Better Water

with blender

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Introduction

My last tutorial was titled "realistic water" That presented a fast way of getting realistic water by careful use of a color band. But that was Blender 2.28, still no RayTracing, No Ray reflections… Wow! How fast things changes!

You can still use that, by using New RayMir and RayTransp properties for the plane simulating water, but if you want to fake the absorption of water, read on!

The Water

Let's assume you have this nice Basilica with some steps around and that you want to place it in the middle of the sea, the steps disappearing in the water.

The first step is to create one circle, encompassing the whole world and make it a disk. I prefer selecting all vertices and extruding them, with scale, down to the center. It is better than CTRL-F because you will have less likely artifacts later on ;)

Set your disk where the water level will be.
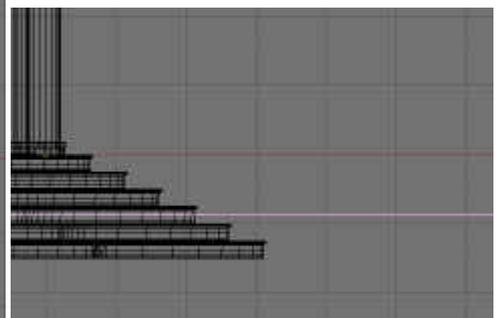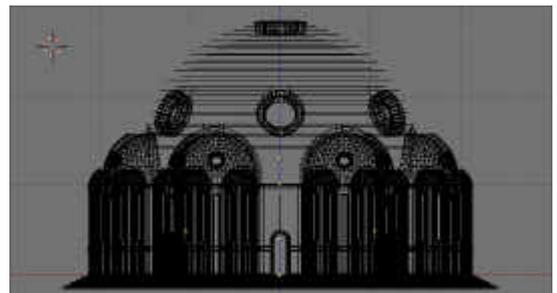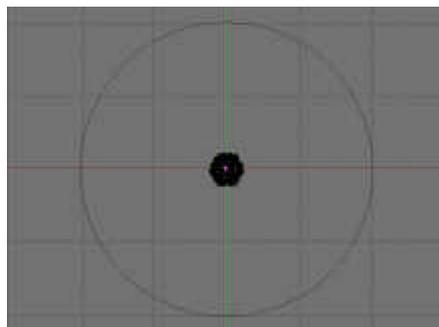
Duplicate your disk in Object Mode twice, displace the first copy of a negligible amount in the negative Z direction, the second copy of a larger amount,

approximatively the distance at which you don't want any object to show. Everything below this disk will be lost in the blue!.

This tut differs from the Realistic Water inasmuch no tweaking of partially submerged meshes is needed. But you can perform a colorbanding the same, if you so which, expecially if you desire to fake algas etc.
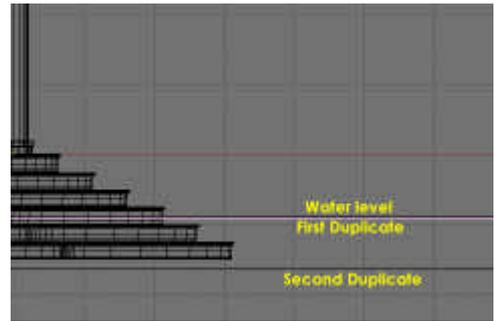
The Bottom of the Sea

Move all disks except bottom one to another layer, We will bring them back later on.

Give the Sea Bottom a deep blue material as in the picture below. Not shown panes are unused and those entries are left to the default value.

