

BRYCE 5 Mini Tutorial

How to create flexible pipes

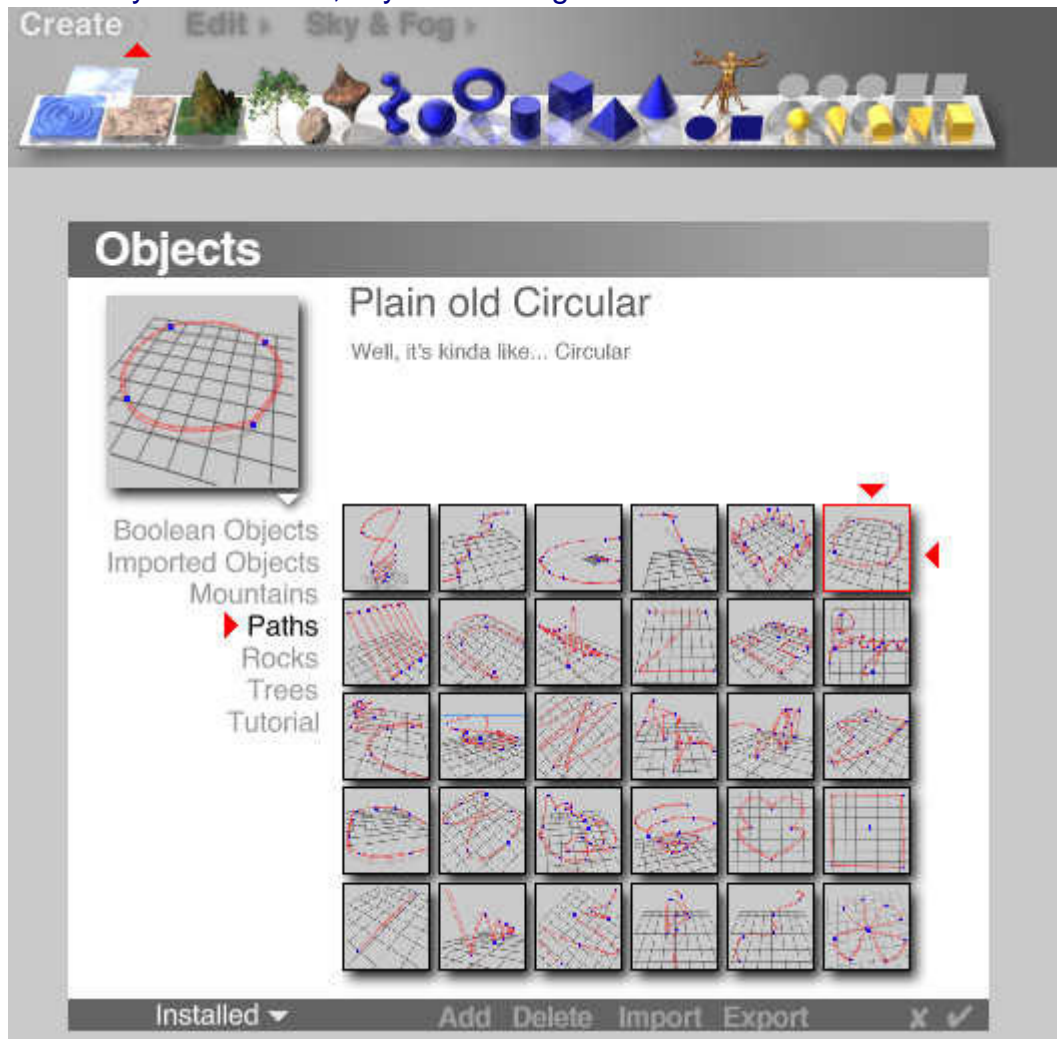
by David Brinnen
September 2005

HTML Version
by Hans-Rudolf Wernli

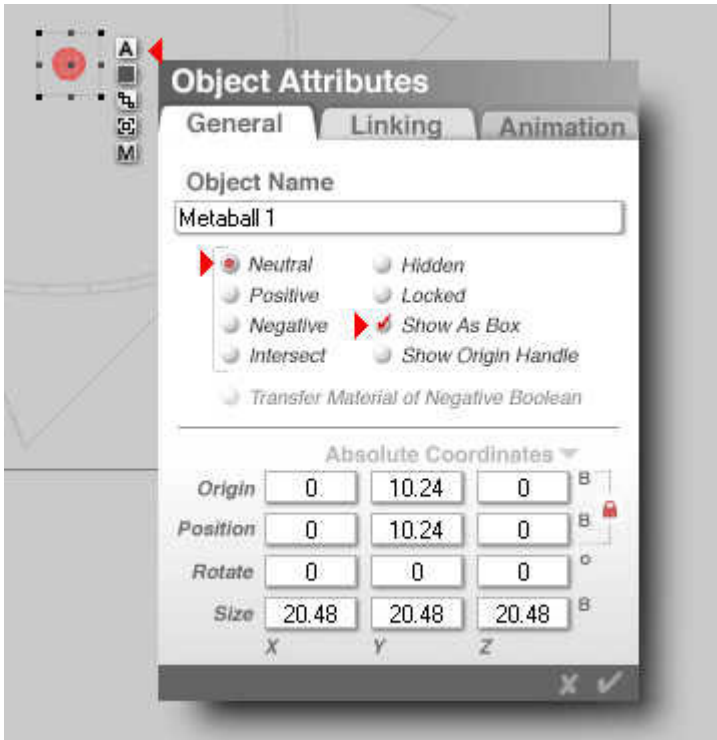


Example of a bent pipe >

Right of the «Create» title, there is a small grey triangle. Click on it to open the Objects Library. Look for Plain old Circular in the Path objects. Every Bryce version has the