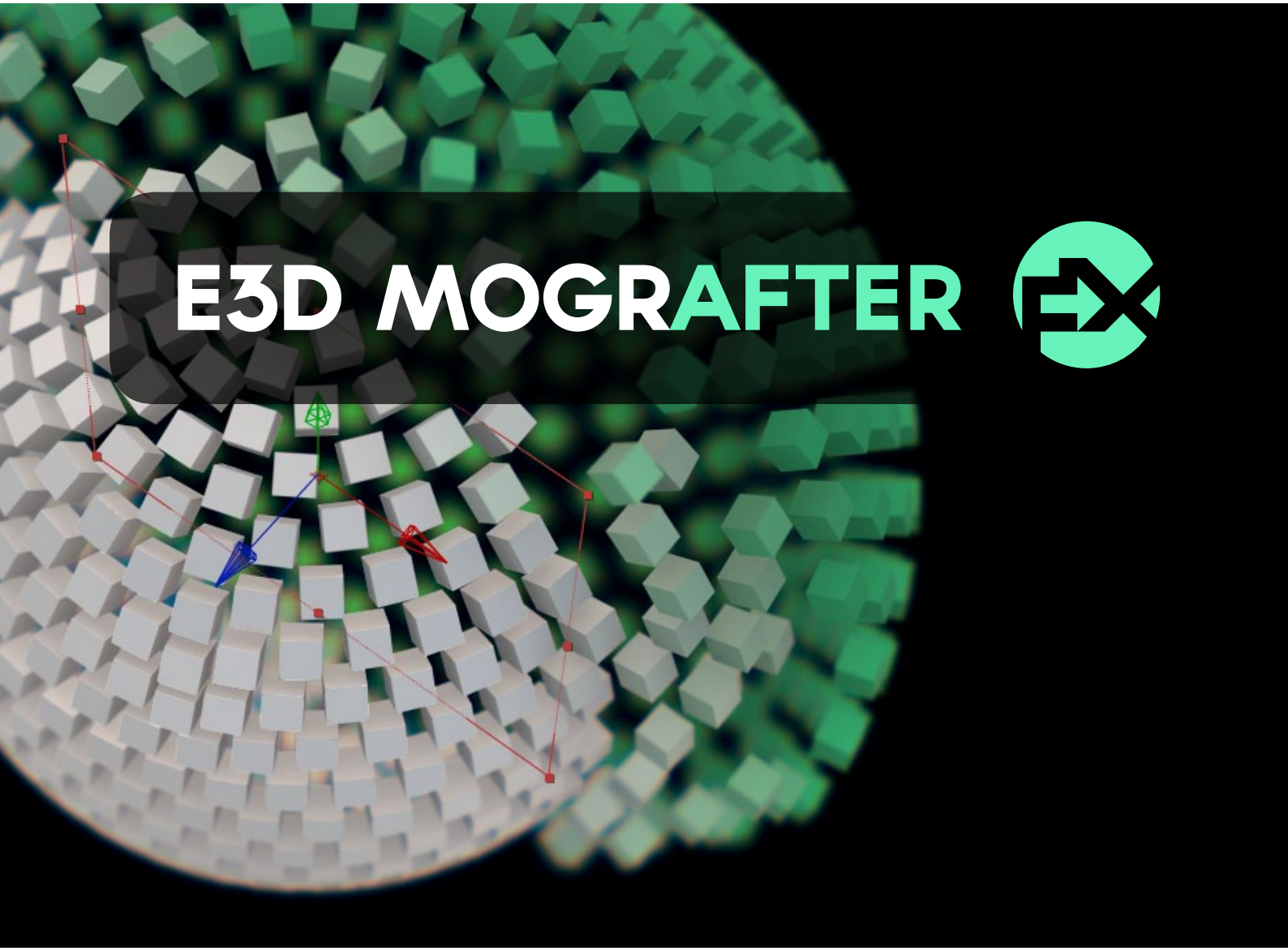


USER GUIDE

SUMMARY

E3D CLONER

E3D FRACTURE

E3D MOTEXT

E3D EFFECTOR

INTRODUCTION

Element 3D is certainly one of the most popular and powerful 3D plugins for AfterEffects.

But it can be sometimes a little bit tedious to dive into its deep features and 3D animation principles, especially for newbies.

Creating common motion graphics like animated cloned cubes or spheres, 3D objects assembly animations or even 3D titles animations, could rapidly become time-consuming, while you can achieve such complex animations in just a few clicks within ***Cinema 4D*** with its awesome procedural animation module named ***MOGRAPH***!

Introducing... **E3D Mografter FX !**

A toolset aiming to dramatically boost your Element 3D animation workflow in After Effects. It kind of mimics the objects and their controls you can usually find inside C4D's Mograph module, like the famous ***CLONER***, ***FRACTURE***, and ***MOTEXT*** generators, each compatible with a real powerful ***EFFECTOR*** layer.

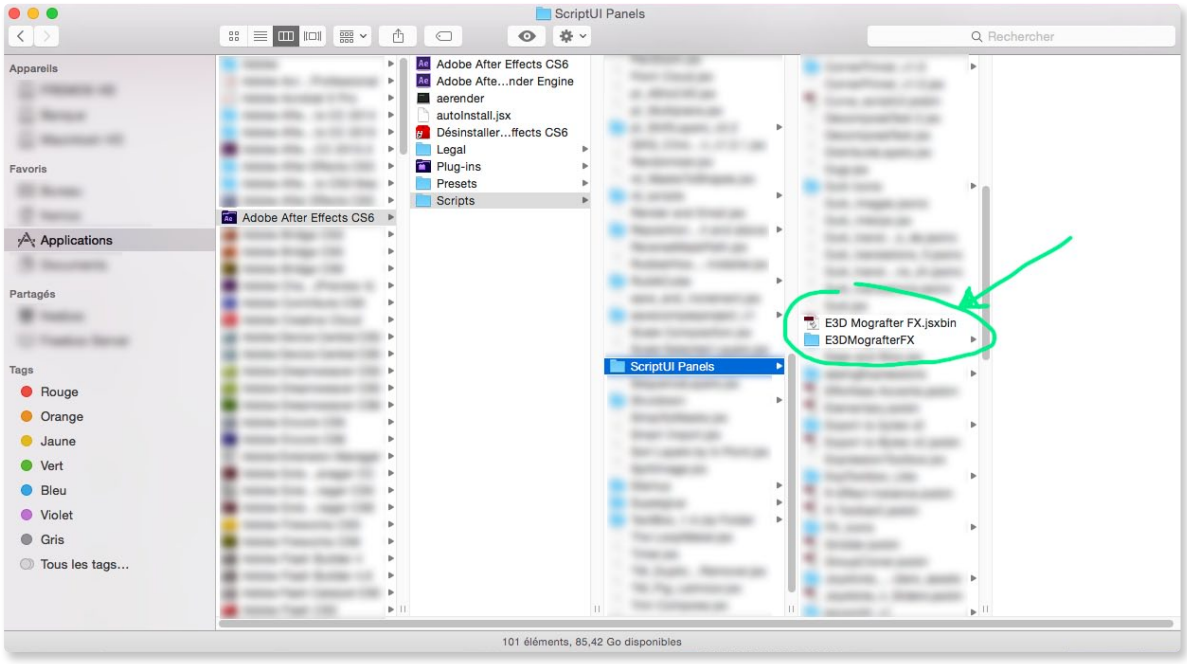
Just move the ***Effector*** layer in AE's 3D space and tweak its various options to instantly animate your clones, models sub-parts or 3D text characters in a much more easy and intuitive way !
Replace the default objects with your own and you are ready to achieve appealing motion pieces in a matter of seconds !
The **6 different pre-built Element 3D scenes** have been designed to help you create the most common motion graphics projects such as animated clones onto a custom 3D mesh, multi-objects exploding, dissolve or assembly effects, or animated 3D titles.

Ready to **save dozens of Element tweaking hours** and to create awesome motion pieces ?
So... let's get started !

INSTALLATION

The E3D Mograph FX toolset comes as a folder than contains one single « *E3D Mografter FX.jsxbin* » and a subfolder named « *E3DMografterFX* » (that contains a few .ffx that are usually put into the PRESET folder, but DO NOT DO THIS !).

To instal the script and the assets properly, just copy and paste both the ***E3D Mografter FX.jsxbin*** file AND the ***E3DMografterFX folder*** inside your AfterEffects ScriptUI Panels.



On Windows, you'll find the ScriptUI Panels folder at this location :
C:\Program Files\Adobe\Adobe After Effects XX\Support Files\Scripts\ScriptUI Panels

On OSX, you'll find the ScriptUI Panels folder at this location :
/Applications/Adobe After Effects XX/Scripts/ScriptUI Panels

where *XX* stands for your After Effects version (the toolset is compatible with CS6+ and CC).

CS6 users (DO NOT SKIP !) :

Please run the ***E3D Mografter FX - PE Installer.jsx*** file first in order to install the pseudo-effects ! Just go to ***File > Scripts*** menu ***> Run Script file***, and launch this ***.jsx*** script before restarting AE.

PRE-REQUISITES & DISCLAIMER

In order to use the **E3D Mografter FX** toolset, you need to own a **working version of the Element 3D (V2 or V2.2) plugin for After Effects**, correctly installed on your machine.

You can purchase and download this fabulous plugin from VideoCopilot on the dedicated aescripts web page : ***http://aescripts.com/element-3d***

E3D Mografter FX toolset's limitations
The toolset will allow you to speed up your Element 3D workflow inside AfterEffects, BUT - except for the way you will be able to manipulate a physical effector layer in 3D space to animate your clones/sub-parts/extruded letters or paths - the toolset does nothing more than Element plugin is already capable of (with another completely different workflow).

Moreover, the toolsets is somewhat limited : **you can't create more than one E3D scene setup with the UI script in a same composition**. If you try to do so, a window will pop-up to alert you about this. If you want to add more E3D scenes, just try to pre-compose your layers and use nested comps instead with linked 3D cameras.

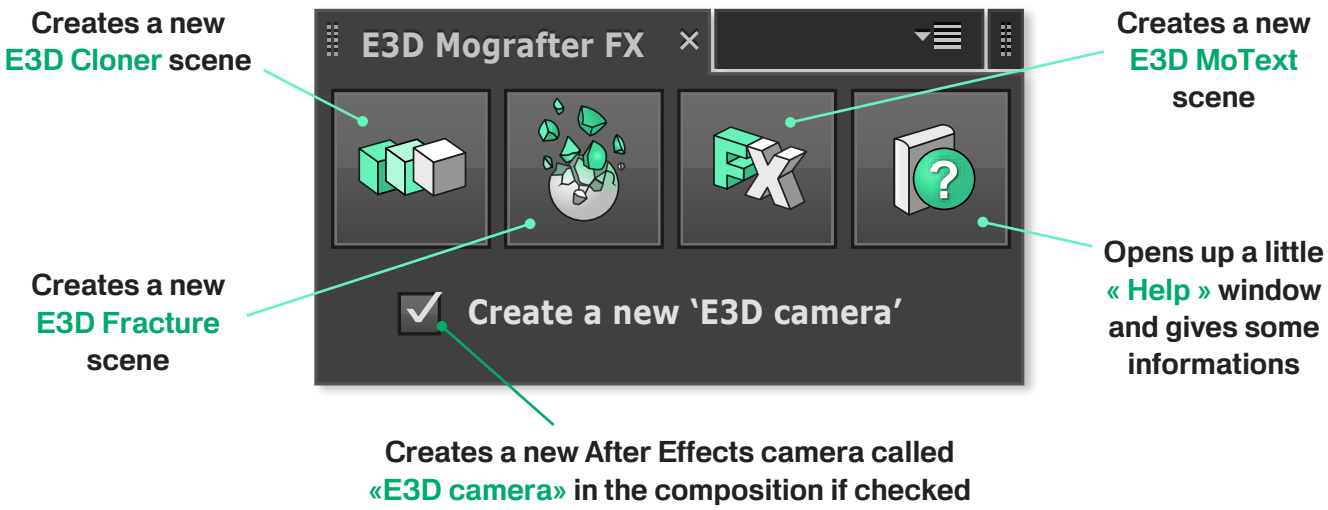
Finally, the E3D Mografter FX toolset, used in conjunction with Element plugin, will never be able to beat Cinema 4D's Mograph module in terms of performances, possibilities or procedural non-destructive animation technics. After Effects is not, and will never be, a 3D software, and C4D's Mograph module offers much more options to tweak and to play with ; it has endless possibilities that just can't be achieved inside AfterEffects.
If you encounter too much limitations with Element and our product, just consider learning and using a real 3D software, like ***Cinema4D*** which is distributed by Maxon.

FIRST START

In order for the script to appear in the « *Windows* » menu, you need to re-start your After Effects application. Once re-opened, you'll find the ***E3D Mografter FX.jsxbin*** script at the bottom of the After Effects ***Windows menu*** (with other scripts if you have already installed other ones in the past).

Before launching it, ensure that the « ***Allow Scripts to Write files and Access Network*** » checkbox, in the After Effects preferences (in the «General» tab) is enabled.
Then, click onto ***E3D Mografter FX.jsxbin*** in the Windows menu to lauch it, and a new E3D Mografter FX Window will open up, showing the 4 buttons.
Since it's installed in the ***ScriptUI Panels*** folder, the panel is now « dockable », meaning that you can click and drag its top part wherever you want in your After Effects layout.

The newly created panel shows a really simple yet effective user interface.
It consists of 4 figurative icons buttons and one single check box :



Click on any of the first 3 buttons to instantly create a new **E3D CLONER**, **E3D FRACTURE** or **E3D MOTEXT** layer and one **E3D EFFECTOR** layer that will drive the animation of your CLONES, SUB PARTS or 3D TEXT CHARACTERS in seconds !

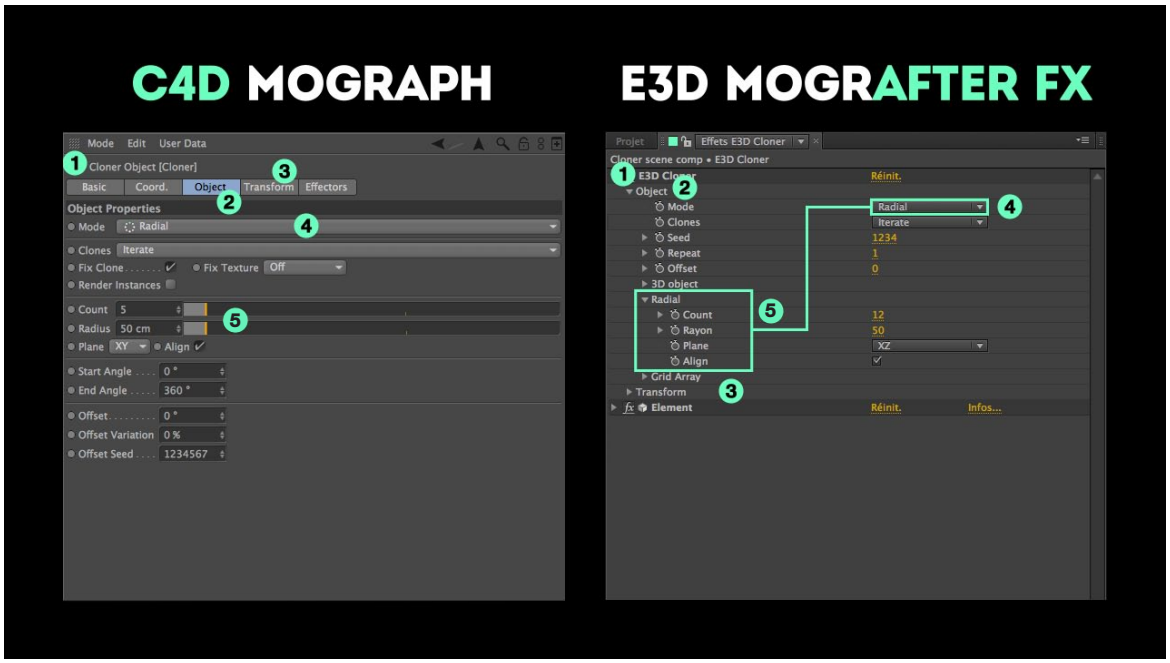
Just play with the E3D Effector's options (the E3D Cloner offers a great deal of options too) and start creating your next motion graphics piece in a much more convenient workflow !

If you already know how the **Mograph module** works inside Cinema4D, it will be even easier to begin create and animate with the E3D MogrAfter FX toolset !

Indeed, you'll instantly recognize which layer is a **generator** (CLONER, FRACTURE, MOTEXT) thanks to its greenish colored square next to its layer label.
Same thing for the EFFECTOR layer, which is represented by a nice bluish/purple color, just like the « ***deformers*** » and « ***effectors*** » icons inside Cinema4D.

Moreover, **most of the parameters inside the Cloner's and Effector's pseudo-effects are named and organized exactly the same than in C4D**, which is really convenient to help you create and animate more quickly.
While the parameters are organized in « ***tabs*** » inside the C4D's ***Attribute manager***, and because such tabs don't exist inside AfterEffects effects panel, you'll find the cloner's and effector's options organized in ***sub-groups*** inside the effects, named exactly the same than in C4D's corresponding tabs.

