Making of Trapped by Massimo Righi, Italy **Web:** www.massimorighi.com

Introduction

What I would like to do is to pick the animals and their characteristics that more fascinate me.

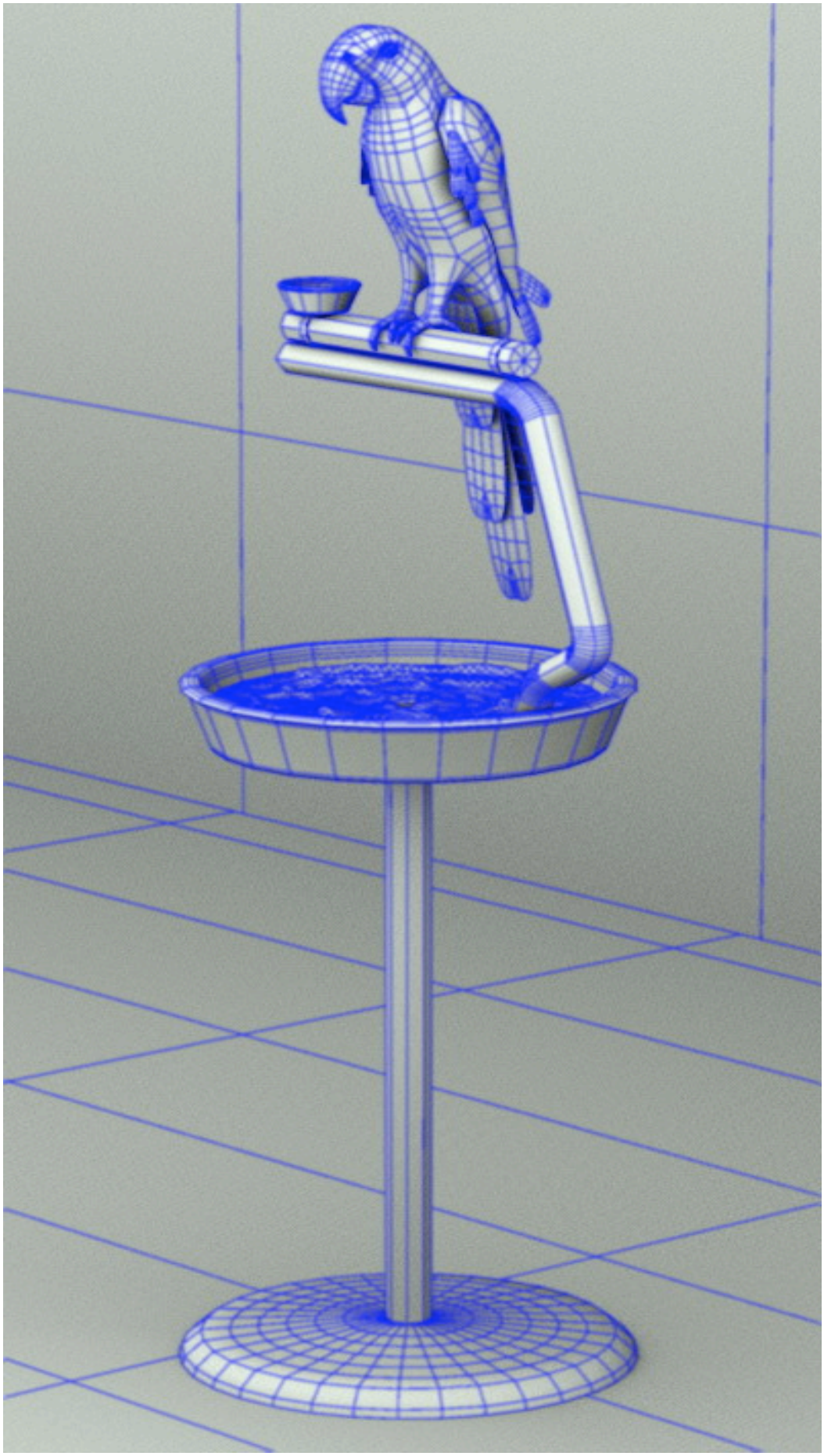
During a recent travel I have taken a photo at the “Bird Park” of Kuala Lumpur. Immediately I've been captured by the expression of this parrot….One strange mixture of drama, given from the animal in cage, and of fun given by the typical behavior of these animals.

I always loved those birds and little time ago modeled a Macaw, I have thought to give it a pose trying to recreate part of the photographed scene…

