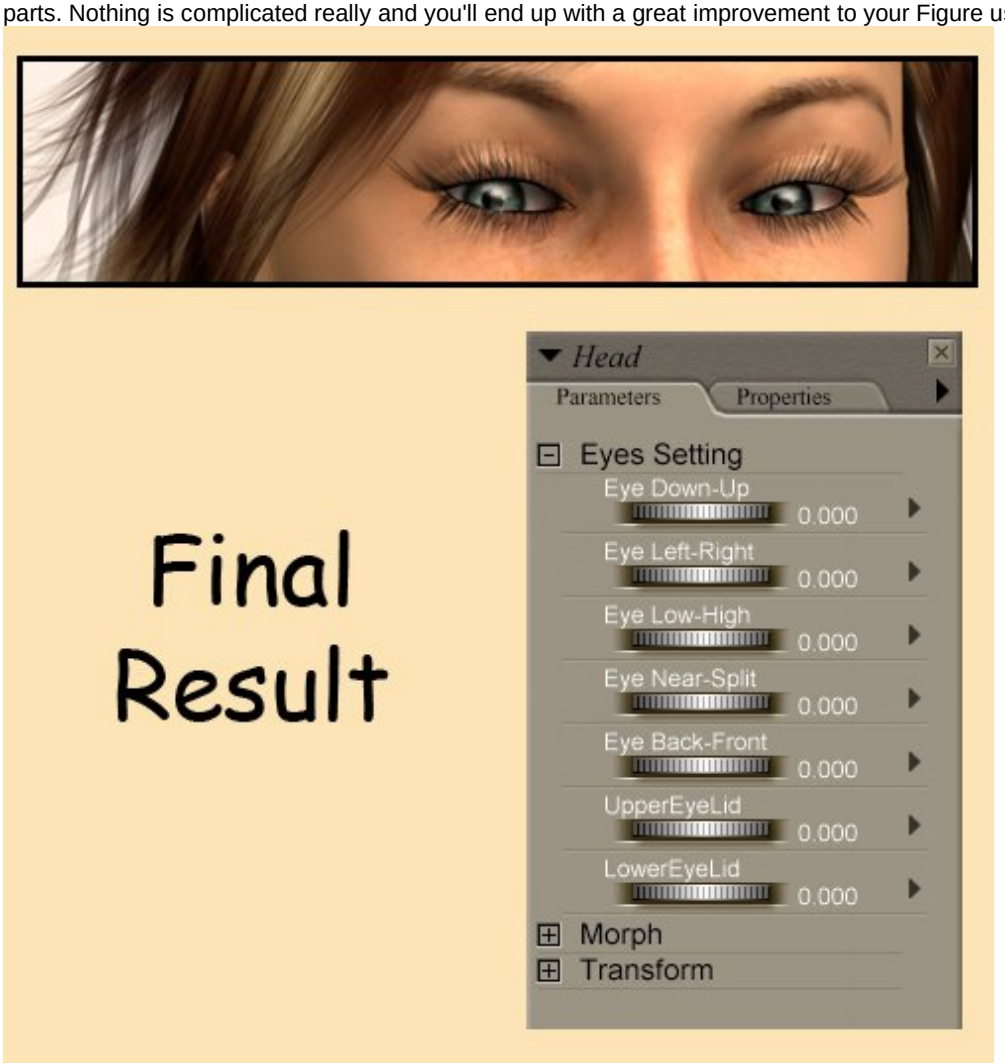
Exact eyes setting made easy (part 1)

Author: Adavyss Printable Version

Tools Needed
*** Poser 4 or higher**
*** CR2Builder (free)**
*** Michael 3**

Support Files
* **targetGeom_template.zip**

Introduction
The eyes are the windows to the soul. Well, it's not always the case in the Poser World. Why? The lack of eyes setting basic ergonomics makes it difficult to pinpoint the eyes positioning. Technical solutions do exist, but implementation has been neglected by Figure makers. In this tutorial we'll: * create 5 ERC (Enhanced Remote Control) using CR2Builder (free cr2 editor) * create 2 morphs inside Poser * cluster them together into a new parameters group (P5/P6) in order to obtain an easy precise control of eyes and eyelid positioning from the head. This tutorial is quite long, so it has been split in 2 parts. Nothing is complicated really and you'll end up with a great improvement to your Figure usage. Let's start the show!



