

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner,

v.

AUTONOMOUS DEVICES, LLC,
Patent Owner

IPR2023-01172 (Patent 11,055,583 B1)
IPR2023-01173 (Patent 11,055,583 B1)

Record of Oral Hearing
Held: October 3, 2024

Before BARBARA A. PARVIS, ROBERT J. WEINSCHENK, and
RUSSELL E. CASS, *Administrative Patent Judges*.

IPR2023-01172 (Patent 11,055,583 B1)

IPR2023-01173 (Patent 11,055,583 B1)

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1 P R O C E E D I N G S

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3 JUDGE WEINSCHENK: Good afternoon, everyone. This is an
4 oral hearing for IPR2023-1172 and 1173, Tesla v. Autonomous Devices.
5 This is Judge Weinschenk. With me today are Judge Parvis and Judge Cass.
6 Let's start with some appearances. Who do we have on the Petitioner's side
7 today?

8 MR. RENNER: Thank you, Your Honor. Karl Renner from Fish
9 and Richardson, joined in the room by my colleague Nick Stephens. And on
10 the public line Ashraf Fawzy from Tesla.

11 JUDGE WEINSCHENK: All right. Thank you, Mr. Renner.
12 Were you to be doing the presenting today?

13 MR. RENNER: Nick and I will be dividing the presentation, Your
14 Honor.

15 JUDGE WEINSCHENK: Great. All right. And who do we have
16 for Patent Owner? You might be muted, Mr. Jairam.

17 MR. JAIRAM: Good afternoon, Your Honor. This is Arvind
18 Jairam on behalf of Patent Owner Autonomous Devices. I'm joined here in
19 the room by my colleague Stuart McCommas. And joining remotely is, I
20 believe, my colleague Scott Haney. And joined through the public line is
21 also, I believe, client representative Jay Cosich (PHONETIC). I will be
22 giving the argument.

23 JUDGE WEINSCHENK: All right. Great. Thank you, Mr.
24 Jairam.

25 MR. JAIRAM: Thank you.

1 JUDGE WEINSCHENK: All right. I know this is round three of
2 our hearings in these cases, so you're all pretty familiar with our procedures,
3 but I'll hit a couple highlights real quick.

4 As always, our primary concern is your right to be heard. So, if at
5 any time you're having any technical difficulties either presenting or hearing
6 from us, please let us know. You can try to tell the Judges. If you can't
7 communicate with us, please contact one of the team members who provided
8 you the contact information for the hearing and they should be able to help
9 you out.

10 Please try to remember to mute yourself when you're not speaking.
11 Helps keep for a clear transcript. Also, please identify yourself each time
12 you start speaking for the benefit of the court reporter. As always, we have
13 all the papers and exhibits and demonstratives, but please try to refer to page
14 numbers or slide numbers so that we can follow along. It also helps for the
15 transcript later on.

16 As you both noted, there's a public line today. I don't believe
17 there's any confidential information here, but if at any time you think there's
18 something that shouldn't be heard by the public, please let us know and we
19 can at least temporarily shut down the public line if we need to.

20 Lastly, as you know from our order, each side will have 75 minutes
21 to present today. Before you begin, just let me know if you'd like to reserve
22 any time for rebuttal or sur-rebuttal. I will endeavor to give you a five
23 minute warning before we get into your rebuttal time. Sometimes if we're in
24 the middle of discussion, that can be pushed back a little bit, but I'll do my
25 best to make sure I get you a heads-up. With that before we begin, any
26 questions from Petitioner's side, Mr. Renner?

1 MR. RENNER: No, thank you, Your Honor.

2 JUDGE WEINSCHENK: Anything from the Patent Owner, Mr.
3 Jairam?

4 MR. JAIRAM: No, Your Honor, thank you.

5 JUDGE WEINSCHENK: All right, great. Mr. Renner, you can
6 begin whenever you're ready. Just let me know how much time you'd like to
7 save for rebuttal.

8 MR. RENNER: Oh, thank you. I think we'll reserve 25 minutes,
9 and Nick is actually going to begin our presentations. I'll invite him to do
10 just that. Thank you.

11 MR. STEPHENS: May it please the Board. This is Nicholas
12 Stephens on behalf of Petitioner Tesla.

13 Now, at the start of our demonstratives on pages 2 through 4,
14 we've included a table of contents that outlines the issues that have been
15 disputed between the parties in these two proceedings. There are a number
16 of claims at issue, and we will intend to address most, if not all, of these
17 issues during our direct today.

18 So, I'd like to begin with Claim 9. Among the claims whose
19 challenge was contested by Patent Owner, three relate to a knowledge base
20 that includes pictures or instruction sets learned in more than one learning
21 process. These are claims 9, 10, and 11 specifically. Substantially similar
22 claims in the related '974 and '344 patents were challenged based on
23 Grotmol in the 1054 and 1055 proceedings, which we recently addressed in
24 detail two weeks back. I therefore intend to offer a relatively direct set of
25 remarks on these claims, but I'm happy to take any questions from Your
26 Honors, should any arise.

1 Starting with Claim 9, let's all turn together please to slide 16. And
2 there's a lot here, but in short, Claim 9 refers to two learning processes
3 involving operation of the same, that is the first device, by the same user,
4 that is the first user. Correspondingly, Grotmol discloses, for example, at
5 column 24, lines 17 to 27, a hierarchical learning framework in which a user
6 may train simple tasks by demonstrating example tasks to the system, and
7 then the user may provide additional information to the system to train a
8 complex task. Grotmol explains that the user may organize simple, low-
9 level behaviors, and that the into hierarchies and train extra high-level
10 classifiers or switchers to control which low-level behaviors should be active
11 in a given context.

12 So, if we look at slide 18, we've reproduced Figure 10D with
13 annotations from Grotmol. And this illustrates how there are multiple
14 learning processes in Grotmol's robot. For example, the architecture given
15 by Grotmol as shown in Figure 10D relies on a collection of controllers.
16 Each of these controllers corresponds to a different task or behavior, and
17 each can be trained independently of the others. So, Grotmol gives us an
18 example.

19 JUDGE WEINSCHENK: Mr. Stephens?

20 MR. STEPHENS: Yes.

21 JUDGE WEINSCHENK: This is Judge Weinschenk. I believe
22 Patent Owner argued that you didn't really cite these controllers in your
23 petition, and that therefore this is an improper new argument. I didn't see
24 this anywhere in your petition. Is there a reason why this is still proper? I
25 mean, I know that there's some new arguments to make, but is this a new
26 theory, or is this just consistent with what you said in your petition?

1 MR. STEPHENS: Thank you, Your Honor. Our petition referred
2 to training different tasks for behaviors of the robot, and that's sufficient.
3 That is our theory. Figure 10D, I think, just helps to bring this to life. So,
4 we could present this argument without Figure 10D. It's not necessary to the
5 argument, but it does illustrate how each of these controllers, there are
6 multiple learning processes for training different tasks or behaviors in
7 Grotmol. Each of those tasks or behaviors involves training the robot
8 receiving training inputs and a distinct training or learning process, and the
9 result is shown in Figure 10D is that the user trains these different
10 controllers. But they claim does required controllers, and so the petition
11 demonstrated the presence of multiple learning processes.

12 JUDGE WEINSCHENK: All right. So, even without -- even if
13 we didn't rely on this figure, you're contending that the stuff you said in your
14 petition is sufficient for this claim?

15 MR. STEPHENS: That's correct, Judge Weinschenk.

16 JUDGE WEINSCHENK: Okay.

17 JUDGE PARVIS: This is Judge Parvis. So, to the question of
18 whether we can rely on that figure, does Petitioner want to respond to that
19 question? Can we consider Figure 10D?

20 MR. STEPHENS: Absolutely, Your Honor. Figure 10D is
21 consistent with the theories that were presented in the Petition. It's simply
22 an illustration of what was presented in the Petition. So, we don't see
23 anything improper about relying on this figure, citing it. It's all part and
24 parcel of the same arguments and theories that were presented in the petition
25 itself.

26 JUDGE PARVIS: Thank you.

1 MR. STEPHENS: But Grotmol, for example, referring to Figure
2 10D, and now this example is also not just limited to 10D, but Grotmol goes
3 back to this example of training the robot to perform a fetch behavior. And
4 it says fetch is a complex task, so it can involve the robot needing to track an
5 object, go to the object, grip the object, and then return it to the home base
6 where you'd like the object to be retrieved. And each of those subtasks, they
7 call them lower level or simple tasks, involves different training, the
8 different learning processes by the user. And so, each can correspond to, as
9 shown in Figure 10D, a different adaptive controller. But this is just an
10 example of multiple learning processes in Grotmol's robot.

11 Next, I'll advance to slide 58, to address Claim 10, which we
12 challenged in the 1173 petition as obvious over Grotmol. Claim 10 is
13 similar to Claim 9, except that it requires a second user. Namely, the second
14 learning process in Claim 10 involves operating the first device by a second
15 user rather than the first user.

16 Advance to slide 60, Your Honors. As indicated in reply briefing
17 at footnote 2 on page 7, the requirement for a second user here does not
18 appear to be entitled to patentable weight. Claim 10 is directed to a system,
19 and whether that --

20 JUDGE WEINSCHENK: Mr. Stephens, are you there? Charlie,
21 are you on the line? Are you able to figure out what's going on with their
22 connection -- with Petitioner's connection?

23 MR. TOROSSIAN: Yeah. It seems to be -- this is Charlie from
24 (INDISCERNIBLE) seems to be from their end. They need to probably
25 disconnect and reconnect if it doesn't come back on and hopefully they can
26 hear us still. If you are not able to bring the video back, please disconnect

1 and reconnect on Webex. Oh, I'll just send him an email.

2 JUDGE WEINSCHENK: Mr. Stephens, can you hear us?

3 MR. STEPHENS: We can hear you. Can you hear me?

4 JUDGE WEINSCHENK: I can hear you again. Yeah.

5 MR. STEPHENS: Okay. I'm sorry, that may have been a
6 connection issue at our end, but we'll monitor it and please let us know if
7 there's any further issues.

8 JUDGE WEINSCHENK: We lost you right when we were talking
9 about slide 60.

10 MR. STEPHENS: Okay. Thank you, Your Honor. I'll return to
11 that. At slide 60, as indicated in our reply briefing at footnote 2 on page 7,
12 the requirement for a second user in Claim 10 does not appear to be entitled
13 to patentable weight. Claim 10 is directed to a system, and whether that
14 system was trained by a first or second user does nothing to further define
15 the structure of the claim system itself. But even if it were a limitation,
16 training by a second user would still be obvious in view of Grotmol.

17 Turning to slide 61, please. And we've reproduced here an excerpt
18 from paragraph 341 of Dr. Janet's first declaration, where he explains that it
19 would have been obvious to a POSITA that different trainers could be used
20 to train behaviors involving different levels of complexity in order to take
21 advantage of varying skills and knowledge of trainers. So, we're calling the
22 example that we just discussed with training the robot in Grotmol to fetch.
23 That fetch behavior involves lower-level tasks, such as tracking an object,
24 gripping the object, returning the object to a home base. And those are all
25 very different from each other. So, per Dr. Janet's explanation here,
26 Grotmol's robot would have benefited from the different skills and expertise

1 of different users. It would have been obvious, as Dr. Janet explained, to
2 involve multiple users to improve the training of these different tasks. And
3 to be clear, involving multiple users would be exceedingly simple in
4 Grotmol. The trainer in Grotmol simply uses a gamepad, smartphone, or
5 other hand-held device to issue commands to the robot. Involving a second
6 user in the training would require no more than passing a hand-held device
7 from one user to another. Accordingly, Grotmol renders Claim 10 obvious.

8 I'd like to advance to slide 63, please, to address Claim 11, which
9 is the third in the trio of claims related to multiple learning processes. Like
10 Claims 9 and 10, Claim 11 refers to knowledge learned in two learning
11 processes. The difference in Claim 11 is that it requires that the two learning
12 processes involve operation of different devices. Notably, the petition
13 challenged Claim 11 as both anticipated by and obvious in view of Grotmol.
14 Now, Patent Owner has contested only the obviousness challenge, and I'll
15 therefore focus on obviousness of Claim 11, and we'll leave anticipation to
16 the papers.

17 Turn to slide 65, please. On this slide, we've reproduced
18 disclosure from Grotmol at column 33, lines 21 to 32, that highlights the
19 obviousness of acquiring knowledge from learning processes on multiple
20 devices. In particular, this portion of Grotmol teaches that the trained
21 configuration of a robot may be loaded to one or more other robots in order
22 to provide learned behaviors. The training configuration contains training
23 sets of digital pictures with instruction sets, and therefore the disclosure here
24 at column 33 indicates that by loading another robot's trained configuration,
25 the first robot is loading digital pictures correlated with instruction sets
26 learned by operation on the other robot.

1 JUDGE WEINSCHENK: Mr. Stephens? Can you go back a
2 couple slides to the claim language quickly for me?

3 MR. STEPHENS: Yes, Your Honor. To 63?

4 JUDGE WEINSCHENK: Yeah. This claim requires a knowledge
5 base. I know that some of the other claims at issue involve a server, I think,
6 required sort of a common knowledge base among the different devices.
7 Does this claim require a common knowledge base, or is this just a
8 knowledge base stored in one device, for example, the first device or the
9 third device?