Below are 2 screen captures that compare the attributes from Cinema4D (on the left) to the corresponding options inside AfterEffects (on the right), for the ***E3D Cloner*** effect, here in ***Radial mode*** for instance (see more comparison shots à the end of the user guide) :



E3D CLONER

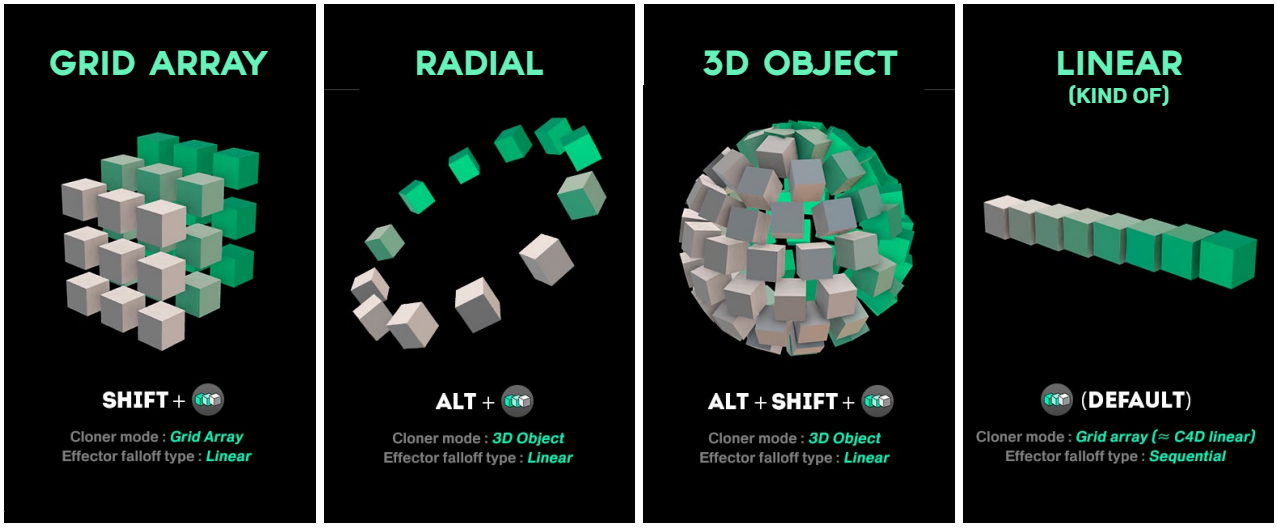
5.1. INTRODUCING THE « CLONER »

The first button on the left lets you create what is called a « ***Cloner*** » inside Cinema4D, but here right inside After Effects with the help of the Element 3D plugin.
As its name says, the main purpose of a cloner is to dynamically duplicate (i.e. to « *clone* ») single or multiple 3D objects, in various ways.
The duplicate objects will then be called « *clones* » in this case.

5.2. THE 4 AVAILABLE CLONER CONFIGURATIONS AND THEIR SHORTCUT

Clones can be generated and distributed in 4 different ways, depending of which keyboard shortcut has been pressed while clicking on the « cloner » button.

Here are the **4 available configurations**, with their corresponding shortcuts :



Note that the ***Grid Array***, ***Radial*** and ***3D object*** modes can be chosen later, whenever you want, in a drop-down list, on top of the Cloner's options inside the **E3D CLONER** effect (next to ***Mode***), so don't be afraid and start testing out some different configurations !

GRID ARRAY

Creates one E3D CLONER layer set up to ***Grid Array*** mode with 3 cube clones on each dimension, forming a cubic matrix, and one E3D EFFECTOR layer with its falloff set up on ***Linear*** (can be directly manipulated in 3D space to animate the clones)

RADIAL

Creates one E3D CLONER layer set up to ***Radial*** mode with a bunch of cubes distributed onto a ring shape, and one E3D EFFECTOR layer with its falloff set up on ***Linear*** (can be directly manipulated in 3D space to animate the clones)

3D OBJECT

Creates one E3D CLONER layer set up to ***3D object*** mode with some cubes generated onto a big sphere mesh (can be replaced by any other 3D model of your choice through the Element plugin ***Scene setup*** button), and one E3D EFFECTOR layer with its falloff set up on ***Linear*** (can be directly manipulated in 3D space to animate the clones)

LINEAR (KIND OF)

Creates one E3D CLONER layer set up to ***Grid Array*** mode with 8 cube clones distributed horizontaly, only on the X axis, and one E3D EFFECTOR layer with its falloff set up on ***Sequential*** (i.e. animation will be driven by clones index). This pre-built configuration looks like a cloner from Cinema4D, set up to ***Linear***.

Note[1] : since the effector in this configuration has its falloff set to ***Sequential***, moving the effector in 3D space will not affect your clones at all ! In order to animate your clones with this « faked linear » mode, just play with the ***sequential animation completion*** parameter in the effectors ***Falloff*** effect's sub-group.

Note [2] : this « kind of linear » pre-built scene is just a hack (there isn't any real ***Linear*** mode in the Cloner's ***mode*** drop-down list), and - because of some Element plugin's internal limitations - this configuration is somewhat limited and much less efficient than the others.

After having created an E3D Cloner setup with the click of the  button, you'll obtain 2 new layers in your active composition, or in a new composition if there was no composition previously selected (then called ***Cloner scene comp***), plus, if you had let the ***Create a new 'E3D Camera'*** option checked in the UI panel, a third ***E3D Camera*** layer (which is basicaly just a native AfterEffects camera that helps you see and navigate around your 3D scene).

Depending of what you are trying to achieve, you may want to customize the E3D Cloner's options first (clones ***Distribution mode***, ***Transformation***, custom 3D models, rendering...) or to begin with the E3D Effector (animating clones just by moving its position in 3D space, playing with its ***Plain*** and/or ***Random*** parameters, ***Falloff***...)

If you want to start with the ***E3D Effector*** first, please refer to the dedicated *Effector chapter.*

5.3. THE E3D CLONER'S PSEUDO EFFECT SETTINGS

Clicking on the ***E3D Cloner*** layer created after clicking on the  button let you access to its effects in the ***Effect panel***.
The ***E3D Cloner*** comes with a really convenient pseudo-effect called ***E3D Cloner*** that allows you to set up your Cloner just like in Cinema4D's Mograph module (see the options comparison between C4D's Mograph Cloner and E3D Cloner at the end of this chapter).

This is where you can set up how the clones will be distributed and transformed at the «initial state» (i.e. the clones shown in a white material and that are not affected by the **Effector** yet).

Note that a second effect is also applied to the ***E3D Cloner*** layer : it is the ***Element*** plugin itself. This is where you'll define the different 3D models you want to use as your clones shapes or your 3D object's base model.
This is where you'll have to set all that concerns the visual aspect of your clones : materials and objects appearance (in the ***Scene Setup*** button), ***custom layers*** as texture maps, ***render settings*** (like ***lighting, shadows, AO, glow***...) and ***Output***.

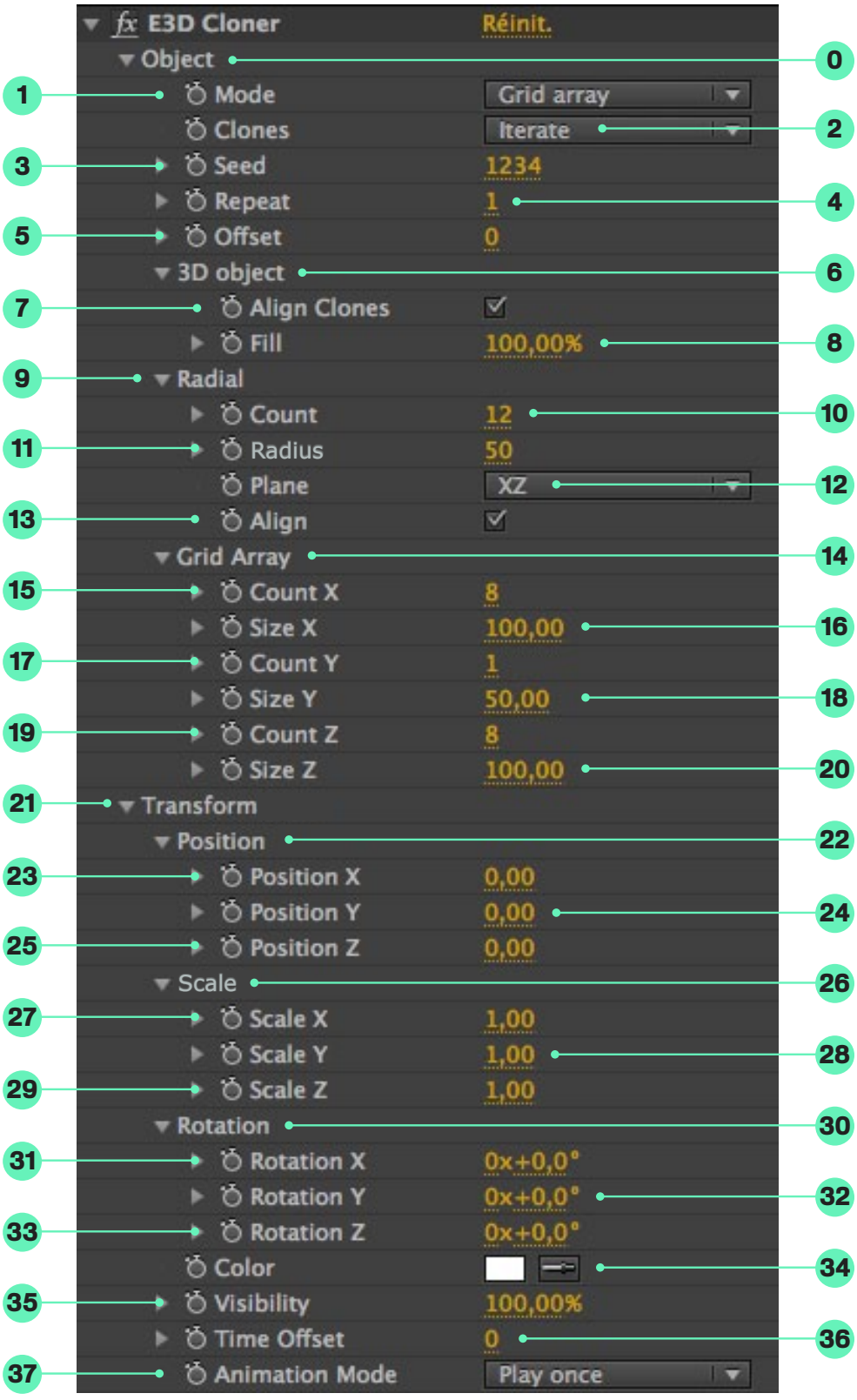
DO NOT change the stack order of the E3D Cloner's layer effects, nor delete one of these effects !

E3D Cloner **effect must ALWAYS remain the first effect in the stack or it will break all the expressions (could even crash your After Effects application) !**

Keep in mind that, if you are familiar with the Cinema 4D's Mograph module, the name of the ***E3D Cloner***'s parameters, and the arborescent way they are organized, are almost the same than in Cinema 4D. The main difference is the way that AfterEffects deals with the hierarchy inside its effects. While you'll find ***Tabs*** and ***Group separators*** inside C4D, you'll find their equivalent as effect's ***sub-groups*** inside AfterEffects (see the comparison between C4D and AE cloner's options at page 7).

If you want to better understand what each Cloner's parameter would normaly do inside C4D (since our E3D Cloner's parameters have almost the same purpose), you can always refer to the online Maxon's help : ***https://help.maxon.net/#OMOGRAPH_CLONER***

Okay, now that you have met the ***E3D Cloner***'s pseudo-effect, let's dive into its parameters !


E3D Cloner
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XZ
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Grid Array
Count X
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Count Y
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Count Z
8
Size Z
100,00
Transform
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Position X
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Position Z
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Scale X
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Scale Y
1,00
Scale Z
1,00
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0x+0,0°
Rotation Z
0x+0,0°
Color
Visibility
100,00%
Time Offset
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Animation Mode
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0 **Object** (main sub-group)

The E3D Cloner pseudo-effects is divided in 2 main sub-groups called ***Object*** and ***Transform***, just like the same named ***Tabs*** inside the Cinema 4D's Cloner Attribute Manager. In the first one, you'll be able to tweak all the distribution options that will arrange the clones in various ways.

1 Mode

This drop-down list lets you chose how to arrange your clones, between three different configurations : ***3D Object***, ***Radial*** or ***Grid Array*** (see *page 9* for a quick explaination of what each of this modes does).

2 Clones

This setting offers 2 options : ***Iterate*** or ***Random*** and must be used only when you have more than one 3d model set as clones shape (e.g. a cube and a sphere).

- The first option called ***Iterate*** will clone your 3D models in an alternate way. In our example, if you have set the Mode on ***Grid Array*** with 5 cubes on one unique dimension, you'll obtain : one cube, one sphere, one cube, one sphere and one cube. It kind of cycles through the Object list inside the Element's Scene setup.
- The second option called ***Random*** will randomly choose one of the available 3D models you have set up to be a clone shape, giving you a more chaotic distribution.
  (go to *page 19* if you want to see how to set up multiple clones shapes)

3 Seed

This setting is useful only when the ***Random*** option has been chosen in the ***Clones*** drop-down list and if you have multiple clones shapes. While changing its value, the distribution will completely change the random source of the distribution.

4 Repeat

This setting is useful only when the ***Iterate*** option has been chosen in the ***Clones*** drop-down list and if you have multiple clones shapes. If you enter another value than 1, you'll have the corresponding amount of clone's shape before cycling to the next available clone's model. In our previous example, if you enter a value of 2 here, you'll obtain : two cubes, two spheres and one cube.

5 Offset

This setting is useful only when the ***Iterate*** option has been chosen in the ***Clones*** drop-down list and if you have multiple clones shapes. Use this value to offset the object's index in the list of available 3D models set to clones shapes, through which the cloner will cycle. In our first example, if you enter a value of 1, it will begin the sequence like this : one sphere, one cube, one sphere, one cube and one sphere (it will begin with the sphere while it was beginning with the cube previously).

6 **3D Object** (sub-group of **Object**)

Each of the 3 configurations available in the ***Mode*** drop-down list (see point 1) offers some options in a dedicated sub-group that has the exact same name. Here, this the one that you'll have to deploy, in order to find the options for the ***3D Object*** mode.
Note that this sub-group does not offer any option to choose your 3D Object base shape model. To do that, you'll have to go to the Element Scene setup directly (see *page 23* to see how to change the 3D Object's base shape).

7 Align Clones

Check this option if you want your clones to be aligned onto the 3D Object base shape surface. If this options is off, your clones will all be parallel to each other (checked by default).

8 Fill

This setting lets you populate more or less your 3D Object base model surface with clones.
By default, this option is set to **100%** : that means that one clone will be generated on each vertex point of the 3D Object base model.

Note that if you enter a value that is less than **100%**, you won't have any control to choose on which vertex the clones will be generated ; you'll end up with clones randomly distributed onto your 3D Object vertex.

9 Radial (sub-group of Object)

Each of the 3 configurations available in the ***Mode*** drop-down list (see point 1) offers some options in a dedicated sub-group that has the exact same name. Here, this the one that you'll have to deploy, in order to find the options for the ***Radial*** mode.

10 Count

This is where you can enter the amount of clones you want if you have chosen the Radial mode (whole number).

11 Radius

Since the clones are arranged circularly around the center of the Cloner scene, you can tweak this parameter to increase or decrease the radius of this circle (called ***Ring*** in the native Element plugin).

12 Plane

By default, the «ring» shape on which the clones are arranged in Radial mode is oriented on the «ground», i.e. on the ***XZ*** plane. You can choose another plane (***XY*** or ***ZY***) to orient the ring shape vertically.

13 Align

Check this option if you want your clones to be aligned onto the ring. If this options is off, your clones will all be parallel to each other (checked by default).

14 Grid Array (sub-group of Object)

Each of the 3 configurations available in the ***Mode*** drop-down list (see point 1) offers some options in a dedicated sub-group that has the exact same name. Here, this the one that you'll have to deploy, in order to find the options for the ***Grid Array*** mode.

Note that, in Cinema4D, these options are arranged in 3 columns inside the Attribute Manager, which is really convenient to help you identifying which axis you are tweaking, but impossible to reproduce inside After Effects because of the way AE displays pseudo-effects. This is why our options are one below the other.

15 Count X

This is where you enter the amount of clones you want onto the X axis of a ***Grid Array***. (has to be a whole number)

16 Size X

Tweak this setting to increase or decrease the space between your clones onto the X axis of a ***Grid Array***.

17 Count Y

This is where you enter the amount of clones you want onto the Y axis of a ***Grid Array***. (has to be a whole number)

18 Size Y

Tweak this setting to increase or decrease the space between your clones onto the Y axis of a ***Grid Array***.

19 Count Z

This is where you enter the amount of clones you want onto the Z axis of a ***Grid Array***. (has to be a whole number)

20 Size Z

Tweak this setting to increase or decrease the space between your clones onto the Z axis of a ***Grid Array***.

21 **Transform** (main sub-group)

The E3D Cloner pseudo-effects is divided in 2 main sub-groups called ***Object*** and ***Transform***, just like the same named ***Tabs*** inside the Cinema 4D's Cloner Attribute Manager. In the ***Transform*** one, you'll find various settings that will affect all your clones at the same time, with the same value for each clone, exactly like in C4D.

22 **Position** (sub-group of **Transform**)

Just like in the ***P.X, P.Y*** & ***P.Z*** column in the C4D's Attribute Manager, you have the ability to move all your clones on one of the 3 axis independantly. Just tweak the ***Position X*** 23 , ***Position Y*** 24 and ***Position Z*** 25 to move the clones along the corresponding axis.

