

Making Monsters

A Speculative and Classical Anthology

edited by

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&
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The Monster in Your Pocket

Valeria Vitale

I knock on the door hesitantly. I am not entirely sure I have understood the directions to join the guided tour of the building.

“Come on in!” replies a voice from the inside. I check my clock. There should be a small crowd by now, but where is everyone? I push the door timidly, and enter a dimly-lit room. There are old books everywhere, wooden filing cabinets with illegible labels, and several piles of papers. I shouldn’t be surprised—I am in a library after all.

“Sorry to bother you,” I say after clearing my voice, “I was looking for the guided tour.” A woman with the messiest hair I have ever seen in my life looks at me with excessive enthusiasm. “Perfect!” she says, with a happy grin. “You came to the right place!” I am slightly concerned about her ability to deliver ‘an engaging tour of Senate House that will highlight its iconic role in the cityscape’ as advertised in the programme, but I don’t want to be prejudiced.

“Where are the others?” I ask, with forced cheerfulness. “Are we ready to go?”

She looks at me, vaguely bemused. “The others? I am already surprised one person’s come for the tour of the lab! But let’s get on with it!”

I realise that there has been a terrible misunderstanding. It looks like I ended up in a different guided tour, but it feels horribly rude to say so, especially as I’m the only one that showed up. I am tempted to clarify the situation. But I can’t help doing what any good British person would in my shoes: pretend that everything is fine to avoid awkwardness. Still, I have no idea what I just signed up for.

“Have a seat!” she says, pointing at a chair at the opposite side of her desk. She is wearing some sort of white coat that makes her look like a scientist. A mad one, though. It has stains of all colours on it. “So, how did you become interested in monsters? And why do you want to make one?”

Of all the ways in which I could have self-sabotaged my afternoon, this is probably the most absurd.

“I beg your pardon?” I ask, to buy time.

“Well, we make monsters here! That’s why you came, right?!”

“Indeed,” I reply, with little energy. The irony is completely lost on her.

“Are you a classicist?”

“Of some sort,” I reply.

“Well, then you have enough reason to be interested in monsters! But before we start with the practice, I thought I’d give you some insights on the theory. After all, as a classicist you must be familiar with long explanations!”

I know she is trying to make a joke and I should laugh politely, as if it were funny. But I am too distracted by another detail: “The practice of what, exactly?”

“Of making monsters, of course!” she replies, as if that should have been obvious. Is she talking metaphorically? I try to relax on my chair, but I am less and less comfortable, and I mentally measure the distance to the nearest door. Just in case.

“Analysing a large sample of monsters in myths and stories, their representations and the way they travelled to our popular culture, my team and I have come up with a little *vademecum* on how to build monsters.”

A team? There is really an entire team that works on this madness or is she deluded? Does she *actually* work here? She takes my perplexed silence as encouragement.

“There are countless things we could say about monsters. The topic is so vast and complex that we could talk about it endlessly. But let’s keep it simple, just for the sake of our fabrication exercise. Taking things at their very basic core, we could say that monster-creation happens through the manipulation of three major axes—which we call “axes of monstrosity”. Between you and me: no one else does, but it will catch on soon!” She winks.

“The first one is ‘size and number’. We might be inclined to assume that big creatures are always the scariest.”

I nod just out of politeness, I am not even really listening.

“Wrong!” she says, disappointed, banging her hand on the dusty desk. I’d better pay more attention, I don’t like the idea of making her mad. And not just because it would be rude.

“Let’s think of a whale, for example,” she resumes. “That is certainly big. And, I give it to you, it can be dangerous. Especially if you are lost at sea and your captain is mad. But we wouldn’t call a whale a monster, right?”

I think about it and, actually, I have to agree.

“Monstrosity is not about being big. It’s about not being *the expected size*. A crab is not scary. A crab with claws big enough to crush your head is. But it’s not only blowing up dimensions that makes things monstrous. You may think that downsizing creatures will only make them cute and toy-like, but, to quote a popular meme: would you rather be attacked by a horse-sized duck or by a hundred duck-sized horses?”

“Is ‘neither’ an option?” I try.

