

total

3dtotal's free emagazine



03

THE
CHARACTER
ISSUE

Editor's letter

Welcome to total magazine issue three, the first issue of 2018! We have been overwhelmed with the popularity of the first two issues and we hope just as many of you enjoy the latest issue. This month focuses on characters with a wide range of tutorials to help hone your character design skills. So, get stuck in and see what characters we can help you create!

Randy Bishop designs a 1920s costumer, Deniz Zilber talks us through his loan shark character, Tanvir Islam shows us how to design a fantasy character, Ahmed Aldoori illustrates a medieval jester, and design and draw a sci-fi character with Brun Croes. We also share some of our favorite 3dtotal gallery images from the last couple months!

But first, take a look at what we're up to here at 3dtotal this month...

Jessica Walsh
Editor

What's inside

03 | 3dtotal this month

05 | Design a 1920s costumer

By Randy Bishop

17 | Loan Shark

By Deniz Zilber

25 | Best of the 3dtotal Gallery

By 3dtotal staff

35 | Designing a fantasy character

By Tanvir Islam

55 | Illustrate a medieval jester

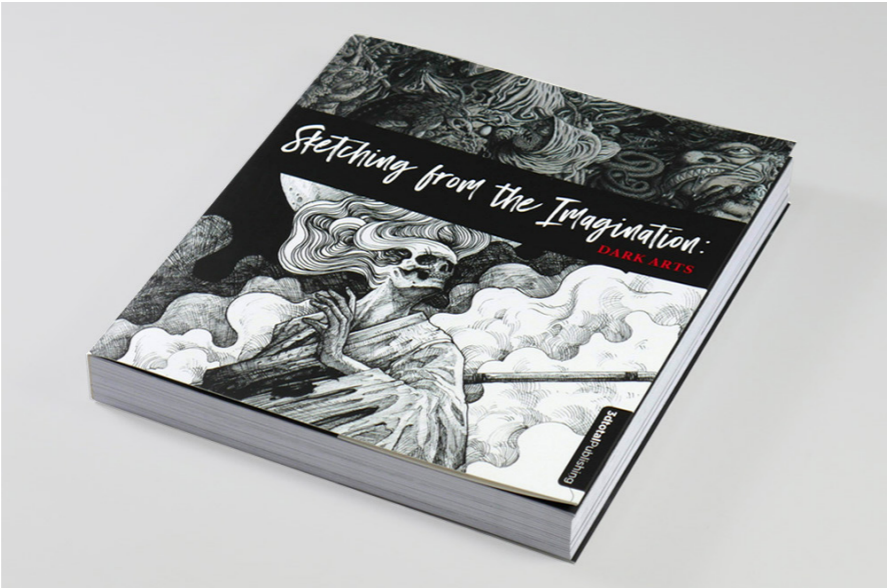
By Ahmed Aldoori

69 | Design & draw a sci-fi character

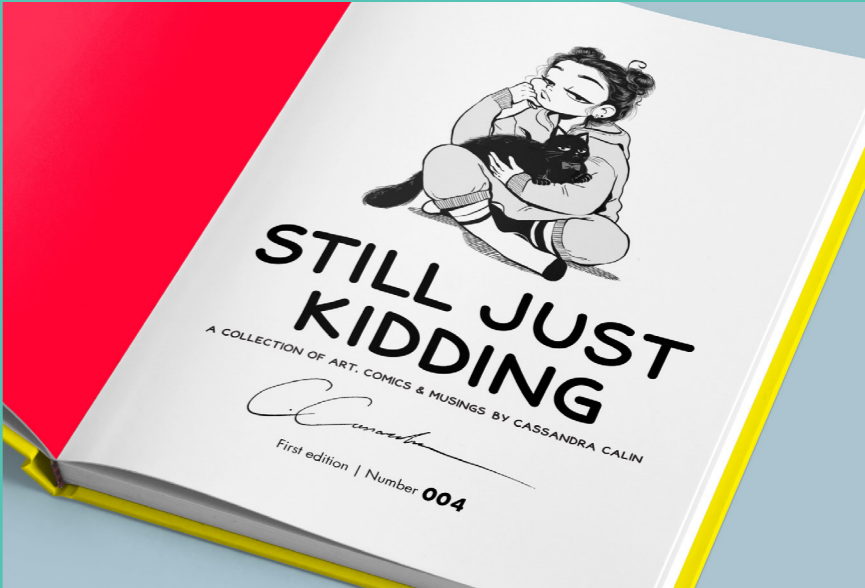
By Brun Croes

New titles

Our newest title follows on from the success of previous titles in the popular *Sketching from the Imagination* series. Glimpse inside the sketchbook of fifty accomplished artists from various fields in *Sketching from the Imagination: Dark Arts*, as they share their inspiration, favorite tools, and techniques. Grisly beasts, morbid figures, foreboding compositions, and unearthly concepts line the pages of this darkly alluring volume. Whether you're a beginner or experienced artist, or just a lover of the dark arts, you're sure to find something to inspire and intrigue.

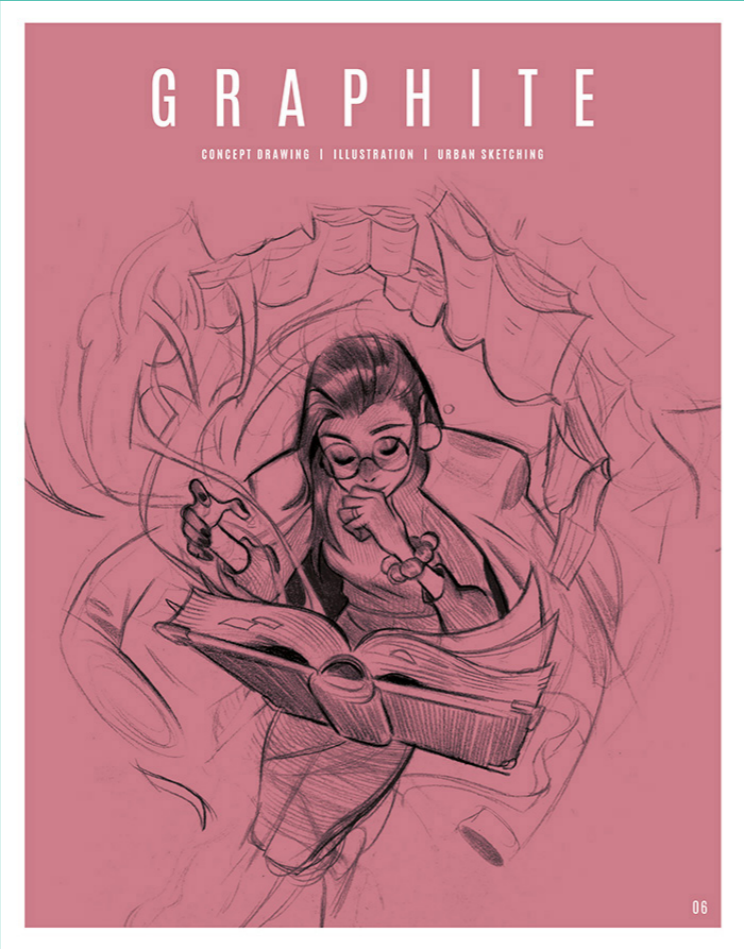


The Still Just Kidding Kickstarter campaign with webcomic artist Cassandra Calin has now finished! We would like to say a huge thank you to each and every one of the 2,374 backers that supported this campaign and helped us to raise a total of £97,683! We really can't wait for you to get the book and all the extra rewards! If you missed out on the Kickstarter, and are interested in getting a copy of the book, it is available to pre-order in our online shop.



Issue 06 of *GRAPHITE* is now out. With features from talented artists including cover artist Jason Lee, Jordan K Walker, and Ulla Thynell, find tutorials on character design, sketching on location, drawing dinosaurs, sci-fi illustration, folklore-inspired watercolors, and more!

“Graphite is a beautifully composed art-grade publication that explores drawing in a variety of techniques and features interviews that give a real insight into the value of drawing as part of an artist's work”



Character Design Quarterly issue 04 comes out this month meaning that the first full year of CDQ is complete! Don't forget to re-subscribe if you want to keep getting the issues after this one! In issue 04, you'll find an interview with cover artist Pernille Ørum as well as features from other talented character designers such as Guille Rancel, Stephanie Rizo, and Jeff Harvey!

“One of my favorite art publications with lots of great advice, great profiles and really amazing art”



Design a 1920s costume

By Randy Bishop

Web: randybishopart.com

Featured in:



Digital Painting
Techniques
Volume 8

Available from shop.3dtotal.com





In this step-by-step tutorial I will take you through my process for designing costumes for characters. Costume is an important part of character design and should not be overlooked or done half-heartedly. For every character I design, I try to familiarize myself as much as possible with the relevant fashion and lifestyle of the character’s environment. If the character appears in a story that is based in reality, it is important to know the cultural climate that the character lives in. A big part of costume design is therefore research. It is essential to know how clothing is constructed, how different materials drape over the figure, and how to communicate all of that in your artwork.

Almost all of my work is created digitally, so for this tutorial I will be using Photoshop. There are a lot of advantages to working digitally and I will try to illustrate a few of them in this tutorial. This isn’t the process I use one hundred percent of the time, but it is a process I have found a lot of clients appreciate.

01 Rough concept sketches

For this 1920s-themed character I have learned a lot from my familiarity with J. C. Leyendecker’s work. He was an excellent American illustrator who was working during the 1920s and 1930s, and he had an exceptional ability to portray the clothing of the time. Knowing a little bit about 1920s fashion from the beginning, I start to work on costume designs with a few rough sketches using a pencil brush. I generally like to have between three and five solid concepts at this stage.

01
I roughly sketch between three and five concepts

02
Refining the sketch by drawing on a new layer over the rough sketch

03
Try to preserve the life of your sketch when you are inking



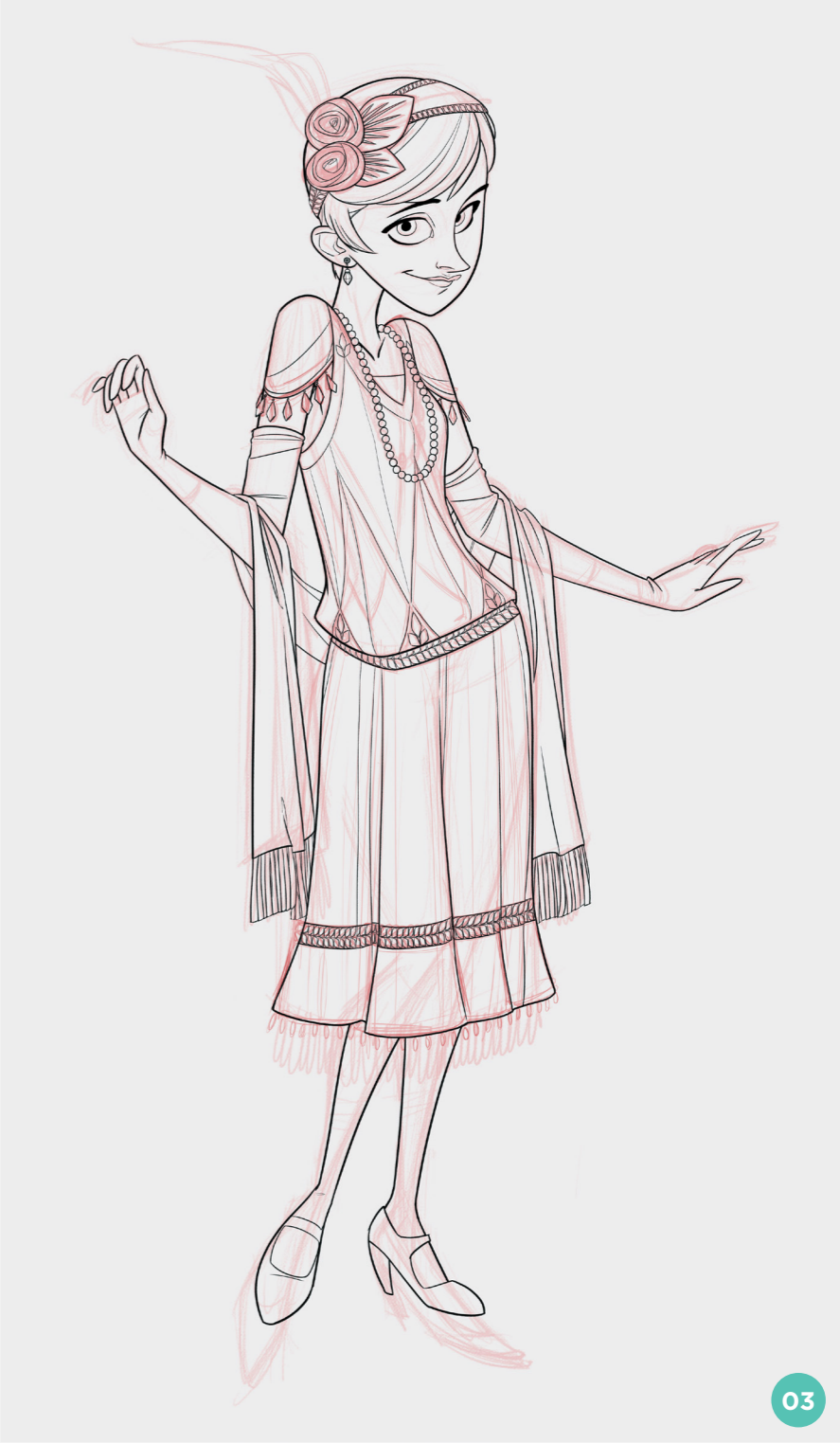
02 Refining the sketch

I usually gather a lot of images to use as inspiration for my work and then use different elements from different sources in my design. For this concept, I draw directly over one of my initial sketches on a new layer to add details that are inspired by my reference images.

Using multiple layers is really helpful when designing costumes for a character. I make adjustments to her proportions and change aspects of her clothing, adding details to keep the viewer’s interest a little longer. Once I have a fairly refined sketch, I will move on to drawing clean lines.

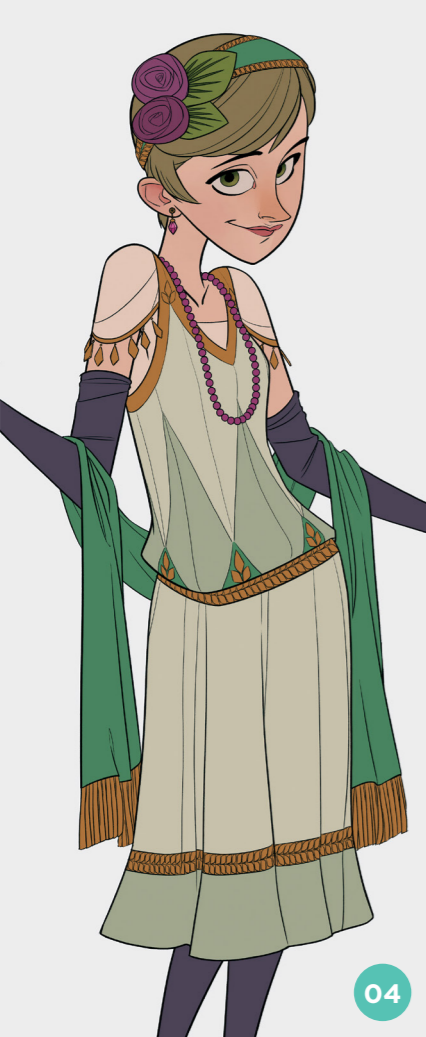
03 Inking clean lines

When you are inking new, clean lines over a sketch, it can be hard to maintain the life and integrity of your original sketch. To avoid losing this aspect of my sketches, I ink my pieces with an ink brush as if I am drawing them for the first time. As a result, not every line will lie directly over the sketched line that sits on the layer beneath it, but the design will still be as I want it. It is also important to put



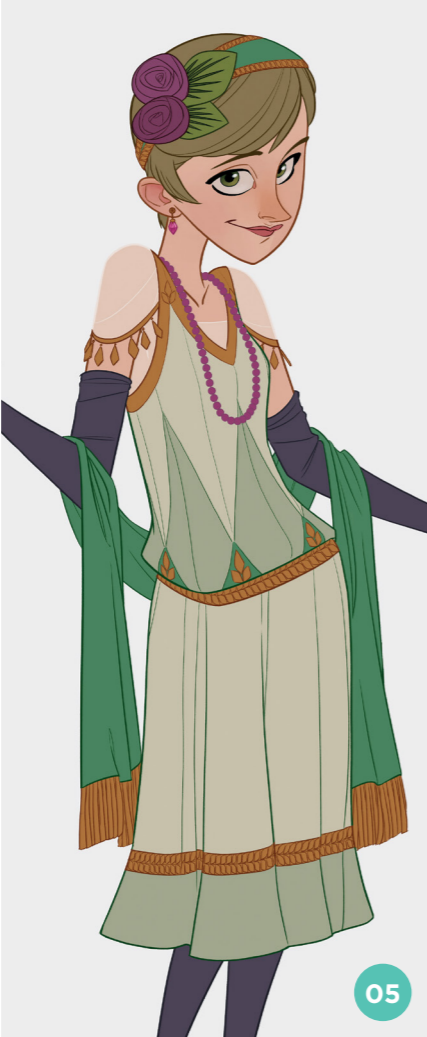
lines down confidently at this stage. If you hesitate as you are placing a line, it will show. If you want really clean lines, you need to make them like you mean it. For me, it helps

to put lines down quickly so that there isn’t as much time for my hand to shake or stray too much from the sketch underneath.



04 Flat color

Once I have completed the line work, I add a new layer underneath it on which to add color. At this point I only worry about the local color. As a character designer, knowing how the local colors of a design work together without any light hitting them is more important than worrying about the values in a composition. Designing a character is about creating something that is going to look good regardless of the lighting situation. In this case, I decide that a red-violet, green, and red-orange palette suits the character quite well. I paint blocks of color with a paintbrush and try to make sure that the values of each color contribute to an overall appealing color scheme.



05 Colored lines

Once the flat colors are there, I apply colors to the line work to add a little more complexity and appeal to the design. Black lines are great for many purposes, but in this case I want things to feel softer and warmer to fit the character. I particularly want the translucent sleeves of her dress to communicate well and I can't bring that about with a black line. Instead, I achieve this by locking the transparency of the layer that my line work is on by clicking the square checkerboard "Lock transparent pixels" button in the Layers panel, and then simply painting over the lines with the color I want them to be. Locking the transparency on a layer ensures that only the elements that are already there can be affected by any changes on that layer.



06 Background

When presenting a character design, the color you choose for your background should complement the colors you have already established in your character rather than act as a distraction. Blue-green acts a pleasing complement to the red-orange accents in this character's costume and also contrasts nicely with the warm tones in her face.

At this stage I also make sure I indicate a shadow beneath the character to make her feel grounded. I do this by painting a darker

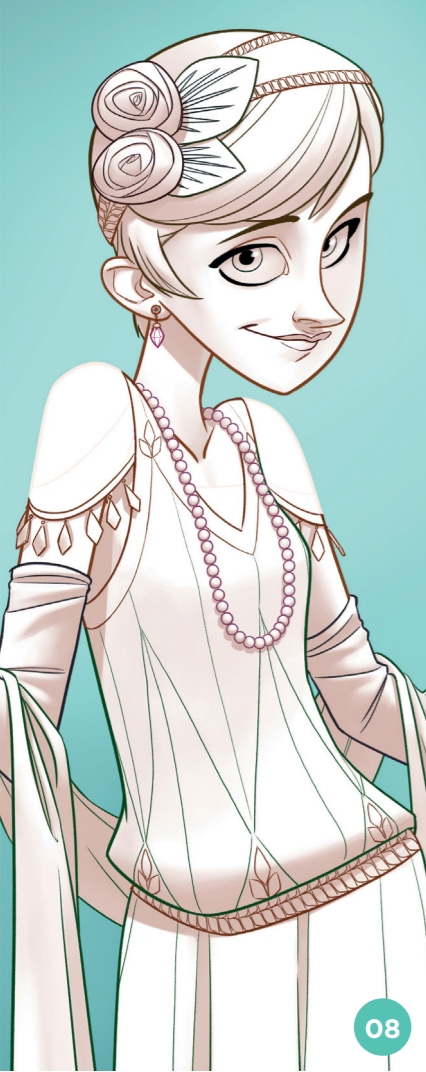


patch directly around her feet. To achieve the soft, atmospheric feel in the background, I block in the values I want with a heavily textured brush and then use a Gaussian Blur filter on the whole background to blend the values together (Filter > Blur > Gaussian Blur).

07 Shadows

Once the background is in place, I move on to indicating values on the character by adding shadows. It is important to study how light reacts to form. There are a lot of soft, gradient-like shadows in this piece as well

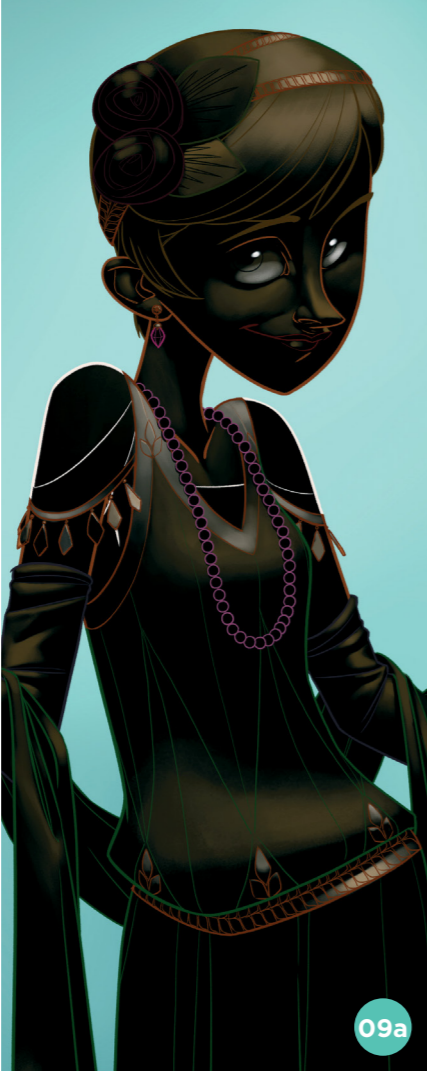
as some harder cast shadows. Photoshop is a great tool for character designers because it offers you tools that can aid you in producing several iterations of a character; I will use a Multiply layer (which darkens the colors beneath it) in the next step to add the shadows. If you are going to produce multiple color combinations of a character, or if you want to be able to change the local colors on your character easily, it is a good idea to keep your colors, shadows, and highlights on separate layers.



08 Multiply layer mode

The Multiply layer mode allows you to add shadows to a painting without having to worry about mixing the colors yourself. The way I use it is to duplicate my color layer so that I have two – one on top of the other. I make sure I lock the transparency of the top layer and then fill that layer with white. The reason for this is that white does not show up on a Multiply layer; I only want to add shadow at this stage, which I will do by painting over the form of the figure in a light brown. This also allows me to think about form without being distracted by the values of colors.

Once the form is defined the way I want, I change the layer mode to Multiply, which



blends the values and colors of that Multiply layer into the values and colors on the layers beneath. This means that if I decide to change the color of the character’s dress or gloves later, I can simply make the change on the color layer without worrying about indicating the forms over again.

09 Screen layer mode

I now use the Screen layer mode to add highlights (image 09a). Screen acts like Multiply mode except that instead of darkening the colors beneath it, it lightens them. I duplicate my color layer again, lock the transparency, and then fill it with black. Just as white doesn’t show up in a Multiply layer, black doesn’t show up in a Screen



layer. It is hard to paint highlights in an entirely black layer, so before I begin on the highlights, I change the layer mode to Screen so that I can see what I am doing. You can see the design once highlights and shadows have been added in image 09b.