26 **Scale** (sub-group of **Transform**)

Just like in the ***E.X, E.Y*** & ***E.Z*** column in the C4D's Attribute Manager, you have the ability to resize all your clones on one of the 3 axis independantly. Just tweak the ***Scale X*** 27 , ***Scale Y*** 28 and ***Scale Z*** 29 to resize the clones along the corresponding axis.

30 **Rotation** (sub-group of **Transform**)

Just like in the ***R.H, R.P*** & ***R.B*** column in the C4D's Attribute Manager, you have the ability to rotate all your clones on one of the 3 axis independantly. Just tweak the ***Rotation X*** 31 , ***Rotation Y*** 32 and ***Rotation Z*** 33 to rotate the clones on the corresponding axis.

34 Color

This is where you can change the default white color of the clones inside the ***Group 1*** (only colorizes the ***diffuse color*** of the material you have affected to your Group 1 clones, inside the Element ***Scene Setup*** Interface).

35 Visibility

While in C4D there isn't any setting called ***visibility*** inside the Cloner's Attribute Manager, the E3D Cloner lets you define and animate all the clones ***opacity*** at the same time. A value of **0%** makes the clones completely disappear, **100%** (the default value) turn their visibility on, and in-between values render your clones semi-transparent.

36 Time Offset

This setting must be used only if you have chosen one or more animated object sequence(s) as your clones shape(s) inside the Element ***Scene Setup*** interface (with ***File*** > ***Import*** > ***3D Sequence***). Tweaking this value (must be a whole number), offsets the animation of your clones by the corresponding number of frames.

37 Animation Mode

This setting must be used only if you have chosen one or more animated object sequence(s) as your clones shape(s) inside the Element ***Scene Setup*** interface (with ***File*** > ***Import*** > ***3D Sequence***). It is a drop-down list where you can chose between 4 different possibilities :

- ***Play once*** : once the object sequence's animation is finished, it stops and the clones remain still based on the last animation's frame ;
- ***Loop*** : re-plays the entire sequence's animation from the beginning while finished, over and over again ;
- ***Fixed*** : does'nt play the object sequence's animation at all, and remains still based on the ***Time offset*** value you enter in the setting above ;
- ***Oscillate*** : does almost the same than the ***Loop*** mode, but rewinds the animation from the end to the beginning instead of re-starting from the beginning, creating a kind of « ping-pong » loopable animation.

Thats all for the E3D Cloner's settings !

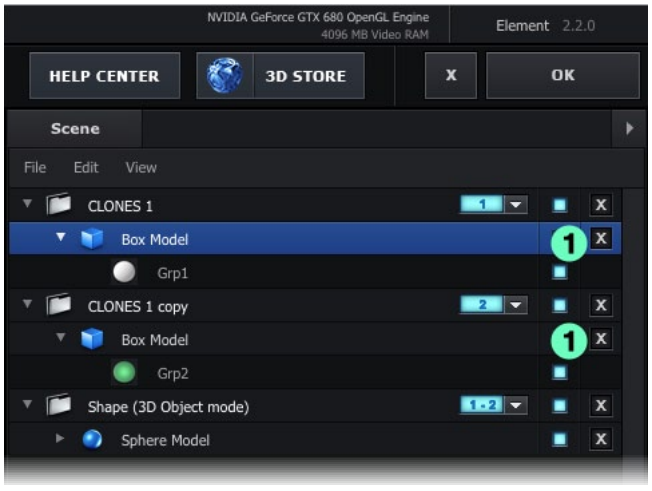
Again, as said previously, feel free to take a look at the online Maxon's help if you want to dive more deeply into the explainations : ***https://help.maxon.net/#OMOGRAPH_CLONER***

Now that you better understand the E3D Cloner's different settings, how do you change the default cube in order to generate other clones shapes ?
This is what the next pages are all about !

5.4. CHANGING THE DEFAULT CUBE CLONE SHAPE

By default, all the 4 pre-built scenes that you can create with the  button of the E3D Mografter FX script will use a simple cube as the shape that will be cloned.
You can of course change it whenever you want, but keep in mind that it is impossible to access this function with a script, so you'll have to do it directly inside the Element ***Scene Setup*** interface (just click on the button inside Element's effect, as shown in the image below, then follow the instructions).

1. If you want to use a custom model as a shape for all your clones, just delete the two ***Box Models*** from both ***CLONES 1*** and ***CLONES 1 copy*** folders (clicking on the cross at their right side), and choose any other object of your choice.
This new object can be an E3D primitive model, a model coming from an external pack, a static mesh imported from C4D or 3DS Max (***File*** > ***Import*** > ***3D Object***), or even an animated 3D object sequence exported with ***Plexus OBJ exporter*** or the ***Riptide PRO*** plugin for Cinema4D).
For the purpose of the tutorial, I will create a ***Tube Model***, from the Element's primitives.

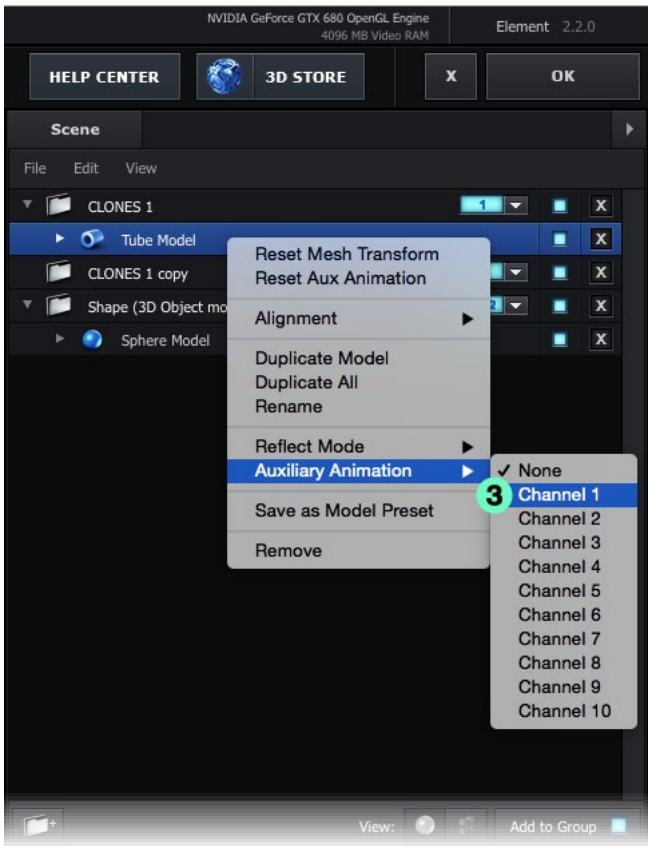


2. Put your newly created (or imported) model inside the first ***CLONES 1*** folder.

⚠ This folder is already set to ***Group 1***.
DO NOT ever change it !
The E3D Cloner's needs it to be set like this, in order to work correctly.

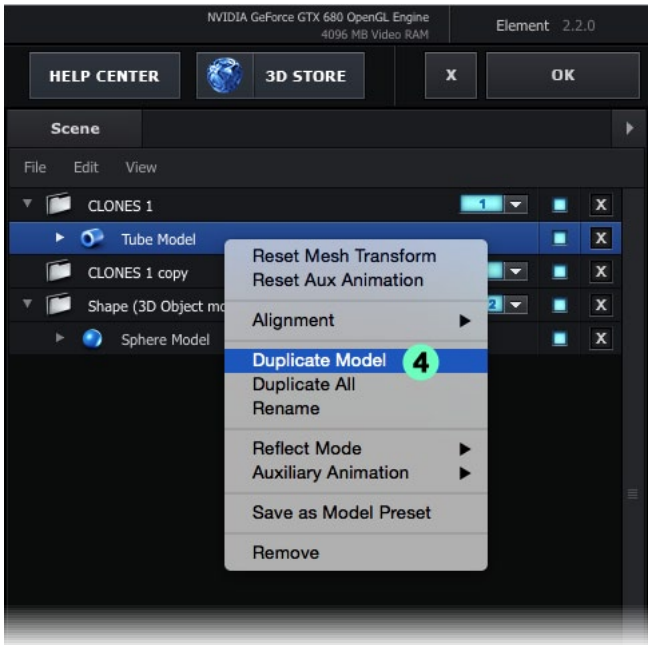
3 Right-click onto your new model and go to ***Auxiliary Animation***, then choose ***Channel 1***

Again, this step is really important ! Don't miss it since it's needed if you want your E3D Cloner setup to work as expected.



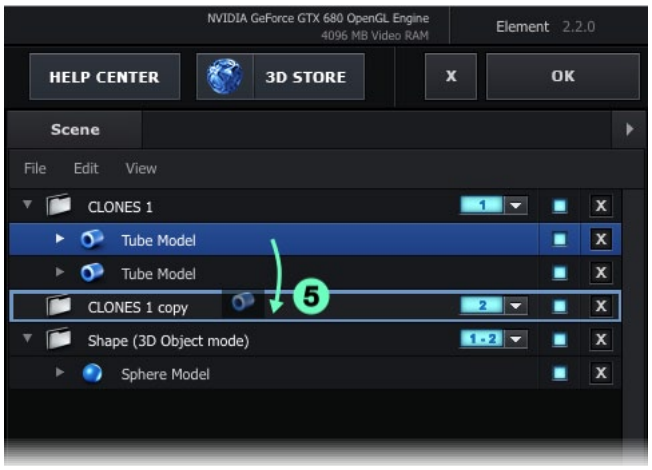
4 Once your model is set up properly, right-click again onto it and click on ***Duplicate Model***.

Duplicating your object after having set it up correctly is the best way to ensure that the 2 models will be strictly the same in both ***CLONES 1*** and ***CLONES 1 copy folders***. **These 2 objects need to be similar** (with their parameters set in the exact same way) in order for the setup to work correctly.



5 You'll obtain a copy of your object.
Just drag it and drop it inside the second ***CLONES 1 copy*** folder below.

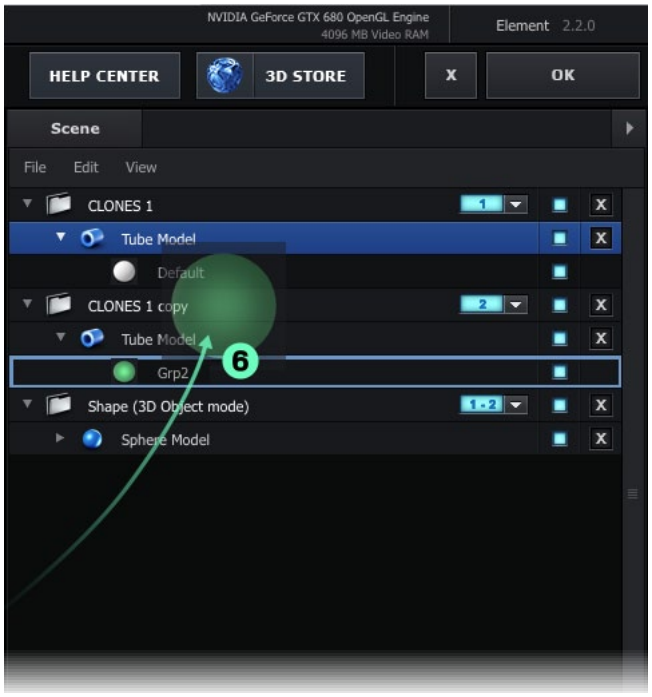
⚠ This second folder is already set to ***Group 2***.
DO NOT ever change it !
The E3D Cloner's needs it to be set like this, in order to work correctly.



6 At this point, you may want to apply different materials for each model, if you want your clones to have a different appearance in the «initial state» (the white clones by default) and the «effected state» (the greenish clones that are animated by the ***E3D Effector***).

To do so, just tweak the default ***Grp1*** and ***Grp2*** material settings, or drag and drop any other material of your choice from the material panel onto your objects.
You can create a new material from scratch, or use a ***Material preset*** from an additional pack like ***Pro Shaders*** from Video Copilot.

Note that you are not bound to differenciate the two clones states/groups. If you want them to look similar, just apply the exact same material on both models from the 2 folders ***CLONES 1*** and ***CLONES 1 copy***.



7 Validate the scene setup by clicking the ***OK*** button at the top right corner of the interface.

Your scene has normally been updated and all your clones have now exactly the shape you had defined (a ***Tube*** in my case).

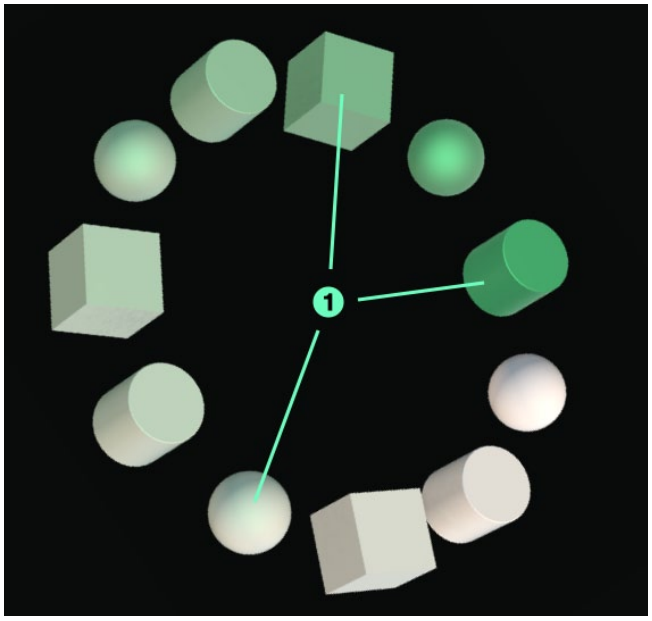
5.5. DEALING WITH MULTIPLE CLONES SHAPES

So now, you know - with the help of the previous pages - how to replace the default cube by your own 3D model as the clones shape.
But in fact, you are not bound to have only one single 3D model shape for all your clones. With a little bit more work you'll be able to clone multiple 3D models, and to play with the ***Clone***, ***Seed***, ***Repeat*** and ***Offset*** settings in the pseudo-effect (see *page 12* an explaination of what each of these 4 parameters does exactly).
Of course, you'll have to manage your clones shapes directly inside the ***Scene Setup*** interface, as described in the previous pages. Here is how it works :

1. If you want several different shapes for your clones (here in my example I've used a Cylinder and a Sphere in addition to the default Box Model), just keep in mind that each model has to be duplicated (right-click on your object and choose ***Duplicate Model***.)

   One of the model's copy has to be put inside a folder set on ***Group 1***, while the other must be placed in a second folder, set on ***Group 2***.

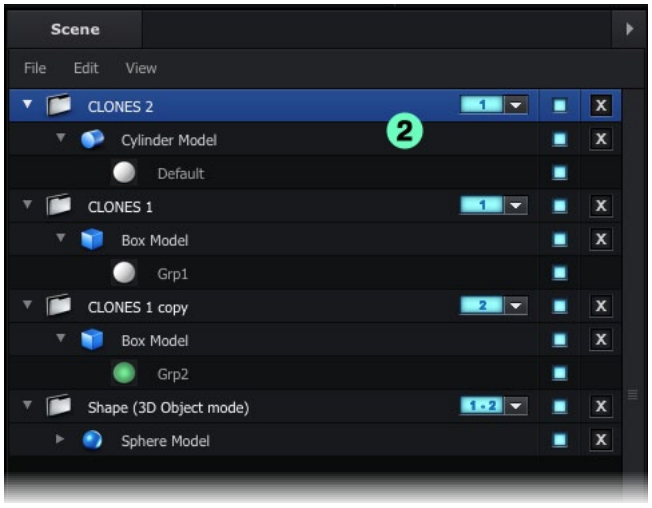
   Before duplicating each model, make sure to have set each of them on ***Channel 1*** (right-clic onto your models, go to ***Auxiliary Animation***, and choose ***Channel 1***).



2. Let's explain the process with a Cylinder Model for example.

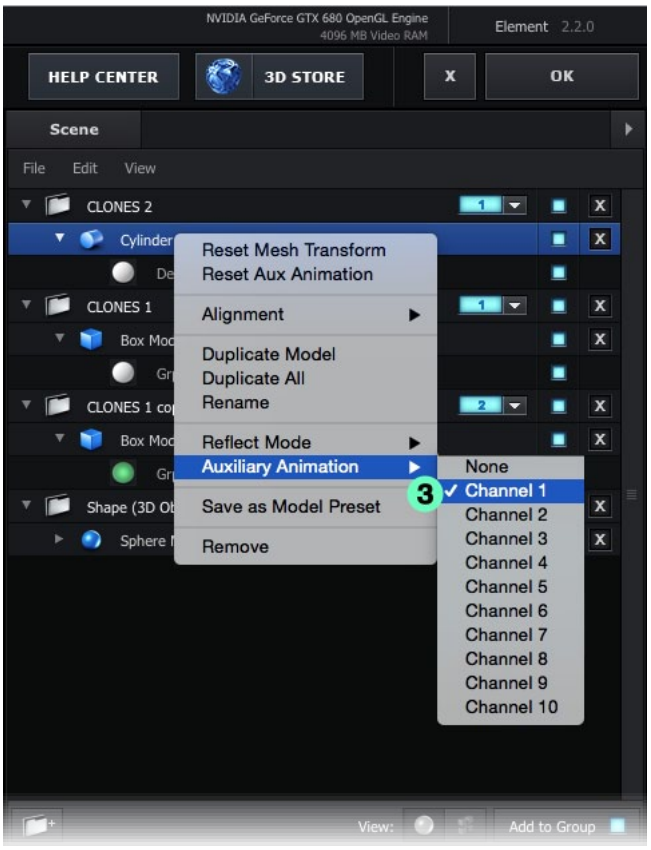
   First, create a new folder (here I've renamed it ***CLONES 2*** for more convenience but it's not mandatory) and set it on ***Group 1***.