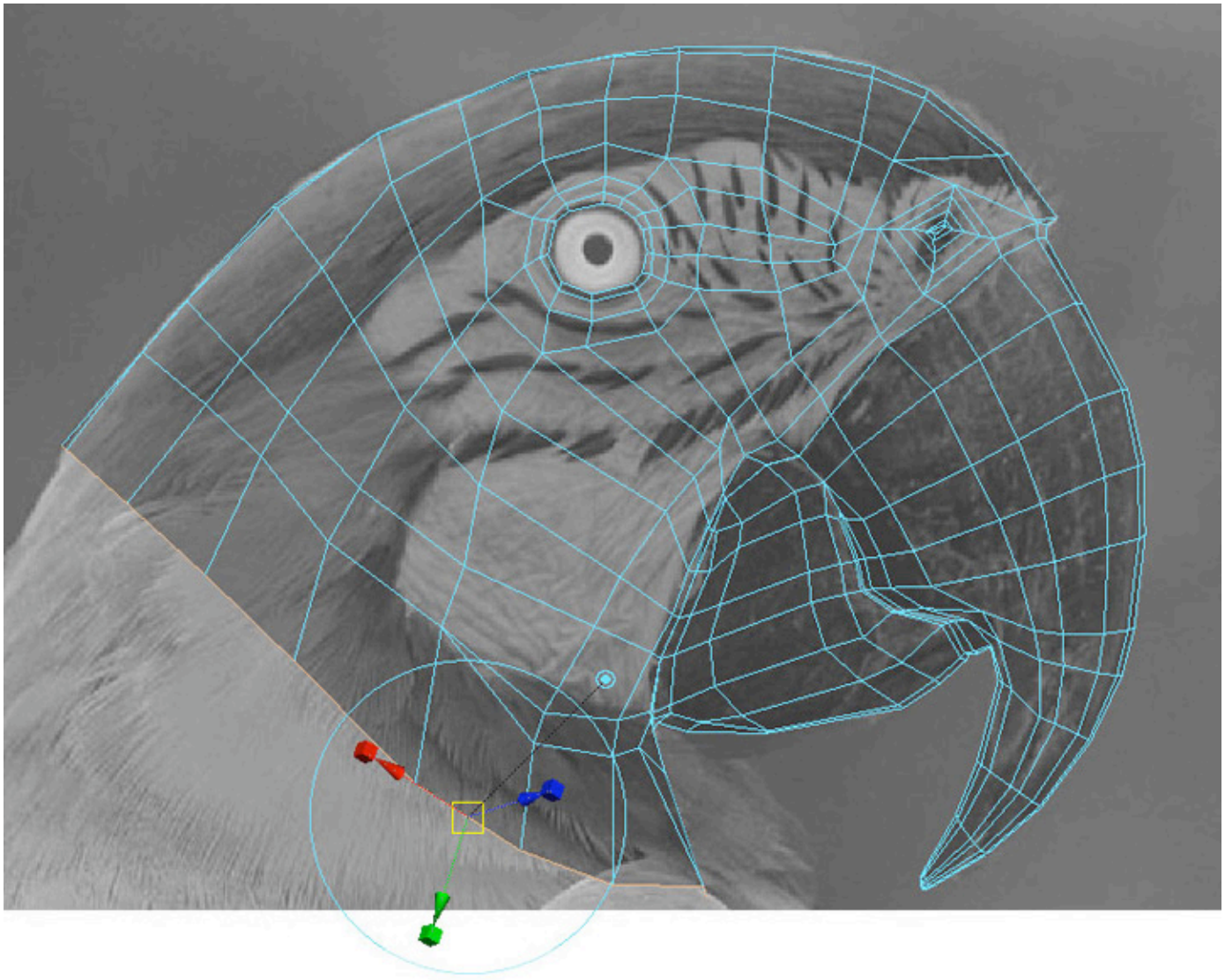
I have used Maya 8.0 for the modeling (polygonal) and Mental Ray for the rendering. The lighting is given by an HDRI probe and two lights. Background and depth of field are rendered within Maya. There is no postwork, only an accentuation of the contrast in Photoshop used to create the textures.

Modeling

Some month ago, when I have modeled the Macaw, I did not have the final scene in mind, I just wanted to do practice and only to be amused. The modeling type is polygonal. First of all I have modeled the Macaw (lowpoly) in a standard position, on its tripod.

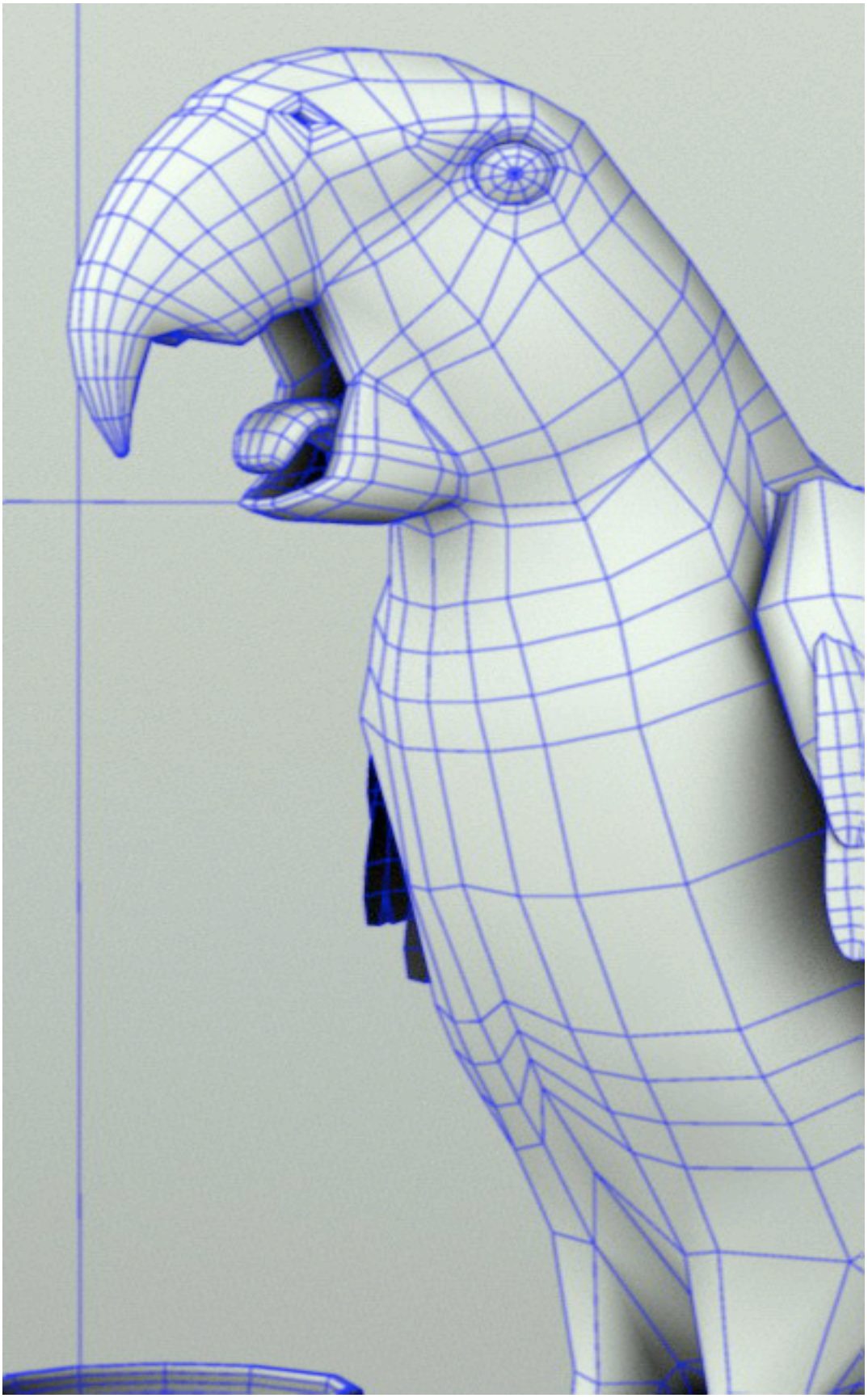


Starting from a plane I have extruded the edges trying to follow as more as possible the reference images. I have begun from the head and then modeled the rest of the body. Initially I have recreated only half of the body in order to keep the mapping of the UV's simpler.

