A few years back I purchased a guide to Daz Studio. This was after a quite major upgrade so I was looking forward to it explaining a few things. I was, needless to say, very disappointed to find the section on Motion Blur reading, in effect, "and that is where you set motion blur on" as that was one topic I really wanted to get to grips with and understand. I don't think I have ever really seen much on the topic, so I finally decided to have a look myself (really should have done this a few years back and saved myself some money!)

Please bear in mind these are my findings (not that I'd expect Daz Studio to be different on your computer!) and, more to the point, my explanations!

Hopefully the expression 'motion blur' means the same thing to everyone, but in case not what I take it to mean is the visual effect you get in (often in photography) when something rapidly moving passes the field of view and whatever is viewing the scene stays still in relation to the moving object(s). The inverse is true - when the viewer pans quickly to follow the moving object it stays in focus and the background is motion blurred.

With these tests all I am doing is moving an object to get motion blur, doing the inverse I leave to you!

To do the test I wanted a simple object, but with enough detail and colouration to see how the blurring effect works and what impact it has on the 'fidelity' of the render of the object. To that end I picked (wholly at random) a pile of different coloured casino chips (by ironman13). They have Iray shaders, but they work fine in 3Delight - which is just as well!

I did this on a Windows computer so if I mention key combinations it will often involve the Ctrl key, which on a Mac is I believe the Cmd key).

Motion Blur has three controls linked to it, all of which are found on the Advanced tab of the Render Settings dialog (Render> Render Settings or Ctrl-Shift-R) - see image 1.

First, and simplest, is the check box labelled 'Motion Blur'. This is a simple yes/no, use/don't use motion blur setting. But whilst we are here, it is worth mentioning something - it can happen that a figure in your render will appear ghostly and very transparent for no readily explicable reason. If that happens you can check this setting and unset it if need be. If it is not set and you still get the effect (and you don't want it!) then toggle the setting and try again. But back on topic - here is where it starts, if you want to include motion blur - and be aware it is motion blur for the whole scene, check this box.

To actually get motion blur once selected you need to move something using the Timeline, then when you do the render have the Timeline set back at 0.

The other two settings, both sliders, become active when you check the Motion Blur option (see Image 2). Just to be awkward I'll deal with Motion Amount first.

The Motion Amount setting, defaulting to 100, is a percentage - but percentage of what? It turns out it is, kind of, reasonably obvious! To get motion blur you need motion (go figure!) and in Daz Studio you do that via the Timeline of the Posing tab (see Image 3).
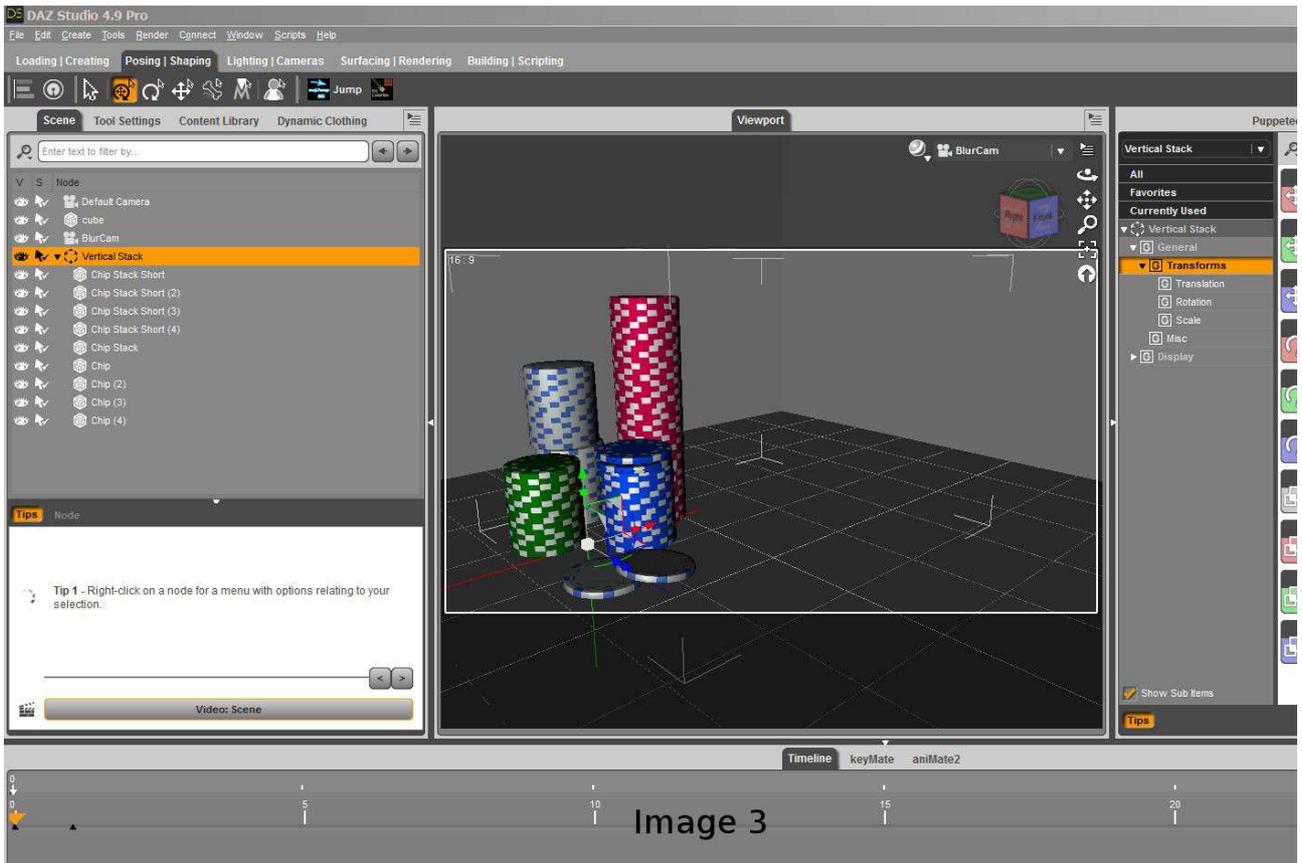
Image 3

