Cinema 4D Tutorial #2: Cloth Dynamics

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Introduction

This tutorial will teach you the basics of creating cloth, and animating it in Cinema 4D.

It will run thought how to create the objects and apply the correct Tags to those objects, and will then go into applying simple materials, and finally Rendering an Animation.

Setting up the Scene

Start off by creating a Sphere. You can do this by clicking and holding down the Create Cube button, and then selecting Sphere, or by going into the Objects menu, going to the Primitive Group, and selecting Sphere.

Next we are going to create a Plain object. Do this the same way you created the Sphere (except select Plain instead of Sphere
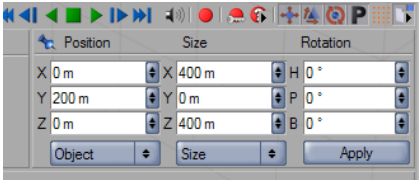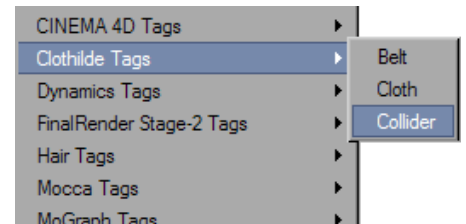
Now we are going to move the Plain object 200m above the Sphere. We can do this by entering 200m for its Y-axis position.

Now, for Cloth Dynamics to work, all of the objects being used have to be made Editable. To do this, we are going to select all of the objects, by pressing Ctrl+A (or clicking on one, and then the other while holding down "Shift"). Then we are going to make them Editable by pressing „c‟ on the keyboard. You could also press the „Make Editable‟ button.
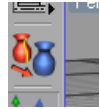
Now that we have the basic scene set up, we will apply the Dynamic Tags to the objects.

To start off, Right Click on the Sphere in the Objects Browser. A list of tags will pop up. Go to the Clothide Group, and Select Collider. This will mean that the Sphere is an object, witch any Object with a Cloth tag, can interact with.
Now right click the Plain, and add a Cloth Tag to it (by using the same process used to apply the Collider tag).

If you hit play now, it will work, and the cloth Object will fall nicely onto the sphere, however it will lag and be slow. So to fix that, we are going to set the cloth to Cache mode.
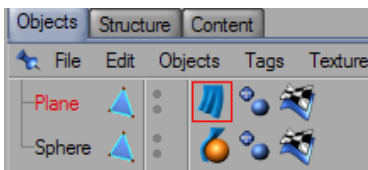
To do this, we are going to click on the Cloth Tag in the Object Browser. When you do this, the Object attributes will come up.

When it does, go to the Cache tab, and hit Calculate Cache. When you do this, it will start to calculate all of the collisions of the cloth. When it is finished you can play it in the timeline and it will be smooth and look nice. At least the animation will. The Cloth its self is all blocky and doesn‟t look like cloth at all does it? So lets fix that.
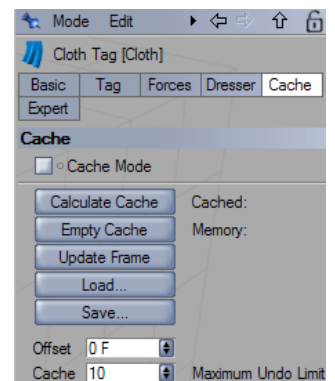
To make the Cloth Object smoother, and look more like Cloth, we are going to put it inside a HyperNURBS object. The HyperNURBS object is used for smoothing out Mesh, and making it more organic looking. It s a good tool for using when Box Modeling.

To Create a HyperNURBS, click on the Add HyperNURBS button, or go to the Objects menu then to the NURBS group, and select HyperNURBS.

Once you created your HyperNURBS object, drag the Plain Object into it, in the Objects Browser. And it should look like the image on the side. You will have your HyperNURBS object, with your Plain inside, which has the Cloth Tag on it, and the Cloth Tag is set to Cache mode. Just as a Recap.
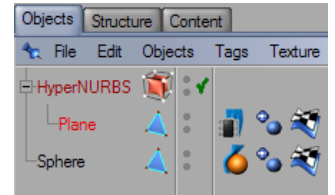
Now if you hit the Play Button on the timeline, you can watch the Animation. You will see that the Plain falls nicely onto the Sphere and looks like Cloth. You may however also notice that at some points in the animation, it looks as if parts of the Sphere are coming though the cloth. Witch they are. And even though as it is its not much of a problem, when you add materials, it will be much more noticeable, and may become a big problem.