   Then put your second shape (a Cylinder Model from the Element's primitives in this case, but it could be anything you want) into this newly created ***CLONES 2*** folder ;



3 Right-click onto your new model and go to ***Auxiliary Animation***, then choose ***Channel 1***

As explained in the previous chapter, this step is really important ! DO NOT miss it since it's needed if you want your E3D Cloner setup to work as expected.

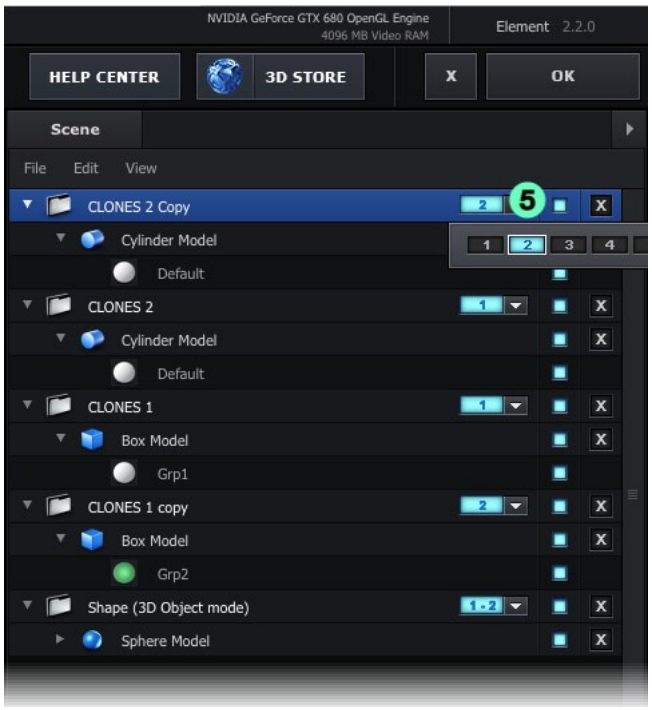


4 Once your model is set up properly, right-click onto the folder that contains it (***CLONES 2*** in my case), then click on ***Duplicate All***.

This method ensures that your model and its settings (with the ***Auxiliary Animation*** channel as well) is strictly identical from one folder to the other.

5 Change the newly created folder (which normaly is named like the other one but with the word « Copy » at the end of its name) from ***Group 1*** to ***Group 2***.

To do so, just ***click on the blue rectangular button numbered « 1 »*** at the right side of your folder (as shown in this picture), then deselect the « 1 » rectangular button below by clicking on it (it becomes grey), and ***click on the next button numbered «2».***

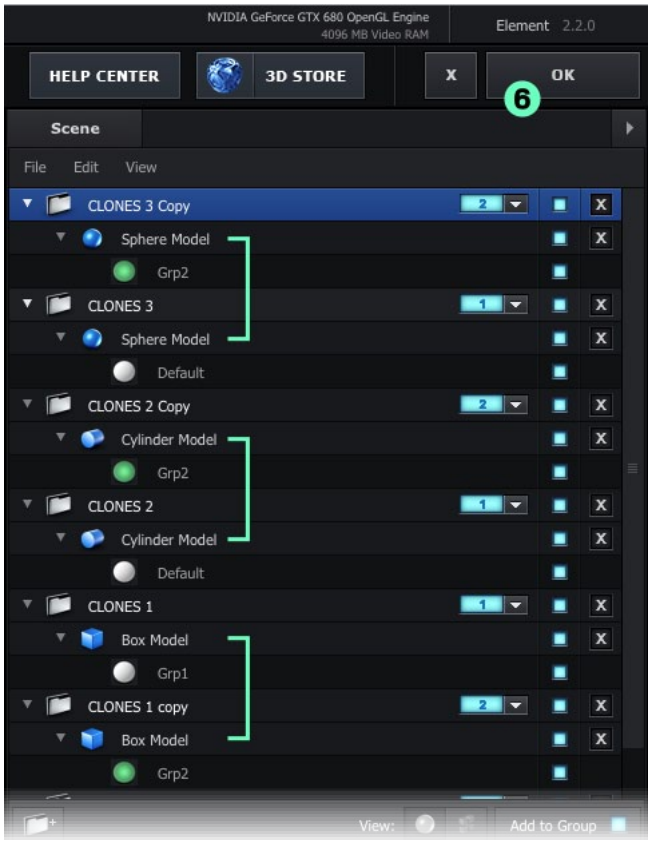


6 ***Renew these few steps for each new 3D model*** you want to define as a clone's shape (each one has to be in its own folder).

Then click on the ***OK*** button at the upper right corner of the interface to validate your scene.

If everything is correct, your E3D scene has been updated and shows your own custom, multiple clones shapes.

You can now play with the ***Clones*** (***Iterate*** or ***Random***), ***Seed***, ***Repeat*** and ***Offset*** settings inside the E3D Cloner's pseudo-effect.

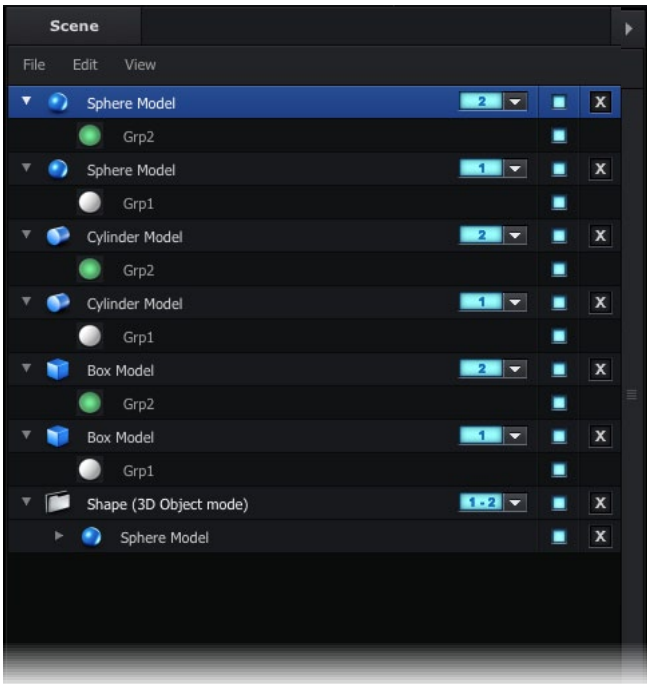


Pro tip :

In fact, you are not even bound to put your different 3D models inside some folders (the *CLONES 1* and *CLONES 1 copy* folders are just there by default to help newbies understand and tweak Element scene setup as easy and fast as possible).
In order to define multiple models as your clones shapes, just remove the existing folders and create your models from scratch without any folders.

Interested in this faster method ? Okay, here is how it would work with our previous example (if you want to clone a cube, a cylinder and a sphere model) :

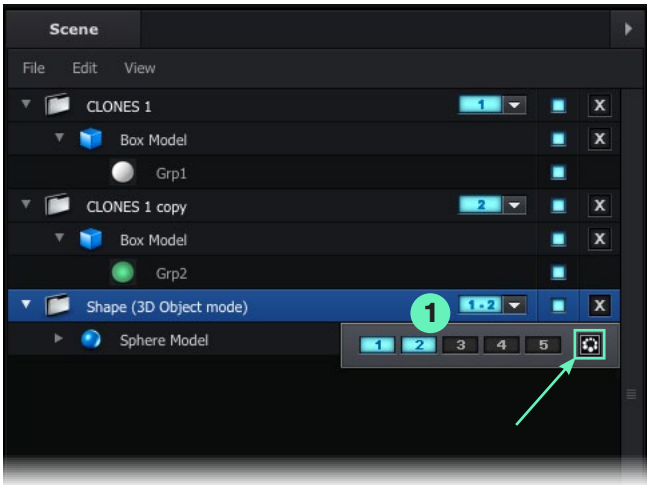
1. Remove both the ***CLONES 1*** and ***CLONES 1 copy*** folders that contain the default cube models (just keep the last one called ***Shape 3D Object mode***);
2. ***Create or import your different models*** without placing them into any folder;
3. ***Duplicate them*** after having ensured that you had set each one onto ***Channel 1*** as their ***Auxiliary Animation*** Channel.
4. Set each newly created copy onto ***Group 2*** (by clicking on their corresponding button numbered « 1 » at their right side).
5. It's not mandatory, but you can - if you want to - assign different materials for clones on ***Group 1*** (the «initial» ones) and clones on ***Group 2*** (the one that will be affected by the ***E3D Effector***, appearing in green in my case)



5.4. CHANGING THE 3D OBJECT MODE'S BASE SHAPE

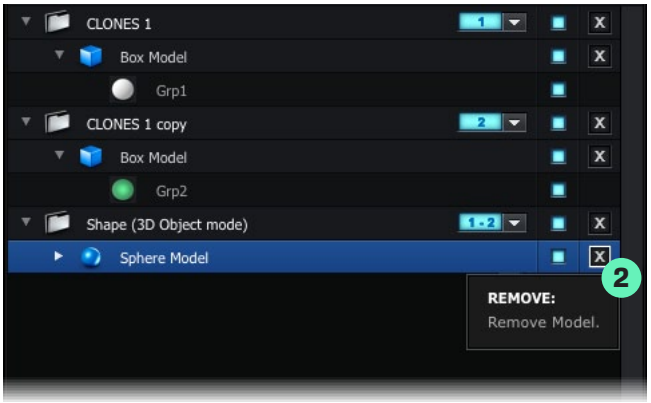
By default, if you create an E3D Cloner set to ***3D Object mode*** (by clicking on the Cloner's button while pressing the SHIFT and ALT keys, or by manually choosing this mode in the E3D Cloner effect's ***Mode*** drop-down list), you will end up with a bunch of cubes cloned onto a big sphere shape.
You can of course replace this sphere by any other 3D shape you want. Simply click on the Element ***Scene Setup*** button inside Element's effect, and follow the instructions.

1. Inside the Element's Scene setup interface, you'll find 3 folders. The third one - at the bottom of the stack - is named ***Shape (3D Object mode)***.
This last folder is set up in a special way so that Element can recognize its content as a shape on which the clones will be generated
This is what the tiny icon pointed by the green arrow in the this picture stands for.
Note that it is set on both ***Group 1*** and ***Group 2*** as well.



<u>Pro tip</u> : you can put multiple 3D models inside this folder, to create even more complex visuals !

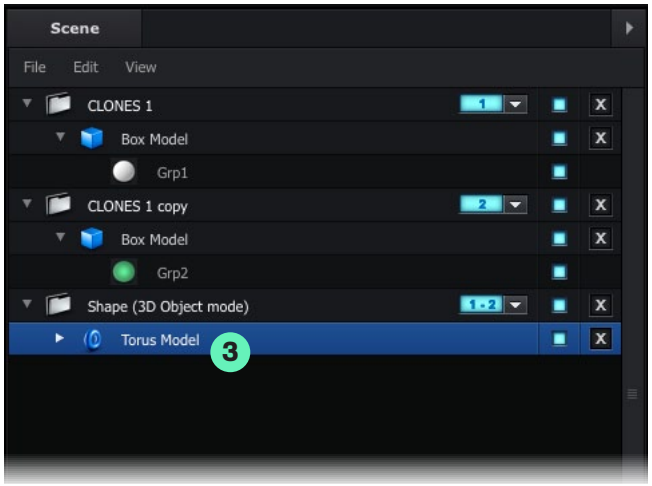
2. Remove the default ***Sphere Model*** by clicking the cross button on its right side.



3 Simply create your new 3D Model (could be anything you want : a ***primitive*** object that comes with Elements, or an ***imported mesh*** created in a third party program like Cinema4D or 3Ds Max).

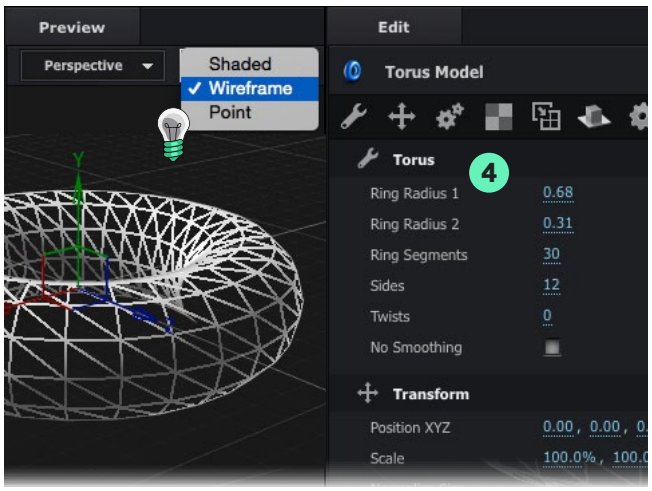
Then, place it inside the ***Shape (3D Object mode)*** folder, just like the previous sphere.

For the purpose of the tutorial, I will chose a simple ***Torus Model*** primitive object.



4 At this point, you can tweak the values of your custom model inside the ***Edit*** panel (here, for instance, I have decreased the two ***Ring radius*** and the number of ***Sides***).

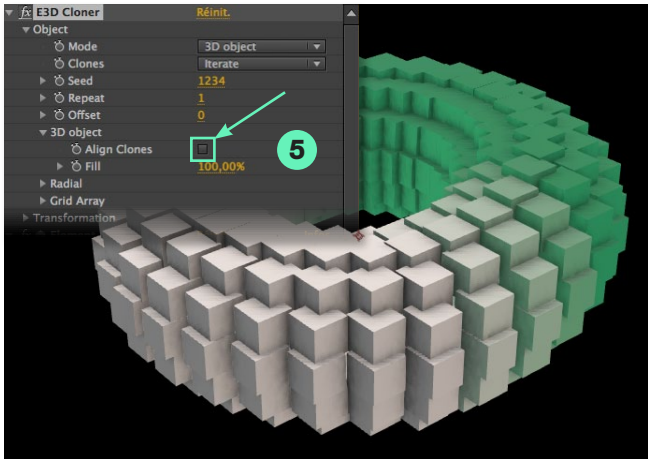
Pro tip : since the clones will be generated on each vertex/point of your 3D Object's surface, I recommend you to choose the ***Wireframe*** option in the Preview window in order to have a better idea of your object's mesh density.



5 Click on the ***OK*** button to save your scene, and Element instantly updates your clones (now generated onto your own shape).

Here is the resulting After Effects scene I've obtained, with my previously created ***Torus.***

You can then play with the ***Align Clones*** and ***Fill*** settings of the ***E3D Cloner***'s effect ***3D Object*** sub-group. Here, for instance, I've just unchecked the ***Align Clones*** option, in order to create an interesting looking kind of «Voxel» effect.



E3D FRACTURE

6.1. INTRODUCING THE « FRACTURE »

Clicking on the  button in the E3D Mografter FX toolset's UI will create what is called a « ***Fracture*** » object inside Cinema4D.

Its main purpose is to ***use any sub-part of a multi-objects 3D model as individual clones***, as if it was a Cloner. It can be really useful if you want to achieve various exploding, dissolving or assembling animation effects, since these sub-parts will react to the E3D Effector just like the clones from a Cloner would do.

Such multi-objects 3D models can be purchased from Video Copilots (they sale some great thematic Models packs) or third party creators. You can even create your own multi-objects with 3D softwares like Cinema 4D or 3Ds max as well : a lot of online tutorials about ***creating 3D contents in C4D for Element 3D*** exist and can be easily found on the web.

6.2. CHANGING THE DEFAULT PRE-FRACTURED SPHERE

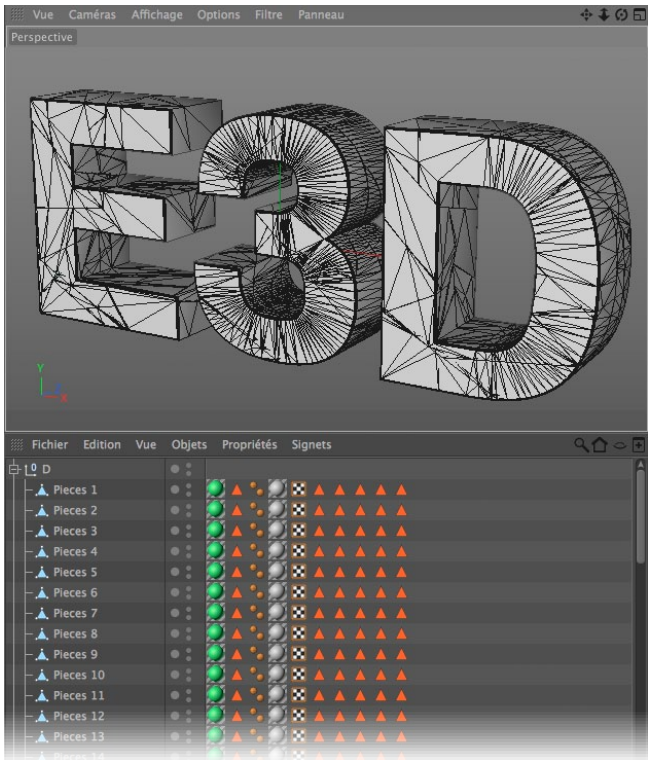
If you click on the E3D Fracture button, you will end up with a pre-fractured sphere that seems to explode in a vertical direction, with its chunks that are moving toward the top, due to the ***E3D Effector*** which has its ***Falloff*** set to ***Linear*** on the ***Y*** axis.