10 MR. STEPHENS: Thank you, Your Honor. This claim refers to a
11 knowledge base on the system, which is defined by a Claim 1. And the
12 system is not actually limited to the first device or the second device. It
13 doesn't actually tell us what the system would encompass, whether that's the
14 first, second device, or additional aspects, such as perhaps a server. So, as
15 we understand the claim, the knowledge base that's referred to in Claim 11
16 and other claims where a knowledge base is recited, could be located in any
17 other variety of locations. It may be in the first device, it may be in the
18 second device, it may be a server in the cloud, for example.

19 JUDGE WEINSCHENK: Right. I guess what I'm asking is, I
20 think in some of your other grounds you brought in Hickman to show a
21 shared knowledge base on a server. Here we don't have Hickman. So, I'm
22 assuming this claim doesn't require a shared knowledge base. It could be on
23 one of the individual devices, at least for this claim.

24 MR. STEPHENS: Correct, Your Honor. That's how we interpret
25 Claim 11 as well.

26 JUDGE WEINSCHENK: Okay.

1 MR. STEPHENS: Now, turn to slide 65 please. And as I've noted
2 on slide 65 the left side we have Grotmol's disclosure at column 33, lines 21
3 to 32 about sharing a trained configuration and loading that trained
4 configuration from one robot to another. The result is that you have a
5 trained configuration on a first device, for example, that contains instruction
6 sets and correlated digital pictures that were learned by operating on another
7 device such as the third device that's claimed. And further it would have
8 been obvious from Grotmol to augment the first device's existing knowledge
9 with a shared training configuration, rather than to displace that robot's
10 existing knowledge when it loads a shared training configuration.

11 The record shows that it would be obvious for Grotmol's robot to
12 store multiple training configurations, such that when you load a shared
13 configuration onto the first device, it could retain its knowledge that was
14 trained on the first device, along with the training configuration that was
15 learned on the third device. And the result is a knowledge base that includes
16 both correlations learned on the first device and correlations learned on the
17 third device.

18 Now, slides 67 and 68 highlight some of the evidence to this effect,
19 which is discussed in further detail at pages 12 through 15 of our 1173 reply.
20 Our papers review this evidence fairly thoroughly, and I'll move to the next
21 issue unless further information would be helpful to Your Honors.

22 JUDGE WEINSCHENK: I don't have any questions on this issue.

23 MR. STEPHENS: Thank you. And next slide to address Claim
24 17. And to that I'd ask Your Honors to turn back to slide 34 of the
25 demonstratives.

26 JUDGE WEINSCHENK: Mr. Stephens, I'm not sure if you're

1 going in order of claims here or not, but if you are, I would like to talk about
2 Claim 15. I don't want to throw you off your presentation here, but I do
3 have some questions. I don't want you to skip Claim 15. So, if you want to
4 get back to it, that's fine, but I just want to make sure we don't skip that.

5 MR. STEPHENS: I appreciate that, Judge Weinschenk. We will
6 get to Claim 15.

7 JUDGE WEINSCHENK: All right.

8 MR. STEPHENS: As shown in slide 34, Claim 17 recite steps of
9 modifying a first digital picture, learning the modified first digital picture,
10 and determining instruction sets based on a partial match to the modified
11 first digital picture. And as I address Claim 17, please be mindful of Claim
12 16, whose language is shown on slide 30. And as Claim 16 is similar to
13 Claim 17, but it's broader in several respects. Most notably, Claim 16 does
14 not require learning the modified picture as Claim 17 does.

15 So, turning to slide 35. Slide 35 reproduces a portion of Grotmol
16 at column 39, lines 13 through 28, which was cited at pages 8 and 41 of the
17 petition, and which illustrates each of the claimed modifying, learning and
18 matching steps. Namely, this portion of Grotmol discloses how the robot
19 first modifies a first digital picture by performing pre-processing operations
20 such as resampling, cropping, or light balancing. Second, learns the
21 modified first digital picture by storing the pre-processed version in the
22 training buffer correlated with corresponding motor commands. And third,
23 determines a first instruction set by surfacing those motor commands based
24 on a partial match between a new digital picture and the pre-processed
25 digital picture. What with Grotmol says, quote, comparing the given image
26 to every image in the training buffer, that is, comparing every image to a

1 pre-processed image or modified digital picture. With the disclosure of
2 modifying, learning, and matching, as shown here in slide 35, Grotmol
3 anticipates Claim 17, as well as the broader description of modifying digital
4 pictures and matching recited in Claim 16.

5 Turn to slide 36, please. And I'll next address Grotmol's
6 application to a set of claims that each involves modifying instruction sets.
7 And these are Claims 14, 15, and 18. At the outset, I'd note that these claims
8 recite a number of overlapping features, and that Grotmol's applicability to
9 each is similar. Claim 18 is the narrowest of this set insofar as it requires
10 learning of the modified instruction sets. Claim 15 is a broader articulation
11 of Claim 18, similar to Claim 7 of the '344 patent, which we addressed two
12 weeks ago. It recites a subset of the Claim 18 features, but does not include
13 Claim 18's requirement for learning the modified instruction sets. And
14 Claim 14, likewise, does not require learning, but it adds a requirement for
15 applying a first device's instructions to a second device. Given the
16 similarities between the claims, I'd like to start by first addressing how
17 Grotmol meets the narrower features of Claim 18, and then return to Claims
18 14 and 15 to show how these same and additional aspects of Grotmol's
19 disclosure anticipates 14 and 15 as well.

20 So, as shown on slide 36, Claim 18 involves modifying the first
21 one or more instruction sets, learning the first one or more digital pictures
22 correlated with the modified instruction sets, determining the modified
23 instruction sets, and causing a first or second device to perform operations
24 defined by the modified instruction sets. We'll see that each of these steps is
25 disclosed by Grotmol. First, as to the claimed modifying step, Grotmol's
26 disclosure of override or correct -- overriding or correcting learned motor

1 commands in override and correct modes provides this step.

2 So, if we turn to slide 37 please. On the right side of this slide, we
3 see a disclosure from Grotmol at column 22, lines 27 through 46 which was
4 cited at page 44 of the petition. Here, Grotmol describes two training
5 modes, namely the override and correct modes that allow a trainer to change,
6 modify, that which has previously been learned by the robot. According to
7 Grotmol --

8 JUDGE WEINSCHENK: Mr. Stephens? Does overriding an
9 existing command modify that command or does it replace it? Because it
10 seems like to me overriding would take out what was there and replace it
11 with something new rather than somehow modifying that command.

12 MR. STEPHENS: Thank you, Your Honor. If we look at slide 39,
13 I would direct your attention to a description of the '583 patent that I think
14 speaks to this issue. And our position, just to be clear, is that yes,
15 absolutely, replacing or overriding instructions is a modification to those
16 instruction sets. And this is confirmed by the spec of the '583 patent which
17 describes modifying quite broadly. So, you'll see at column 136, lines 9
18 through 11, which is at the bottom of this slide, for example, on slide 39, that
19 modifying an application can involve using alternate instruction sets. So,
20 Grotmol's override modes --

21 JUDGE WEINSCHENK: That's a little different though, right?
22 That's modifying the application. So, of course, if you change the
23 instructions in an application, you've modified the application. But have you
24 modified the actual instruction that you replaced, or have you just taken it
25 out?

26 MR. STEPHENS: I think the way that we've read this and that our

1 expert, Dr. Janet, has read this, and it's not -- I'd also look at these other clips
2 that we have on slide 39, which refer to modifying an element of a logic
3 circuit with one or more alternate instruction sets. And on the right side,
4 actually modifying execution and/or functionality of logic circuit can be
5 implemented by replacing its input values with anticipatory input values.
6 Now, that does refer to input values, but it does connect modifying to a
7 replacement. We think that's consistent with Grotmol's override mode. We
8 did cite this --

9 JUDGE WEINSCHENK: And I have one more question for you
10 about this override mode. I know that you relied on this, or I believe you
11 relied on this for Claim 18, but I couldn't find this in your petition, for
12 example, where you're kind of grouping Claim 15 together with it. And it
13 looked like you relied on something different for Claim 15, not the override
14 mode. Am I missing something there?

15 MR. STEPHENS: Your Honor, the record is the record. We did
16 cite override mode and correct mode with respect to Claim 18. And our
17 view is that Claim 18 is simply a narrower version of Claim 15. So, if Claim
18 18 is anticipated by Grotmol's disclosure related to override and correct
19 modes, then Claim 15 necessarily would be as well, that being just a broader
20 expression of Claim 18. But --

21 JUDGE WEINSCHENK: Are we allowed to do that? Are we
22 allowed to take your theory for one claim that's narrower and apply it to a
23 broader claim, even if it's not specifically set out in the petition?

24 MR. STEPHENS: In our view, notice exists here, Your Honors,
25 because the Patent Owner drafted these claims. They should know that
26 Claim 18 is a narrower version of Claim 15. And we've debated on the

1 record the applicability of Grotmol as to those narrower limitations in Claim
2 18. So, they've been on notice through the same ground, same limitations
3 between the two, except Claim 15 being broader. And therefore, this issue,
4 it would lead to an unusual result in which if we weren't to accept that Claim
5 18, a narrower claim could be found invalid over the art and Claim 15 left
6 standing. I will say, Your Honor, there are additional aspects, given the
7 breadth of Claim 15, there's additional aspects of Grotmol that are relevant
8 to Claim 15, so I'd be happy to address as well.

9 JUDGE WEINSCHENK: Yeah, maybe, give it a hold on that. I
10 want you to finish your discussion of Claim 18, but maybe when you're done
11 with that, you can go back and tell me how the other disclosures apply to 15,
12 Claim 15.

13 MR. STEPHENS: Thank you. I would just also note to conclude
14 our discussion on override mode in replacing instruction sets, again, we do
15 think that the description of modifying, whether that's modifying instruction
16 sets, modifying an application, modifying input values is quite broad in the
17 '583 patent. And so, override mode would -- the replacement of instructions
18 thus constitute a modification. We put this evidence in our reply. Notably,
19 Patent Owner did not cross-examine our witness on his opinions regarding
20 these disclosures, nor do they confront these disclosures in their sur-reply.
21 So, we think the evidence here is clear that modifying encompasses
22 replacing or alternate instructions.

23 But apart from that, I would also note we've also cited to Grotmol's
24 correct mode. So, to the extent there are any concerns about override mode,
25 in the correct mode, the robot, this is from column 23, lines 21 through 22 of
26 Grotmol, and in the correct mode, the robot integrates what the teacher

1 commands with what the robot already knows. The teacher's correction may
2 operate in this case as a deviation from the predictive command determined
3 by the robot. So, here this involves combining or modifying the input,
4 which is the instruction set in correct mode to deviate from the original
5 instruction.

6 As to the learning step in Claim 18, we look at slide 37. Table 3
7 on the left illustrates Grotmol's relevant disclosure. As shown in Table 3, in
8 both the override and correct modes, Grotmol, quote, learns the association.
9 What this means is that Grotmol learns of the association between the digital
10 pictures stored in the training buffer and the overridden or corrected motor
11 command, that is, the modified first instruction sets. Grotmol describes this
12 learning, for example, at column 33, lines 59 to 62, where it notes that
13 trained behaviors of the robotic device may be configured based on learning
14 of associations between sensory context and a respective action during
15 training.

16 Next, Grotmol provides the determining step in Claim 18 when the
17 robot later surfaces the modified motor command from the training buffer
18 during autonomous operation. As with any motor command stored in the
19 training buffer, it can be retrieved or determined based on a match between a
20 newly acquired picture and a picture stored in the training buffer. An
21 overridden or corrected motor command in particular can be determined
22 based on matching because it has been learned and thus stored in the training
23 buffer. And finally, as to the causing step in Claim 18, Grotmol's robot is
24 caused to perform operations defined by the modified motor commands
25 when those commands are executed.

26 JUDGE WEINSCHENK: Mr. Stephens, just so I understand, what

1 happens here in Grotmol, at least your position is that after a command is
2 overridden or corrected, then it is stored or, I guess, learned as associated
3 with a particular image, and then the next time you get a match of that
4 image, you would instead of performing the old command, you would
5 perform the either overridden or corrected command. Is that correct?

6 MR. STEPHENS: That is correct, Your Honor. Yes, in the
7 override mode, in the correct mode, Grotmol discloses at columns 22 and 23
8 that the trainer's input, as you said, is used to replace or be combined with
9 the original instruction. By learning the association, it's stored in the
10 training buffer, and from there you just apply Grotmol's ordinary process in
11 which it's retrieving instructions that are stored based on the matches of the
12 pictures.

13 Turning to -- now, as I indicated earlier, Claims 14 and 15 are
14 similar to Claim 18, and involve modifying instruction sets as well.
15 Grotmol's same disclosure regarding override and correct modes is therefore
16 relevant to Claims 14 and 15. So as, turning to slide 24, you'll see language
17 from Claim 15. It recites the same modifying, determining, and causing
18 steps as Claim 18, but doesn't require learning. So, Grotmol's override and
19 correct mode disclosures anticipate Claim 15 were substantially the same
20 reasons as discussed. And with respect to Claim 14 on slide 20, Claim 14
21 adds a requirement for the first instruction sets not just to be modified, but
22 also applied to a second device, such that the second device is caused to
23 perform operations defined by the modified instruction sets. These aspects
24 of Claim 14 are also met by Grotmol. So, referring again to Grotmol's
25 disclosure at column 33, there Grotmol describes an ability for instruction
26 sets and a trained configuration to be shared from one robot to another.

