PROGRESS

ND: I've got the Scythe update in engine, placed in a hangar for a better sense of scale. Please ignore the white areas – these should be done tomorrow. Then it's a case of underlying materials for the two main shaders – grey/green hull and black/gunmetal shaders, both of which will have a combination of dust and rust to blend through in cavities after vertex ao bake is done. (It's not done in these shots, but will significantly help ground recessed areas.)



These shots were taken with shaders that are set up kinda 50 percent for PBR and 50 percent not, so it's not all strictly correct. I'm trying to make life easier to go either way with ease, as and when different builds need it.

Apologies for it taking longer than we expected, mainly because this ship is non-symmetrical – it's got hundreds of unique little details; everything is curved/twisted and interlinked with each other. It's great fun doing it, but it sucks time away – hopefully you think its worth it.



WORK IN PROGRESS



CR: Very nice, Nathan!

My only comment is that we had more of a metal patina for the original Vanduul – some delicate metal inlays and engraving, which were gold. So kind of a patina metal with gold inlays/highlights. Will this come with your AO bake and the rust/dust layer?



MS: Maybe accent the gold inlays on the smaller panels I've marked [above]; that would look sweet.



WORK IN PROGRESS



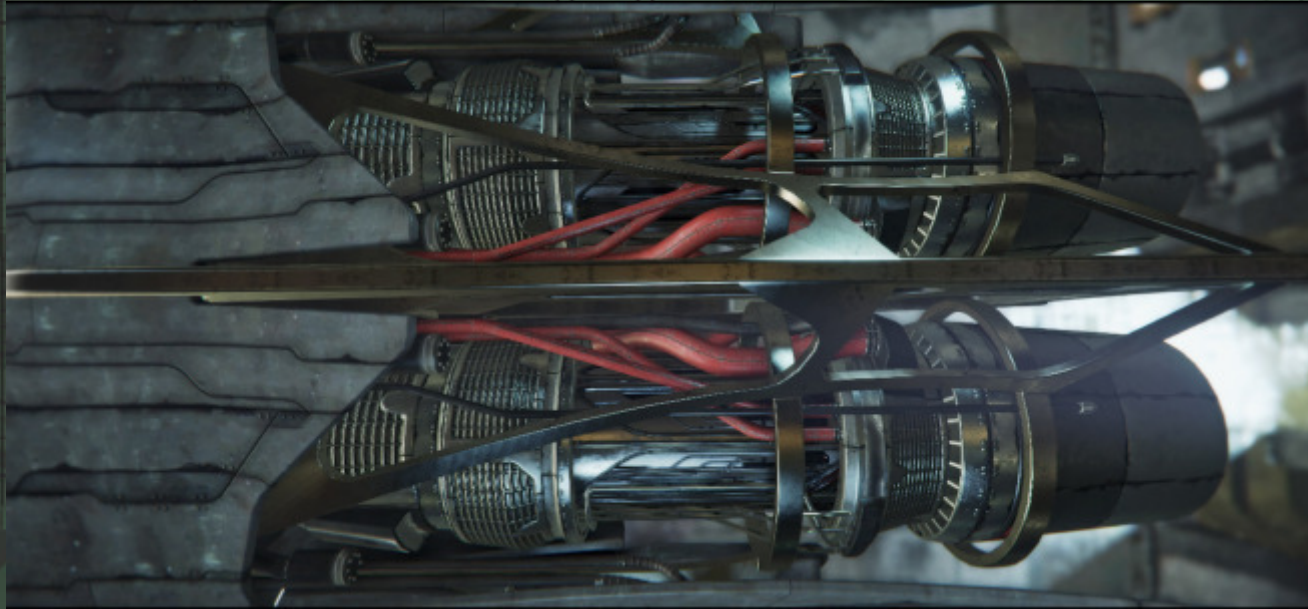
ND: Hey guys, thanks for the comments. The main hull tile you see here is kind of a placeholder; for sure the patina feel you are mentioning is what I have planned for the blend. Think of what's here as a quick overlay to what is the metal on the underlying layer. I'm not planning on creating a blend that's harsh (like straight into rust); more of a rubbed off feel. The existing coat will essentially be matte, the patina shinier, making good use of subtle hues in the spec. The gold ac-

cents will come once I get around to creating my decal sheet for it. I'm probably going to focus more on recessed portions that go into the hull and follow the split lines of the hull shader as Mark has pointed out. I'm just tying up the UVs on the right wing now and should have some shader shots by the end of today or tomorrow. All the shaders are tilable also, so re-use on other craft in the future could save some time.



WORK IN PROGRESS

MS: Great detail. Are you using PBR for these renders?



ND: Yes, this is the PBR build, although as I mentioned the shaders are being set up in a 50/50 fashion, to go either way with relative ease. I'm trying to think ahead and make

life that little bit easier once we do make the jump. These shots don't look as good as they could, since the metals are a half/half setup.



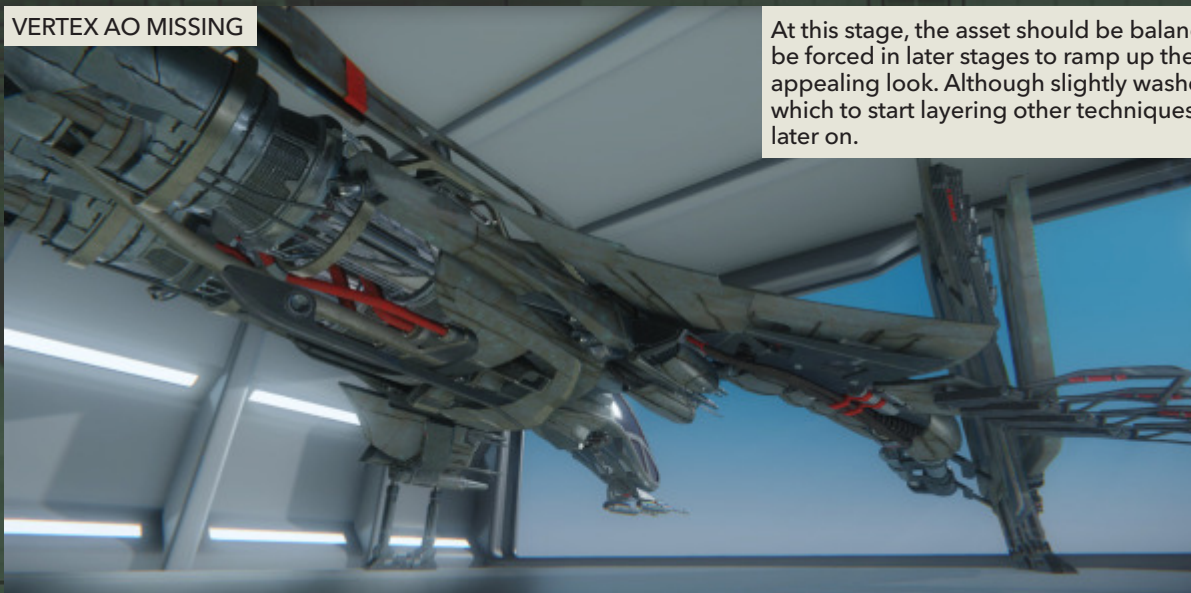
WORK IN PROGRESS

ND: That brings us up to date on the Scythe. I'm documenting my progress as I go, and it may come in handy for *Jump Point* as well. The right wing is done, custom normals done throughout, scene hierarchy and naming clean and tidy, vertex ao bakes done. Placeholder anims have been done to make sure no nasty intersecting parts

have cropped up. I'm moving on to uber shaders; assets need a decal sheet for gold accents on the main hull, as well as larger tribal decals (painted) over various areas (as was in the first iteration), burn/scuff marks, etc.

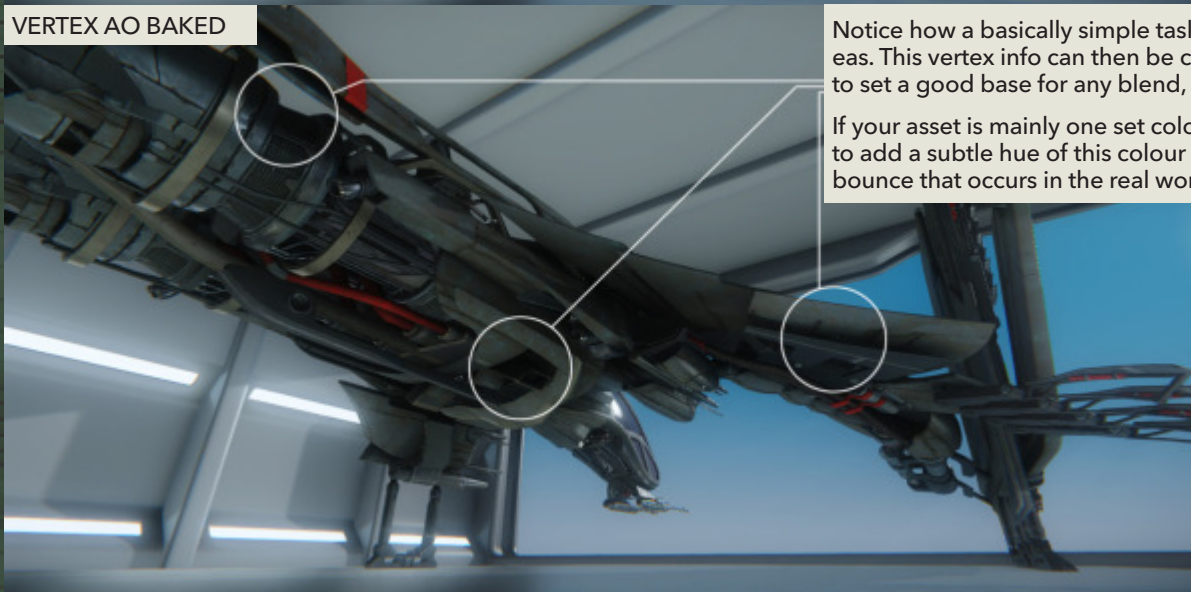
The next few pages describe some do's and don'ts for anyone who may be interested.