This pre-fractured sphere is just one of the free E3D models that come with the ***Starter Pack*** delivered with the Element plugin.

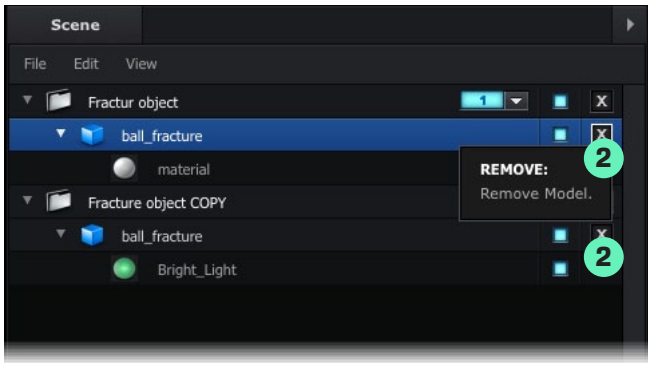
You can of course replace this object by your own multi-objects one. But, like i've already explained in the Cloner section, keep in mind that it is impossible to change this model with a script, so you'll have to do it directly inside the Element ***Scene Setup*** interface.
Simply click on the button inside Element's effect, as shown in the image below, then follow the instructions on the next pages.

1 For the purpose of the tutorial, I will use the «E», «3» and «D» letters, that I've extruded inside Cinema4D, then connected and merged as simple geometries, and fractured with the ***Thrausi free plugin (from Nitro 4D)***. If you own the version R18 and later of Cinema 4D (Broadcast or Studio), you'll even be able to fracture your geometry in much creative chunks shapes (julienne, stripes...), thanks to the whole new ***Voronoi Fracture Object !***

Whatever object you want to use as a multiple parts object inside E3D Fracture within After Effects, keep in mind that **each individual part that you want to be animated independantly has to be a separate object in your 3D program. Here, you see how the hierarchy looks like inside the C4D's Object manager** (the numbered «*Pieces*» objects you see in the image's list are the chunks of the «*D*» letter, that are grouped in a null object called «*D*»).



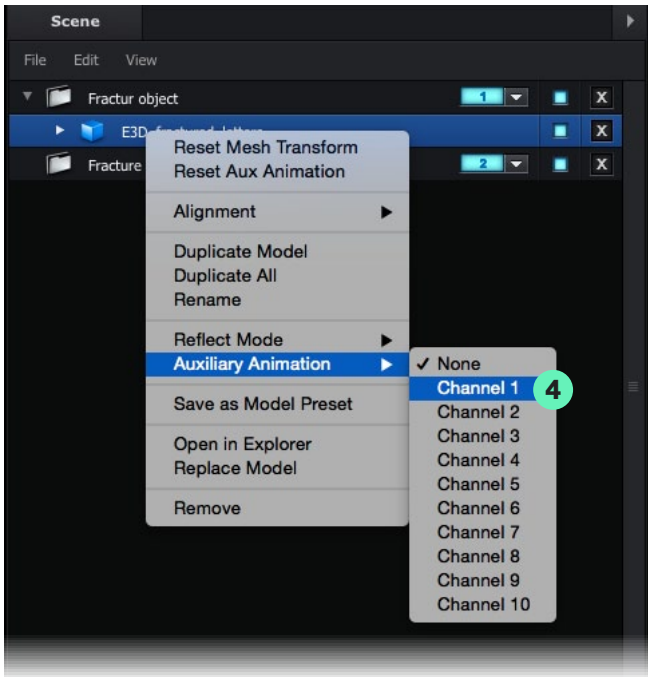
2 First, remove the two ***ball_fracture Models*** from both ***Fracture object*** and ***CFracture object COPY*** folders, just by clicking on the cross button at their right side.



3 Then, import your own 3D multi-objects inside the first ***Fracture object*** folder (it has to be selected).
You can do this either by clicking on the right arrow button (under the « *OK* » button, as shown in the image) or by using the menu ***File*** > ***Import*** > ***3D Object***.
Choose your 3D scene file, then click the ***Import 3D Object*** button.

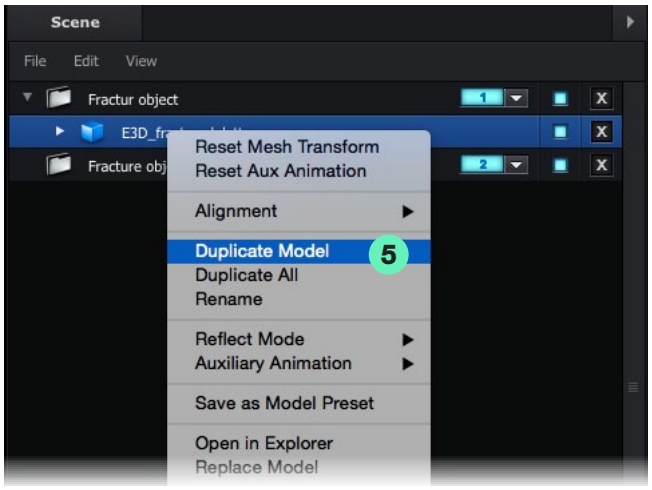
4 Right-click onto your new model and go to ***Auxiliary Animation***, then choose ***Channel 1***

This step is really important !
Don't miss it, otherwise the setup will be completely broken and the E3D Cloner's animation won't work as expected.



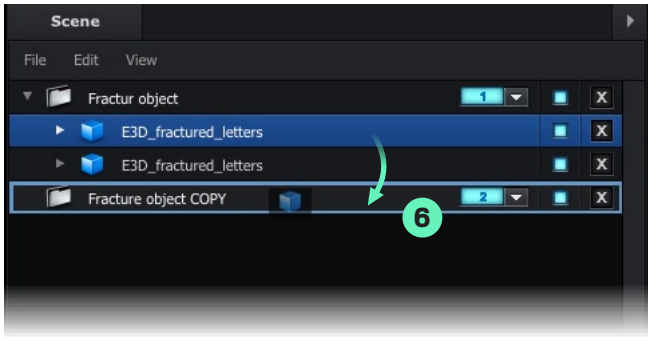
5 Once your model is set up properly, right-click again onto it and click on ***Duplicate Model***.

This method ensures that your model and its settings (with the ***Auxiliary Animation*** channel as well) is strictly identical from one folder to the other.



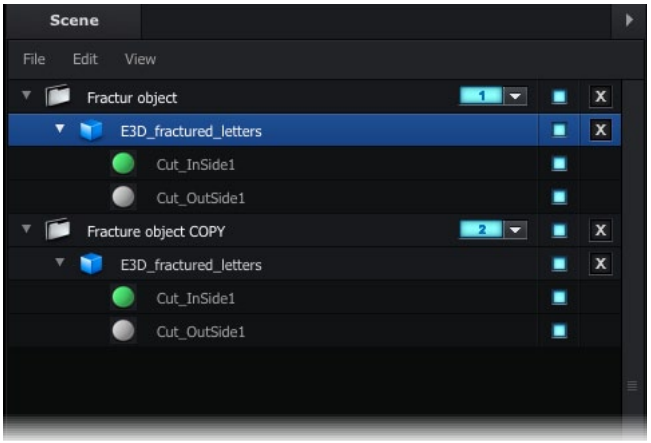
6 You'll obtain a copy of your object.
Just drag it and drop it inside the second ***Fracture object COPY*** folder below.

This second folder is already set to ***Group 2***.
DO NOT ever change it !
The E3D Cloner's needs it to be set like this, in order to work correctly.



7 At this point, you may want to apply different materials for each model, if you want your sub-parts to have a different appearance in the «initial state» (the white ones by default) and the «effected state» (the greenish sub-parts that are animated by the ***E3D Effector***).

Here in my example, I have left the same materials in both folders : the interior part of the chunks will appear green while the exterior part will be white (this is due to the way the ***Thrausi plugin*** has fractured my objects inside Cinema4D)



8 Validate the scene setup by clicking the ***OK*** button at the top right corner of the interface.

9 Once the setup has been validated, you'll end up with your own fracture object being exploded by the ***E3D Effector***, just like the sphere before.
You can now play with the ***E3D Effector*** layer : move it along its ***Y*** axis and play with its effect's options to create various animations and effects (please report to the *Effector's chapter* of this guide for more informations about it) !

Pro tip :

You are not bound to have some pre-fractured objects with chunks to make it work. In fact, any multi-object imported from C4D or even a entire native Element 3D scene made of several objects (primitives, 3D models pack's objects...) can be put inside the 2 folders to create interesting assembly or dissolving effects !

6.3. DIFFERENCES BETWEEN FRACTURE'S EFFECTOR AND THE CLONER'S ONE

Please note that the ***E3D Effector*** - because of the way Element's works internally - hasn't got exactly the same options in its effect between the ***E3D Cloner*** and the ***E3D Fracture***

This is why the Effector's pseudo-effect is called «*E3D Effector (Cloner only)*» for the ***E3D Cloner***, and just «*E3D Effector*» for both ***E3D Fracture*** and ***E3D MoText*** .

The ***E3D Fracture*** and ***E3D MoText*** are a bit more limited compared to the ***E3D Cloner***, since - among other things - clones can be animated as object-sequences and this is not the case for the sub-parts from an ***E3D Fracture*** object nor the extruded letters or shapes from an ***E3D MoText***.

There aren't so many differences, but in some cases, you could encounter some problems if you do not pay attention to them. So, here is the full list of these differences (numbered as the ***Effector's full features list from page 35***) :

19 **Color** (Plain effector)

This function that lets you re-colorize your clones affected by the Effector can only exist for the Cloner only ; this is why you won't find any « *Color* » option in the ***E3D Effector*** that comes with the ***E3D Fracture*** and the ***E3D MoTex***t setups.

11 **Scale** (Plain effector)

While using some multiple-objects, the Element plugin doesn't offer as much options as for the clones from an E3D Cloner. Indeed, inside the « ***E3D Effector (Cloner only)*** » pseudo-effect, you'll have the ability to resize your clones on each axis independantly, while inside the ***E3D Effector*** that comes with the ***E3D Fracture*** and the ***E3D MoText*** setups, you will just be able to resize the sub-parts/extruded letters homothetically.

23 **Time offset** (Plain effector)

This setting - appearing only inside the « ***E3D Effector (Cloner only)*** » pseudo-effect - only concerns the animated sequence objects that you can import as animated mesh for your clones. The ***E3D Cloner*** setup is the only one that can deal with such animated sequences, this is why you won't find any «*Time offset* » setting inside the ***Plain Effector***'s « *Parameters* > *Other* » sub-group for an ***3D Fracture*** or the ***E3D MoText*** scene.

43 **Rotation** (Random effector)

While using some multiple-objects, the Element plugin doesn't offer as much options as for the clones from an E3D Cloner. Indeed, inside the « ***E3D Effector (Cloner only)*** » pseudo-effect, you'll have the ability to rotate your clones on each axis independantly, while inside the ***E3D Effector*** that comes with the ***E3D Fracture*** and the ***E3D MoText*** setups, you will just be able to randomly rotate the sub-parts/letters on all axis at the same time.

48 **Random Time offset** (Random effector)

As mentionned previously, this setting concerns only the E3D Cloner, since it deals with animated sequences objects as clones shape. This is why you won't find any « *Random Time offset* » setting inside the ***Random Effector***'s « *Parameters* > *Other* » sub-group for an ***3D Fracture*** or the ***E3D MoText*** scene.

E3D MOTEXT

7.1. INTRODUCING THE « MOTEXT »

The third  button in the E3D Mografter FX toolset's UI is used to create what is called a « ***MoText*** » object inside Cinema4D.

As its name lets you guess, its purpose is to handle any animation based on text. Clicking on this button will create a pre-configured Element scene that will let you animate and render 3D extruded text faster than ever.

Just double click on the ***Text layer*** to edit its content and its format (font, size, spacing...), then play with the ***E3D Effector***'s effect settings (moving it in 3D space will not work because of its ***falloff***, see the Reminder below) to create interesting text animations for your next titles and presentations.

You can even use this ***E3D MoText*** scene to use masks instead of text : it will allow you to create some really cool logo animations in a matter of seconds !

Reminder :

Moving the E3D Effector in 3D space won't do anything by default with the E3D MoText setup !

This is due to the E3D Effector's falloff, which is set to « *Sequential* ». In orider to animate your text, just deploy the corresponding effect's sub-group and play with the « *Sequential animation completion* » slider.

Of course, you can change this falloff to anything else (« *linear* » or « *radial* » for instance, if you want to play with the Effector in 3D space) whenever you want.

7.2. EDITING THE TEXT

Editing the 3D text created after the click of the  button is really simple : all you have to do si to double-click onto the newly created ***Text layer*** which is named « *Your text here* » and to replace this sentence by whatever you want (can be on multiple lines).

Go to the ***character*** and ***paragraph*** panels to adjust the font, the size, the spacing or the alignement of your text, and voilà !
You can even ***add some animation to the letters***, words or lines, using the awesome After Effects text layer's wide range of ***animators*** (range selector, expression selector...) ;

Element will then extrude them an try to keep the animated text always centered in the comp !

Note that it is possible to enter your text directly inside a modal window, without having to jump into the ***Text layer***, which is especially useful for very short sentences (this window can indeed only handle one single line of text).
To open this dialog box, just press the ***SHIFT*** key while clicking on the  button ;
the window will then prompt you to replace the existing text by typing your own one.

7.3. CHANGING THE 3D ASPECT OF THE TEXT

If you want to change the 3D aspect of the text (materials, extrusion depth, bevels...), just click on the ***E3D MoText layer*** and enter inside the Element ***Scene Setup*** interface, by clicking on the corresponding button inside Element's effect, as shown in the image below.

Then you can tweak various options inside the ***Edit*** panel, like *Extrusion*, *Bevel*, *Tesselation*, *UV Mapping*, *Surface options* or *Reflect Mode*, in order to achieve the effect you want.

In order for the animation setup to work properly, be sure to apply the exact same values for the two ***Extrusion Models*** inside both ***Fracture/MoText*** and ***Fracture/MoText COPY*** folders.

However, you can of course ***apply different materials for each group if you want to***.
This is the case by default ; as you can see when you open the pre-built scene, there is one material per group : a white material applied to the « initial state » objects inside the Group1 and a second green one applied to the «effected» objects inside the Group2 (the clones that will be affected by the ***Effector***).

Feel free to change these materials if tou want to (both groups can have the same material or you can leave the two given materials as they are ; you can even replace them completely by material and bevel presets of your choice ; simply drag them onto your ***Extrusion models*** !

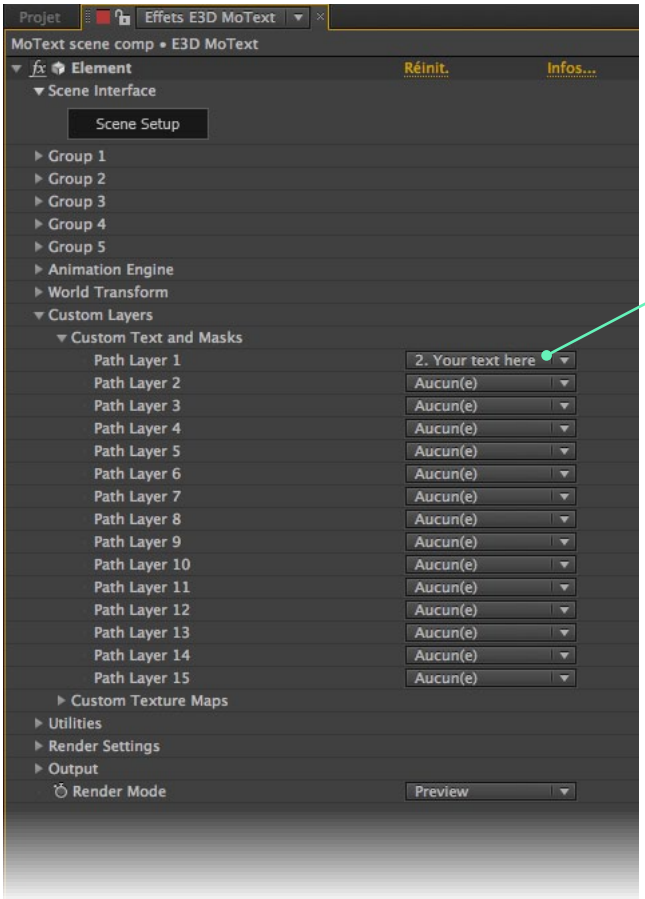
7.4. DEALING WITH MASKS INSTEAD OF TEXT

Even if its name says « MoText », you can start with this setup as a basic scene to create other interesting other « non typographic vector shapes » animation effects !

Indeed, Element lets you choose some layers that contain masks as well as text layers inside the Element effect's ***Custom Layers > Custom Text and Masks*** sub group.

Just click on the first ***Path Layer 1*** drop-down list, as shown in the screenshot below, and replace the layer called «*Your text here*» by any other layer that contains some masks into it (it could be for instance a logo created inside a vector sofware like ***Illustrator*** that you've copied and pasted on a solid.)

The plugin will automatically recognize each close mask shape as a path to extrude, just like 3D characters for a text, that will be affected by the ***E3D Effector*** as well : no need to re-enter inside the Element ***Scene Setup*** !