She frowns at me. “The point is that they are both unsettling. This also introduces ‘number’ as a variable in the process of monster-making. And not only because an army of small monstrous creatures can be truly terrifying, but also when we consider ‘number’ at the level of the single monster. A dog is not disconcerting, but if you start playing with the number of its heads, we obtain a great classical monster. The mechanism works with subtraction, as well. A giant is already a bit worrying to meet, but a giant with only one eye is ten times more horrifying! Let’s move to our second axis: ‘combination of parts.’ I must confess, this is my favourite! Nothing screams monsters—no pun intended—more than mixing and matching different pieces of creatures! A chimera is, possibly, the monster *par excellence*: and, trust me, it even works with non-biological elements! Try combining together pieces of different broken toys, and you’ll get some very good Halloween material!”



Fig 1. Wolpertinger by Rainer Zenz, after Young Hare by Albrecht Dürer
Source: Wikimedia Commons

She laughs. Slightly too joyfully, I’d say. I have the feeling she speaks from experience.

“But let’s get back to our chimera; it will help me to introduce another point. Classical depictions of chimeras vary slightly but, mostly, they involve a lion, a snake and a goat. Now, if I wanted my monster to be scary, I would combine the most terrifying animal qualities: the teeth of a shark, the horn of a rhino and so on. If we look at the traditional chimera, the lion and the snake pretty much are consistent with this idea. But the goat is slightly confusing. It’s not the most worrying animal, and this perplexity can be traced in the various artists that have tried to

illustrate the mythological creature through the centuries. They are not even sure where to place the goat head! Next to the lion one? On the back? Facing forward or backward? Do you know what is the answer to this issue?"

"Goats can actually hurt you pretty badly?"

"Wolpertinger! That is the answer! Wol-per-tin-ger."

I look at her, blankly.

"A Wolpertinger is a traditional mitteleuropean monster that has the head of a rabbit, the body of a squirrel, little deer antlers and pheasant wings. Do you see what I mean? There is nothing scary about it! It is made of pieces of different animals that have nothing threatening at all. So, let's bear in mind that one doesn't have to be dangerous to be a monster. Finally, the third axis: 'being unnatural'. Our guide into this concept will be a platypus."

I don't even ask what the role of a platypus might be, and she doesn't need any encouragement to go on. She is now even wearing a finger puppet in the shape of a platypus, to make her point.

"A platypus is an egg-laying, duck-billed, beaver-tailed, otter-footed mammal. It is even venomous. Basically, it is the closest thing to a chimera we have in nature!" She wiggles her finger, to simulate the platypus movement. "Would you call it a monster?"

"I guess not."

"Right! And the reason is exactly that it exists in nature! Natural things, no matter how bizarre, odd, dangerous or surprising are NOT monsters. Dinosaurs would make another good example: they can be scary, but they are not monsters! Because they did exist, at a point in time. Monsters only walk on Earth because we humans created them. Then we pretend they have always been here, of course, but that is our implicit deal with them! Making things that didn't exist before is the most delightful prerogative of being human. Humans can't resist the temptation to become makers, and monsters are indeed a splendid thing to bring to life. Are you ready to become a maker and create your own monster?"

"How?" I ask sceptically.

"With 3D software of course!"

I didn't see that coming. She looks at me with genuine surprise. "When the ad said 'learn how to model a monster in 3D' did you think we meant shaping a golem from mud?" She shakes her head, and I start to make sense of things, finally...

"I'm going to teach you a couple of basic tips for editing 3D files, so that you can design and develop your very own monster. And then, you

can do whatever you like with it: take screenshots, add it to a 3D model, animate it. Or 3D print it.”

“Can we do that?” I can’t deny a sudden curiosity.

“Let’s find out,” she says condescendingly, turning her computer screen towards me. “First thing, we need some 3D editing software. I suggest Autodesk Meshmixer.¹ The software is not open-source, but it is free, at the moment. We have chosen it also because it works on both Windows and Mac, and because it is supported by an active community that produces a good number of online videos and tutorials.² But feel free to use the software that you like best. MeshLab³ and Blender,⁴ for example, are also both free and multiplatform.