VERTEX AO MISSING



At this stage, the asset should be balanced tone-wise; if not, the artist might be forced in later stages to ramp up the contrast in shaders to get a more appealing look. Although slightly washed out, this is a good foundation on which to start layering other techniques, rather than fighting against yourself later on.

VERTEX AO BAKED



Notice how a basically simple task grounds all recessed and cavity areas. This vertex info can then be copied into your vertex alpha channel to set a good base for any blend, shaders, mixing setup, etc.

If your asset is mainly one set colour, another nice trick at this stage is to add a subtle hue of this colour into your vertex AO to fake the GI bounce that occurs in the real world.



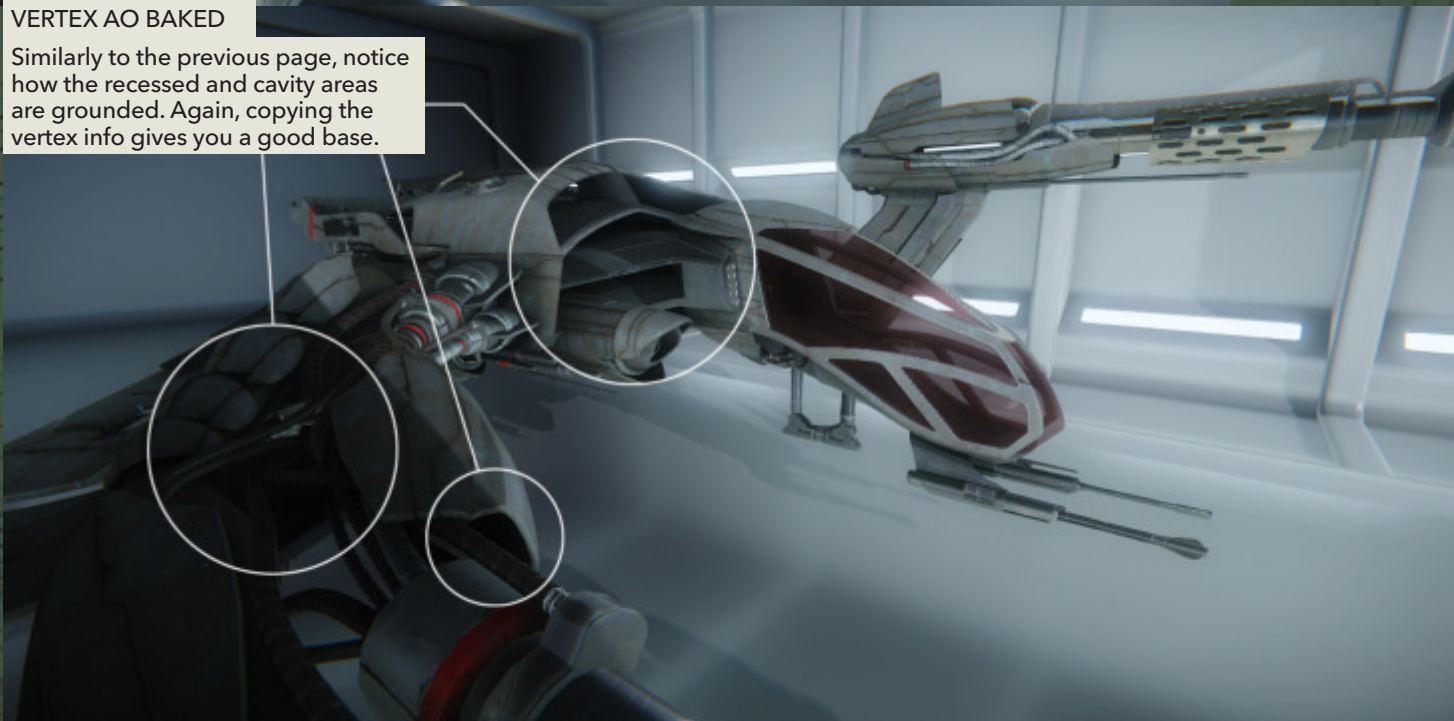
VERTEX AO MISSING



As on the previous page, the asset should be balanced tone-wise, for all the same reasons.

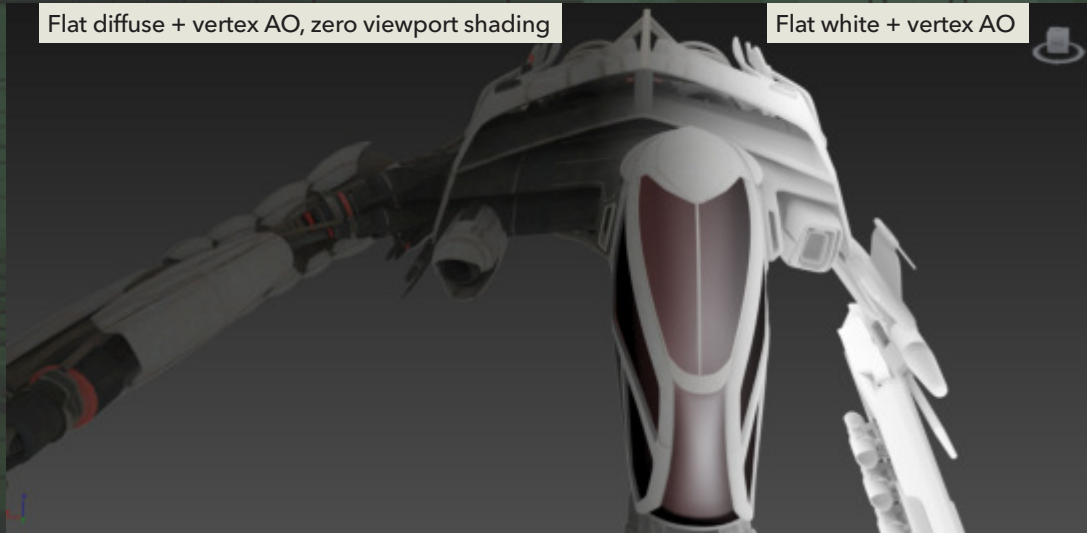
VERTEX AO BAKED

Similarly to the previous page, notice how the recessed and cavity areas are grounded. Again, copying the vertex info gives you a good base.



WORK IN PROGRESS

Flat diffuse + vertex AO, zero viewport shading



Flat white + vertex AO



Flat diffuse + vertex AO, zero viewport shading



Flat white + vertex AO

A common old-school technique (seen more often with environmental assets) is to place a ground reflecting plane under your asset to get AO/GI bounce from the ground up.

DON'T EVER DO THIS! By itself, your asset will look great, but balancing this in a scene would be impossible. It's also worth mentioning that if you do this, any prop/character placed in (for example) the underside would essentially glow. Always bake local to your asset only.

DON'T use the plane to fake bounce from the ground up.



WORK IN PROGRESS

FLASHFIRE

S Y S T E M S



"Connecting You!" — Flashfire's corporate slogan reads more like a dating portal than the tagline of a company wholly devoted to precision instruments of death. But make no mistake: the tools of the trade crafted by Flashfire's weapons engineers are absolutely essential to modern space combat. You may not know Flashfire by name, but if you fly a private (or corporate, or military!) spacecraft today, then you make use of their revolutionary technology.

Before 2904, every private spacecraft had to have its own line of weapons and upgrade modules. The laser cannons built for a Roberts Space Industries ship could never mount on an MISC transport, the missiles designed for an Anvil dogfighter could never load on an Aegis bomber, and so on. The result was expense and confusion for all parties. Military

organizations suffered through ever-expanding supply chains as they attempted to field increasingly advanced spacecraft, while the civilian market was heavily balkanized. Warehouses overflowed with specific-to-ship parts that each sold to only a small sector of the market.

This also meant that manufacturers had nearly complete control over their upgrade options. MISC and their suppliers could charge ten times the ostensible market value, knowing that transport pilots would have no other option save to purchase another designer's spacecraft and start anew. Occasionally, particularly successful spacecraft like the 2822 Nova gave rise to third-party designers who manufactured 'clone' technology, but even then the result was generally an influx of shoddy, unsupported mounts and munitions that

FLASHFIRE

largely argued in favor of paying the premium for manufacture-specific pieces.

Flashfire changed all of that. A classic rags-to-riches corporate success story, businessman Garvin Snarm saw an opening and created a product so seemingly simple that it revolutionized the ship upgrade market overnight: an adapter that allowed almost any weapon to mount to any spacecraft. Suddenly, the power was in the hands of the consumers. Starship captains and freighter pilots could, with Flashfire's inexpensive upgrade option, now pick the best of a wide range of mounts instead of the single choice their manufacturer intended. Competing weapons manufacturers quickly appeared and the resulting "gun

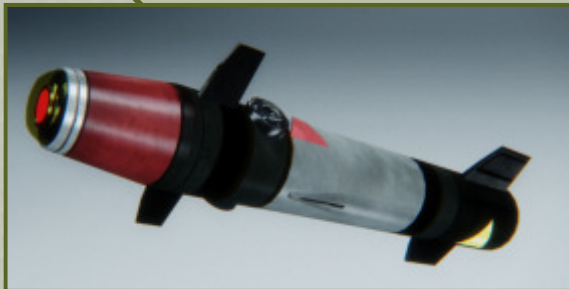
rush" gave rise to incredible advancements in laser and ballistics technologies.

