

Reparameterisation

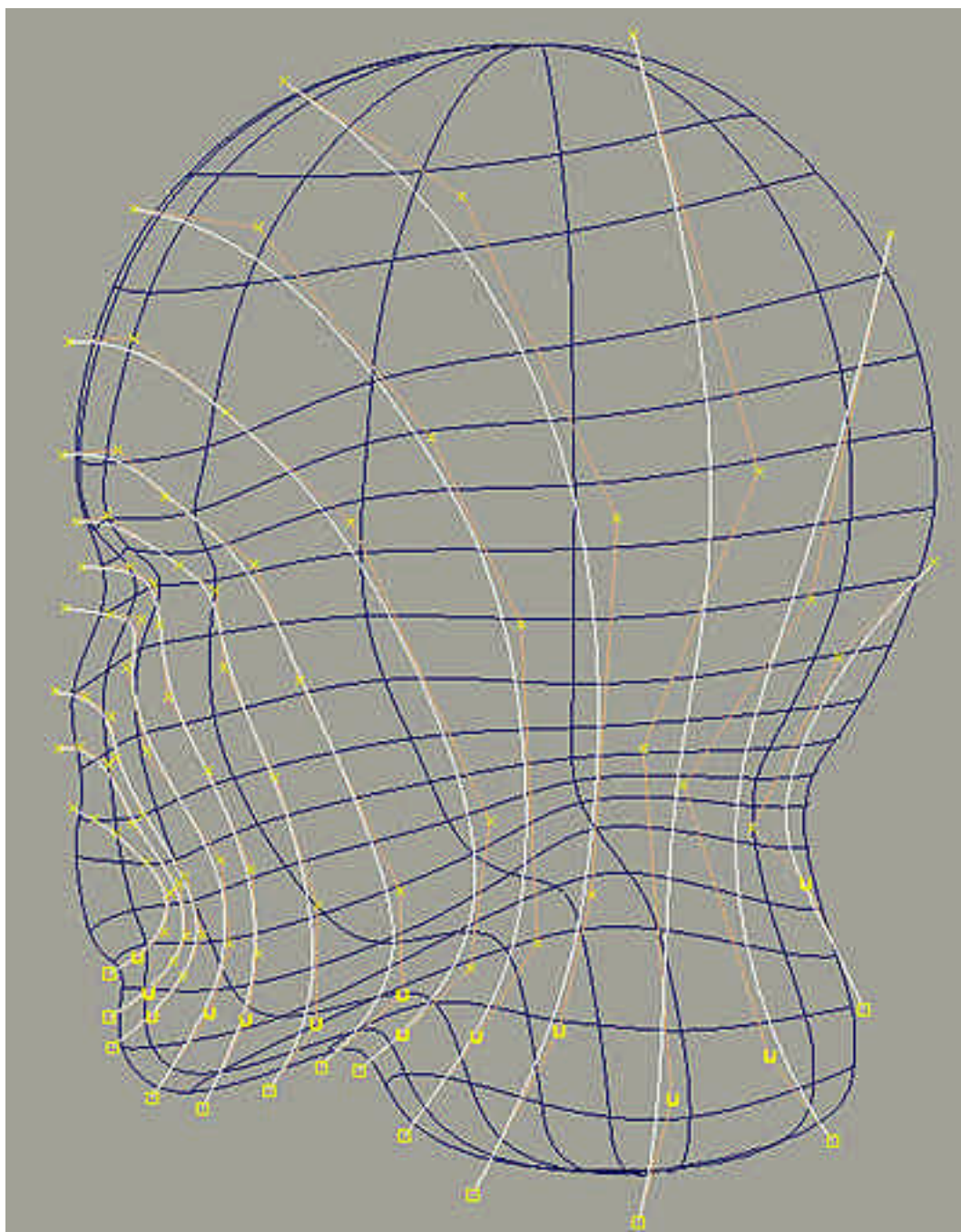
Now it's time to start converting the top/bottom head model into a new front/back one. (You might try going straight to the front/back type, but I think it's much easier getting the basic shape right if you start with a top/bottom surface, and the final surface gets a smoother, more "sophisticated" parameterisation.)