In Image 4 you will see that the chips have been moved from one side of the field of view to the other in one step of the Timeline.
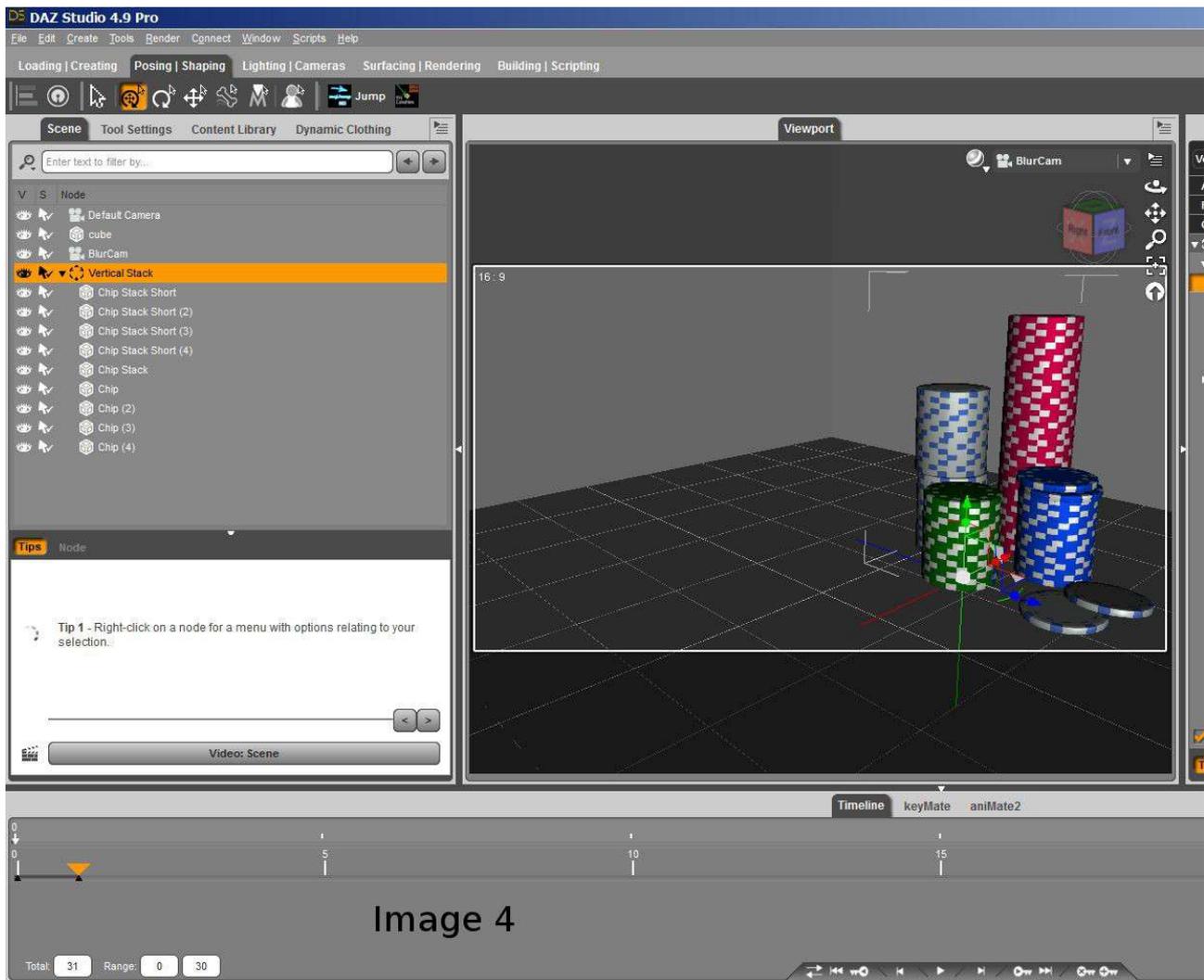
Image 4