History

As its name implies, Flashfire actually began life as a clone weapons company. The original Flashfire, Inc. actually had nothing to do with Snarm or his innovation: they were one of any number of failing laser corporations unable to find market share in the heavily segmented ship component industry. Flashfire Inc.'s weapons lineup was unremarkable: a variety of standard lasers rebadged with more exciting names ("Flashfire Fusion Cannon," "Flashfire Atom Gun"



BASICALLY ALL WEAPONS AND OTHER EQUIPMENT CAN BE MOUNTED ON THE APPROPRIATE FLASHFIRE WEAPON MOUNT, INCLUDING (CLOCKWISE FROM THE TOP) BEHRING'S M4A LASER, KLAUS & WERNER'S CF-117 BADGER, GALLENSON'S TACTICAL 220 GATLING GUN, THE MAXOX NN 13 NEUTRON GUN, TALON'S DOMINATOR FF MISSILE, AND EVEN THE UNIVERSAL UPFITTERS MODEL K CANARD TURRET.



FLASHFIRE

and the like). Despite the whimsical nomenclature (and similar packaging for their guns) the Flashfire lineup failed to stand out in any way. What they did have, in addition to crippling debt, were manufacturing facilities. Armed with venture capital for his inspiration, Snarm purchased Flashfire in its entirety, cancelled all weapons developments and devoted both of his new factories to manufacturing the attachment device. Within six months, those two factories had become four, and today nearly every sufficiently industrialized world has at least one facility building mounts. Flashfire mounts were initially sold as aftermarket upgrades, but by the mid 2930s first-party manufacturers had seen the writing on the wall and begun including them standard with weapon and ship designs.

The Technology

Nicknamed "The Puck" by spacecraft engineers, Flashfire's innovation is a silicon-brickcrete molded disc that lock-seals on both sides. The addition of extremely motile brickcrete means that both attach points are fully malleable. Almost clay-like to the touch when not in use, the puck adapts to the weapon shape and then atomically locks itself into place when energized.

Physically locking the gun to the ship was only half of the equation, however. The true difficulty (and in turn the true innovation of the Flashfire system) came from the ability to transfer the highly variable amounts of data, energy and other materials through from the hull to the weapon. The solution is a network of organically generated nano-tubules capable of transferring everything from onboard battery energy to trigger-fire commands from the mother ship. Heavily patented by Flashfire, no other corporation has been able to match the flexibility or the durability of the FWM system.

Flashfire mounts are limited by size only. The company

manufactures 85 different varieties of mounts, used for everything from the smallest mining laser attachment to the massive batteries of UEE capital ships. Flashfire pucks are constructed for every class of weapons mount. Additionally, Flashfire maintenance is a non-issue: the discs are both strong enough to be considered nigh-invulnerable and cheap enough that replacement is always favored over repair in the extreme cases that they suffer crippling damage. In all likelihood, however, a ship will lose its hull integrity or the external weapon itself well before it ever suffers damage to a Flashfire Weapons Mount.

The Future

After forty years in business, Flashfire has never attempted to bring another technology to market. Rumors persist, however, that this is not for lack of trying: the company maintains three internal R&D labs and invests heavily in private science concerns. They also have connections to the military research juggernaut, with declassified budgets revealing that Flashfire has multi-billion UEC ties to an unspecified black research base. The claim most likely to be true is that the government is using Flashfire's technology in the study of alien spacecraft. Licensed Xi'An ship designs are already able to adapt to existing Flashfire mounts, and the technology is likely very useful in the study of the wildly different Vanduul charging systems.

Rumors in the civilian world persist that the aging Snarm is preparing to reveal his second great idea, supposedly an evolution of the puck concept which covers other types of ship upgrades or, even more wildly, subverts the very upgrade system and allows pilots to mount anything, anywhere. While a future where ship captains can mount thrusters to their gun hardpoints or powerplants on their missile pods is unlikely, it is entirely possible that Flashfire has a second game-changer in the works.



Flashfire



FOUNDRY 42

THE FOUNDRY 42
TEAM

Foundry 42, in Wilmslow, England, just south of Manchester, is developing Squadron 42. Headed by Erin Roberts, it includes many of the same people who created Privateer 2 and other popular games. Several of them were in Austin this month for a Production meeting, and we cornered them, forcing them to reveal key information about their studio and themselves. We even squeezed some Squadron 42 concept art out of them, most of it never before revealed. We hope you enjoy our efforts — we did!

JP: What is your high-level vision for Squadron 42?

Phil Meller: We want to deliver on the hype — and more.

Nick Elms: I'll repeat what he said, in a little more detail. Squadron 42 will be the next evolutionary step from Wing

Commander. We will be pushing the story, detail, quality and technology in every aspect of the game (whether in space or on the ground), to give the community an experience which is more spectacular and immersive than not only any other space sim, but any current generation game.

PM: As we all know, the genre has been pretty poorly served since 2000, when FPS's came along and crushed all in their path. We tried to stem the tide with *Starlancer*, but sometimes you just have to go with the flow. Now we're back in the game with *Squadron 42*, and it's up to us to show people what they've been missing.

JP: How do you plan a space epic? Do you develop the outline of all the individual missions beforehand, or do you build them one at a time?

PM: Firstly we had to get the story right; do that and the rest slots into place. We teamed up with CIG's two fulltime writers, based in the LA office [Dave Haddock and John Schimmel]. Last October we flew over and sat in a room



WHAT IS YOUR NAME?

Phil Meller

WHAT IS YOUR QUEST?

To do the best job possible. A huge amount of people have put their faith into this game. It's a real honour to be involved, and I'm hell bent on not letting anyone down (not that Chris would let that happen).

The first game I worked on was *Stryker's Run* with Chris back in '85 (doing graphics), and I've been lucky enough to work on games like *Privateer 2* and *Starlancer*. For the last 5 years I was at TT Fusion, working on Lego games with the rest of the gang. I had a fun time, but when a challenge like this comes along and people want you involved ... you'd be crazy to say no.

My goals and ambitions? To crush our enemies, see them driven before us and create the best space combat sim ... EVER.

WHAT IS YOUR FAVOURITE COLOUR?

Favourite colour ... Crimson. The rest is ... classified (aka boring).

for four days and hammered it out. That made a big difference — unlike some writers, Dave and John get it. They didn't try to bulldoze us with their take on how the story should play out, and vice versa from our end. We also ran the story by Chris R and he gave us his take, which was great — who better to go to when he's been doing this for 30 years and tells you like it is?

NE: With that, we had a good framework for the game: the overall story and mission flow, and a paragraph or two outlining the plan for each mission and the possible outcomes. This gives everyone involved a good idea of what's expected and where the work load is going to be concentrated. This high-level design then breaks down into concept lists, asset lists, animation lists, dialogue requirements, FX, etc. And as a mission branches it can become more and more complicated.

JP: *How did Chris Roberts convince you to come on board?*

NE: Having grown up on *Star Wars*, *Battlestar Galactica* and numerous other space films, it has always been a huge passion. The space sim seemed to die in the late '90s, and I've always felt I had unfinished business with it. So when Chris offered us a chance to be involved in the resurgence of the genre, in such an amazing way, it was an easy decision.

PM: He didn't have to convince me. I knew what he was up to; I was just waiting for the nod. When it came we didn't discuss terms, roles, etc., ... just a case of "I'm in, when can I start, what do you want me to do?" I would have been the brew boy on this game, just happy to be on board.

JP: *Tell us about your history with Privateer 2 and other space games.*

NE: I've always been a massive fan of the *Wing Commander* series; I even bought a projector to play Chris's first *Wing Commander* game to get the full experience. When I finally got an opportunity to work on a space sim, back in 1994, I jumped at it.



BEHIND THE SCENES

Erin had come back to England having worked on *Wing Commander* and *Privateer* with Chris at Origin. He had the idea of setting up a UK team to make a game using that technology, and we were born out of that. We got a great group of likeminded programmers, artists, designers, etc. together and made *Privateer 2*. Then when Erin went back to Texas to join Chris at Digital Anvil on *Freelancer*, we found a way to keep working together by starting a prequel for that game in the UK, called *Starlancer*, which Erin and Chris worked with us on.

PM: Yeah, I was always chomping at the bit to work on the *Wing Commander* games, but Chris was in the States and i was in the UK, so it didn't look as though it was going to pan out. Luckily for me, Erin came back to the UK and set up EA Manchester. We started work on a space trading game which eventually morphed into *Privateer 2*. That was a tough three years but we learned a lot, all of which we funnelled into *Starlancer*. I'm proud of what we did, but there was so much more we wanted to do. We thought we'd get the chance with *Starlancer 2*, but alas, it wasn't to be. Now, with *Squadron 42*, we have that opportunity.

JP: How has technology changed since those games? Does it make the process easier or more difficult?