items in the libraries differently sorted. Here, Bryce 5.00 English. Select the circle.

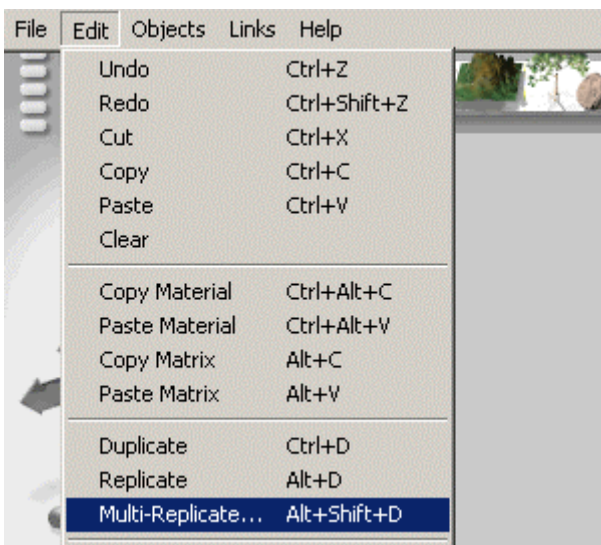


Of course, you may select any other path. This tutorial uses the simple circle.

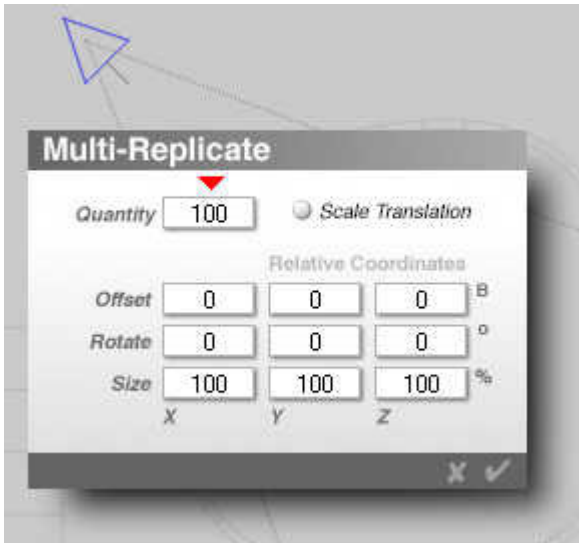


Open the Object Attributes and tick «Show As Box». This step is not mandatory but the wireframe won't get cluttered — besides, this accelerates the display.