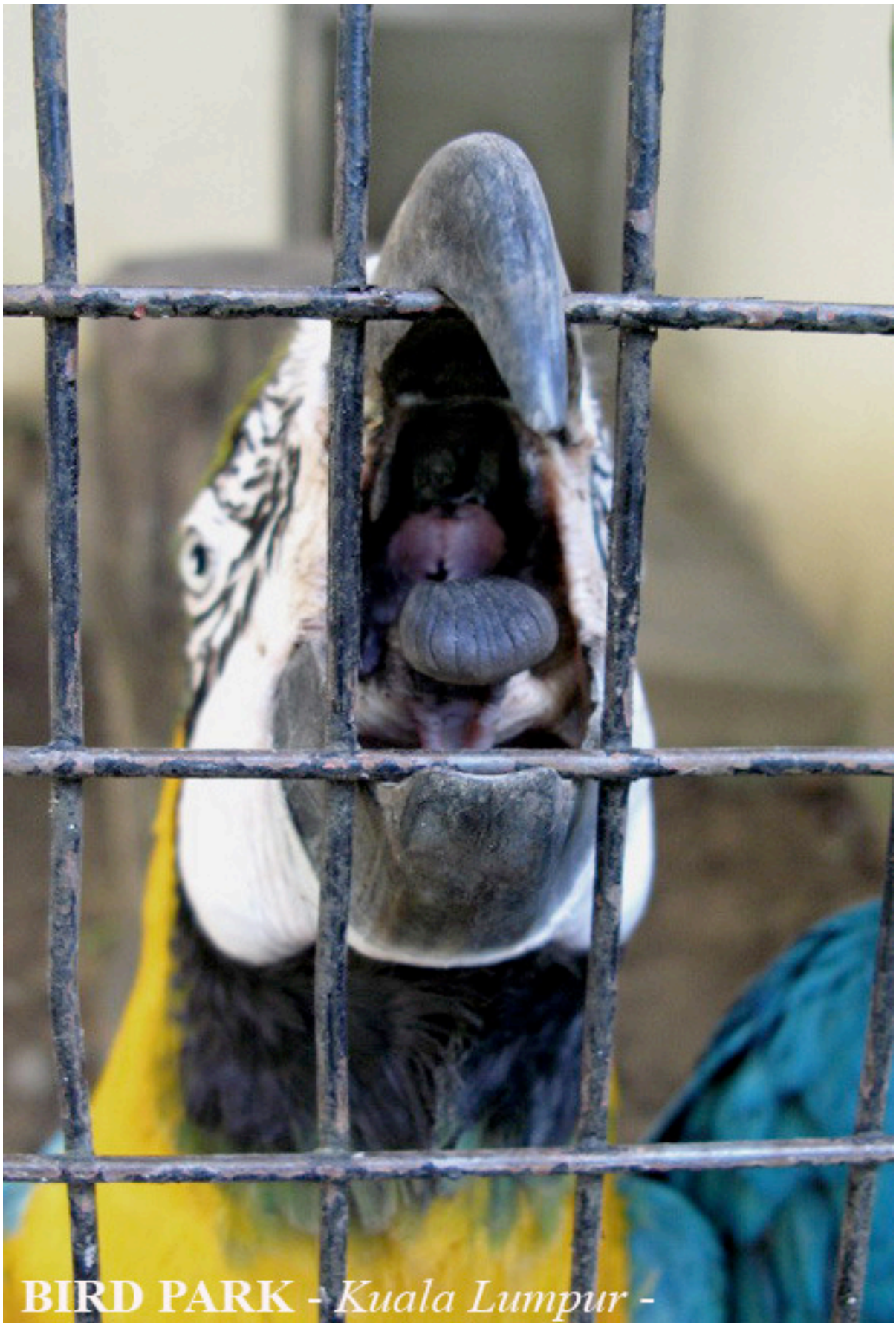


From that moment to the composition of the scene “Trapped” they are passed several months. Returned from the travel of the south-east of Asia I found some of the photos that I had taken and can be good motivation in order to resume the model of the parrot and to try to give it more peculiarity. To recreate a 3D scene from photograph is always a big challenge but why not to give it a chance! :-)

Therefore I decide to try… I have opened the “old” model in Maya, I have divided the beak (before was joined) and I have modeled the inside of the mouth and the tongue.