NE: MASSIVELY ... we were building *Starlancer* ships to a 350-polygon budget. Everything we wanted to do visually had to be spoofed to make it look good. We had to consider every effect and how much of an impact that would have on frame rate. Camera cuts in the game had to be framed in such a way as to convey the action without showing too many ships.

PM: I was looking at a pre-rendered corridor of the Reliant recently (from *Starlancer*). Our art lead Paul Jones was standing next to me shaking his head, smirking. His words were "we could do that real time now, but with a s**tload more polys on top."

NE: Everything is different now. We have millions of polygons moving around, the effects are almost movie qual-



WHAT IS YOUR NAME?

Nick Elms

WHAT IS YOUR QUEST?

I'm the Creative Director at Foundry 42, working on *Squadron 42*. My quest is to find the answer to life, the universe and everything, which I'm told has something to do with the number 42. I've had to cross continents; battle the English weather; endure days of endless night. I've been forced (almost at gun point) to embarrass myself on film for Wingman's Hangar, and it's still not driven me from my course to make *Squadron 42* the best space sim ever to grace a PC ... period.

WHAT IS YOUR FAVOURITE COLOUR?

Green. You hear that, Chris? I'm with you on the military colours, even if these bozos aren't. :)

It's going to be a great ride. *Squadron 42* is the most exciting thing I've been involved in since I began my games career. It's a great responsibility and I would like to assure everyone I will try my best to make this the game all that it deserves to be!

ity, the playground for us has gone from your backyard to something the size of Texas. It's more challenging, but the basics are the same: make something fun to play, really immersive and make it AWESOME to look at.



BEHIND THE SCENES

SHUBIN MINING STATION



MINING ROBOT



BEHIND THE SCENES

PM: Chris told me that it takes six months of work to get a fighter ready; the amount of sweat and blood that goes into these things is scary. *Starlancer's* ships were knocked out in a few days. Tech moving on has opened up a whole new box of tricks, the caveat being that it involves a whole lot more work.

JP: What's the story behind your studio's name, Foundry 42?



WHAT IS YOUR NAME?

Tom Johnson

WHAT IS YOUR QUEST?

I'm Project Manager for *Squadron 42*. I started out as a QA tester at *Traveller's Tales*, where I got the opportunity to prove myself in Production. And now I'm addicted to making games. My long-suffering girlfriend, Katie, tells me off for playing *Game Dev Story* in my spare time, which is a great little simulation for producing video games!

WHAT IS YOUR FAVOURITE COLOUR?

I'm a DIY enthusiast and the proud servant of two cats, Basil and Jasper, so if I'm not in the Foundry 42 office then I'm normally chilling out with the cats or working on my house (which has been a project in itself, renovating an old Victorian place from head to toe) ... it's not exactly rock 'n' roll but I like it!

NE: The 42 thing is obvious — we're on board to develop *Squadron 42*. The Foundry name was initially "Studio 42," but it didn't really hit the mark. It sounded a bit too "media." We went for something more gritty and hands-on. "Foundry" felt right.

JP: How do you work with the other teams on *Star Citizen*?

NE: *Star Citizen* development has evolved into a behemoth. Even since I have joined, the scope of the game has expanded. So we have a lot of production and logistical hurdles that present a constant challenge. We have numerous Skype conferences every day with different studios around the world where all the interdependencies in the games' development are discussed and solved.

PM: Yes — via video conference and email. If we're lucky they'll come over to see us, or vice versa. A big plus for me so far has been the lack of egos on display. Usually you get the "Big Time Charlies" who drown or bully other people out of the picture. Not on *Star Citizen*; I can honestly say that everyone has been a real pleasure to work with, which is a first for me.

JP: How will you tie the story of *Squadron 42* into the persistent universe of *Star Citizen*?

NE: *Squadron 42* is set just before the timeline of the persistent universe. There's an event at the start of the campaign that offers you a chance to join the military. Once you've joined up you will be on the "S42 ride" for a tour of duty, although there may be a couple of places where you can switch from *Squadron 42* to the persistent universe if you decide the military life is not for you. While you're enlisted in the Navy, we will introduce you to many aspects of the rest of the universe, and actions you take can and will affect you when you finally join the PU.

PM: The idea is to have a lot of crossover, including locations, people, ships, story arcs. We haven't delved too far into this at the moment, but it's something we're looking forward to implementing.



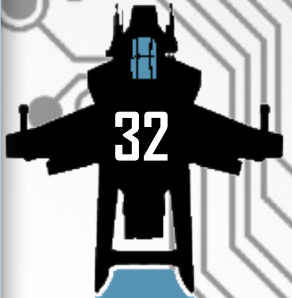
BEHIND THE SCENES



ASTEROID FIELD



ASTEROID TETHER POINT



BEHIND THE SCENES



WHAT IS YOUR NAME?

Paul Jones

WHAT IS YOUR QUEST?

As Art Director for *Squadron 42*, I work to take Chris Roberts' vision and translate it with the art team into a rich and enticing world. I work closely with Chris Olivia, Mark Skelton and all of our partners to keep a clear and consistent vision. *Star Citizen* has a vast amount of content, so it's easy to get your creative kicks as we all tend to focus on different areas of the game.

My overall goal? We're out to push and advance the game as much as possible! I worked with Erin and the guys on *Starlancer* while I was a 3D Artist at Warthog Games, and since then have worked for studios like Framestore CFC, Epic Games, Rocksteady and TTFusion. A motivated team is key to achieving the lofty goals set for *Star Citizen*, and we're working hard to create a culture that will enable us to maintain high quality art while not losing sight that there should be fun involved in this journey. :)

WHAT IS YOUR FAVOURITE COLOUR?

Fav colour: well it's a combination for me, it would have to be candy apple red with a gold base coat, ideally topped off with some gold leaf and pin striping. Nothing's simple in the world of art!

Fav animal: our crazy labradoodle, looks so stupid but so friendly!

Fav food: got to be sushi

Fav drink: Leffe beer. My local bar has it 5 minutes walk away; too easy to drop in after a long day's work!

JP: Before its current incarnation as Foundry 42, most of the UK team was developing Lego games. How does *Star Citizen* compare with developing those games?

NE: The Lego games were fun, but always felt a bit rushed and slightly formulaic. The main thing that the Lego games taught me was how to maintain a constant forward momentum, mainly due to the shortened development times. There was little time for "chin rubbing," as I call it; we had to lock things down and keep the progress meter ticking.

Having no publisher leaning on you and forcing cuts to the design is invigorating. If we have a good idea, we run with it. Our brief is to make the best game we can, without worrying about artificial marketing / publishing dates. It's like the manacles have been removed, because we have support from the community and the resources to make a really epic game.

However, there's constant self-pressure, expectation and a strong desire to get things right, to repay the trust everyone has put into us, which pushes us faster and further than any publisher ever could. We really want to make this game something incredibly special that will blow people away.

PM: I can say it more quickly: there's no comparison.

JP: How is the team adapting to CryEngine?

NE: CryEngine is amazing — everyone is thoroughly enjoying working on such a powerful game engine, but some of us do have a learning curve getting up to speed with it.

PM: We have a number of CryEngine vets, which will be invaluable. But even the team members who aren't familiar, I can't say I'm worried, because they're all eager beavers and scarily bright.