Please note that this is Metaball 1. There will be more, soon.



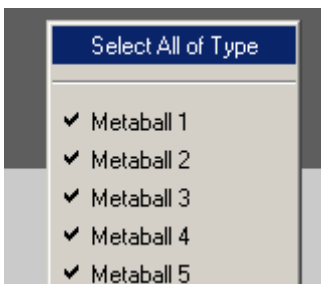
The selected Metaball 1 will now be replicated.



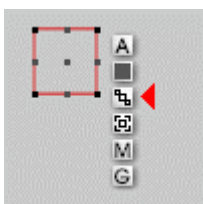
We need 101 metaballs, one, we already have, so enter 100 in the field. We don't need any offset and all metaballs will appear at the same location.



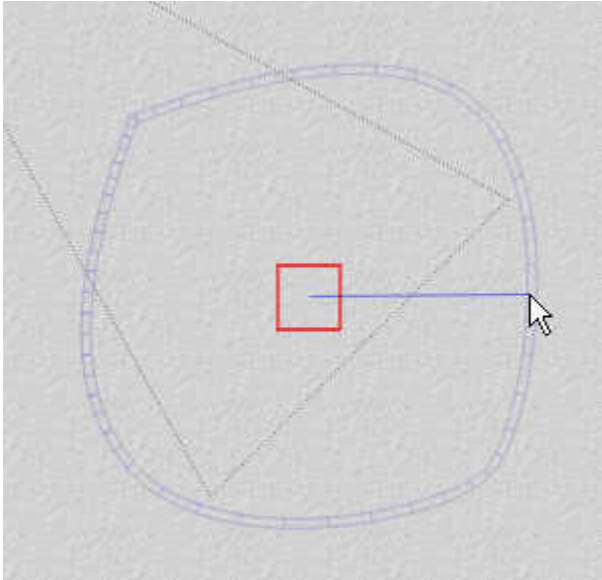
Select all 101 metaballs.



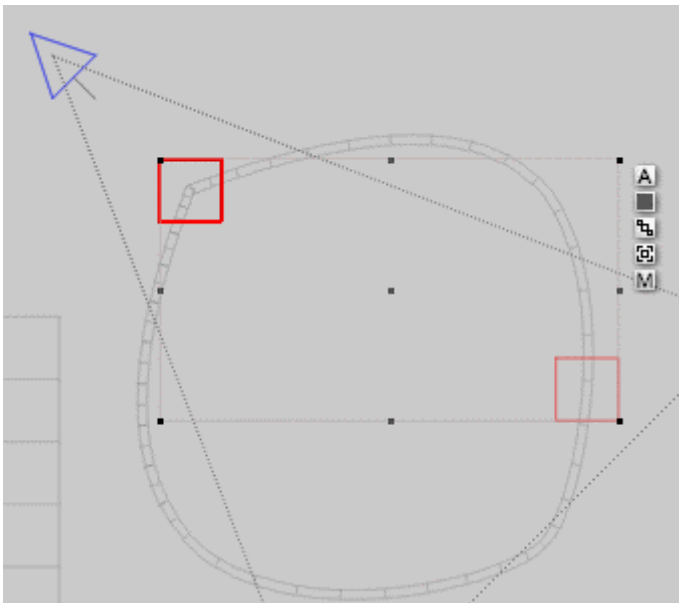
Click on the entry «Select All of Type» to mark all 101 metaballs at one stroke. The list has grown quite long.