The VolumetricWater

Now give the *same* material to the middle disk, the First Duplicate. Then make the material unique. This guarantees that the settings on this disc are the same than on the bottom disk, yet we can edit them without affecting the other disk. Set the material as in the figure below.
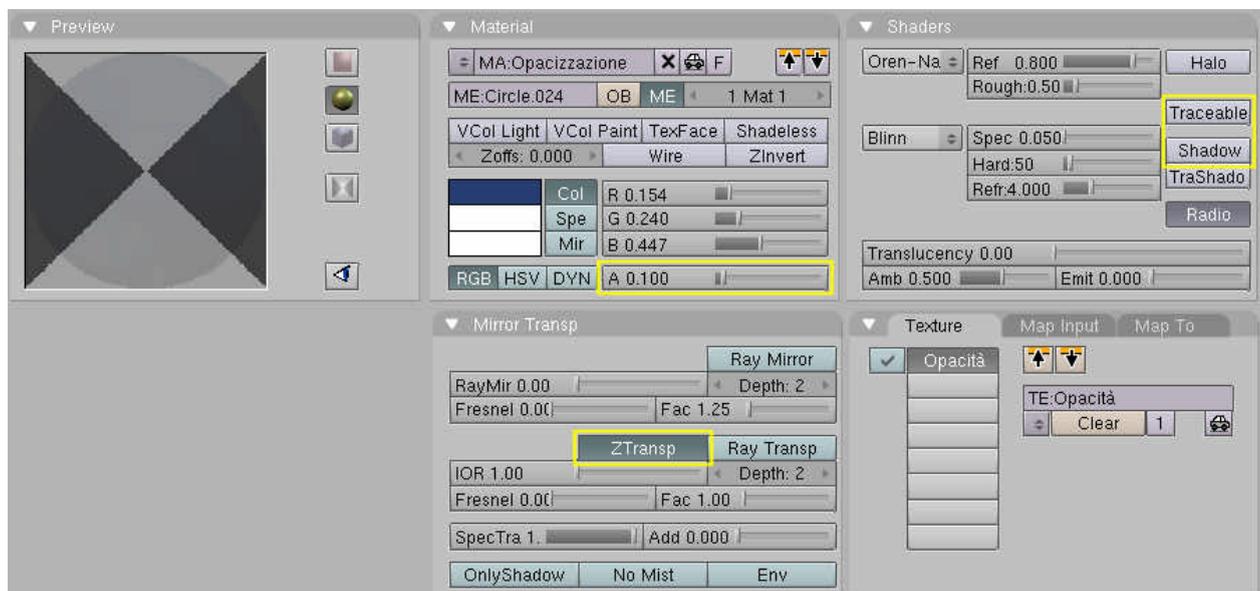
Note the *Alpha*, *Traceable*, *Shadow* and *Ztransp* settings.

As a further tweak, to fake non-uniform absorption by the water add a texture on Channel 1 according to what is shown in the following picture.
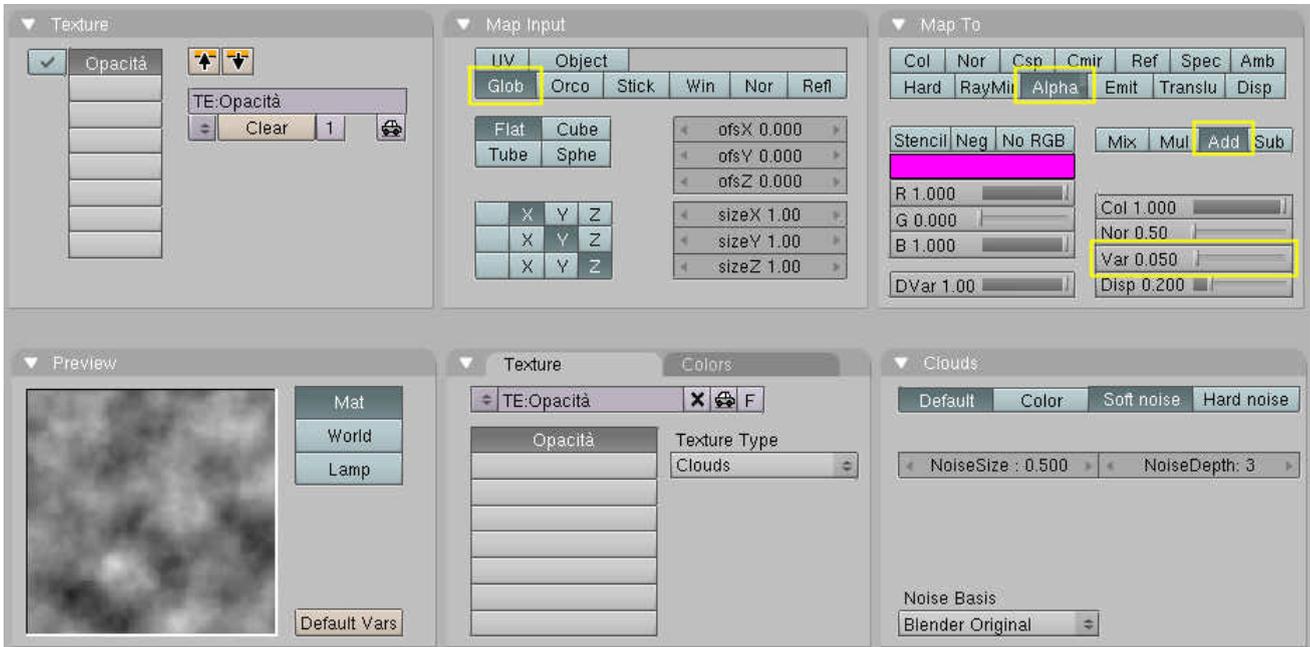