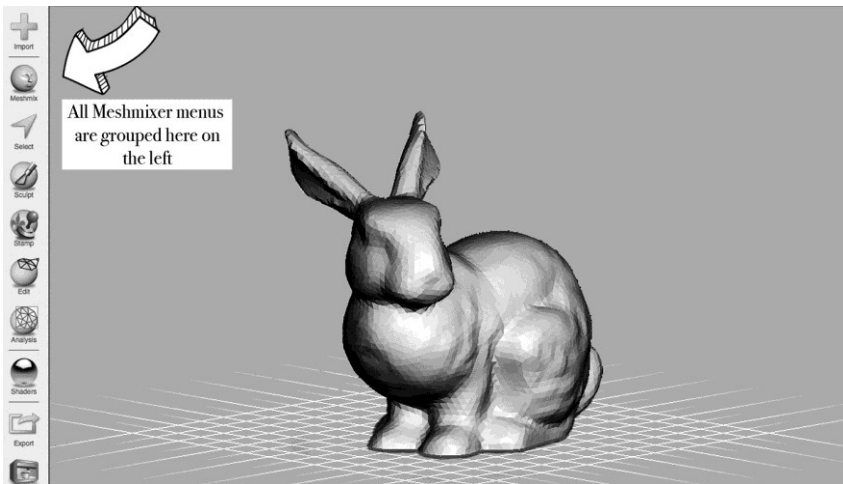


Fig 2. Introducing Meshmixer user interface

“To build our first monsters, we will bear in mind what we just learned, and use the libraries that are already in Meshmixer. When we have practised with this, we’ll see how to expand our monstrous horizons. Let’s start by importing a 3D bunny; that is the test file in Meshmixer. There is even a dedicated button when you launch the software—do you see it? It actually says ‘import bunny’! Do you remember what we said about combining different parts? Let’s say that we want to give this bunny a... gorilla head! The first thing that we have to do is to get rid of the original bunny head. In Meshmixer, all tools are on the left, grouped by icons (Fig 2). The one we need for selecting is

¹ Downloadable from meshmixer.com

² For example the *Autodesk Meshmixer 101* series on Youtube

³ Downloadable from meshlab.net

⁴ Downloadable from blender.org

‘Select.’ To select, we drag our pointer around the area we are interested in. In our case, we draw a circle around the bunny head (Fig 3). When an area is selected it becomes orange. A number of options becomes available after the selection. The one we are looking for is ‘Edit/Erase & Fill.’

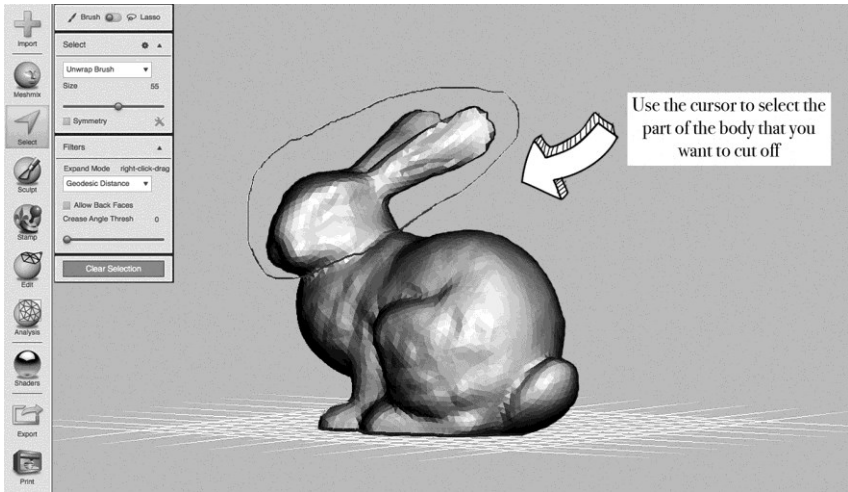


Fig 3. The “Select” tool. Or, how to decapitate a bunny

“We choose this one because we don’t want to just decapitate the bunny, we want to prepare a smooth surface where we can attach another head. Or two. Or five. This option does exactly what we need: substitutes the bunny head with a flat surface, that looks just perfect to receive a head-transplant! (Fig 4) But now we need to get hold of a gorilla head. Any ideas where we could find one?”

I shake my head.

“We have it already! What makes Meshmixer the perfect software to design 3D monsters is exactly its bizarre library of parts. You can access it from the main menu under ‘Meshmixer/Primitives.’ They are even usefully divided into heads, arms, legs and so forth. Isn’t that neat? These parts are 3D objects that are meant to be attached to something else, they are ‘open’ and, let’s say, are looking for something to bond with. Here is a gorilla head, in the ‘head’ section of the library. We simply drag it on top of the bunny neck. Be sure to drag the head on the body, and don’t just leave it floating in the 3D scene. What do you think?”

I am half amused, half disconcerted. The decapitated bunny has now a tiny gorilla head coming out of its neck.

“Can we make the sizes more consistent?”

“Of course! Wouldn’t be convincing otherwise!