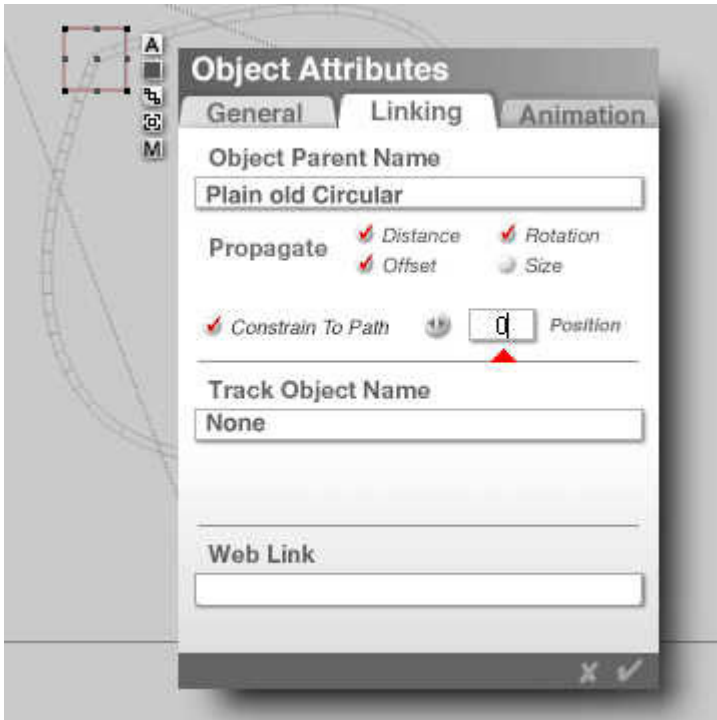
Move the mouse over the link symbol, press and hold the left mouse key and move the mouse to anywhere over the path. When line and path get blue, let go the mouse key.



The picture shows how the mouse with pressed left key was moved to the path. It shows the blue line and the blue path. When this picture appears, let go the mouse key. Now, all 101 metaballs are linked to the path.



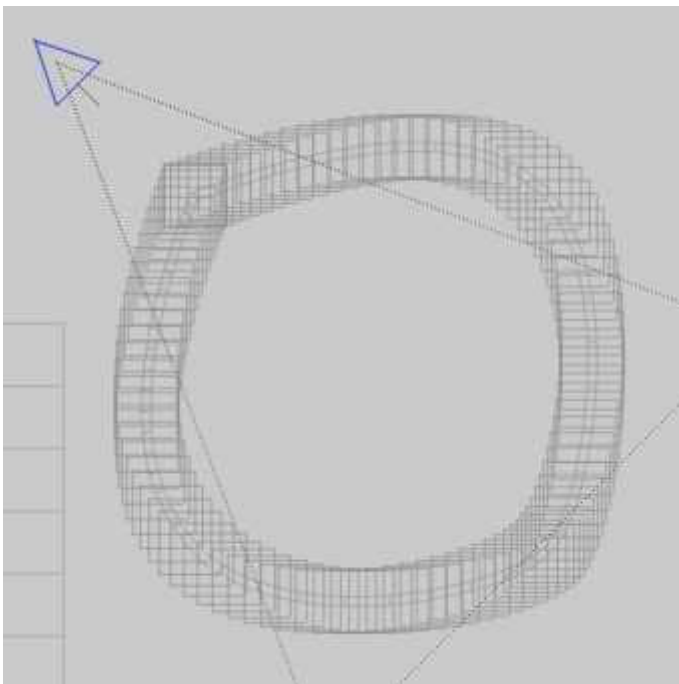
When the mouse key is released, Metaball 1 jumps to another location. Metaballs 2 to 101 remain at the old position.