Step 1 - Enhanced Remote Control basics

Master

Code Master channel

```
targetGeom NameOfControl
    {
    name NameOfControl
    initValue 0
    hidden 0
    forceLimits 0
    min -100000
    max 100000
    trackingScale 0.004
    keys
        {
        static 0
        k 0  0
        }
    interpStyleLocked 0
    }
```

Slave

Code Slave channel

```
valueOpDeltaAdd          // Identifies the following as controlled
Figure 1                 // Controlling Figure
BODY:1                   // Controlling Group
NameOfControl            // Controlling Channel
deltaAddDelta 1.000000 // Control Ratio
```

This tutorial is not about the ERC method.

As far as we are concerned here, ERC is the ability to control both eyes from the head.

So "actor head" is the Master, "actor leftEye" and "actor rightEye" are the Slaves.

For each instance of ERC, some code has to be added to the Figure cr2 file in order to identify master and slave channels.

Step 2 - A little bit of planning

"The wind direction does not have importance if first of all you do not know where you are going" - Seneque

I strongly recommend writing all ERC parameters down, before launching CR2Builder.

ERC n°1

We want the Figure's eyes to look up and down, both eyes being controlled from the head.

1-ERC name? (Choose a meaningful name for the ERC, not too long, otherwise it would not fit in the parameter dial)

Eye Down-Up

2-Master control location

actor head (in the head)

3-How many slaves / who are they? / which is the controlled channel?