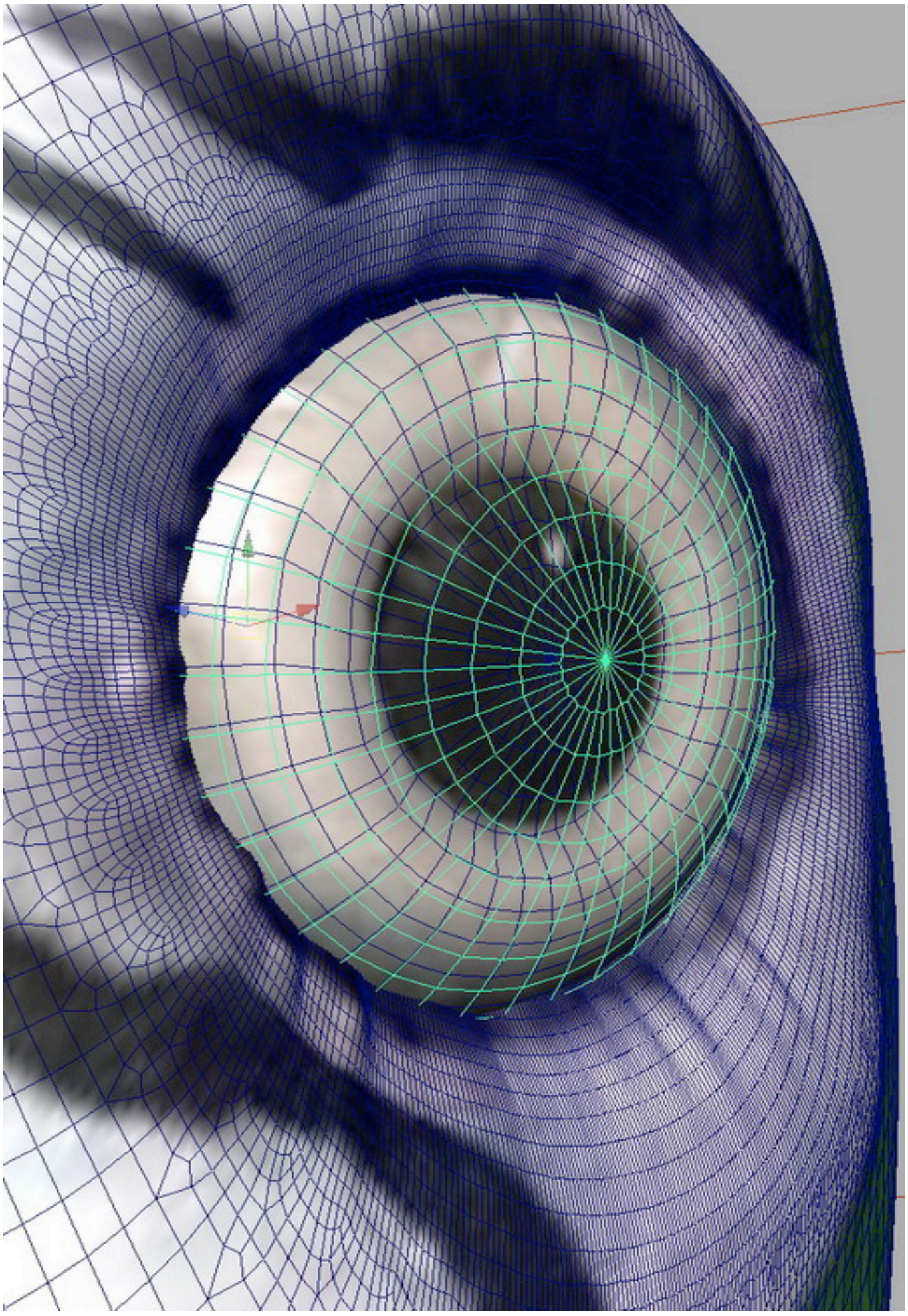


The layout of the UV's is always boring and slow but needs to be done in the right way to achieve good texturing. I used a mixture of planar and cylindrical projections for that. Once finished with the UVs I have duplicated the other half of the model, merged vertices and I have put it in pose using a pair of joints in order to move the head and the leg. I have decided to choose a different camera angle from the one of the reference photo because the frontal angle seemed too much extreme and the colors of the head feathers would be remained too much hidden. Therefore I have tried several angles-shot and focal lenses till I found which seemed to be the better choice.



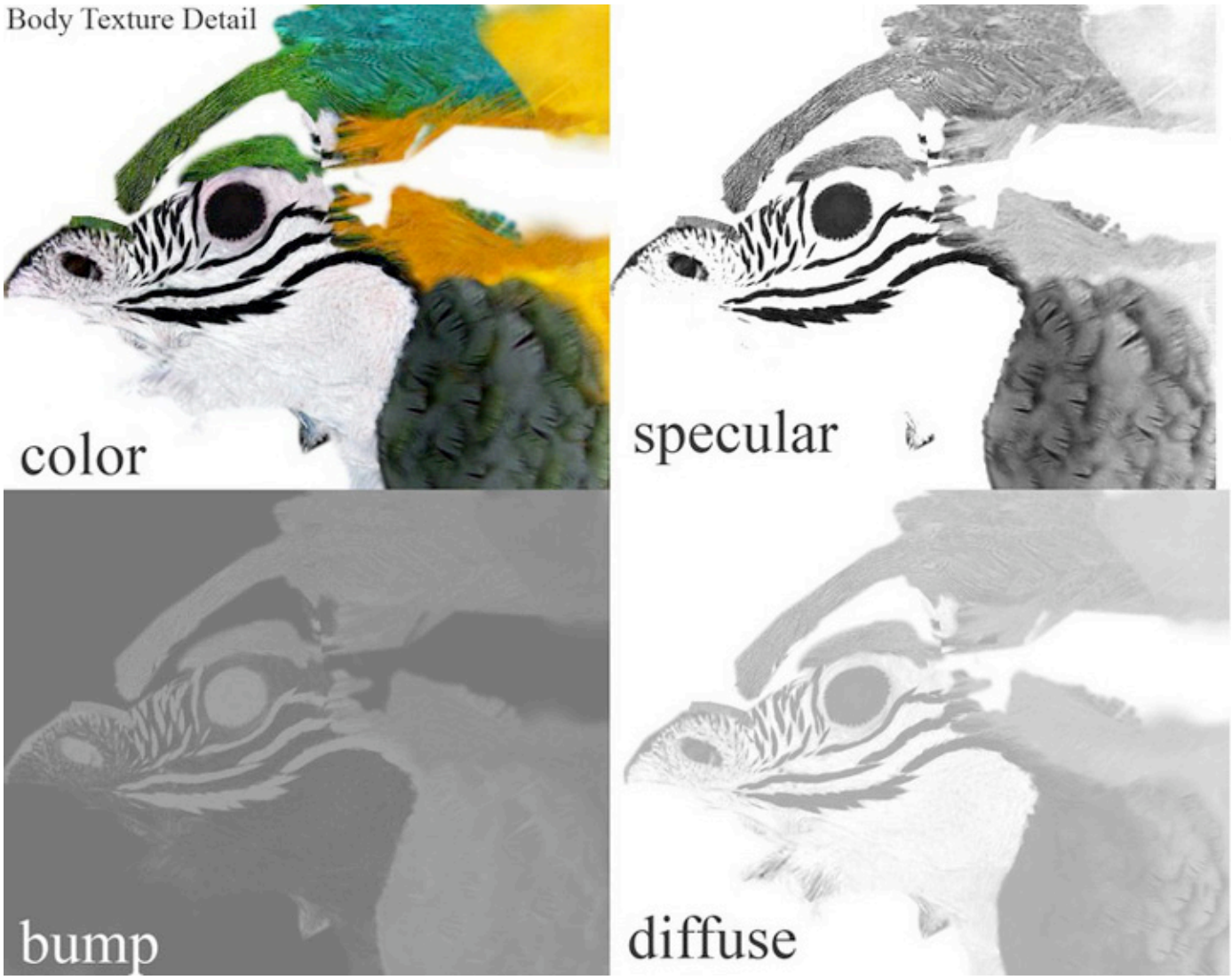
I have deleted (Cut Face Tool) all the parts outside of the camera gate in order to make the scene lighter and then I have recreated the portion of cage that I needed. I have modeled (Maya Sculpt) the details after I have made the mesh denser especially close to the beak and the eyes. Then added some fur using Maya 3D Paint Tool on the head, close to the nostrils in order to render the parrot side more realistic.