“I look over the entire image to make sure that everything looks correct, as it is always a good idea to review your work once you think it is finished”

08

I add shadows to the character on a Multiply layer using the line art as a guide

09a

The Screen layer mode is a useful tool for adding highlights to an image

09b

How the image looks after shadows and highlights have been added

10a

Creating light from a second light source with Screen mode can add even more appeal to your image

10b

The two light sources blend as they would in the real world



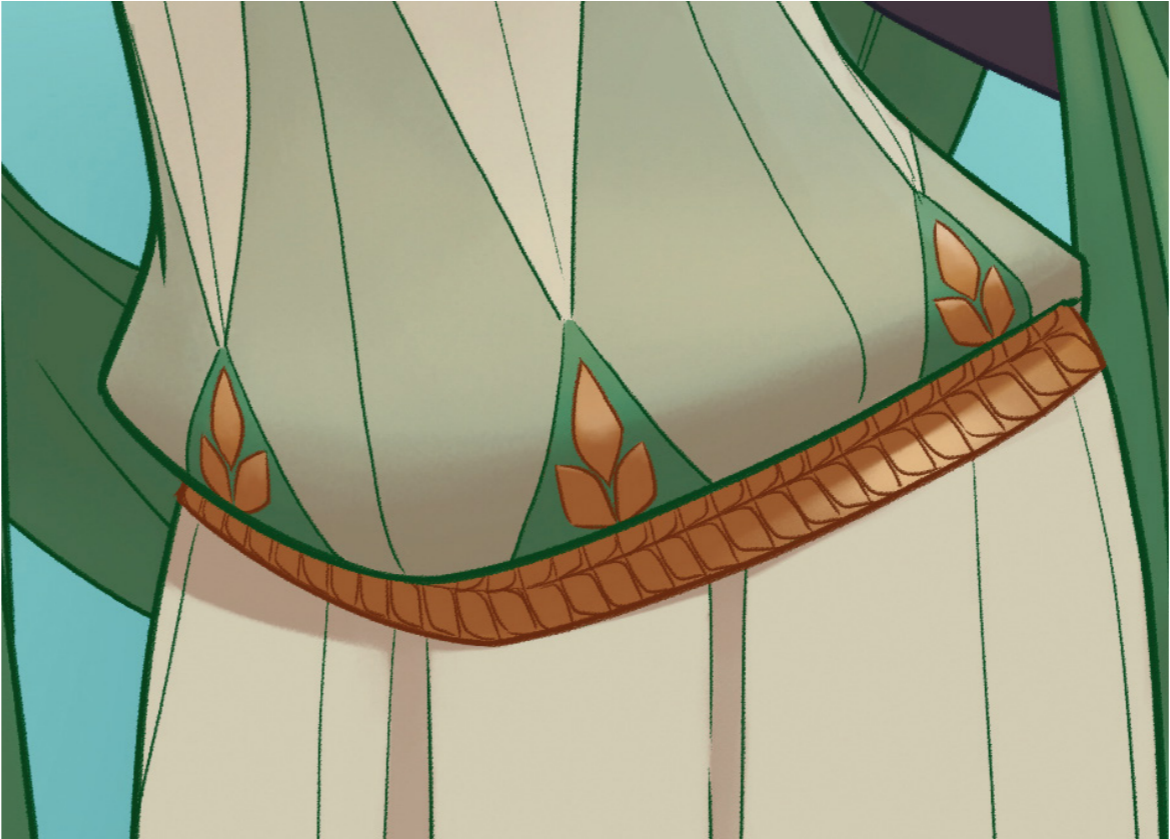
10 Rim light

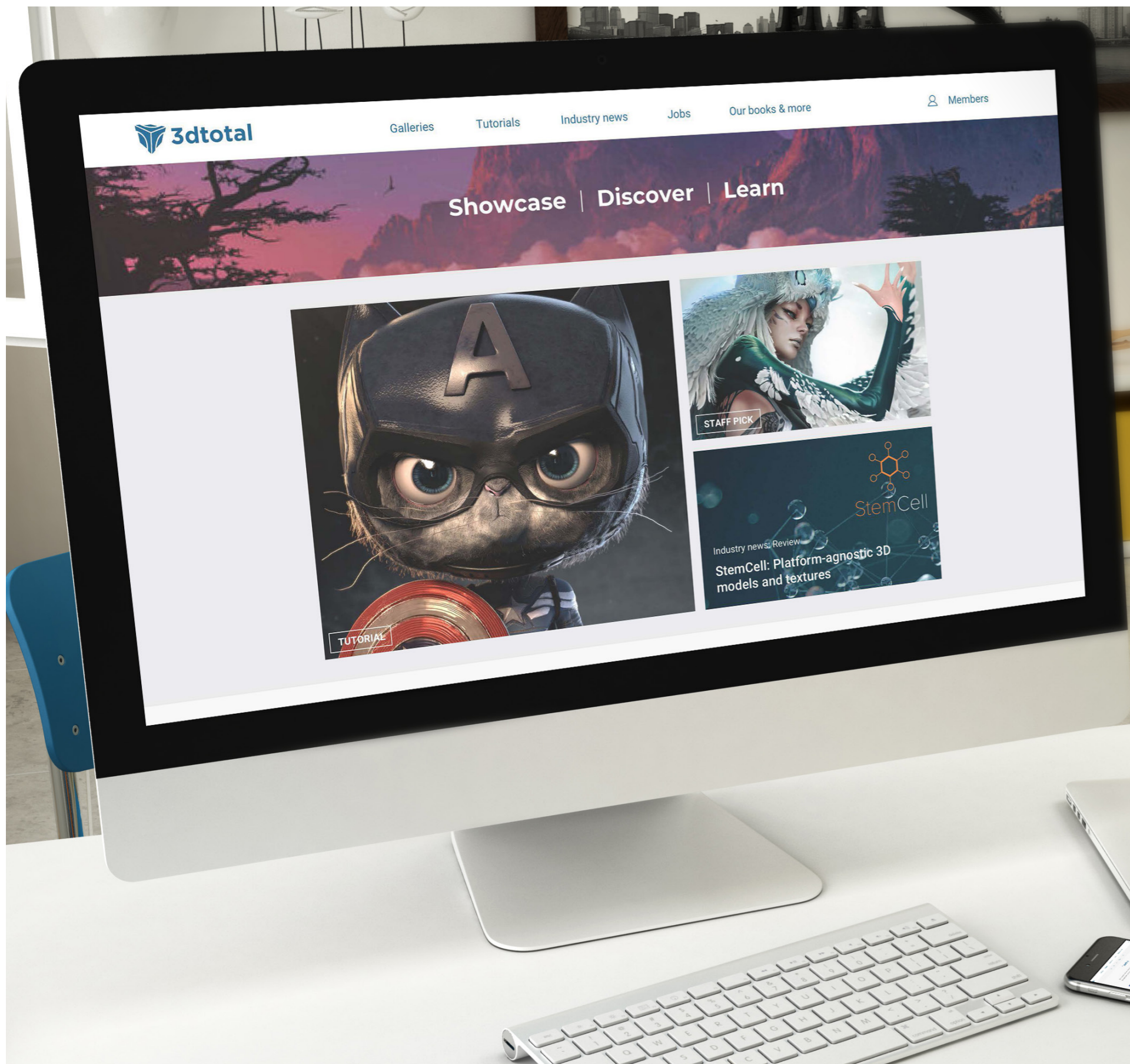
After I have added the highlights, I want to add a second light source creating a blue-green rim light to blend the character and background. I use the Screen layer mode again, but I use a separate layer so it is easier to edit (image 10a). Using Screen mode also blends the two light sources together just as they would blend together in the real world (image 10b).

11 Final artwork

After the rim light has been added, I look over the entire image to make sure that everything looks correct, as it is always a good idea to review your work once you think it is finished. I make a few small adjustments to some of the layers and decide to call it finished.







New

3dtotal website

The 3dtotal site is getting a makeover this year, its first update in seven years! This has been in development for a number of months and we hope to be able to share it with you soon! Check out our new blog for all updates on its progress and to share your thoughts!

**CLICK
HERE**
TO READ
OUR BLOG

Loan Shark

By Denis Zilber

Web: www.deniszilber.com

Featured in:



Digital Painting
Techniques
Volume 5



3dtotal

Hi guys! Today I'll be showing you how I designed a loan shark. It's quite an exciting character to design, with a lot of cultural references. Loan sharks are widely used in movies and literature, and are definitely one of the most interesting character types I've had a chance to work on.

Reference

Before actually starting to design my loan shark, I have to decide what he should look like. What are his main attributes and characteristics? I imagine this guy to be around 50 – 60 years old, bulky, stocky, maybe fat, maybe bald, or with brown or black hair. He is a respectable man, well, at least in his neighborhood. He is rich and as a sign of

his social status he wears a lot of gold: a gold watch and heavy golden rings.

Basically his social status and respectability are the only things he cares about, because they provide a solid basis for his business. His everyday activities lie within that gray area between criminal and legal, which allows him to hang out with a bunch of bad guys and at the same time stay out of prison. He is not a mobster (although maybe he's a former one), but he knows what life on the streets is like.

I imagine him wearing an old-fashioned blazer or leather jacket. He might even just wear a shirt with suspenders, something from the early 70s or 80s when he was young.

A yellow or red colorful silk shirt, with a funny flower or paisley pattern on it, with bright jeans, snake leather red boots or shoes, and a huge sparkling belt buckle with a big dollar sign decorated with rhinestones. He is a kind of macho man; he is very hairy, with a hairy chest and hairy arms, and a big black mole on his cheek, which makes him unpleasant to look at.

After I have decided how I want my character to look, I search for photo references on the internet. I imagine him as Tony Soprano, dressed like Nicolas Cage from Snake Eyes. Goodfellas is another great movie for research for this reason.



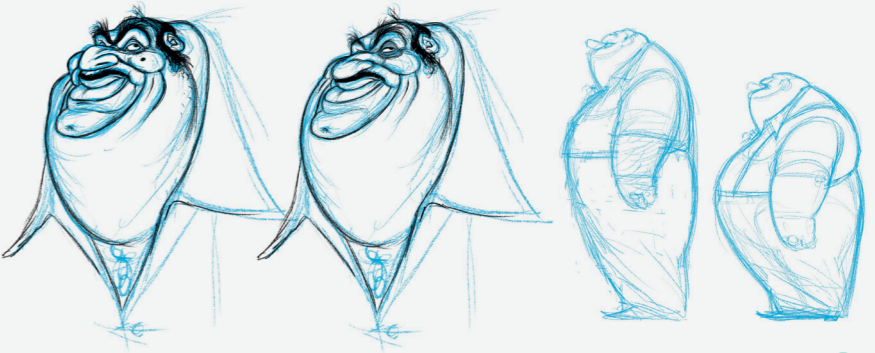
“When I sketch a test of the face, I come up with the idea of a thin, little mustache that would make him look like some comic banana republic dictator, which is always funny”

First sketches

Once I have gathered all the reference material I need for my work, I start doodling. I sketch a couple of tests of different shapes, trying to stick to a square shape in order to make my character heavy and fat. When I sketch a test of the face, I come up with the idea of a thin, little mustache that would make him look like some comic banana republic dictator, which is always funny (Fig.01).

Jokes aside, at this point I start building up the character with a rough sketch first, then another pass and then another, more refined and detailed version. By the time I have reached the third design, I've made his eyebrows bigger and bushier, and changed his nose from a bulbous one to a hawk-like one. I feel these details will make him look more dangerous and less silly. Another detail that I decide that he has to have is a cigar and it has to be Cuban (Fig.02).

I move on to another pass, this time from a side view. I complete a couple of full-body sketches from the side, just to see how this character might look in his full scale. At this stage I reach a turning point in my design process. I realize that my design is not good. Well, maybe my loan shark does have a certain amount of character, but he's turned out too realistic, too complicated, less simplified and stylized than I think he should be. I feel like I need a funnier character, someone more suitable for an animated movie, someone more exaggerated and grotesque. I decide to start over (Fig.03).



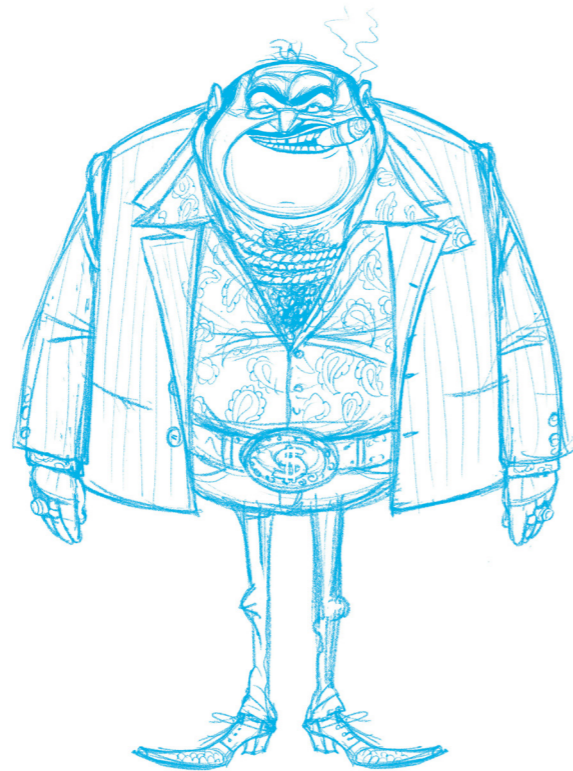
Refining the Sketch

In **Fig.04** you can see the new design that I come up with. As you can see it is a completely new style, with new proportions and less realism and he looks more grotesque too. I have left the main attributes of his personality, his outfit and his body type, but just changed my overall approach by making him in more of a cartoon style and less of a caricature.

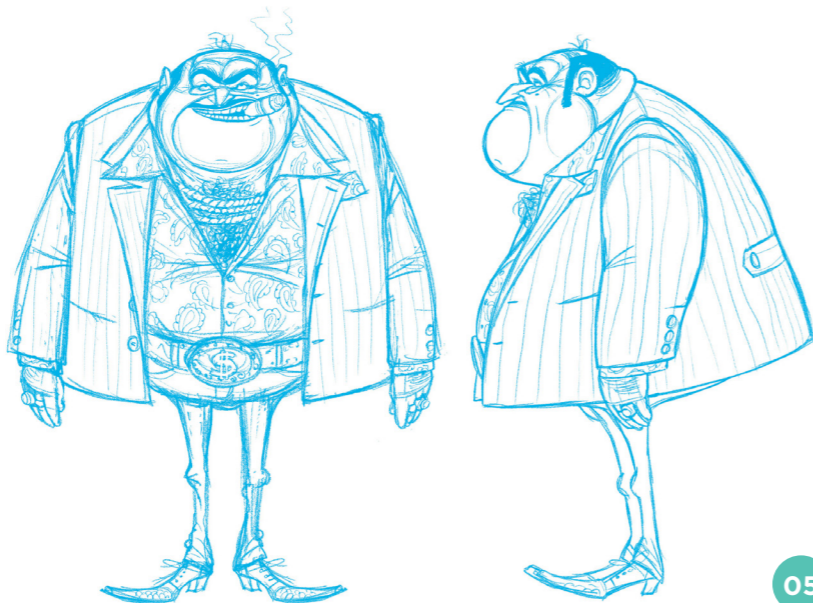
I sketch another pass of the side view. It's important to keep the same proportions when you switch to the side view. In most cases I have to tweak my front view as well, because not everything that looks OK in the front view looks the same when you place it within a 3D space. That's why I think it's really crucial to imagine your character as a 3D object at the very beginning of your design process; otherwise you may end up with something that will be really hard to animate later (**Fig.05**).

In **Fig.06** you can see a few hand poses that I have sketched. I wanted him to have fat fingers and small nails. His palms are soft because he has never done a hard day's work in his life; the heaviest thing he has ever lifted is a roll of bank notes. He talks a lot with his hands, using very expressive hand gestures, mostly with two or three fingers and usually while holding his beloved Cuban cigar.

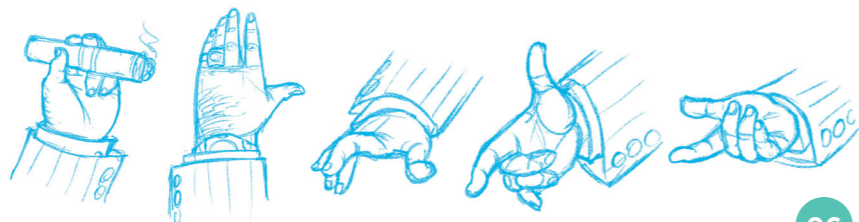
I continue to sketch a series of facial expressions. Our guy has a fat and fleshy face, so when his facial muscles move or when he moves his jaw down or to the side, the whole of his face changes shape. The most important feature of the face for expressing emotions are the eyebrows, so I had to make them as big and flexible as physically possible. In real life, and especially in animation, when eyebrows move so do all the upper parts of the face: the forehead, eyelids and nose. When working on facial expressions, it's a good idea to keep those things in mind (**Fig.07**).



04



05



06

Painting

At this point it's time to start painting our character, so I put my sketch on the top layer, with 10 – 20% Opacity and Multiply blending mode; this is so I can clearly see what is happening beneath. Then I create different shapes with the Photoshop Pen tool, separate them into different layers and lock their transparency. I color these shapes with basic colors, with each color block in a separate layer. This makes my life easier when painting, as by working with an object in a separate layer you can always undo decisions that don't work without ruining the whole image.

Apart from painting, I make one design on the spot, well, two actually. First I decide to give up on the idea of him being bald, and instead give him a nice, greased, black, mobster-style haircut. It makes him look stronger and more masculine; less like an accountant and more like a guy you wouldn't want to mess with. The second decision is to change his bright blazer to a leather jacket, which makes him look a bit less classy and more of a low-level thug. The leather jacket, in my humble opinion, looks much cooler than any blazer. I have one myself and Tony Soprano, by the way, had one too; you don't need any more reasons than that (**Fig.08**)!

Color and light

I reach the stage where I begin blocking in basic colors and volumes, as sort of under-painting that I will later refine pass by pass. On the subject of basics, I usually tend to start to color an image with an ambient occlusion. This means that firstly I decide what the lighting conditions are within the scene and what the diffused lighting is. The color of that diffused lighting will strongly affect every object (especially the shadows) in my scene, making colors shift toward warm or cold sections of the spectrum.

In this particular case, my character is placed within a neutral white environment, so there is no color shift. But when it comes to adding



07



08

highlights, reflections and polishing later on, I'll have to add some subtly white reflections on the edges of highly reflective objects, such as hair, metal, leather and human skin.

For now the only thing I do is paint soft shadows on the Ambient Occlusion layer, in areas where diffused light doesn't reach. I also make the surface that we see from bigger angles slightly darker. Although our main lighting is diffused, (e.g. coming from all around), as long as there is some kind of floor in the scene, even a white one, the amount of light coming from above will be significantly bigger than that reflected by the floor. So, basically all surfaces facing downwards will be darker than those facing up (Fig.09).

Finishing touches

At this point I am almost done. The two most important elements to this character are his face, of course, and his leather jacket, so I paint them first. They both have to be rendered perfectly – the face for obvious reasons and the jacket because if it isn't it may look like plastic. Leather has its own unique texture, which reflects light differently in different areas, dependent on how greasy or shabby these parts are. In many cases manufacturers also add some texture variations to leather, so we should take all these details into consideration when painting leather.

In addition to the white diffused light, I decide to add another light source: some kind of warm, soft spotlight right above our guy's head. This will make the skin tones warmer and will also make the shadows darker (in physics terms it's not true of course, it's only an illusion created by the higher contrast between shadows and light).

I complete a final pass and a side view of the character is added. I do a lot at this stage. I paint a nice paisley pattern on his shirt, finish his white jeans using a rough fabric texture, and paint his shoes using a real snakeskin texture. I also paint his hands, golden rings

and his belt buckle. I tweak the tone of his skin, making him slightly redder; I also add some additional highlights and made the shadows darker in some places (Fig.10).



Best of the 3dtotal Gallery

Featured artists:

Ian Spriggs

Frederik Sallaerts

Cristian Ramirez

Raoni Nery

Alvaro Zabala



3dtotal



Portrait of Liz and Gabriel

Left

By [Ian Spriggs](#)
Web: [ianspriggs.com](#)

If you haven't checked out Ian Spriggs' artwork you really should! He has an ongoing personal project, sculpting family and friends, and they're exceptional. A portrait is about more than likeness, it's about personality, and Ian does a great job of conveying that.

Portrait of Tony

Above

By [Ian Spriggs](#)
Web: [ianspriggs.com](#)

Another of Ian Spriggs' artwork makes an appearance! I just love the realism in his sculpts like this one of his long time friend Tony. I am blown away by this portrait! Ian has got this spot on down to every little detail!

Rex

By [Frederik Sallaerts](#)

Web: free_one.artstation.com

Just love this cheeky little hamster. Not only is it a great, characterful model, but it also tells a story. Outside in the grass, uncontained happiness – Rex has escaped!





Coffee Break

Far left

By [Raoni Nery](#)

Web: [raoninery.com](#)

Who doesn't love a good sloth creation? This is great, cute, and just so fun, done with amazing detail and great technique. It perfectly describes me on a Monday morning and I think it brings out the inner, coffee-loving sloth in all of us.

Evil Mastermind

Near Left

By [Alvaro Zabala](#)

Web: [alvarozabala.com](#)

I love this stylized character. Technically, it's a great image down to every last detail! The character's expression and body language means you don't even need to know the title of the artwork to know that this guy is a villain.

**Submit
your
gallery
images!**

Click here for details



CHARACTER DESIGN QUARTERLY

A PRINTED QUARTERLY ART MAGAZINE
SUBSCRIBE NOW FROM JUST £35

WWW.CHARACTERDESIGNQUARTERLY.COM

NEW
SUBSCRIPTION
OPTIONS
AVAILABLE



Designing a fantasy character

By Tanvir Islam
Web: facebook.com/tanvirmni

Featured in:



3dcreative
December 2015
Issue 124

+plus

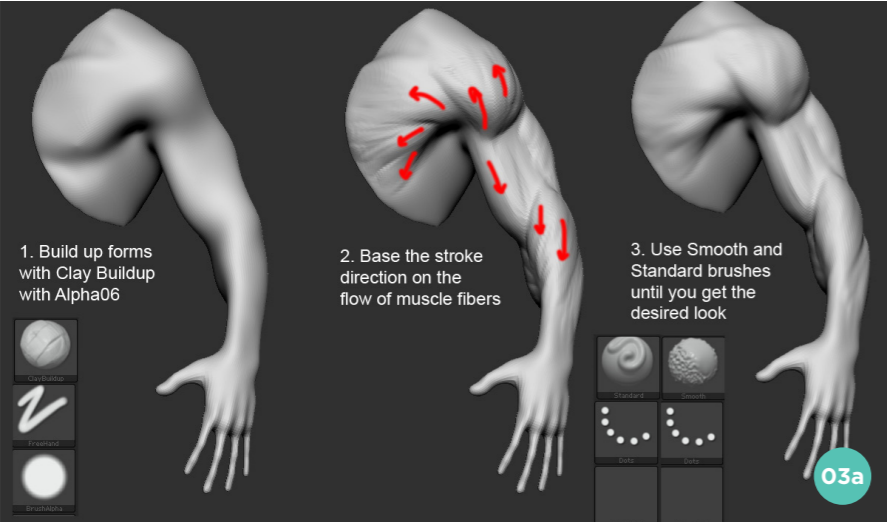
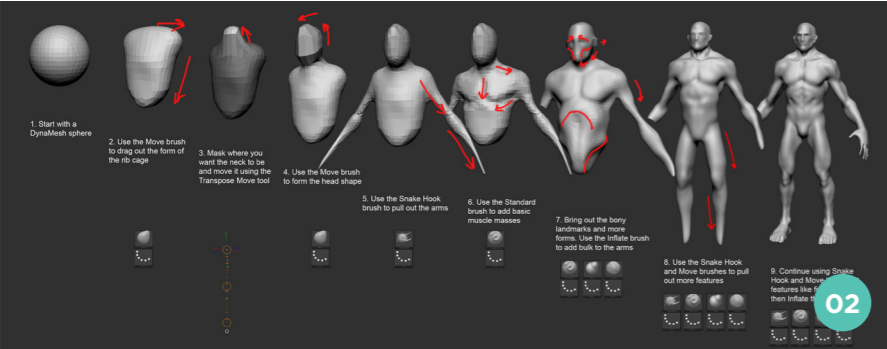
- Designing for videogames
- Versatile ZBrush sketching
- Creating textures for sci-fi spacecraft
- Designing a fantasy character
- Mastering displacement details
- and much more!

**MASTERING
STYLIZED
CHARACTERS**
We take a look at the fun and
striking artwork of freelance
artist Dmitry Cheremisin

**3dcreative
magazine:
issue 124**

Available from shop.3dtotal.com





The purpose of making *Khlotharius* involved a few things, including testing my character rigging pipeline and transferring the whole light and shade pipeline from Maya to Houdini's Mantra renderer. In this tutorial I will try to explain how I started in ZBrush and ended up rendering in Mantra.

01 Concept

Blizzard Entertainment's characters have always inspired me, and I'm a big fan of all *The Lord of the Rings* films, so whenever I plan a character these kinds of detailed ideas pop out from the back of my head. Keeping that in mind, plus collecting some shape references and design motifs of "elements" such as wind and fire, I created these

01

Designing some early motifs

02

Building a base mesh up from a sphere

03a

Adding more form with Clay Buildup

03b

The sculpted mesh so far

04a, 04b

Retopologizing the mesh with ZRemesher

05

Making sure we set the correct scale in Maya

motifs. They'll be used to design the armor details later. For the character himself, I collected some anatomy references from the internet, using Google and Pinterest. I tend to use my memory for anatomy sculpting for a little stylization, but whenever I get confused I turn to references.