There are 2 slaves

slave 1: actor leftEye

control ratio deltaAddDelta 1.000000

When you have no idea, leave the default value 1 and test you ERC once edited

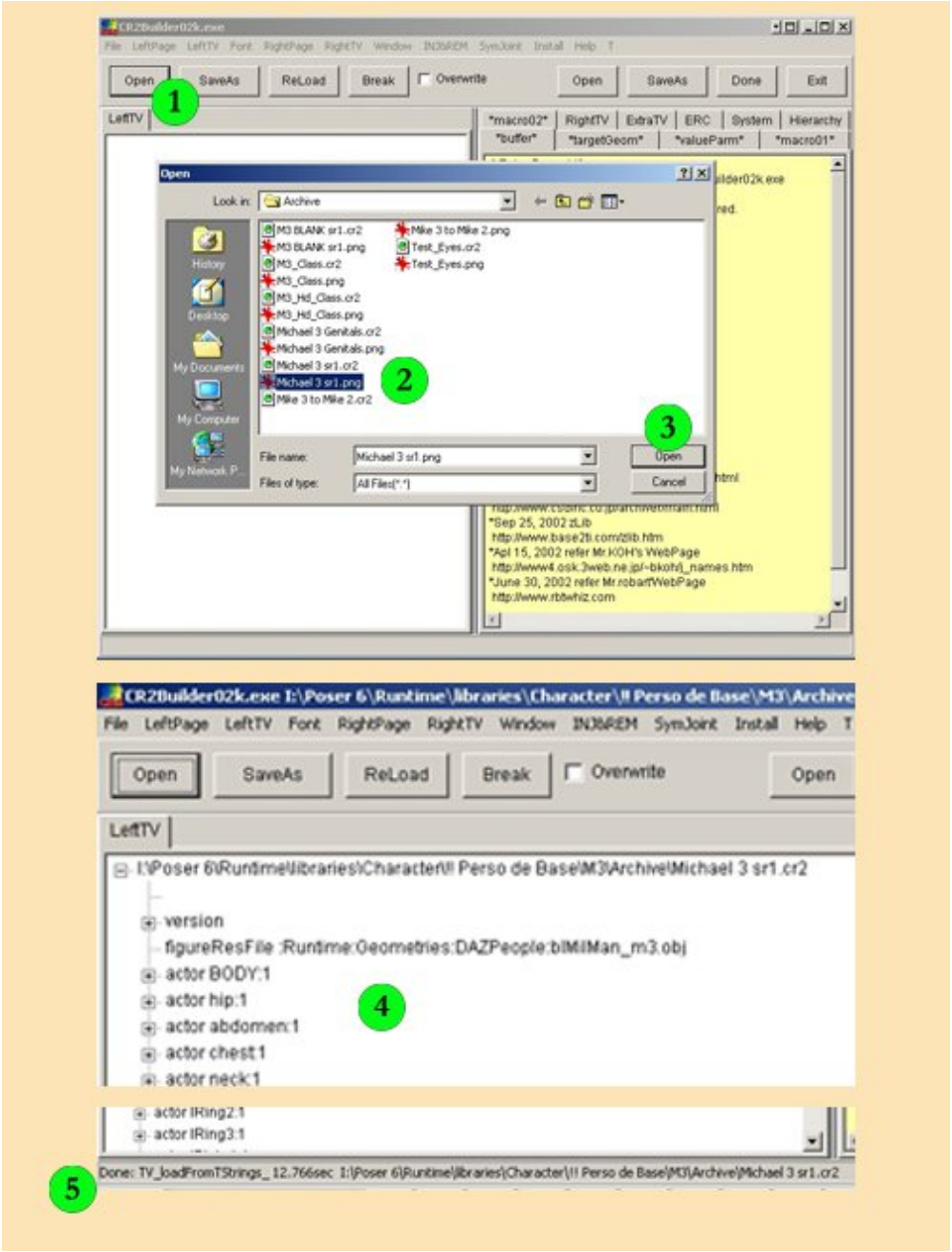
controlled channel: rotateX xrot (we want the eye to turn around the x axis)

slave 1: actor rightEye

control ratio deltaAddDelta 1.000000

controlled channel: rotateX xrot

Step 3 - About creating ERC



We are using CR2Builder to add the relevant lines of code to the cr2 at the correct location.

(CR2Builder is available there: http://www.geocities.co.jp/kim99x2003/tool/CR2Builder/index.html).

