

Multiple-Markers and Unified Skins

By Ken Brilliant



While the most direct and obvious route to making a unified skin object is to start with ZSpheres, a lesser known fact is that unified skins can be made off of any 3D object.

For example, you can model a Sphere3D into a shape, and then re-skin it using the Make Unified Skin button in the Inventory pallet.



This is a bit redundant to do for a simple sphere model (Although some interesting experiments have been done as shown in [This Thread](#)). But in ZBrush, we can take advantage of constructing a much more complex object out of numerous simple primitives using the Multi Marker tool, then combine them into a single mesh with the Make Polymesh button (under Modifiers).

The problem with the resulting mesh is that it has hard joins where the various parts come together. With Unified Skins, we can make a new skin from the polymesh and have a smooth, one-piece mesh to continue working with.

The process illustrated in this tutorial will follow this route:

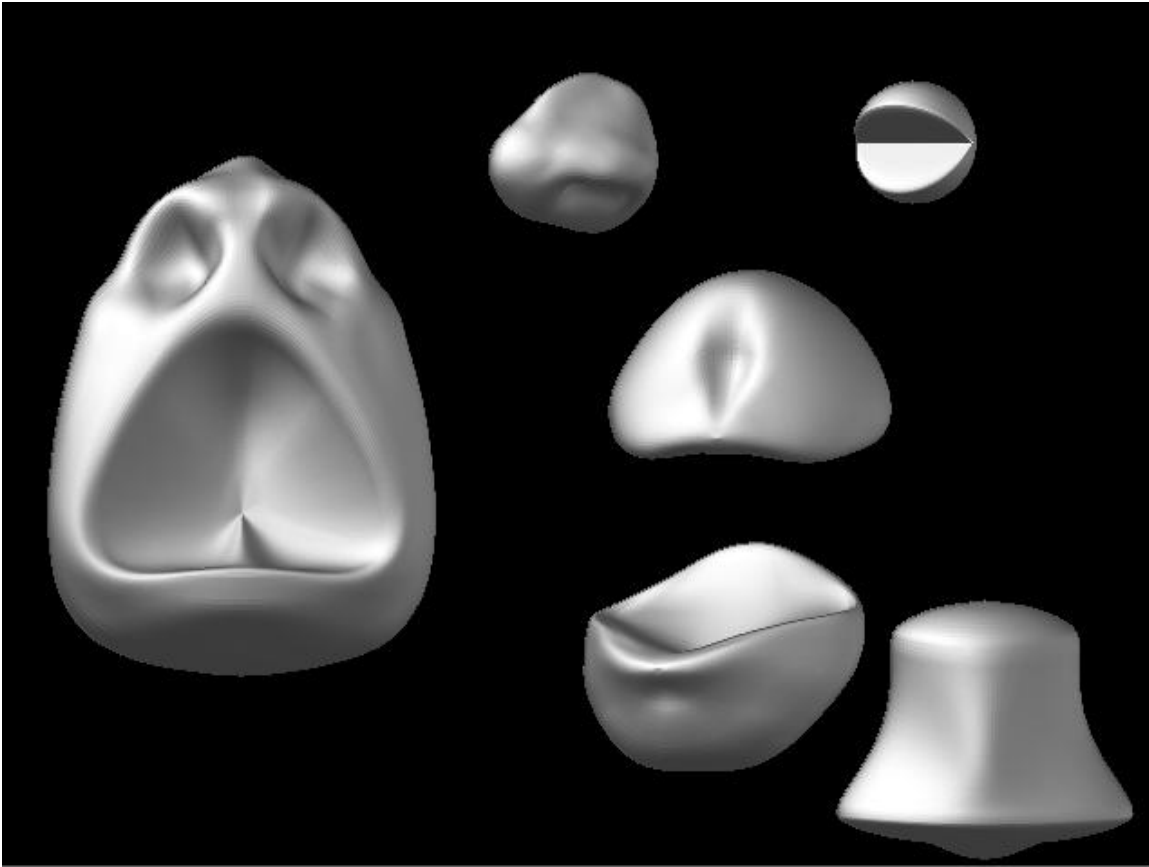
1. Make the various pieces for your model
2. Place and record their position with markers
3. Make a Multi-marker object.
4. Make a polymesh object
5. Make a Unified skin object

This may seem like quite a few steps, especially when compared to ZSpheres, but it does offer some advantages over them:

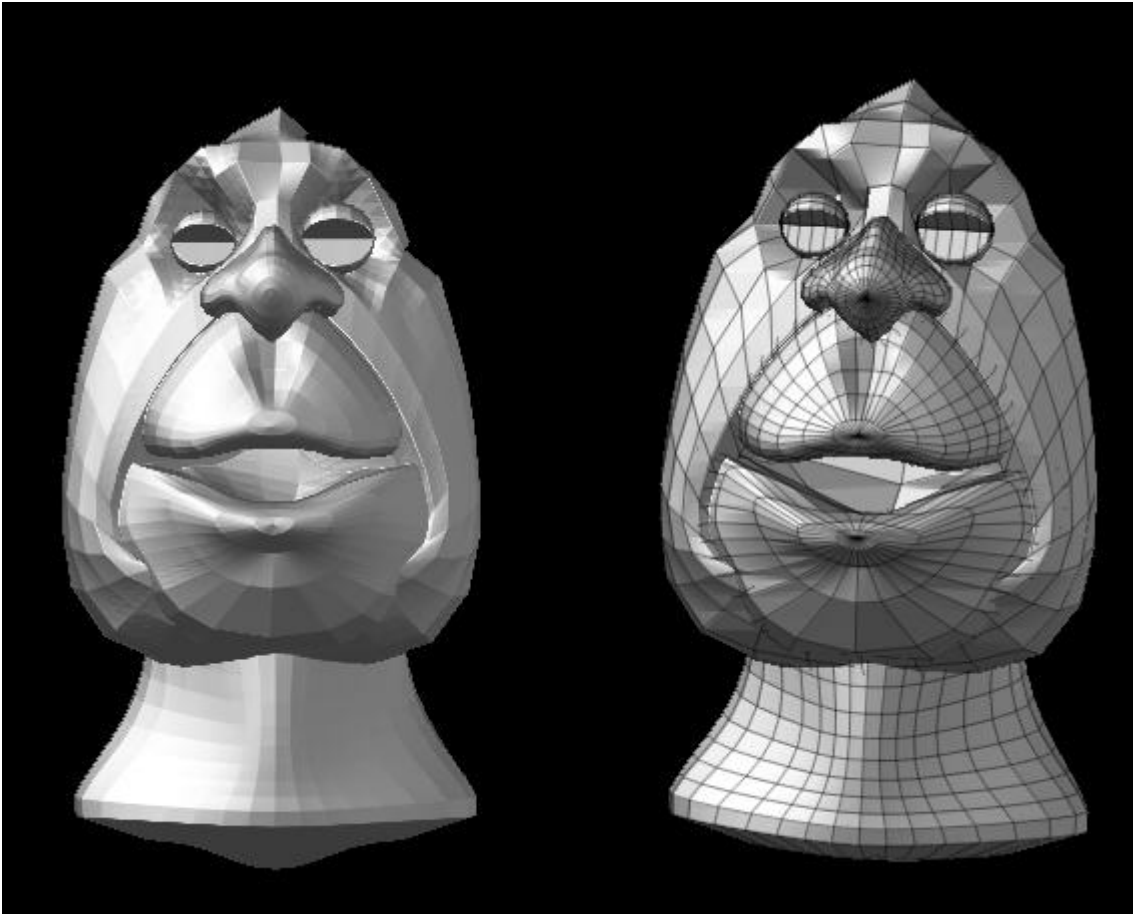
1. Each separate part of the can be modeled individually at any resolution.
2. Negative space and not-round shapes can easily be created

The final unified skin object will have an even distribution of polygons over its surface and be very close to the shape you have in mind. There will be far fewer stretched polygons when compared to creating a similar model out of a primitive3D.

Here is an example of this technique.



The figure above shows a bunch of pieces that will make up a head of a character. They are separated for clarity, but consist of: The head, nose, upper and lower mouth, eyelids and neck. All were created from a Sphere3D except for the neck, which is a cylinder. Each piece is positioned, and recorded with the Marker command “M”. Make sure you have Tool, Draw, position, Show and Normal turned on in the marker menu.