02 Starting from a sphere

If it's a personal project I always start from a DynaMesh sphere in ZBrush. Using the Standard, Move, Snake Hook, Inflate and Smooth brushes, I create the basic form of the figure, as pictured.

03 Further sculpting

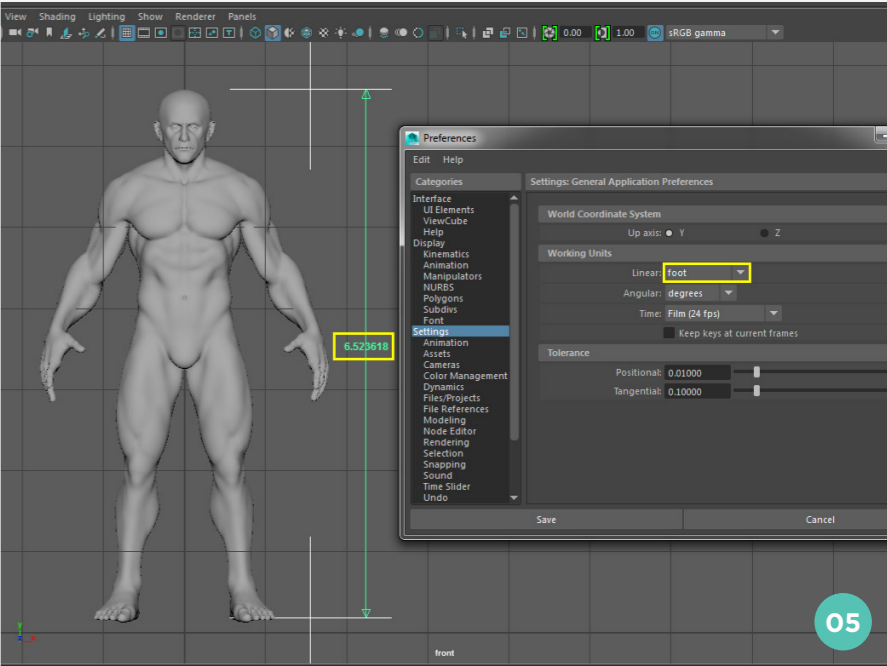
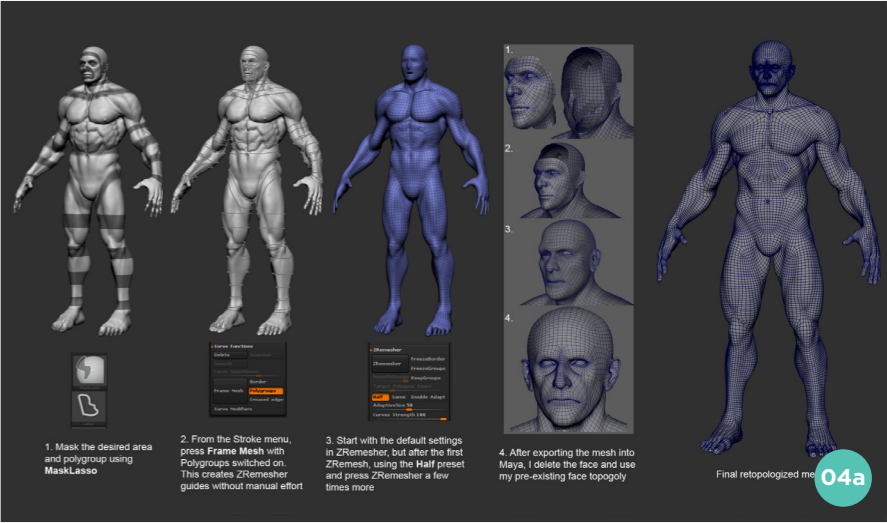
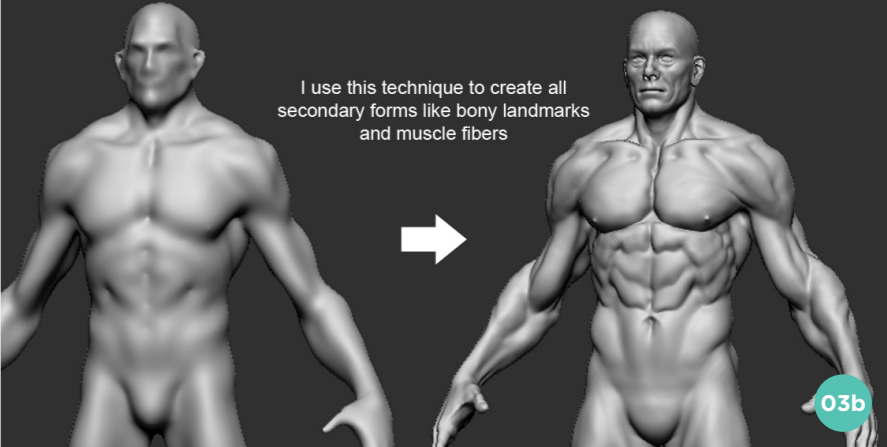
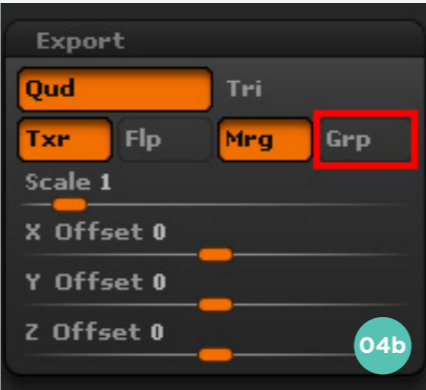
In order to build up secondary forms, I love to use the Clay Buildup brush in combination with Alpha06. By using this technique, I create all the necessary secondary forms, like bony landmarks and muscle fibers.

04 Retopology

Now it's time to do the topology. For topology I primarily use ZBrush's ZRemesher for the body, then take the mesh into Maya. But before exporting, under the "Export" section of the Tools menu, deselect "Grp."

05 Setting the scale in Maya

Now I'm importing into Maya, one of the most important steps to do is setting the scale of the mesh. If the figure is six feet tall, then we should scale it to that measurement. I usually set the unit of measurement to feet and scale the figure to match the height I'm looking for. If I don't do this step now, I'll have trouble getting perfect displacement effects, lighting and rigging later.



06 Making polygroups

Now I bring the retopologized mesh back into ZBrush and assign some polygroups for later use of the hide/show function and UV mapping. Make sure you also store the Morph Target. The model is now ready for adding micro details like skin wrinkles and pores!

07 Adding surface noise

Before going into some of the finer details, I distort the model a little bit with some surface noise. I start with the higher noise scale and the lower strength. Each time that I apply the surface noise to the mesh, I lower the noise scale and increase the noise strength.

It's best to start with a lower subdivision and increase it each time you add more noise, but this might inflate the model. So, in some places, I make use of the Morph brush and masked areas. To break up the secondary forms more, I use the Inflate brush with Alpha63 and Depth Gravity Strength set to 60.

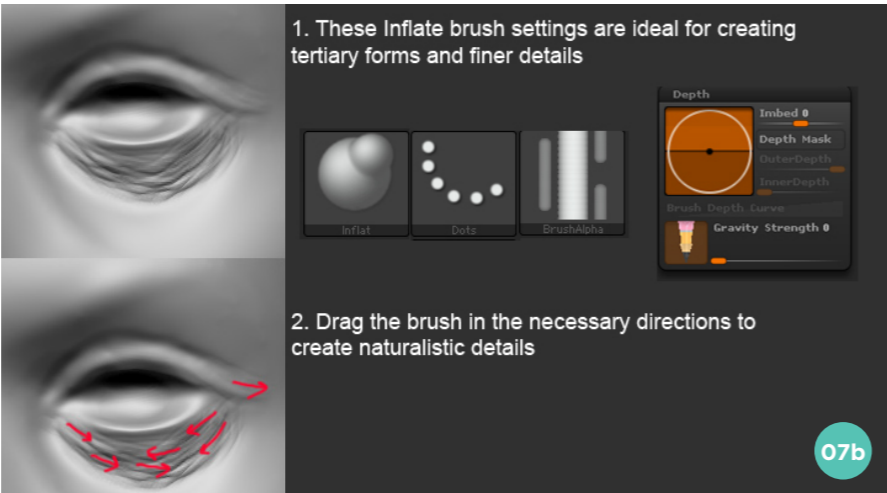
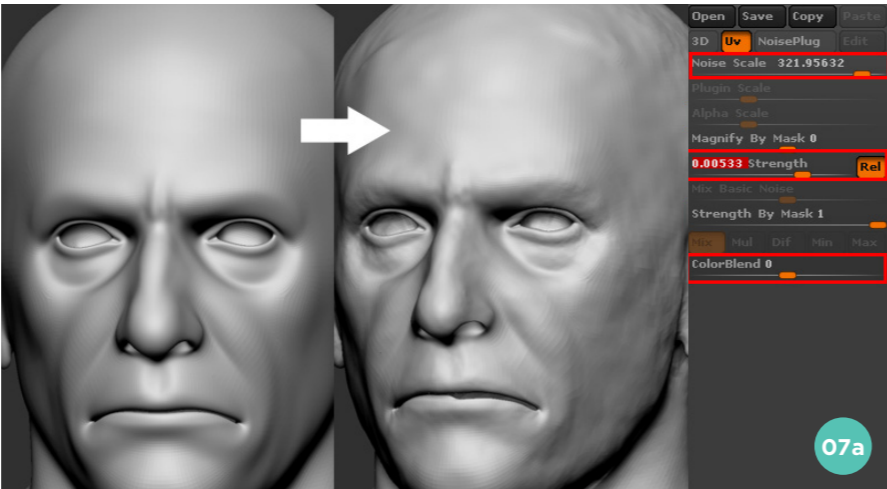
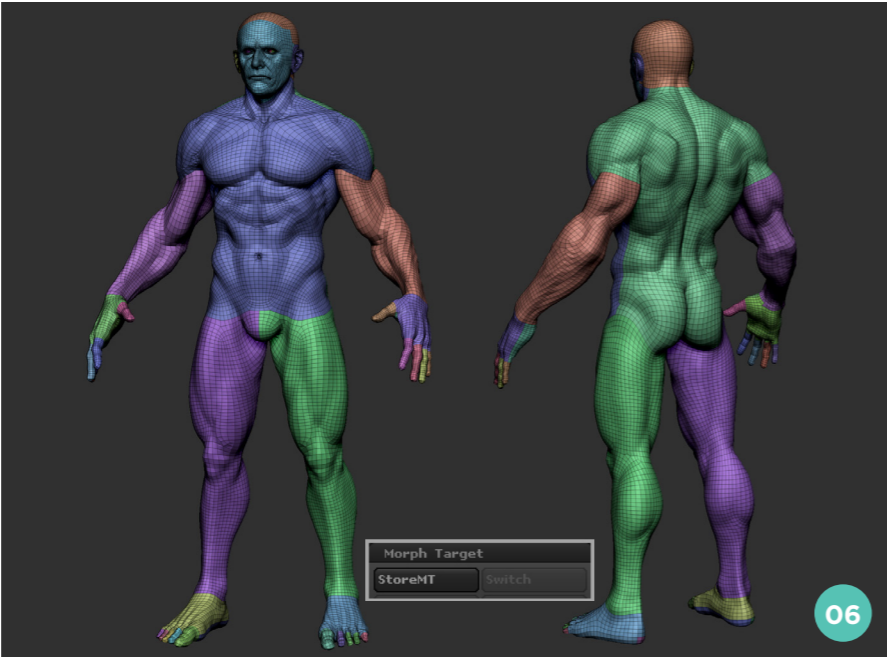
08 Sculpting skin details

For skin pores, wrinkles and cross-hatching detail, I use the Dam Standard and Pen A brushes with ZSub on, and the Standard brush with Color Spray settings using various alphas. With the help of the brushes pictured, and some custom alphas, I create all the skin details.

09 Exporting UVs into Maya

For the UVs, I have the help of ZBrush's UV Master plug-in. Under the UV Master settings, I turn on the polygroups which I created before. This gives me a decent UV. I export the low resolution mesh into Maya, making sure to deselect "Grp" under the Export menu, as I did previously in step 4. If you don't do this, the model will be exported in chunks. In Maya, I arrange it into four UDIMs (UV tiles) with some UV changes.

After this, I export the model back into ZBrush. As there are no changes made to the mesh, keeping the tool open in ZBrush at its lowest subdivision and simply importing the UV modified mesh into ZBrush will do just fine.



06

The model split into polygroups

07a

Add surface noise to the skin before beginning to sculpt details

07b

Some of the brush settings used for sculpting details

08a

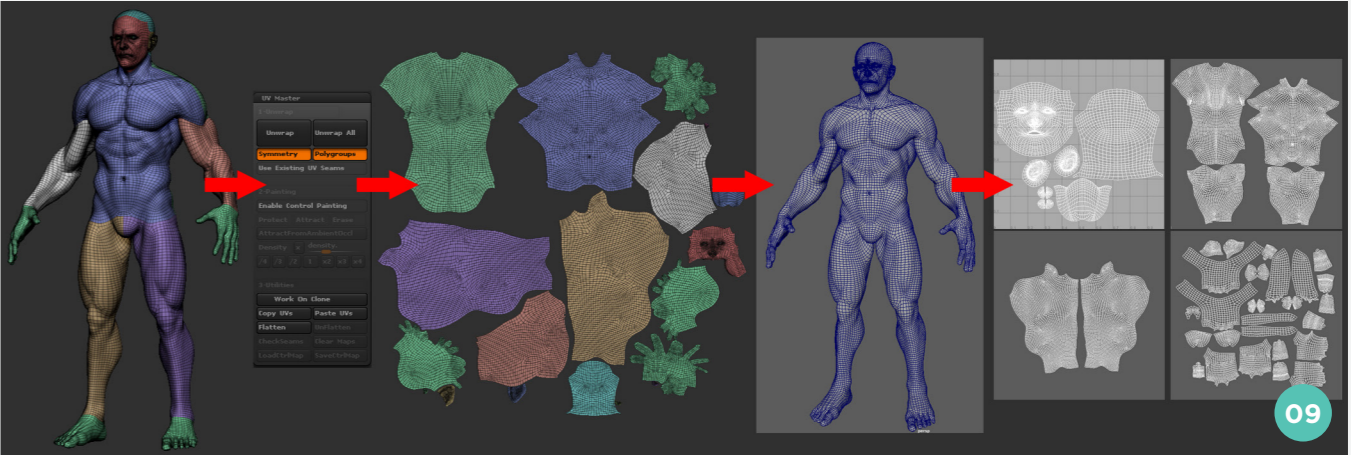
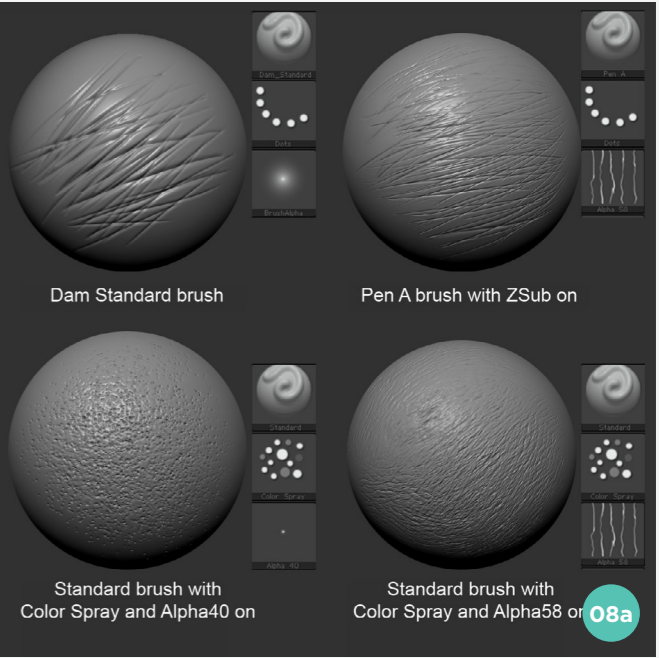
The custom brushes used for

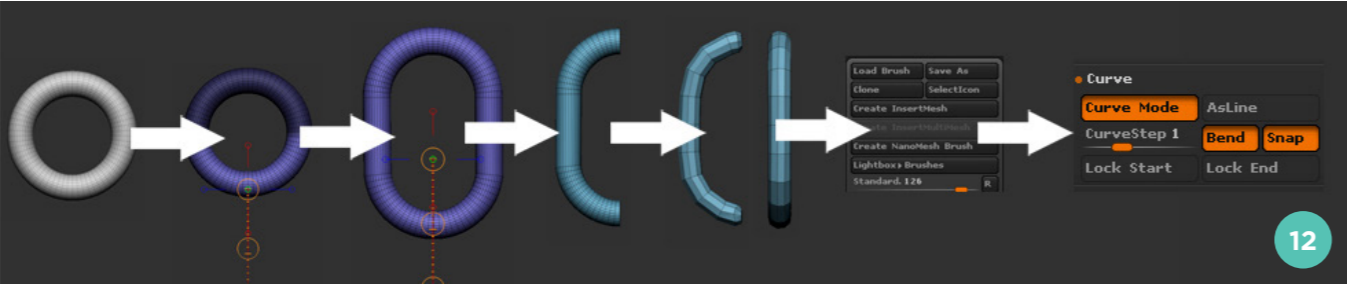
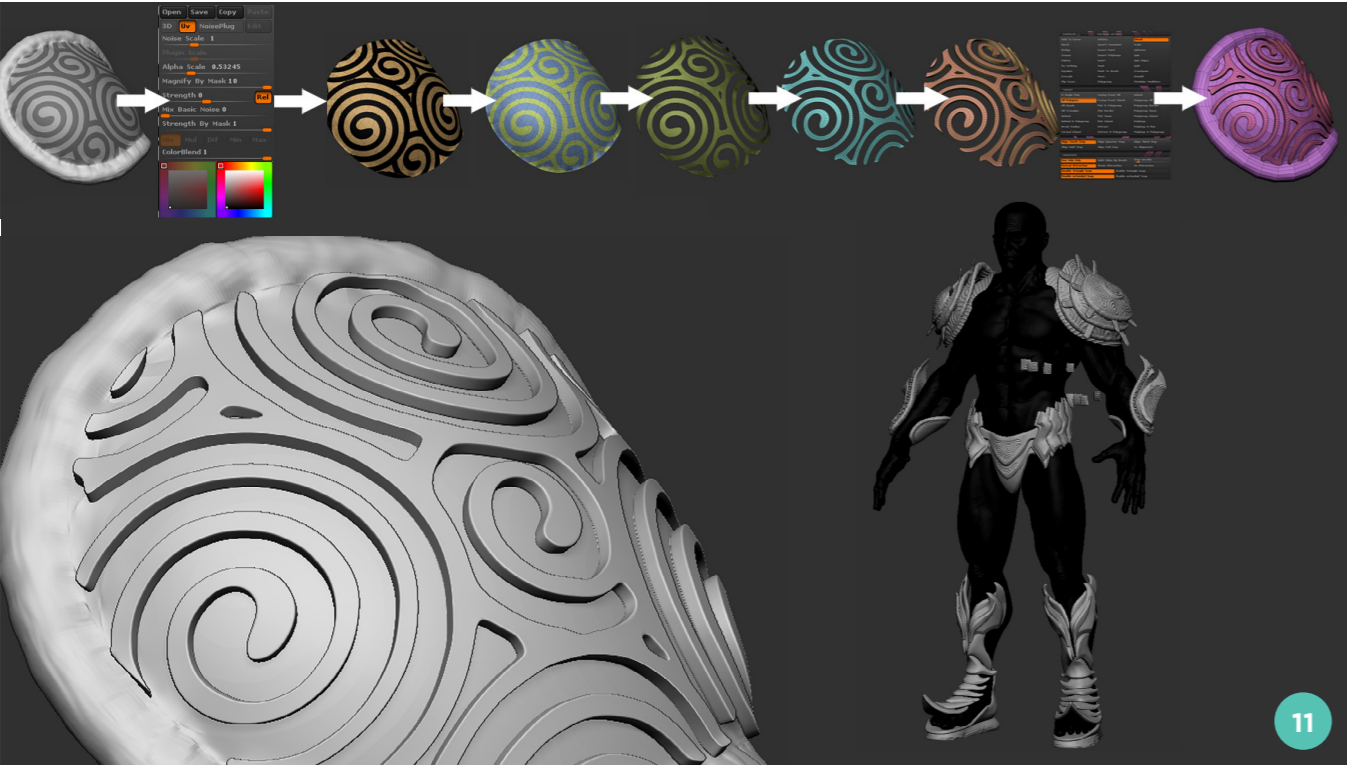
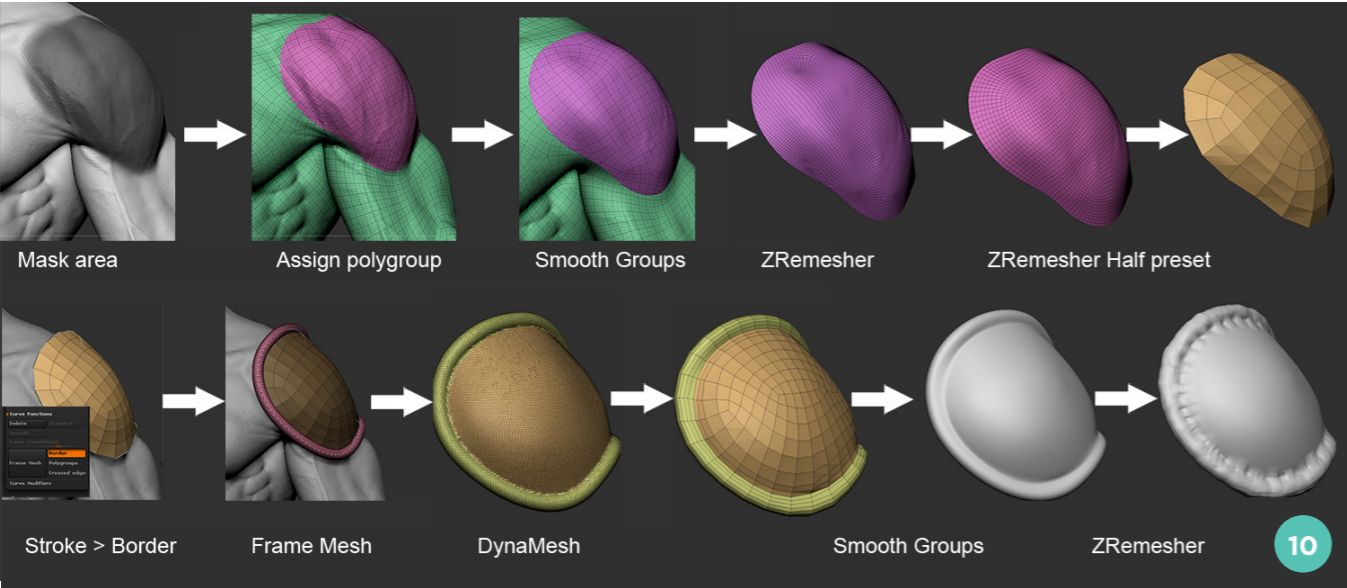
08b

The finished skin details

09

The model's UVs in Maya





10 Sculpting the armor

There are a few awesome techniques for creating hard-surface accessories, which wouldn't be possible or efficient without ZBrush. I'll try to explain a few of them. To start with, we need a base, which can be extracted from the body as follows.

