

E-EX - Behind the Scenes of Dr. Stone

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[00:06] ---

I was with our director, lino-san, in the editing bay watching the finished product...

[00:10] ---

And there's a part where Senku says

[00:12] ---

"it's been a year since the experiment began. It felt shorter than I imagined."

[00:18] ---

And the director remarked how he felt the same way.

[00:27] ---

I'm Katagiri Shusuke, I work as a producer at TMS Entertainment.

[00:32] ---

This is my 16th year in the industry.

[00:34] ---

It's nice to meet you.

[00:36] ---

Basically one day, everyone in the world is turned to stone.

[00:40] ---

And then later, the protagonist Senku manages to be restored somehow,

[00:46] ---

In that world, 3,700 years later, where civilization is long gone,

[00:50] ---

he tries to rebuild civilization, starting with just the basics he can get his hands on.

[00:56] ---

Hello, I'm lino Shinya.

[00:58] ---

I'm the director of Dr. STONE.

[01:03] ---

I didn't write the original story.

[01:10] ---

My job is to get as close
to the original as possible.

[01:18] ---

I see.

[01:20] ---

So it did happen to everyone.

[01:25] ---

Since this is an adaptation
of an existing title,

[01:28] ---

I had to familiarize myself
with the source material,

[01:31] ---

and then recruit the kind of staff
we'd need for the animated version,

[01:38] ---

and make sure the quality of the finished
product lives up to our standards.

[01:43] ---

Along with, in terms of business
stuff, managing budgets and whatnot.

[01:49] ---

That about covers it.

[01:52] ---

There are various departments that work
on an anime, like the people who draw...

[02:00] ---

There's the recording of the
voices and the sound effects.

[02:09] ---

All of the sound production.

[02:10] ---

Then there are all the drawing
that the animators have drawn,

[02:14] ---

There's also other art
such as background art.

[02:21] ---

We have various sections working
on different parts of the anime,

[02:25] ---

and saying that I check on everything
might sound a bit impudent,

[02:29] ---

but that is basically what I do.

[02:32] ---

I wanted to try and work with younger talent who didn't have as many titles to their names.

[02:43] ---

I partly wanted the challenge of handling it with that kind of fresh outlook.

[02:47] ---

I was the assistant director for Made in Abyss about six years into my career.

[02:57] ---

It has been about five or six years since I started working as an episode director.

[03:02] ---

I think the thing that caught my interest the most about Dr. STONE was the theme.

[03:08] ---

The theme heavily deals with science

[03:12] ---

and that's not something you see often in shonen manga.

[03:19] ---

With this show, we looked at it from a variety of angles,

[03:22] ---

and came to the conclusion that original material would be a poor fit for it,

[03:26] ---

so the anime is generally a pretty direct adaptation.

[03:38] ---

I think this goes for any series dealing with fantasy

[03:44] ---

but Dr. STONE is set in Japan 3,700 years in the future.

[03:50] ---

In that case, what does the background look like?

[03:54] ---

What about the townscape?

[03:56] ---

I think that was the first thing I thought about.

[04:04] ---

The first thing you do when making an anime is come up with a project outline.

[04:09] ---

And for something like this, that means studying the original manga,

[04:14] ---

and then, as soon as you know the episode count you're working with, whether it's 13, 24, or 25,

[04:22] ---

You figure out how to pace the material to fit your production.

[04:40] ---

Now, that's not nice.

[04:42] ---

Shouldn't you say "Nice to meet you" first?

[04:45] ---

Shut your mouth!

[04:46] ---

Save your introductions for Hell.

[05:04] ---

So we have these storyboards...

[05:07] ---

And the first thing we need to make scenes are these designs.

[05:13] ---

Character designs.

[05:15] ---

As you can see, we have designs for all kinds of expressions.

[05:19] ---

To an extent, they can keep all those drawings more consistent

[05:23] ---

by referencing these designs while they draw.

[05:27] ---

When we were in the talks to animate Dr. STONE,

[05:30] ---

I started doodling Senku's face,

[05:37] ---

thinking about his various expressions.

[05:39] ---

And going through the usual expressions I would go through

[05:47] ---

but their were about two to three times more expressions in Dr. STONE.

[05:53] ---

So to keep up with that kind of passion, I thought I had to get pretty worked up, too

[05:59] ---

So...

[06:00] ---

I don't think it's that
visible on the outside

[06:04] ---

But to match how emotional and
expressive Senku and the others get...

[06:08] ---

Like when their faces
completely fall apart...

[06:13] ---

In order to keep up with that myself

[06:17] ---

I tried to expand my own limits.

[06:20] ---

I have a lot of fun when I'm
drawing these expressions.

[06:30] ---

So we have the art designs to show our
animators how to draw specific locations.