In particular note that the Cloud texture is added to the alpha channel with a very weak value.

Now time for dupliframing. Selct the middle disk, be sure to be in frame 1, press **IKEY** and set *Loc*. Go to a highr frame, for example 31, Move it in the negative z direction almost up to the bottom disk and press **IKEY** Loc again.

Now in Object Context, Anim Settings Panel, turn Dupliframes on. Set DupEnd to the end frame (31 in our case). Turn a window to an IPO Window, select all ipos, go to EditMode (**TAB**) and turn IPO from smooth interpolation to linear interpolation selecting all control points (**AKEY**) and pressing **VKEY**.

The results should be like in the picture herebelow, which also show a rendering.
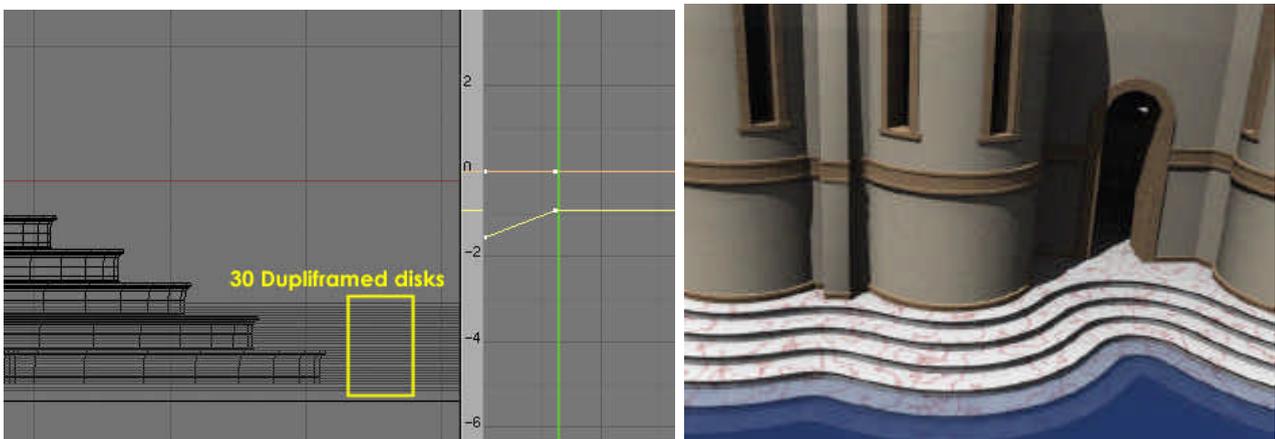
WaterSkin