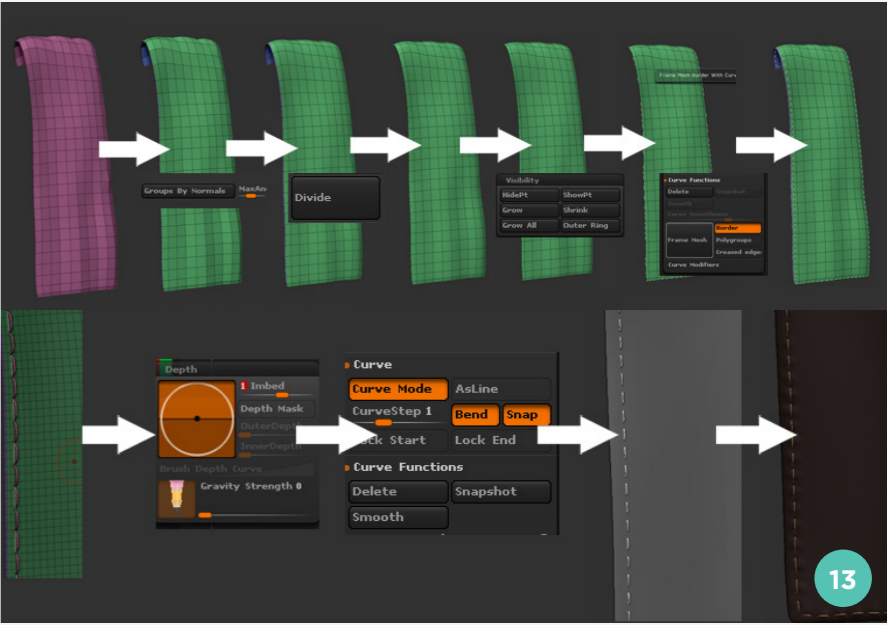
First we need to duplicate the SubTool and mask the area to extract the mesh from. Use Ctrl+W to assign a polygroup. Now we need to smooth the jagged line of the polygroup border. For this I use the Smooth Groups brush from the Smooth brush collection in the Lightbox. Draw around the jagged polygroup border and hide the other polygroups. Under Tools > Geometry > Modify Topology, press "Delete hidden," but before applying this remove or freeze all the subdivision levels. Now use ZRemesher with its default setting. Next, choose the "Half" preset under ZRemesher and press it several times to get the polycount you think is suitable. Adjust it according to your needs.

From the Stroke menu, under Curve function, select "Border only" and press Frame Mesh. This will give us a guide curve at the border. Select the Curve Tube brush, click on the existing guide curve and apply DynaMesh. Smooth the jagged polygroup border and apply DynaMesh as we did above. Unwrap using UV Master, and now we have a clean base to which we can add detail. I select a white color and fillObject.

11 Detailing the armor

Now we can Polypaint the mesh using the Surface Noise function, with custom image along with UV enabled. We are going to use Surface Noise just to extract color from a custom image. Set the Strength to 0, Mix Basic Noise to 0, Color Blend to 1 and the color to black. Now apply the noise to the mesh.

I apply a mask based on color intensity and hit Ctrl+W to make a polygroup. I duplicate the SubTool, hide the other polygroups, and then press delete hidden. I use ZRemesher with its default setting and extrude with ZModeler. Now I've got something with much better topology. I use Crease Polygroup, subdivide twice, then



Uncrease All. Finally, I subdivide again to get a cleaner edge. With the help of this technique, I create all the armor pieces.

12 Making a stitch

First we need to create a Curve Insert brush with stitch mesh. Start with a poly converted torus and shape it into the letter "C." Align it in a way that looks like the letter "I," or based on your needs. If it's lying on a surface, then align it that way. From the Brush menu, select "Create InsertMesh." From the Stroke menu, choose Curve Mode. Now we have a stitch that can be applied to the character's clothes.

13 Creating cloth

Now I'll create some fabric. First I do the "Group by normals" to separate the facing surface by polygroup. I divide it and hide the other groups, then shrink the visibility. I use the Curve function's "Frame Mesh by Border."

This way I get the guide curve a little inside the surface, which is the perfect area to place the stitches. Later it will be used to create stitches with the Curve Insert brush. With the Insert brush, click on the guide curve. Under the Brush menu, use the "Imbed" slider to set the height of the Insert Mesh placement. Use the "CurveStep" slider to set the distance in between each stitch.

10

Modeling and detailing an armor piece

11

Adding some motif details to the armor

12

Creating a stitch using a torus

13

Creating a cloth with stitch detailing

“This character has four UDIMS so we have to follow a special workflow to output any map from ZBrush”

Now with more work we can bring out a nice stitch detail. Under Curve Function, you can use Smooth to remove distortion on the guide curve. If any weird result appears after changing the CurveStep value, try pressing Smooth once and then click on the guide curve using the Insert brush. You have to be careful because it also changes the placement of the guide curve just a little bit.

14 Final accessories

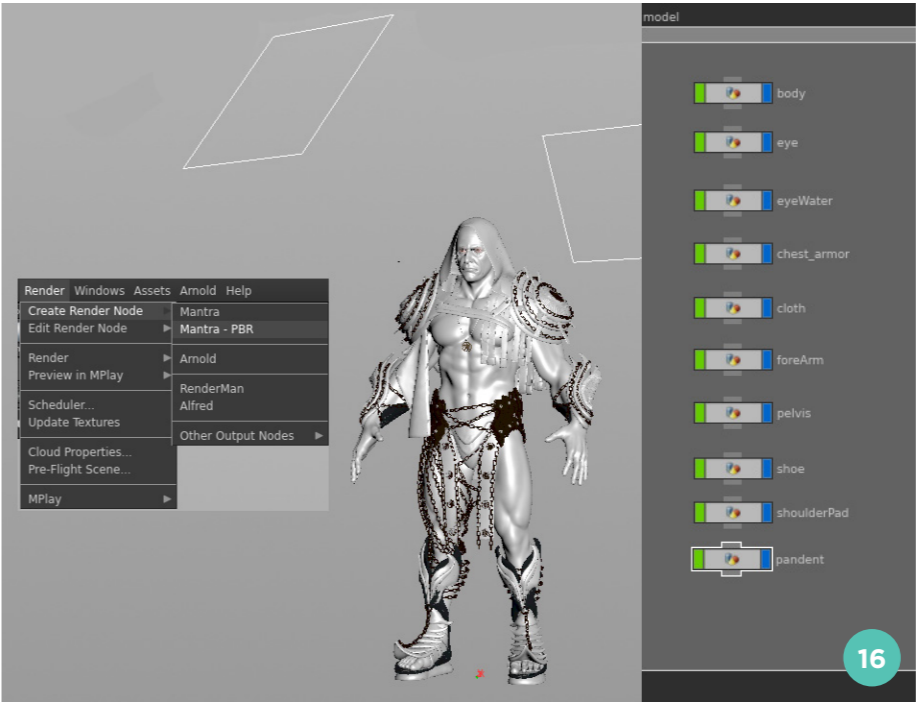
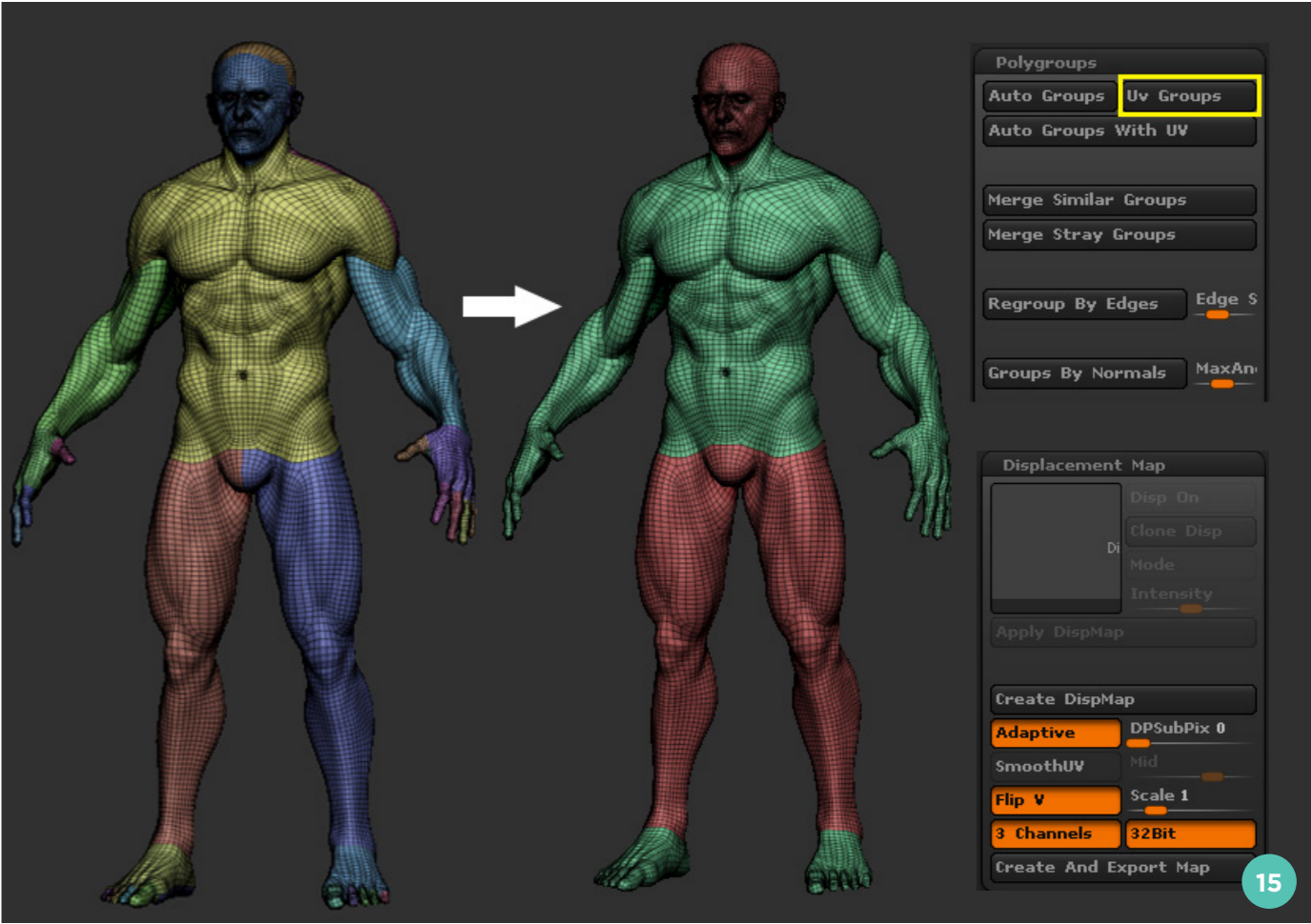
The belts are created using the CurveStrapSnap brush, and the chain accessories are created with the help of various Insert brushes. The hood and clothes are created using Maya’s nCloth, then brought back into ZBrush for detailing. I use the Surface Noise function with a custom alpha image. To UV map all the belts, strips, armors and cloth, I follow the same procedure I used for the body.

15 Displacement output

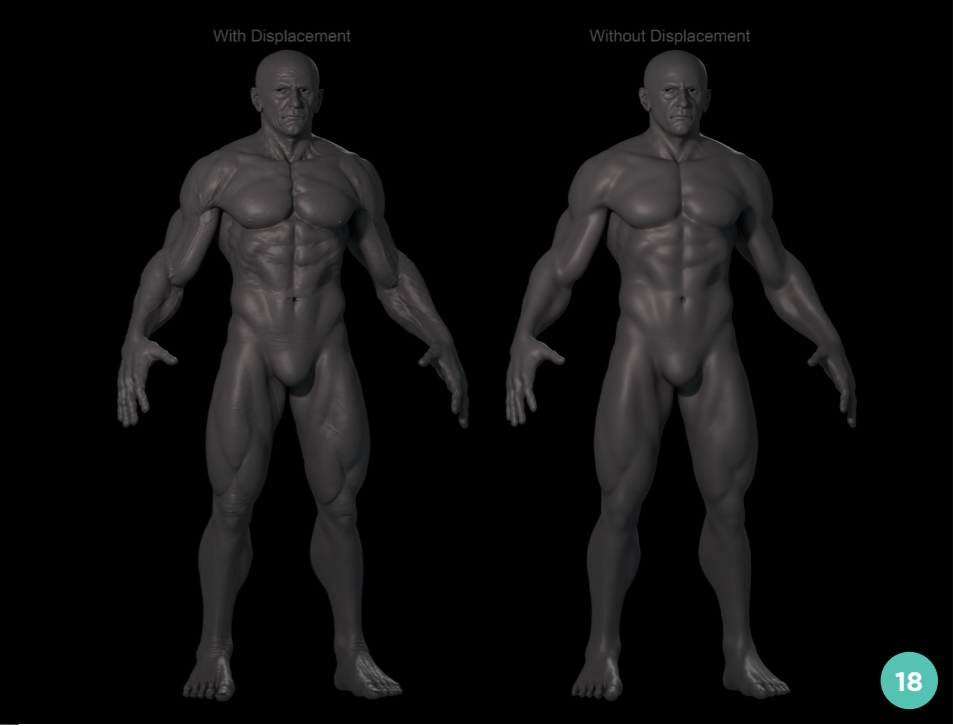
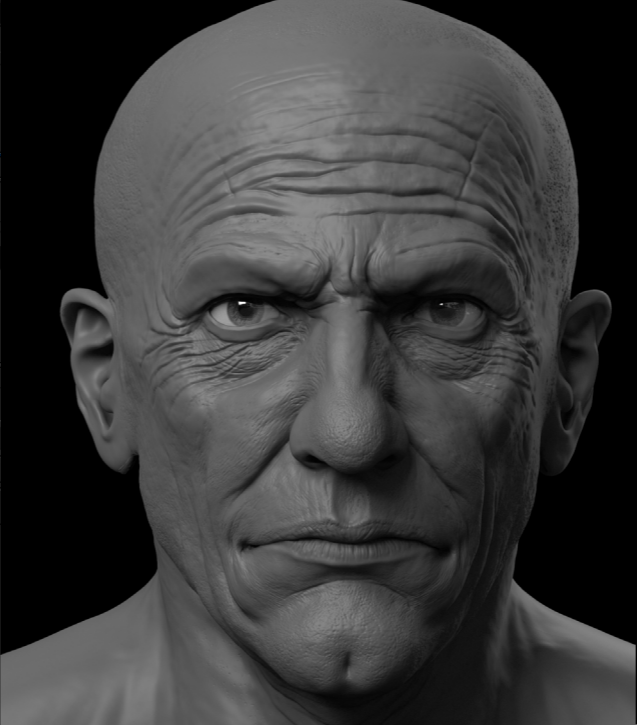
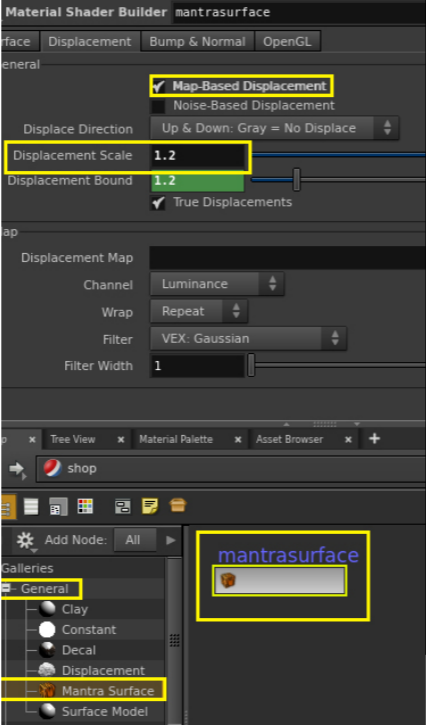
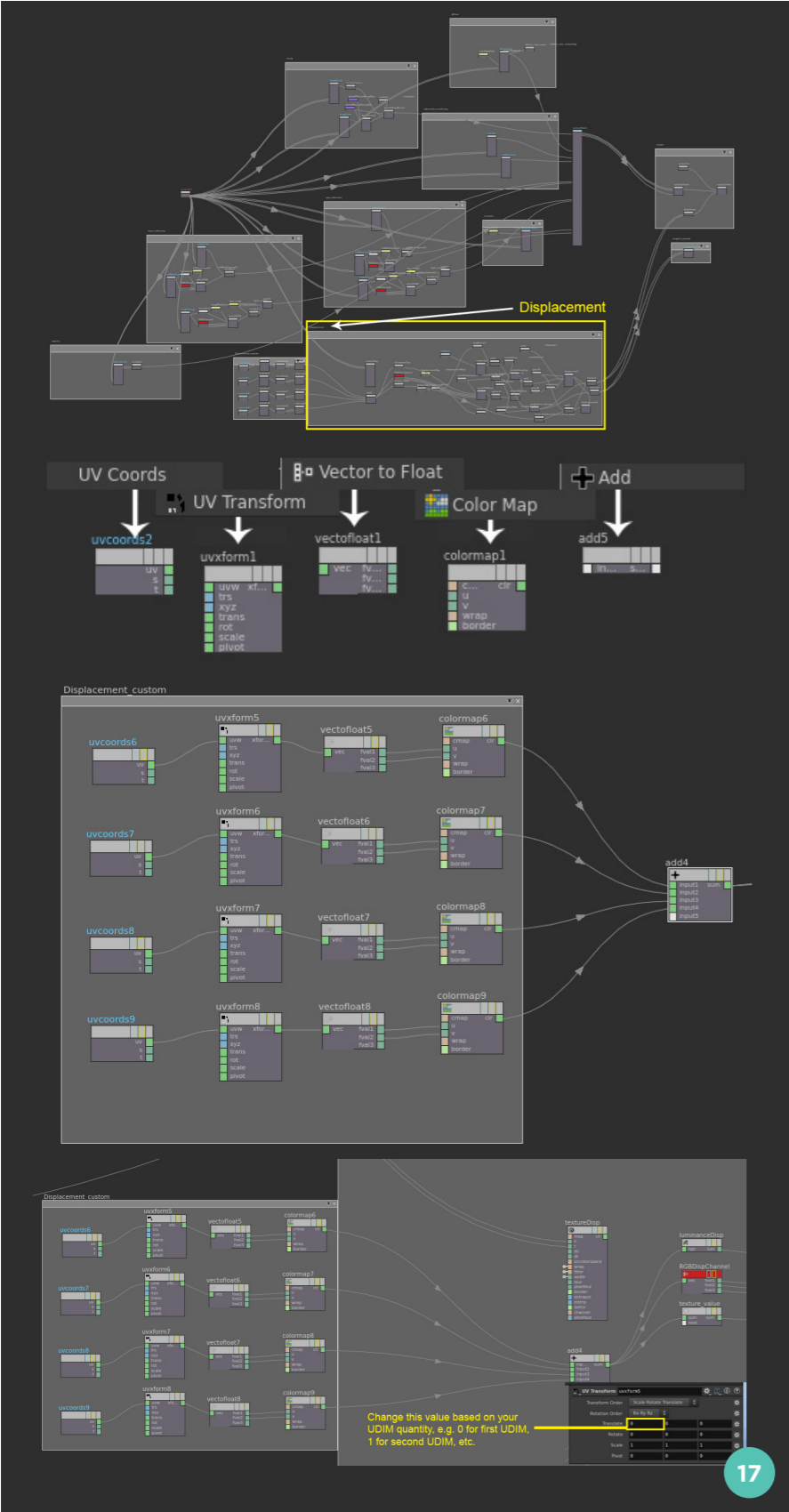
This character has four UDIMS so we have to follow a special workflow to output any map from ZBrush. We have to create polygroups based on these UDIMS. From the Polygroups rollout, press “UV Groups.” Now every time we output any map, we have to show only one of these polygroups at a time. At this point I am more concerned about displacement. I output all the displacement maps using the settings shown.

16 Exporting into Houdini

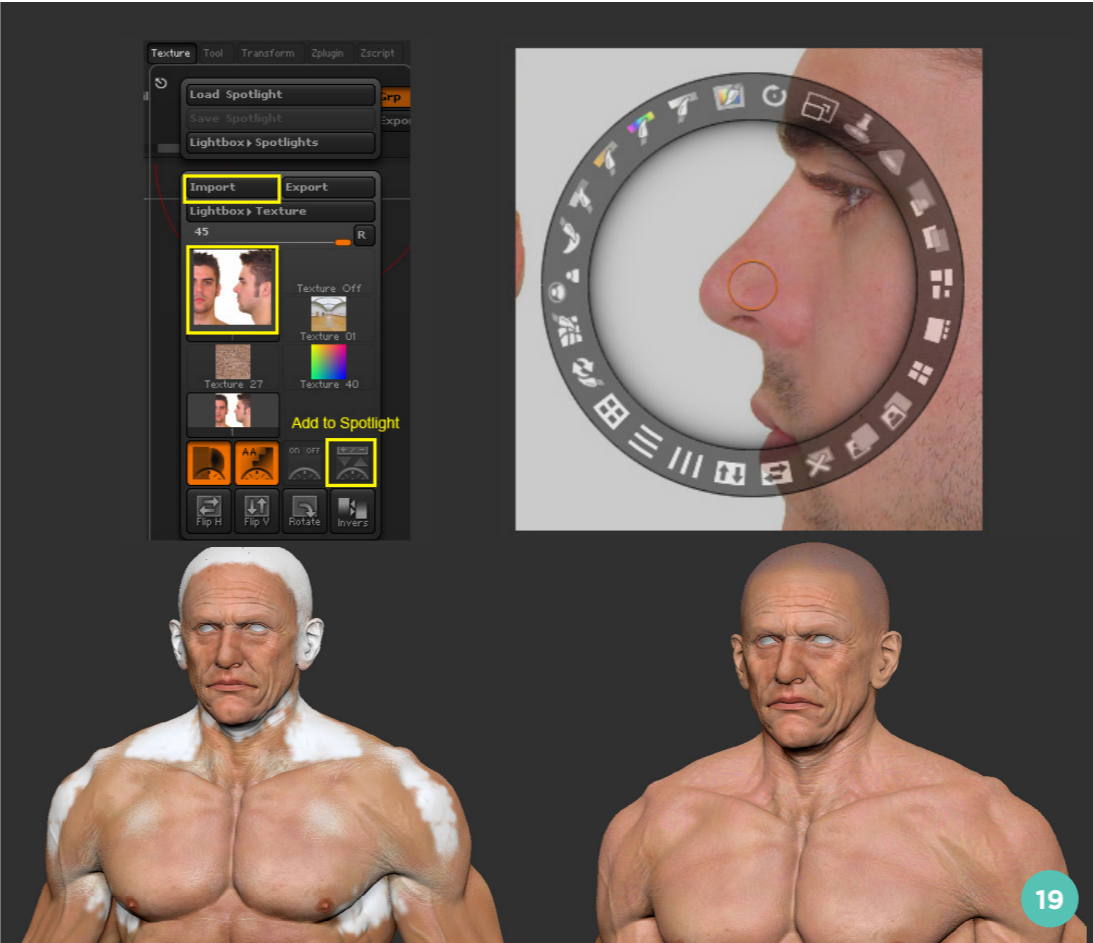
With the help of a special workflow for UDIM in ZBrush, I output all the maps. I want to check if all my displacement details have come along nicely in Houdini, so I export all the meshes into it. I create some basic lighting to check the displacement and also create a Mantra PBR.



- 14 The model with final details added
- 15 Exporting displacement maps
- 16 Moving into Houdini



18



17 Houdini shaders

I assign Houdini's mantraSurface shader to the body and make a special network to use the four UDIMs' displacement maps with the shader. For this we will have to double-click on the mantraSurface to get deep into the shader and find the displacement section.

I create the five nodes shown in the image, and connect them accordingly. Under the default displacement section which comes with mantraSurface, you will find textureDisp already connected to luminanceDisp, RGBDispChannel and texture_value. Disconnect them from textureDisp and connect them with the "add" node which we created just now. I also change UV Transform's "Translate x" value based on the UDIM number. I use a value of 0 for the first, 1 for the second and so on.

18 Testing the displacement

As the scale of the model is based on real-world scale, I'll have less trouble getting the displacement and detail which I already achieved in ZBrush. Here you can see the settings for the displacement, and test renders of the model with and without displacement.

19 Texture painting

I texture the body using a mix of image projection and hand painting with the various masking features that ZBrush provides. While texturing I use ZBrush's skinShade4 shader. For image projection I use ZBrush's Spotlight function. First we have to import a texture from the Texture menu. Select the texture and press "Add to spotlight." The Lightbox might pop out at this point, but turn it off. Now we're in texture placement and editing mode, so place and edit the texture using the circular manipulator.

17
Setting up shaders
in Houdini

18
Setting up the
displacement

19
Starting to paint
texture onto
the model

Now we need to use two important shortcuts: Z and Shift+Z. Shift+Z will enable and disable Spotlight mode. After turning Spotlight on, the “Z” key will switch between image-editing and painting mode. For the Standard brush, we must enable “RGB only” to project color. If ZAdd/ZSub is enabled it will project detail as well. This way I project images to most of the areas of the body.