So to fix this problem, we are going to shrink the sphere, and change its X, Y, and Z size s all to 195m (5 meters less then it was). So that when the cloth goes over it, it is not actually touching. (Change the size by clicking on the Sphere and changing the XYZ under Size)
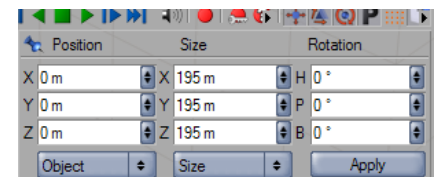
Note: this method will ONLY work if Cache mode IS enabled. If you have been following this Tutorial then it should be, but if it is not, when the ball falls, it will recalculate the collisions, for the smaller Sphere. So Make Sure Cache mode is on.
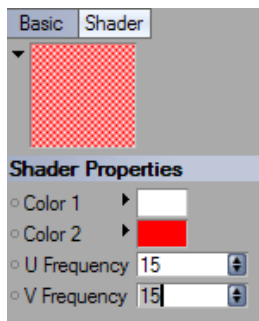
Applying Materials to the Scene

First off, Cloth Materials do not work will with Specular, and by default, Specular is enabled.

So create a New Material (by going to File, New Material from the Material Browser at the bottom).
Start off by disableing Specular (by unchekcing the box). Once that is done, click on colour, go to texture, then Surefaces, and then Checkerboard.

After that, click on checkerboard, so that the propprprys for the Checkerboard show up. In this, Change color 2 from Black, to Red (Click on the black box by color 2 and make it red). Then change both the U Frequency, and the V Frequency to 15. This will mean that the Checkerboard pattern is repeated 15 times per square.

After setting the proprtys, Apply it to the Cloth, by dragging it onto the HyperNURBS in the Object Browser.

Now we are going to create a Shader to go on the Sphere. Go to File, Shaders, then Use the Mabel Shader. Leave the settings for the Shader default. And apply it to the sphere.