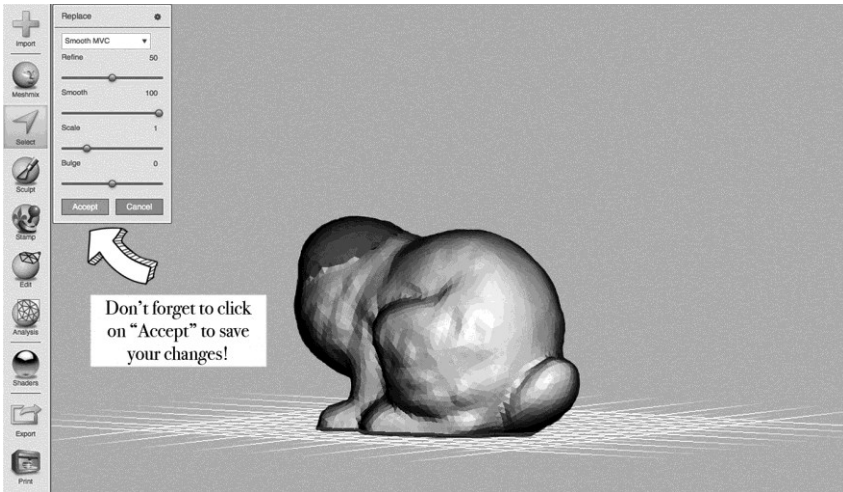


Fig 4. “Erase and fill.” Or, how to prepare the bunny for a head transplant

“When an open component (our head, or any other item in the libraries) gets attached to another 3D mesh (for us, the headless bunny), we can then manipulate it until we are happy with its size, position and orientation. The software will blend the shapes for us, as smoothly as it can. All manipulations can be done via the different components of the gizmo that appears when we drop the open part (the gorilla head) on the existing 3D object (the headless bunny). The little sphere enables us to move the new head in the most suitable position, while the larger circle allows rotation. We can also make the head larger or smaller pulling or pushing the little triangular tab. Fiddle with all these parameters, until you think that the gorilla head sits nicely on the rabbit neck (Fig 5). It is really quite easy. In Meshmixer, you have to accept your edits at the end to save them. Once you do so, you won’t be able to edit the head separately any more, as it has been attached to the body and they are now a single 3D file. You don’t have to stop with the head, of course! You can go on adding fish fins, or frog legs. Go crazy!”

(silence)

“I know what you are thinking!” she states. *I bet* she does not, but I prefer to remain silent. “If we only had the libraries in Meshmixer, we would get bored quite quickly. We want to have deer heads! And butterfly wings! And scorpion tails, right? Well, here comes the best part! We can create our own library of monster parts and combine them as we please!”

“Do we have to make them from scratch?”

“We could, but many of us probably don’t want to. I say we go hunting instead! Let’s explore the enormous amount of 3D files that have been created and made available by the community of users. You will be

astonished by how much excellent stuff has been shared for everyone to play with. We can check repositories such as Sketchfab,⁵ Turbosquid,⁶ 3dmodelfree.com, including those specific for 3D printing, like Yeggi⁷ and Thingiverse.⁸ Let's say that, instead of a gorilla, you want to attach to our bunny body the head of a..."

"Squirrel?"

"Crocodile! Perfect! Good choice! We can look for keywords like 'crocodile 3D model free download' in various combinations. Or just look for 'crocodile' on one of the websites we mentioned before. Be careful! Hunting is never without dangers! You may find dodgy sites that try to sell you things you don't want, models that are not very good or just not suitable. But you will soon learn how to navigate.