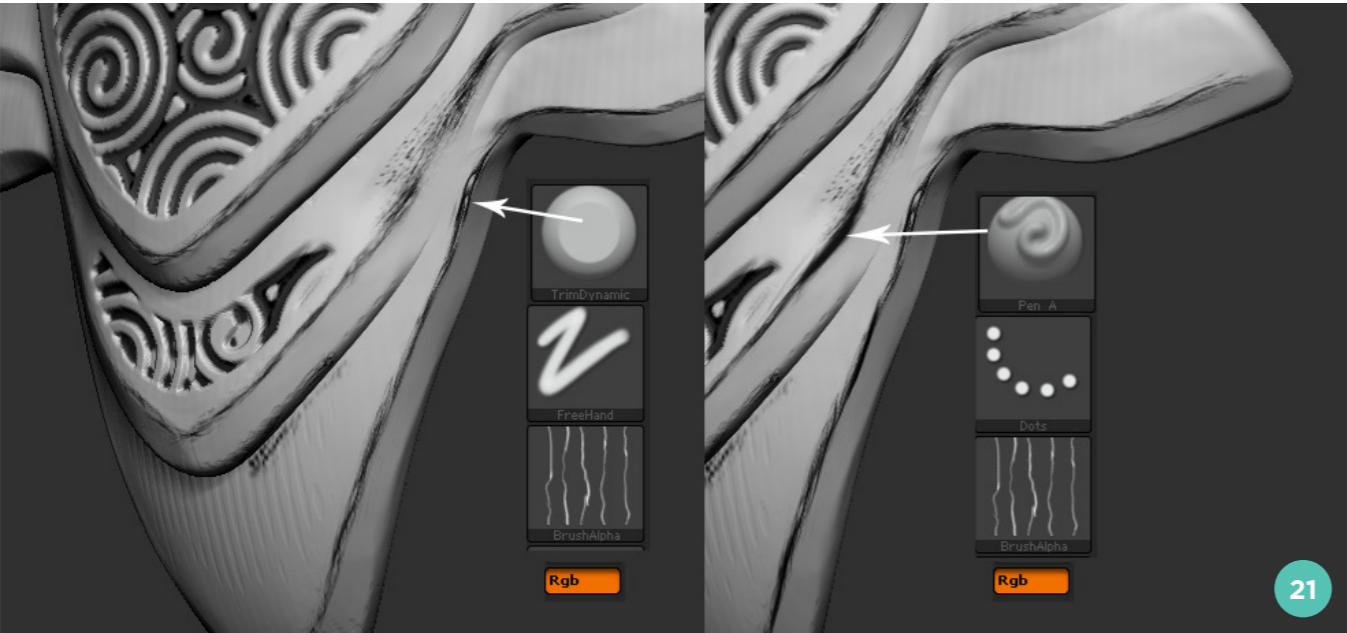
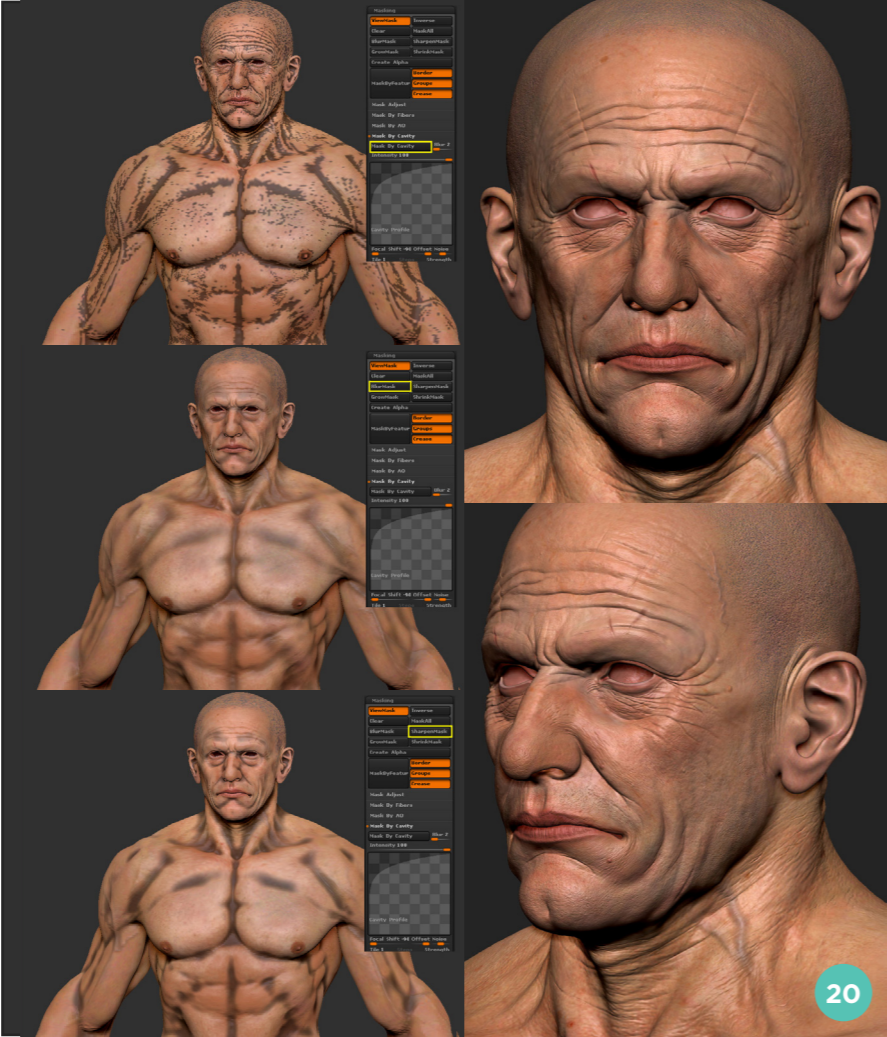
Using the Standard brush with the Color Spray setting and Alpha58 (or a custom alpha), I use the “C” key to color-pick from existing projected textures and fill the white gaps. This way I get a vibrant color effect from the brush, which is like a real skin texture.

20 Texture detailing

Now with more of a careful painting approach, I will finish the texturing using various different alphas and colors. While painting these areas I will choose darker colors to paint the cavity areas, compared to the areas of relief. For this, I lower the subdivision level and apply the option “Mask by cavity,” then blur the mask once, then sharpen it again. Then I go to the highest subdivision and start painting.

21 Painting hard surfaces

For hard-surface texturing I use “Mask by cavity” the same way, but in addition to that I use two

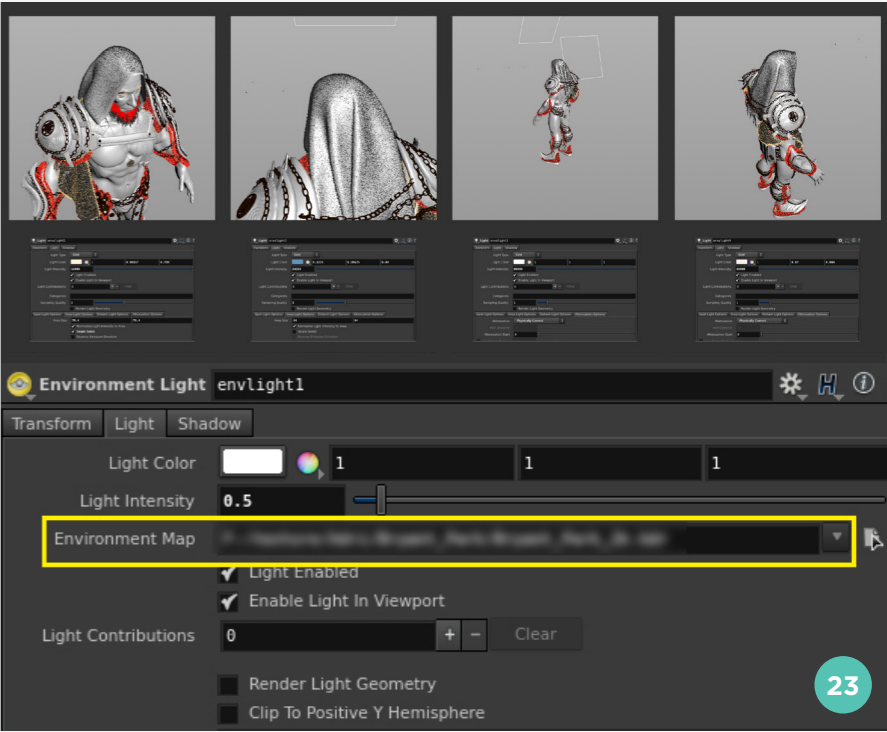
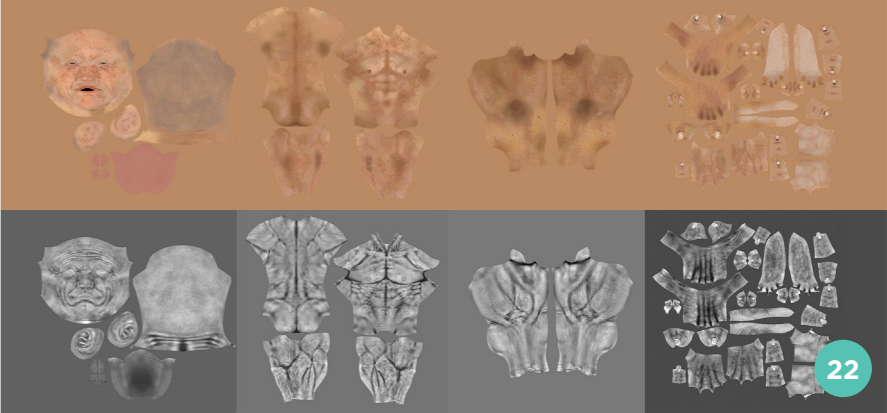


20 Adding more realistic detail to the skin

21 Texture painting for hard-surface accessories

22 The model's map so far

23 A simple area light setup for the model



extra brushes. I use the TrimDynamic brush with RGB turned on, which constrains the painting at the edges only. With this we can get a torn edge effect. I also use the Pen A brush, which helps to create lines from thin to thick, and is good for scratch effects.

22 Color maps

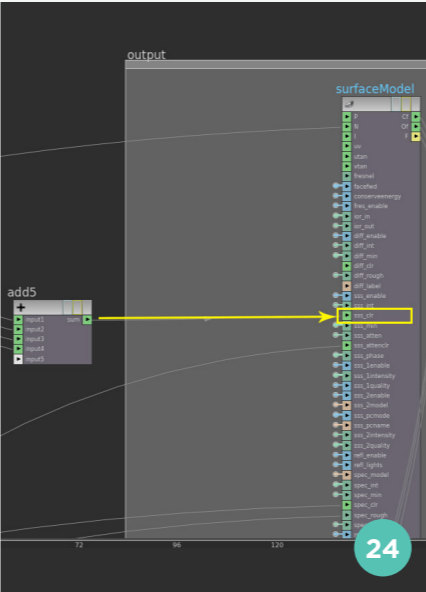
Later on I'll use these maps as masks for creating layered shaders. Pictured, you can see the color maps for the body. For the specular map, I combine the desaturated color map with the displacement map, then paint and adjust a few areas in Photoshop.

23 Area lights

For the lighting setup, I use four area lights. All the area lights' attenuation is on, and the sampling quality is increased for a quality render. One environment light uses an HDR image (the yellow box).

24 Further shader setup

I double-click the mantraSurface shader that I created for displacement and open up the inside network section. I follow the same workflow here for the UDIM that I followed for displacement, but this time I connect the “add” node to the surface model's “sss_clr.”

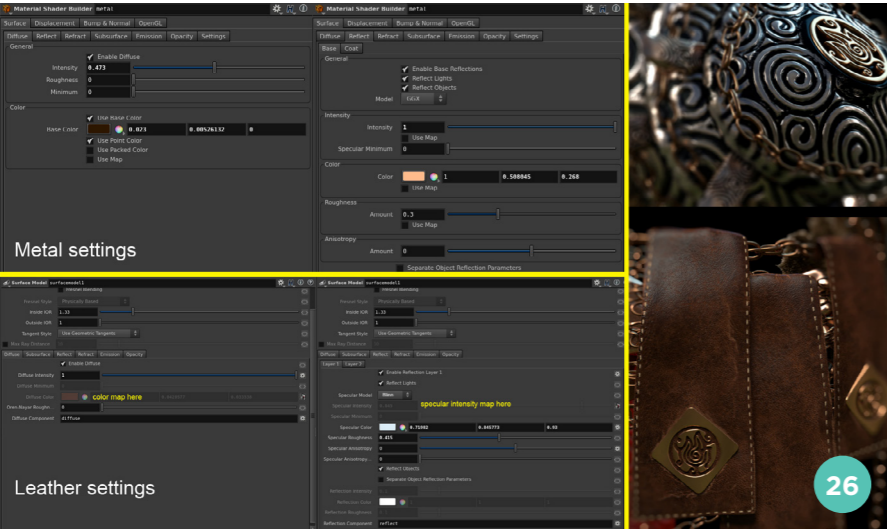


25 Further test renders

These are a few settings I use for the mantraSurface shader to create skin for the body. Pictured are a skin shader test rendered with the color and displacement maps only, and finally a skin shader rendered with the color, displacement, specular and attenuation color maps.

26 Cloth & accessories

See pictured here the render settings for the metal and leather surfaces, and also some close-ups of the rendered surfaces, including the stitched border detailing and elemental motifs designed at the beginning.



27 Adding facial hair

For the beard I separately output the face as a null to use it as reference to the fur node. Now I create a geometry node, and under it, I reference the “OUT_beard” using the Object Merge node. In this part I minimize the area more, just to keep it where the beard should be. I paint unnecessary areas and delete based on color.

I create a point node to add the normals so that the curves align with the surface's normal. I create a scatter node to scatter points on the surface. Then I duplicate the lines using “Copy SOP” on this surface. At the end, I add a Curve Groom node, which will later be used as a guide curve. After

adding Curve Groom and grooming the curve, the beard looks more flowing and natural.

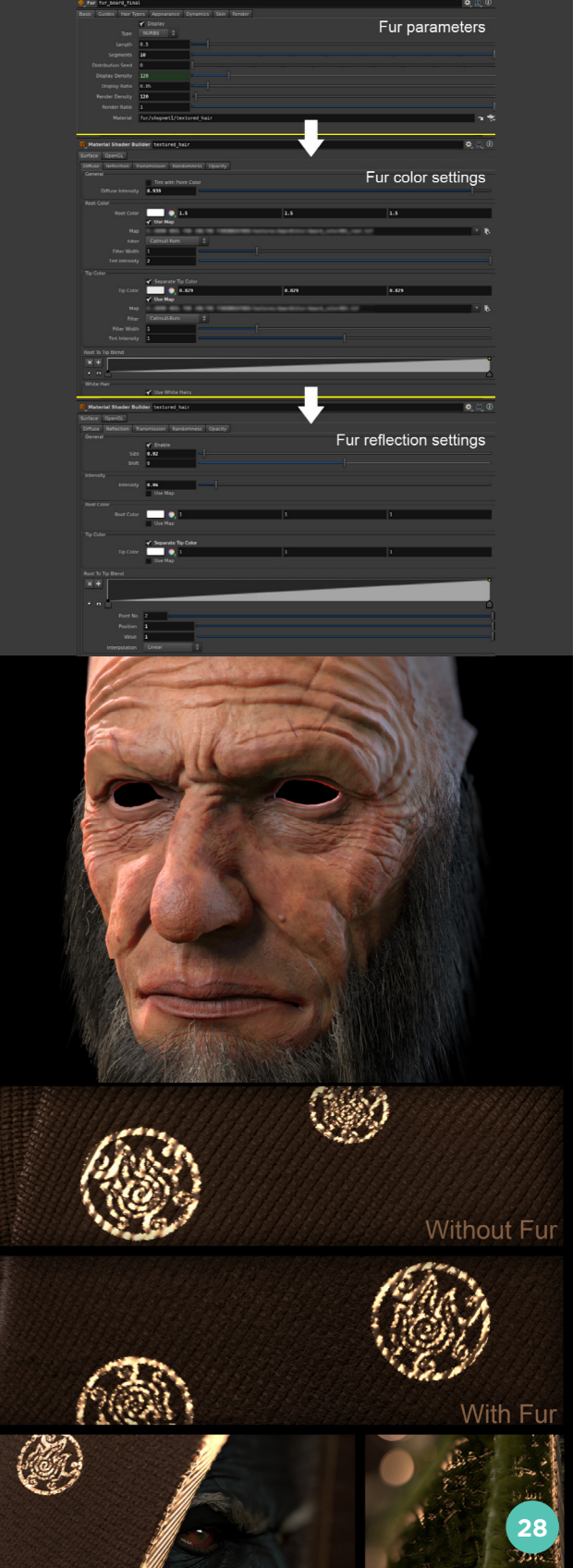
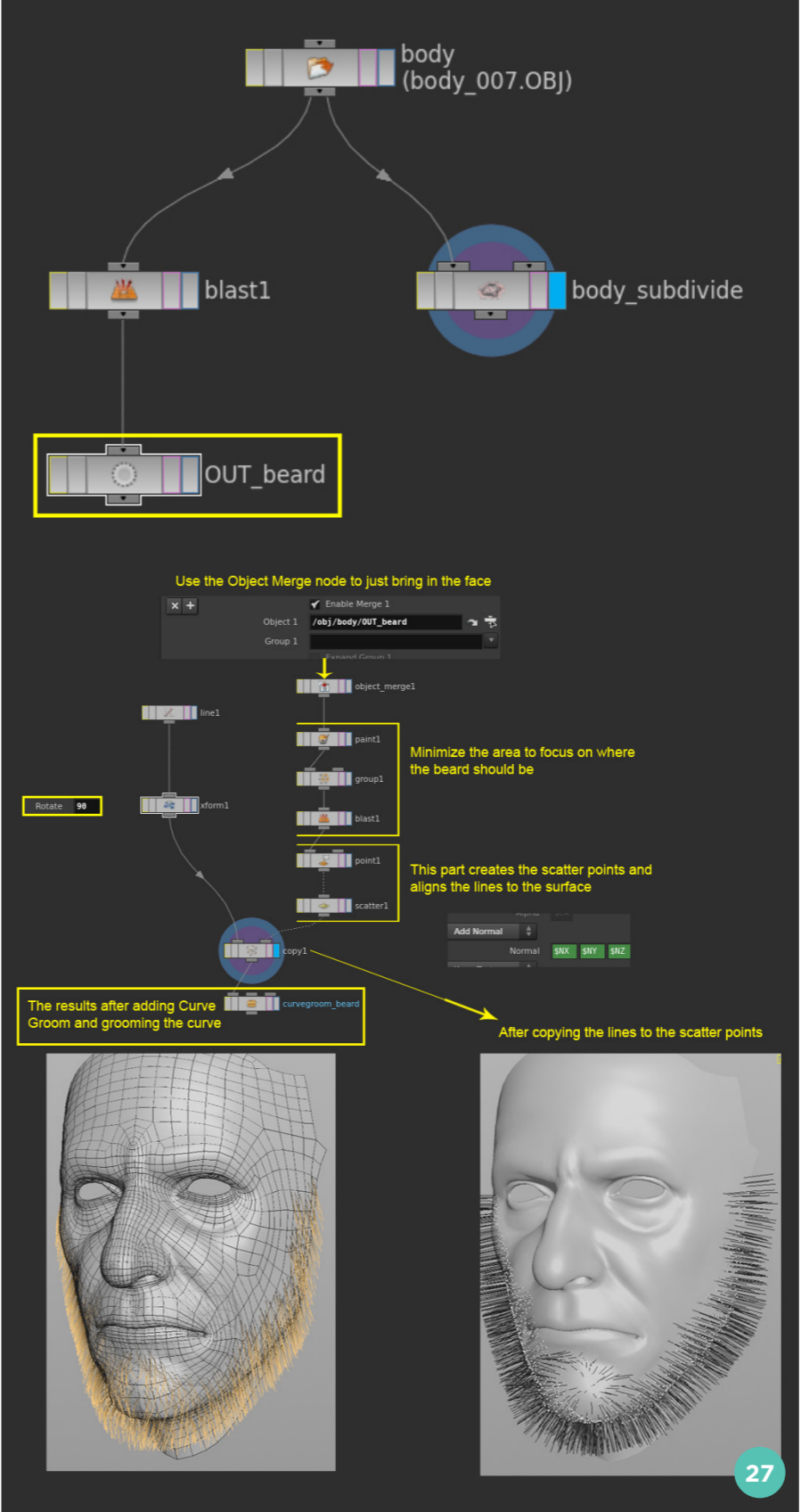
28 Using fur nodes

Let's create a fur node. Under the skin tab I choose the “OUT_beard” as skin mesh and Curve Groom as a guide. I hide the guides I created before and set the fur parameters as shown in the image. I use the color map for the tip and root color of the fur material, then set the reflection settings as pictured. The results are shown in the test render.

For the eyebrows and eyelashes, the same technique is used, but for the cloth and armor padding, no guide is needed – just fur with a different appearance setting. With the combination of fur and cloth displacement, a nice soft cloth effect is achieved.

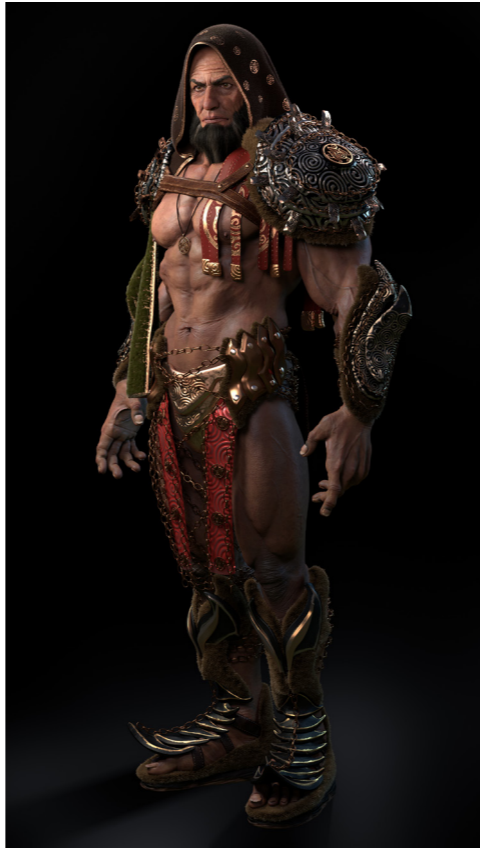
29 The final render

For the final image, I don't do any pass rendering, just some simple color corrections and some iris blur for close-ups in post. These renders are straight out of Houdini Mantra.





3D TOTAL





Sketching from the Imagination: CHARACTERS



"This book is a testament to the fun there is in committing ideas, characters, and stories to paper, and the tremendous skill with which the artists in this tome do so is a treat to the eye"

Even Mehl Amundsen
Freelance concept artist

Sketching from the Imagination: CHARACTERS

The humble sketch is the foundation of great art, where thoughts and concepts first come to life as an image. The books in our sketching range bring you the chance to see inside an artist's mind and learn more about how and why they sketch.



Illustrate a medieval jester

By Ahmed Aldoori

Web: ahmedaldoori.com

Featured in:



**Beginners Guide
to Digital Painting:
Characters**

Available from shop.3dtotal.com



Research is an important foundation for creativity, so I find myself looking at old medieval paintings as a start. Sure, I could just copy a jester's costume directly from reference and call it done, but that would be boring; we as artists have the opportunity to take something and put an interesting spin on it to fit a character. In this chapter we will go from the development of loose pencil drawings into a more refined design at the end.

It's important to get a feel for the character's emotions. I want this jester to be a sinister type who despises everyone. He's a court fool, after all. Conveying this idea is supported by sketching facial expressions within the design process.

Even though they won't all make it to the final illustration, it's beneficial to feel that the character has emotion while you're designing the costume. Otherwise it will feel like you're designing a costume tailored for a blank mannequin.

An understanding of anatomy is a required skill for this type of design. Without knowing how the human body works, a cool-looking costume in a still image could end up completely useless when it comes to being animated for human movement. Photoshop knowledge is also important for this process. I will be using layers, levels, and blending options to help me with my design.

01 Exploration sketch phase

You'll find a variety of different jester designs from history. There are extravagant costumes that include all kinds of silk and silver bells, and there are simpler costumes that appear to be made out of rags.

In the sketches you can see in image 01, I am figuring out different hat designs, as well as fabric configurations. The expressions on the faces help me solidify the jester as a real character. Props are important, too; a lot of the jesters had some kind of rod with a mask



on it, representing a smaller version of them, to add to the whimsical entertainment they provide for royalty.

02 More pencil drawing

In addition to using expressions to help solidify the character, the poses are important as well. It helps to think about the character in motion; in this case the jester could be performing in front of his audience.

In image 02 you can see that I've chosen to give him an angry look in order to indicate the resentment he holds towards everyone. The evil smile in the top right can really sell that idea of him being truly sinister; it's universally understood. Stay away from anyone that looks at you like that!