1 Therefore, when instruction sets have been modified on a first device based
2 on the trainer's input and override or correct mode, those modified
3 instruction sets are then shared with a second device, which executes the
4 modified instructions, and Claim 14 is anticipated.

5 JUDGE WEINSCHENK: Mr. Stephens, in this theory, it sounds
6 like the modification is performed after it's being shared with the second
7 device. Is that correct?

8 MR. STEPHENS: There are two ways in which Grotmol can meet
9 these limitations. So, one, with correct and override mode, if you have
10 corrected or overridden the instructions on the first device before they're
11 shared, then the instructions would be modified on the first device before it's
12 being transferred to a second device. I'll actually direct Your Honors then to
13 slide 22, where there's another embodiment disclosed in which the
14 instruction sets would be modified after the instructions are transferred to the
15 second device, and Claim 14 would encompass this read as well because the
16 claim refers to just modifying and applying the instruction sets to the second
17 device without requiring that it be modified first instruction sets that are
18 modified at the first device before being transferred to the second device.

19 So, what's illustrated on slide 22 is Grotmol's disclosure of position
20 and orientation mismatch. Grotmol recognizes that mismatches may exist in
21 position and orientation of the robot and it enables correction of the same
22 which is explained at column 42, lines 52 to 58 shown at the top left of slide
23 22. In particular, Grotmol discloses that orientation or position mismatch
24 can be corrected by combining motor commands retrieved from the training
25 buffer with the output of a PID controller in order to stabilize operation of
26 the robot. That's column 43, lines 4 through 11, of Grotmol. And this is

1 illustrated by Figure 4A on the right of slide 22. As shown in Figure 4A, an
2 adaptive predictor 422 surfaces from the training buffer motor commands
3 corresponding to a digital picture that best matches the new digital pictures
4 captured during autonomous operation. These motor commands are the first
5 one or more instruction sets. A corrector 412 generates a correction signal
6 based on a difference indicated by the mismatch by the different vantage
7 points of the digital pictures. A combiner 414 then modifies the motor
8 commands from the training buffer by applying a correction signal to those
9 commands. The corrector to modified motor commands are then applied to
10 the robot through execution, thereby causing the robot to perform operations
11 defined by the modified motor commands.

12 To be sure, the record also shows that the function of this combiner
13 that's shown in Figure 4A involves modifying the predicted instructions, that
14 is the first one or more instruction sets from the adaptive predictor 22. At
15 column 17 through 18 of Grotmol there's extensive discussion of the
16 function of the combiner and its ability to apply a transfer function to the
17 predicted motor command. At column 17, lines 45 through 49, Grotmol
18 explains that a transfer function can include operations such as addition,
19 multiplication, union, and logical and/or operations.

20 Forwarding to slide 23, if you would, we asked Patent Owner's
21 expert, Dr. Saber, about these transfer functions disclosed at column 17 of
22 Grotmol, and as shown here on the snip reproduced on slide 23, Dr. Saber
23 acknowledged that each of these operations in the transfer function would in
24 fact serve to modify the input. He had used the word modify or modification
25 at least twice. So, there's no question that the combiner 414, its operation on
26 the predicted motor commands is to modify them.

1 Now, the only aspect of Claim 14, again, not addressed by the
2 disclosure in Figure 4A, is the application of the first instruction sets to a
3 second device. But as we discussed earlier, Grotmol's description at column
4 33, lines 21 to 35, provides this aspect through sharing the train
5 configuration from one robot to another. So, in short, Grotmol's position or
6 orientation mismatch embodiments provide another path to anticipation of
7 Claim 14 in addition to the override and correct mode embodiments that we
8 earlier described with respect to Claim 18.

9 JUDGE WEINSCHENK: And just to be clear, Mr. Stephens, you
10 do not cite in your petition the override and correct mode was for Claim 14.
11 You relied on this other embodiment, correct?

12 MR. STEPHENS: We relied on the combiner, the position and
13 orientation mismatch embodiments, that's correct, in Claim 14.

14 JUDGE WEINSCHENK: All right.

15 MR. STEPHENS: Claim 15, return to slide 24, please. I'd add that
16 Grotmol's combiner embodiments relating to position and orientation
17 mismatch is applied to -- is also applicable to Claim 15. Claim 15
18 requires --

19 JUDGE WEINSCHENK: Mr. Stephens, I'm curious what you
20 think Claim 15 means here because it seems like it has the modifying step as
21 shown in slide 24, and then it has the determining the modified first one or
22 more instruction sets based on the at least partial match. Which sounds to
23 me like you need to be going into the training buffer based on a match
24 between images in order to pull out the modified instruction set, sort of like
25 what we talked about for Claim 18. Are you reading Claim 15 that same
26 way?

1 MR. STEPHENS: We don't believe that Claim 18 or, I'm sorry,
2 Claim 15 should be interpreted that narrowly, Your Honor. The determining
3 step refers to determining the modified first one or more instruction sets for
4 operating the first device based on the at least partial match. And so, this
5 can be done first by matching pictures to select instruction sets or motor
6 commands from the training buffer, and second by applying a correction to
7 modify those instruction sets. By doing those two steps you've -- those
8 operations allow you to determine the modified first one or more instruction
9 sets by retrieving the original instruction sets and then modifying them. The
10 result is determined.

11 JUDGE WEINSCHENK: That sounds -- Mr. Stephens, that
12 sounds like what you're doing is determining the first one or more
13 instruction sets based on the partial match, and then modifying them. Not
14 determining the modified instructions based on the partial match. That
15 sounds different to me. Do you have any support for interpreting it broader
16 the way that you are?

17 MR. STEPHENS: Yes, Your Honor. If you'd look at slide 27,
18 please. The '583 patent itself in the specification describes examples in
19 which a decision-making unit 540 may determine one or more anticipatory
20 instructions sets 526. Those anticipatory instruction sets are then modified
21 by providing them an interface to the user. So, this is a two-step process for
22 determining the modified instruction sets. We again cited this in our reply.
23 Dr. Janet described this embodiment in his second declaration, Exhibit 1010.
24 This evidence was never tested by the Patent Owner. They elected not to
25 depose our expert or confront this evidence in its sur-reply. So, we do
26 believe that Claim 14, or I'm sorry, Claim 15 encompasses this example and

1 others that are given in the '583 patent, in which the determining step is a
2 two-step process that can involve first surfacing the original instructions and
3 modifying them, thereby determining the modified instruction sets.

4 JUDGE WEINSCHENK: Okay. I think I understand your point
5 there. I'm wondering if we were to read the claim more narrowly, the way I
6 proposed, and that it requires that the determining step means you're actually
7 going into the training buffer and pulling out modified instructions from
8 there. Does the position mismatch disclosure in Grotmol teach it then, or do
9 we need to go to the override correct mode disclosure?

10 MR. STEPHENS: If the claim is interpreted that narrowly, which
11 again we don't believe it should be, we believe the override and correct
12 mode would be the applicable disclosure in which you would pull the
13 modified instruction sets from the training buffer.

14 JUDGE WEINSCHENK: Okay. And I assume -- I understand
15 your position from before being that even though you didn't cite it in your
16 petition for Claim 15, you cited it for Claim 18, and therefore, Patent Owner
17 had notice and an opportunity to respond, would be your argument?

18 MR. STEPHENS: Correct, Your Honor.

19 JUDGE WEINSCHENK: Okay.

20 MR. STEPHENS: Let's next turn to Claim 29, whose language is
21 found on slide 47. Claim 29 recites a series of object detection and image
22 processing features. According to Claim 29, a new digital picture is
23 generated by, first, detecting one or more objects, second, generating
24 representations of those objects, and the third step being generating the new
25 digital picture that includes the representations of those objects.

26 On slide 49, we see that Claim 29 is anticipated by disclosure in

1 Grotmol related to Figure 20A. So, recall that Grotmol's --

2 JUDGE WEINSCHENK: I'm sorry I keep interrupting you, but
3 can you go back to this claim language for me for just one minute?

4 MR. STEPHENS: Forty-seven? Yes, Your Honor.

5 JUDGE WEINSCHENK: What does it mean to generate one or
6 more representations of the one or more objects? I'm struggling a bit to
7 understand what this means. I don't know if you have something in the spec
8 that you can point me to or some other understanding, but I understand what
9 it means to detect the objects, but what does it mean to generate a
10 representation of an object?

11 MR. STEPHENS: Under the plain meaning of this phrase, we
12 believe that it can encompass any number of things, including, which I'll get
13 into in a moment, Grotmol's depiction of objects in an image. And that is --
14 this was addressed actually in pre-institution briefing in reply to the
15 preliminary response, I believe, and the sur-reply, in that instance, as to the
16 breadth of the term representations or object representations. Object
17 representations can encompass depictions of objects and images, and in fact,
18 that's how Grotmol discloses object representations. It uses a term, actually,
19 representations of objects and images, reflective of what we think the plain
20 and ordinary meaning of generating representations is.

21 JUDGE WEINSCHENK: Right. And when we're talking about
22 objects here, we're talking about a thing in the view or in the image, like an
23 actual object. We're not talking about a software object, correct?

24 MR. STEPHENS: That's correct, Your Honor.

25 JUDGE WEINSCHENK: Okay.

26 MR. STEPHENS: So, again, in slide 49, recall that as Grotmol's

1 robot moves about its environment, it continuously captures digital pictures,
2 analyzes those pictures, and determines its movements based on a result of
3 the analysis. Figure 20A shows two such digital pictures that may be
4 acquired by the robot during autonomous operation. The top picture is
5 captured at a first time. It shows a scene that includes objects such as a box
6 2004 and a circle 2008. The bottom picture is captured just moments after
7 the top picture, after the robot has made a turn and shows a scene that
8 includes some of the same objects as the top picture, including the box and
9 the circle. In other words, the vantage point of the robot has shifted between
10 the time it captured the picture at the top of Figure 20A, and the time it
11 captured the picture at the bottom of Figure 20A. Grotmol further tells us
12 that the turn made by the robot, which causes the change in vantage point,
13 can be the result of matching a new to a stored a digital picture and
14 executing a motor command correlated in the training buffer.

15 So, in other words, the bottom picture in Figure 20A is generated
16 as a result of and thus based on the analysis of the top picture in Figure 20A.
17 Particularly since the robot's analysis of the scene in the top picture causes
18 the robot to turn and acquire the bottom picture. And through this process,
19 Grotmol meets each of the limitations of Claim 29. For example, the step of
20 detecting objects occurs when Grotmol's robot analyzes the top picture 2000
21 and extracts features including indications of detected objects such as the
22 box 2004 and circle 2008. Grotmol discloses object detection, for example,
23 with respect to feature extraction at columns 28 -- column 28, lines 19
24 through 29. Then the steps of generating representations of the objects and
25 generating a new digital picture that includes the representations of the
26 objects each occur when the robot later acquires the bottom picture in Figure

1 20A.

2 JUDGE WEINSCHENK: Mr. Stephens?

3 MR. STEPHENS: Yes.

4 JUDGE WEINSCHENK: The last limitation in this claim says
5 generating the new one or more digital pictures that include the one or more
6 representations of the one or more objects, which seems to refer back in
7 antecedent basis to the prior limitation of generating the one or more
8 representations. Here, it looks like what you're referring to is you get a first
9 image and then generating the representation is sort of pulling out some
10 features from that first image. But what I don't see is how are those features
11 that are pulled out from the first image included in the new image? It sounds
12 like the new image is just a new photo taken with the camera. It doesn't
13 include anything sort of extracted from the previous image, does it?

14 MR. STEPHENS: Well, one way in which we look at Figure 20A
15 is that the step of generating the one or more representations of the one or
16 more objects occurs when the robot generates the new image 2010. So, that
17 process of developing or generating the new image 2010, you're of course
18 generating the entire digital picture, but it also includes generating the
19 depictions or that is the representations of the one or more objects.

20 The first limitation in Claim 29 regarding detecting one or more
21 objects, that can occur, for example, through analysis of the first image,
22 2000, the top picture in Figure 20A. But we see the representation that is
23 coming in through the second figure. So, by generating the digital picture of
24 2010, you're generating a new digital picture that includes representations of
25 the objects, that is the objects that were detected in Figure 2000.

26 JUDGE WEINSCHENK: So, I take it you're essentially arguing

1 these second -- these two limitations of generating the representations and
2 generating the pictures can happen sort of at the same time. You don't have
3 to do the representations first and then the picture?

4 MR. STEPHENS: We don't think that claim requires that, Your
5 Honor. Of course, what needs to be found in the prior art is disclosure of
6 each of these steps. And we think that the process of generating the new
7 digital picture encompasses both of these steps. Generating the digital
8 picture, a portion of that digital picture are the representations or the
9 depictions of the one of our objects. And therefore, in generating that
10 picture, you are generating the picture that includes representations of the
11 one or more objects.

12 JUDGE WEINSCHENK: If we read the claims to require some
13 order, would these steps need to be performed in order? Would Grotmol
14 still disclose that?

15 MR. STEPHENS: I would note, Your Honors, with respect to an
16 order, that the detecting step, and I'm not exactly sure what order you might
17 have in mind, Judge Weinschenk, but I'd be happy to address it if --

18 JUDGE WEINSCHENK: Yeah, it's mostly that the second and
19 third limitation that you need to generate these representations and then
20 generate the picture that includes them. I'm curious if that's how we read the
21 claim, would Groton disclose that?