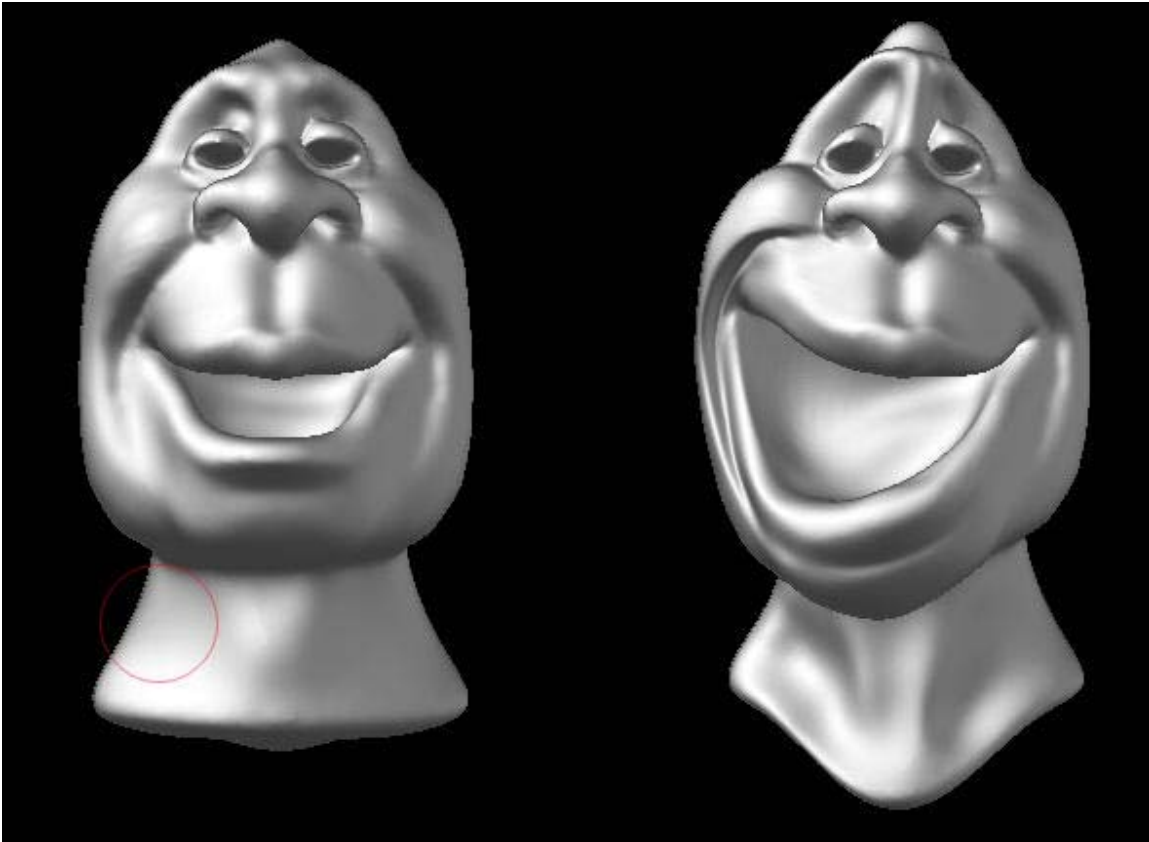


Here we have the assembled pieces. The wire-frame view is to illustrate that the pieces are relatively low resolution. This is because the re-skinning will create a high resolution mesh. There is no need to get detailed at the early stage. It will actually benefit the Polymesh object to keep the initial models light in polygons.

When you are happy with the pieces, make a Multi-Marker object and draw it on screen. There isn't much you can do with this object except reposition the various parts if you don't like the fit.

Press Make Polymesh. A new object that consists of all the pieces will be in the tools pallet. You can now sculpt this mesh further with the usual edit tools. When you are content with this, press the Make Unified Mesh (inventory) and another model will appear in the tools pallet. Draw it on the screen.