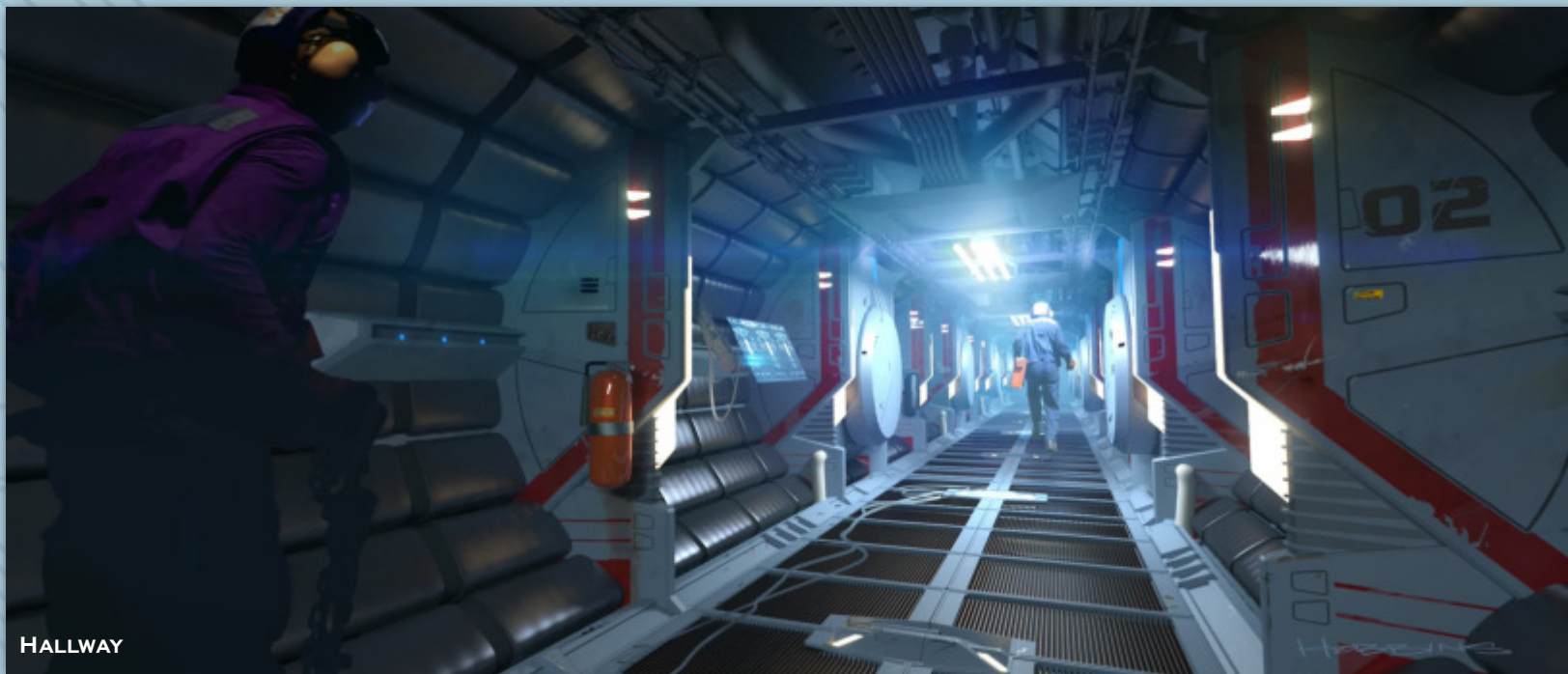
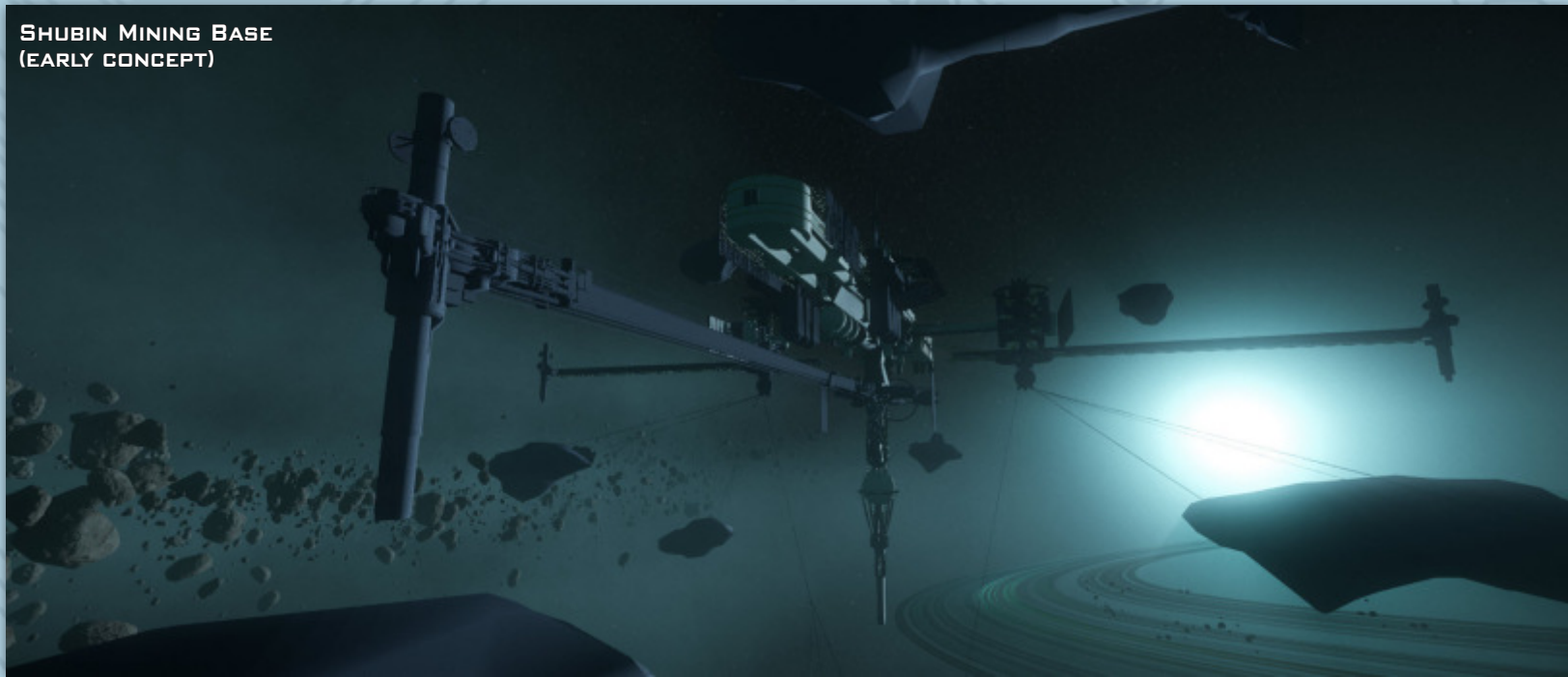
JP: Your team is handling a lot of capital ship development. What's the biggest ship class you're building right now?

NE: In *Squadron 42*, there will naturally be a lot of large capital ships. The community have already seen the Bengal carrier. That ship is currently being fitted out, as only the

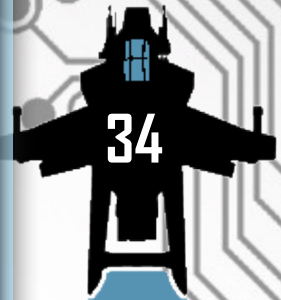


BEHIND THE SCENES

SHUBIN MINING BASE
(EARLY CONCEPT)



HALLWAY



BEHIND THE SCENES

hangar and the bridge were built for the first *Star Citizen* demo. The Bengal is over a kilometre long, and the interior must make sense; every member of the crew (although smaller than a comparable WW2 carrier) must be believable and have a daily routine on board the ship. That means that we have to make a fully functional ship of war, with mess halls, gymnasiums, medical bays, and so forth. Besides the Bengal, there are several other capital ships that fill in the smaller classes, and even one that could potentially be bigger.

PM: Right now we're looking at the Panther-class escort carrier. It's a monster; the mantra throughout has been immersion, so we're trying to make it as real as realistically possible. We're approaching it as how you would build a real cap ship eventually.

JP: *How did you react to your first package from the Star Citizen community?*

PM: It was cool; the first box of goodies we got was an assortment of Marzipan! It was nice that somebody had made the effort to track down our address and send us a box of treats — a first for everyone on the team, which brought home what this game is about.

NE: We all really appreciated it, knowing that people go to this sort of effort and expense. The whole community has never ceased to amaze us since we first got involved with *Star Citizen*; the support and encouragement is incredible. We are being trusted to deliver people's dreams, and we take the task very seriously.

JP: *Will Squadron 42 feature a mission that requires you to solve complex math questions?*

PM: Not if I can help it.

NE: It would if we let Derek Senior (Programming Director) design one. In fact, most of them would if he were let loose on Design. No complex math will need solving (well, apart from a bunch of the underlying tech), just a great story with really immersive missions.



WHAT IS YOUR NAME?

Erin Roberts

WHAT IS YOUR QUEST?

Star Citizen and *Squadron 42* together are the most consuming, exciting and fulfilling adventure I've been on in my life. We are going to create the best space sim, well in fact, best game ever. This is a chance to achieve our holy grail, a truly immersive and spectacular experience, that will allow the community to more than play, but "live" our story. Nothing less than this will do.

WHAT IS YOUR FAVOURITE COLOUR?

I'm a big strategy and board game player. I've spent many hours falling out with Nick and Phil over games of *Risk* and *Axis & Allies*. I moved back to the UK, away from decent weather in the States, and I've found that you only appreciate good weather when you have bad weather 10 months a year. But hey, when you do get some sunshine in the UK, it's the best damn sunshine you have ever seen. :) Also on the plus side, I get to work with one of the most talented bunch of guys I've worked with in 25 years in the industry, at Foundry 42 in Wilmslow, as well as the other Cloud Imperium studios.



BEHIND THE SCENES



ASTERIODS



ASTERIOD ROBOT



BEHIND THE SCENES

TIBER SYSTEM (GRINDER)



The star traveler's guide to Tiber could best be summed up with a single word: don't. Or rather, **DON'T!** The site of countless battles between man and monster, Tiber is a bleeding wound on the face of the explored galaxy that shows absolutely no sign of healing.

Tiber was first charted by UEE long-range explorers in 2474, at which time it was promptly filed away as an uninteresting star system. A standard K type main sequence star orbited by two small planets, Tiber bore no interesting resources, strategic jump lines or anything else that would make it appealing for terraformers or other developers.

Following the UEE's failure to hold Orion, its forces fell back to Caliban and Tiber. Given the obvious advantages of Caliban, most of these forces were stationed there rather than in Tiber. It should have come as no surprise that the Vanduul seized upon the all but undefended Tiber system as a base for raids further into Human territory. Vanduul tribes moved into the system and essentially established a permanent garrison.

TRAVEL WARNING Do not under any circumstances transit to the Tiber system. Vanduul forces have established a permanent occupation.

EDITH HILVAH

GRINDER

When Tiber's role in the then-shocking Vanduul assaults was discovered, the UEE dispatched its elite Sixth Battle Group on a cleansing mission. Armed with antimatter bombs, the fleet roasted the Vanduul encampments on Tiber II with impunity, leaving the surface a temporarily glowing mess. The response was immediate, overwhelming, and the most seemingly organized action that has ever been witnessed of the Vanduul: elite Vanduul carrier air wings, the best of the best, cut into the otherwise-occupied UEE force and slaughtered them to the last man. Only a single remote observer, stationed at the jump point to Garron, escaped to deliver word of the devastation. Thus was born Grinder, ground zero of a multi-generational war between mankind and the Vanduul.