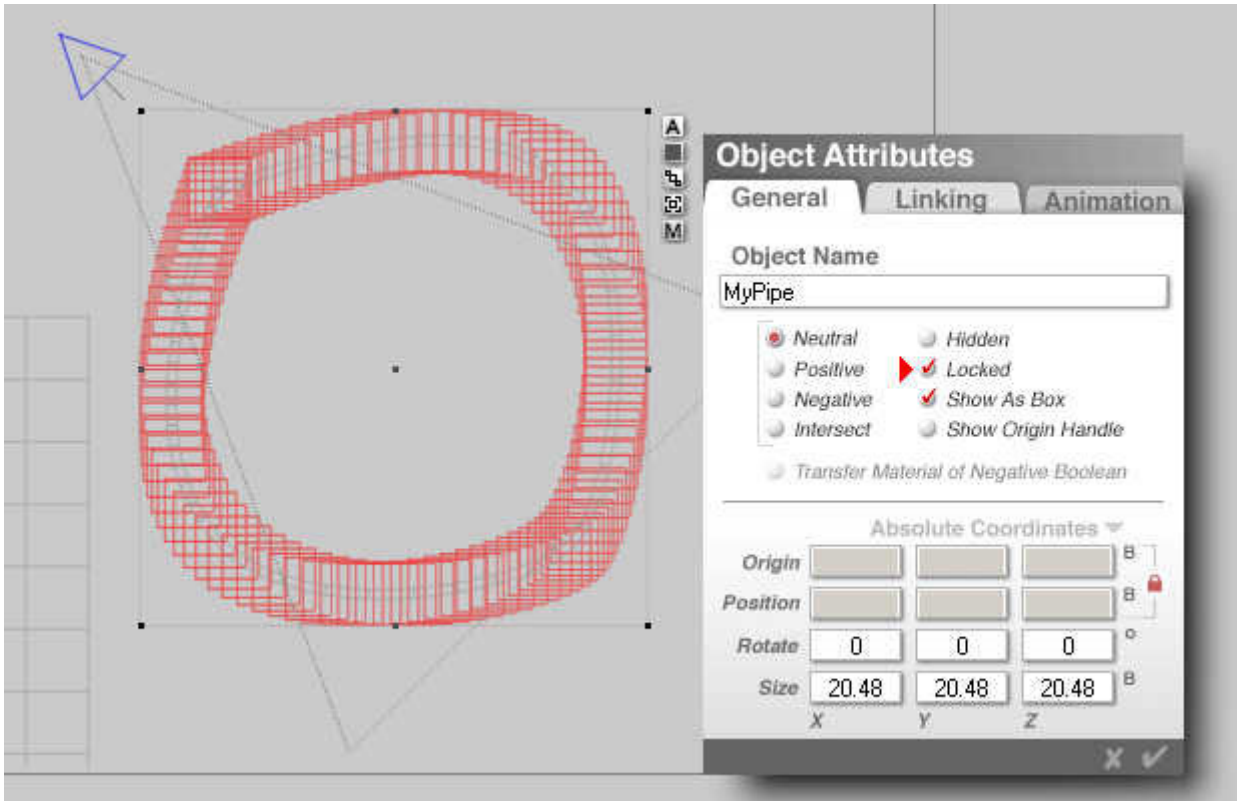
Now comes the spade work to distribute the metaballs evenly along the path. Select Metaball 101 (at the end of the list), open the Object Attributes dialog and enter 0 in the Position field under the Linking tab. Metaball 101 is set to position 0.

Now select each individual metaball in descending order: Metaball 100, 99, 98 ... 3, 2 and finally Metaball 1. Enter the number of the selected metaball in the Position field. This simplifies things enormously and if an error occurs, it is easily found and corrected.

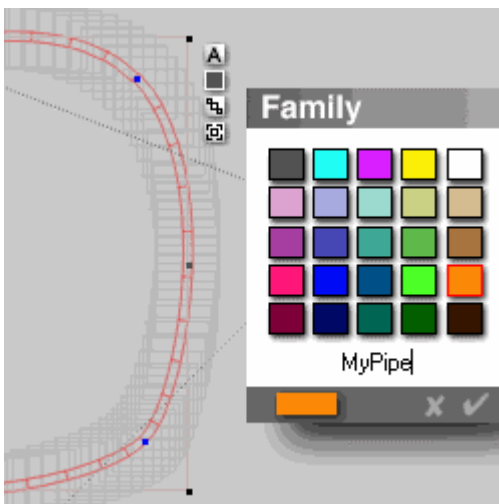
For example, Metaball 42 is set to Position 42, Metaball 23 to Position 23 and Metaball 5 to Position 5.