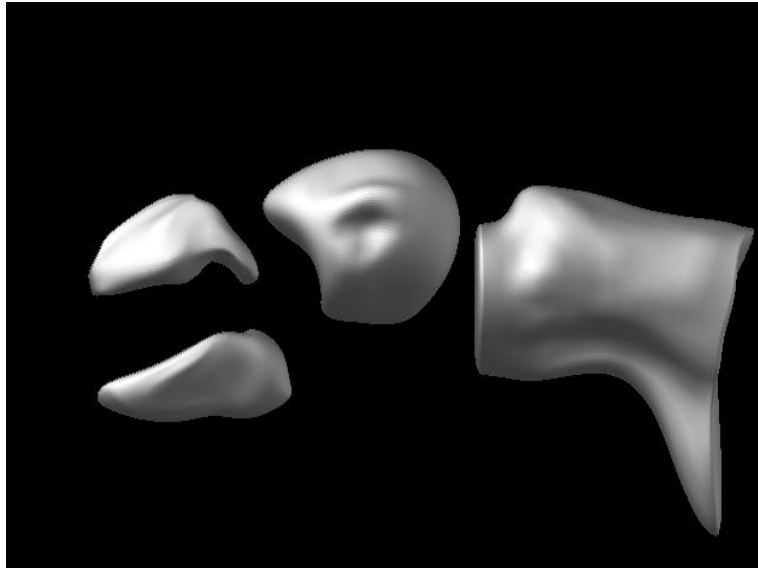




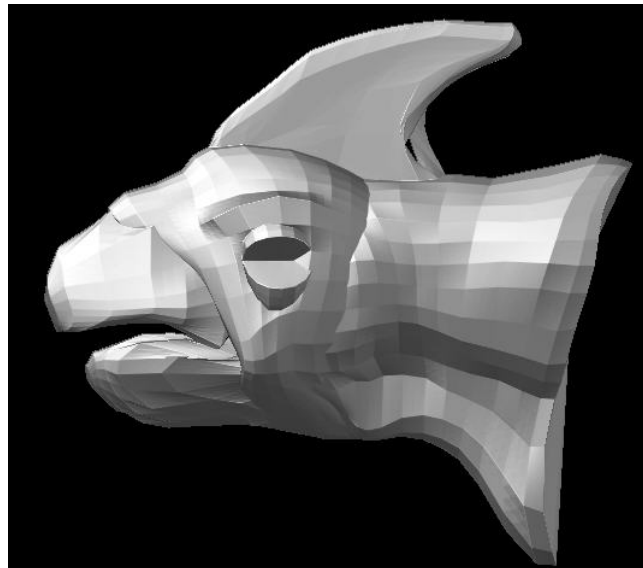
The results may be fine for what you wanted, but you can continue editing this new mesh; sharpening details that may have become too “soft” during the conversion, or even making major changes.

A great feature is that you can keep going back to your Polymesh object and adding pieces to it as you see fit. This is simply a matter of deleting all the old markers, then drawing and marking the polymesh and new pieces to it. Then, a new polymesh can be generated from that, and another Unified skin.

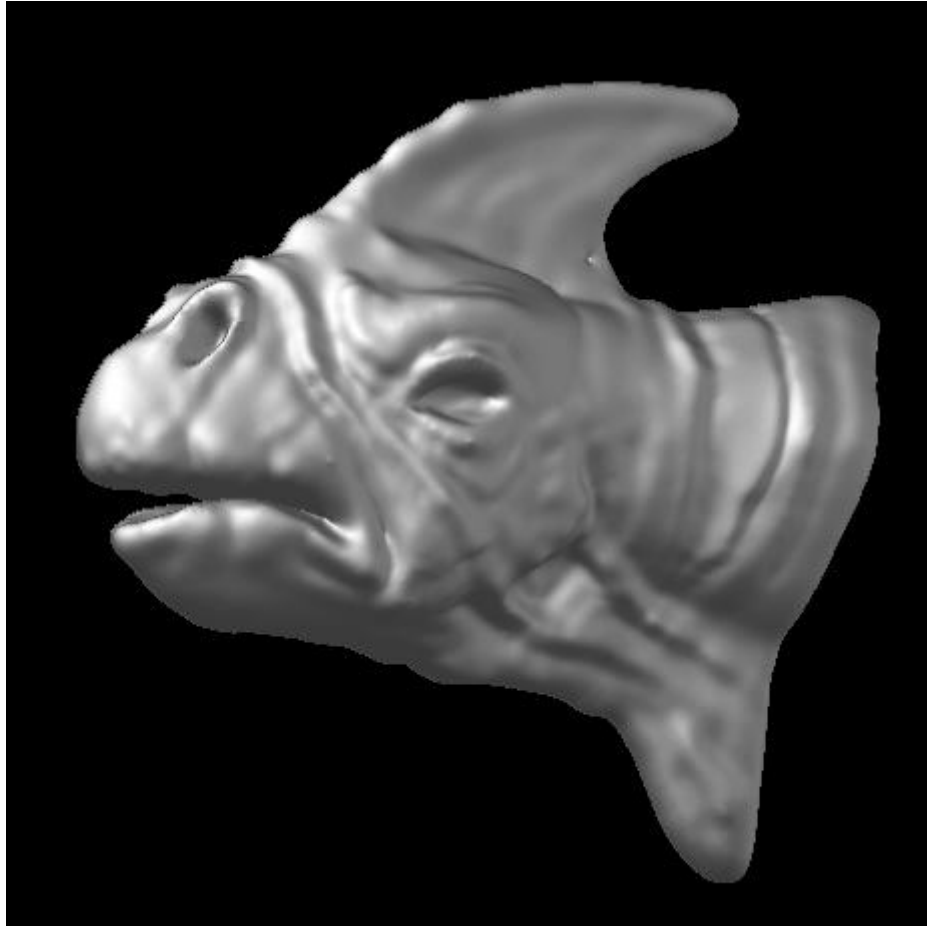
Here we have the various pieces of a creature:



And here is the polymesh with eyelids and a fin added:



A Unified mesh was generated from that and sculpted.