[06:37] ---

As you can see here...

[06:39] ---

For example, the character should be about
this size in comparison to this tree.

[06:45] ---

The size of the character in comparison
to things like houses and trees...

[06:50] ---

That's what these designs are for.

[06:53] ---

The size of the character in relation
to this tree is shown here.

[07:00] ---

We hold meetings to make these.

[07:02] ---

So when we meet to make these art designs,

[07:06] ---

We decide whether a character should
be bigger or smaller in relation.

[07:13] ---

This series has a lot of settings,

[07:19] ---

so we do our best to show the
complete view of this world.

[07:27] ---

So there are a lot of shots where we try to show that the background is the focal point.

[07:35] ---

But with that, I think there are a lot of different ways we can show that.

[07:42] ---

So I try to concentrate on that.

[07:49] ---

Okay, so a single anime episode typically consists of about 300 shots.

[07:54] ---

I mean, this is not 316, so obviously there are more than 300, but...

[07:59] ---

We used a higher number of shots in the first episode.

[08:02] ---

So, in this shot...

[08:04] ---

Senku lifts his hair away from his face,

[08:09] ---

faces the camera, so to speak, and closes his eyes.

[08:13] ---

So I'm going to explain how this shot was made.

[08:17] ---

It starts...

[08:19] ---

with these rough drawings.

[08:22] ---

These tell us which character is used, what backdrop is behind them,

[08:26] ---

and how the character is moving.

[08:30] ---

These are drawn first. We call these "layouts."

[08:36] ---

The composition of the shot, as I described earlier, is drawn in these layouts.

[08:40] ---

And the first thing we need in order to make these layouts...

[08:44] ---

are these storyboards.

[08:47] ---

Hello, my name is Kawajiri Kentaro. I'm the assistant director for Dr. STONE.

[08:52] ---

Basically, my job is to make sure that I get

[08:55] ---

the key points from the manga like the characters'

[08:59] ---

expressions and nuances so that the rest of the workflow goes smoothly.

[09:04] ---

I make sure that all gets outputted into actual anime.

[09:11] ---

Right now, I'm doing some storyboards for Dr. STONE.

[09:19] ---

After that, the director will make corrections, brush it up,

[09:25] ---

and then let us know what direction he wants us to go in.

[09:30] ---

The storyboards are basically the blueprints of the animation.

[09:35] ---

All 300 or so shots in the episode are explained in detail here.

[09:40] ---

This one, shot 316, is right here,

[09:43] ---

and even at this stage, the rough idea of the scene is all drawn in.

[09:49] ---

The character named Senku is standing in front of this sort of backdrop

[09:53] ---

He lifts his hair out away from his face and looks straight forward.

[09:56] ---

All those directions are written here.

[09:58] ---

These drawings are the blueprint of the scene.

[10:02] ---

And based on these blueprints, the storyboards,

[10:04] ---

the layouts that I just explained are created.

[10:17] ---

Basically, I concentrate on the whole picture.

[10:20] ---

I put in corrections on how I want the whole layout to look.

[10:26] ---

What I write in this column

[10:30] ---

are basically instructions to the animators.

[10:34] ---

Like for this shot, I'd like a pan shot.

[10:37] ---

where the camera moves up.

[10:43] ---

Or with this shot, where I'd like the rock in front

[10:49] ---

to move down while the rest of the shot is panning up.

[10:53] ---

This episode happens to have a girl named Suika in it.

[10:57] ---

And in the episode, she puts on glasses for the first time,

[11:07] ---

and she's able to see everything clearly for the first time. She's then moved to tears.

[11:15] ---

So at the part where the glasses are completed and she puts them on...

[11:22] ---

She's then able to see sunflowers extremely clearly for the first time

[11:28] ---

I wanted to make sure there wasn't much dialogue for this scene,

[11:32] ---

and that the emphasis was on the music.

[11:38] ---

That was my vision for this scene.

[11:41] ---

So I increased the amount of shots

[11:46] ---

and have Suika, who's seeing these sunflowers for the first time, move up a little more.

[11:53] ---

And then she sees the sky, the dog, and Senku and the others.

[12:01] ---

After that, she starts crying.

[12:06] ---

And overall for this part, I wanted to make sure there wasn't any dialogue.

[12:09] ---

Just music and of course the characters' acting.

[12:13] ---

That's what I concentrated on for these scenes.

[12:17] ---

So here, we have directions on this layout, asking for a bit more emphasis

[12:30] ---

And as for the character's movements...

[12:33] ---

There's a direction asking for him to brush his hair back from farther forward

[12:39] ---

by catching it with his thumb and then sweeping it back from there.

[12:46] ---

So today...