What is still missing is a crispy reflective surface. That's what our first, original, disk is there for, move it back to the layer holding the water.
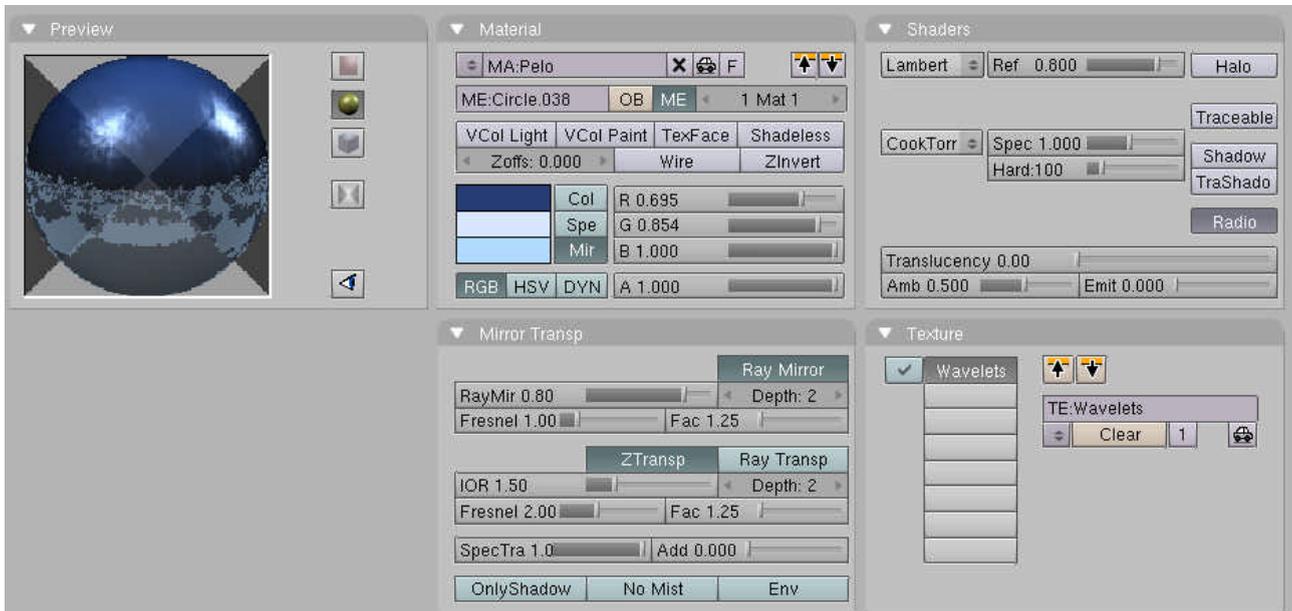
Study the above material settings carefully. Any single button is relevant.

Sliders show *Mir* Color, Base color is **R**=0.154 **G**=0.240 **B**=0.447 (As for the other 2 materials) and Spe color is **R**=0.842 **G**=0.903 **B**=1.0. **IOR** setting is unnecessary, if you keep it **Ztransp**, and would be interesting if you switch to **Ray Transp**, but it looks like there are still some strange behaviors in the raytracer...

