

When I started doing the project, I tried to get the feeling of the initial one (heaviness, tiredness, hanginess of head, etc instead of a bull who feels horrified as we see in the initial photo). I cropped and adjusted several parts then combined, this wasn't the purpose of the project, but I will include the steps of this as well because it was pretty enjoyable for me and I learned a lot during the process as well. On the other hand the second transition (6>7) was hard to get and analyze, as they are visually the same and only new attributes were added. The method of applying lines changed, they became more continuing each other, there were less interruptions: if one part could be transformed from multiple lines to one or two the line was changed correspondingly. However I had only a few ideas how to do them algorithmically, so most of the work was done manually drawing.

Transition 0> 1

Step #	Transition	Alg/Cmd/T	AppliedTo #	Reason	Result
1	0 > 1	Mask with low opacity for 1st photo	0	To see the differences	Informative
2	0 > 1	Make 8 bit	0	To eliminate color factor	poor
3	0 > 1	Make binary	0	To see lines and light transitions clearly	good
4	0 > 1	Fill holes	3	In final picture the bull looks as one whole component, in initial photo we see sketches of different parts of the body	good
5	0 > 1	Binary > Close (x3)	4	Close spaces between lines	good
6	0 > 1	Add shadow northeast	5	To give "shape" as in final picture	poor
7	0 > 1	Delute (x3)	5	Make edges thicker	good
8	0 > 1	Invert loot on	7	To make it	poor

		horns		bright as in final photo	
9	0 > 1	Analyze particles	7	To compare how measurements, in particular center of mass has changed	Interesting, they differ very little. In the initial photo they differ a lot, while in changed there are almost the same.
10	0 > 1	Add noise	7	To make it more realistic	lovely
11	0 > 1	Apply Median Filter	10	To make it bolder	failed
12	0 > 1	Unsharp mask	0	Tried to enhance edges	good
13	0 > 1	Filter Min (2.5 pixel)	12	Make edges bolder	good
14	0 > 1	Median 3D (2 each)	13	Make Inside of shapes darker	good
15	0 > 1	Sharpen	14	After median it was darker as wanted but blurred as well	good
16	0 > 1	Find head coordinates of final photo and size, resize initial photo's head and apply on initial photo	0	Match head sizes as we saw in step 1 head is much more bigger. I wanted to get not the final photo, but the feeling of the final photo	poor
17	0 > 1	Resize not	16	Make neck	good

		proportionally part of the image		more curvy	
18	0 > 1	Replace black color in horns with background color, resize	17	Make horns visually bigger and enhanced	poor
19	0 > 1	Edge enhance filter and min filter	18	Make edges solid and give shape	good

6 > 7

Step #	Transition	Alg/Cmd/T	AppliedTo #	Reason	Result
1	6 > 7	Drawing tools were used: Line tool, shape tool.	0	To add continuing lines and missing components.	Useless in terms of processing
2	6 > 7	Copy part of the picture with a selection tool, rotate, flip vertically, apply as a mask. Cut parts were filled with the background color	0	Make existing lines continuing each other by transforming the lines itself	poor
3	6 > 7	Continue to draw with lines and shapes, measure angles, etc, i know this wasn't the purpose	1	Get line continuation logic	good result but useless in terms of image processing
4	6 > 7	Change	3	In final photo	poor

		contrast and brightness particular places (couldn't find edge thickening algorithm)		we almost don't have any particular line that is thicker than other ones	
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