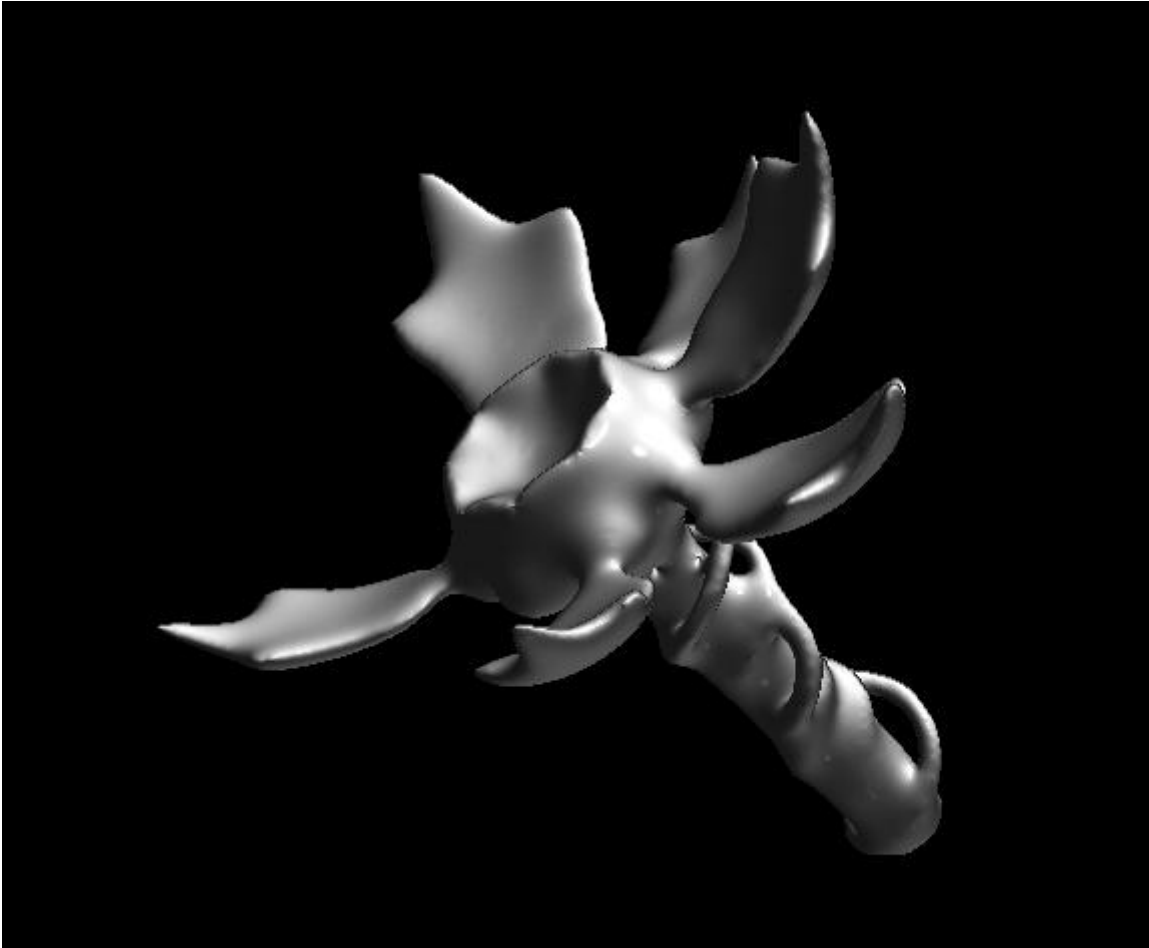


You can adjust the resolution of the unified mesh to give yourself more or less polygons to work with. This process can be repeated as much as you need until you are satisfied with the model.

And here we have the final result, complete with texturing and 2.5D work:



With this technique, complex, single mesh models of any shape can be created!



If you are new to the MultipleMarker tool, you may want to read up on the subject a bit.

One excellent thread from ZBrushCentral is [located here](#).

Remember also that version 1.5 now allows Polymesh objects to be combined together into even more complex objects. You no longer have the restriction of only being able to use native ZBrush objects in your MultipleMarker creations.