Click here to replace the default text layer by any other layer that contains one or several masks

6.3. DIFFERENCES BETWEEN FRACTURE'S EFFECTOR AND THE CLONER'S ONE

Please note that the ***E3D Effector*** - because of the way Element's works internally - hasn't got exactly the same options in its effect between the ***E3D Cloner*** and the ***E3D MoText***

This is why the Effector's pseudo-effect is called «*E3D Effector (Cloner only)*» for the ***E3D Cloner***, and just «*E3D Effector*» for both ***E3D Motext*** and ***E3D Fracture***.

The ***E3D Motext*** and ***E3D Fracture*** are a bit more limited compared to the ***E3D Cloner***, since - among other things - clones can be animated as object-sequences and this is not the case for the extruded letters or shapes from an ***E3D MoText*** nor the sub-parts from an ***E3D Fracture*** object.

There aren't so many differences, but in some cases, you could encounter some problems if you do not pay attention to them. So, here is the full list of these differences (numbered as the ***Effector's full features list from page 35***) :

19 **Color** (Plain effector)

This function that lets you re-colorize your clones affected by the Effector can only exist for the Cloner only ; this is why you won't find any « *Color* » option in the ***E3D Effector*** that comes with the ***E3D Fracture*** and the ***E3D MoTex***t setups.

11 **Scale** (Plain effector)

While using some multiple-objects, the Element plugin doesn't offer as much options as for the clones from an E3D Cloner. Indeed, inside the « ***E3D Effector (Cloner only)*** » pseudo-effect, you'll have the ability to resize your clones on each axis independantly, while inside the ***E3D Effector*** that comes with the ***E3D Fracture*** and the ***E3D MoText*** setups, you will just be able to resize the sub-parts/extruded letters homothetically.

23 **Time offset** (Plain effector)

This setting - appearing only inside the « ***E3D Effector (Cloner only)*** » pseudo-effect - only concerns the animated sequence objects that you can import as animated mesh for your clones. The ***E3D Cloner*** setup is the only one that can deal with such animated sequences, this is why you won't find any «*Time offset* » setting inside the ***Plain Effector***'s « *Parameters* > *Other* » sub-group for an ***3D Fracture*** or the ***E3D MoText*** scene.

43 **Rotation** (Random effector)

While using some multiple-objects, the Element plugin doesn't offer as much options as for the clones from an E3D Cloner. Indeed, inside the « ***E3D Effector (Cloner only)*** » pseudo-effect, you'll have the ability to rotate your clones on each axis independantly, while inside the ***E3D Effector*** that comes with the ***E3D Fracture*** and the ***E3D MoText*** setups, you will just be able to randomly rotate the sub-parts/letters on all axis at the same time.

48 **Random Time offset** (Random effector)

As mentionned previously, this setting concerns only the E3D Cloner, since it deals with animated sequences objects as clones shape. This is why you won't find any « *Random Time offset* » setting inside the ***Random Effector***'s « *Parameters* > *Other* » sub-group for an ***3D Fracture*** or the ***E3D MoText*** scene.

E3D EFFECTOR

8.1. INTRODUCING THE « EFFECTOR »

Whichever button you click (***CLONER***, ***FRACTURE*** or ***MOTEXT***), you'll always end up with at least 2 new created layers (3 if the « *Create E3D Camera* » checkbox is ticked, and 4 if you have clicked on ***MoText*** since it comes with one more text layer).

One of this layers is represented with a green square thumbnail near its name : it is known as a « ***generator*** » in Cinema 4D (here it is called either ***E3D Cloner***, ***E3D Fracture*** or ***E3D MoText***).

The second one, which is always below the generator, has a bluish/purple square thumbnail and is called ***E3D Effector***. This is where the toolset really shines : just by moving it in 3D space or by tweaking its various effect's options (depending of how the ***Falloff*** has been set), you'll be able to animate all your clones/sub-parts/extruded paths at the same time !

In fact, the ***E3D Effector*** is a combination of 2 different Cinema 4D effectors : the ***Plain Effector*** and the ***Random Effector***.

The ***Plain effector*** lets you easily change various parameters (transform properties - position, scale, rotation -, visibility and even some more advanced ones for the cloner) for all your clones, in a regular way.

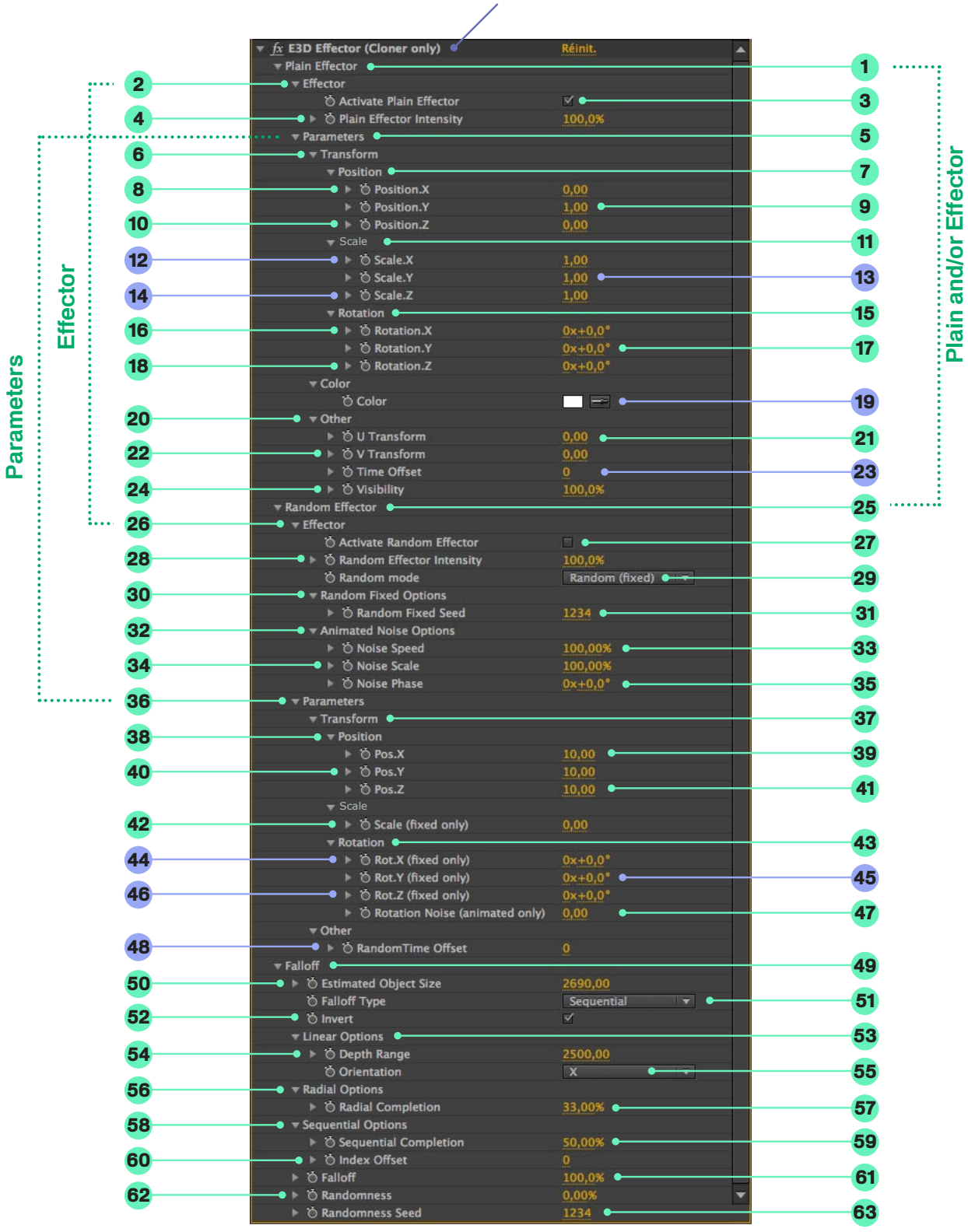
The ***Random effector*** gives you the ability to add some chaos to your animation, with the same kind of parameters than the ***Plain effector***, that will be applied to your clones/sub-parts/extruded paths in a more random, organic way (still or animated).

Both Effectors have the same kind of hierarchy - for more convenience - that looks like what you could find inside the Cinema 4D's Effectors ***Attribute Manager*** (except that in C4D, there are some « *Tabs* » that can't be reproduced inside After Effects), **and they both share the same *Falloff* options** (the third and last group inside the ***E3D Effector*** pseudo-effect).

Depending of how the ***Falloff*** options are set up, more or less clones/sub-parts/extruded objects will be affected by the ***Effector***, in some interesting and useful ways (linear, radial, sequential, with or without randomness).

Now that you have met the powerful ***E3D Effector***, let's explain what its huge amount of features (more than 40 options) are standing for !

This is the full feature list of the «E3D Effector (Cloner only)».
The features with a purple number, as explained at *page 29* and *page 33*, **exist only for the *E3D Cloner*, and won't appear at all in the Effector that comes with the *E3D Fracture* and *E3D MoText* setups.**



The Plain and the Random effectors groups are structured the same way (their hierarchies are organized in two different sub-groups named *Effector* and *Parameters*)

8.3. THE PLAIN EFFECTOR'S SETTINGS

1 **Plain Effector** (main sub-group)

The E3D Effector is a combination of two different effectors. The first one, called «Plain Effector» lets you easily change various parameters (transform properties - position, scale, rotation -, visibility and more... see below for the full features list) for all your clones, in a regular way, on the clones that are more or less affected (which entirely depends of its ***Falloff*** options).

2 **Effector** (sub-group of **Plain Effector**)

Both effectors are organized the same way, in two sub-groups called ***Effector*** and ***Parameters*** : it kind of mimics the way effectors are organized with «Tabs» inside Cinema4D's ***Attribute Manager***.
The first group ***Effector*** is where you'll be able to play with the whole intensity of all the ***Plain Effector***'s parameters, or even to desactivate it.

3 **Activate Plain Effector**

This checkbox lets you activate (enabled) or desactivate (unchecked) the entire ***Plain Effector***, meaning that all the values used in the Plain effector's ***Parameters*** will be ignored if this option is disabled.

4 **Plain Effector Intensity**

This slider can vary between 0% and 100%. When it's set up on 100% (by default), the clones will be affected by the same value than the user as defined himself in the ***Parameters.*** A value of 0% desactivates the Effector, just like if you had unchecked the ***Activate Plain Effector***, while in-between values will decrease the parameters entered by the user proportionally.

5 **Parameters** (sub-group of **Plain Effector**)

Both Plain and Random Effectors own a second sub-group named ***Parameters***. This is where you'll tweak the values for Transform properties, appearance (color and visibility) and other advanced features ; these values will affect more or less the clones depending of the Effector's ***Falloff*** options.

6 **Transform** (sub-group of **Plain Effector > Parameters**)

The ***Parameters*** sub-group is divided in 3 more sub-groups ***Transform***, ***Color*** and ***Other***, to help you find the options you would use in Cinema 4D's Cloner Attribute Manager. In the ***Transform*** one, you'll find the Position, Scale and Rotation transform properties, to move, resize and rotate your clones, exactly like in C4D.

7 **Position** (sub-group of **Plain Effector > Parameters > Transform**)

Just like in the ***P.X, P.Y*** & ***P.Z*** column in the C4D's Attribute Manager, you have the ability to move all your clones on one of the 3 axis independantly. Just tweak the ***Position.X*** 8 , ***Position.Y*** 9 and ***Position.Z*** 10 to move the clones along the corresponding axis.

11 **Scale** (sub-group of **Plain Effector > Parameters > Transform**)

Just like in the ***E.X, E.Y*** & ***E.Z*** column in the C4D's Attribute Manager, you have the ability to resize all your clones on one of the 3 axis independantly. Just tweak the ***Scale.X*** 12 , ***Scale.Y*** 13 and ***Scale.Z*** 14 to resize the clones along the corresponding axis.
A value of 1 won't change the size at all, while 0 will flaten the objects on their corresponding axis ; a value bigger than 1 will make your clones bigger.

8.3. THE PLAIN EFFECTOR'S SETTINGS [2]

Note that these 3 Scale settings are only for the Cloner, and are replaced by one unique ***Scale (multi)*** slider to homothetically resize the sub-parts for an ***E3D Fracture*** or the extruded letters/paths for an ***E3D MoText*** setup.

15 Rotation (sub-group of Plain Effector > Parameters > Transform)

Just like in the ***R.H, R.P*** & ***R.B*** column in the C4D's Attribute Manager, you have the ability to rotate all your clones on one of the 3 axis independantly. Just tweak the ***Rotation.X*** 16 , ***Rotation.Y*** 17 and ***Rotation.Z*** 18 to rotate the clones on the corresponding axis.

19 Color

You'll find the ***Color*** option in a same named sub-group, which is apart of the Plain Effector's ***Parameters*** group. As its name says, this is where you can re-color the clones that are affected by the ***E3D Effector.***
The lighter ***diffuse color*** you will use for the ***Group2 material*** (inside the Element's ***Scene Setup***), the more visible the colorizing effect will be (a pure white is preferable). If you use a pure black diffuse color for your Group2 material, this setting will just not work at all (since it kind of multiply the colors) !
Morevover, keep in mind that it won't affect any other color channel in the material (like ***Illumination*** or ***Wireframe***)
Note that this Color option is just available for the Cloner - in the «E3D Effector (Cloner only)» pseudo-effect), and does not exist for the ***E3D Fracture*** nor ***E3D MoText***, as mentionned on *page 29* and *page 33*.

20 Other (sub-group of Plain Effector > Parameters)

The ***Parameters*** sub-group is divided in 3 more sub-groups ***Transform***, ***Color*** and ***Other***, to help you find the options you would use in Cinema 4D's Cloner Attribute Manager. In the ***Other*** one, you'll find some more advanced features like U/V Transform, Time offset and Visibility.

21 U Transform

It's a bit of an exception, but this setting, even if it's named and organized the same way than in Cinema 4D, has not exactly the same purpose than in C4D. Here, in the E3D Toolset, you can use the ***U Transform*** slider to offset horizontally the texture maps used in the various clone's material channels (for those that are affected by the ***E3D Effector*** based on its ***Falloff***).

22 V Transform

Like for the ***U Transform*** option above, this setting does not work the same way than in Cinema4D. Here, the ***V Transform*** slider can be used to offset vertically the texture maps used in the different clone's material channels (for those that are affected by the ***E3D Effector*** based on its ***Falloff***).

23 Time Offset

This setting (available only for the Cloner, as explained at *page 29* and *page 33*) lets you offset the animation of your clones if these clones use an .obj animated sequence object as their shape (set in the Element's ***Scene Setup*** as shown on *page 16*), by your own interval. You can even enter a negative value (must be a whole number) to make the clones animation begin sooner than the ones that are not affected by the ***E3D Effector***.

24 Visibility

While in C4D the same named ***Visibility*** option can be just set to ON or OFF with a checkbox, here you can define and animate your clones ***opacity*** in a much more efficient slider. A value of **0%** makes the clones completely disappear while **100%** (the default value) turns their visibility on. In-between values render your affected clones semi-transparent. With this setting, it is really fast and easy to create progressive reveal effects !

8.4. THE RANDOM EFFECTOR'S SETTINGS

25 **Random Effector** (main sub-group)

The E3D Effector is a combination of two different effectors. The second one, called «Random Effector» gives you the ability to add some chaos to your animation, with the same kind of parameters than the ***Plain effector***, that will be applied to your clones/sub-parts/extruded paths in a more random, organic way (still or animated).

26 **Effector** (sub-group of **Random Effector**)

Both effectors are organized the same way, in two sub-groups called ***Effector*** and ***Parameters*** : it kind of mimics the way effectors are organized with «Tabs» inside Cinema4D's ***Attribute Manager***.
The first group ***Effector*** is where you'll be able to play with the whole intensity of all the ***Random Effector***'s parameters and to desactivate it. But there is more than the Plain Effector's ***Effector*** sub-group : here, for the Random Effector, you can define which kind of randomness you want too (still or animated).

27 Activate Random Effector

This checkbox lets you activate (enabled) or desactivate (unchecked) the entire ***Random Effector***, meaning that all the values used in the Random effector's ***Parameters*** will be ignored if this option is disabled.

28 Random Effector Intensity

This slider can vary between 0% and 100%. When it's set up on 100% (by default), the clones will be affected by the same value than the user as defined himself in the ***Parameters.*** A value of 0% desactivates the Effector, just like if you had unchecked the ***Activate Plain Effector***, while in-between values will decrease the parameters entered by the user proportionally.

29 Random mode

This drop-down list gives you 2 options you can choose from : ***Random (fixed)*** or ***Animated Noise (pos. and rot. only)***. Juste like in Cinema4D, ***Random (fixed)*** lets you randomize all your clones at once depending of the values you put in the Random effector's Parameters (they remain still all the time), while ***Animated Noise*** - as its name says - animates your clones in a more natural, organic way. Each mode has its own options inside a dedicated sub-group below.

30 Random Fixed Options

If you choose the ***Random (fixed)*** mode in the drop-down list above, this is where you'll find the corresponding options (here, the only option available is ***Random Fixed Seed***).

31 Random Fixed Seed

Changing this value - which has to be a whole number - will completely change the source of the randomness, giving a totally different random pattern.

32 Animated Noise Options

If you choose the ***Animated Noise (pos. and rot. only)*** mode in the drop-down list above, this is where you'll find the corresponding options (Noise ***Speed***, ***Scale*** and ***Phase***).