The eye is modeled in two parts, one inner and one external that I have used to render the circular glare and to give a bit the sense of depth.

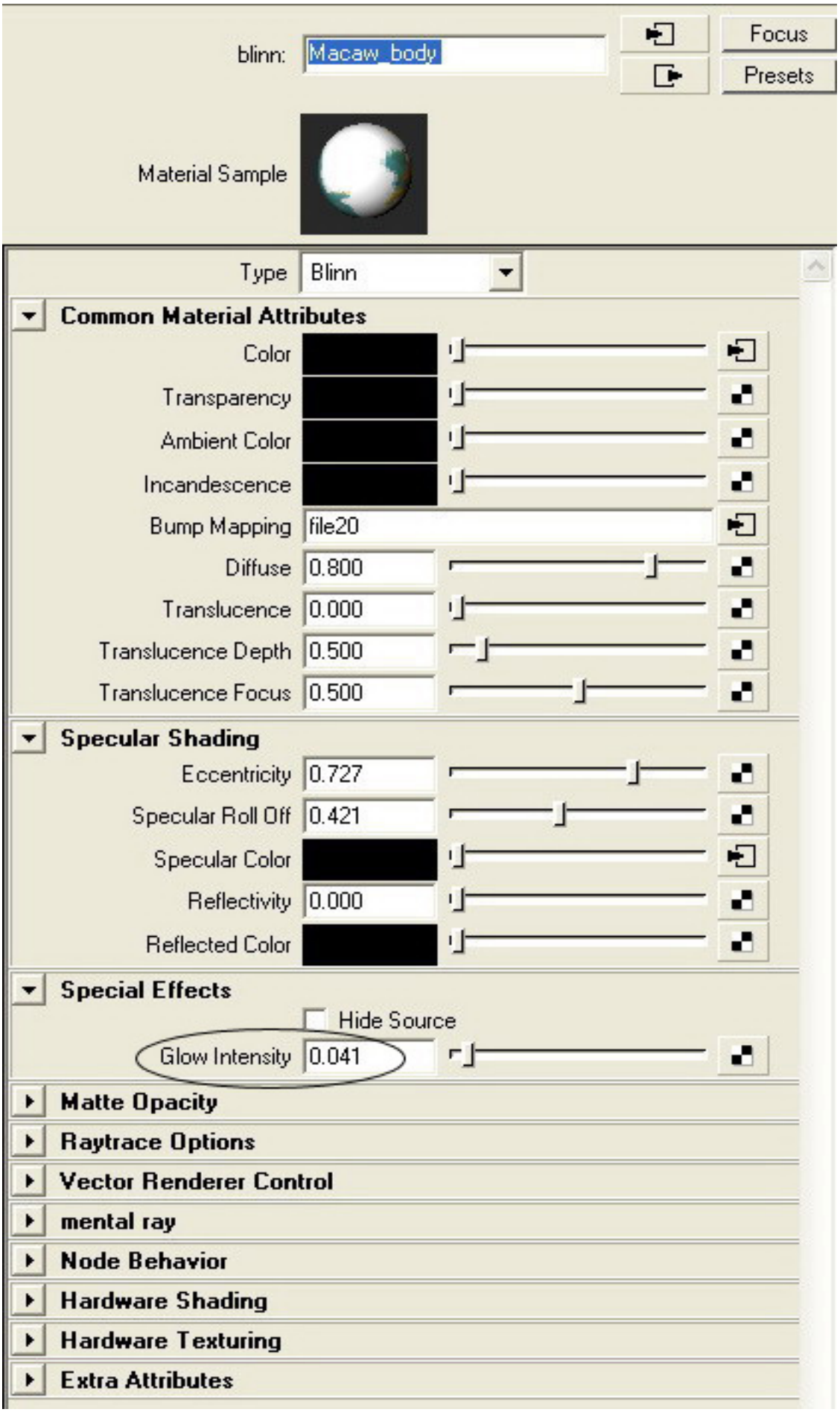


Texturing

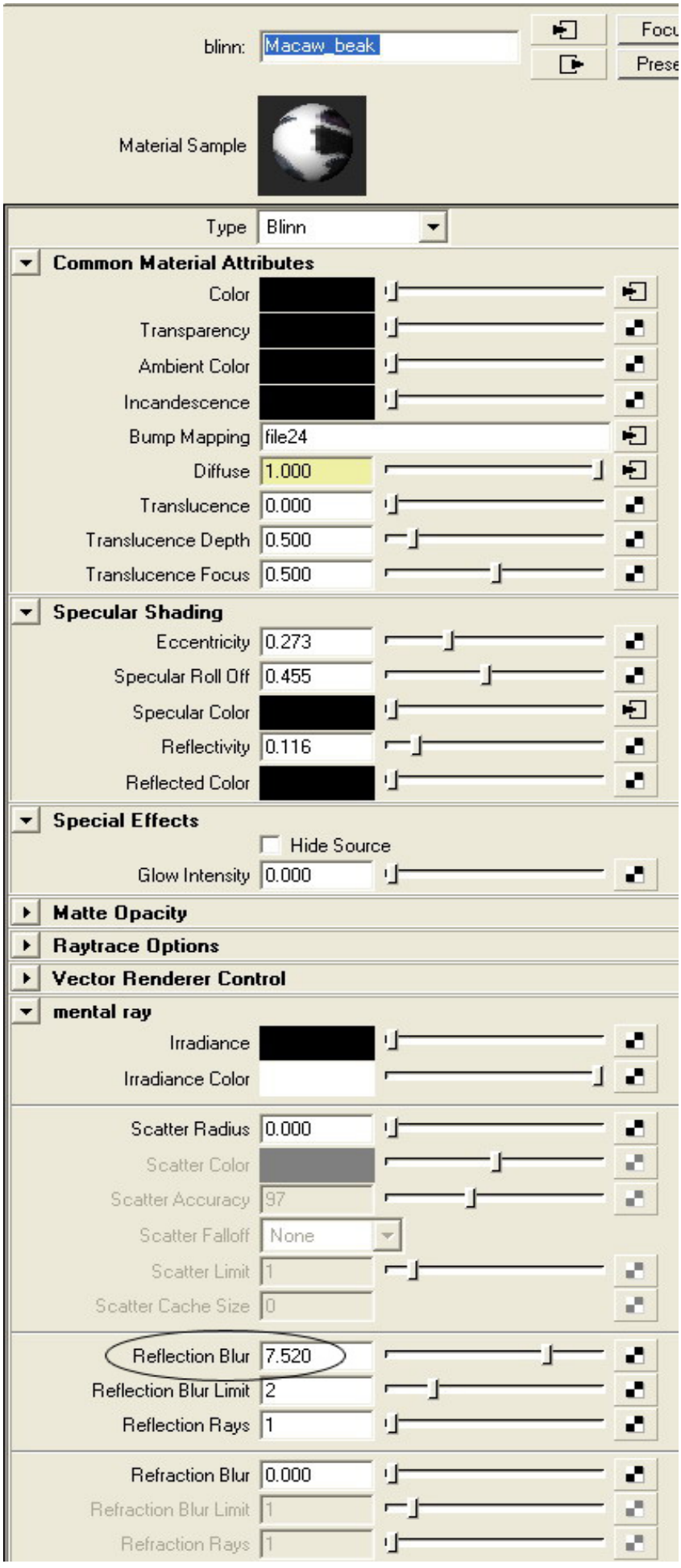
I have created the textures with Photoshop having used partially the taken photos, creating brushes and patterns together with the use of a Wacom tablet. The texture of the beak and the one of legs are nearly totally painted using thin brushes in order to simulate the little strips. I have used four UV Template, one for the body (2k), one