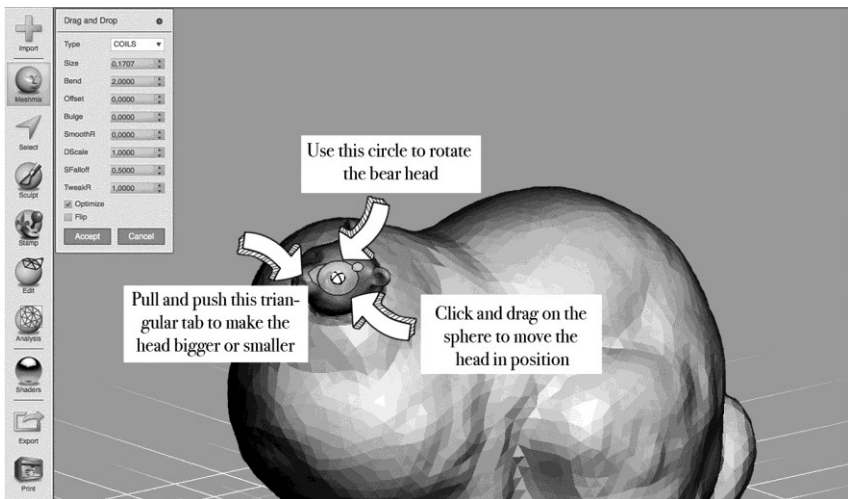


Fig 5. How to move, rotate and scale open parts

"There are two main things that you need to bear in mind during your hunt for monster parts. First: there are several 3D formats available out there, but only .OBJ and .STL will work in Meshmixer. Second: if possible, check the number of polys in your model. It stands for 'polygons' and it measures how detailed your model is. A model with many polys is usually a better model, but it also makes it heavier to manage and may even crash the software. Ignore those amazing realistic models, and go for something reasonably simple. Also, better to avoid animated 3D files, they create a lot of trouble in this process. Once we

⁵ sketchfab.com

⁶ turbosquid.com

⁷ yeggi.com

⁸ thingiverse.com

have downloaded or, why not, created all the models that we need, we can chop them off and save the bits to the Meshmixer library, so that we can re-use them as many times as we want. We will basically transform the new parts in open 3D objects, to use in the exact same way as we have used those in the internal Meshmixer libraries. I have just downloaded a 3D crocodile—let’s open it. We select the part that we want to get rid of and we just hit the delete button (Fig 5). Try to be as neat as you can when you cut. Now, select what is left of the original 3D object (in our case, the head of the crocodile). The easiest way is probably just the ‘control+A’ shortcut. Now the menu we have seen before should be available again, and we can select ‘Convert/Convert to Open Part.’ If the process was successful, we should see our crocodile head appearing in the library, under ‘Meshmixer/Primitives/My Parts,’ ready to be attached to all sorts of bodies (Fig 6)! We can do it again with a scorpion! We can make its tail another open part and use it to substitute the bunny fluffy tail (Fig 7). Tell me other animals that you would like to mix and match.”

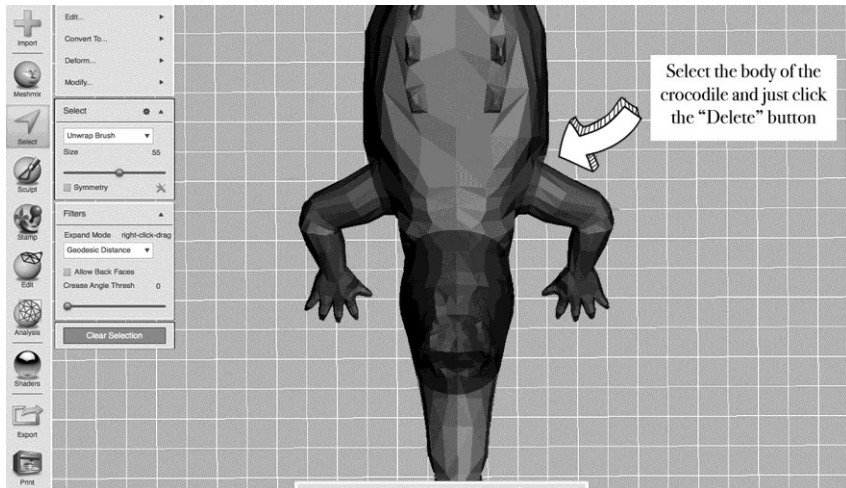


Fig 6. Creating a new open part (from a crocodile)

“Lion?”

“Yes, good. And?”

“Rhino?”

“Awesome. More!”

“Shark, octopus, goat!”

“All good! This is gonna be a great library! And you don’t have to limit yourself to animal parts, of course. What about mushrooms? Or tendrils? Or we could even go full steampunk and add bolts and gears. One more thing: 3D files are often tiny monsters of their own.”