In the Right window, we will draw curves that we'll project (in the same window) onto the existing face as Curve-On-Surfaces (COS). To know how many curves to draw, we need to count how many cv's are needed (the minimum) to get the center profile shape we need. Since we're looking for a minimum, we need to count on the side of the head that is most complex, and that's obviously the upper side (remember we're going for one pole in the mouth, and one in the nape of the neck). At the same time, we're planning where to put each curve, and how to shape it. The most important thing here is that they are as evenly spaced as possible. This can best be done with pencil and paper. (Close up the bottom of the throat by collapsing (scaling) the last row of cv's into one point - a singularity).

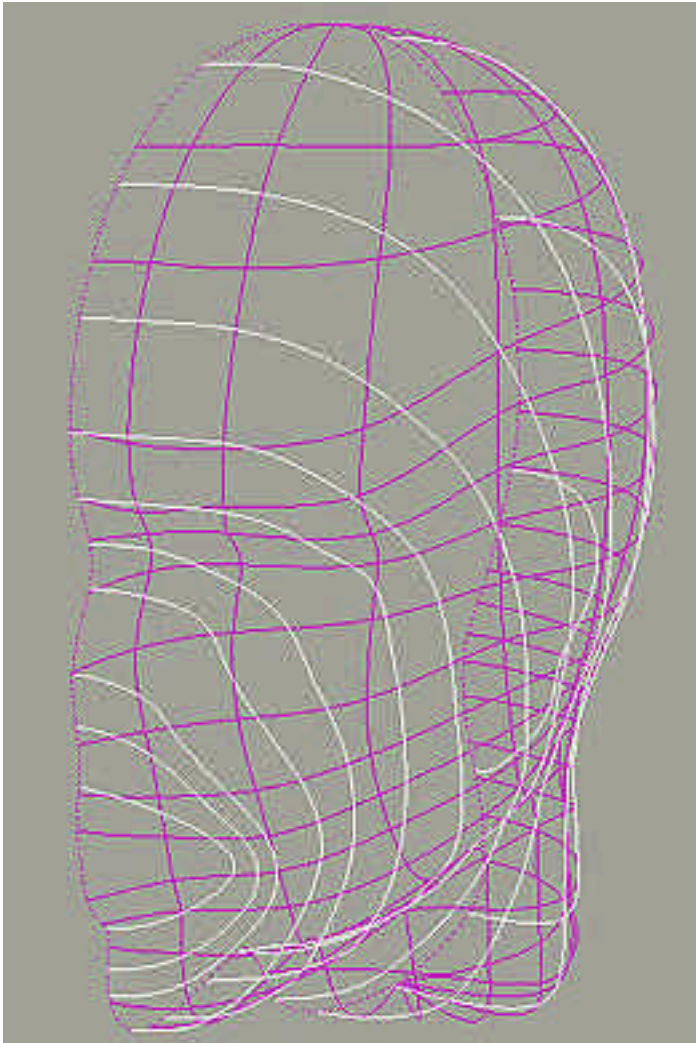


The screenshot at left shows the proposed locations for each new curve (see white dots).