In the ensuing years, no fewer than nineteen major initiatives have been made to push the Vanduul out of Tiber. Massive fleet actions, attempts at global landings to hold Tiber II itself, and even "clean slate" operations designed to simply eliminate the ability of the system to sustain military occupation have all fallen flat. Millions have died

in these attempts, and the ever-expanding fields of wreckage are now legendary. Countless civilians, seeing the deadly battlefield debris as potential for profit, have made the same leap with similar fatal results.

Today, the battle continues unabated. In addition to regular reconnaissance sorties (and occasional reconnaissance-in-force missions) the system is frequented by thousands of private spacecraft commanders each year. Whether they are attempting to prove themselves by engaging a Scythe in fighter combat or trying to profit from the system's resources, their fate is nearly always the same: left as grist for Grinder.

The only remotely "safe" time to visit Tiber is, surprisingly, during a major battle. With UEE supply chains around the galaxy stretched to the limit, the military is frequently interested in civilian support for combat operations. Support ships carrying medical supplies and other necessities will generally be well-protected, providing they stay away from the battlelines themselves. Of course, identifying where the battlelines hang can be problematic itself.

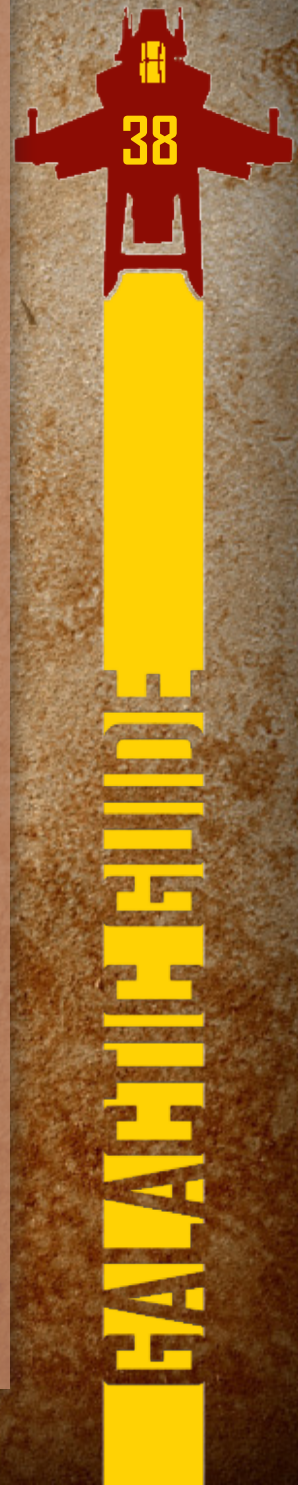
TIBER I

Tiber I is a small, dense planet close to Tiber's sun. The planet's CO₂-heavy atmosphere is breathable, but the extreme heat from the nearby sun would make life here an unpleasant proposition, even without the constant combat. Although extensive surveys have not been conducted, all available research indicates that there is nothing of value on Tiber I, and it is hard to imagine anything being worth the risk and expense of putting a Human there to learn more.

Tiber I's orbit is nestled just inside an extraordinarily heavy asteroid belt, which makes exploration even more difficult. The asteroid belt is otherwise unremarkable, with low concentrations of valuable minerals. This belt is made up of smaller asteroids moving at high velocities, and is largely

lacking in sizeable planetoids that could be converted into hidden bases (a fact of which UEE intelligence, eager to have a listening post closer to Tomb, is all too aware).

UEE deep space photography stations have recorded an unusual movement of weather systems on the surface of Tiber I, which meteorologists believe would allow for periods of improved conditions once every four years. Average clearance is roughly three days, during which the distance imaging seems to suggest the atmosphere itself becomes noticeably clearer, with CO₂ concentrations settling around the planet's nominal polar regions. With Vanduul hunter squadrons nearby, testing this hypothesis has proven a practical impossibility.



Hunter & Swan

by Robert E Waters



CHRONICLES

Part One

“Right here in the middle of this place

I am becoming Mirage.

Let them not see me,

For I am of the sun.”

— Apache Incantation

Benito Redmoon recited the ancient incantation beneath his breath, wishing that he could disappear, become invisible, a mirage to the two thugs that flanked him in the shuttle craft as it punched its way through a turbulent down draft. He had promised himself that he would never again visit Nemo, and more importantly, the Barone family complex. But here he was, abandoning his dignity and pride, sitting between two goons he'd rather kill than look at. They were taking him to see Angus Barone, the master of the house. The old man had a job, and despite his better judgment, Redmoon understood one immutable truth, a truth that his old friend and mentor, Mirage, had taught him years ago: A bounty hunter that doesn't work, doesn't exist.

“You will have to relinquish control of your weapons when we touch down,” one of the guards said, his face hidden beneath the dark visor of his helmet. “Mister Barone’s orders.”

“Has he grown paranoid in his old age?” Redmoon asked, chuckling, though he didn’t expect an answer. He didn’t get one. He liked giving up his weapons about as much as he liked leaving his Freelancer, the Ahagahe, in orbit, under heavy guard. But those were the rules when visiting Barone Enterprises. He’d put up with it for now, at least long enough to hear what the old man had to say.

The shuttle cleared the turbulence and flew smoothly into a shuttle bay on the western edge of the complex. When the craft touched down, the guards got up and helped Redmoon to his feet. He pushed them away and stood under his own power.

“Your weapons, sir?”

Redmoon paused, sighed, then unbuckled his belt, handed over his laser pistol and holster, dug a slug thrower out of his hard black-leather boot, then pulled three small blades from his waist. He handed them all over. The man accepted them, placed them in a plastic bag, and set it on the chair where Redmoon had been sitting. “You will get them back upon your departure. Follow me, please.”

He followed them through a maze of white, sanitized hallways and into a plush, circular room, lights dim, a low strain of music twirling in the air. Near the bar sat a man, short, squat, heavyset but not overly plump. White hair. He was in decent shape for his age. Redmoon recognized him immediately. He frowned. “I resent the rough treatment, Angus. I’m not a criminal. I’m a bounty hunter, or have you forgotten?”

Angus Barone chuckled, climbed off the barstool and walked across the room. He waved the guards off. They left without speaking.

He offered his hand, and Redmoon took it reluctantly. “I’ve not brought you here to fight about our past relationship. I’m here to offer you a job . . . a very important one.” Barone turned and walked back to the bar. “Come and sit, old friend, and let me get you a drink.”

Redmoon ignored the “old friend” remark and followed the little man to the bar. He shook his head. “I don’t drink.”

Barone chuckled again, grabbed a crystal-clear bottle of bourbon, and poured generously. He gulped it. “Oh, yes, I remember. Mirage taught you many bad habits.”

“Sobriety is a good habit, Angus. You should learn it. Mirage taught me truths too, like . . . beware oil barons bearing gifts and promises.”

Barone laughed out loud at that, a deep, phlegmy laugh that made the bounty hunter wince. “I assure you, Benito, that this is no gift. You will have to earn this job . . . every credit of it.”

“I earned every credit for the last job, if you recall, but you didn’t complete payment.”

Barone nodded, looked genuinely sorrowful. “I apologize. Extenuating circumstances. But this time, I promise to make good. Full payment for past services has been factored into this new contract.”

Redmoon paused, then said, “Okay, say your piece. What do you want?”

Barone paused, and his face grew stern, serious. He then tapped a square plate behind the bar. On the far wall a vid screen appeared and revealed the face of a young girl, black hair, blue eyes, petite, with a soft white face, pale lips, thin nose. She wore a worker’s dress, a brown and white shift. Pretty, but plain. “Do you recognize this girl?” he asked.

Redmoon shook his head.



“Her name is Kimmy Swanson, and she used to work for my son Garryn, about five years ago. Kitchen help, wait staff, maid service, things like that.”

He paused, tapped the plate again, reduced the girl’s image to one side of the screen, and then brought up the face of another girl. The two faces sat side by side. The second one was definitely older, with short but well-kept dirty blonde hair, her white skin tanned as if she had been on a beach on Ellis. Radiant green eyes, professional make-up, dark eye-liner, mascara, clearly posed for the camera. Redmoon squinted to pick out the details, and at first, he didn’t recognize her. Then he did.

“You know who that is, don’t you?” Barone asked.

Redmoon nodded. “Yes, that’s Cassidy Hurston, of the Hurston family.”

“Yes, indeed,” said Barone, “also known as ‘The Swan’ by her millions of adoring fans. She’s the hottest pop commodity on the scene today, billions of vids sold. A musical phenom. What do they say about her? . . . ‘Her voice makes the heavens cry.’ Yes, she’s a marvel. But she is also Kimmy Swanson . . . and she is also a murderer.”

The accusation at first did not register with Redmoon. He stared at the faces, very different from one another, even their shapes unique. He shook his head, letting Barone’s indictment of the girl set in. “What did you say?”

“She’s a killer, Benito, and mentally unstable. She murdered Garryn in cold blood, a knife right through the throat. He bled out.” Barone sniffed as if he were forcing back tears. “I . . . didn’t witness the event, thankfully. Garryn was a happy, boisterous, generous boy. Very affectionate. He had gone to the kitchens that day to wish the ladies well. Eye-witnesses said he was just trying to give her a hug. She snapped and killed him. My son. The heir to my family name and holdings . . . stabbed through the throat.”

Redmoon stared at the girls. “They look nothing alike. Their faces are even structured differently.”