Launch CR2Builder

1-Clic "Open" (on the left) to

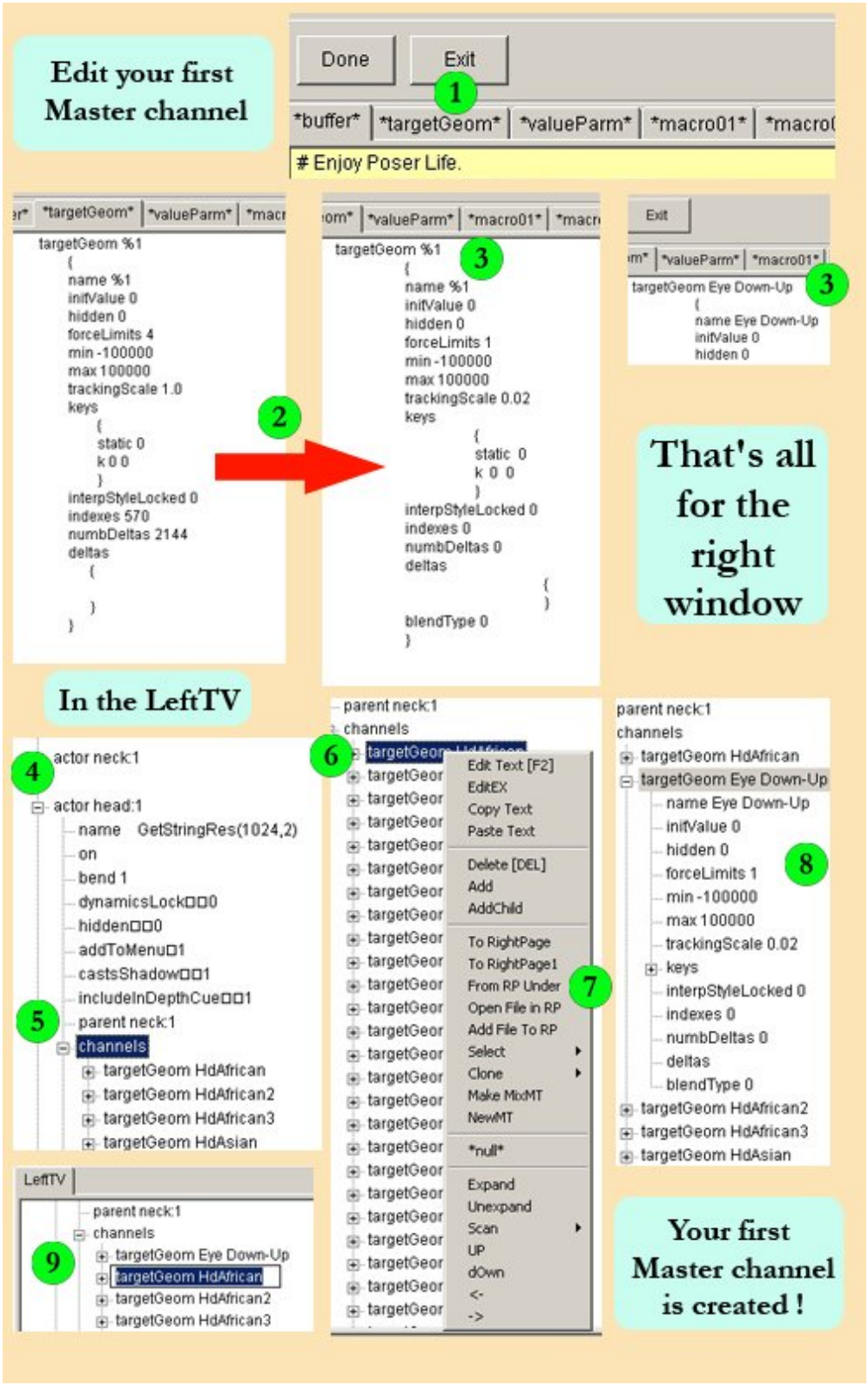
2-Load the Figure in the left tree view. We are using Michael 3, but the process is the same for any other Figure.

3-Clic "Open" in the pop-up window

4-All information included in the cr2 file is now loaded in the Left Tree View window. The first level of display is the actors list.

5-You can check the operation status at the bottom of the main screen.

Step 4 - Edit your first Master channel



In the right window:

1-Clic the '*targetGeom*' tab.

2-A Master channel template is on display. Put the template provided with this tutorial in place of the one on display (copy/paste on top).

3-Put the name of the ERC in place of '%1'

In the LeftTV window:

4-Clic on '+' in front of 'actor head' (second instance) to develop.

5-Clic on '+' in front of 'channels' to develop.

6-Right click on 'targetGeom HdAfrican'