The texture, on the other hand is a Nor texture (You can use a Disp texture too!)
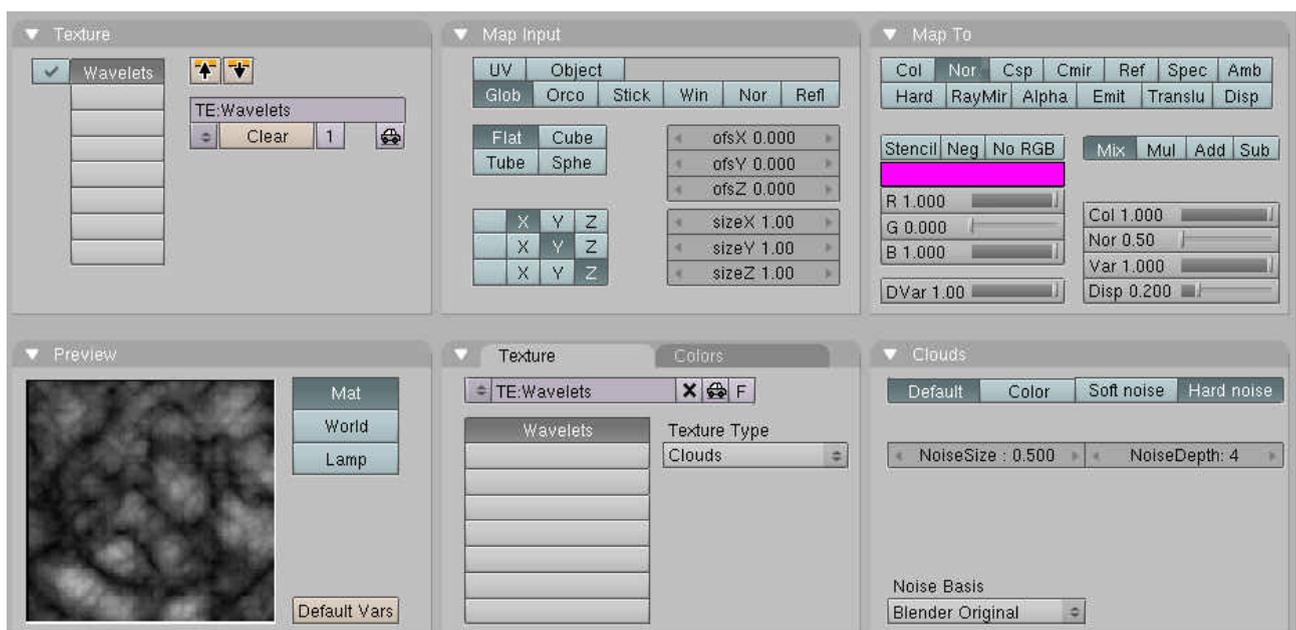
Of course it does not make sense at all to have a reflective surface without nothing to reflect… so…
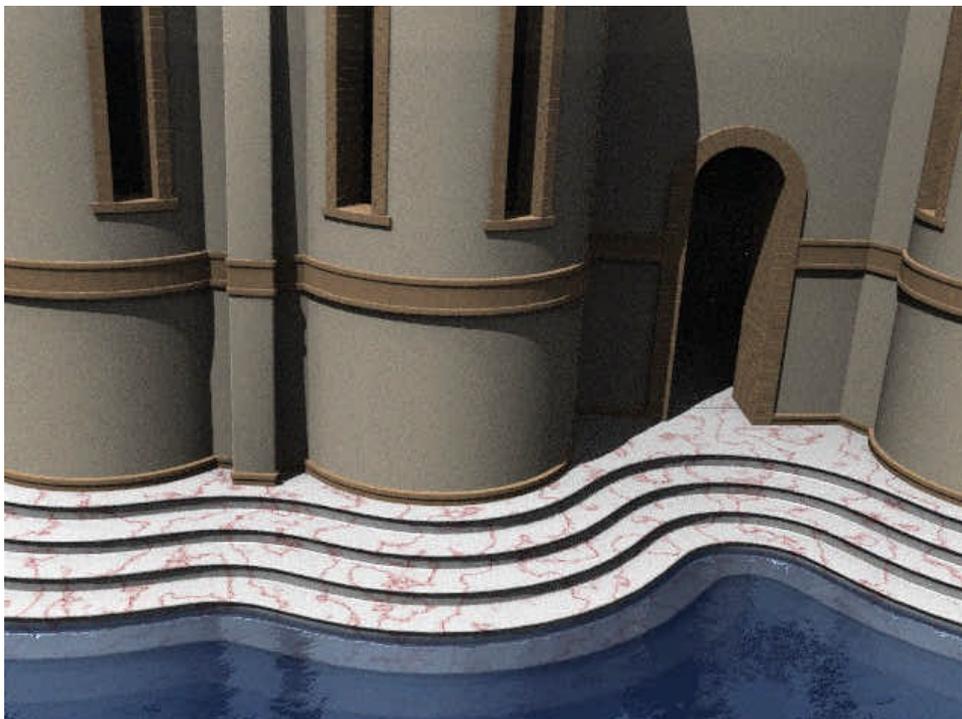
The Heavens

You need a Sky, Any image need a sky, even interior images, if you have windows, even if the sky does not show up in the rendering directly, it might show up as a reflection. You cannot do without a sky.

Get a Sky map, a 2:1 ratio 360° image and use it as a world texture

Now, you should have something like this!

Have fun, Stefano