“Reconstructive surgery, pigmentation changes, professional makeovers. The Hurstons have put a lot of money behind this deceit, but a simple DNA scan in comparison to Swan’s DNA will prove me right.”

Redmoon shook his head. “Why would the Hurstons plant one of their family members on your staff?”

Barone cleared his throat, as if he were growing impatient. “She’s not Hurston by blood, dammit! She was Kimmy Swanson long before the Hurstons claimed her. A street urchin, a runaway, probably a whore as well. But I don’t care what she was before she came to us, nor do I care what she is now. For the moment that it mattered, she was a killer.”

Redmoon turned away from the pictures and rubbed his chin. “I don’t know of any sanctioned bounties on a Kimmy Swanson, Angus, and I keep up with Guild announcements on such matters.”

“The Hurston family’s power is vast. They have kept the matter out of the courts and away from the attention of the media. They are too well-connected, too influential to allow such a thing to happen to one of their family members, so as far as the public is concerned, she is one of theirs and that’s the end of it. They have altered her appearance and presented her to the world as some musical messiah. But they didn’t fool me. Not everyone in Hurston’s employ is silent. Money talks. I found her, and I want her brought back here to Nemo and handed over to local law enforcement alive. I want you to get her for me.”

“Sorry, Angus. I’m a legitimate bounty hunter, not a kidnapper.”

Barone quickly punched buttons. The girls disappeared and were replaced by a document, with Kimmy Swanson’s face



CHRONICLES

in the upper right corner. Redmoon zoomed in on the first paragraph, read it carefully. It was legitimate. He sighed. "A pending bounty, eh?"

Barone nodded. "I've been looking for Kimmy Swanson for a long time, Redmoon. This bounty has been in circulation for as long as my son has been dead. Yet despite my family's wealth and prestige, I could never get it authorized. I finally found out that Hurston has been quashing it. I do not have the standing or influence to go up against Hurston in a public challenge. The Advocacy is on their side. Any public move on my part, and the girl would slip through my hands and be gone forever. No, I have to seek justice for my son this way. It's the only way, and I need your help."

What would Mirage do? Redmoon considered. It was a question that challenged his thoughts often. The infamous bounty hunter was dead going on three years now, and Redmoon had tried to maintain his teachings, his philosophies about life and about the business. Pending bounties were to be avoided, Mirage always said, for they were illegitimate as far as he was concerned. The only true bounty, he would argue, was one sanctioned publically by the Guild and supported by the Advocacy.

But was that true? Could justice flow only from a publically recognized sanction? Redmoon had experienced sanctioned "justice" first-hand from the UEE military. The universe was a big place, and there was no way the authorities could be everywhere all the time. So where did the common man get his justice when the system refused to recognize his legitimate claim? Where could a guy like Barone seek justice for a murdered son?

Redmoon paused and looked into Angus Barone's deep, dark eyes. He saw no malice or deception there. Barone had lost his son, and he was hurt and angry about it. And the bounty that he had just shown him on Kimmy Swanson was real; Redmoon had seen enough of them to know the difference. Still . . .

"Not a job for me, Angus. There's no way anyone can get close enough to the Swan to snatch her. Multiple layers of security, plus the spotlight on her all the time. It's a suicide mission."

"Normally, I would agree with you," said Barone, "but not this time. She'll be participating in a benefits concert on Terra, one that just happens to be heavily financed and patronized by yours truly. Security will be tight, but there will also be a lot of chaos in the mix. A small but carefully planned tactical strike can get in and out quickly. The job can be done and there's no better time than now."

Clients! They don't understand anything. They think their money rules the hour. "No, Angus. I'm sorry, but you can find someone else."

Redmoon turned to leave.

"Two million!"

Barone's offer stopped the bounty hunter cold. "Come again?"

"Two million," Barone repeated. "A quarter now, and the rest when you return with her alive."

Redmoon stared Barone down. "Why me?"

Barone gave a look as if he considered the question a surprise. "Why not you? You have fallen on tough times. Your recent failed job in the Goss System is well known. I keep up with news too. You are the hand-picked successor to Mirage, and everyone knows it. That is no small honor. But you are also quite different than your mentor. You're not as squeaky clean, and you're willing to take risks. You live under Mirage's shadow, and yet you wish to become your own man. I know your past, I know it well. I know of your unsavory experiences with the Marines. I know your dealings with pirates. And now here you stand, a bounty hunter, of limited reputation but with an insatiable desire to prove yourself, to break clean from your troubled youth.



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I know the kind of person you are, Benito. I know desire and drive when I see it. Here is an opportunity to crawl out from under Mirage's coat tails. Here is a way for you to become the hunter you want to be. Are you smart enough to accept?"

Barone's number rolled over and over in Redmoon's mind. Two million! All of his previous jobs combined hadn't come close to that number. It would more than erase his debt, giving him the freedom to be more selective in the future on what jobs to accept and which to refuse. Plus, the added financial security would allow him, even in lean times, to pursue those loftier, spiritual matters that he found comforting and fulfilling in his mentor's tutelage. And . . . I am not Mirage, nor will I ever be. He could not make it as a hunter by always trying to emulate someone else. Barone was right: He had to assert his own skills, acquire his own reputation. Such a job, if successful, would solidify that reputation forever.

"Two point five," Redmoon said, slamming his hand down on the bar. "And I want full tactical control of the situation. You secure me safe passage to Terra, and then step out of the way. I'll do the rest. For two point five guaranteed, I'll get you your damned pop singer."

* * *

The Swan was good, Redmoon realized. She stood in the middle of a catwalk that jutted out into the excited masses, her long white and azure gown – with frilled tail and shiny crenulations – lying around her slender body like snow. She did not hold a microphone; her transmission device was not visible, though clearly she had one. The hidden mike picked up her crisp, powerful alto and piped it through the auditorium. She sang with full-throated fervor, belting out phrases to the tune that Redmoon recognized as the one that Barone had been playing in the background at his home.

*Let me dive into Olympus Pool,
let me love a Neutron star,
let me know what it's like to taste the solar winds,
and let my light shine for a billion years!*

It was a powerful, stirring anthem that Redmoon appreciated all the more because he had visited Olympus Pool during his time as a pirate. He found himself closing his eyes and mouthing the words as she sang them. He was slowly, slowly being lulled into a fine sense of euphoria, very much like the meditation that his mentor Mirage had taught him to perform before missions; meditation unburdened the soul and unfettered the mind. He started dreaming of those early days, but was quickly brought back to reality by a shrill voice in his ear.

"She's awesome, isn't she?"

It was one of the two crewmen that he had brought to the concert. Redmoon nodded, pretending to care. "Awesome!"

But her talent didn't really matter, he realized. No matter how good she was, how powerful her words were, soon he would meet her. And soon, they would be gone.

Barone had secured safe passage to Terra. Redmoon had done all the rest, pulling strings, calling in favors, greasing palms, able to grease them handsomely with the advance he had been given. He was amazed at how easy it was to secure favors with so much credit at his disposal. He made calls, he made promises, he transferred money, and here he was, waiting and watching. It was all part of the plan. He just had to focus on the moment at hand and play the part.

She sang a couple more songs, one in which two orphans from Elysium found love among the bitter cold of deep space. He liked the song, considered it her finest vocal piece of the night. And then she disappeared in a puff of white smoke. For a moment, Redmoon panicked, worried that her departure schedule had somehow been changed



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at the last minute without his knowledge. But then she emerged again from a trap door in the stage, her dress gone and replaced by a form-fitting body suit of black and violet. The crowd roared, clearly knowing what she was about to do. Redmoon had no clue.

He stood there and watched as a large chandelier moved across the vast open space of the auditorium on a suspended track, dangling down from sturdy cable. The chandelier was lit brightly like earthshine, almost too much to bear, as Redmoon put up his hand to shield his eyes from the glare. Then it dimmed somewhat as it found its mark and stopped, hovering almost 100 feet above the auditorium. The crowd pulsed with each beat of the Swan's stage band, their arms raised up into the air, as if worshipping divinity. Perhaps they were, Redmoon thought. The goddess on the stage, her motions matching her fans', jumped and writhed with each beat.

Then she began to sing again. Not words this time, but just pulses, notes, at first in the lower registers, bass, baritone, and then slowly rising with each octave until it seemed as if she were screaming, like a banshee, wailing her pain to the audience, and they in kind returning the feeling with chants and motion and intensity. The people near Redmoon were no different, but he stood his ground, unmoving, waiting and watching, fixed to the rhythm of the room.

Then the Swan raised her arms and white and gold feathers cascaded down from them. She held them up above her head, and the feathers reached all the way to her fingertips. For a second, it didn't look as if she had arms anymore. She was a bird, a Swan, as if sunning itself in the light of the chandelier. And then she hit a note that Redmoon had never heard before, never knew that Human vocal cords could reach. The Swan opened her mouth and pierced the dull roar of the crowd.

The chandelier exploded into a thousand peppered lights of blue and green and red and gold. Like fireworks, the indi-

vidual pieces of the chandelier erupted upward, spinning like crazed hornets. The Swan held the note and down, down, each shard of crystal began to fall. And then, just above the crowd, the pieces exploded again, this time into a fine dust, luminescent and thin, like star stuff. And the people below raised their hands and accepted the harmless dust as if it were rain.

Redmoon could not help but raise his own hands and catch some of the golden dust, letting it cover his left palm and flow down his wrist. His hand sparkled, but he quickly wiped the dust away, then rifled in his coat pocket and produced a stylus and notepad.