22 MR. STEPHENS: We do think that this process of just generating
23 a digital picture meets both limitations. So, generating the one or more
24 digital pictures, by developing that digital picture, it includes the
25 representations, it includes the generation of representations of those objects.

26 JUDGE WEINSCHENK: I gotcha. I understand. Mr. Stephens,

1 you have about four minutes remaining before you cut into your rebuttal
2 then.

3 JUDGE CASS: Yeah. Counsel, this is Judge Cass. Can I follow
4 up on that? It sounds like one thing that may be at issue here in the earlier
5 dispute is what the meaning of representations is. Maybe you could clarify
6 it for that. Is that something that includes just generating a digital bitmap
7 image? Is there something more to it than that? Maybe you could elaborate
8 on that a little further.

9 MR. STEPHENS: Thank you, Judge Cass. I think the meaning of
10 representations is broad. This was not an issue that was really pursued. My
11 understanding of the record that developed during trial in several of the
12 cases, pre-institution, the Patent Owner did propose a construction of object
13 representations as, I believe, a data structure that includes, I'm paraphrasing
14 here, but attributes of objects that were detected through some type of
15 processing. And in our pre-institution briefing, we did review the
16 specification of Patent Owner's patents and found broad disclosure of
17 representations, which would encompass depictions of objects in digital
18 pictures. I'd be happy, Your Honor, during our -- during Patent Owner's
19 presentation to look for those citations in our record, and we could provide
20 them during rebuttal, if it would be helpful.

21 JUDGE CASS: No, I remember the arguments at the institution
22 stage, and, you know, why don't we see what Patent Owner has to say about
23 it, and then, if appropriate, we can revisit this on rebuttal.

24 MR. STEPHENS: Thank you, Your Honor. I next like to turn to
25 Claim 31 on slide 52. Slide 52 shows the language of Claim 31, just fairly
26 short, and simply states that the first one or more instruction sets are

1 generated as representations of a second one or more instruction sets.

2 If we advance to slide 53, you'll see a clip from pages 71 and 72 of
3 the 1172 petition, which referred to Grotmol's disclosure of an undo
4 operation. The undo operation allows the system to reload a previous
5 configuration to unlearn a behavior, specifically by, quote, loading at time
6 t1, the configuration saved at, end quote, earlier times t0, such that the robot
7 controller effectively forgets what it learned between times t0 and t1. The
8 petition explained that when the system uses the reloaded configuration, the
9 system is generating the first instruction set as a representation of the second
10 instruction set. So, the reloaded configuration at time t1 constitutes a first
11 one or more instruction sets as claimed. The earlier configuration from time
12 t0 constitutes a second one or more instruction sets. And the instructions of
13 the reloaded configuration are generated as representations of the
14 instructions of the earlier configuration.

15 And to this point, the record shows that Grotmol's reloaded
16 configuration is a reproduction or likeness of the earlier configuration and is
17 thus a representation of the earlier configuration, consisting with a plain and
18 ordinary meaning of representation.

19 And Judge Cass, this may go to your question earlier. On slide 54,
20 we presented evidence as to the breadth of the term representation as it
21 applies to Claim 31. You can see that we've cited some dictionary
22 definitions that just illustrate the breadth of this term as encompassing, for
23 example, a likeness or reproduction. So, a representation can be a variety of
24 things, including a likeness or reproduction, which is precisely what
25 Grotmol's reloaded configuration is, namely, a likeness or reproduction of
26 the earlier configuration.

1 JUDGE CASS: Thanks for pointing that out. That's helpful.

2 MR. STEPHENS: Finally, before concluding our direct, I'd like to
3 offer a few remarks regarding the Grotmol-Hickman combination. The 1173
4 petition applied this combination to demonstrate obviousness of Claims 25
5 and 27 of the '583 patent, those claims being substantially similar to Claims
6 6 and 12, respectively, of the '344 patent. And you may recall our earlier
7 discussion of Grotmol-Hickman in relation to Claims 6 and 12 at the recent
8 hearing in the 1055 proceeding. So as not to belabor many of the same
9 points that we previously addressed, I'll need to keep my remarks here
10 relatively short.

11 First, Patent Owner's contest to the claims challenged by Grotmol-
12 Hickman are primarily around the combinability of those references.
13 Specifically, Patent Owner contends at pages 20 to 21 of its response that
14 Hickman teaches away from the claimed correlations because Hickman
15 allegedly stores instruction sets in images in separate knowledge bases.
16 Patent Owner contends that a POSITA would have found this to be
17 incompatible with Grotmol's disclosure of training sets or correlations being
18 correlated and stored together. But this is incorrect for several reasons.
19 First, Patent Owner's argument assumes that particular details of Grotmol's
20 data structures must be integrated into the proposed combination, which is
21 the only way that this alleged incompatibility could even possibly result.
22 But that assumption is wrong. Unlike the more detailed substitute claims at
23 issue in the 1054 and 1055 proceedings, the claims here did not demand
24 such details. Excuse me, Your Honors.

25 The petition instead relied on Hickman for the relatively simple
26 notion of cloud-based storage and data sharing. For example, page 33 of the

1 petition explained that in the combination, the training configuration learned
2 by operation of a robot described in Grotmol would be uploaded to the
3 server containing the shared robot knowledge base described in Hickman.
4 And because Grotmol's training configurations already correlate digital
5 pictures with instruction sets, sharing this via the cloud as suggested by
6 Hickman wouldn't disturb the correlation and does not require use of
7 Hickman's specific data structures. But regardless of how one characterizes
8 the combination, the assertion that Hickman stores instruction sets and
9 images in separate knowledge bases is not accurate.

10 If you look at slide 70, please, we've included a reproduction of
11 Figure 3 from Hickman. And in this figure, we see that there is actually an
12 overarching shared knowledge base 306 that contains all image and task data
13 correlated. And that alone refutes the notion that image and task data is not
14 sorted in the same knowledge base as asserted in the Patent Owner's
15 response. But there's more, so if we drill down farther in Figure 3, we see
16 that the general object knowledge base 308 actually includes a data
17 structured 314 that directly correlates image data in the IMG field with
18 instructions in the tasks field. And further, Hickman explains that the
19 contents of the knowledge base may be combined into a single knowledge
20 base differently from that shown in Figure 3, that is at column 10, lines 63 to
21 65, Your Honors. To a POSITA who, recall, has a master's degree in
22 electrical or computer engineering, or at least a bachelor's degree with
23 multiple years of work experience, Hickman's disclosure at column 10, lines
24 63 to 65, makes clear that the knowledge bases can be combined to correlate
25 image and task data, and certainly in a manner that would be compatible
26 with storing Grotmol's training sets. There is no incompatibility between

1 Grotmol and Hickman, and the combinations described in the petition
2 renders Claims 25 and 27 obvious.

3 With that, I'm happy to take any questions. I'd otherwise reserve
4 the balance of our time for rebuttal. Thank you, Your Honors.

5 JUDGE WEINSCHENK: All right. Mr. Stephens, you hit almost
6 55 minutes exactly on the dot, so you have 20 minutes left for your rebuttal
7 time.

8 MR. STEPHENS: Appreciate that. Thank you.

9 JUDGE WEINSCHENK: All right. Mr. Jairam, whenever you're
10 ready, you can begin. Just let me know how much time you'd like to reserve
11 for sur-rebuttal.

12 MR. JAIRAM: Thank you, Your Honor. I will reserve 15 minutes
13 for the sur-rebuttal.

14 I'm going to address several claims with respect to specific prior
15 art and arguments, but before I do so, I want to make some initial comments
16 and observations. As we heard from Petitioner's counsel in their oral
17 argument, the Petitioner is asking the Board in some ways to play
18 archaeologist with the record to somehow figure out what the argument is
19 for a given claim and massage that into an argument for a different claim,
20 and is applying the notion of notice somehow as sufficing. But that is not
21 proper, as is well-known in PTAB practice, the Petitioner, which has the
22 burden of making out its case with particularity and clarity in its petition
23 must address each and every claim element of each addressed claim in a
24 clear manner. And I do not believe that it is appropriate to expect the Board
25 or, for that matter, the Patent Owner to devine the intention of the Petitioner
26 regarding different claims. And that is particularly so when new arguments

1 are presented later in the proceeding, in particular at the Petitioner reply
2 stage. We have noted several such instances in our Patent Owner sur-reply,
3 and I believe some of these were touched upon in the discussion and raised
4 by Your Honors.

5 Examples that come to mind are arguments that Petitioner
6 presented for the first time in its reply relating to controllers relating to --

7 JUDGE WEINSCHENK: Mr. Jairam?

8 MR. JAIRAM: Yes, Your Honor.

9 JUDGE WEINSCHENK: Before we get -- I want to give you an
10 opportunity to address anything you think is improper about the reply. But
11 before we get there, because you touched on a slightly different issue first,
12 which is something I discussed with the Petitioner about the theories in the
13 petition for a claim, I believe it was Claim 15 and then Claim 18. And the
14 question is slightly different here because it was all in the petition, and I'm
15 curious how you respond to Petitioner's argument that their reliance on the
16 override and correct mode in Grotmol, for Claim 18, could also be applied to
17 Claim 15 because Claim 18 is effectively just a narrower claim, and
18 therefore a theory was presented, and you've had an opportunity to respond
19 to it for Claim 18, so there's no sort of due process concern, how would you
20 respond to whether we could rely on the Grotmol's correct and override
21 mode for Claim 15?

22 MR. JAIRAM: Thank you, Your Honor, for the question.

23 Reliance on the override mode, which may have been discussed in the
24 context of Claim 18, but relying on that for a different claim, 14 or 15,
25 would be improper, Your Honors. First of all, Claims 14 and 15 are not
26 narrower versions of Claim 18. I believe that Petitioner's counsel

1 characterized them as such.

2 JUDGE WEINSCHENK: I think Mr. Jairam, it's the opposite. I
3 think they were characterizing Claim 18 as narrower than Claim 14 or 15, if
4 I remember correctly.

5 MR. JAIRAM: Okay. Okay. Well, I would note that these are
6 different claims, and I don't believe that there is such a principle that one can
7 simply take the disclosures from one claim and through some principle of
8 essentially stating this at the oral argument that some claim is narrower than
9 another claim or vice versa, that, therefore, an argument can be imported
10 from one portion to another. I certainly don't believe that this was laid out
11 with any specificity in the petition. And to the extent that Petitioner is
12 saying that somehow some notice came up later on in the proceeding, I'm
13 unclear as to what exactly that would have been. But in any event, it is also
14 the Board's rule that new arguments cannot be presented in the petition or
15 reply that were not put forth in the petition. And I believe that even what
16 was just now proposed would constitute a new argument, namely, to say that
17 as a result of some relationship and claim breadth between different claims
18 that somehow a portion of prior art references disclosure that was not cited
19 or discussed or relied upon can somehow later be relied upon. So, I think
20 that such a theory would suffer from multiple defects.

21 I will also note that in several instances, and I will go into specific
22 details, but I will note at a general level that in several instances, Petitioner's
23 mappings are unclear. Their obviousness analysis is wholly deficient by
24 failing to point out what is allegedly missing from the prior art reference, the
25 base prior art reference, and providing detailed reasoning why a person of
26 ordinary skill would have sought to correct such alleged deficiencies through

1 modifying the reference or through looking to another reference. We have
2 noted a number of these instances in our papers, typically in the context of
3 the deposition of Petitioner's expert, Dr. Janet.

4 At virtually every instance where we asked Dr. Janet what
5 exactly -- I believe Hickman for various claims, but potentially also
6 modification of the base reference, if it's a single reference, one of the three
7 ground -- when we asked him what exactly is in his view missing from the
8 base reference, he simply would not tell us. We have included such excerpts
9 in our citations, in our papers, and I do not believe that that is proper
10 obviousness analysis. So, basically there are these overarching problems
11 with the Petitioner's petitions and analysis, and one can simply -- and we
12 invite the Board to simply look at the petition for various ones of these
13 claims that I will discuss a few of them. And in many instances, the analysis
14 in the petition is very short and it is quite straightforward to see what exactly
15 Petitioner did rely on. In some cases, it's still difficult to figure out exactly
16 as you can see what few words are present. And any attempts to import new
17 arguments through whatever theory, whether it's through a notice theory or
18 through adding new arguments in the reply phase about things like
19 controllers or a tasks field or an override mode, all of those things are
20 improper and should respectfully be rejected.

21 I'll turn first to Claim 11, and if we can turn to slide 91, please.
22 Claim 11 recites several features, and we've summarized some of them at the
23 left.

24 JUDGE WEINSCHENK: Mr. Jairam?

25 MR. JAIRAM: Yes, Your Honor.

26 JUDGE WEINSCHENK: Can you hold on for -- you're breaking

1 up a little bit on me here. I just want to make sure that we've got a good
2 enough connection that the court reporter is getting all this. So, I know,
3 Charlie, are we able to check his connection real quick, or is it just me who's
4 having him break up a little bit?

5 MR. TOROSSIAN: No, this is Charlie from (CROSSTALK) .

6 JUDGE PARVIS: I'm also hearing it. I'm having difficulty
7 hearing Patent Owner.

8 JUDGE WEINSCHENK: Okay. Let's hold the record for just a
9 minute here for the court reporter, and let's make sure we got Mr. Jairam's
10 connection good before we keep going.

11 MR. JAIRAM: Okay. Thank you. I will note with respect to slide
12 91, which shows Claim 11, and we've identified some of the features at left
13 that where we asked --

14 JUDGE WEINSCHENK: Mr. Jairam, just one second. I just want
15 to make sure court reporter, we're back on the record, right?