The percentage setting refers to how much of the animation (the movement the object(s) have) is used. With 100% the chips will be a blur across the screen as that is what the full motion they have is. If I use 50% the blurring will be only half-way across the screen. See the following Images 5 and 6 to see that.
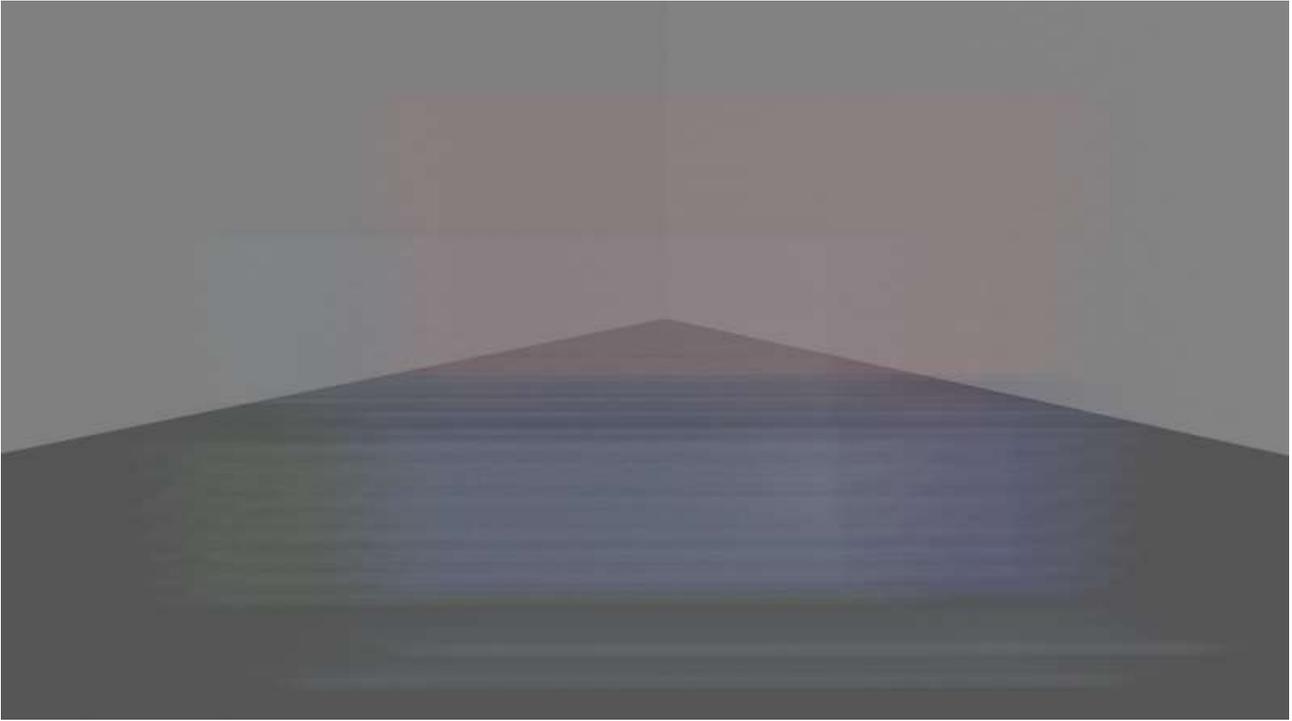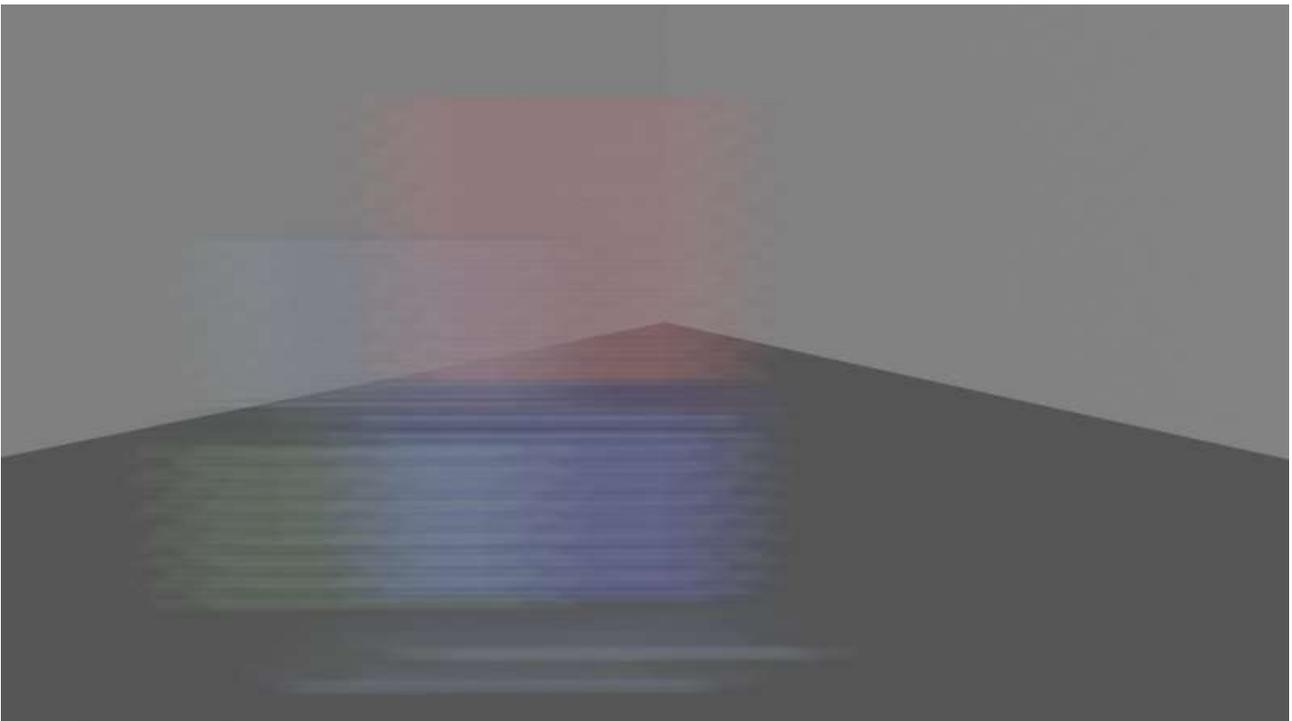
Image 5

