

In this case study, we're going to see how we can create a photo illustration of your work.

The idea here is to show how a liquid battery works for a final illustration.

So first, create photographic bits and pieces and put them all together.

Think of it just as if you were drawing the pieces and putting those sketches together.

After I met with the researchers for a brainstorming meeting, I got all this material from them, including a diagram that described my idea to create a model of how a liquid battery works.

This is the way I imagined the shoot to go.

OK first, I would take an optical quality cuvette and would then pour the mercury and the water into the cuvette and somehow suspending with a clamp, a strip of metal foam, which is an important part of the science.

And because I was imagining a full container of this material after making the image, I would then crop out the right side-- we don't need to see the clamping device-- and then flip the left side, or a small portion of the left side, over to the right, to then make the full container and the final model.

Now remember, this is not a documentary image.

This is a photo illustration for, hopefully, a cover submission.

That's the idea.

OK, so first I start looking at the cuvette, the vessel into which I was going to be inserting and pouring all the components.

I put it on a light box and liked what I saw.

The picture was going to be simple and lit fairly well.

Then I practiced inserting the metal foam with a clamping apparatus, to see if it was doable.

And it was, at least with an empty container.

Sort of a dry run, so to speak.

So the next photograph I took was with the mercury and water in the container, which looked fine too.

I then discarded that, by the way, into the special container the researchers provided, and sort of started all over again and tried for the next steps, which was going to be inserting the foam at a certain level with the water.

I played a little with lighting, by shining a tungsten lamp onto it.

It gave a warmer feel, which I liked.

Then I plopped it further into the water, to see how that was going to look.

And again, I changed the lighting, by adding a little lamplight onto this material.

So I was getting there.

Eventually, this is the image that I wound up with.

Well, sort of wound up with.

And I'll tell you, frankly, I was a bit nervous dealing with the mercury and pouring it out and dealing with that and the water, especially while having the important cautionary instructions always sitting in front of me.

So again, making the pieces photographically and then putting them together was the way to go.

Remember, this is an illustration using photographs, for the purpose of creating a model of the technique of how a liquid battery works.

And this is how I did it.

I'm using Photoshop here, but you can use other software, of course.

Take a look at the real life part of this, where we're using one image for the receiver of the piece on the right side, which is what we had been talking about.

So I'm first going to select the right side, copy and paste into the image on the left side-- the container with all the material.

Move it around a little bit, see if it has the potential of being doable.

It's not bad.

I think when it's flattened, it will look better.

I think it can work, so I will in fact flatten the image.

And if you remember, we were going to crop out the right side, which is what we're going to do here, crop, make the image as full as we can without the right side cropping it out.

OK, that looks pretty OK.

And now, as we had previously talked about in the animation, we're going to flip one side to another.

But first, in order to do that, I'm going to expand the canvas, to make room for the new piece that we're going to start working with.

So I am, in fact, taking a piece of the left side, which is what we talked about.

I'm copy and pasting, there it is again.

And we're going to flip it to make up for the empty side.

We'll just flip it horizontally.

Move it around a bit, and with a little fudging, we get a pretty nice start for an image that we're getting to.

I decided to play more about raising it one more level.

And so I went back to what we have seen before in another image, where I basically take this pretty good image, select the background, invert the selection so that we have, in fact, selected the liquid battery.

Copy and paste, and you see here, we have another layer of just the liquid battery.

And went to Layer style and went back to our old Drop Shadow friend.

And I played with making a drop shadow, which I did like.

I tend to think that it just pushes it away.

And I think it worked quite well.

Eventually, what I did wind up doing is playing a little bit with putting a different background, for example, making a gradient.

That wasn't going to work.

I didn't even know what I had in mind, but I really wanted something a little more dramatic.

So going back to the picture without the color in the background, I'm keeping the drop shadow.

I went to Adjustments and decided to invert the whole picture.

And yes, that's quite an unusual image, but decided to do it and play a little bit with the hue, to get that blue back to the orange that I sort of liked.

It wasn't quite enough.

I increased the saturation a little bit.

And there it is.

This was the final image that I showed to the researcher.

And frankly, I think we got ourselves a winner.

Unfortunately, not the cover of the journal, which I really-- we were hoping that would happen.

But it did get the home page of the journal, and a couple of other home pages of various journals.

And it got a lot of attention.

First of all, of course, the science was important.

But we pretty much agree that making an image to draw attention to the science really is what this image making is about.

I hope you enjoy this, and see the thinking that is extensive when you get into something this complicated.