16 COURT REPORTER: Correct. Yes, Your Honor.

17 JUDGE WEINSCHENK: Okay. Thank you. Go ahead, Mr.
18 Jairam.

19 MR. JAIRAM: When we asked Dr. Janet at his deposition about
20 this claim, as with many other claims, as to what exactly his analysis
21 entailed regarding the primary reference and anything missing from it and
22 modifying that primary reference, Petitioner's expert, Dr. Janet, could not or
23 would not point to anything in Claim 11 that he regarded to be missing from
24 Grotmol, for the purpose of the patentability ground. So, we tried to ask him
25 to understand exactly what the mapping is and, in particular, what the expert
26 analyzed. We can see what's in the petition, the petition is rather unclear,

1 but we attempted to gain additional clarity by asking the expert, and he
2 simply would not tell us. And that's the case for virtually every instance
3 with obviousness analysis, and we've noted this throughout our papers.

4 We will note that the claim requires basically, as you can see in
5 blue, a knowledge base, there's a correlation here, and that's a different
6 correlation than what was in Claim 1. So, claim 11 depends from Claim 4,
7 which depends from Claim 1. In Claim 11, you see second one or more
8 digital pictures correlated with the second one or more instruction sets, and
9 that's for operating a third device, and we've marked that in red because
10 that's going to become important. Additionally, we've also noted at the
11 bottom of this slide that the -- at least a portion of the second one or more
12 instruction sets for operating the third device is learned in a second learning
13 process. The second learning process includes operating the third device.
14 So, there are multiple devices that we have to keep track of, and also
15 multiple learning processes. And you may ask, well, why is it a third
16 device? Because in Claim 4, which is an intervening claim, there's recited a
17 second device.

18 Slide 92, please. So, Grotmol only has very limited disclosure,
19 which has been touched on at length in the briefings by the parties, and also
20 was heard a little bit in the oral argument of Petitioner's counsel. But I'll
21 reiterate that when Grotmol is describing training or what it does with its
22 robot, Grotmol is describing training the robot and then transferring or
23 loading a trained configuration to another robot, to one or more other robots,
24 in order to provide learned behaviors. But there's still only one learning
25 process and how many devices were off --

26 JUDGE WEINSCHENK: Mr. Jairam? Can I ask you about this

1 learning process issue while we're on it?

2 MR. JAIRAM: Yes, Your Honor.

3 JUDGE WEINSCHENK: So, I know you've taken some issue
4 with Petitioner's reliance on controllers in their reply brief, but even setting
5 that aside, I don't know if you have this disclosure in front of you, but I'm
6 looking at Grotmol column 26 if you're able to either pull it up or look at the
7 reference.

8 MR. JAIRAM: Yes, Your Honor, I have that.

9 JUDGE WEINSCHENK: Okay. So, at column 26, starting at line
10 1, it says, after a user is done training a particular behavior, he may create
11 another module and activate it. The system may be configured to learn the
12 second behavior from the user. That sounds to me like a user trains one
13 behavior and then creates another module and then trains a second behavior.
14 That certainly sounds like a first process and a second process. Is there
15 some reason I'm misreading that particular portion of the Grotmol? Is there
16 a reason there's not two processes there?

17 MR. JAIRAM: Your Honor, that is referring to a same kind of
18 learning process, but it's just applying it to learn different behaviors. But in
19 terms of how the first robot does its learning, there's only one way. It's
20 through the approach that's described in Grotmol. That learning process,
21 which involves there's details provided, things like stages, weights, that is
22 still one learning process, you can learn different things with it. So, the
23 robot can learn to do different things, and that's, I think, described there,
24 learning different behaviors, learn to fetch, for example. But the way in
25 which the robot learns, it's constrained, there's only one learning process.
26 It's not that there is a different way that it goes about learning a different

1 behavior. They are learned using the same learning process on the one
2 robot.

3 JUDGE WEINSCHENK: Well, I think that your reading, Mr.
4 Jairam, of process isn't really consistent with the claim language because the
5 claim language looks -- says, for example, it refers to the first learning
6 process involving a first one or more digital pictures and a first one or more
7 instruction sets, and then the second process involving a second digital
8 pictures and a second instruction set. So, it certainly seems that the
9 processes are operating in the same way, they're just learning different
10 behaviors, different instructions correlated to different pictures, which seems
11 exactly like what Grotmol is teaching here.

12 MR. JAIRAM: I would have to go back and check, and I can
13 address that further in my sur-rebuttal, Your Honor, as to what exactly the
14 argument that was presented by Petitioner about this. I would have to check
15 that, and I can get back to you on sur-rebuttal, Your Honor.

16 JUDGE WEINSCHENK: Okay. And I'd also like you to get back
17 to me on the way you're reading process, because it seems to me like based
18 on the claim language the process doesn't require you to have a different
19 way of looking at it. It looks like you're just learning different things. Like
20 one process is for learning one set of instructions, and a second process is for
21 learning a second set of instructions. But, again, you can move on and come
22 back if you want to, but I just want to give you an opportunity to address
23 that, because it seems like you may be reading it differently than the claims
24 explain it to be.

25 MR. JAIRAM: Well, thank you, Your Honor, and I will elaborate
26 on it more in the sur-rebuttal after I've reviewed any arguments that

1 Petitioner made about this. But I will note that just by the claim language
2 alone of the rest of the words in the claim, namely, at the end of Claim 11,
3 the second learning process, it specifically recites operating the third device.
4 So, the instruction sets for operating the third device are learned in the
5 second learning process. I do think that the portion of Grotmol, column 26
6 that Your Honor just now pointed to, appears to be again from the same first
7 robot because there's no mention of a different device. So, the training
8 process is not in -- even putting aside what exactly process is, as Your Honor
9 inquired about -- there is not a training, I'm sorry, a learning process, at
10 column 26 that includes operating something that would be mapped to the
11 third device, as in Claim 11.

12 JUDGE WEINSCHENK: Okay, I understand.

13 MR. JAIRAM: Slide 93 please. And again, this is the portion of
14 Grotmol that Petitioner has pointed to, and I just wanted to show this
15 because we're going to talk about it. So, a person of ordinary skill reading
16 this disclosure, which is basically very short about loading a trained
17 configuration into another robot, such a person of ordinary skill would not
18 have been -- would not have arrived at the claimed second learning process
19 involving the third device, which we just now talked about. And we
20 included a lot of discussion in the papers about this. This general, I guess,
21 principle manifests itself in slightly different ways for different claims, so I'll
22 talk about it a little bit more at length here for Claim 11 and we may
23 encounter some variations for some of the -- any other claims that I may
24 discuss.

25 But basically, when the claim language explicitly says that you
26 have to operate a different device in order to do the learning, well, that has to

1 be met. It would be one thing if a reference explicitly says, okay, here's your
2 first device, here's your other device, you know, in this case I believe there's
3 a third device that's claimed, and it's the reference where it to specifically
4 say, okay, well, here's how you do the -- how does the second device or the
5 third device come to know the things that it needs to know? It would be one
6 thing if the reference, I guess here Grotmol, if it were to explicitly include
7 disclosure about what that second device has to do, but there is not such
8 disclosure. Instead, there is just a minimal statement saying that you've
9 already done the learning on one device and now you can take that and
10 almost like a saved functionality and you go and you populate other devices
11 with it. Well, the other devices have not been operated to learn the
12 information, and in particular in the claim language requires the claim's
13 second learning process then while operating the third device.

14 And additionally, we'll also note that the Board noted in related --
15 in another IPR involving similar claim limitations of a different patent, also
16 owned by Patent Owner, and also challenged by Petitioner, and we heard a
17 hearing on September 18th for it. The Board did note there, or the Board
18 questioned whether Grotmol discloses anything more than loading a trained
19 configuration from a first robot to the second robot. And that's exactly the
20 pertinent point. And just for the record that cite is -- it's in IPR2023-01054,
21 it's in the institution decision I believe at page 35.

22 But basically just loading the trained configuration where the
23 learning has been done on the first robot, so, loading that configuration from
24 that robot to another robot does not constitute another learning process,
25 much less with the specific limitations that are found in Claim 11, namely,
26 you know, operating the third device to accomplish that learning of the

1 second learning process. So, we're just looking at applying the claim
2 language faithfully and not ignoring any words. We've heard Petitioner's
3 counsel say that Grotmol is doing -- learning -- is doing things with the
4 robot, but the specific claim language must be addressed. I think this is
5 another instance of a Petitioner kind of getting kind of in the general
6 ballpark with their mapping or in their analysis and then leaving some of the
7 details of the mapping to guess work. And we would say that each and
8 every claim limitation must be properly shown as being disclosed or
9 suggested with the appropriate clarity, particularly given that it is a
10 Petitioner's burden in this case.

11 JUDGE CASS: Counsel, this is Judge Cass. Just for one, wanted
12 to point out that I think the cite you have is the institution decision in the
13 other case, I mean that was an institution decision on a much less complete
14 record than we have here. So, just make sure one keeps that in mind. And
15 second, I know it sounds to me like your argument is a little more directed to
16 anticipation type concerns about, you know, whether there's explicit
17 disclosure in Grotmol, but, you know, because Petitioner seems to be
18 focusing on obviousness. So, for me it's a little I'm struggling more
19 understanding why this wouldn't be obvious.

20 MR. JAIRAM: Well, we're also struggling to figure out exactly
21 what the obviousness argument of Petitioner is because they're trying to say
22 that nothing is missing from Grotmol and somehow they've also done in
23 obviousness analysis. So, we have attempted to discern exactly what their
24 analysis is. It appears that they are trying to use common knowledge of a
25 person of ordinary skill to supply some unknown missing limitation. But I
26 don't think that that's proper. Given the ground that they have presented, we

1 have looked at what their mapping is. We have asked their expert to explain
2 what exactly he did, and we think that was deficient. And we also included
3 testimony from our expert, Dr. Saber, about the complexities associated with
4 the limitations of Claim 11, that's slide 96 please. And enabling a system to,
5 and this is in Dr. Saber's declaration where he testified that enabling a
6 system to include certain functionality involving different devices and
7 integrating the knowledge into a single knowledge base is not something that
8 would have been obvious to a person of ordinary skill.

9 I'll note that the argument that Petitioner seems to be advancing
10 regarding the undo mode of Grotmol was never mentioned in the petition.
11 That's a new argument, that's improper. Additionally, addressing that on its
12 substance, the undo mode, this is slide 98, the undo mode does not disclose
13 the claimed third device or second learning process, and it only discloses
14 reverting to a previous configuration involving the same user and same
15 device in the context of the same learning process in which the learning
16 occurred.

17 On to slide 99, please. We saw the disclosure about Grotmol
18 loading a trained configuration into another robot, but Grotmol doesn't say
19 anything about what exactly is in that second robot after the trained
20 configuration is loaded or anything else really about the second robot. The
21 inquiry here is it's about how exactly did the learning, or as required by the
22 claim, different learning processes, how did it occur, where did it occur,
23 what device did it operate on, because these are all things that are
24 specifically claimed. Grotmol never says anything about correlations
25 learned in different learning processes, let alone ones involving different
26 robots being operated or that they are loaded into separate controllers. The

1 entire controller argument is improper because almost none of that, or
2 possibly none of that at all, was in the petition.

3 And so, we've really tried, with our Patent Owner response, and
4 deposition of Dr. Saber, we've tried to analyze and understand exactly what
5 Petitioner's theory as set forth in the petition is for this claim, and actually
6 for several other claims. But we've been thwarted by introduction of new
7 arguments, by obfuscation, or essentially refusal to give a straight answer,
8 not in so many words, by the expert. And all of that is plain to see. And I
9 would invite Your Honors to look at the cited deposition transcripts at each
10 place where we noted how Dr. Janet simply would not tell us the basics of
11 what is it that he considered to be missing from the primary reference. If
12 you cannot even have that, how can you do a Graham factor analysis? How
13 can you look at whether there is obviousness if we don't even have the bare
14 minimum of knowing what the expert considers to have been in the prior art
15 reference, I questioned, and what was not in it?

16 JUDGE WEINSCHENK: Mr. Jairam?

17 MR. JAIRAM: Yes, Your Honor.

18 JUDGE WEINSCHENK: This is Judge Weinschenk. I just want
19 to point one thing out to you. You've made several references to new
20 arguments in the reply. I just want to point out it's helpful to us if you can
21 explain, you know, when you're discussing them why they're improper,
22 because not every new argument in a reply is improper. If it responds to an
23 argument made in the Patent Owner response, and it's consistent with the
24 theory of unpatentability set forth in the petition, then, you know, the Fed.
25 Circuit has told us that's fine. It's really, you know, if it's unresponsive or if
26 it's a new theory that's not, you know, simply expanding upon the petition in

1 some way, that's when we get into something that's impermissible. So, when
2 you talk about that, it's a little helpful for us to point out why you think it's
3 improper. The fact that it's new, isn't necessarily in itself a problem.

4 MR. JAIRAM: Okay. Yes, Your Honor. Slide --

5 JUDGE WEINSCHENK: And you don't have to do that now, Mr.
6 Jairam. I was just pointing out when you get to those issues that, you know,
7 putting them in some perspective for us is helpful.