8.4. THE RANDOM EFFECTOR'S SETTINGS ²

32 Animated Noise options

The ***Animated Noise*** mode gives you way more organic pattern than ***Random (fixed)***. Since it is automatically animated during time, you can control these three options to fit your needs : ***Noise Speed*** 33 (increase this value to speed up the animation, decrease to slow it down), ***Noise Scale*** 34 (the higher value you enter, the more your clones will be animated in a big wavy shape - as a cluster - while the lower value you put, the more your clones will move independantly from each other) and ***Noise Phase*** 35 (use this if you want to offset the noise pattern ; if you set the Speed to 0%, it acts like an Evolution option that you find usually in other AE effects).

36 Parameters (sub-group of Random Effector)

This is where you'll tweak the values for Transform properties (Position, Scale, Rotation) and ***Random Time Offset*** ; these values will affect more or less the clones depending of the Effector's ***Falloff*** options.

37 Transform (sub-group of Random Effector > Parameters)

The ***Parameters*** sub-group is divided in 2 more sub-groups ***Transform*** and ***Other***, to help you find the options you would use in Cinema 4D's Cloner Attribute Manager. In the ***Transform*** one, you'll find the Position, Scale and Rotation transform properties, to randomly move, resize and rotate your clones, exactly like in C4D.

38 Position (sub-group of Random Effector > Parameters > Transform)

Just like in the ***P.X, P.Y*** & ***P.Z*** column in the C4D's Attribute Manager, you have the ability to randomly move all your clones on one of the 3 axis. Just tweak the ***Pos.X*** 39 , ***Pos.Y*** 40 and ***Pos.Z*** 41 to randomly move the clones along the corresponding axis. Works with both Random (fixed) and Animated Noise modes.

42 Scale (sub-group of Random Effector > Parameters > Transform)

It is impossible - du to some Element's internal limitations - to randomly resize the clones on one axis independantly of another, or even to animate ths scale randomly with a Noise. This is why there is only one unique option here : ***Scale (fixed only)*** that will uniformly (with the same amount on each axis) resize the clones by a random factor (a value of 0 means no resizing effect at all). This option works exlusively with the ***Random (fixed)*** mode.

43 Rotation (sub-group of Random Effector > Parameters > Transform)

Depending of the ***Random mode*** you choose, you have whether or not the ability to rotate all your clones on one of the 3 axis independantly.
To do so, just choose the ***Random (fixed)*** mode, then tweak the ***Rot.X (fixed)*** 44 , ***Rot.Y (fixed)*** 45 and ***Rot.Z (fixed)*** 46 angles. But if you choose ***Animated Noise*** as the ***Random mode***, you will just be able to animate the 3 axis angles at the same time with the single ***Rotation Noise (animated only)*** 47 option, which, of course, has nothing to do with the ***Random (fixed)*** mode.

48 Random Time Offset

This setting (available only for the Cloner, as explained at *page 29* and *page 33*) lets you randomly offset the animation of your clones if these clones use an .obj animated sequence object as shape (set in the Element's ***Scene Setup*** as shown on *page 16*), by a random interval.
Please note that this function works best if you set the E3D Effector's ***Falloff*** to 0%, since Element won't manage to interpolate correctly the ***.obj*** mesh points positions between two states of animated clones.

8.5. THE EFFECTOR'S FALLOFF SETTINGS

49 Falloff (main sub-group)

Both ***Plain effector*** and ***Random effector*** share a same field of influence, that defines which clones should be affected by them. This influence is defined by what is called a «***Falloff***», and can be set to different types (see below) : some types use the position of the E3D Effector layer in 3D space (***Linear*** and ***Radial*** types), while the ***Sequential*** type uses the order of the clones/sub-parts/extruded paths (since they all have an index). Some other useful options will let you smooth the transition or randomize it a bit.
Having the ability to move a real Effector layer in 3D space (especially with the Linear mode) is much more convenient to drive your clones animation : I'm pretty sure you will never go back to the old native Element's way !

50 Estimated Object Size

Since the Element plugin doesn't offer any option to calculate precisely the exact size in pixels of an E3D scene, and since some of the ***Falloff types*** (***Linear*** and ***Radial***) need such informations to work as intended, there is one slider called ***Estimated Object Size***, where you will be able to define a value (in pixels) that represents, according to you, the overall dimension you think your whole E3D scene is measuring (whether it is a Cloner, a Fracture or some Extruded paths/texts). The higher this value is, the more abrupt will be the transition (it is linked to the ***Falloff*** option, which aims at smoothing the transition).
PRO TIP : in order to help you find the most accurate value, begin with a ***Falloff type*** set to ***Sequential***, and a ***Falloff*** value at 100%, then try to find the limit where the first clone (the white one) is whether affected or not. When this value has been set up correctly, you can choose any Falloff type and play with its options.
Note that, if you stay with the default scenes, the value of this option has already been set up correctly for you.

51 Falloff Type

This drop-down list lets you choose between 4 influence field types :

- The first option is called ***Infinite***. It means « No falloff » and works exactly like in Cinema4D, i.e. all your clones will be affected by your parameters set up inside the Plain and Random Effectors, with full strength. Conversely, if the ***Invert*** check-box option below is ticked, none of your clones will be affected by any of your parameters.

- The second option called ***Linear,*** is probably the most known and useful falloff shape inside Cinema4D. It kind of gives you a directionnal transition for your clones, along one of the 3 axis, depending of which axis you choose in its dedicated sub-group named «Linear options». This option is really helpful, because you'll be able to play with the E3D Effector in 3D space to animate your whole E3D scene !

- The third option is called ***Radial*** and hasn't got any real similar shape inside Cinema4D (it is NOT like the «Sphere» falloff shape from C4D !). Its main purpose is to select the clones to affect based on a point in 3D space (which is the 3D position of the E3D Effector itself, so, you can move it and the initial transition center will change accordingly), and to grow this selection to animate the other clones progressively, thanks to the Radial Completion in its dedicated Radial Options sub-group.

- The last option is called ***Sequential*** and hasn't got any similar option among Cinema4D's falloff shapes. This one is not based on the E3D Effector's 3D position at all, but rather on the **clones index**, meaning that the clones will animate from the first clone to the last one, **in the order** they are generated. This mode is especially useful for multi-line typography animation (with E3D ***E3D MoText***) and the basic scene generated by default when you click on the ***Create E3D Cloner scene*** button without holding down any hotkey (since it kinds of mimic a typical C4D « Linear » cloner with the ***Grid Array*** mode).

8.5. THE EFFECTOR'S FALLOFF SETTINGS [2]

52 Invert

Depending of which scene you have created (with or without holding hotkeys while clicking on Create E3D Cloner scene button), this simple checkbok will be ticked or not. Its purpose is self explainatory : if this box is unchecked and you have chosen an Infinite Falloff type, all your clones will be affected at the same time, while an enabled Invert option will invert the selection and - in case of Infinite - select none of them.

53 **Linear options** (sub-group of **Falloff**)

If you have chosen the ***Linear*** option in the ***Falloff Type*** drop-down list, this is where you'll find its options.

54 Depth Range

Tweaking this value will not serve you that much, but if you want to have a more precise control of the E3D effector's size comparing to the whole scene size (that has to be customize with the ***Estimated Object Size***), this is the value that represents the ***E3D Effector*** size («depth» because of its default axis, which is Z). Think of it like a approximation of the distance between the red plane and the yellow one that an Effector usually displays in Linear mode inside Cinema4D. Play with it, or with the ***Estimated Object Size*** option (both are linked together), if you feel that your clones don't move accordingly to the ***E3D Effector*** position in 3D space.

55 Orientation

This drop-down list lets you choose along which axis (X, Y or Z) you want to be able to move the E3D Effector for animating your clones/sub-parts/extruded paths.

56 **Radial options** (sub-group of **Falloff**)

If you have chosen the ***Radial*** option in the ***Falloff Type*** drop-down list, this is where you'll find its options.

57 Radial Completion

While the initial center of the transition depends entirely of the E3D Effector position in 3D space, this option let you grow the slection of clones that will be affected. A value of 0% doesn't affect any clones, while a value of 100% affect all the clones. In between values will draw a kind of circular selection pattern, with its center at the ***E3D Effector*** 3D position.

58 **Sequential options** (sub-group of **Falloff**)

If you have chosen the ***Sequential*** option in the ***Falloff Type*** drop-down list, this is where you'll find its options.

59 Sequential Completion

Since it is entirely based on Clones index, this type of Falloff has nothing to do with the ***E3D Effector***'s position. So, in order to animate your scene with this kind of falloff, you'll have to tweak this Sequential Completion value. A value of 0% doesn't affect any clones, while a value of 100% affect all the clones. In between values will progressively select or deselect each clone one by one, in the order they were generated.

8.5. THE EFFECTOR'S FALLOFF SETTINGS [3]

60 Index Offset

Since the ***Sequential*** Falloff type entirely relies on the clones index and always begins with the first one by default, you could want to offset the clone which you want your transition to start from. This the setting you need to tweak in order to do this ; just enter another whole number different from 0 and your transition will begin at that exact clone's index.

61 Falloff

This slider lets you smooth the transition between the clones/sub-parts/extruded paths from ***Group 2*** that are affected by the ***E3D Effector***, and the initial non affected clones from ***Group 1***.
A value of 0% gives you no smoothing at all (the transition will be very abrupt), while a value of 100% (the max.) gives you a really smooth transition (with a ***Sequential*** Falloff type and an ***Index Offset*** set to 0, a value of 100% here would affect all your clones, with very subtle differences between each next clone).

62 Randomness

You have the ability to break the perfect shape (if the ***Falloff Type*** is set to ***Linear*** or ***Radial***) or the perfect order (if it is set to ***Sequential***) to add a little bit more chaos to your animations.
Think of this setting like if you would have added a ***Random effector*** with some ***Weight Transform*** in C4D. Here, the process is much simpler : just play with this slider to randomize the transition. A value of 0% (the default value) won't randomize your transition at all, while a value of 100% (the maximum) will totally randomize the influence of the ***E3D Effector***. In between values will randomize the clones influence proportionally.
Note that this setting won't do anything if the the ***Falloff Type*** is on ***Infinite***, or if your ***Radial*** or ***Sequential completion*** sliders are set to 0%.

63 Randomness Seed

If you have set up the ***Randomness*** option above to a value different from 0%, just type a different whole number here, if you want to change the source of the random function for the whole scene (any other value will completely change the look of the random transition).

Reminder :

Depending of the setup you create with the toolset's UI buttons, the E3D Effector will work differently.
If you press SHIFT, ALT or ALT+SHIFT while clicking the «*Create E3D Cloner scene*» button or if you create an *E3D Fracture* scene, you'll have the ability to move the Effector's layer in 3D space to animate the clones .
But if you click on the «*Cloner*» button without holding any hotkey, or when if you create an *E3D Motext* scene, you'll have to tweak the «*Sequential completion*» slider inside the *Falloff > Sequential options* sub-group.

DON'T FORGET...

In order to plainly benefit of all the advantages ***E3D Mografter FX*** toolset has to offer, be sure to observe the following caution instructions before using it !

⚠ **DO NOT** EVER CHANGE THE STACK-ORDER OF THE ***E3D CLONER*** EFFECTS NOR THE ***E3D EFFECTOR*** EFFECTS (E3D PSEUDO-EFFECTS HAVE TO REMAIN THE FIRST EFFECTS IN THE LAYERS EFFECTS STACK !).

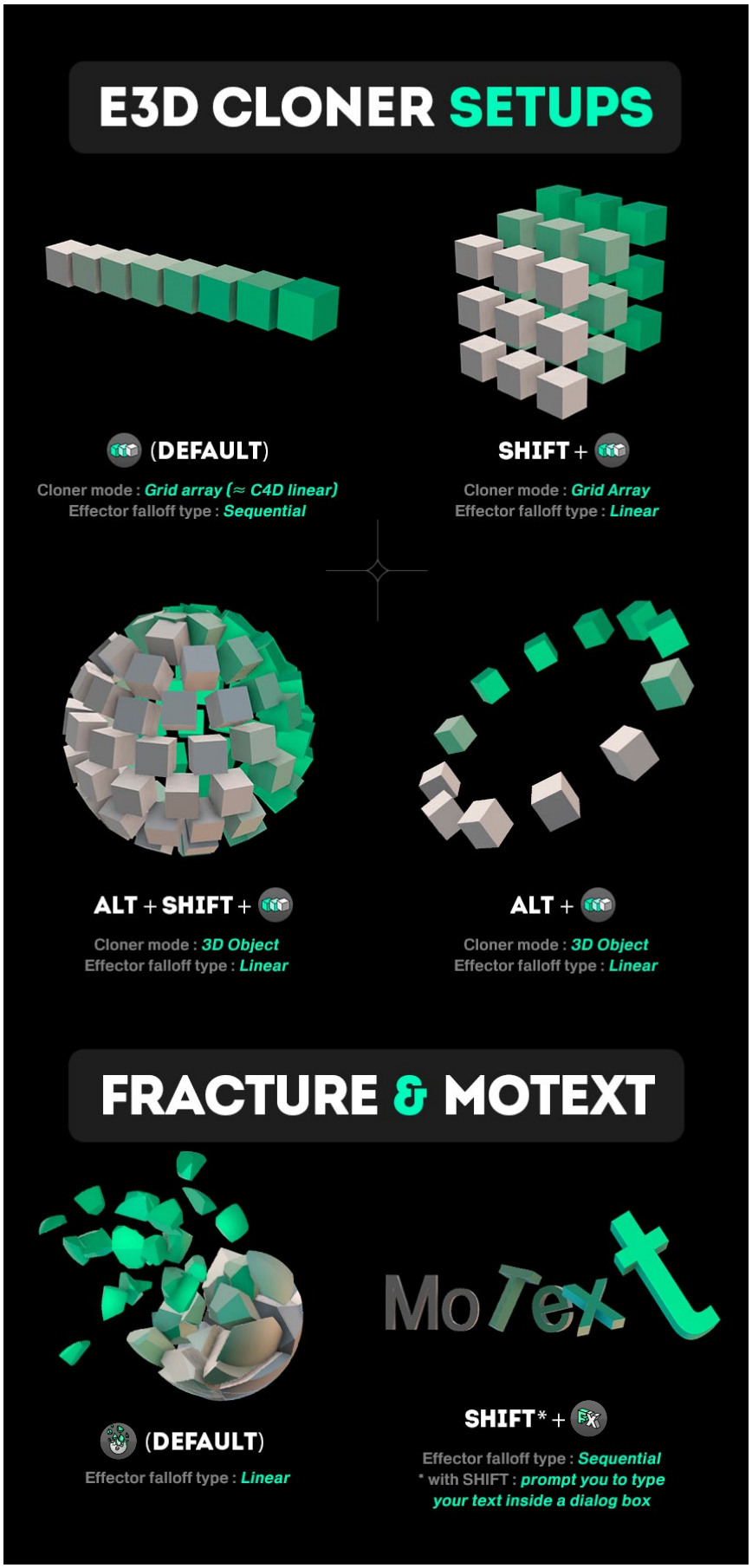
⚠ **DO NOT** RENAME OR DELETE THE LAYERS AND THEIR EFFECTS CREATED BY THE ***E3D MOGRAFTER FX*** TOOLSET (EXCEPT FOR THE E3D CAMERAS).

⚠ **DO NOT** FORGET TO SET YOU CUSTOM CLONES AND FRACTURE 3D MODELS ON ***CHANNEL 1*** IN THEIR ***AUXILIARY ANIMATION*** CHANNELS (IN THE SCENE SETUP).