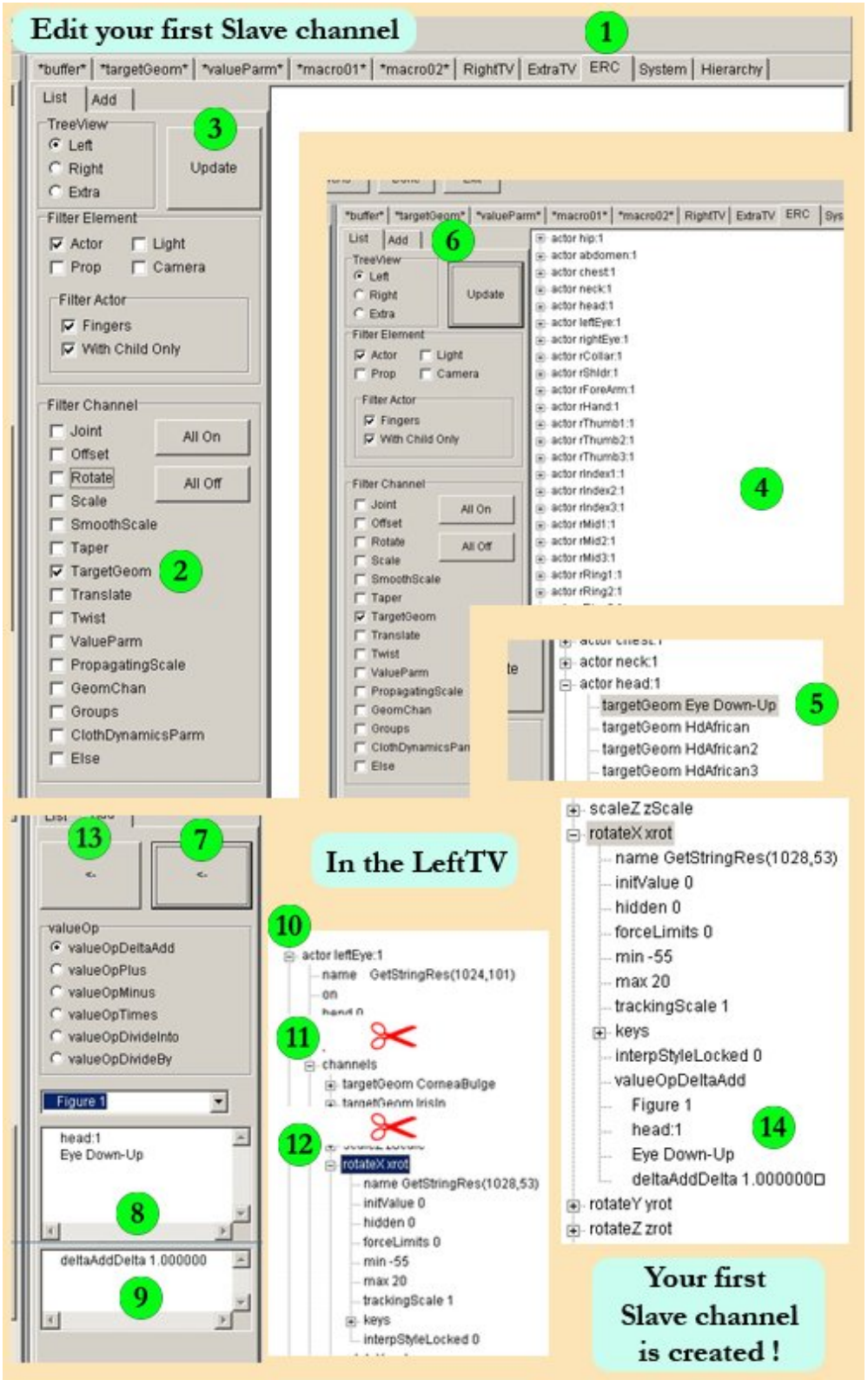
7-In the pop-up menu, click 'From RP Under' (from right panel under)

8-the new 'targetGeom Eye Down-Up' Master channel has been created under the 'targetGeom HdAfrican' morph control

9-Select 'targetGeom HdAfrican', drag and drop underneath 'targetGeom Eye Down-Up'

Your first Master channel is edited.

Step 5 - Edit your Slave channels



Edit your 1st Slave channels

In the right window:

1-Clic the 'ERC' tab.

2-In the Filter Channel panel, tick 'TargetGeom'

3-Click the 'Update' button.

4-After a while, a simplified version of the cr2 is displayed in the right screen.

5-Clic on '+' in front of 'actor head' to develop. Select 'targetGeom Eye Down-Up', it should be on top of the list.

6-Clic the 'Add' tab.

7-With 'targetGeom Eye Down-Up' selected, click the right '<-' button.