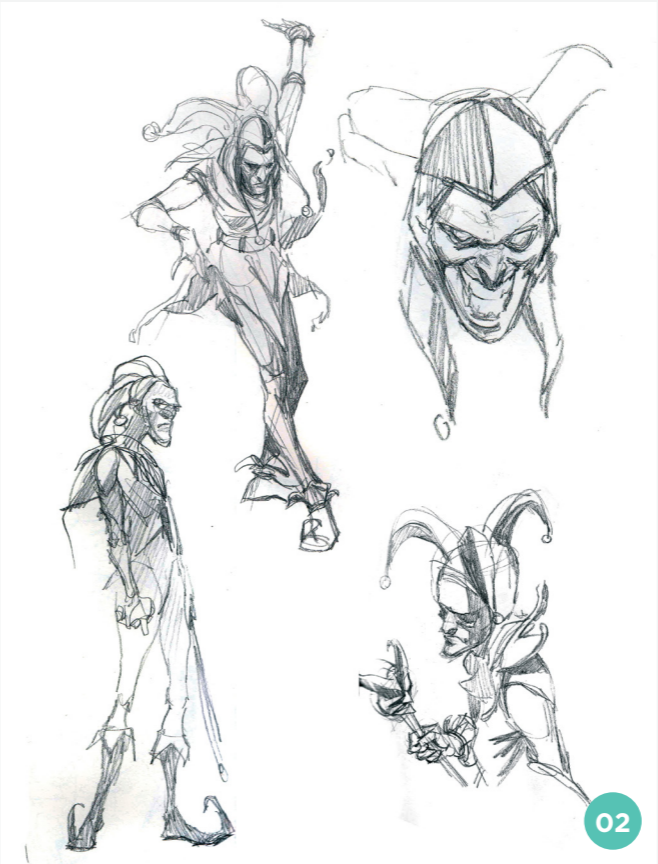
On the bottom right I have made a smaller version of him.

03 Pose specific to the final image

Until step 07 we only need the basic Brush tool with pen opacity turned on.

The poses you can see in image 03 have been drawn with the final image in mind. Whatever the final illustration is it must showcase the costume completely for the art director or 3D modeler to understand its concept.

Keeping this in mind, I do my best to avoid poses that cover up important parts of the design. A typical T-pose is an option but I want to make this look interesting, so I go with the more pensive stance (marked with a



01

I don't render out tiny details early on because loose pencil work can indicate many possibilities

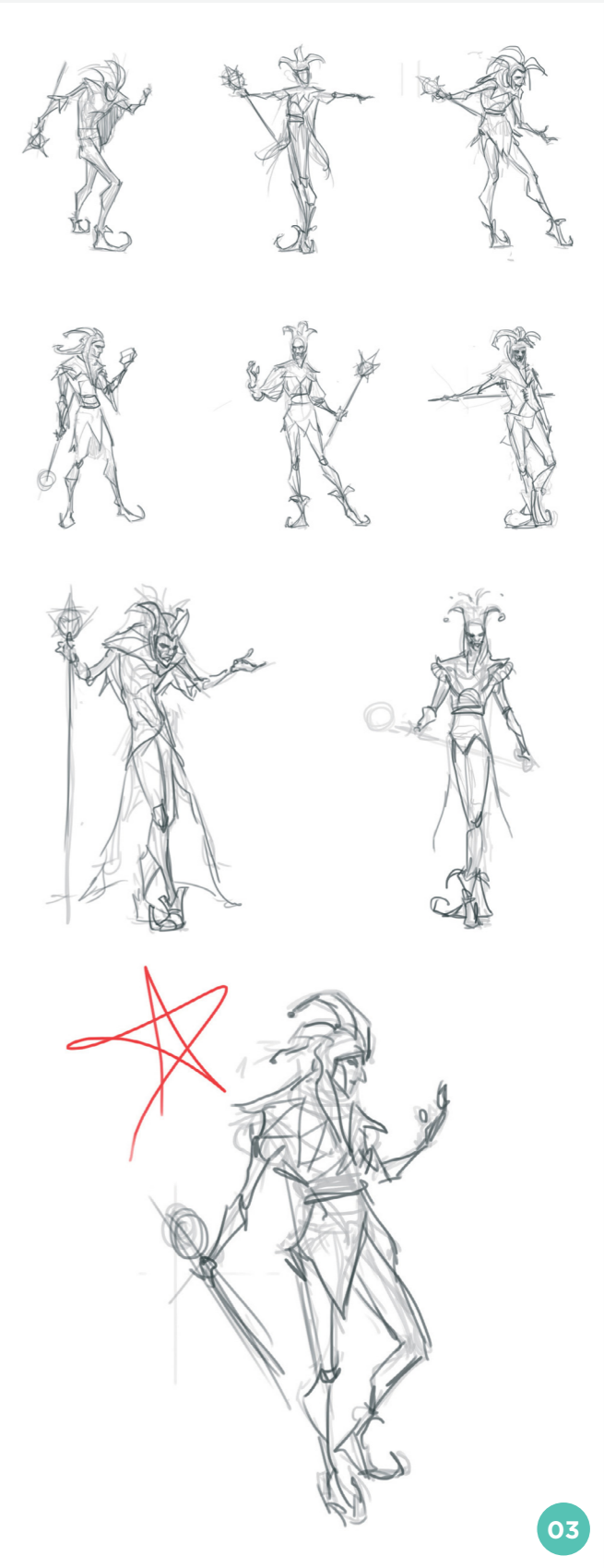
02

A few of the many sketches I did in my sketchbook to get a good understanding of a jester

03

I drew these as small thumbnails in order to avoid getting caught up in details. The gesture of the jester is the important factor in this phase

“A typical T-pose is an option but I want to make this look interesting, so I go with the more pensive stance. It's important to flush out a lot of different pose possibilities at this stage in the process”





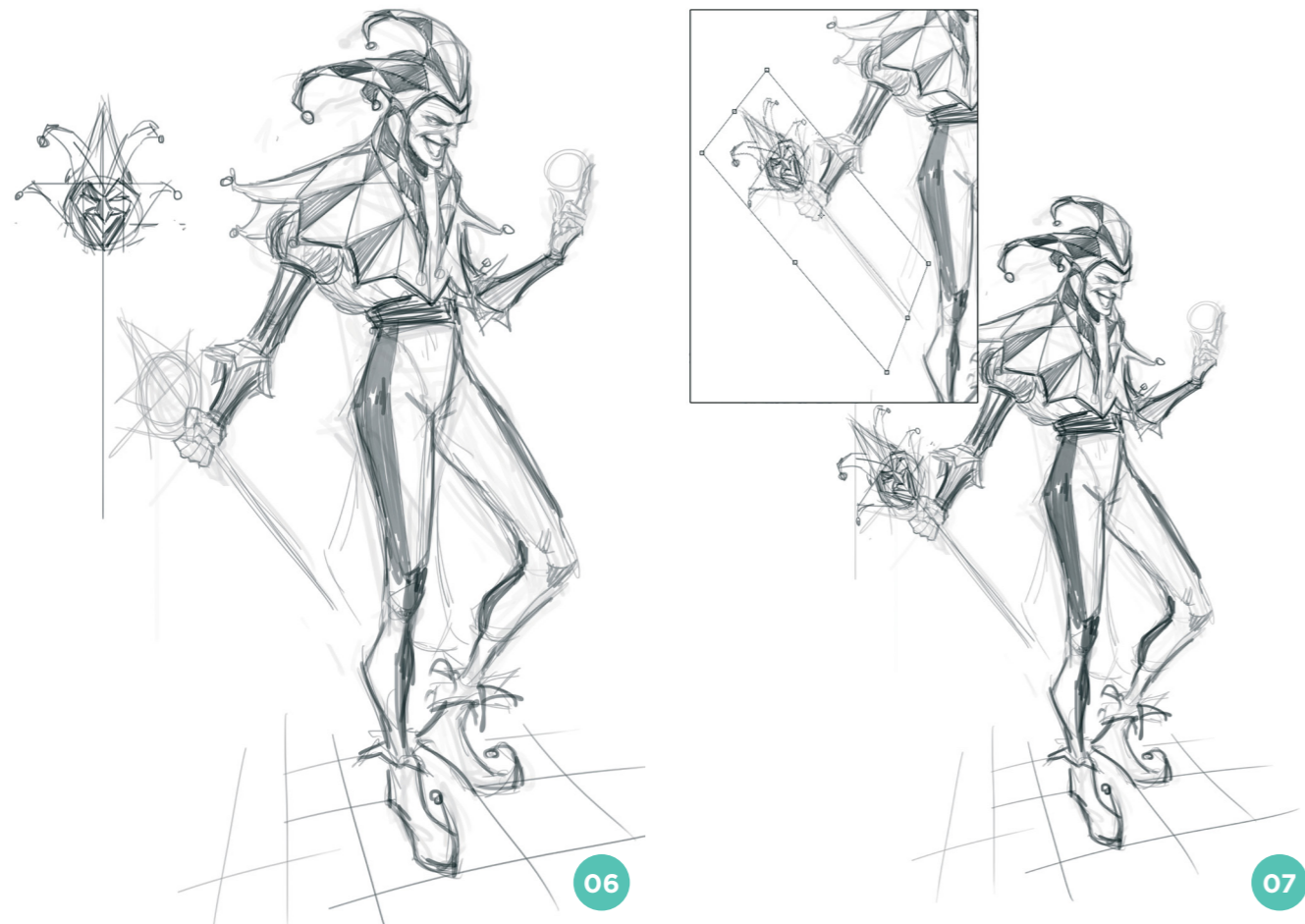
04
The thumbnail beneath eventually fades away as I repeat this step on top of this drawing

05
This pass will slightly fade away as the next drawing pass comes into view

06
Still fairly loose here; it's not necessary to do a perfect line drawing

07
Using the Free Transform tool

08
Using clipping masks might be confusing at first, but once you get the hang of them you will use them all the time. The workflow is faster this way



red star). It's important to flush out a lot of different pose possibilities at this stage in the process.

04 Pose refinement phase
I lower the opacity of the thumbnail from step 03 and make a new layer on top to draw another pass of the design. I take the creepy face I drew earlier and use it as reference for this, drawn at a different angle (image 04).

For the masked rod I draw a geometrical and symmetrical frame to act as a placeholder for the mask to be drawn in perspective. It's better to lay down a foundation to help guide your drawing, rather than trying to draw it without a framework.

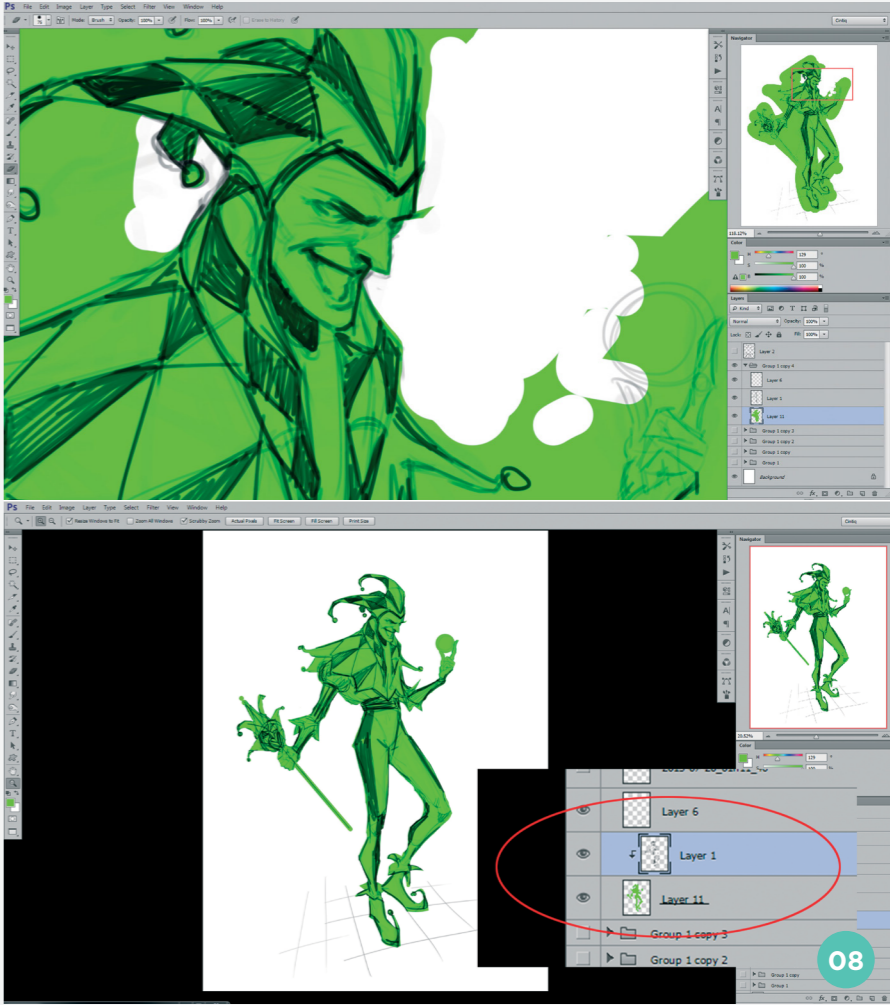
05 Refinement round two
I do the previous step again on top of the first drawing pass. This allows for another layer of precise detail. The main difference you can see in image 05 is form indication.

The jester hat is a complex object so it requires some planning. I have the hat shape drawn out from before; the form was slightly suggested, but here the wire-frame lines help make a clear statement of its volume. On the floor you'll see a grid sketched beneath him to indicate perspective. This will ground your figure so that he seems to be standing on actual ground rather than floating in the air.

Once again this pass will slightly fade away as the next drawing pass comes into play. This is a building process; one step lays the foundation for the next.

06 A bit of tone and value
Again, the opacity of the previous step is lowered. This time I draw in the triangular patterns on the jester's costume and fill it in with value. The value breakup will help you control the focal point.

It's important to be smart with value placement. If the darks are too evenly distributed you will lose movement and focus,



unless having a bland design is the intention. We want this character to stand out. You'll notice in image 06 that I've drawn the mask on the side. This was easier to draw on a flat view, which will be put in place using the Free Transform tool in the next step.

07 Transform into perspective
Up until now the only Photoshop tools I have used are the basic brush and layers. In this step I use the Free Transform tool to place the mask onto the rod in perspective.

Press Ctrl+T and a bounding box will appear: you can hold Ctrl and click and drag the corners into any perspective. Once you are happy with the placement, you can double-click within the box or hit Enter to finalize the transformation. This is very useful for placing

things into perspective. The Free Transform tool is also useful if you want to explore different proportions of your character. You can use it to squash or stretch him to your liking.

08 Masking the jester
Making a mask for your design will make painting it a lot easier. The purpose of this is to make a sharp silhouette under the line drawing and to keep it on its own layer. I use a clipping mask layer above the silhouette to get the line drawing confined into the silhouette.

You can do this above any layer by holding Alt and clicking between the two layers in the Layers panel. You can create multiple layers this way and whatever you paint will stay

within the silhouette. I have chosen green arbitrarily; it can be any color.

09 Color thumbnail exploration – warm and cool

Coming up with a decent color scheme can be difficult at first. However, if you simplify the process to a few colors, you can come up with many variations to choose from.

The first row of three you can see in image 09 is dominant with warm colors, green being a cool color accent. In the references I collected I have noticed that the majority of jester color schemes contain reds, yellows, and greens. I want to make an interesting change to the typical colors, so I try making cool colors dominant, accented by a warm orange (second row of three in image 09). It seems out of place, and I like it.

10 Blocking in colors

I place my color thumbnail in the corner of my big image as a reference. I use a basic round brush to block in the colors in the clipping mask. It might be helpful at first to keep each color set on its own layer: blues on one layer, yellows on another, and so on.

At this point there is no need to model or render the forms. Flat coloring will set the local color for the design, which will then be manipulated using Levels adjustments. I recommend avoiding fancy texture brushes when doing this.

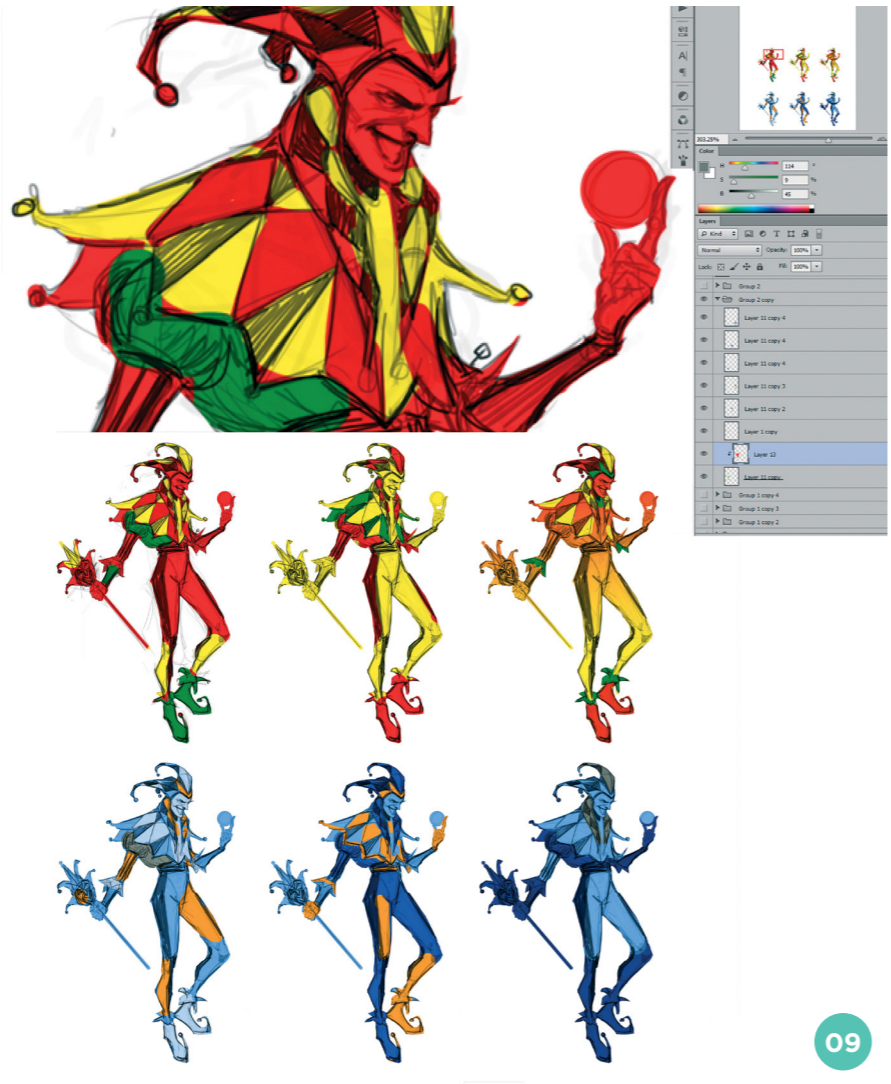
11 Lighting and form

Here's a secret method to help you move forward very quickly by creating volume and form. Simply duplicate your flat, blocked-in bits of color and use Levels adjustments to make them 50% darker. This will make all the shadows equally dark, setting a unified value range for all the darks. You then simply erase out where you want light to go. I use the Airbrush as an Eraser to shine light onto the costume. Instead of using just the Eraser, you can also use a Layer mask. Both methods work well.

12 Clothing indication and bounce light

Clothing has thickness, and should be portrayed as such. Once again I use a basic round brush. Wherever the cloth meets at a seam, I indicate a lip where the stitching might be. Wrinkles are indicated slightly as well. The purpose of this is to avoid having a design with flat shapes that are seamless.

Bounce light will assist you in showing the form of the clothing as well. I use the Airbrush to paint a soft light coming from below. This also helps indicate the cloth's material, which in this case has a silky reflectivity.



09

Even if I choose a color scheme, it can be easily shifted using the Hue/Saturation menu to get more variations. This is shown in step 15

10

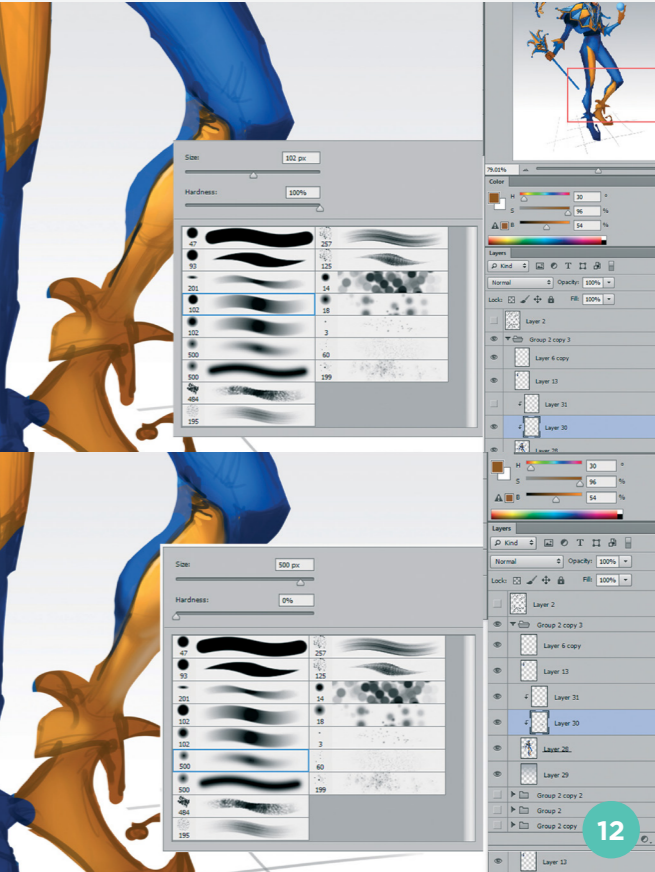
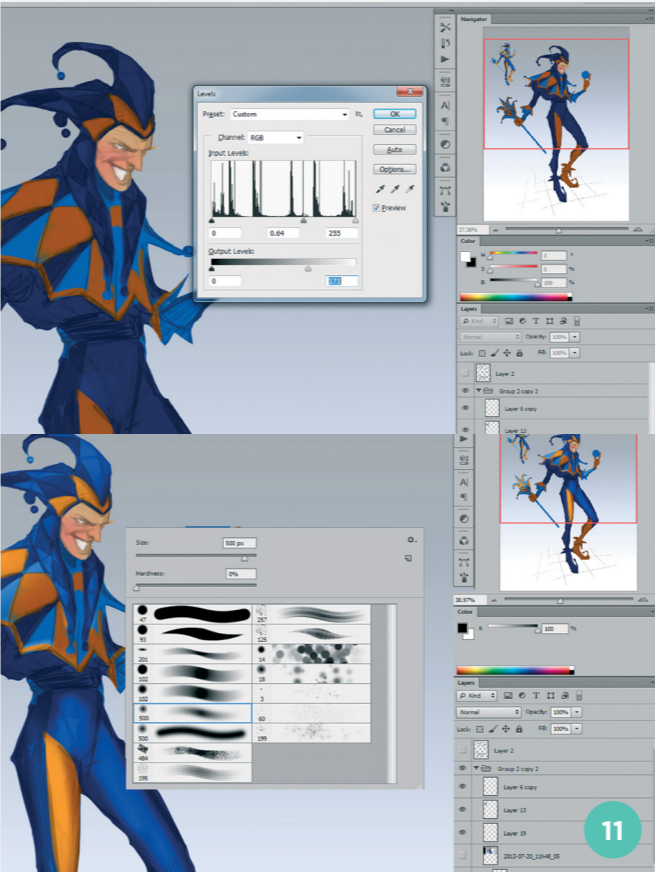
The Jester's face is also on its own layer to allow me to shift the colors of everything else very easily without messing with his face

11

Using this method is fast and easy; you won't have to think about specific color accuracy, the right value is already there

12

Always pay attention to clothes and the many ways they wrinkle in real life. It comes in handy when you're drawing or painting clothing



13 Costume refinement and details

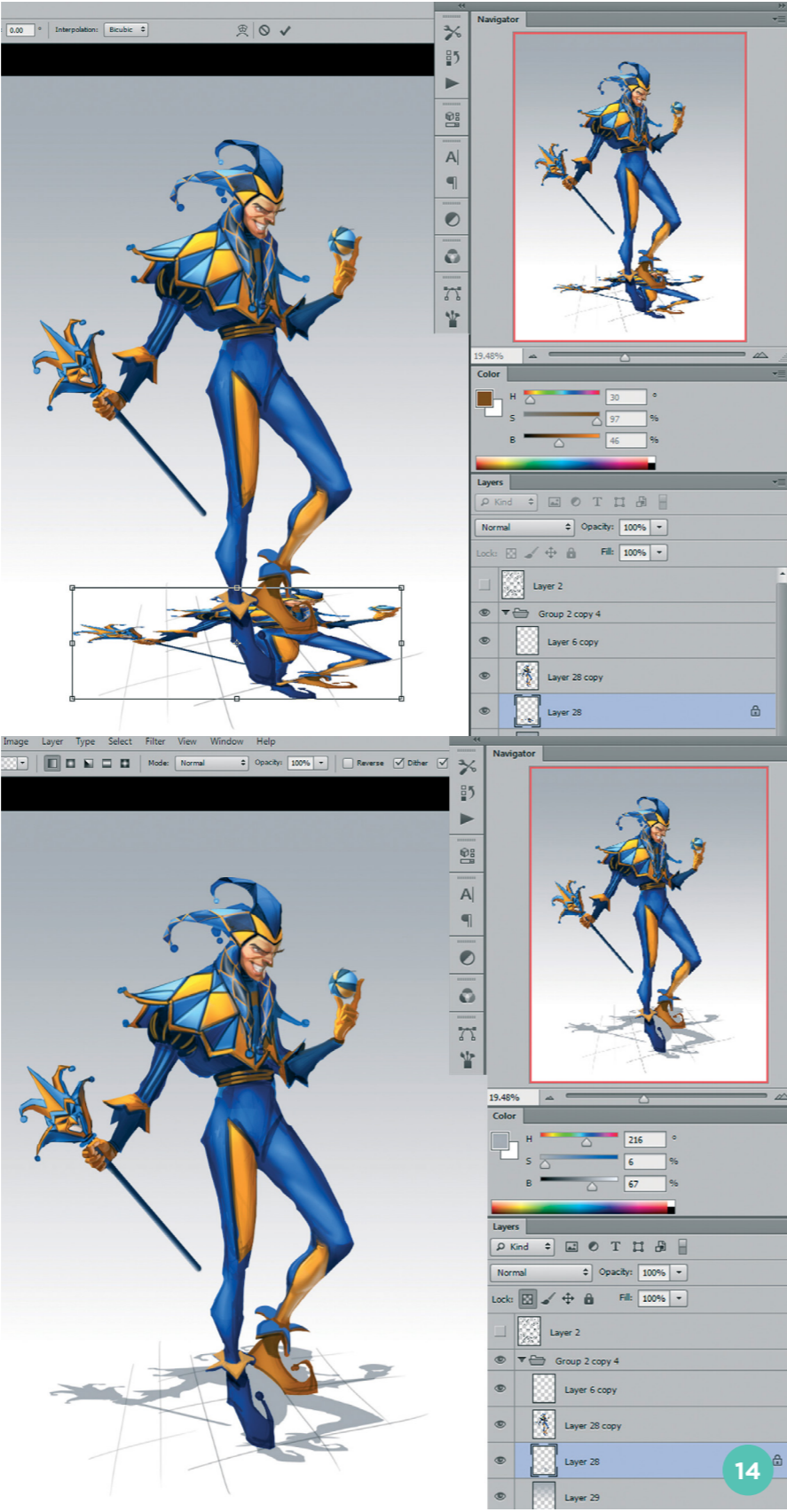
I now paint some more of the costume's design elements. Jesters always have interesting patterns and shapes. I highlight the triangular design language on the hat by outlining the dark shapes with a yellow line. This could end up being some kind of embroidery or just flat color, depending on the level of detail that the video game allows.