[12:48] ---

First, I was checking the layouts that some animators brought me...

[12:54] ---

They're already checked by the episode directors

[13:00] ---

but I then take a look and check over those myself.

[13:05] ---

To make sure there aren't any issues.

[13:08] ---

One person can't make 300 shots of animation alone,

[13:11] ---

So for one episode, we typically have about 20 animators drawing the animation.

[13:19] ---

Since there are 20 of them doing
the 300 shots in an episode,

[13:25] ---

that means you'd have 20 slightly different
versions of the same character,

[13:29] ---

So we have what's called an animation
director to keep everything consistent.

[13:33] ---

And the animation director...

[13:36] ---

gives us this green sheet.

[13:39] ---

So the animation director revises
this drawing... into this.

[13:46] ---

The difference is very clear, isn't it?

[13:50] ---

The animation director has revised
the hand in this drawing.

[13:55] ---

We actually have...

[13:58] ---

a drawing of the character
in mid-motion here,

[14:00] ---

and the completed motion drawn here.

[14:03] ---

So the entire sequence
is revised in this way.

[14:06] ---

And with these revision,

[14:11] ---

the drawings for the 300 shots drawn
by 20 people on a given episode

[14:18] ---

are all brought together cleanly.

[14:21] ---

And the next stage, once
they're all brought together,

[14:27] ---

is the key animation.

[14:30] ---

This very first drawing starts the shot

[14:34] ---

And from the first drawing...

[14:36] ---

we then have this drawing from mid-shot...

[14:40] ---

and then this drawing that ends the shot.

[14:41] ---

You can see what's happening when you see them all lined up in order.

[14:45] ---

There's the start drawing,

[14:47] ---

the mid-shot drawing,

[14:50] ---

and the end drawing.

[14:52] ---

In animation terms,

[14:54] ---

these are the key frames for the action of raising his hand to here, and giving his look.

[15:01] ---

The animation that goes between these frames is called the in-betweens.

[15:09] ---

They fill the gaps between the key frames.

[15:13] ---

And the process of filling them in looks like this.

[15:17] ---

This is the start drawing.

[15:21] ---

Now we reach this mid-shot drawing...

[15:23] ---

Can you tell? Here's the mid-shot drawing...

[15:33] ---

And finally, we reach the end drawing.

[15:37] ---

And just this small bit of animation includes many individual drawings.

[15:46] ---

So then we fill these in. This what we call in-betweening.

[15:51] ---

Next, we come to the coloring stage.

[15:56] ---

The in-between are drawn in pencil or digitally,

[16:00] ---

so they're just black and white,

[16:04] ---

but now we begin the process
of filling in the colors.

[16:08] ---

We have actual example models to follow.

[16:12] ---

So we add color to each shot based
on the color in these models.

[16:19] ---

We base it on these color models.

[16:22] ---

It's basically the same as a coloring book.

[16:25] ---

So this is the coloring process,

[16:29] ---

gives color to all the these drawings...

[16:34] ---

and it becomes animation.

[16:36] ---

Can you tell? Just as the directions
in the storyboards say...

[16:41] ---

Senku is looking down, he sweeps
his hair back, and opens his eyes.

[16:46] ---

Senku is looking down, he
sweeps his hair back...

[16:49] ---

and he opens his eyes.

[16:51] ---

And that completes this
sequence of animation.

[16:55] ---

Of course, this doesn't mean it's finished.

[16:59] ---

Now we get to what I showed you earlier,

[17:01] ---

which is done at the same
time this is going on...

[17:04] ---

The layouts, the ones I showed you earlier.

[17:08] ---

The layout shows which character is present,
where they are, and what they're doing...

[17:14] ---

Can you tell?

[17:16] ---

This is where the background is added.

[17:20] ---

We follow the episode director's directions

[17:26] ---

to fill in all these detailed areas.

[17:34] ---

So when we add this completed background

[17:38] ---

to the cel data that we
animated a moment ago...

[17:43] ---

we end up with this cut, which
I showed you in the beginning

[17:47] ---

The background data we saw earlier is here,

[17:51] ---

and the character data is here.

[17:54] ---

When those layers are put together,
it results in animation.

[18:02] ---

The process that takes this
long to make a single shot

[18:06] ---

is repeated about 300 times
to complete an episode.

[18:14] ---

Things are about to get a
little more tedious, though.

[18:21] ---

Distilling Wine for Dummies

[18:23] ---

This isn't really unique to Dr. STONE,

[18:28] ---

but I think the moment that's always the most
exciting is when a piece of animation is completed.

[18:39] ---

Seeing the character actually move around
on a carefully illustrated background,

[18:45] ---

you always go "It's actually moving!"

[18:49] ---

So I'd say those are the
most exciting moments.

