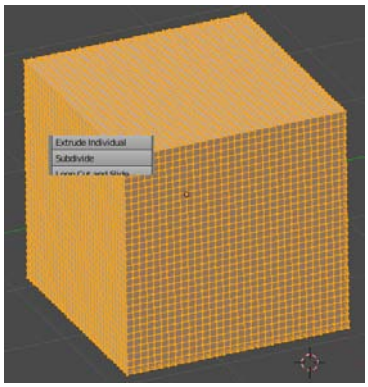
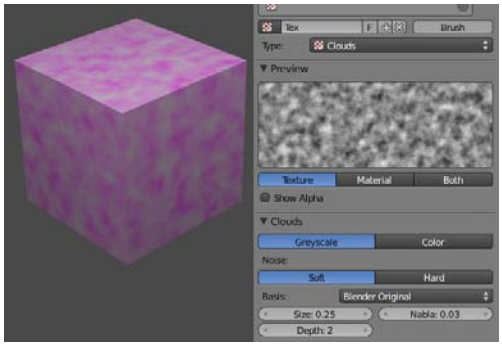
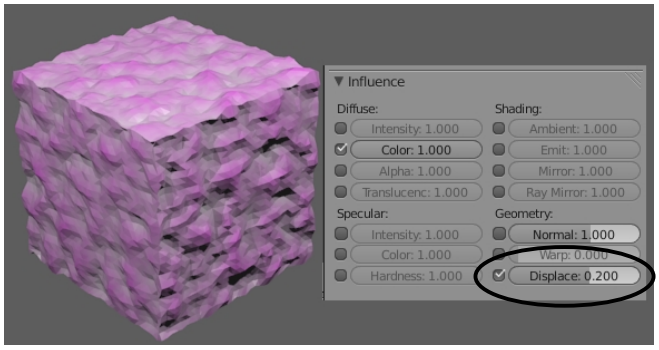
Displacement Mapping

Displacement Mapping is using a texture effect to deform the mesh. Basically, you can make a cube, sphere, etc. look wrinkled or deformed without having to move verticies around to do it. To start, create a cube or sphere. If you start with a cube, go into ***Edit Mode*** (tab) and select ***all verticies***, press the **Subdivide** button a few times in the **Tool Shelf**. Displacement works off of verticies so if you don't have it subdivided a few times, you won't get a good effect. Next, put a material and a texture on the object. I used the *Cloud* texture in Blender. Here's what we have by pressing F12:

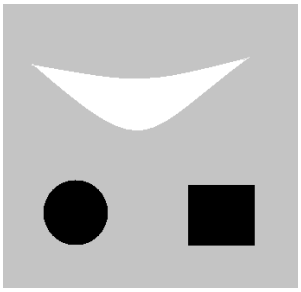




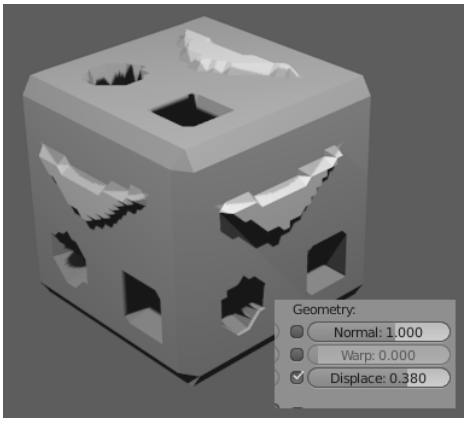
Nothing that we haven't already experienced in this chapter so far. Now, go to the "***Influence***" panel and find the "***Displacement***" button to turn on Displacement and adjust the slider. Re-render (F12). Displacement basically works by pushing verticies with the varying colors in the texture. This is also controllable.



For our next test, I will create a simple image in a graphics program using only simple gray, white and black shapes. Gray is considered the base color.



Here are the effects of the image on the object mapped with the ***Cube*** wrap. Notice that the white shape was pushed out while the black shapes went in. The quality of the cuts and extrudes is determined by the subdivision (verticies) on the mesh.



To the right, the shape has been subdivided a few more times for a better edge. While *Normal* gives the illusion of depth, *Displacement* will actually deform, but it makes the shape more complicated and slower to render.