Making Monsters

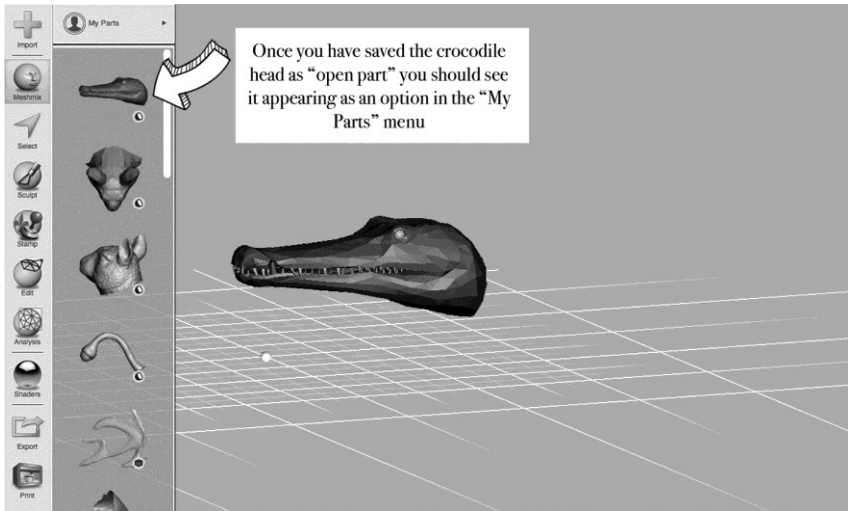


Fig 7. The new head should appear in the “My Parts” menu

“What do you mean?”

“They are mysterious, scary and temperamental,” she says, lowering her voice. “Don’t get too attached to them. If you try this process a couple of times and it doesn’t work, there might be something funky going on with the file; just pick another one, it’s safer. Now let’s bring your monster to life! We have only played with pixels so far, but would you like to hold your bunny with a crocodile head and a scorpion tail in your hand?”

The idea makes me suddenly smile. “Sure!”

“Then let’s 3D print it! Most consumer 3D printers won’t care about textures, so if your goal is the final 3D printed object, just focus on the mesh, i.e. the geometric 3D shape of the file. The final object will be monochrome, but you can always paint over it!” she says, pointing proudly at the many stains on her scrubs. “Also, never leave the 3D printer alone for too long! Printing a prototype for the first time is quite challenging, and you might need to tweak the file or its printing supports before producing a successful result. Believe me, I have seen quite a few scary things come out of a 3D printer left unattended! It’s going to take a while. In the meantime, tell me more about your monster! What is it called?”

“Do you mean the whole species or this particular specimen?”

“Either. Or both. It’s your monster after all!”

I try to stay classical and play with what I remember of Latin names.

“How does ‘crocolepion’ sound?”

“Pretty terrible, but if you like it, then it’s a go!”

“And *she* is called Artemisia.”

“Nice. Where does she live?”

“Uhm... In the secret passages under the Castle of Otranto!”

“What does she eat?”

“Mostly tourists, I guess.”

“What does she like?”

“Collecting her victims’ smartphones and tablets and sitting on her enormous stash.”

“And what does she hate?”

“Neon lights. She prefers to hunt in the dark.”

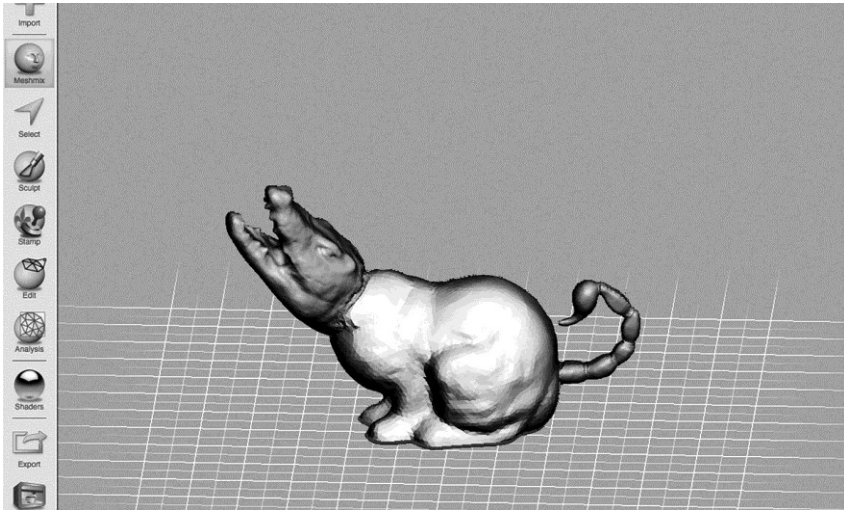


Fig 8. Meet the Crocolepion! A monster with the head of a crocodile, the body of a bunny and the tail of a scorpion

“Congratulations! You have just created a monster. You have now participated in a process that is as old as humans, and still gives us joy, fulfillment and meaning. I bet it feels great!” She grins. “Let’s get the crocolepion from the 3D printer.”



I leave the lab with mixed feelings. I will have to wait another year for a guided tour of Senate House. But I have a monster in my pocket, and I can almost feel it move!