8-Data is transferred into the small windows on the left

9-If required, change the control ratio value (copy/paste on top)

In the LeftTV window:

10-Clic on '+' in front of 'actor leftEye' (second instance) to develop.

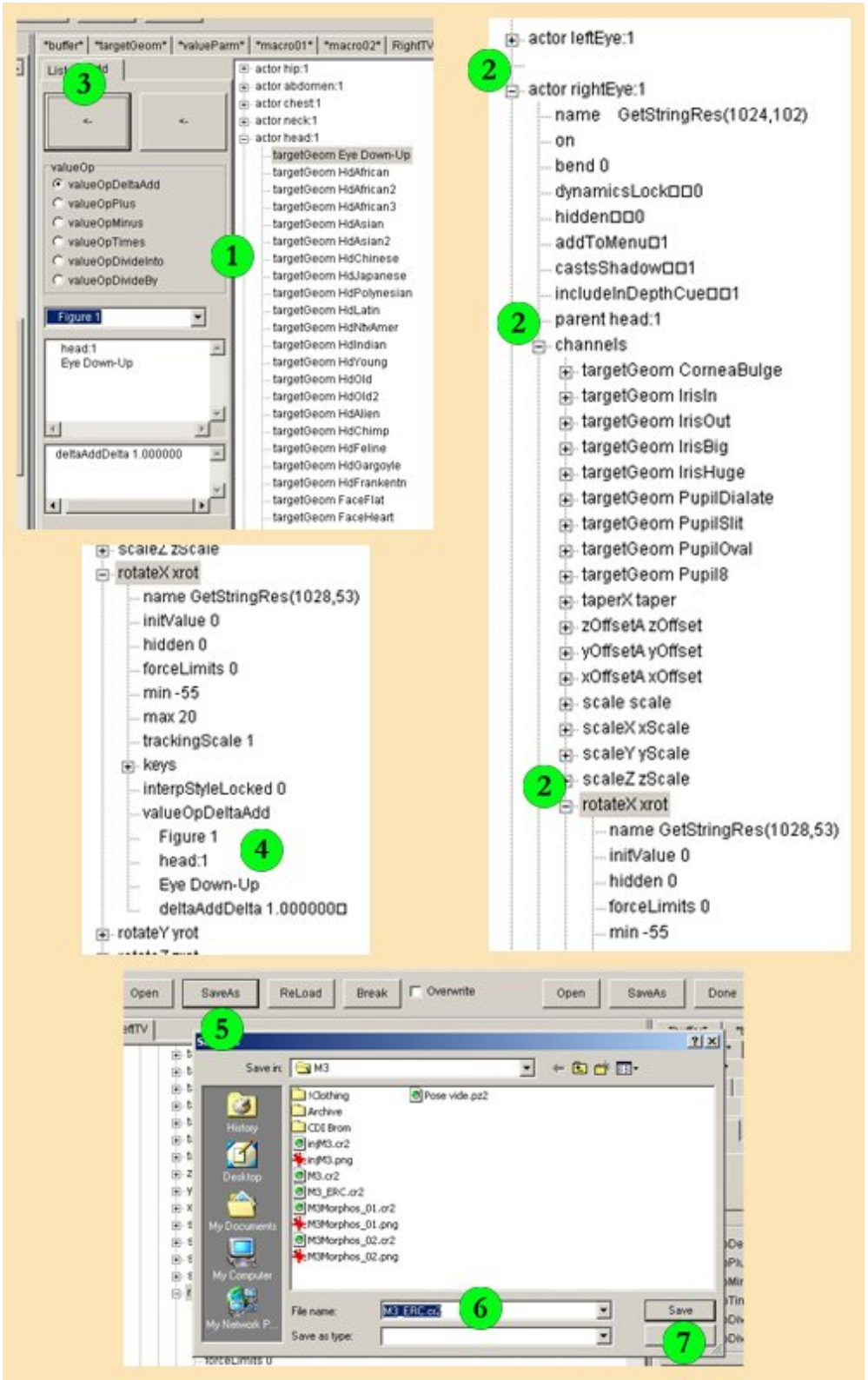
11-Clic on '+' in front of 'channels' to develop.