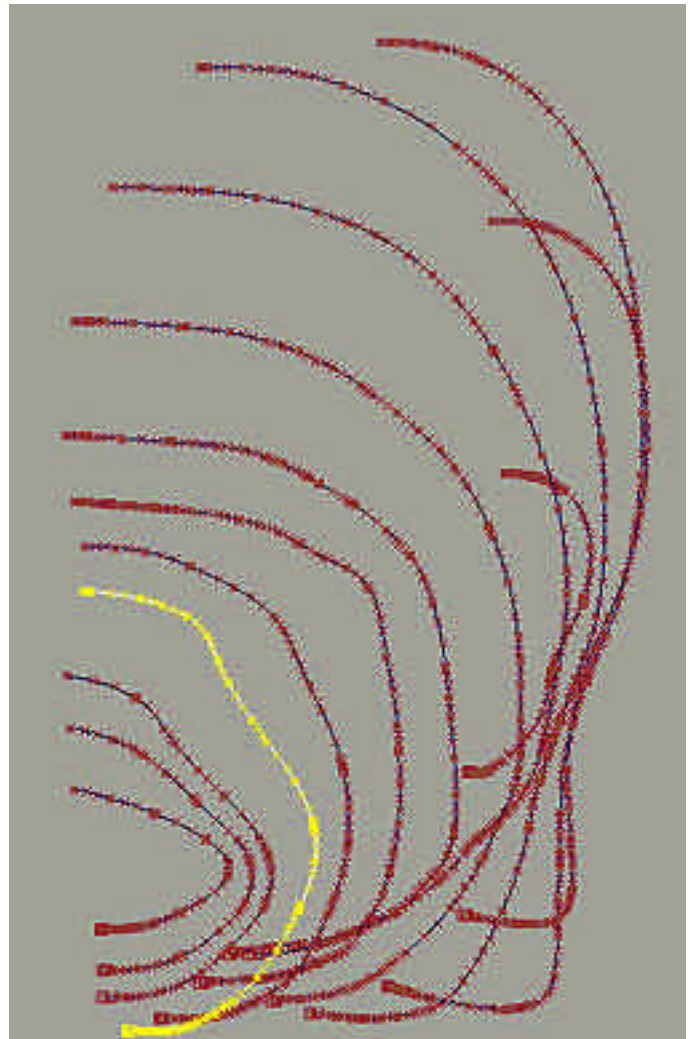
Projecting the curves



Now project these flat curves onto the head. Hide or delete the original curves.



Screenshot 1.



Screenshot 2.

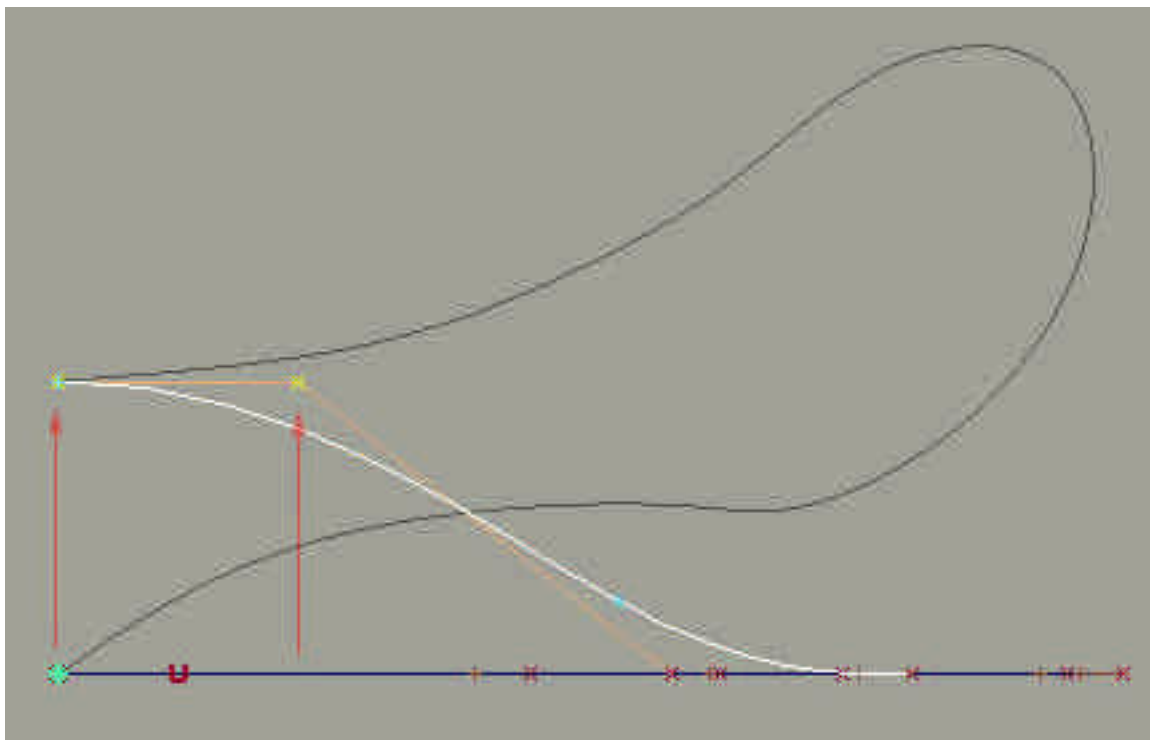
Use "duplicate curve" with no rebuild on those COS's, hide or delete the first face (see screenshot 1). These new curves are useless for "skinning" (lofting) since they contain way to many cv's and are unevenly parameterised - and automated "rebuilding" isn't optimal (see screenshot 2). We should rebuild them by hand. Start making your curves with the most complex one first, just like we did with the nose earlier - here in screenshot 2 above it's highlighted.

