PxrManifold3D

This nodes allows artists to place patterns using a 3D projection as opposed to a 2D solution often used for textures reliant on UVs. This allows selection of Pref (for deforming meshes) and specification of a coordinate system to transform to.

Input Parameters

Scale

Scale the frequency of the feature uniformly in 3D.

Use

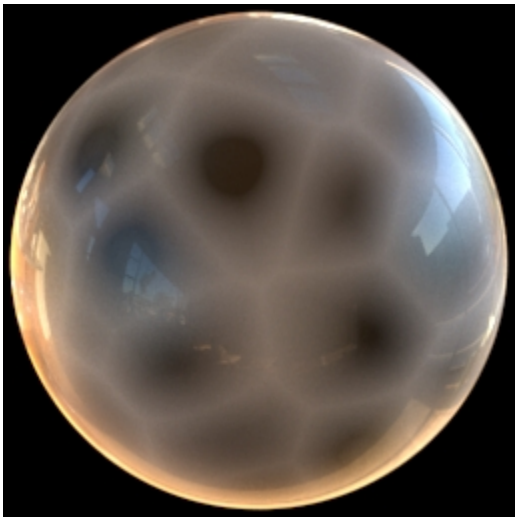
Select the type of position you want to use.

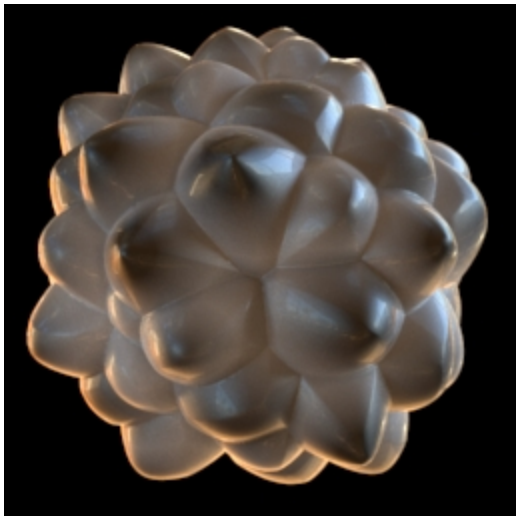
	Usage	Value	Default variable
Current position: P	Use the current (displaced) surface position	`0`	`P`
Undisplaced position: Po	Use the surface position before it was displaced	`1`	`Po`
Deform : __Pref	Use a reference position primitive variable in object space	`2`	`__Pref`
Deform & transform: __WPref	Use a reference position primitive variable in world space	`3`	`__WPref`

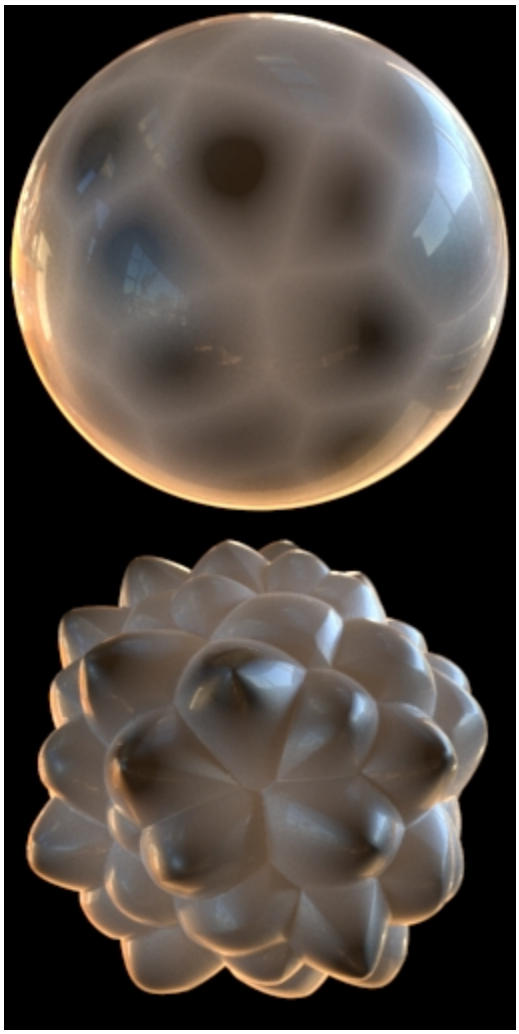
⚠ You can only use **`__Pref`** and **`__WPref`** if these primitive variables have been attached to your geometry using your bridge product. Typically known as a Reference or Rest pose. Note that these are just names, the underlying bridge product provides the data as named, not the pattern node. If using a procedural such as Alembic, be sure the data has Pref baked into the objects on export.

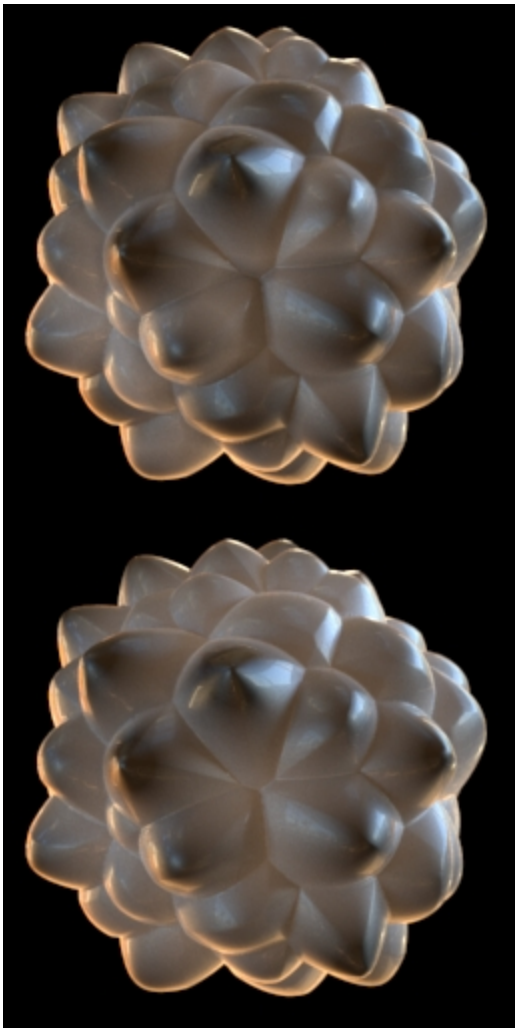
Why use the un-displaced position ?

When using the same 3d noise in the BxDF and the displacement, you should use Po to make sure the patterns are lining up.









Bad: using P

Good: using Po

Left: P Right: Po

Pref

Name of geometry Pref (Maya uses __Pref and __WPref).

> ⚠ This field is only used when **Use** is set to "**Deform :** __**Pref**" or "**Deform & transform:** __**WPref**" .
>
> If left empty, we assume either __`Pref` or __`WPref` , based on the current **Use** settings.

Coordinate System

Name of a coordinate system transform to apply to the manifold. (Maya calls these place3d nodes).

> ⓘ If left empty, we use the position in object-space, as this is what you need for *non-deforming* objects.

Warp

Connect a noise or texture to warp the domain

Warp amount

Slider control the amount of warp

Output Parameters

result

The 3D manifold.

resultX

A float representation of the X component of the manifold.

resultY

A float representation of the Y component of the manifold.

resultZ

A float representation of the Z component of the manifold.