I start painting the face, which also has an angular language to flow with the rest of the design. I don't want to over-paint the face since the more important factor for this project is the costume the jester is wearing.

There is still no immediate need for any texture brushes or texture overlays. The round brush look will suffice as a preliminary design sketch.

14 Shadows in perspective

Here is a neat trick that will make your character seem placed in an actual space. Since I already have the silhouette cut out from the early steps, it will suffice as a semi-accurate shadow shape. Simply duplicate the silhouette and use Free Transform (Ctrl+T) to squash everything down beneath the character (top part of image 14).



13

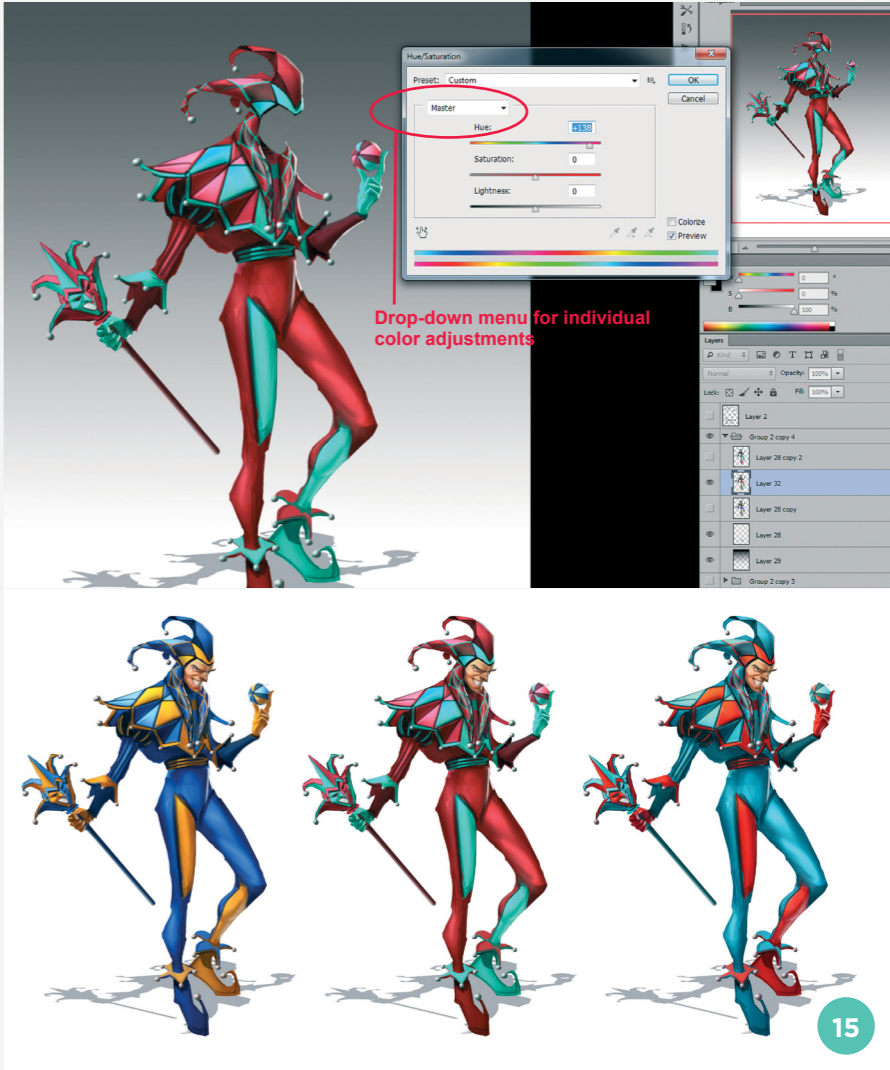
Painting some more of the costume's design elements

14

Creating and adjusting the shadow

15

This color-shifting method will work on anything, from props to characters to landscapes. There is no limit to what you can do!



You can then paint in a solid gray color onto the whole thing using the same clipping mask methods as in step 08. You can erase away any parts that do not make sense, such as the shadow of his leg sticking out. You can also blur the shadow using Filter > Gaussian Blur to have a softer lighting setup for your character (bottom part of image 14).

around with the Hue shift (Ctrl+U). This will expose new color schemes that you may never have thought of or seen. There is also a drop-down menu within the Hue/Saturation window (see image 15), so you can select specific colors to change; if you want only the blues to shift it will lock every color except blue.

15 Three paintings in one

Earlier in this chapter I mentioned the option of color shifting your costume in order to explore other colors. This is a really quick way of generating other color ideas for a client.

You can see the final illustration of the medieval jester on the right-hand page here, shadow and all.

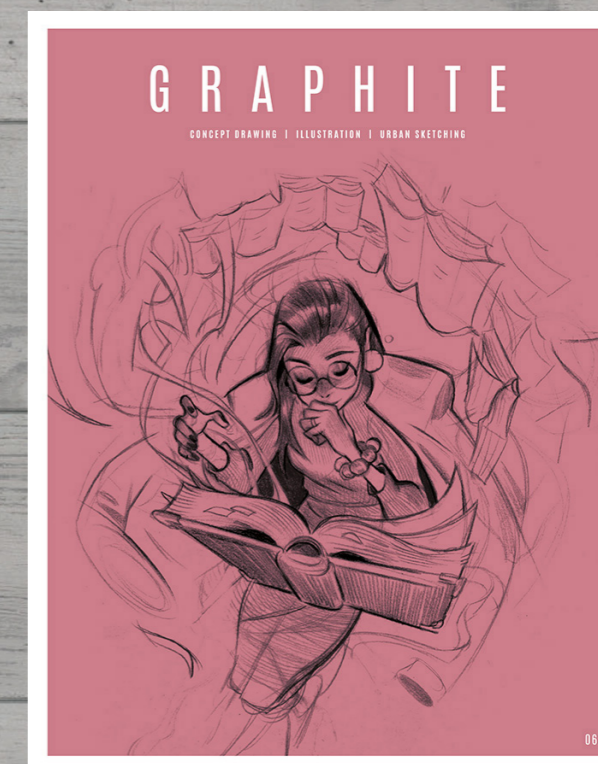
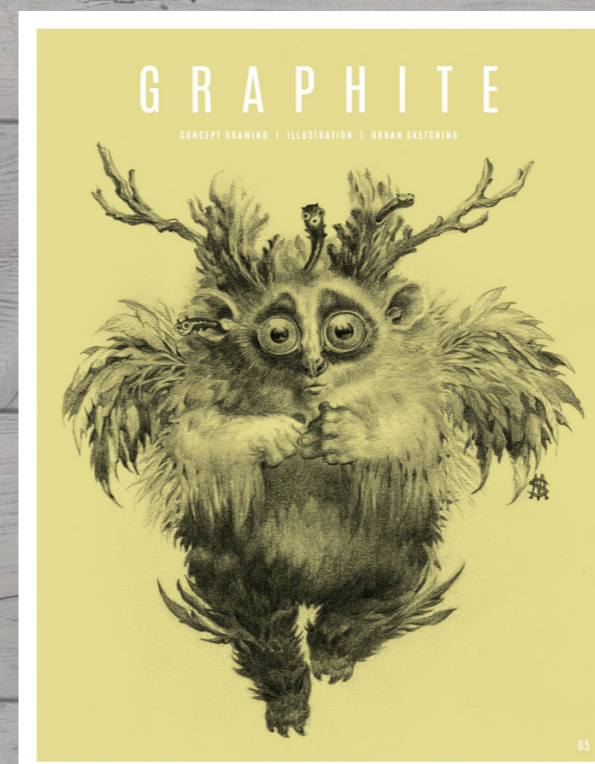
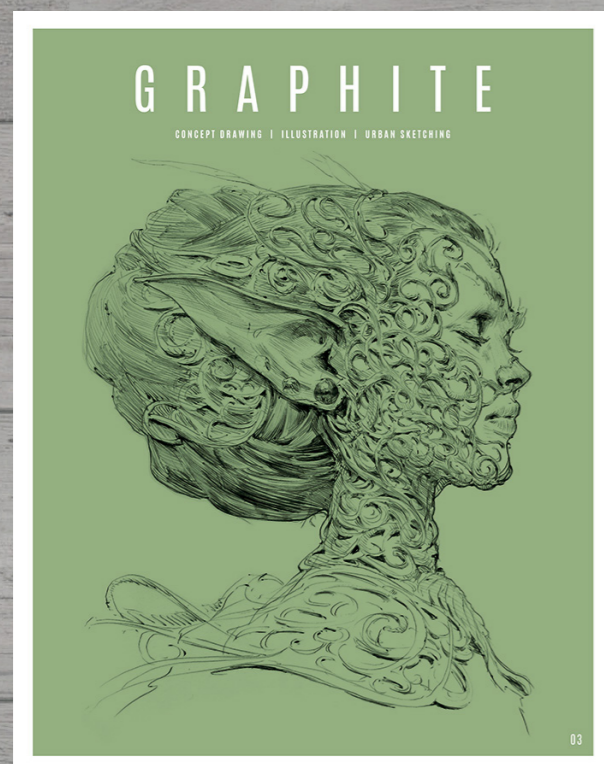
Since we have the face separate from the costume, we can turn that layer off and mess



GRAPHITE

CONCEPT DRAWING | ILLUSTRATION | URBAN SKETCHING

NEW
SUBSCRIPTION
OPTIONS
AVAILABLE



A PRINTED QUARTERLY ART MAGAZINE | SUBSCRIBE NOW FROM JUST £35

www.graphitemag.com

Design & draw a sci-fi character

By Brun Croes

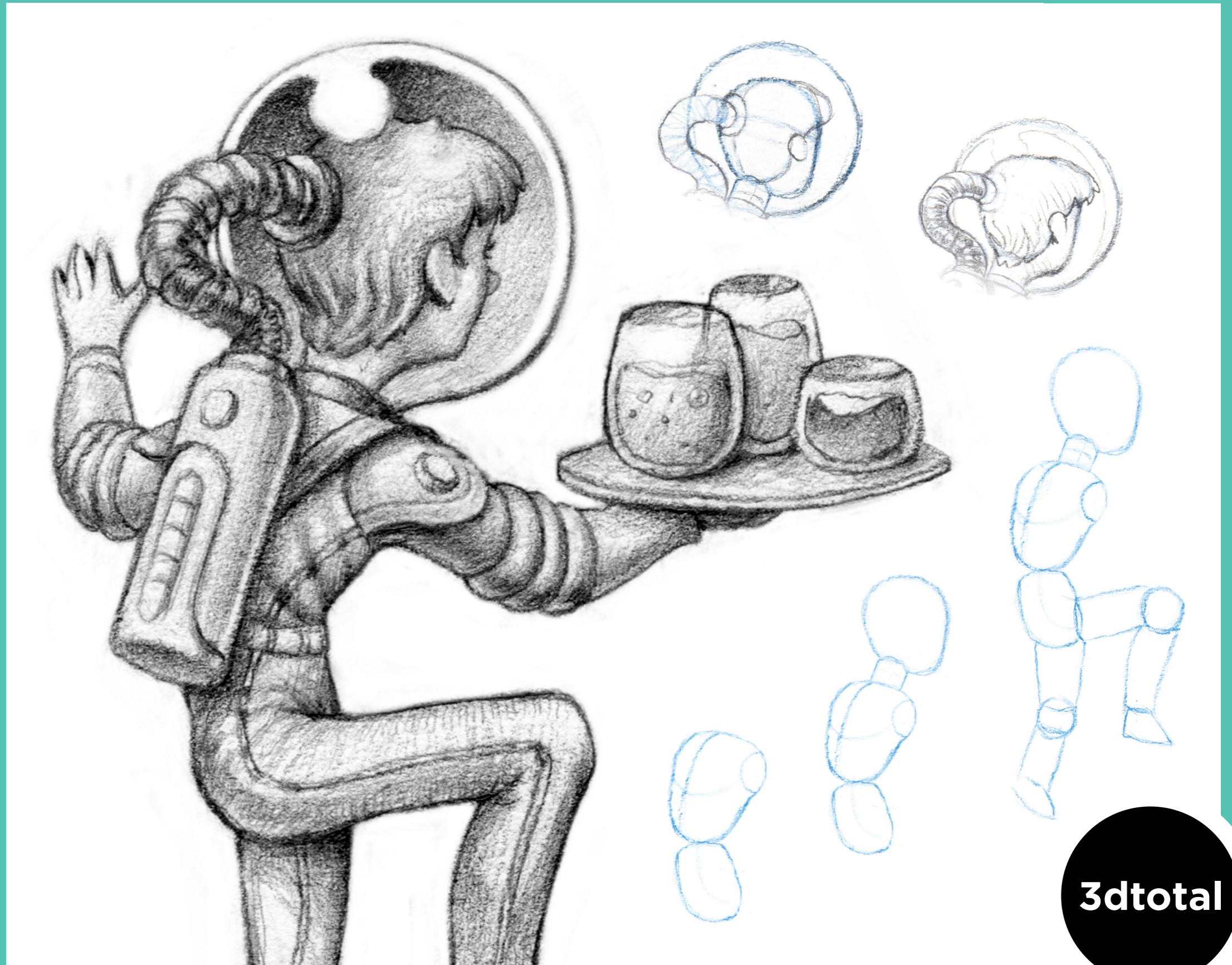
Web: artstation.com/bruncroes

Featured in:



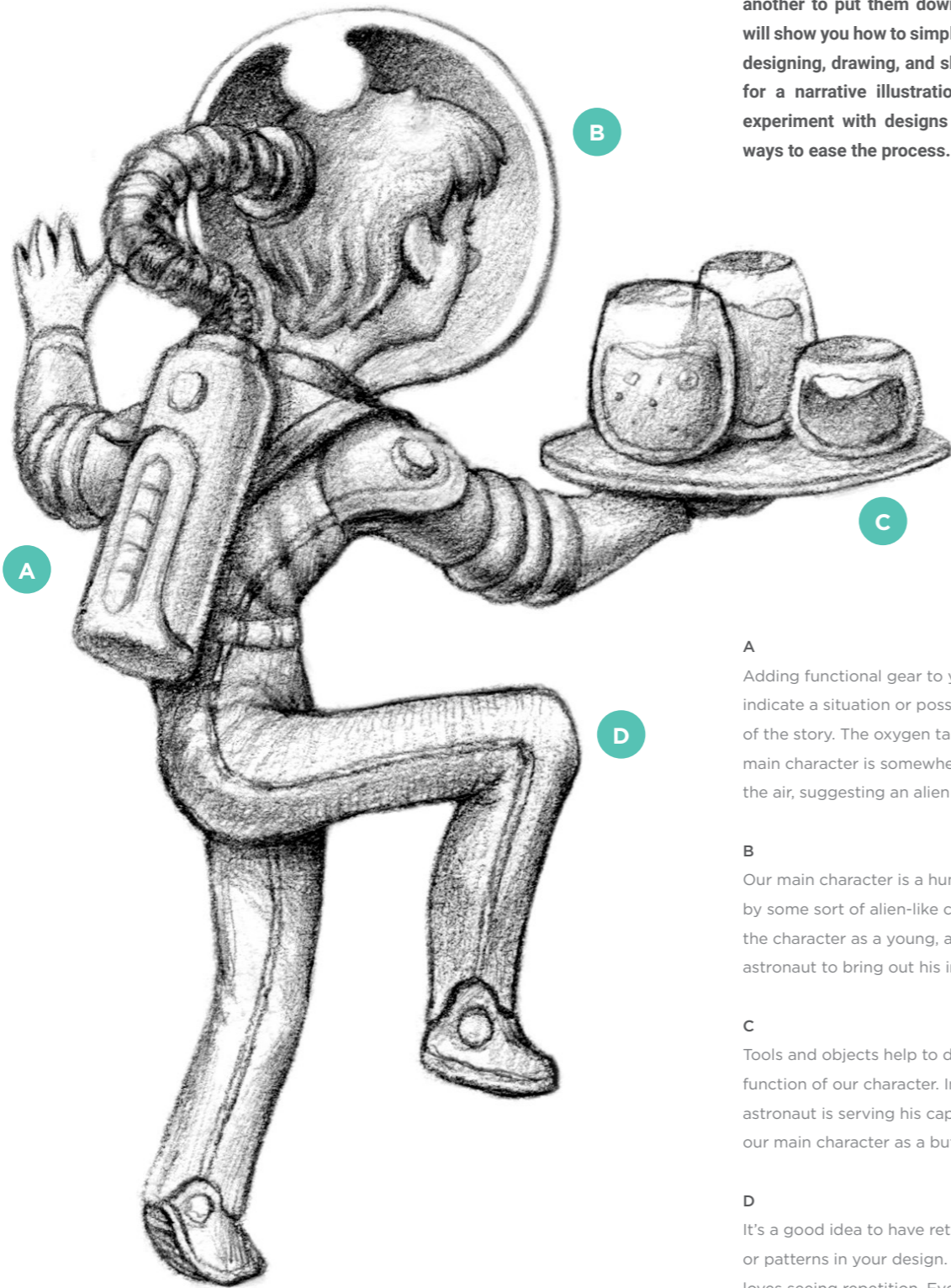
Beginners Guide to Sketching: Characters, Creatures & Concepts

Available from shop.3dtotal.com



3dtotal

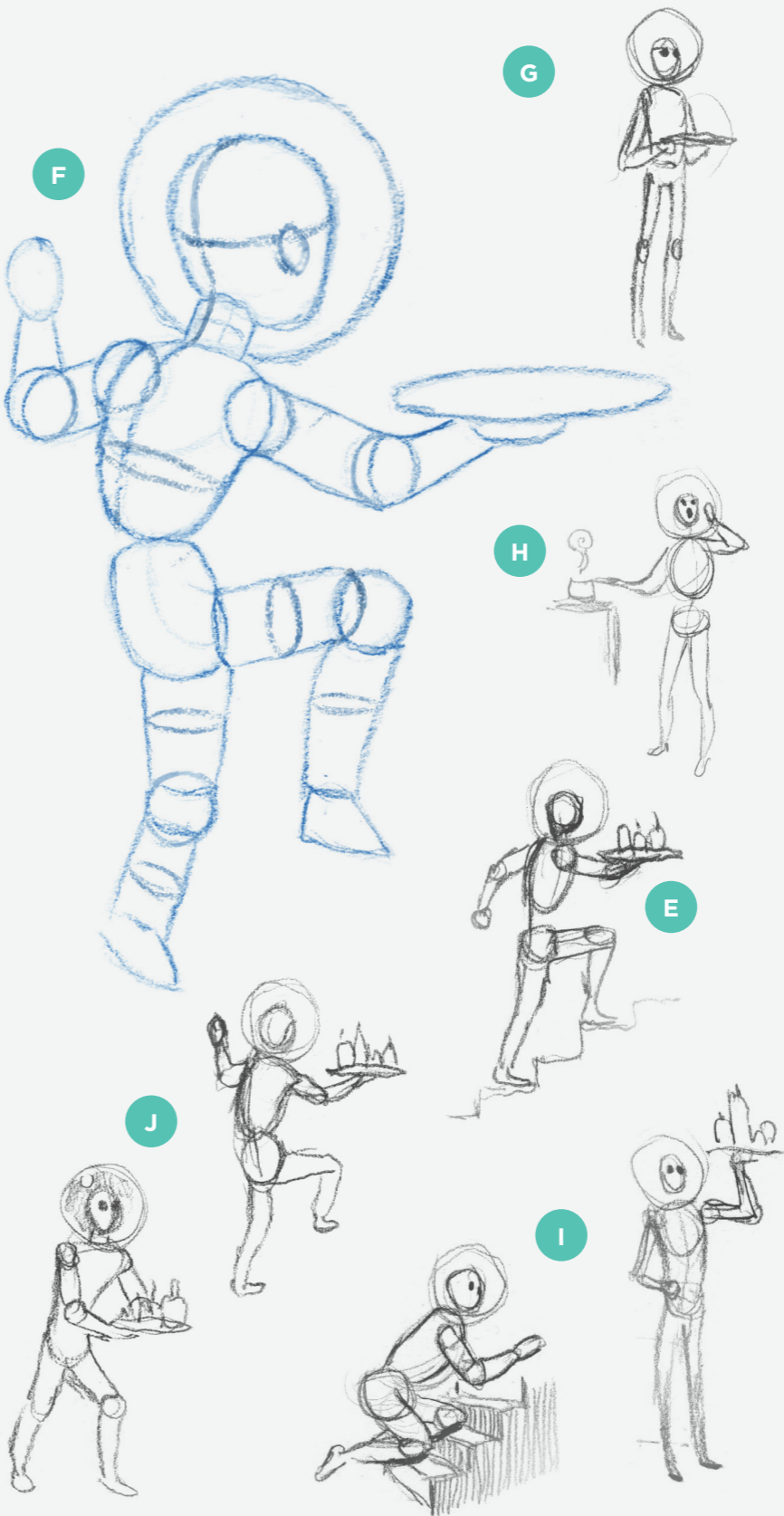
It's easy to get lost in your imagination; it's one thing to see ideas in your head and another to put them down on paper. Here I will show you how to simplify that process by designing, drawing, and shading a character for a narrative illustration. Our goal is to experiment with designs and to figure out ways to ease the process.



- A** Adding functional gear to your character will indicate a situation or possibly hint at a part of the story. The oxygen tank tells us that our main character is somewhere he can't breathe the air, suggesting an alien planet, perhaps.
- B** Our main character is a human kidnapped by some sort of alien-like creature. I imagine the character as a young, almost child-like astronaut to bring out his innocence.
- C** Tools and objects help to define the function of our character. In this case our astronaut is serving his captors, classifying our main character as a butler of sorts.
- D** It's a good idea to have returning elements or patterns in your design. Your eye loves seeing repetition. Even very simple returning shapes help to define certain elements and tie the image together.