Rebuilding the curves

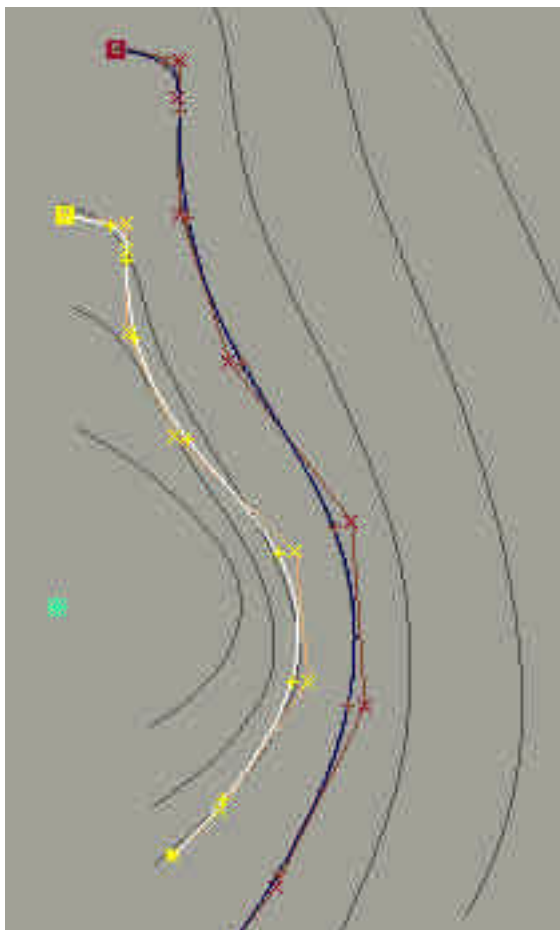
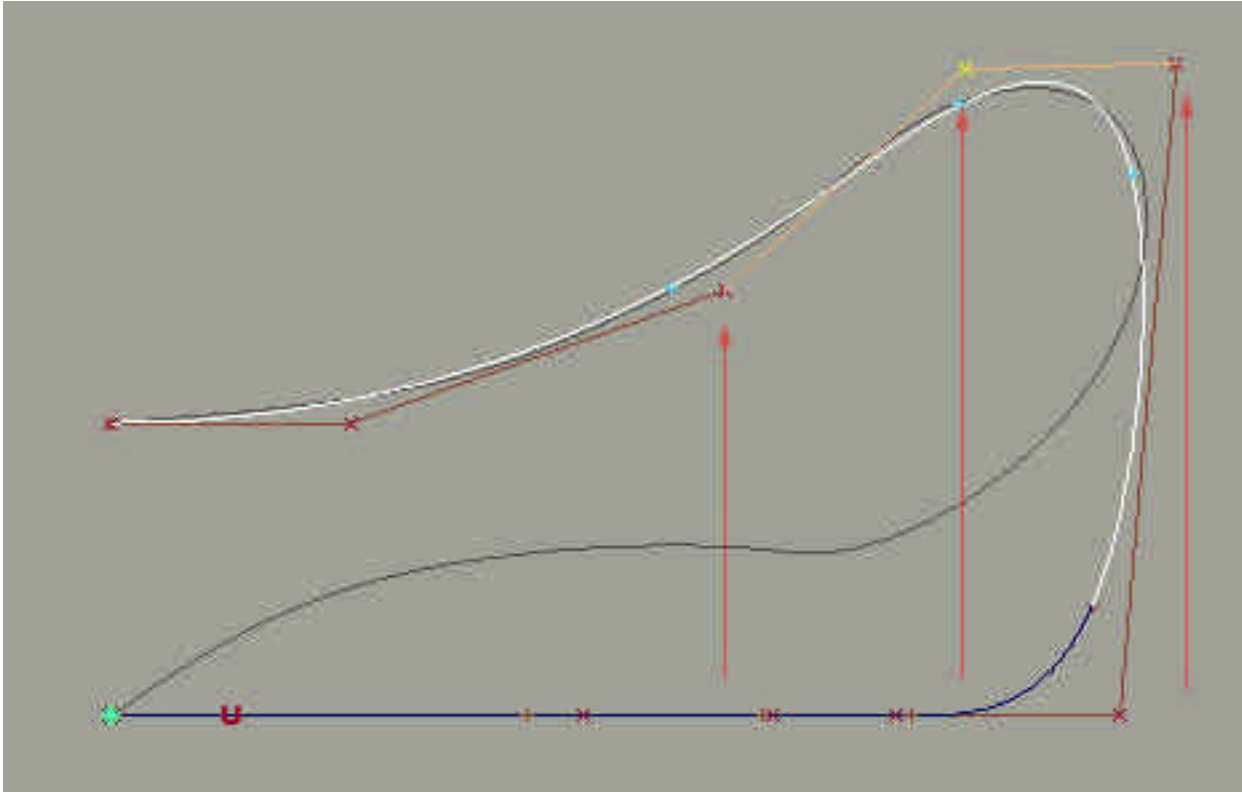