for the beak, the leg and the tongue (2k), one for the eye (1k) and one for the cage (2k) From the texture of the color I have done the maps for the specular/bump/diffuse and reflectivity.



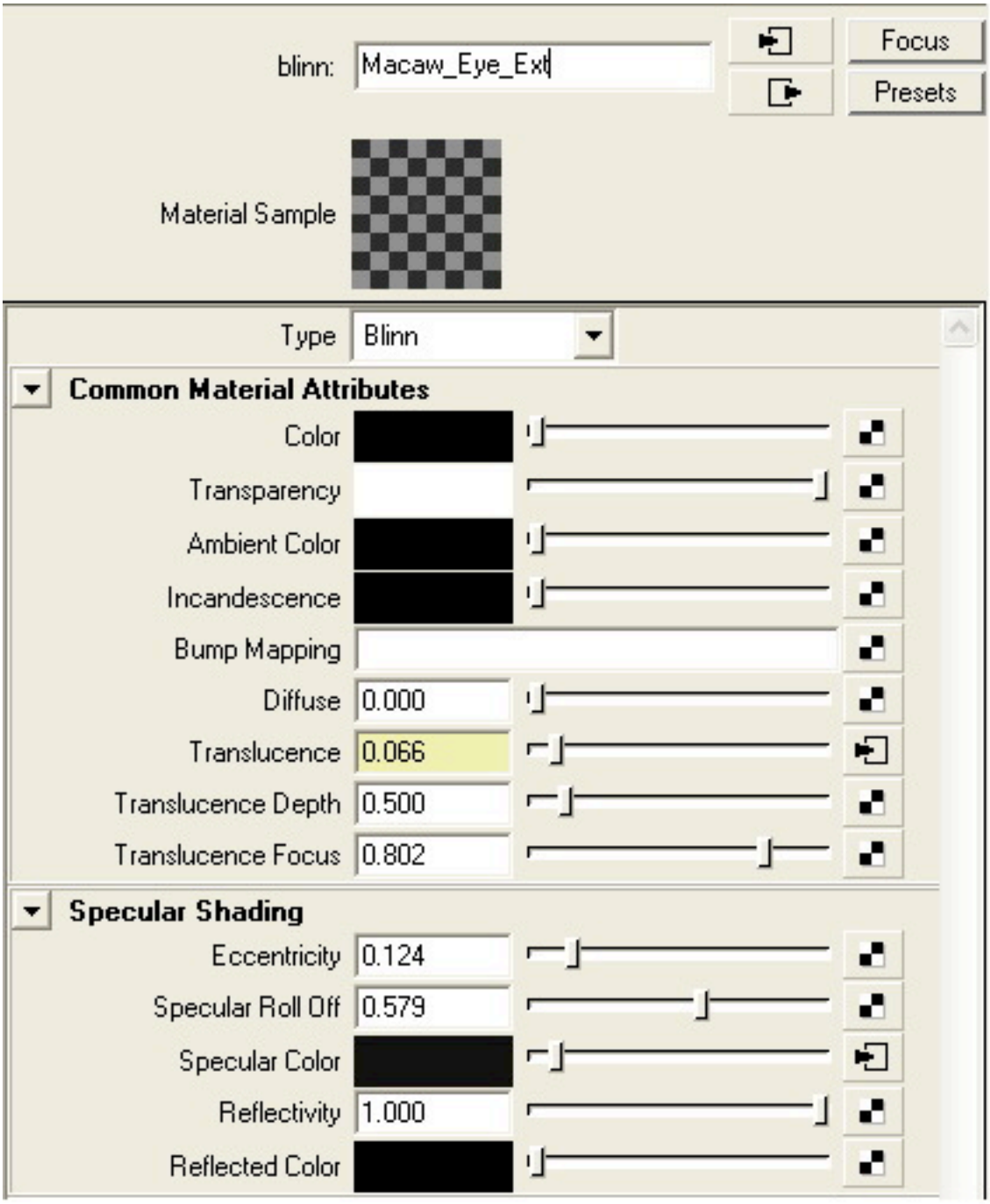
Finally with Maya 3D Paint Tool I have fixed some “unavoidable” seams and refined the textures. I have used one shader for each map but the eye, for which I have used two. For the body I have tried to create a slight glow effect to help simulating the feathers. For this I have modified the value “Glow Intensity” in the attributes of the Blinn.