All 101 metaballs are now evenly distributed along the path.



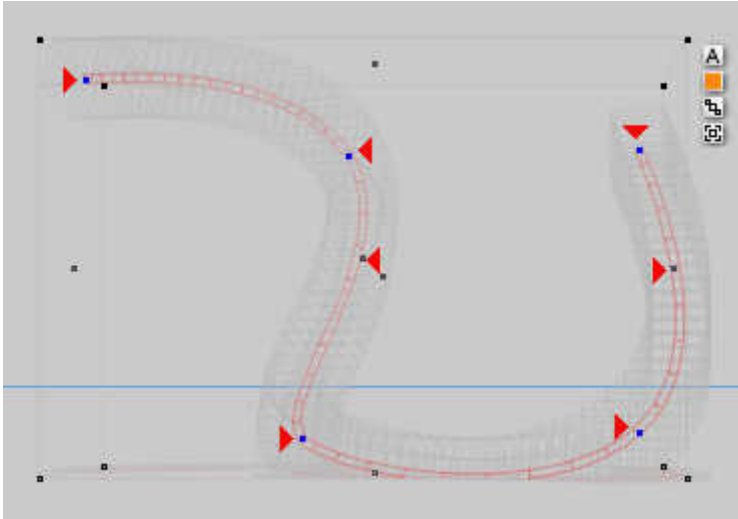
Select again all metaballs, open the Object Attributes dialog and set all balls to «Locked» to prevent them from moving around inadvertently.



With all metaballs selected, open the Family Dialog und submit them to a new family. Later, you can easily assign a material to all balls in one stroke.

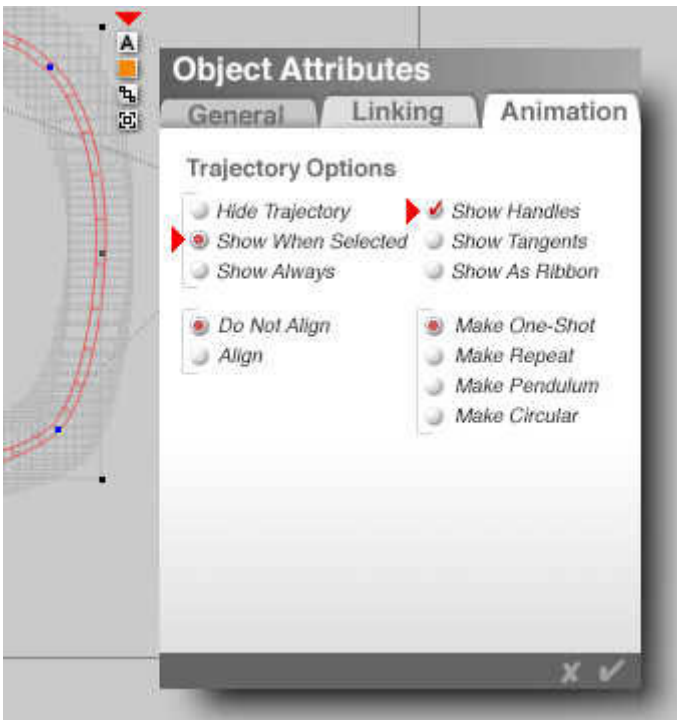
Also, the Path should be given another family than the default one. Perhaps, you chose a similar colour and the same name. If more than one Flexpipe is used in a scene, you can easily select each individual one and manipulate it.

You can now add your Flexpipe to the Object Library under any desired topic. When the path and all metaballs are selected, open the Objects Library (see above), select a topic and click on «Add». Give the object a name and a description. Now, your work is always at your fingertips when you need it.