"Let's move," he said, and the crewmen with him nodded and followed him to the edge of the stage where the Swan was scheduled to depart. He would be there to meet her.

It was all planned.

* * *

Cassidy Swan greeted the red-haired journalist the same way she had greeted a thousand like him before, with a quick smile and a limp handshake. Perhaps this one was in better shape than previous ones she had met, perhaps even a little taller, but in most other ways, he was typical: A small set of glasses resting on the bridge of his nose, a stylus and a notepad in the hand, a sly little smile and a glaring spark in the eye. He was old school. She liked that in a way; less pretension.

But it also meant that he would probably ask her the same tired old questions that every other middle-aged reporter had asked: How do you sing so well? When did you discover your talent? How difficult is it to live in the spotlight? She had no desire to answer these stale questions once again. All she wanted was to retreat into her dressing room, find a drink, and rest her voice. But it had been planned by her label as promotion for the upcoming release of her latest vid and concert tour. They had insisted upon it.



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"It's nice to meet you, Ms. Swan," the red-headed reporter began, accepting her hand and squeezing it gently. His hand was warm. "My name is Marcus Reincroft, and this is my camera crew from At Large Media. We're here to interview you, and —"

"Yes, I'm aware," she said, nodding and politely parting the camera crew and walking down the backstage hall, her personal security and various sycophants in close pursuit. "I've been informed of your request. Come . . . let's talk in my dressing room where it's more private. Will this be going out live?"

Reincroft nodded, trying to keep up. "With a 30-second delay. Is that acceptable?"

Swan nodded. "Whatever my label wants is fine with me."

And she meant it. They had been very good to her over the past three years. It was the least she could do to allow the media some special exposure. In fact, it was the least she could do for anyone. Who could have imagined how her life would have turned out just five years ago? She shuddered at the thought of it, but was grateful for everything that she had, and she intended to pay it forward as often as possible. She was hot, sweaty and tired. She was in no mood for conversation. But so be it. Fame had its price.

She stopped her security at the door. "I don't think you'll need to come in, Clyde," she said, giving the burly man a soft tap on the shoulder. "It's small and hot as shit in that room anyway. Just wait out here. I don't think we have anything to worry about from these guys."

Clyde relented but insisted on frisking them before they entered. Reincroft and his crew agreed, allowed themselves to be checked, then followed Swan into the room. When they were in, she turned, shut the door and locked it. "Give me a second, guys, if you don't mind. I need to freshen up a bit."

"Take your time," one of cameramen said. "We'll get set up."

Reincroft gave instructions on where he wanted the pod camera to be placed. The other cameraman had a hand-held and was trying to figure out the best angle to take side shots. Swan listened to their conversation with little interest, letting the water cool her face and trickle down her neck. She grabbed a towel, wiped her face clean, then turned back to the reporter. "I don't remember ever seeing you before, Mr. Reincroft. Are you new?"

The reporter cleared his throat. "Pretty new, Ms. Swan, in some things. But not in this business. I usually handle . . . criminal activity."

She stood up and looked at him. He smiled. "This is my first benefit concert."

Swan nodded, threw the towel aside and took the chair they had set up for her. "And how did you like it, the concert?"

"You're brilliant," he said, stepping backwards until he was standing beside the pod camera. He placed his hand on it. "That thing you do with the chandelier is quite impressive. Care to explain how it works?"

Swan smiled and winked pleasantly. "Not today. One of my many trade secrets, but I assure you that my voice can actually shatter glass."

The reporter huffed. "I'll bet you have many secrets. So, Ms. Swan, while the guys set up the cameras, may I ask you a few starter questions?"

"Shoot."

"There are a lot of charities and causes being benefited tonight. What is your primary cause, your favorite charity?"

Swan breathed deeply and sighed. "Victims of human trafficking."

"I see," he said. "And what were you doing, oh, five years ago?"



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The question surprised her. She had expected a follow-up to the first one, but to come back with such a strange question shocked her, made her breath catch in her throat. She swallowed. "I don't understand the question."

"Well, I mean, you weren't born a singer, I'm assuming. No one had ever heard of you, heard of Cassidy Hurston, and then boom! There you were. Where did you come from? What were you doing?"

She stared at him for a long moment, considered calling for Clyde, but instead, she sat back in her chair, took a deep breath, and smiled. "I'm Cassidy Hurston. The Swan to my many loyal fans, thousands of whom are just beyond that wall. I am the daughter of Phillip Hurston, a cousin to the bigwigs of Hurston Dynamics. I'm proud of my family, and I am proud of the opportunity that they have given me. What was I doing five years ago, you ask? I was singing, Mr. Reincroft. Singing for my life. Does that answer your question?"

The reporter nodded. "Yes, Ms. Swan. I just have one more question before we begin." His hand reached underneath the pod camera casing and stayed there. "Have the decisions that you've made in your personal life over the past several years shaped the woman that you have become?"

She stared at him, felt a tear well in her eye. She nodded, her voice wavering. "Yes, they have."

He gave her a big smile, then said, "Thank you, Ms. Swan, for your honesty." He looked at the cameramen. "Okay, guys, eyes on me! Are we ready?"

They both nodded and looked at the reporter. Swan fixed her eyes on the tall man, whose hand inside the camera casing now moved so fast that she could see nothing but a blur. But he suddenly closed his eyes, bent at the knees as if he were bracing himself, yanked something from inside the camera and threw it hard at the floor near her feet.

A blast of white light hit Swan like a supernova.

The concussion of the strike knocked her from her chair, although she didn't remember hearing any blast. She hit her head on the floor, her eyes closed tightly. There was commotion, and she tried blinking, tried lifting herself up on her elbows, but could not get the proper orientation. An image was moving fast . . . was it Reincroft? She couldn't tell for sure, but it was doing something. Swan blinked hard, tried mouthing words, and was only able to make out a fuzzy shape moving in rapidly and then separating from another fuzzy shape on the floor. She managed to raise her hand and rub at her eyes.

More of the room came into focus.

The moving shape was indeed the red-headed reporter; that much she could tell. He had pulled a camera from one of the cameramen, ripped open its casing, poked at it, then laid the camera against the far wall. Then he moved toward her, like a dark shadow, with his arms extended as if to hug her.

He hurled himself onto her, covering her body like a blanket. She heard his muffled voice, "Stay down or you'll die!"

A few seconds later, the camera exploded, and the wall it was lying against blew outward. Dust and debris went everywhere, and there was banging on the door. But the reporter didn't respond to it. Up she went over his shoulder, like a sack of meal, his strong hands gripping her sides and keeping her from falling. Then he ran. He picked up the other camera that had fallen during the blast, tucked it under his arm, and then stepped through the hole in the wall.

For several minutes, Swan fell in and out of consciousness, feeling the incessant bouncing of the man as he moved relentlessly. She felt like throwing up, but slowly, the world was coming back to her. And then there was color once more, and cool air, and the harsh breathing



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of the man who held her. There was gunfire as well, the ground around them popping as each slug hit the gravel and concrete and sparked. A round grazed the man's side, and he stumbled for a moment, but kept his balance, and his grip, on her.

"What . . . what are you . . .?" she slurred, trying to pull herself up. "Let me . . . let me go . . ."

She said it over and over, eventually screaming the words, as she tried flailing at his back. She was upside down, over his back, her face level with the man's waist. She reached down and tried weakly to claw at the small of his back, tried grabbing his belt and pulling, pushing, trying to do something to slow him down, to make him stop. He smacked her hard on her left thigh. "Be still," he said, "or you'll get us both killed."

"I don't care! Let me go!"

More gunfire hit the concrete guardrail nearby. The man jumped over the railing, knelt down and let her slip off his shoulder. She went down hard on her tailbone, and yelped. His hand was around her throat, squeezing tightly. "Now, shut up."

He kept his grip on her throat while he smashed the camera against the railing, fumbled through the broken pieces, and produced a small laser pistol. She recognized its thin, sleek power supply, its reflective metal sheen. It was a good model. He flicked it a couple times, then powered it up with his thumb, leaned over the railing and fired. Multiple shots, quickly. A few more shots, and the gunfire subsided.

"Who are you?" She asked him through raspy gasps. She could hardly breathe from his fingers tight across her throat. She tried breaking free again. "What do you want?"

He did not answer, but his hand released its pressure on her throat. She knocked it away and slashed at his face,

her long, fake fingernails finding his cheek and making three deep gashes. One of the fingernails broke off in his flesh. He fell back a little, obviously surprised by her sudden attack. It disoriented him, although he did not say a word. Swan pushed away, scrambled to her feet and tried to run.

His hand was on her ankle immediately, twisting.

She screamed again and tried crawling away, but he was on her, straddling her stomach, pushing her into the hot asphalt of the road. "Please," she said. "Please let me go. Please . . . don't kill me."

That last plea seemed to stop him for a moment. The man stared back at her, his jaw muscles working madly. Blood trickled from his cheek, but he ignored it, letting a drop fall on her neck. He wiped the blood away with a soft finger, rummaged in a pocket, and pulled out the stylus he had held earlier. "It's not my decision whether you live or die, Swan. I just do what I'm hired to do." He held the stylus like he was going to write something, then he said, "And it's time for you to take a nap."

Before she could scream again, he jabbed the pen into her neck, right where his blood drop had hit.

A bolt of electricity jumped through her body, hit her brain, and knocked her cold.

To be continued . . .



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