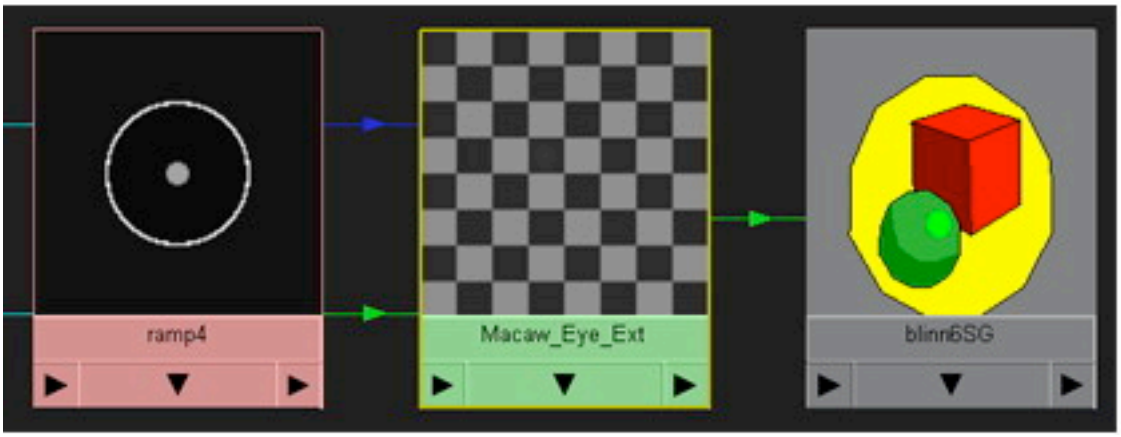


For the beak I have modified the value "Reflection blur" in order to soften the glares of the HDRI



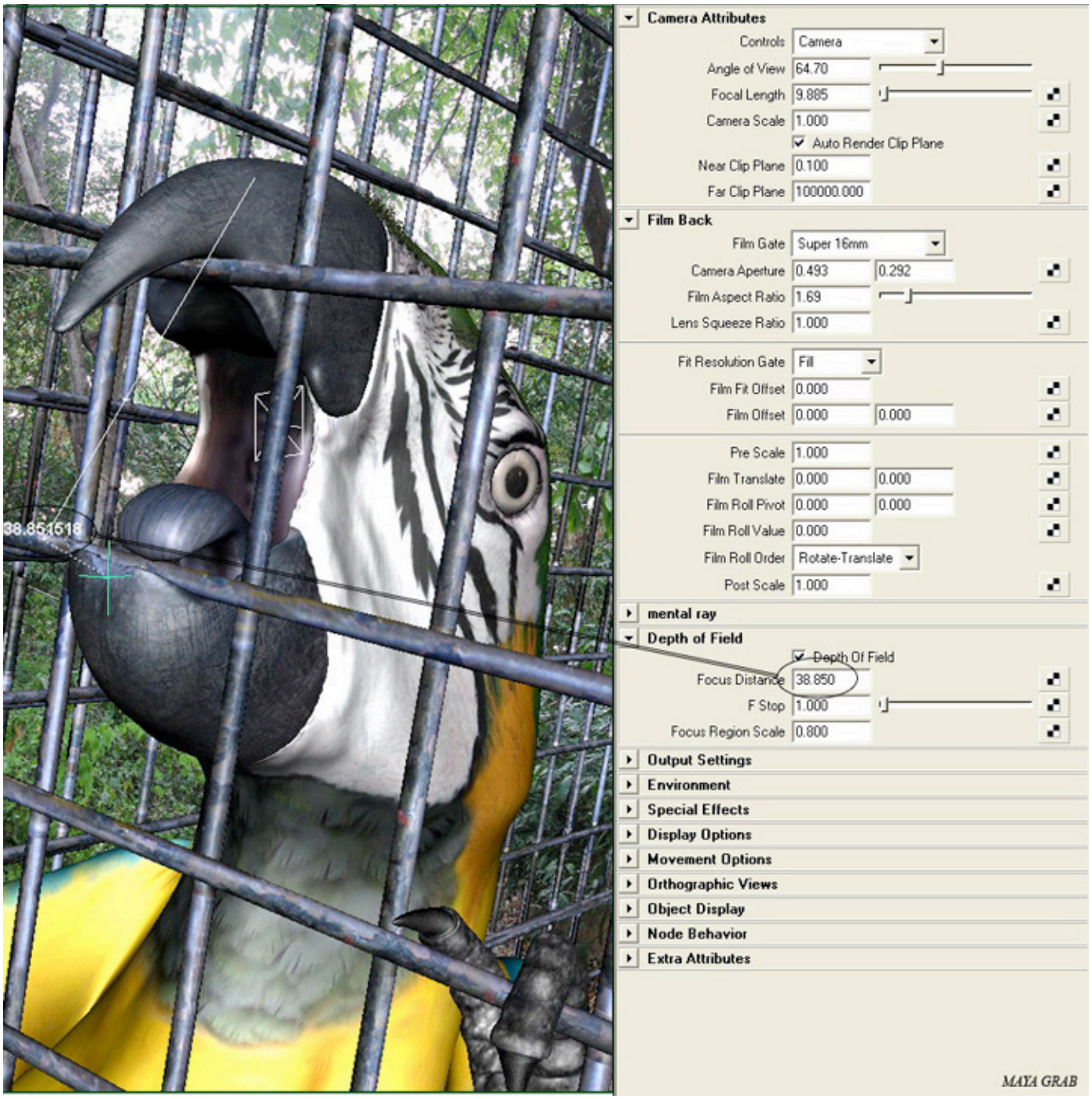
For the eye I have used a Pong shader for the textured part and a transparent Blinn for the external part to which I have applied one circular ramp as map of translucence and specular.