8 MR. JAIRAM: Okay, Your Honor.

9 JUDGE PARVIS: This is Judge Parvis. A question I've had on
10 Claim 11 is just, that's the point, you can address it, is with knowledge base.
11 Classification seems to refer to data structure and knowledge base somewhat
12 broadly. And so, I'm trying to understand Patent Owner's position with
13 respect to knowledge base in Claim 11, and I think this was, I'm not sure
14 how much you've discussed it, but it seems like it's been in your slides. So, I
15 just, I think you've just passed it. If you can touch on that at some point,
16 why is knowledge base something that we should consider to be narrowly
17 construed, and has that construction been proposed of Petitioner and respond
18 to it. Thank you.

19 MR. JAIRAM: Yes, Your Honor. I don't believe that either party
20 has sought to construe knowledge base, and we are simply applying a plain
21 and ordinary meaning. We were just saying that the knowledge base must
22 include all the recited features. Where there are claims such as this claim,
23 Claim 11, that recite that the knowledge base includes something in
24 particular, we're just saying that that has to be actually found in the prior art
25 reference. But I don't believe that we have advanced a position about
26 specific interpretation or construction of knowledge base, or of the --

1 JUDGE PARVIS: And there's no other problem in Patent Owner's
2 view with the claim language here in Claim 11 that the instructions for
3 operating the first device are included in a knowledge base. And then it's
4 referring to the knowledge base which derives an antecedent-based term a
5 knowledge base, and it says it further includes digital pictures correlated
6 with second user for operating a third device. So, to the extent that the
7 knowledge base is essentially data stored in both the first device and the
8 third device, and that's considered to be a single knowledge base. Is that
9 consistent with Patent Owner's understanding of the plain and ordinary
10 meaning of knowledge base?

11 MR. JAIRAM: I think so, Your Honor. I think that we're just
12 using the basic principles of antecedent basis and saying if something else
13 also needs to be included in quote, the, end quote knowledge base or if the
14 knowledge base has to include features X and Y, then both of those have to
15 actually be mapped somehow to something that's actually a knowledge base.
16 I don't think that we're saying that there's a specific construction that we are
17 applying, but the basic principles of antecedent basis certainly apply.

18 JUDGE PARVIS: Well, let me try to ask a question this way. If --
19 could the knowledge base include data stored in memory of the first device,
20 and data stored in memory -- of a memory in a third device? In other words,
21 the memory is in two different devices, the first device and the third device.
22 And the knowledge base includes, it has memory divided in two different
23 devices. Is that acceptable and consistent with the plain and ordinary
24 meaning of knowledge base in Patent Owner's view?

25 MR. JAIRAM: I don't think so, Your Honor, because I'd have to
26 go back and check. I'm not sure that that would then make sense in the

1 context of you have, I guess, knowledge bases all over the world. I mean
2 robots could be anywhere in the world, I suppose. If you're saying that
3 somehow the aggregate of a bunch of otherwise unconnected knowledge
4 bases, that is somehow the claims knowledge base. I don't think so. I don't
5 think that would be applying the plain meaning of the claim. If the
6 knowledge base has to -- the knowledge base has to include X, Y and Z, I
7 think they all have to be within. And I don't think it would be proper to
8 somehow say that a memory or a data storage from one robot and then a
9 memory of a different robot, unless they are actually somehow connected in
10 some way, which I'm not appreciating here, that would somehow meet the
11 claim limitation of the knowledge base. And so, I think the answer to your
12 question would be no, Your Honor, but I will check to see if there's anything
13 further on that in the specification or in the parties' briefs.

14 JUDGE PARVIS: So, when Patent Owner, and I'm looking at
15 slide 94, in Patent Owner's demonstratives, Patent Owner says, Claim 11
16 specifically recites a single knowledge base. The word single knowledge
17 base, Patent Owner is trying to say that the plain and ordinary meaning here
18 of knowledge base is -- and I'm trying to understand then what that -- what
19 your -- what is that -- that it has to be in a single memory chip, it has to be in
20 a single device, it's not completely clear, and I'm not sure that if there's
21 anything more here that Patent Owner has articulated to help us understand
22 Patent Owner's position with respect to the plain and ordinary meaning of
23 knowledge base.

24 MR. JAIRAM: I think -- I guess it doesn't matter so much where
25 the knowledge base is, because that's not claimed. It's about what's in the
26 knowledge base. It is about the instruction sets that have to be for operating

1 the third device as claimed. I do think that if one were to say that a memory
2 from one device and then you take another memory from another device,
3 would that meet some hypothetical claim that says a memory that includes
4 things that you have to look to the first device and you'd have to look to the
5 second device, I think there would be some problems there. I mean that
6 sounds basically -- if the claim requires a knowledge base and it has to
7 include feature X and feature Y, I don't think you could go to one device,
8 one robot, and find feature X and then go to another robot and find feature
9 Y. But again, neither party has proposed claim construction on this, so I
10 don't know that that's been fleshed out.

11 JUDGE PARVIS: Thank you, counsel.

12 JUDGE WEINSCHENK: Mr. Jairam, in the interest of time here,
13 can I -- I have some questions about the modifying claims. I believe there
14 are Claims 14, 15, and 18. Can we talk about those briefly?

15 MR. JAIRAM: Of course, Your Honor. Yes.

16 JUDGE WEINSCHENK: And my question is, Petitioner has
17 pointed to some disclosure in Grotmol, it talks about overriding a command
18 or correcting a command, and you have argued that the term modifying does
19 not include those things. That that's not modifying a command. Petitioner
20 pointed to some portions of the spec that seemed to indicate that, you know,
21 overriding or correcting might be the same as modifying. What's your basis
22 for saying that modifying doesn't include those things? Is there anything in
23 the specification you can point to to say that modifying is narrower than
24 Grotmol's override or correct?

25 MR. JAIRAM: I don't have anything off the -- readily handy right
26 this second. I will check and see if I can come up with something to show at

1 the sur-reply. (INDISCERNIBLE -- TECHNICAL DIFFICULTY). But the
2 previous term that we just now -- and since neither party has proposed a
3 construction, I think just the plain meaning applies, and certainly have the
4 opportunity if it's wanted to construe or modify and point to the specification
5 of support for any construction that it wanted. I think the plain meaning if
6 you (INDISCERNIBLE - TECHNICAL DIFFICULTY) is consistent with, I
7 believe is consistent with what I think Your Honor asked in --

8 JUDGE WEINSCHENK: Mr. Jairam? Mr. Jairam?

9 MR. JAIRAM: Yes, Your Honor.

10 JUDGE WEINSCHENK: We're having a hard time hearing. Can
11 you just move the mic a little closer? I think you might be speaking away
12 from the mic there for a bit. Can you go back and tell me?

13 MR. JAIRAM: Yes, certainly, Your Honor.

14 JUDGE WEINSCHENK: I heard you say that you're applying the
15 plain and ordinary meaning of modifying, but you've told us that it doesn't
16 include certain things, and I guess that's what I'm curious. What's your
17 support for the plain and ordinary meaning of modifying, not including
18 overriding, correcting, or combining? Because I believe that's what you
19 argued. It does not include those things.

20 MR. JAIRAM: Well, one example is replacing. I don't think that
21 replacing a command with a different command modifies the original
22 command, the instruction set, I suppose. In terms of overriding, you have to
23 go look at the specifics of Grotmol, and if certain commands are overridden
24 and therefore not executed, that doesn't mean that the instruction set
25 themselves -- or itself was modified, which means some portion of the
26 instruction set was overridden and was not used, and something else was

1 used. But because the claim language specifically says you have to modify
2 an instruction set, Grotmol would have to include teachings of specifically
3 an instruction set, and then changing, modifying that instruction set, which
4 has first been mapped, and we don't see that.

5 Also, there's the issue that I think the certain modes were not
6 addressed in the context of Claims 14 and 15, but I know we've talked about
7 that previously. And I know that's not exactly what Your Honor asked
8 about, but I'll note that.

9 JUDGE WEINSCHENK: I'm also curious. I talked about this
10 with the Petitioner a bit, but for Claim 15, we have this limitation that says
11 determining the modified first one or more instruction sets based on the at
12 least partial match. I'm assuming you read that to mean that you have to sort
13 of modify the instructions and then you have to go into the, whether it be the
14 training buffer or some kind of memory, and pull out that modified
15 instruction set based on a match of images. Is that how you would read it?

16 MR. JAIRAM: Yes, Your Honor. We would just apply the plain
17 language. Again, this is not a subject of claim construction by either party.
18 And just reading the straightforward language of the English word.
19 Modifying and then determining the modified instruction sets. The claim
20 does not say, you know, you determine it, and then somehow you modify
21 later. I mean, Grotmol doesn't really have clear disclosure on this, but if
22 Petitioner is arguing that somehow something that's modified after you've
23 determined the instruction set, that somehow also meets determining the
24 modified instruction set, that would not be correct. And --

25 JUDGE WEINSCHENK: Well, let's say I agree with you there,
26 Mr. Jairam, about that. At least for Claim 18, they cite to the override and

1 correct modes, which seem to have to learn the association after the
2 correction is made. And then you can go back in and, you know, when you
3 get another match, you'd pull up the corrected instruction that was
4 previously learned. That to me would seem to meet these limitations even
5 the way you're reading them. But maybe you could tell me if I'm missing
6 something there.

7 MR. JAIRAM: For Claim 18, let's turn to slide 49, please. And I
8 will try and answer Your Honor's question. So, in Claim 18, modifying the
9 instruction set is the first step, then learning the digital pictures correlated
10 with the modified instruction sets, then determining the modified instruction
11 sets for operating the first device based on partial match. And finally
12 causing the first or second device to perform operations.

13 Slide 51 please. Actually, let's go to slide 56 because we have a
14 slide to talk about the override and that's I believe what Your Honor is
15 asking about.

16 JUDGE WEINSCHENK: Yeah, you got it. Thank you.

17 MR. JAIRAM: In the override mode, as we explained in our sur-
18 reply brief, it's replacing a command by a whole different unmodified
19 command, and we provided an example that under Petitioner's example
20 while trading players from one team to another might not mod -- or I'm
21 sorry, may modify the roster of the original team, the players themselves
22 which would be analogous here to the instruction sets, are not modified. The
23 instruction sets are the thing which the claim requires to be modified.

24 And I guess where it's hard to fully get our hands around what
25 exactly is the issue here is because Grotmol itself is not clearly saying, okay,
26 here's the instruction set. There's a set of instructions A through Z.

1 Petitioner has pointed to certain signals, certain commands, and Grotmol
2 refers to them I believe as commands or signals. But Grotmol just doesn't
3 take an existing instruction set and for the purpose of Claim 18 who would
4 be modifying the instruction sets for operating the first device, and then all
5 the other additional features of Claim 18. I guess the way to look at it is the
6 specific learning technique that must be used is recited right there in the
7 claim. I mean Claim 18 is an awfully long claim, frankly.

8 JUDGE WEINSCHENK: Well, maybe this is more helpful, Mr.
9 Jairam. Can I tell you how I think Grotmol works, and you can tell me if I'm
10 wrong in some way?

11 MR. JAIRAM: Of course, Your Honor.

12 JUDGE WEINSCHENK: So, I think if we're looking at Grotmol,
13 column 22 has that table that Petitioner cited to, that has the override and
14 correct mode. And what I think happens is you have a command, and then
15 in the correct mode, the teacher corrects that command in some way, which I
16 think could be argued as modifying it. And then Grotmol teaches that you
17 learn the resulting association, such that when you go back in and you get
18 another match between images, you pull up the corrected command that is
19 associated with that image, as opposed to the original command before
20 correction. So, that would seem to teach modifying, learning the association
21 with the modified command, and then subsequently determining the
22 modified instruction based on a match of images. Am I mistaken about
23 Grotmol, or am I mistaken about the claims?

24 MR. JAIRAM: Well, I think this correct mode is it's correcting the
25 device's behavior, but I don't think it's saying that the instruction sets -- so,
26 whatever the Petitioner maps to the instruction set, okay, I don't think that

1 that is itself modified. And if we go back in the petition, I believe the first
2 place where they met, in Claim 1, where they said, what is it that they are
3 mapping to the instruction sets, is the motor control indication. And I'm
4 going to point to the place in the petition where that is. And of course,
5 Claim 18 ultimately depends from Claim 1. It's a motor command, or motor
6 control indication in the 1172 petition at page 11 at the bottom, they've
7 mapped the motor command issued by a trainer, or they've also said motor
8 control indication. Now the question is, even in the correct mode, if the
9 person who's, I guess, I think called the trainer or the person who's helping
10 the robot learn, if they correct it and say no, don't, that -- that -- do the
11 different one instead, the motor control indication that was produced by the
12 robot, so the robot tried to produce a certain motor control indication, or it
13 didn't itself get modified, and instead, something -- a different indication
14 altogether replaced it as a result of the correction.

15 And in Table 3, at line 40 of the column -- of the five eight -- of
16 Grotmol, Grotmol describes the correct as combine the teaching input and
17 the prediction. So, the prediction appears to be what the robot would
18 ordinarily do. That gets combined with the teaching input. So, I think the
19 person says, bad robot, do this instead. And it'll get combined. I think
20 there's literally a summation unit shown as the combiner. And the output of
21 that, it's not modifying the thing that Petitioner maps to the instruction set.
22 If one of the inputs to the combiner is the thing that they map to the
23 instruction set, and if you go look at element 1.5 of the 1172 petition, where
24 they had a chance to say, what is the instruction set, they didn't -- they said
25 it's the motor command -- the motor control indication caused to --
26 configured to cause the robot to execute an action. I think that that is the

1 input to the summation unit or the combiner. And it itself is basically not
2 modified.

