PxrManifold3DN

Encapsulates 3D parameterization with normals for pattern generators. Allows selection of Pref and Nref and specification of a coordinate system to transform to. Uses a simple struct to represent bundled dataflow of outputs. This manifold also transforms and outputs a normal as part of the simple struct.

Input Parameters
Scale

Scale the frequency of the feature uniformly in 3D.

Use
Select the type of position and normal you want to use.

	Usage	Value	Default variable
Current position: P + N	Use the current (displaced) surface position and normal	0	`P Nn`
Undisplaced position: Po + NoN	Use the surface position and normal <u>before</u> it was displaced	1	`Po NoN`
Deform : __Pref + __Nref	Use reference primitive variables in object space	2	`__Pref __Nref`
Deform & transform: __WPref + __WNref	Use reference primitive variables in world space	3	`__WPref __WNref`

> ⚠ You can only use `__Pref`/`__Nref` and `__WPref`/`__WNref` if these primitive variables have been attached to your geometry. Otherwise the pattern will use `P` and `Nn`.

Pref

Name of geometry Pref (Maya uses `__Pref`/`__Nref` and `__WPref`/`__WNref`).

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

Nref

Name of geometry Reference Normal (Maya uses `__Nref`/`__WNref` by default).

> ⚠ This field is only used when **Use** is set to "**Deform : __Pref + __Nref"** or **"Deform & transform: __WPref + __WNref"**.
>
> If left empty, we assume either `__NRef` or `__WNref`, 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 <u>object-space</u>, as this is what you need for non-deforming objects.

Output Parameters
result
The 3D manifold that carries N as well.

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.

resultN
The normal of the manifold struct.