Start drawing the new curve in the Front window, snapping the first one to the start of the first reference curve, and snapping the second one laterally to the first one with RMB so it's tangent horizontally (see the screenshot at left). Continue, again figuring "how few cv's can I get away with and still stay close to the shape?" About 11 should be enough to do it here. If you find this part difficult, practice on it - it's an important part of all modeling (see my notes on general modeling).

Next proceed to the Top or Right window, and move each of the other cv's back to fit the template, only in Y (RMB) - but try to keep the 2 first and 2 last cv's horizontal, it'll make for a better attaching of the other side of the face later (see the screenshot below).

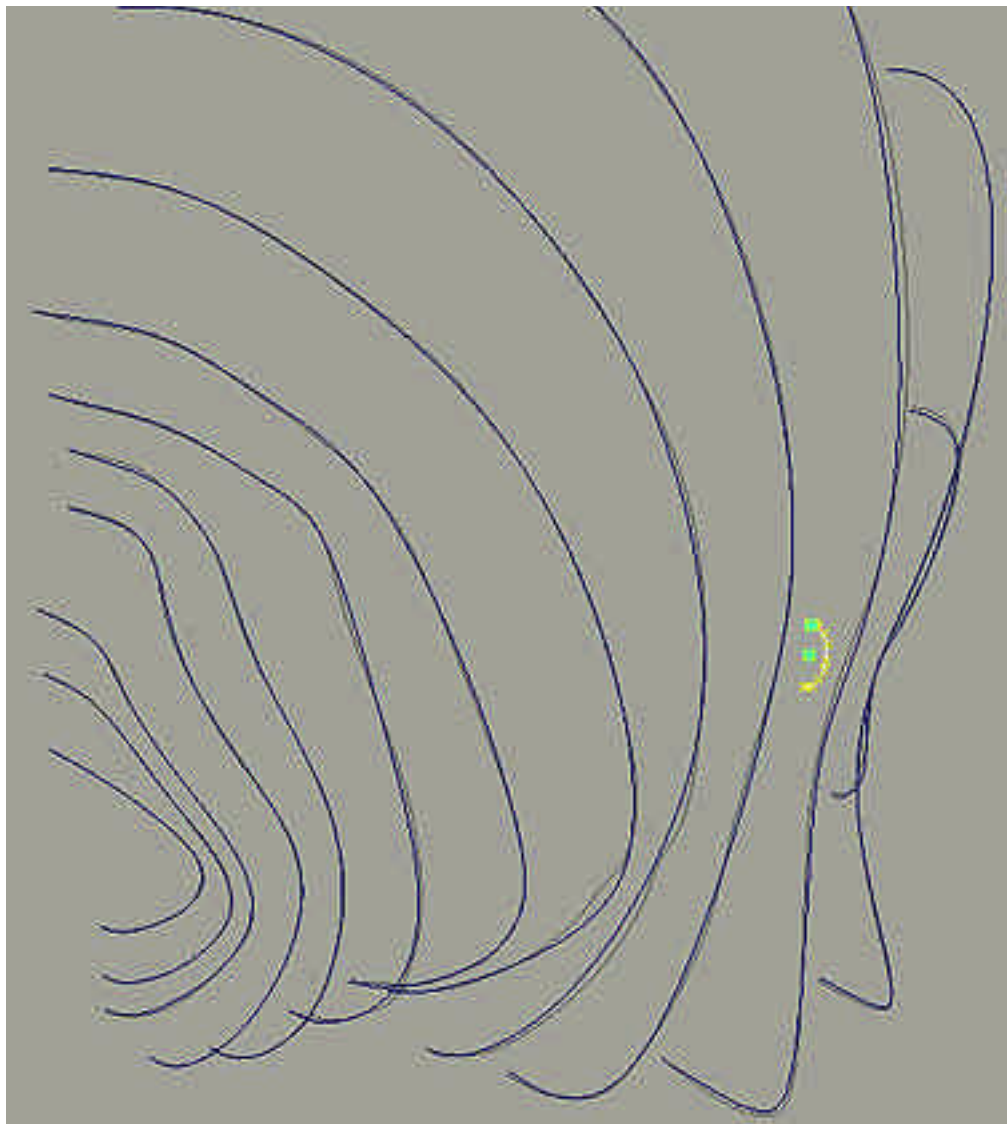


When you have the closest fit possible, check the remaining window, and make further adjustments. If there's still a bad fit somewhere, say in the Top window, go there and move the cv's BOTH in x and y, then go back to the Front window and adjust it there again if necessary. You'll have to go back and forth a few times between different windows. **TIP** - Here's a good time to use the pickwalker arrows to move from cv to cv without leaving the Move-tool.