Image 6

Now is a good time to see what 'Motion Samples' does! I re-did the same two renders but this time upping the Motion Samples setting to 10 (from the default value of 2). If you look at Images 7 and 8 you will see that the chips still 'travel' the same distance (honouring the 100% and 50% of the Motion Amount) but both blurs show more 'definition'.
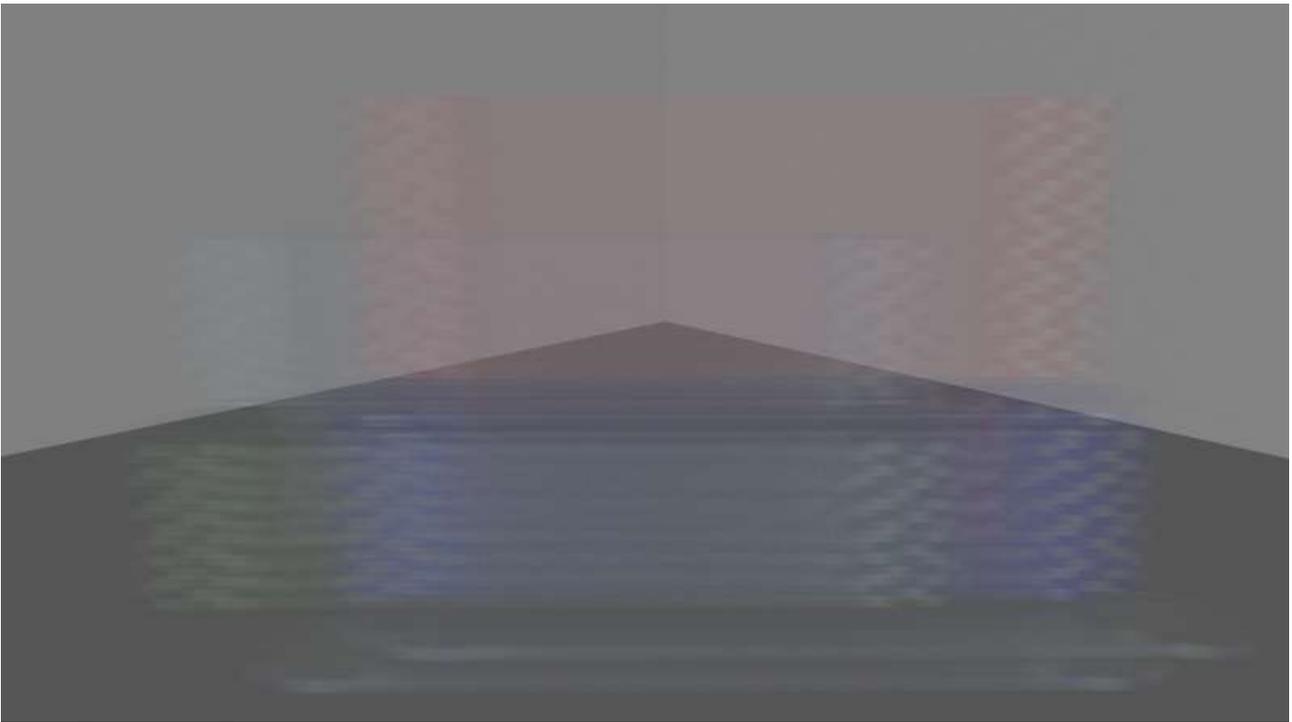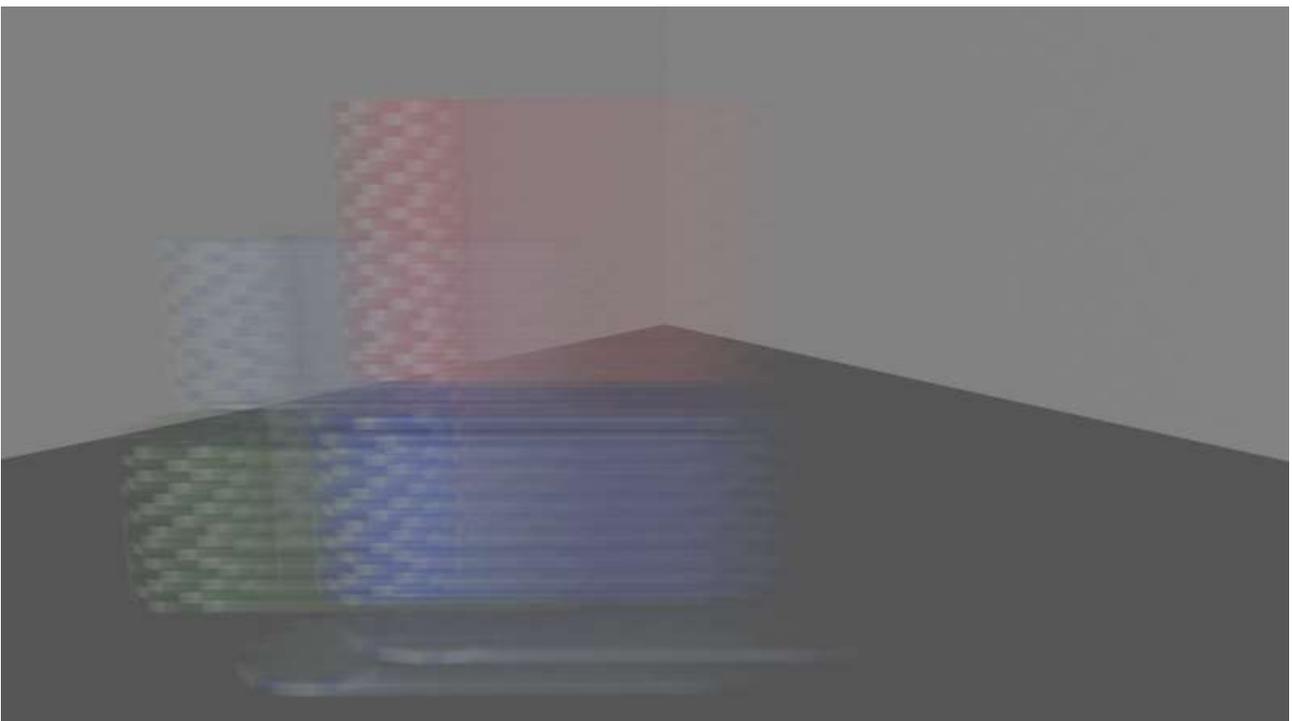
Image 7

Image 8

One interesting feature here is that with the 100% Motion Amount and the Motion Samples set to 10 you can begin to make out the chips at either end of the blur, but with the 50% Motion Samples setting you can only really start to make them out at one end - strangely, and to me illogically, that's the left (or to put it in scene terms) or rather at the beginning of the animation: like it started at rest then whooshed off ... To me, it should be the inverse: it whooshes and as you 'take the picture' you capture the trail and a better definition of where it is now.