12-Clic on '+' in front of 'rotateX xrot' to develop.

In the right window:

13-Clic the left '<-' button.

14-Left Eye 'rotateX xrot' channel is from now on a slave of Eye Down-Up.



Edit your 2nd Slave channels and save

Begin the same procedure again

1-In the right window parameters remain the same

In the LeftTV window:

2-Develop 'actor rightEye' => 'channels' => 'rotateX xrot'

In the right window:

3-Clic the left '<-' button.

4-Right Eye 'rotateX xrot' channel is from now on a slave of Eye Down-Up.

Save

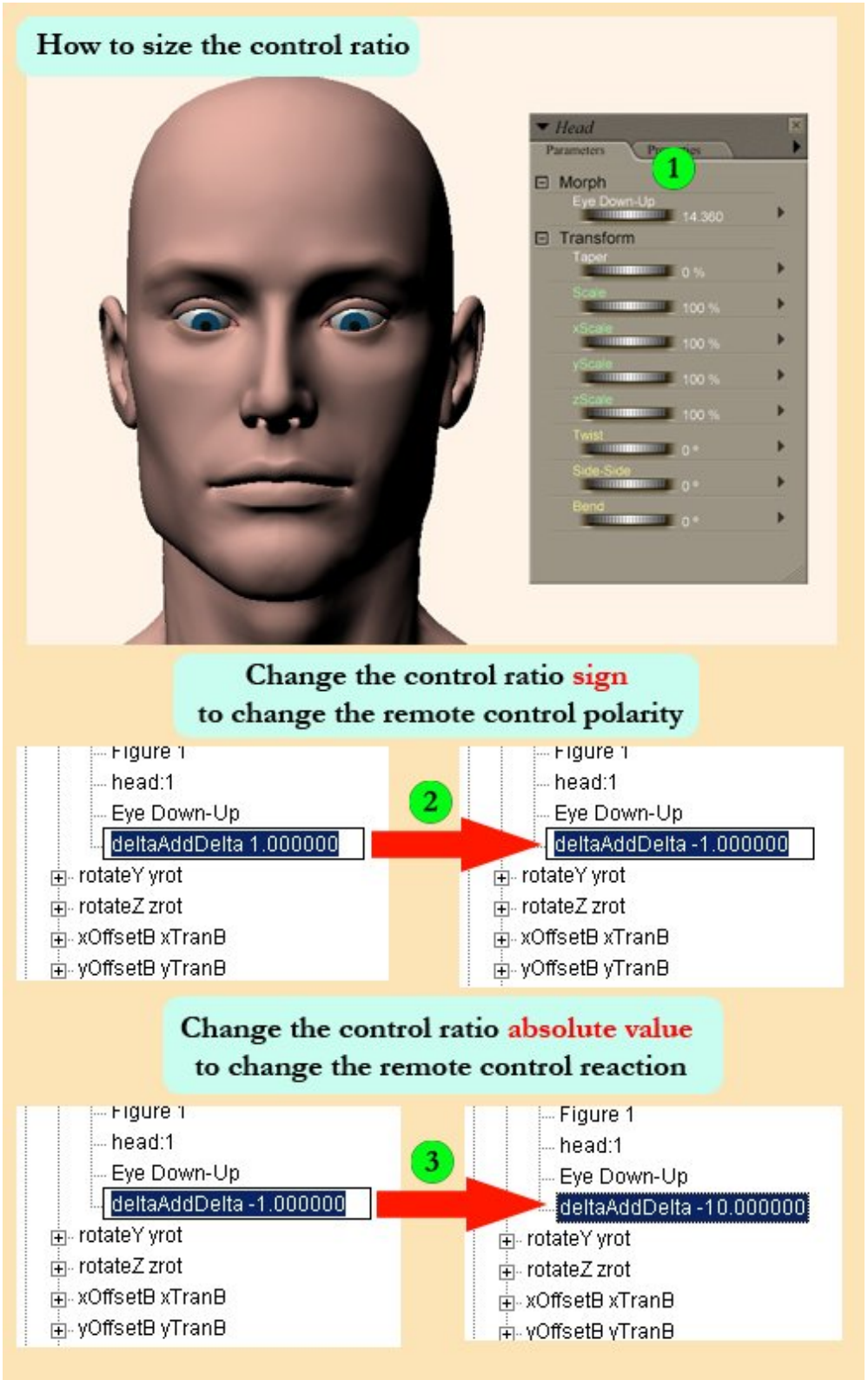
5-Clic the 'SaveAs' button

6-Save under a new name

7-Clic 'Save'

Don't close CR2Builder

Step 6 - How to size the control ratio



Launch Poser

Open 'M3_ERC'

Select the head.

Open the 'Parameters Dials' window

1-Your brand new ERC should be there, on top of the morph list.

Play with the dial.

We notice 2 problems:

* M3 looks downstairs when positive values are dialed. Given the ERC name 'Eye Down-Up', Eyes going up when the dial is turned to the right (positive values) and Eyes going down when the dial is turned to the left, would be more logical. We can change the polarity easily; we just need to change the control ratio sign.

Go back to Cr2Builder

In the LeftTV window:

Return to 'actor leftEye' => 'channels' => 'rotateX xrot'

2-Edit 'deltaAddDelta 1.000000' and replace 1.000000 with -1.000000

(to edit in the LeftTV you can choose between several methods: double click selection, short-cut [F2] or right click 'Edit Text' in the pop-up menu. First of all, CR2Builder is a powerful text editor)

Go to 'actor rightEye' => 'channels' => 'rotateX xrot' and do exactly the same: Edit 'deltaAddDelta 1.000000' and replace 1.000000 with -1.000000

Save

Don't close CR2Builder yet.

Go back to Poser, close the existing Figure, load the new version of M3_ERC and test.

* Second problem, in my opinion, the eyes do not react enough (ERC value > 10 to get significant result).