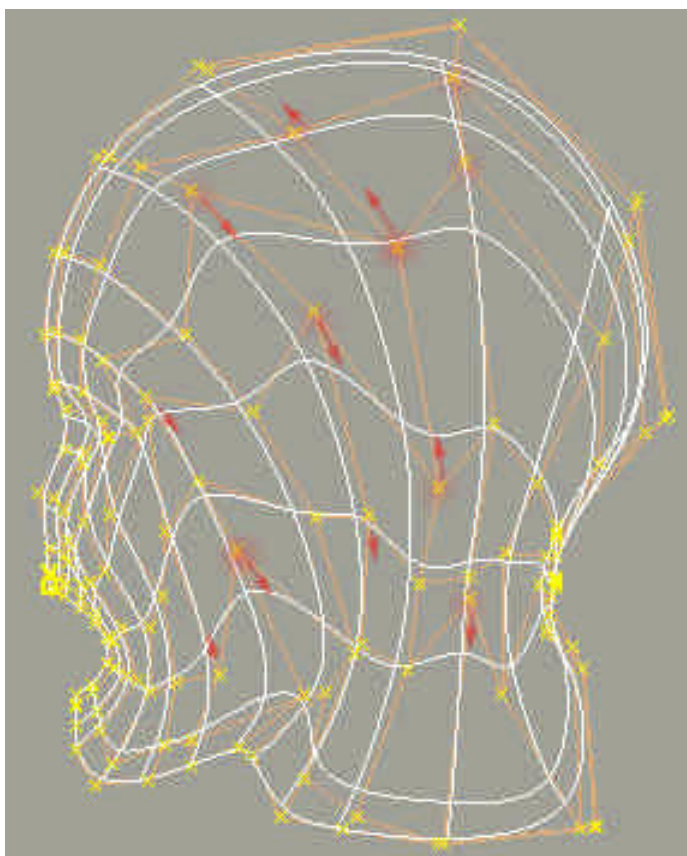


When you've finished editing, copy the new curve and fit it to all the other old curves, without adding or deleting cv's. Move, rotate and (non-p) scale each new curve roughly into shape, then cv edit - this is quicker and gives smoother, more similar curves. Every time you go from a more complex curve to a simpler version, do your best to spread and redistribute the cv's evenly along the curve, but not too far from the previous one.

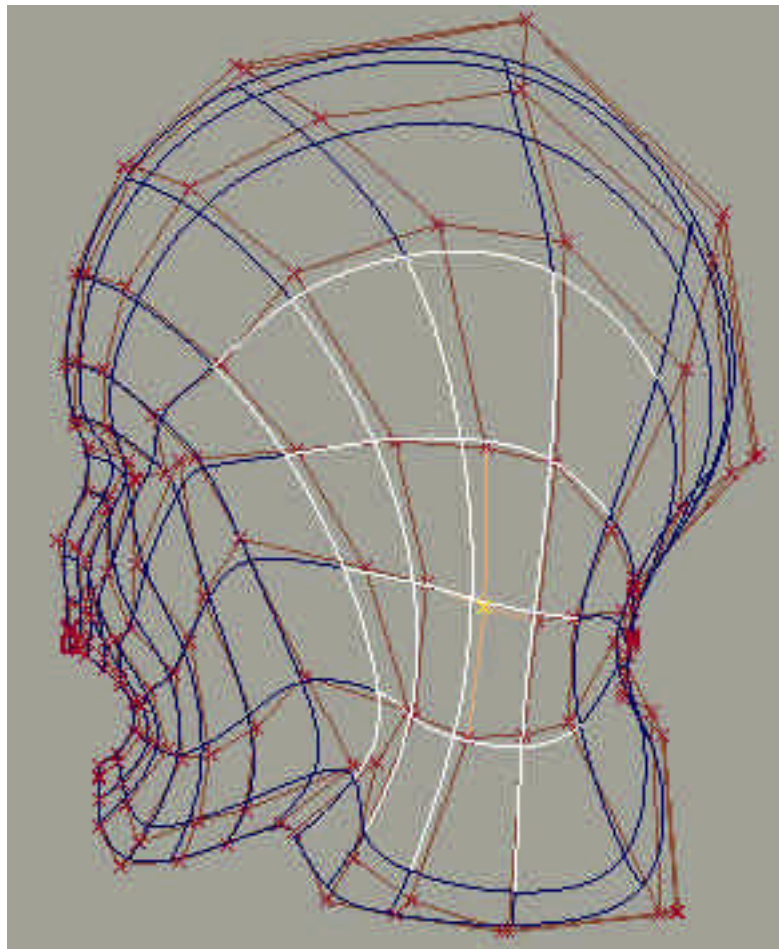
In the screenshot at right, note the 2 additional highlighted curves at the nape of the neck, one of them has been shrunk (scaled) to a point (a singularity).



These re-built final curves are then "skinned". The resulting surface can be seen in the screenshots below.



The resultant surface is pretty lumpy, as per usual with "skin" -- so we will need to edit it further. In the screenshot at right the highlighted cv's are the main problem - straighten and smooth the isoparms out using "Move cv normal" in the direction of the red arrows at first, then "Move", checking in the Top view moving the clipping planes around, till it looks more like the screenshots below.



Observe that in the screenshot (below left) the highlighted isoparms now have been smoothed out and create a nicely curved shape (compare to the lumpy and bumpy one above). The shaded screenshot below shows the completed head surface, now rebuilt and reparameterised.

