Caustic Effect Using Cell Noise

The *cell_noise* shader is a very versatile shader that is capable of creating a wide range of shading effects. In this simple tutorial, we will cover how to create a caustic effect using a *spot_light* with the *cell_noise* shader connected to a *gobo* light filter. Thanks to Slava Sych for the assistance with this tutorial.

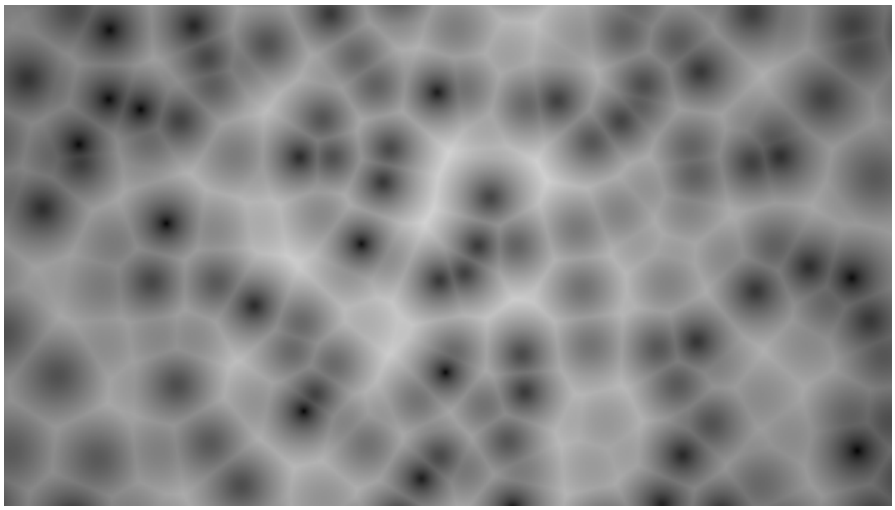
The scene file can be downloaded here.

Gobo -> Spot Light

- Start off by creating a plane. We will project the *cell_noise* shader through a *gobo* using a *spot_light.*
- Create a *spot_light* and point it at the plane. Increase the *exposure* of the *spot_light.*
- Connect a *gobo* light filter to the *spot_light.*
- Connect a *cell_noise* shader to the *blend* attribute of the *gobo.*

Cell Noise

- Change the *cell_noise pattern* to *Worley 1*.
- Increase the *cell_noise scale.* In this case, 20 was used in XYZ.
- Change the *coord_space* to *UV.* This uses the object's local UV coordinate and in this case, looks better for the effect that we want to achieve.



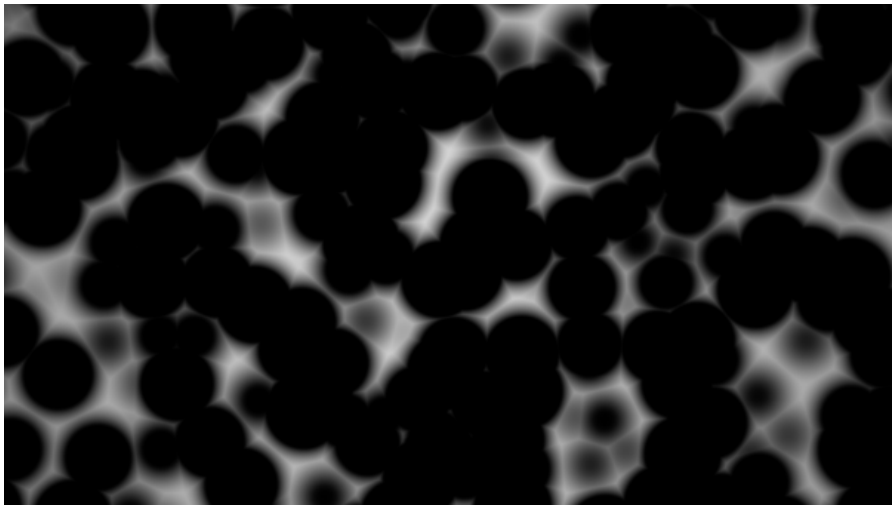
***cell_noise* shader using the *Worley 1* pattern**

Range Shader

We can use the *range* shader to linearly remap the output of the *cell_noise* shader to create something that looks like a caustic effect.