Designing a pose

My character needs to possess elements that suggest a humanoid figure. Building up the pose with simple shapes will help you figure out the design before you go into details (F).



- E** Try different gestures by limiting your time on each one to a few seconds.
- F** My chosen gesture for the character.
- G** Using small thumbnail-sized gesture drawings means that you can quickly come up with a variety of poses.
- H** Small gestures can often clearly communicate a message. Even though simply drawn, they can quickly translate an idea.
- I** Don't focus too much on getting the anatomy right at this point. Keep your sketches loose and try to focus on what you want to convey with your gesture.
- J** Our main character is a servant for his alien captors. I try to represent this in a slightly comical way by making the gesture represent a waiter.



01

01 Getting started with the pose

I've decided on a gesture that I like so I'm ready to start building up my character's pose. I begin by drawing geometric forms which, when combined, form a believable blueprint or template that I can then use later on to build my character's design around. When drawing a character, it's a smart idea to start with the torso and hips. They are the part of our body that all the rest – arms, legs, and head – are connected to, so they are essential to our pose. For the torso I draw a sort of narrow-to-broad elliptical shape. This gives an impression of the shoulders and a waist.

02 Adding the hips

Now I add the shape of the hips to help define the stance and how the spine-curve of the character will run, giving us more insight into the posture. Here I use the combination of torso and hip to show how the character is bending forward a bit. I add a few hints of directional lines which help to define the dimensions and form of the geometrical shapes. For the shape of the hips I use another elliptical shape – the top a bit more flat than the lower part.



02

03 Adding a head

Adding a head shape helps to convey the idea of a humanoid figure. It's a part that is instantly recognizable to the human eye. For the neck I use a small cylinder to connect the head shape and the torso. Notice how the cylinder is slightly in perspective, further helping us to determine the form of our character. I add the head by drawing another elliptical shape. I draw the top of the head shape a little bigger than the bottom part; this way we get a feeling that there's a chin and the indication of the head's brain case.



03

01

Use a blue pencil for early line drawings; the lines will then be less visible once you trace them with a graphite pencil.

02

Using a blue pencil also gives more room to fail with your lines; you can draw a few on top of each other and afterwards use the line you like the most when you trace it with your graphite pencil.

03

Think of your shapes as if they were in a three-dimensional space. Things to consider would be which shape overlaps the other and which shape is closer to the viewer or further away.

04

Consider the scale of the individual elements that make up your character and how this will impact on the look of your character.

05

I choose to keep the head fairly large in contrast to a rather small torso; this gives the main character a somewhat child-like appearance.

04 Adding some legs and feet

Now I add some legs and feet to give our character a sense of motion. Drawing one leg up and another one straight down, with its feet slightly pushed up, can give the appearance that the character is walking up stairs. I make sure that the legs aren't drawn in straight lines and make them curve a bit, as if the character is bending through a bit of weight from his upper body.

I use simple cylinders and small circles to give an impression of the upper legs, lower legs, and knees. Working together as some kind of mechanical construction, the circles act as an anchor point on which the cylinders can rotate forward or backwards. It helps to look at some pictures of human skeletons to see how the joints are connected and

able to move. For the feet I add some pyramid-like shapes.

05 Adding arms, hands, and some form

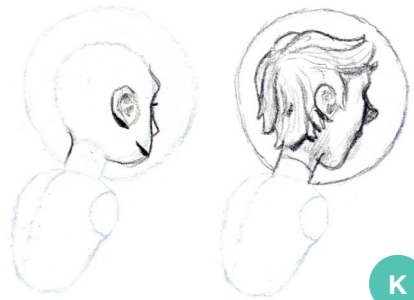
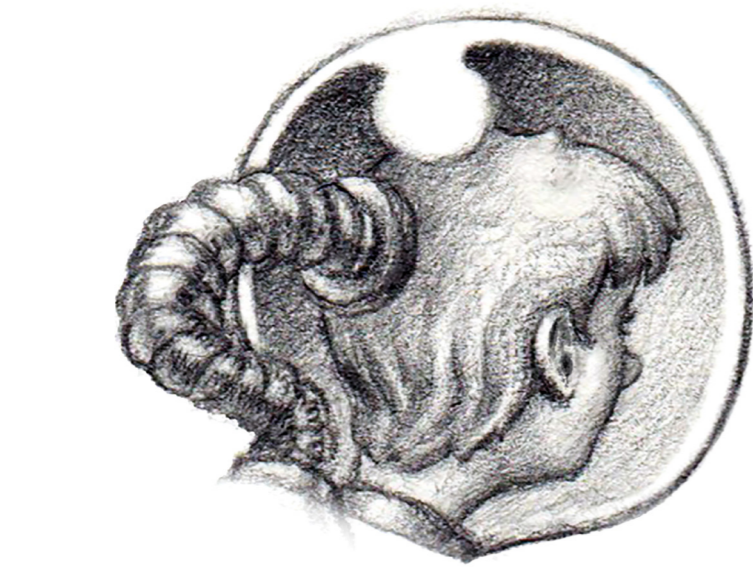
The arms and hands are similar to the legs and feet as they also play a crucial part in portraying the character's pose. As seen in the previous step, I build up the arms using cylinders and circles to represent the limbs and joints. For the hands I draw elliptical shapes, one of them more flat than the other because it is holding a plate and will most likely be covered for a part. I add some new lines along all of my geometric shapes to accentuate their form in space. I keep these lines loose and use them more as a suggestion. I also add a quick outline of the head.



04



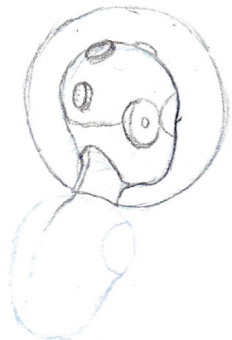
05



K



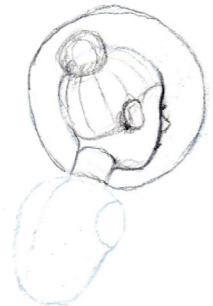
L



M



N



O

Drawing the head

The character is facing away from the viewer so exploring different elements such as hairstyles and the size of the features you can see (ear, head shape, and so on) are important in defining the character.

K

The character's face can be naked or hidden behind a mask. For our illustration I choose to go with a naked face. The front of the face is already hidden, but adding a mask would take away part of his humanity.

L

The fixed position of our main character's pose leaves us with the main focus on the back of his head. This leaves the face somewhat anonymous, giving the viewer a sense of mystery.

M

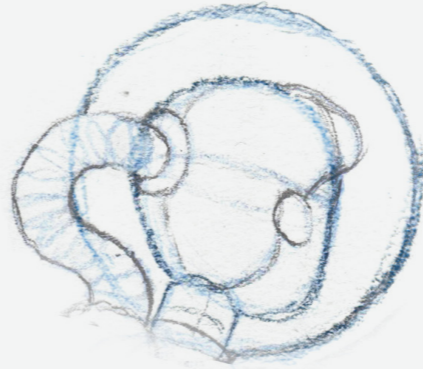
This is an exploration stage, so don't worry about drawing pretty things just yet. Try to imagine who this character would be in your illustration.

N

In this idea, an overgrown beard in a helmet might help to tell the story of someone who has been captured for a while. The big glasses and bald head help to give a feeling of old age as well.

O

Different hairstyles can define a character's mindset. A mohawk quickly gives a character some attitude while a cleaner haircut may give the character more innocence.



01



02



03

01

For my graphite pencil lines I use a mechanical pencil. More specifically the GraphGear 1000 from Pentel. These pencils have a nice weight to them.

02

Start off with a fairly thick (0.9mm) HB pencil to give smooth lines with a little bit of that graphite texture.

03

When shading I try to keep my mark-making a bit rough. This will provide a bit of additional texture in the shadow zones when things get darker later on.

01 Building up the character's head

Using the template we made in the previous stage and now working in graphite pencil, I place a small oval to the right of the center of the head's elliptical shape. This will be the ear. Next to the ear I draw an "S"-shaped line that will represent the side of the face. For the purpose of this tutorial I made the line darker, but usually when drawing my lines at the beginning of a sketch I draw them very lightly so that they won't show at the end. I also add a simplistic representation of the character's hair. When drawing hair I begin by drawing its silhouette, imagining a form that fits around the character like a blob of clay.

02 Adding some definition

Now that I have my building blocks ready I start to suggest more detail. I add small pyramid-like shapes along the curved outline of the hair shape, which immediately makes it more recognizable as hair. Underneath the shape of the ear I add some dark shading by making a few hard dark pencil marks. This starts to give the ear some form. I add a faint pencil line along the side of the glass helmet to indicate the border between where the light and dark parts will be. I add some small lines along the right bottom parts of the hair silhouette and the face shape, to indicate that the light is coming from a point behind him.

03 Shading in the shadows

It's time to add a little bit of form. I correct the "S"-shaped line of the face to give it more definition and personality. I imagine this character to be quite young so I exaggerate the cheekbone and eye socket. I add a small line near the eye to suggest eyelashes. I add shading by drawing very lightly over the paper and drawing small short lines close to each other. I imagine how every shape would look if it was a three-dimensional sculpture and follow the shape of the form.

The light comes from the direction of the viewer, so most of my shadows will be around the outlines of my shapes, leaving

brighter spots of highlights in the center of the shapes. I use the same shading technique to suggest some hair locks, which follow the shape of the head. Where my shapes touch, around the ear and hairlines, I draw in the lines a bit darker. To suggest at the helmet's transparency and reflectiveness, I add darker shading underneath the border lines, leaving light and reflective areas on top of the helmet.

04 Going a bit darker

Now I continue by putting a layer of shading on top of everything. I alternate between two methods to do this. I start off by using the same technique mentioned in the previous step, placing light pencil marks next to each other. Where I want my shading to be darker, I add an extra layer of shading on top. To create darker, smoother shading I make marks following small loop shapes.

For the helmet I add more shading on top, to contrast with the bright highlight spot that we left out in step 03. I darken the side of the ear, leaving a small area unshaded at the top to provide a highlight which will help define its

shape. Some extra shading near his cheek and neck towards the front side of his head helps to accentuate the roundness of his face and the structure underneath it.

05 Refinement

Time to refine all the elements of the face in order to complete it. At this point I mainly use the loop-marking technique to enhance my gradients, making sure that there's a nice contrast in the values that reads well. I put some more shading down around the eyes and draw them a bit more clearly by drawing in a "V"-shaped line for the eyelashes. I add a nose by placing a small "U"-like shape on the outside of the outlines underneath the eyes. The nose helps establish that we are looking at a human face.

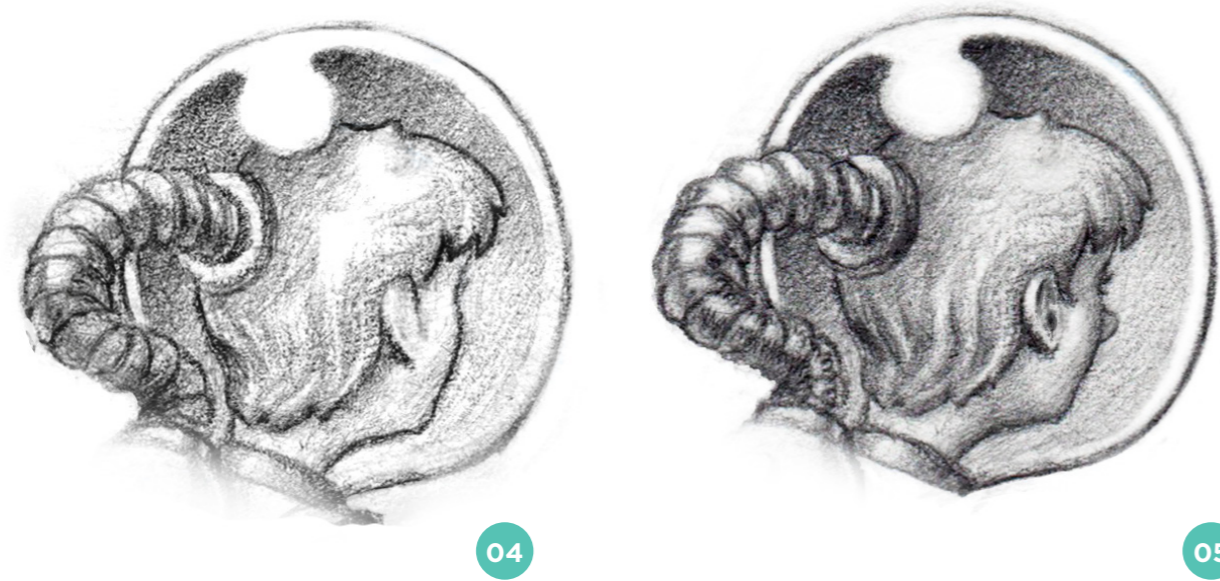
I add a few small but dark marks inside the shadow area of the ear to suggest the inside of the ear shell. As a finishing touch I clean up certain parts with my eraser, such as the highlight area of the glass helmet.

04

I make a few darker lines along the way, to accentuate certain areas of the face. Good places to do this are where two objects (such as the hair and the face) are about to touch.

05

Use an eraser to pick out highlights and make them cleaner.



Adding clothing

The shape of the lines created by the design of the costume can help to create form and add a three-dimensional feel to your character.

P

Experiment with different shapes and parts; loosely follow the form of the template guidelines but don't be afraid to go outside them for parts such as shoulder pads or oxygen tanks.

Q

Breaking up the curved lines of the template gives the impression of looser clothing, in contrast to a more skin-tight suit.

R

Try looking for interesting patterns; these are great for exploring different designs and to quickly represent different types of material.

S

Adding an oxygen tank helps with the narrative as this way we know that the character is in a strange place, possibly in a world where he can't breathe without it. This helps to accentuate the alien theme.

T

Using our template you can quickly come up with different ideas for possible costume designs. Our main character has been captured by aliens, so I think it would be fitting to put him in some sort of spacesuit.

01 Building up the design

Using the template guidelines from the pose section, I begin constructing lines on top of them using a blue pencil. This helps me to draw circles along the template respective of their perspective, to give them a three-dimensional feeling. As mentioned, drawing with the blue pencil (or any color, really) gives you the chance to make mistakes and draw it again.

When you've decided on the right line you can draw over it with a graphite pencil and erase the blue lines. Using the exploration sketches I combine parts that I like into a final design. I pick the parts that fit best with the character's personality. I want to have a spacesuit which at the same time could pass as more regular clothing.

02 The importance of outlines

Now I erase all of the blue lines so that I'm left with my final design in outlines. Knowing

and figuring out your design up front is crucial to any illustration, especially when working traditionally. When working digitally you can easily throw around layers and erase things to start again; when working traditionally and figuring out at the end of your illustration that something just isn't working, or isn't placed correctly in the composition, you often have to start again from scratch. Save yourself some time and try to get your outlines right from the get go.

03 Start to shade

It's time to add some shading to the character. I focus on the general areas first, shading them according to the light source behind the character. If you aren't sure how to place the shadows, go back to the template and experiment with shading the simple forms. When it comes to the actual shading on the final character I often simplify the shadow zones according to the primitive shapes.

01

Keep your lines light and don't press down too hard on your pencil as you might still want to be able to erase something later on.

02

When working traditionally it's a good idea to have a few kinds of erasers lying around such as a kneaded eraser and a gum eraser, which are perfect for getting rid of unused pencil lines.

03

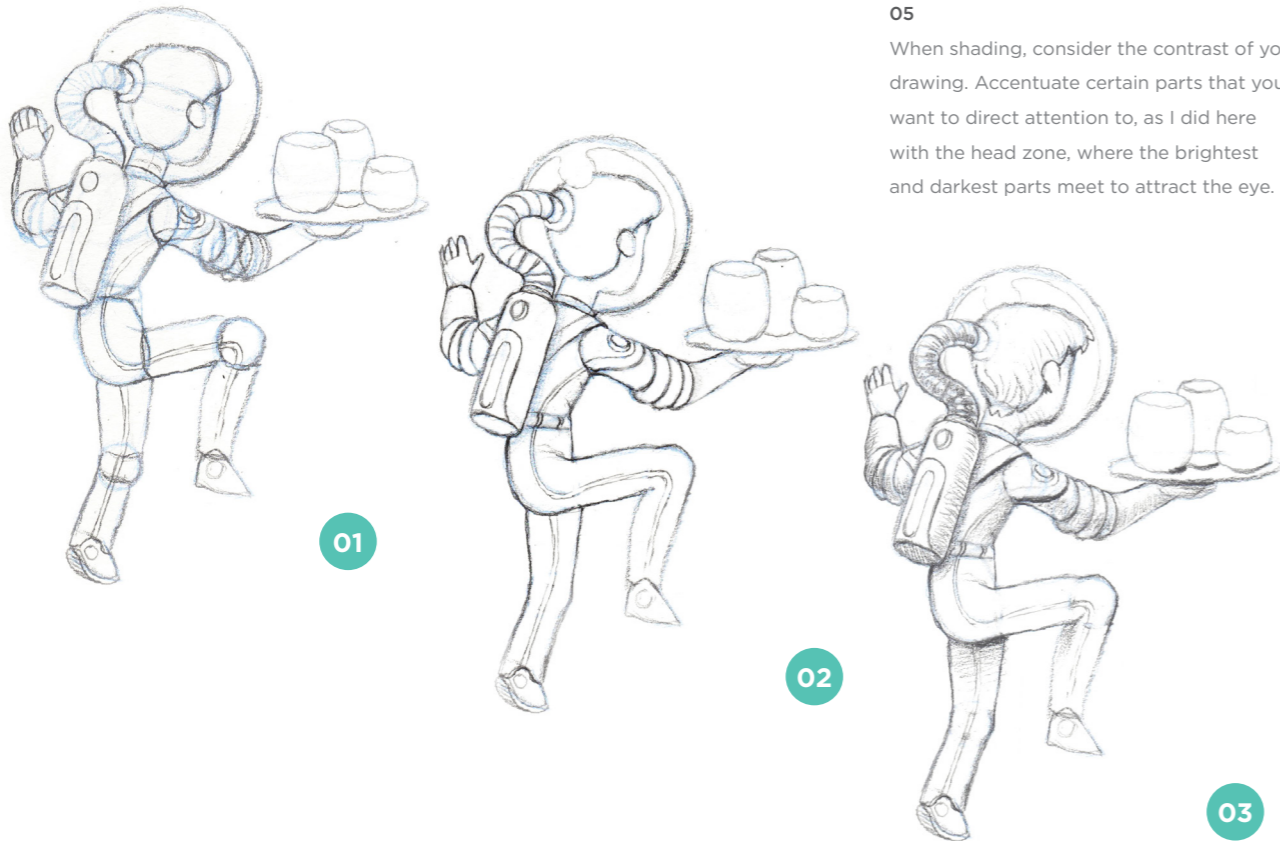
Build up form by placing small marks instead of shading everything perfectly at once. It's good to get a general view of how things might look before diving in.

04

Try to avoid small, uncertain mark-making with your pencil; the final drawing needs to have smooth lines which feel like they belong together.

05

When shading, consider the contrast of your drawing. Accentuate certain parts that you want to direct attention to, as I did here with the head zone, where the brightest and darkest parts meet to attract the eye.



04 Keep at it

While shading keep in mind what material you're dealing with. For the glass helmet and the oxygen tank I leave small areas unshaded by their outlines where the reflected light would be. This suggests to the viewer that it's made of a shiny material such as glass or metal. I also add some reflective light (unshaded areas) to certain parts of the clothing, such as the arms. Notice how the transition between the shading from reflected light to the shadow is much smoother, almost

gradient like. This further helps to translate the material in our drawing. We can see how this is made of a different material to the helmet and oxygen tank.

05 Final details

I now finish up my drawing by accentuating certain parts of the design and shading. I make certain parts of the design stand out more by defining their silhouette with a darker line, such as the shoulder plates and the sleeve on his right hand. I darken the places

where different parts are about to touch, because light is less likely to reach these areas. I continue building up my shading by adding layer on layer of subtle pencil lines, adding creases along the way and defining some cast shadows such as on his leg and the hand underneath the plateau.

Now that we've drawn our character and explored different options, it's time to move on to the next section of our tutorial and meet the captors of our main character!



3dtotalAnatomy

shop.3dtotal.com

Anatomical reference figures

Whether you use pencil and paper, paintbrushes, clay, ZBrush, Maya, 3ds Max, or Photoshop, 3dtotal's anatomical reference figures are invaluable if you want to understand the form and structure of the human body. All figures are cast in neutral gray resin to make the variation in the surfaces easy to discern.

The range includes:

Male half-skin/half-écorché

Female half-skin/half-écorché

Male écorché

Female écorché

Male skin

Female skin

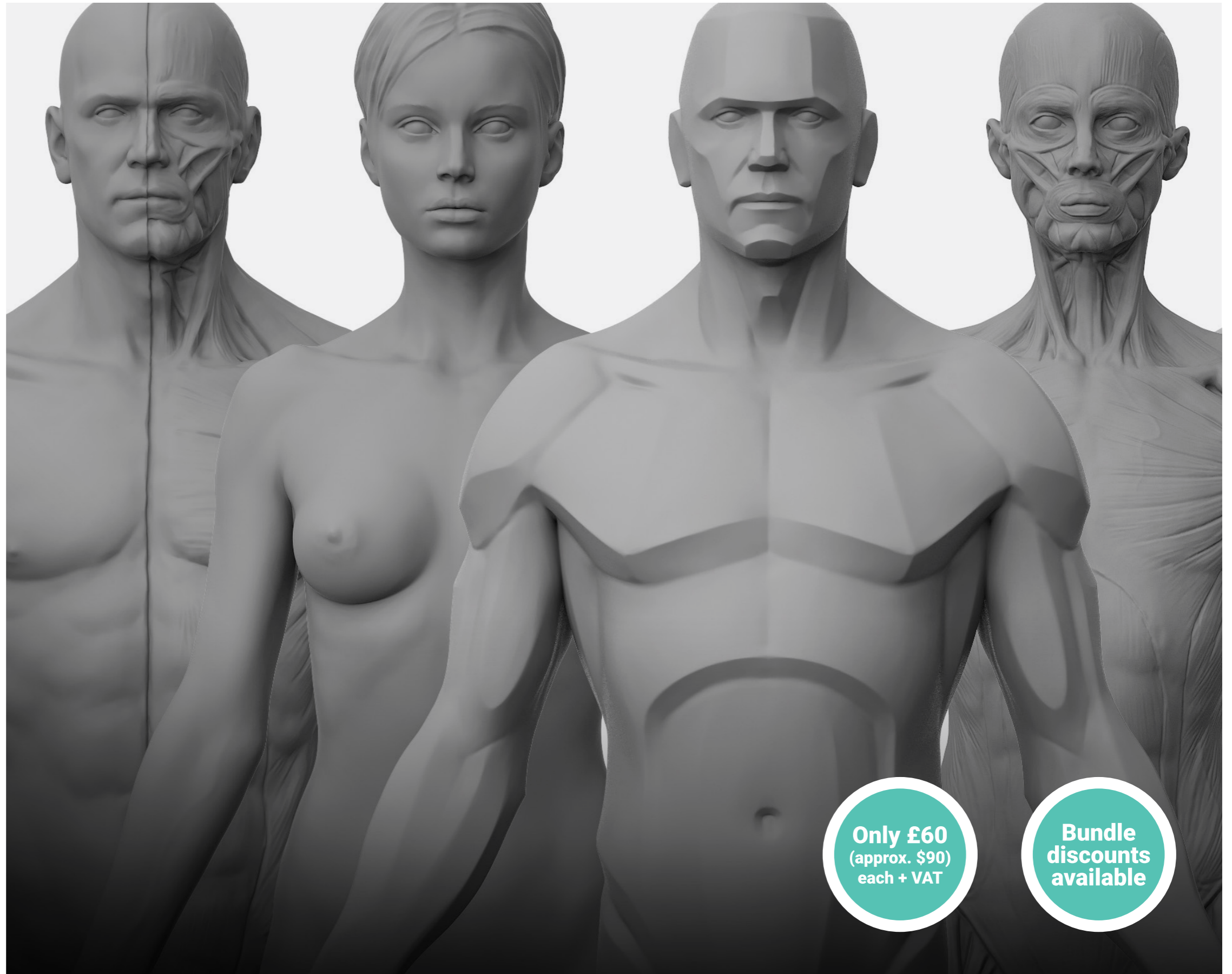
Male planar

Female planar

Adaptable male

Male half-basic/half-complex planar bust

Female half-basic/half-complex planar bust



Only £60
(approx. \$90)
each + VAT

**Bundle
discounts
available**