Once both the Plain and the Sphere have a texture run 2 render previews. One at the very beginning, and one on some random frame about half way though. They should look something like this:
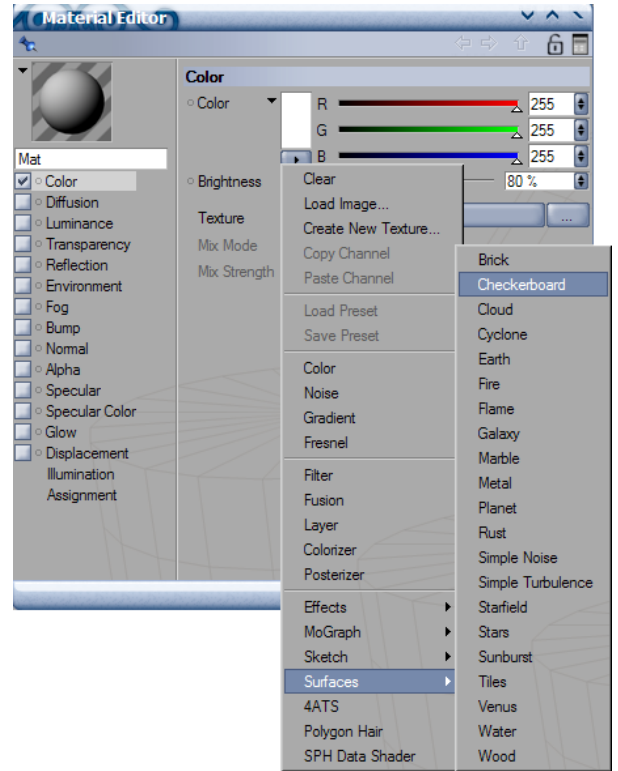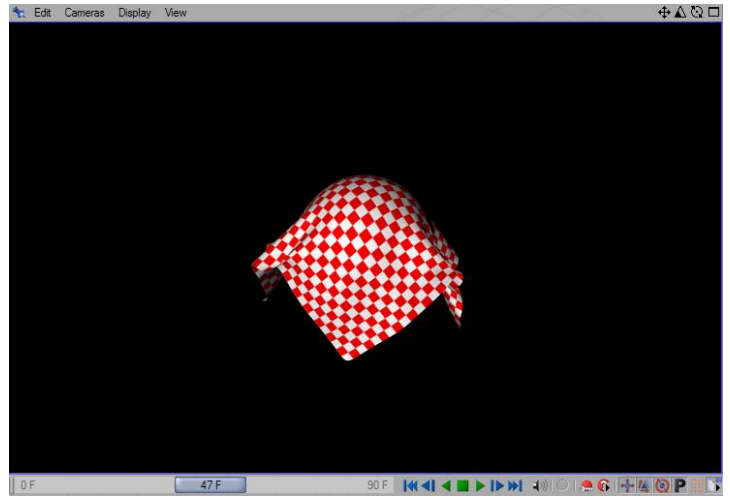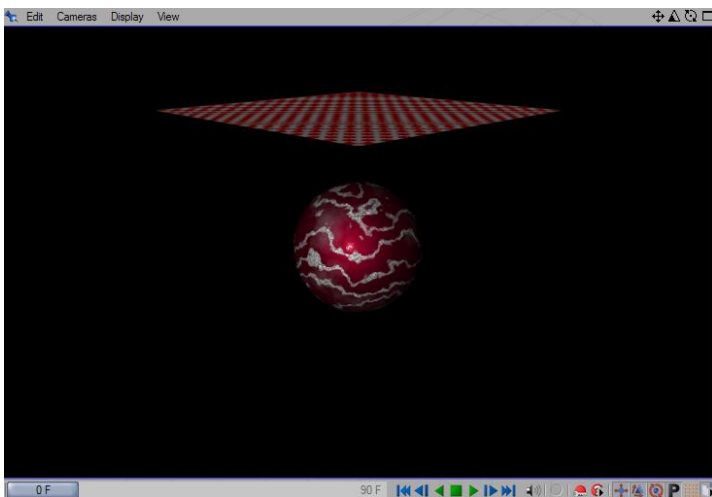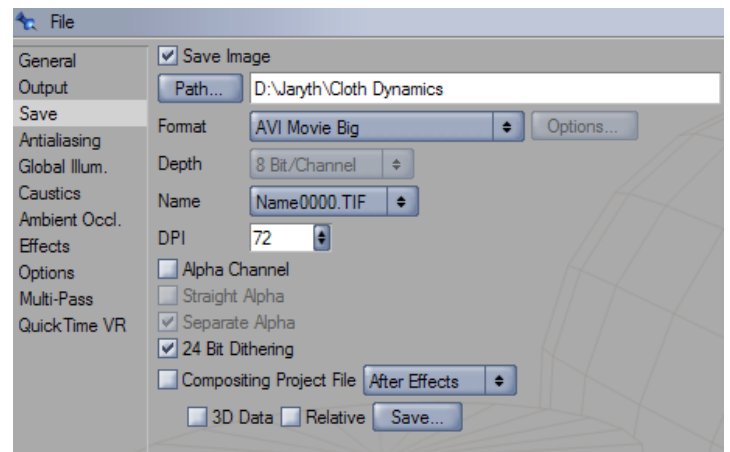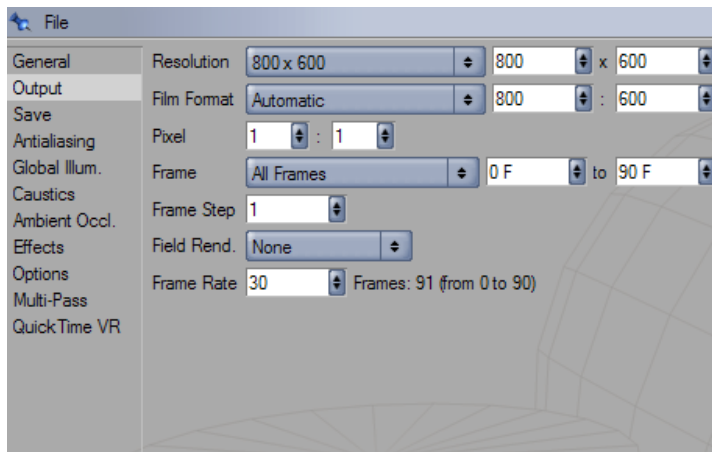
Rendering the Animation

Now that you have the Scene set up, and the Materials applied, its time to render the animation.

Start by opening the Render Settings, by ether clicking on the button, or hitting Ctrl+B.

Once in the Render Settings, start by going to Output, and changing the Resolution to 800x600. Then change the Frame to All Frames. Next go to Save, and click on Path. This will chose where you will save it. Save it somewhere Safe! After that, Change the Format to AVI Movie Big (if you have a good AVI Compressor such as DivX or Xvid or any of those, then use just AVI Movie, and click on Options to change the Compressor)
The Settings should look like this:

Finally Render the animation, by clicking the Render to Picture Viewer button, or Shift+R.
After that it will render each frame of the animation. When its done, go to the folder you saved it, and watch the finished animation.

And there you have it! Cloth Dynamics Made easy!

Now that you know how to work with the basics, you can do other things. Like curtains, or bed covers. And even cloths! Have fun!