3 I'm trying to answer Your Honor's question. That's my
4 understanding of both Petitioner's mapping and what I see in Table 3 of
5 Grotmol.

6 JUDGE WEINSCHENK: Okay. Thank you. Mr. Jairam, just so
7 you know, you've got five minutes before you start going into your rebuttal
8 time.

9 MR. JAIRAM: Okay, thank you. In the interest of time, I'm going
10 to touch on just at least one other claim. And let's try to cover Claim 27
11 next.

12 So, let's go to slide 106, please. Claim 27 also recites multiple
13 devices, multiple correlations, but the specific details matter. And in
14 particular, there's not only a third device here, and keeping in mind, the
15 second device is in intervening Claim 4, but there's also a fourth device. So,
16 there has to be, in purple here, a second picture is correlated with a second
17 instruction set. So, you can think of that as what we've listed at left as a
18 second correlation. But that's for operating a third device. And at the very
19 bottom of the claim, you can see that something has to happen with respect
20 to yet another device. So, the fourth device, it's caused to perform
21 operations, but it's due to finding things regarding the instruction sets for
22 operating the third device. Grotmol is silent, and Hickman does not cure the
23 deficiencies of Grotmol with respect to these features.

24 As a preliminary note, I would again point that where exactly has
25 Hickman been invoked for obviousness? We, again, tried to ask Dr. Janet
26 exactly this. That should be a straightforward question, because then we

1 could properly understand and counter-argue, but with no explanation given,
2 in fact, Dr. Janet just stuck with his line of saying that the claim is
3 anticipated by Grotmol, and he wouldn't say what's coming from Grotmol
4 with respect to these features. That's not proper argument or analysis by
5 Petitioner or its expert.

6 We'll note that Hickman, in contrast to Grotmol, has separate
7 storage of instruction sets and images in separate knowledge spaces. This
8 might perhaps get to Judge Parvis's inquiry about knowledge base, but we'll
9 note by looking at slide 109 that where Hickman has explicitly used the
10 words knowledge base 307 and knowledge base 309, you can see that
11 images are stored in one knowledge space and instructions are stored in
12 another.

13 I will also note that the tasks shown in 314 here, is something that
14 the Petitioner did not rely upon in its petition, but rather raised at the reply
15 stage. Judge Weinschenk, you asked, you know, well, why does it matter?
16 Well, if the entire point of Petitioner raising it is we pointed out flaws in the
17 petition's analysis and the Petitioner now goes back and says, well, we need
18 to point to something else, and says, okay let's go point to something else,
19 that doesn't comport with the Board's rules. That is a new argument. The
20 arguments about tasks are arguments that Petitioner could have put in its
21 petition, could have properly supported it with expert support, then we
22 would have been in a position at the deposition of Dr. Janet to ask him about
23 such things. By raising it for the first time in their reply they have
24 effectively sandbagged us and either -- whether intentionally or not it's
25 improper. It's evidence from the papers from their argument as set forth in
26 their Petitioner reply that what they are saying about this task field is quite

1 different from what they said in the first instance in the petition. The
2 instructions on the bottom right here are clearly different than the task field.
3 They are in fact stored in different knowledge bases, and Petitioner's reliance
4 on the tasks is incorrect. It's also incorrect for the various substantive
5 reasons that we've set out in the papers. But I did want to note in my limited
6 time that the introduction of the new argument is impermissible.

7 I realize that I'm cutting into my sur-rebuttal time a little bit, so I
8 will wrap up here very shortly. And I will note where the tasks field was
9 mentioned in the reply, that's in the 1173 reply at pages 18 to 20. And just
10 comparing that to what's in the petition, it's plain to see that's a new
11 argument.

12 The last thing that I will mention here regarding Claim 27 is that
13 Petitioner has not really mapped the specific claim limitations to teachings
14 of Grotmol and Hickman. The references do not disclose or suggest these
15 claimed first, second, third, and fourth devices. And I know that the
16 Petitioner is going to say, or has said in its brief, that there are lots of devices
17 in Hickman.

18 But the issue is that the specific arrangement of features has been
19 carefully drafted in this claim, in Claim 27, in a specific manner regarding
20 things that have to happen with respect to the third device and then cause a
21 fourth device to happen. Learning happens on one device, execution
22 happens, you know, on the fourth device, and the claim language needs to be
23 respected. It's not enough to just kind of wave hands and expect the
24 Petitioner's expert also to wave hands. In fact, if we pull up the page from
25 the deposition transcript, this is in the 1173 deposition, which is Exhibit
26 2008, and I will attempt to share it on the screen here.

1 This is just one instance. There are other instances for other
2 claims. We point it all out in the papers. When we asked at line 3, for
3 which limitation, sir, are you invoking obviousness in this claim? The
4 expert gave a long, somewhat obfuscating response saying -- looking at the
5 claim as a whole, not dissecting any particular aspect. And then saying at
6 line 15, where there might be, where the audience might be, it's like Delta.
7 A slight difference from what's in Grotmol. At line 18 through 20, such a
8 person might seek additional disclosure and invoke the second reference
9 from Hickman. We actually followed up. We asked, what is this delta?
10 And the expert, as is typical in his responses, said, I think that's really going
11 to be left to the interpretation of the reader, and it's hard to say exactly.

12 It's very hard, of course, for Patent Owners, in general, at the
13 PTAB. It's hard when Patent Owner's deposing the Petitioner's expert, and
14 the Petitioner won't even explain what exactly the basis for a theory is.

15 I will finally note that, in large part, the Petitioner's expert simply
16 repeated what's found in the brief almost verbatim. And therefore, to the
17 extent that the Petitioner may say, well, we have expert support on some
18 point and you don't, for whatever claim the Board might be inclined to
19 consider such a line of argument, we would invite the Board again to just
20 note that Petitioner's expert has not added anything of substance beyond
21 mere parroting of the brief.

22 With that, I will reserve the remaining time for sur-rebuttal and
23 otherwise refer to the papers.

24 JUDGE WEINSCHENK: Mr. Jairam, before you finish up here,
25 Mr. Jairam, there's one claim you didn't get to, and I have one question I
26 want to make sure we get to it. Can you take a quick look at Claim 29 for

1 me?

2 MR. JAIRAM: Yes, Your Honor.

3 JUDGE WEINSCHENK: And I had some stuff here about -- with
4 Petitioner I want to make sure you get an opportunity to respond. And this
5 claim requires generating one or more representations of the one or more
6 objects and generating the new one or more visual pictures that include the
7 one or more representations. It sounds like Petitioner understands this claim,
8 it should be, you know, if you're generating a picture, you're kind of
9 performing both of these steps, the second two steps at the same time
10 (INDISCERNIBLE - TECHNICAL DIFFICULTY) it's okay. How
11 (INDISCERNIBLE - TECHNICAL DIFFICULTY) you could generate a
12 representation of an object that the robot sees outside of the picture? Like
13 how could the representation of a physical object exist outside of the image
14 that includes it? But maybe you can tell me how you understand this claim
15 to work.

16 MR. JAIRAM: Well, so, a representation of an object detected in
17 an image is different from the image itself. An image may include
18 representations of some objects, but the representations are not the same as
19 the image itself. Sorry.

20 That means if neither party has sought to construe this, and it is
21 true that we proposed a construction at the pre-institution stage, but we have
22 not pursued that post-institution. So, in the absence of any construction by
23 either party, the plain meaning of the claims is applied, and I think that the
24 Petitioner, by saying that the image itself is the, I guess the digital picture,
25 and also the representation seems to run into problems. I am trying to
26 understand exactly what -- if I am answering your question. Perhaps you

1 could tell me if I am addressing your question or your concern.

2 WEINSCHENK: Yeah. Yeah, so I understand Petitioner's
3 position to be that when Grotmol generates a new image when the robot has
4 moved, that generating that new image, it includes objects. That the act of
5 generating the image that also includes representations of the objects that the
6 robot -- that are in front of the robot and that meets this claim. And I am
7 curious if you have a position as to why it does not. Because it seems to
8 meet both limitations. It generates an image that includes generated
9 representations of the objects that are in the vicinity of the robot. And if you
10 want to save this for sur-rebuttal, that's fine, Mr. Jairam. I know we have
11 kept you over your time here, but that was my question.

12 MR. JAIRAM: Thank you for the question. I think I will need to
13 think about that and try to get to that in the sur-rebuttal. Could Your Honors
14 please tell me how many minutes I have? I know I realized I've gone into
15 the sur-rebuttal, but total of the 75 minutes, how many minutes I have,
16 please?

17 JUDGE WEINSCHENK: Yep. Just give me one second here. So,
18 you have about seven minutes remaining for sur-rebuttal, and I did stop your
19 time just so you know, during our technical difficulties, so I didn't count
20 that. But I know we've asked you a lot of questions, so if you need an extra
21 minute or two on sur-rebuttal, we can accommodate that, okay?

22 MR. JAIRAM: Thank you, Your Honor. I am going to try and
23 briefly cover some points on Claim 14, because that was also discussed in
24 the Petitioner's oral argument. So, if we can turn to slide 24, please. Claim
25 14 requires modifying the first instruction set and applying the modified
26 instruction set to a second device.

1 And on to slide 25, Grotmol only discloses correcting device
2 behavior by issuing new commands. It doesn't modify the new commands,
3 and as we've mentioned a little bit earlier, issuing a new command, in
4 particular a new unmodifying command, is different than modifying an
5 existing instruction set.

6 On to slide 26, certain disclosures that Petitioner pointed to are
7 shown here from Grotmol. But Grotmol is disclosing issuing new
8 commands to adjust a robot's heading and does not disclose modifying the
9 instruction sets. Similarly, with slide 27, Grotmol discloses shifting images,
10 but that appears to be issuing new commands, and there's nothing there
11 about modifying instructions sets.

12 Slide 28, which is the last slide I'll talk about for this claim, is
13 Grotmol discloses combining with a PID controller, combining motor
14 commands with the output of a PID controller. But, as I mentioned earlier,
15 combining -- that combines two things, but it doesn't modify either of the
16 two things. The motor commands, or the instruction sets, which is what the
17 Petitioner mapped the motor commands to, are not themselves modified, and
18 they're instead combined with the output of the PID controller. Grotmol
19 doesn't disclose modifying any instruction set, and thus nothing in Grotmol
20 discloses that an instruction set that would be modified is somehow then
21 applied to a second device, and that an operation defined by that instruction
22 set, namely modified, has to then be performed on the second device. As we
23 know, there's limited disclosure regarding Grotmol's second robot, to which
24 a trained configuration is loaded, but it is just too much of a stretch and
25 speculation to reach all of these claim limitations, particularly given that this
26 is Claim 14 is an anticipation ground, a 102 ground.

1 So, in brief, nothing in Grotmol discloses or suggests that a
2 modified instruction set is applied to a second device, and that an operation
3 defined by the modified instruction set would be performed on the second
4 device.

5 I'll rest there and reserve my remaining minutes for sur-rebuttal.
6 Thank you.

7 JUDGE WEINSCHENK: All right. Thank you, Mr. Jairam.
8 You've got five minutes remaining. But like I said, when we get there, if
9 you need some extra time, we'll figure that out. Okay?

10 MR. JAIRAM: Thank you.

11 JUDGE WEINSCHENK: All right. We've been going for over
12 two hours now. Let's take a brief recess here before we start rebuttals. Let's
13 see here. Maybe about five minutes. So, let's say we'll start back here at
14 around 3:25. All right. Mr. Stephens, are you okay with that too?

15 MR. STEPHENS: Yes, Your Honor. We, we've got that as well.
16 Thank you, sir.

17 JUDGE WEINSCHENK: Thank you. We'll be back online. Let's
18 go off the record and we'll be back on it at 3:25.

19 (Whereupon, the above-entitled matter went off the record at
20 approximately 3:20 p.m. and resumed at approximately 3:25 p.m.)

21 JUDGE WEINSCHENK: All right. I think we've got everybody.
22 All right. Let's go back on the record. All right. We're back. We're turning
23 now to Petitioner's rebuttal. Mr. Stephens, I mentioned you have 20 minutes
24 for your rebuttal. I mentioned to Mr. Jairam that we may give him a few
25 extra minutes. If you're at the end of your time and you need a few extra
26 minutes, just let us know. Okay?

1 MR. STEPHENS: Thank you, Your Honor. I appreciate that.

2 JUDGE WEINSCHENK: You can begin whenever you're ready.

3 MR. STEPHENS: I'd like to begin with Claim 9. During our
4 direct Judge Parvis inquired about whether the Board's reliance on Figure
5 10D would be permissible. And speaking just for a moment more on that
6 point, I'll offer that if any concerns arise over differences between the
7 content offered by Figure 10D and that originally offered by the petition,
8 which we believe, again, is de minimis, reference to the Figure 10D would
9 nevertheless be permissible as referenced by -- to that figure was responsive
10 to substantive arguments and allegations advanced by the Patent Owner in
11 its response.

12 That is, reference to Figure 10B was appropriate as it flowed from
13 the issues disputed in the proceeding. And the Federal Circuit has confirmed
14 that these proceedings are indeed adversarial in nature, thus designed to
15 enable the parties to offer and respond to arguments where needed.