Let's try to accentuate these features. I'll redo them but increase Motion Samples to the maximum of 64 - see Images 9 and 10 for the results.
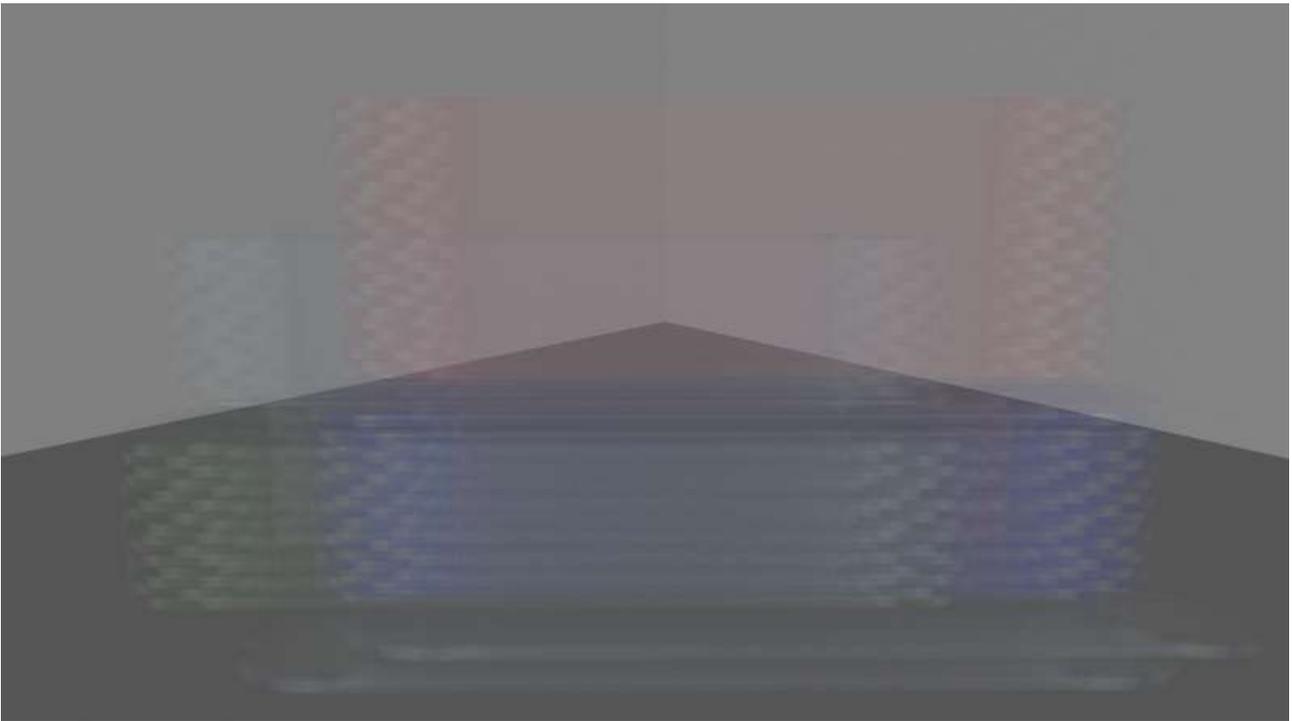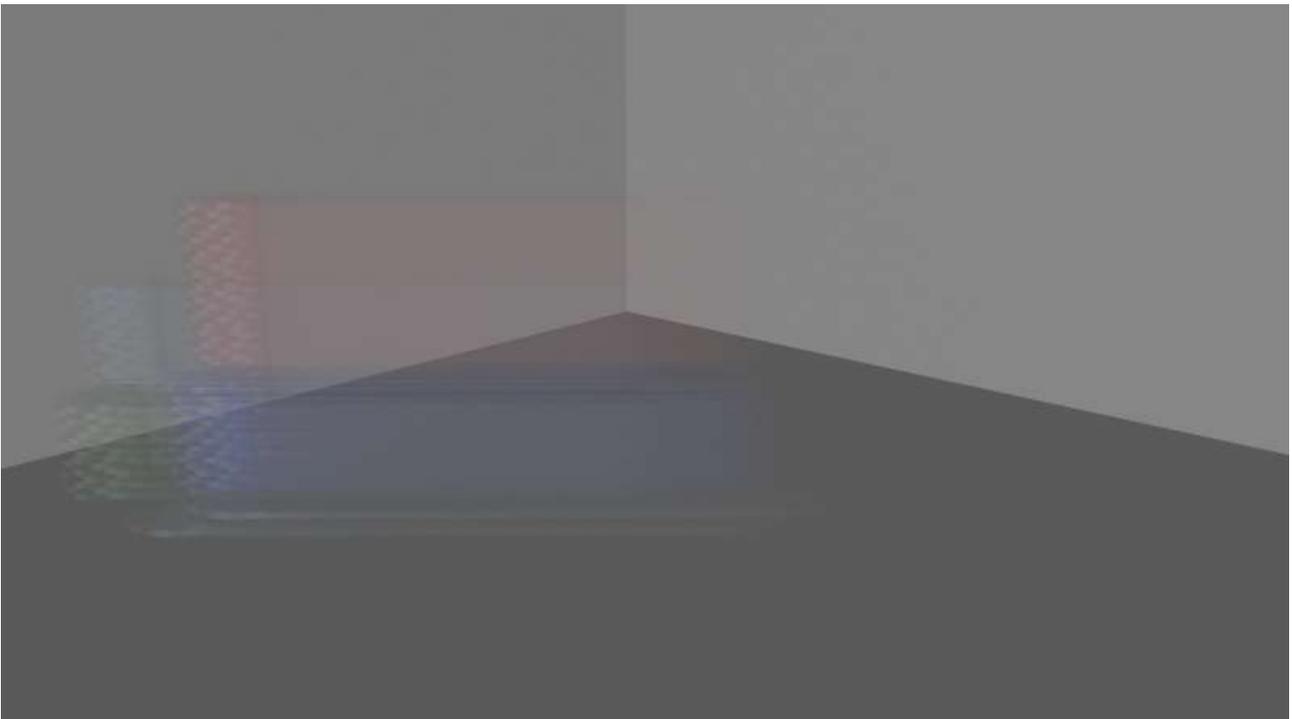