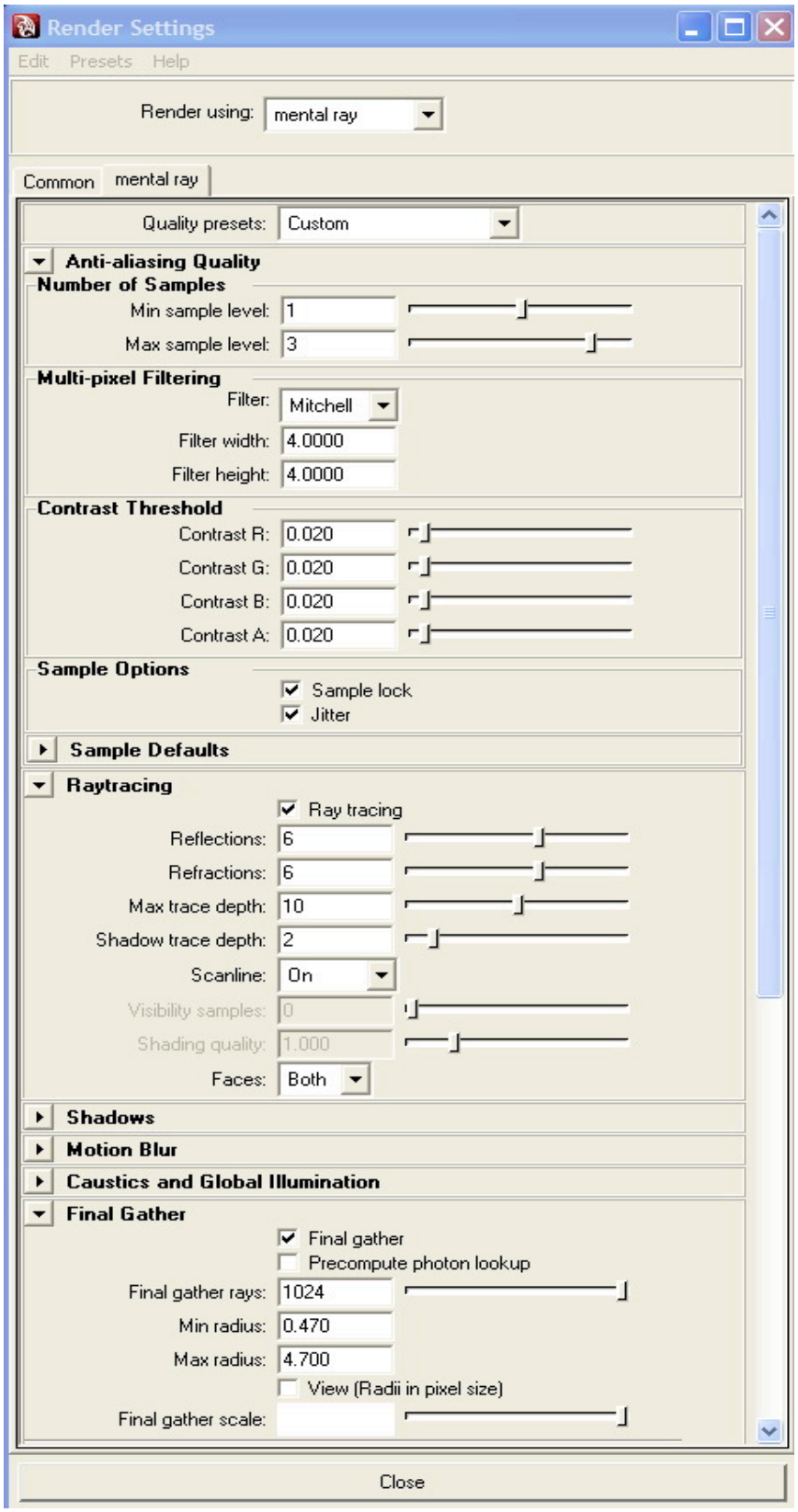
Lighting and Rendering

I enabled “depth of field” on the Camera used in the scene. In order to establish the focal distance I always use this method: I create a “Distance tool” and put one locator on the point of focus wished (in this case was the bottom part of the beak), subsequently I put the other locator exactly over the Camera that I have to use for the rendering. I make a "parent" between the locator and the camera therefore every time when I will move the Camera, I will have consequent the exact value to insert in the field 'Focus Distance”.



The lighting system is given from an HDRI probe and two lights. One (point light) behind the parrot up with enabled "Use raytrace shadows" and the modified values in order to obtain soft shadows. The other (area light) inside the mouth so to illuminate some parts that otherwise would be remained in shadow with the only use of the other lights sources. I have finally positioned one of my photos as "image plane" of the Camera, just to have a credible background behind the cage, even if blurred because of the DOF.

The rendering settings are those that you see in the grab. Final Gather and sampling values are high enough to avoid the grain effect given by the DOF, but not exaggerated considering an output image of 4000x2250. Once obtained the final image (approximately 4 hours with a Pentium Quad-core) I have enhanced the contrast in Photoshop.



I hope this brief tutorial could be in some way useful and to have satisfied some curiosity about my working way. Many Thanks for this opportunity and to everyone reading this article.