[18:53] ---

One thing I can say is that this is a
meticulously detailed world in the manga,

[18:58] ---

and that by bringing it to
life with motion and color,

[19:02] ---

it creates an even more vivid
feeling for the world...

[19:07] ---

Which really gives it an epic feeling, which
I think would be something worth seeing.

[19:14] ---

Sort of "This is how it
turned out as an anime!"

[19:22] ---

Man, what a great view!

[19:25] ---

Perfect.

[19:27] ---

Another thing we had trouble with...

[19:31] ---

You can tell from looking here. The premise
involves a world where civilization has been lost,

[19:36] ---

So they have shirts made from animal skins.

[19:39] ---

Which makes it hard compared to other anime,

[19:41] ---

Where you can sort of color-code
the character wardrobes

[19:43] ---

You'll probably notice how there'll be the blue
character, or the red one. We can't do that here

[19:49] ---

But it ends up looking kind of plain with
these really earthy colors, in the woods...

[19:58] ---

So we had to come up with color flourishes
to help bring the characters alive in animation.

[20:07] ---

Here we have Yuzuriha and she's wearing an
animal skin, so it really is just a plain brown

[20:16] ---

So for the anime, you'll probably
be able to tell when you see it,

[20:22] ---

We have her some red highlights to
make her a little more feminine,

[20:25] ---

and basically did that with other characters too, to help them send out from one another.

[20:33] ---

It's set on Earth.

[20:35] ---

So I wanted the things that the characters touched

[20:38] ---

and interacted with in their daily lives to feel realistic.

[20:43] ---

I didn't want those things to seem fake.

[20:47] ---

I wanted the viewers to be able to recognize these things.

[20:54] ---

I thought that the characters living 3,700 years in the future

[21:01] ---

would also seem more realistic that way.

[21:06] ---

This is wood, yeah.

[21:10] ---

It's here so we can study the details, like the wood grains.

[21:16] ---

This is a mineral called galena that appears in the series.

[21:20] ---

Wait, this isn't galena. It's pyrite.

[21:23] ---

We get a lot of things like this.

[21:28] ---

We do all kinds of weird things.

[21:44] ---

I used this...

[21:50] ---

with some of these shells that we got...

[22:00] ---

and crushed them into this.

[22:11] ---

So here's the scene where they crushed shells.

[22:17] ---

I just wanted to say I tried.

[22:19] ---

The idea is to see what happens

when you actually do something,

[22:22] ---

or prove that some things don't
actually work in certain ways.

[22:30] ---

Of course, we won't be able to use
every single one of these things,

[22:35] ---

but we'll use whatever we can get our
hands on. Same with those mushrooms, too.

[22:42] ---

We try to obtain as many things as we can,
to an extent, to serve as references.

[22:49] ---

There's this part...

[22:51] ---

where they go through the
process of making glass.

[22:57] ---

They mess it up,

[22:59] ---

then Kaseki is brought in...

[23:03] ---

Kaseki pulls it, and they
finally finish making it.

[23:07] ---

So to do this scene, we actually
went to see this being done.

[23:12] ---

You can see it here. We
actually visited a factory.

[23:18] ---

This is how it looked.

[23:21] ---

This is one of the things we did.

[23:24] ---

I actually...

[23:27] ---

have the finished product here.

[23:30] ---

So in the process of making these,

[23:33] ---

some mistakes were made.

[23:38] ---

Getting this part to stretch is crazy hard.

[23:42] ---

This was one of my failed attempts.

[23:46] ---

This was really scary.

[23:48] ---

That's me. I'm the one holding it here.

[23:51] ---

When I tried to pull it...

[23:56] ---

This tragedy happened.

[24:02] ---

This just shows you that we actually tried making things like this for reference,

[24:12] ---

which I hope will make you enjoy it even more.

[24:20] ---

I wonder... There's always the intent to have a celebration once production finishes.

[24:23] ---

Partly to show our gratitude to everyone who helped us, like "We did it!"

[24:29] ---

Sometimes having a goal like that in mind helps people do their best work.

[24:35] ---

We're making the anime, but we're fans ourselves.

[24:38] ---

So we want to help relay how amazing the series is to everyone,

[24:43] ---

and I hope people will check it out to see if we succeeded.

[24:50] ---

I'm hoping that the anime

[24:53] ---

will help the Dr. STONE series as a whole continue to grow in popularity.

[25:01] ---

How it feels? You know, if I had to choose, I'd always say there's a big sense of accomplishment.

[25:05] ---

"Okay, we did it! Time to deliver this baby!" I always feel pretty happy about that.

[25:12] ---

It's a slow but steady effort.

[25:15] ---

I'm going to beat fantasy with science.

[25:22] ---

This is exhilarating.

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