KEEP IN MIND THAT YOU CAN'T ADD MORE THAN ONE E3D MOGRAFTER FX SCENE IN THE SAME COMP. IF YOU WANT MULTIPLE E3D SCENES, JUST PRE-COMPOSE EACH ***E3D GENERATOR*** (***CLONER***, ***FRACTURE*** OR ***MOTEXT***) WITH ITS CORRESPONDING ***E3D EFFECTOR***, BEFORE CREATING ANY NEW E3D SETUP, AND USE LINKED CAMERAS (USING THE AFTER EFFECTS « ***COPY WITH PROPERTY LINKS*** » FUNCTION AVAILABLE SINCE THE CC 2014 RELEASE, OR WITH THE HELP OF THE FREE « ***3D-PRECOMPOSE*** » SCRIPT FROM VIDEO-COMPILOT WHICH YOU CAN DOWNLOAD HERE : ***http://www.videocopilot.net/blog/2014/08/free-script-3d-pre-compose-tutorial***)

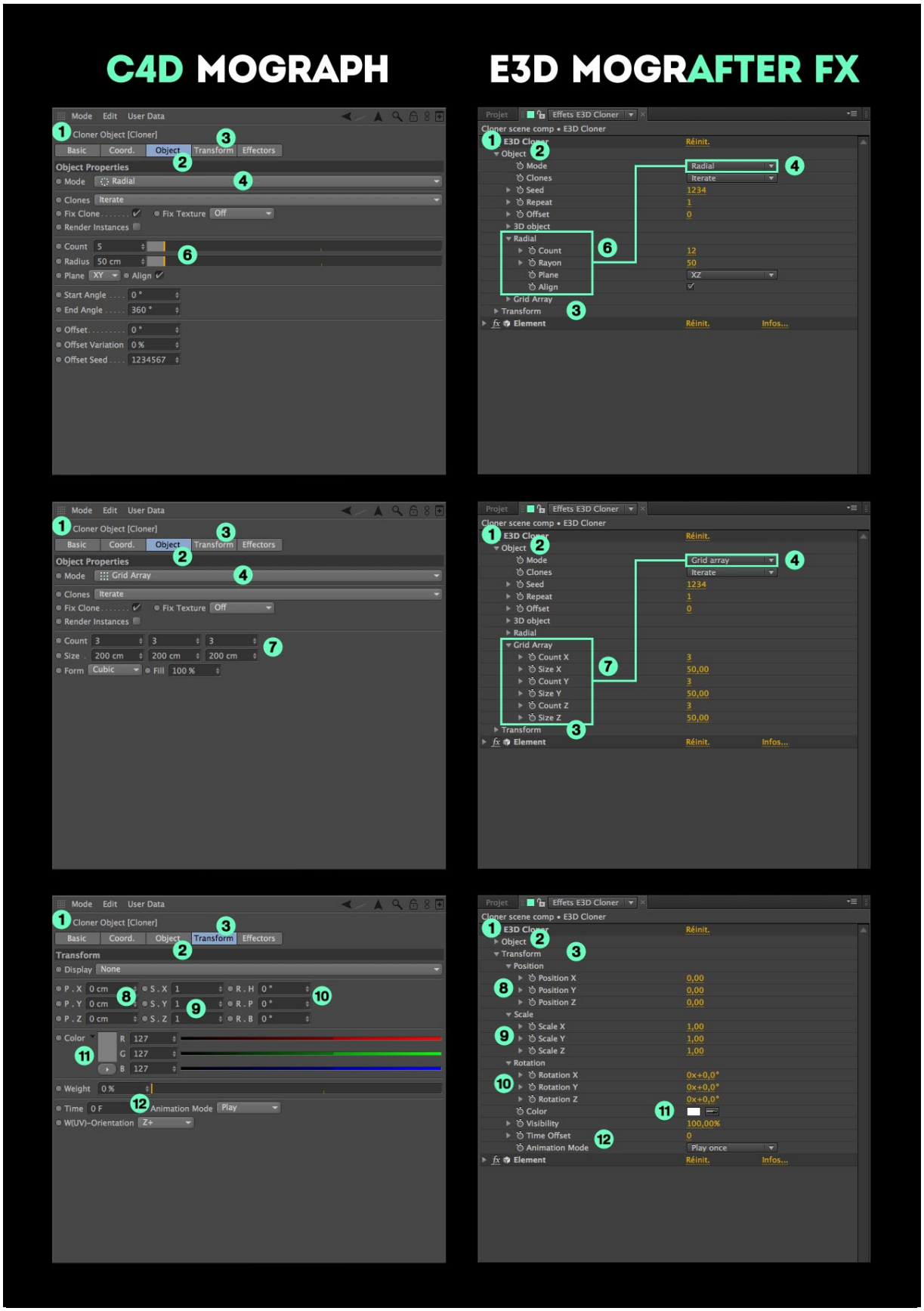
KEEP IN MIND THAT ALL THAT CONCERNS THE **VISUAL ASPECT OF YOUR 3D OBJECTS** (*CLONES SHAPE, MATERIALS, WIREFRAMES...*) HAS TO BE SET UP IN THE ***ELEMENT PLUGIN'S SCENE SETUP INTERFACE***.
WHILE ALL THAT CONCERNS THE **OVERALL LOOK OF THE 3D SCENE** (*LIGHTING, RENDERING, OUTPUT...*) HAS TO BE SET UP IN THE ***ELEMENT EFFECT*** DIRECTLY, IN THE AE EFFECTS PANEL.

KEEP IN MIND THAT THE E3D MOGRAFTER FX TOOLSET USES **A LOT OF EXPRESSIONS** TO LINK THE ELEMENT DIFFERENT PROPERTIES.
SO, CREATING A LOT OF E3D SCENES WITH THE TOOLSET IN A SAME AEP PROJECT COULD REALLY **SLOW DOWN** AFTER EFFECTS DURING A PREVIEW OR A RENDER. DO NOT OVERUSE IT IN A SAME PROJECT !

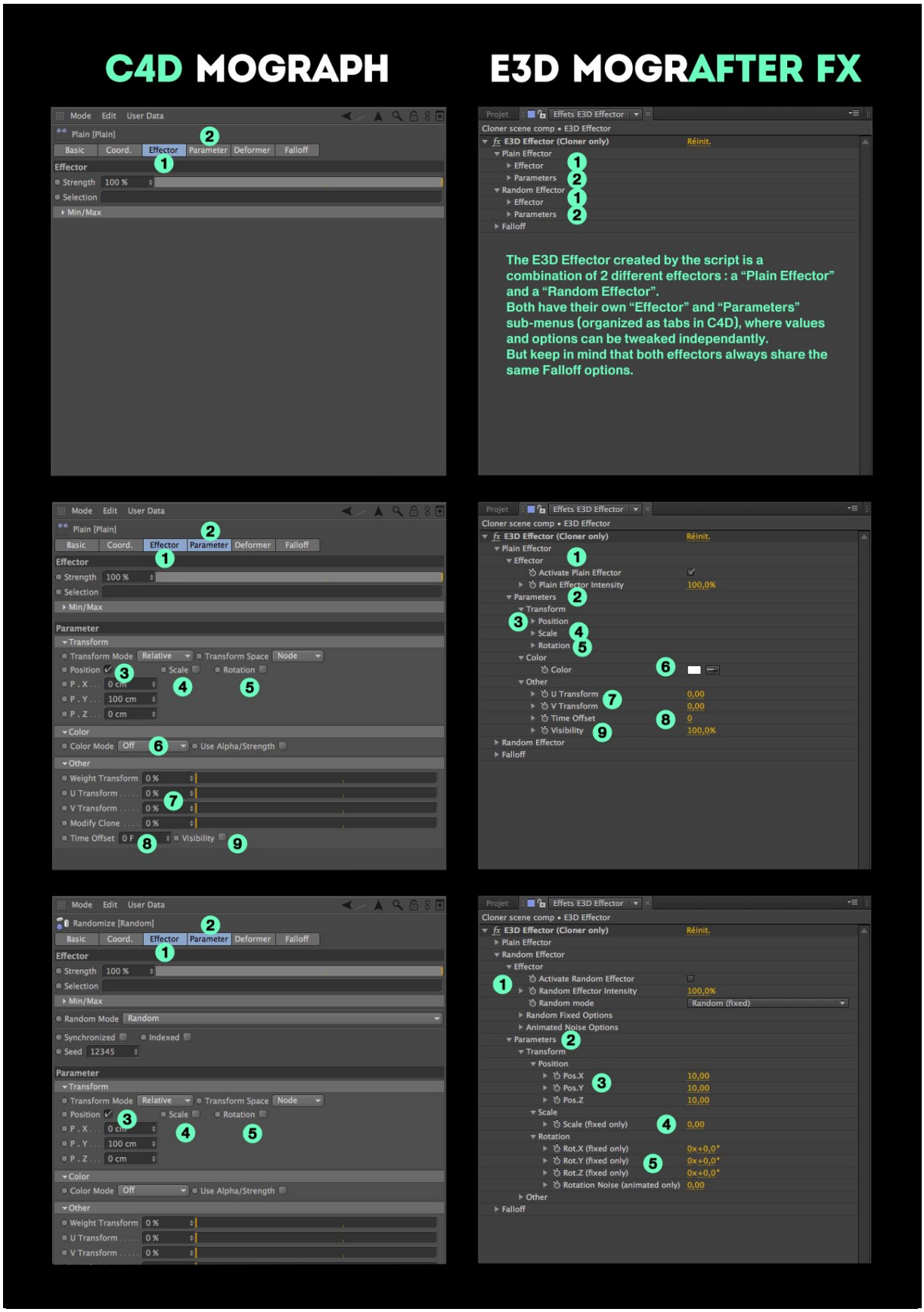

E3D CLONER SETUPS
(DEFAULT)
Cloner mode : Grid array (≈ C4D linear)
Effector falloff type : Sequential
SHIFT +
Cloner mode : Grid Array
Effector falloff type : Linear
ALT + SHIFT +
Cloner mode : 3D Object
Effector falloff type : Linear
ALT +
Cloner mode : 3D Object
Effector falloff type : Linear
FRACTURE & MOTEXT
(DEFAULT)
Effector falloff type : Linear
MoText
SHIFT* +
Effector falloff type : Sequential
* with SHIFT : prompt you to type your text inside a dialog box

CLONER'S SETTINGS COMPARISION BETWEEN CINEMA 4D AND AFTER EFFECTS

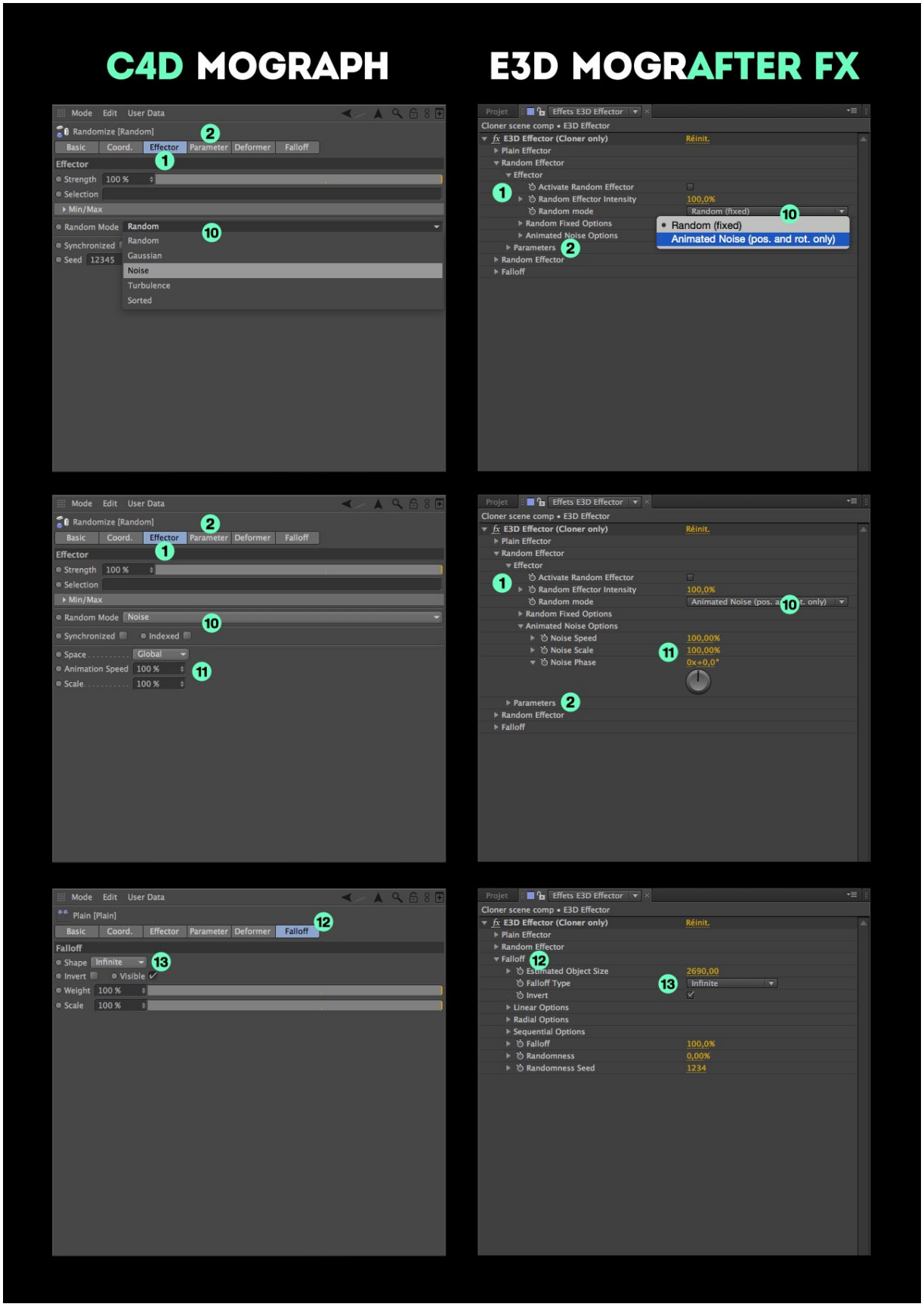
CLONER'S SETTINGS COMPARISION BETWEEN CINEMA 4D AND AFTER EFFECTS [2]



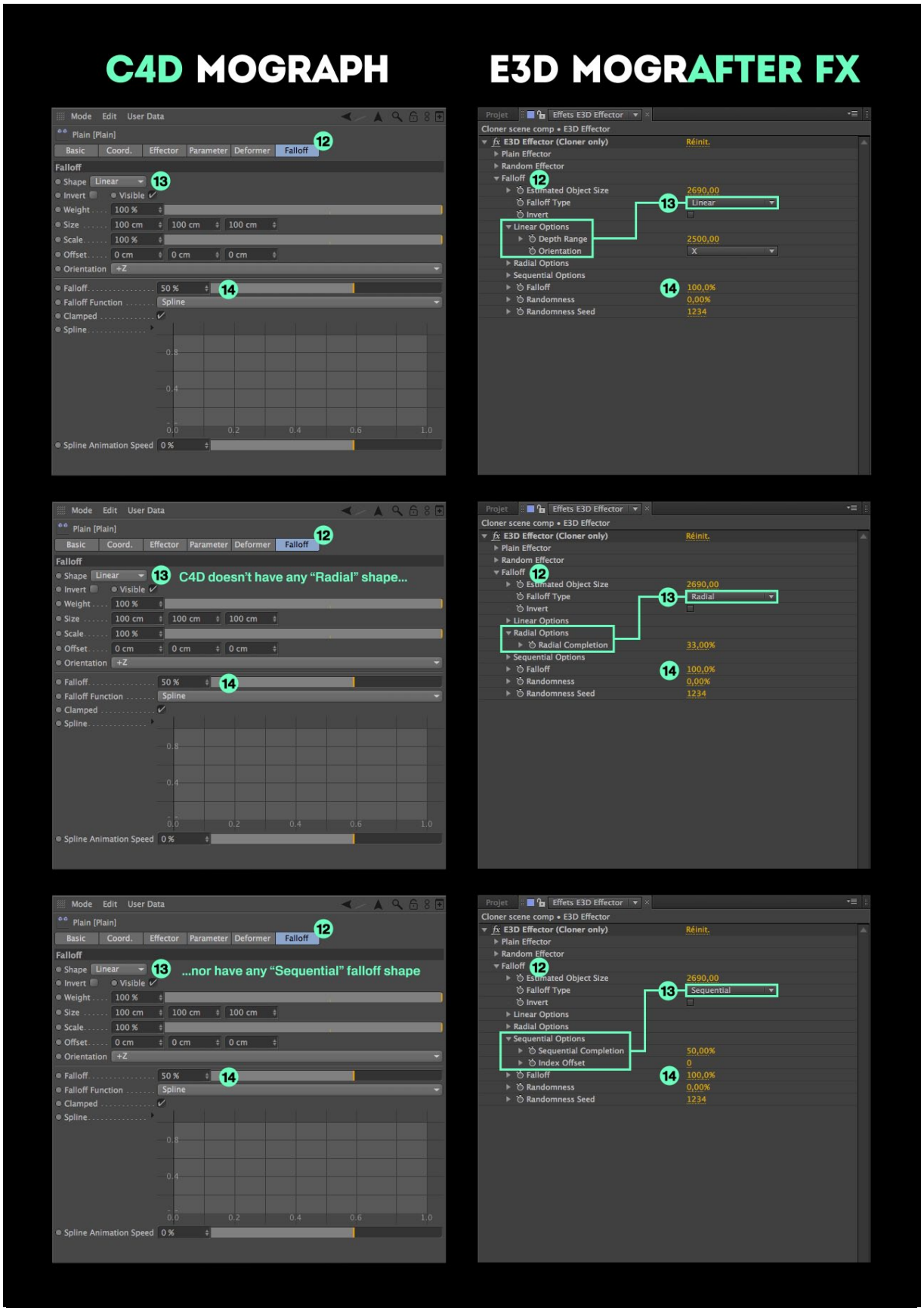
EFFECTOR'S SETTINGS COMPARISION BETWEEN CINEMA 4D AND AFTER EFFECTS



EFFECTOR'S SETTINGS COMPARISION BETWEEN CINEMA 4D AND AFTER EFFECTS [2]



EFFECTOR'S SETTINGS COMPARISION BETWEEN CINEMA 4D AND AFTER EFFECTS [3]



LAST WORDS...

Thank you all for having purchased the product !

E3D Mografter FX toolset has been developped with love by Matthieu FREMEAUX (aka FREMOX), a french A.D. and motion designer from France, and one of the guys behing the french motion design community called ***Motion Café***.

Please note that the author has nothing to do with VideoCopilot or Maxon, even if the main idea behing the toolset was clearly to make Element plugin work like the Cinema4D's procedural animation named «Mograph» (this is why you'll find a lot of parameters and effect's sub-group that are named exactly like in Cinema4D).

The toolset is actually at its very first version, so, you can hope and expect a few small improvements in the future. If you have any idea regarding these improvements or for any feedback, please comment directly on the dedicated ***aescripts*** product page !

More informations, help and tutorials are also available on ***aescripts.com*** (in english) and on ***motion-cafe.com*** (for the french people) as well.

Let's cloning or fracturing in After Effects, and have fun with the toolset