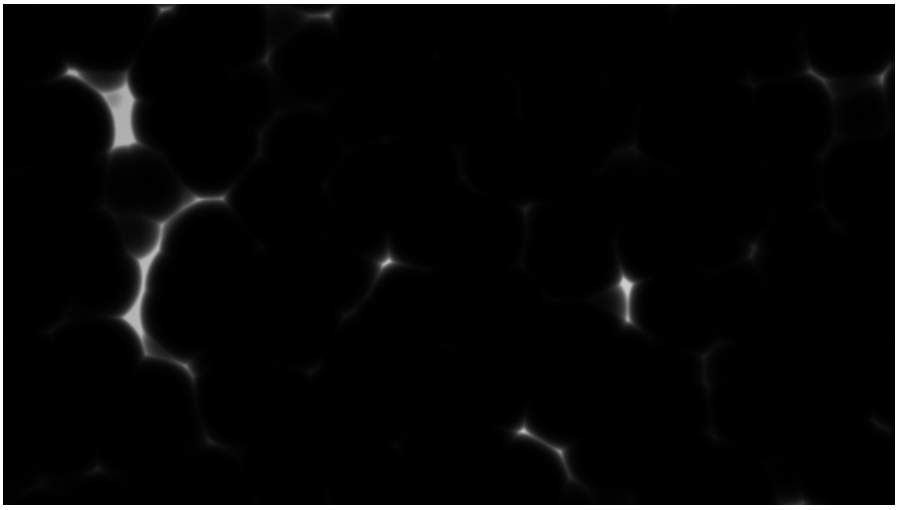
- Insert a *range* shader in-between the *cell_noise* shader and the *gobo.*

- Enable *smoothstep* in the *range* shader.
- Increase the *input_min* attribute and notice its effect on the *cell_noise* shader.



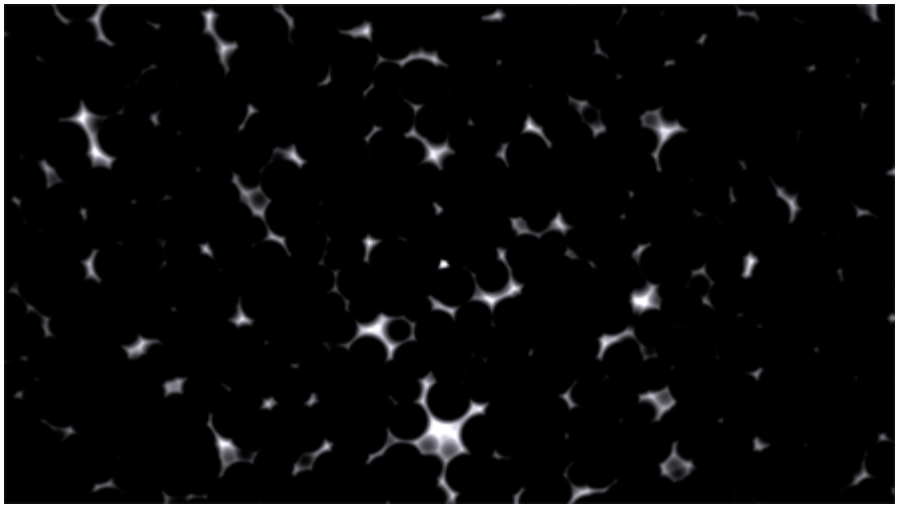
Input Min **increased to 0.6**

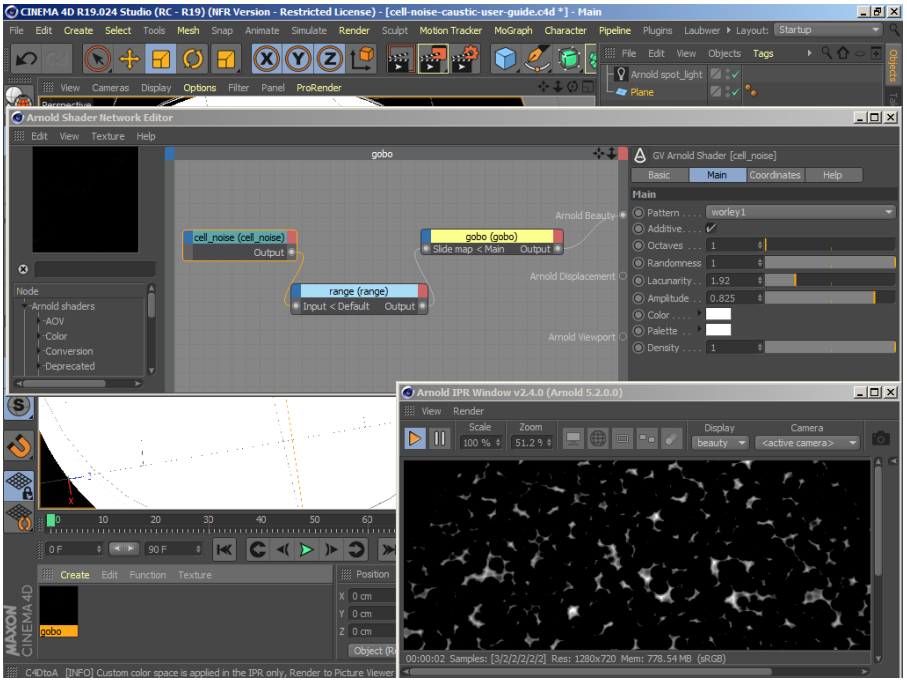
- Reduce the *bias* to around 0.01. You should notice that it now looks more like a caustic effect.



Bias **reduced to 0.01**

- Go back to the *cell_noise* shader and keyframe the *time* attribute. You should see something that looks like a caustic pattern!





Scene settings