Image 9

Image 10

Be aware that (as mentioned above) all items in a scene are subject to motion blurring, even the static ones so the more complex the sceen the greater the impact on render time. Also, the more you increase Motion Samples the longer the render time will be. Bear in mind these two pairs of images took 6.6 and 7.6 seconds for the two 10 Motion Samples ones and 25.9 and 43.7 seconds for the second pair using 64. From that we can clearly see the increase in render time of upping the Motion Samples but also, a bit unexpectedly, an increase when using 'partial' motion. That is also a bit

annoying as that, for me, is the sort of result (of the render, not of the increased time!) I'd likely to be wanting to use.

Now what difference using Timeline step other than 1 will make? Back to the drawing board! I will replicate the previous tests, but use a Timeline step of 10. What becomes apparent is that 100% Motion Amount is, in effect, just that provided by Step 1 (see Image 11).
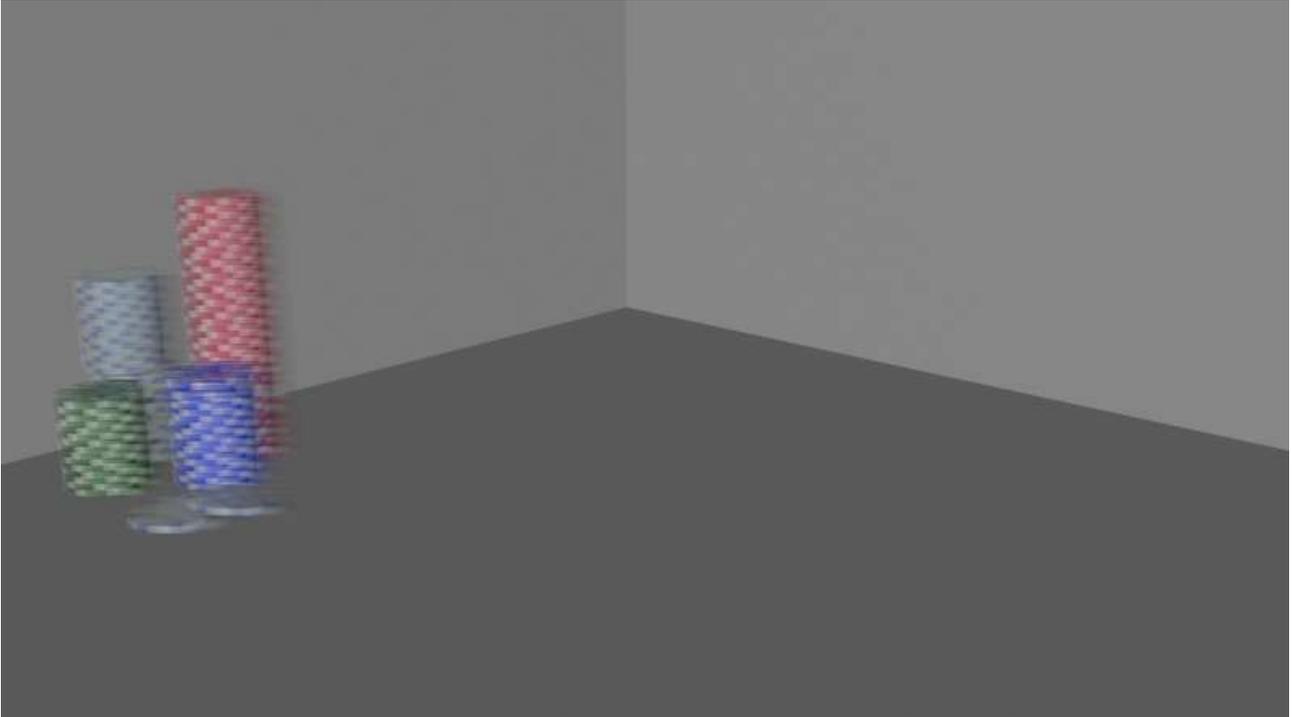