To fix that, we are going to modify the control ratio value.

Now the control ratio is 1. It means that when the remote control dial is set to 1, the slave is set to 1 (it does not show on display, but it's like that).

If the control ratio is 2, it means that when the remote control dial is set to 1, the slave is set to 2 (the Slave reacts 2 times more than the Master). Generally speaking, an increase of the control ratio increase the reaction of the slave, a decrease of the control ratio decreases the reaction of the slave.

In this example, we want to increase the eyes reaction, so we are going to change -1 for -10.

(Important: only absolute values matter. As far as control ratio is concerned, consider that sign and value are disconnected. The sign controls polarity, the value controls reaction. Even if it looks strange, -10 > -1)

Go back to Cr2Builder

In the LeftTV window:

Return to 'actor leftEye' => 'channels' => 'rotateX xrot'

2-Edit 'deltaAddDelta -1.000000' and replace -1.000000 with -10.000000

Go to 'actor rightEye' => 'channels' => 'rotateX xrot' and do exactly the same: Edit 'deltaAddDelta -1.000000' and replace -1.000000 with -10.000000

Save

Don't close CR2Builder yet.

Go back to Poser, close the existing Figure, load the new version of M3_ERC and test.

Of course, parameters provided (name, polarity, reaction...) are designed to suit my taste. Now you know what it's all about, you can (you should!) experiment and find which parameters suit your taste the best.

Step 7 - Conclusion

That's the end of the first part of this tutorial.

Close CR2Builder, close Poser, have a cup of coffee and think about what you've already achieved.

CR2Buider is a very powerful tool.

Tip: You probably noticed that the workflow inside CR2Buider is going from right to left. The Autor is from Japan. In Japan people write from right to left; they think from right to left. Try to keep that in mind, it helps.

More to come. See you soon in part 2.