You bend the flexible pipe by grabbing the blue dots on the path with your mouse and drag it with the mouse button pressed. Change the camera views.

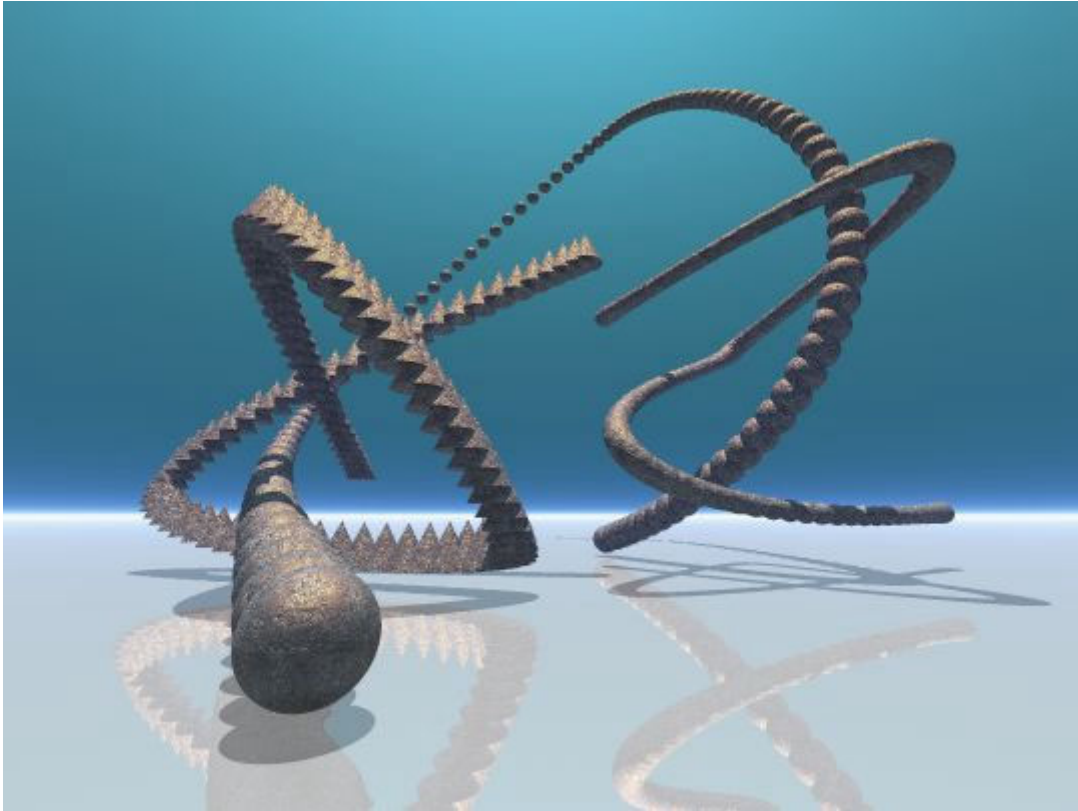
Should you need more control points on the path, move the mouse to the place on the path, press the [Alt]-key and click with the mouse to create an additional control. Do this **before** you distribute the metaballs along the path. When you do it later, the metaballs might move.



The thing with the additional path controls is an undocumented feature but it works with Bryce 5 and Bryce 5.5.

When you load the Flexpipe object from the object library, the control points have disappeared. Select the path and open the Object Attributes dialog. Make sure the indicated options are set. Even though you had saved the object with these options set, they get lost. Well then, switch them back on, deselect the path and re-select it anew. The controls reappear.

Assign the new Flexpipe a new family immediately to differentiate it from the ones already in the scene.



Three Flexpipes. At left, the metaballs were converted to pyramids. The Flexpipe in the background shows that they cannot be pulled indefinitely. The metaballs individualise.

This picture should show that you can do a plethora of strange forms using objects linked to a path. Cables, Snakes, Worms, Dragontails ...