Image 11

To get a similar half-way-across-the-screen blur using 10 steps I need to set Motion Amount to 500% (that is 5 - for half of the 10 steps) times 100%) - see Image 12.
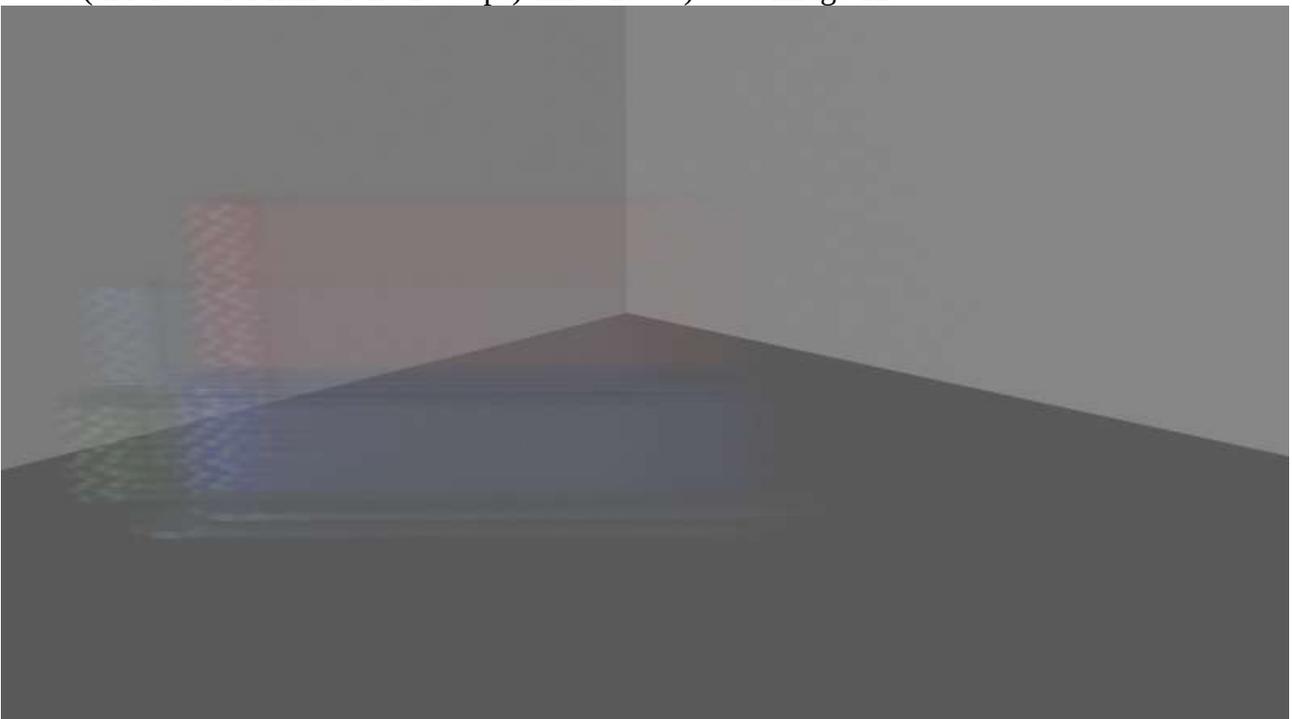

Image 12

If I'd used 16 steps I would have had to use 800% to get the same length of blurring.

What conclusions do I form? Motion Blur is good - assuming that's what you're after! It has limits, but then so does everything! The more you push it the more it will push back with increases in render times. Consider, very strongly, to use a maximum of three-quarters the 'maximum' for Motion Amount (based on 100% is 1 Timeline step) so that you get a 'clean' blur, from lots to little. Remember when doing that to have the things to be blurred to be in their final positions at Timeline step 0, then move them to achieve the blurring after moving the Timeline onto step 1 (or more). The 'quality' of the result will be better with a shorter length of move, with the 'fidelity' of the things being clearer. If you really want a huge, long motion blur trail (think the red trail "The Flash" leaves behind) then you may want to consider doing it in two passes as your figure will be fairly translucent due to the blurring: maybe do one with the Motion Amount set very low so that your prime figure is clear, then one with it higher to provide the 'streak' and overlay one atop the other.

Above all, play and have fun!