16 Also, with respect to Claim 9, on the issue of learning processes in
17 Grotmol, Patent Owner's counsel raised arguments regarding learning
18 processes and asserted that Grotmol only provides a single learning process.
19 I would highlight we have testimony on slide 19 of our demonstratives from
20 Patent Owner's expert at his deposition.

21 JUDGE PARVIS: Sorry, counsel, this is Judge Parvis. It's up to
22 you, but if you have a case, I understand that the proceeding is adversarial,
23 but the Patent Owner does, you know, is entitled to notice. So, if you have a
24 specific case in mind that you think shows that the Federal Circuit would
25 understand that even if the differences are not de minimis, that Petitioner is
26 entitled to rely on the additional figure, please feel free to share it with us.

1 MR. STEPHENS: Thank you, Your Honor. I don't have a specific
2 case at hand. I would just note that, again, the point of these proceedings is
3 we raise our theories in the petition. There's process that's implicated by
4 when an IPR is instituted, so we saw that Patent Owner raised its arguments
5 in the response. They challenged what we said in the petition, you know, as
6 we might expect the Patent Owner to do, that different tasks in Grotmol are
7 trained by different learning processes. Of course, we can point to
8 additional disclosure in the reference itself, and bring in other evidence,
9 testimony of our expert, whatever it might be, to support the initial mapping
10 of the theories that were set forth in the petition. And that's what we did
11 with Figure 10D. We did our best, you know, just in general here, to stay
12 true to the theories that were offered in the petition, while still responding to
13 the arguments that were raised in the Patent Owner's response.

14 JUDGE PARVIS: Thank you, counsel.

15 MR. STEPHENS: As to learning processes, again, I was referring
16 to slide 19, and we asked, actually, Patent Owner's expert, Dr. Saber, about
17 what he considers to be a learning process, be it multiple claims at issue in
18 this proceeding and other proceedings, that refer to multiple learning
19 processes, for example, Claim 9. So, how do you know when one learning
20 process ends and the other begins?

21 And on claim -- on slide 19, we have a short snip here from page
22 50, lines 11 through 21 of the deposition testimony. If you read it in full,
23 you'll find that there are pages of testimony on this issue, and it was difficult
24 to nail down with Dr. Saber what are the factors that one considers in
25 distinguishing among learning processes? Because you'll see in the claims
26 that have been advanced by the -- or obtained by the Patent Owner, there are

1 claims directed to multiple learning processes by the same user, different
2 users on the same device, different devices, so those can't be distinguishing.

3 The only thing that Dr. Saber was able to identify was that -- was a
4 temporal separation. So, he said, there's a first learning process that's taking
5 place, and that seconds later, or minutes, or whatever, there's a second
6 learning process that's taking place, and if you compare that testimony
7 against what we have in Grotmol, I think Judge Weinschenk, you raised the
8 disclosure of Grotmol, at lines 1 through 7, where he talks about a user that
9 trains a particular behavior, and once he's done training that particular
10 behavior he creates another module and activates it. This is, I think, very
11 similar to the example that Dr. Saber gave us as to a second learning process
12 in his deposition testimony.

13 Next, I'd like to touch on modifying in Claim 18. Patent Owner's
14 counsel raised arguments that modifying instructions as recited in Claim 18,
15 for example, excludes replacing or overriding instructions as disclosed in
16 Grotmol. But regardless of the subject, and we looked at on slide 39 there
17 was a portion of the specification of the '583 patent where, as I noted during
18 the direct, it refers to modifying execution and/or, I'm sorry, modifying an
19 application with alternate instruction sets. Regardless of the subject upon
20 which modification is described in the patent, the disclosure provides usage
21 by the '583 author of modifying, which informs that Patent Owner is wrong
22 to insist on a narrower interpretation of modifying when it's used by the
23 same author in its claims, whether or not used with respect to an application
24 or in other contexts.

25 Petitioner raised this issue in its reply at page 21 where it cited the
26 column 136 portion of the '583 petition and pointed out the implication of

1 the inventor's usage of modifying here in the specification. To imply that
2 the Petitioner didn't raise this issue is not correct, and it's notable that the
3 Patent Owner again offered nothing on the issue in its sur-reply.

4 Next slide to touch on Claim 29, please. This is on slide 47. Judge
5 Weinschenk, during our direct, I believe you had asked us whether there's an
6 order of steps that should be imparted in Claim 29. As we've cited in our
7 reply, we don't believe that there is an order of steps that would be
8 appropriate to impart here. The Federal Circuit warns against doing so
9 amongst claim steps based on the order of their presentation within a claim.
10 But even if an order were appropriate, we do believe that it would be met by
11 Grotmol as it discloses generating an image with object representations, and
12 such disclosure would involve completing the generation of the overall
13 image after a generation of its component parts, which include the object
14 representations depicted in the image.

15 I'd also note that you'll find this discussion --

16 JUDGE WEINSCHENK: Mr. Stephens, is there any support for
17 that in Grotmol itself?

18 MR. STEPHENS: I didn't hear the question, Your Honor.

19 JUDGE WEINSCHENK: Oh, sorry. Is there any support in
20 Grotmol itself for that ordering that you just described? That it generates the
21 objects first and then completes the image?

22 MR. STEPHENS: Well, we think that would be understood by the
23 fact that there are multiple objects. So, generating the image, you are
24 necessarily completing different parts of the image at different times. You
25 would complete the generation of the objects for at least one -- the
26 representation of at least one object before the other.

1 I'd also note this is discussed at pages 25 to 26 of the reply. We
2 asked Dr. Saber for his understanding of Claim 29, and if there was anything
3 limiting in the specification that he could identify with respect to the steps
4 that are recited in Claim 29. And we actually gave him however much time
5 he pleased to review the specification and try to identify such disclosure. He
6 was unable to point to any. It's unclear exactly where he found -- he would
7 find these specific steps recited or described in the patent. But you can find
8 that at Exhibit 1011 around page 65, lines -- 65, line 9 to page 67, line 1.

9 As to Claim 11 and the challenge of Claim 11 is obvious based on
10 Grotmol, I just want to offer a few points in response to some discussion
11 with the Patent Owner's counsel. So, as we discussed, Grotmol describes the
12 disclosure at column 33 tells us that a trained configuration of a robot can be
13 shared with another robot. And so how does that result in a knowledge base
14 that contains correlations and knowledge from operating multiple devices?

15 And, again, I think the evidence here speaks to that. This is
16 highlighted on slide 67 and 68 of our demonstratives, but just a few points in
17 that regard. When a trained configuration in Grotmol is transferred from one
18 robot and loaded on another robot, the robot onto which -- the robot that is
19 receiving that trained configuration has existing knowledge. And we know
20 that because Grotmol tells us that the trained configuration pertains to a
21 configuration of one controller itself. And at the (INDISCERNIBLE) of
22 reading Grotmol, to understand that you don't need to displace all of the
23 existing knowledge on the robot with the new trained configuration. That's
24 consistent with the architecture that's given in Grotmol. So, retaining locally
25 learned knowledge, it's the only software architecture that's disclosed in
26 Grotmol, and it would allow the storage of multiple trained configurations.

1 For example, this is discussed in our reply, Grotmol allows the user to recall
2 earlier trained configurations via backup and undo operations, thus
3 demonstrating the existence of other configurations on the robot beyond the
4 configuration that's currently loaded. That's described at Grotmol at column
5 34, lines 18 through 45, and addressed at pages 11 to 12 of our reply.

6 Additionally, we cited other prior art references, and a reference
7 that was actually incorporated by reference into Grotmol itself that gives a
8 little bit more detail as to the structure and what knowledge is contained in
9 the robot. And it talks about having multiple trained configurations, having
10 multiple brain images to control the robot. When you load a brain image or
11 a trained configuration onto the robot, it is not -- it augments the existing
12 knowledge of the robot. And so, there's no reason that a POSITA would
13 read Grotmol contrary to this disclosure to think that when you're loading a
14 trained configuration from another robot, that you somehow have to flush
15 the memory or displace all the other configurations or controllers on the
16 robot.

17 And finally, I just wanted to make sure there was a few questions
18 during our direct regarding the meaning of object representation. I had, I
19 think, referenced the parties' dispute over object representation, pre-
20 institution, and then we turned to Claim 31, and there was a discussion of the
21 term representation as it pertains to a first one or more instruction sets being
22 generated as a representation of the second one or more instruction sets. I
23 don't have anything particularly to offer here. I just wanted to make sure
24 there were no further questions or, from Your Honors, or if there's any
25 information we can provide in that regard.

26 JUDGE WEINSCHENK: Nothing from me right now. Thank

1 you.

2 JUDGE CASS: Nothing from me either.

3 MR. STEPHENS: Thank you. With that, we will conclude our
4 rebuttal.

5 JUDGE WEINSCHENK: All right. Thank you, Mr. Stephens.
6 Mr. Jairam, whenever you're ready. As I mentioned, you've got five minutes
7 for your sur-rebuttal. If you need a few more minutes, let me know.

8 MR. JAIRAM: Yes, Your Honor, thank you. Again, this is
9 Arvind Jairam, again, on behalf of Patent Owner. With regards to
10 modifying, I will point to one example from the specifications of the '583
11 patent. It's at column 131, lines 53 to 57, and I will bring it up on the screen
12 right now. Patent Owner's (INDISCERNIBLE - TECHNICAL
13 DIFFICULTY) that's available to Your Honors, as it shows at approximately
14 lines 53 to 57. There's description of modifying source code, and also, I
15 think at line 50, there's also a description of modifying functions, methods,
16 procedures, routines, subroutines. Additionally, there's a description of byte
17 code, compiled code, machine code, or other code, at lines 55 through 57,
18 and I'll just note that all of that is very clearly different than Grotmol's
19 disclosures of things like the override mode and the signals that Grotmol is
20 disclosing.

21 With respect to Claim 11, there was a question, I believe, from
22 Judge Parvis about the knowledge base, and what exactly is needed. In
23 short, the claim doesn't recite any location of the knowledge base, so it
24 doesn't matter where the knowledge base is. The question is, if the claim
25 feature of what the knowledge base has to include if that is met in the prior
26 art. And in Claim 11, we see that the focus is on the instruction sets that are

1 for operating that third device. And that is simply not disclosed in Grotmol,
2 disclosed or suggested in Grotmol. But apart from that, it doesn't matter
3 where the knowledge base is, at least according to the language of the claim,
4 and the parties have not pushed for any particular construction.

5 For Claim 29, I believe Judge Weinschenk asked a question about
6 Claim 29. I'll just note that the object's representation, the representation of
7 the object is recited specifically, and that there is generating the digital
8 pictures, also recited specifically, and to the extent that Petitioner is mapping
9 both the claimed digital picture and the representation onto a digital image
10 of Grotmol, or an image of Grotmol, I could see where that's going to run
11 into problems in their mapping because they're recited separately as different
12 things. There's digital pictures, and then there are objects, and there's
13 representations of the object.

14 And finally Claim 29 recites generating the pictures that include
15 the representations of the object. And I think the Petitioner's approach for
16 Claim 29 is just missing the specific details. In particular, Grotmol just does
17 not disclose the specific claim process. It is detecting objects, generating
18 representations of the detected objects, and then generating a new picture
19 based on the representation of the detected objects. That's set forth in the
20 claim language for a reason, and the claim language matters. And we
21 explained this at page 23 of our 1172 sur-reply brief, and we'll just note that
22 Grotmol does not disclose any such picture generation in this claimed
23 manner, and only discloses capturing images by a camera, and says nothing
24 about generating a new digital picture using the claimed features. And in
25 particular, the generated representations of previously detected objects that
26 was recited in the first step of the claim. And the cited portions of Grotmol

1 and anywhere else in Grotmol just does not disclose or suggest that object
2 representations that are generated based on previously detected objects,
3 based on objects that have been detected, are then included or form the basis
4 for generating a picture. And that's discussed at page 24 of our sur-reply.

5 And I realize I'm nearing the end of my time, so I will stop there if
6 there are no other questions, I will stop. Otherwise, I'm happy to try to
7 answer Your Honor's questions.

8 JUDGE WEINSCHENK: Nothing else from me, Mr. Jairam.
9 Anything from Judge Parvis or Judge Cass?

10 JUDGE PARVIS: Nothing for me.

11 JUDGE CASS: Nothing from me either.

12 MR. JAIRAM: Thank you, Your Honors.

13 JUDGE WEINSCHENK: Thank you, Mr. Jairam. Before we
14 adjourn here, I'll ask both parties to remain on the line in case the court
15 report has any questions or needs any spellings.

16 I'll also ask before we adjourn, are there any questions, concerns
17 before we go here, Mr. Stephens?

18 MR. STEPHENS: Thank you, Judge Weinschenk. During the
19 break, in response to Judge Parvis's question, she had asked for authority as
20 to the ability to present evidence in a reply. We did find a case, if you'd like
21 it, I'd provide that citation.

22 JUDGE WEINSCHENK: Judge Parvis, would you like him to
23 provide that?

24 JUDGE PARVIS: I don't have any objection.

25 MR. STEPHENS: No, Your Honor.

26 JUDGE PARVIS: Okay.

1 MR. STEPHENS: Rembrandt Diagnostics, LP v. Alere, Inc.
2 That's 76 F.4th 1376, page 1384, Federal Circuit Decision 2023, says that
3 the need to rely on new evidence in response may not arise until a particular
4 point has been raised in the Patent Owner response or the institution
5 decision, and therefore, there's no blanket prohibition against the
6 introduction of new evidence during an IPR.

7 JUDGE PARVIS: Thank you, counselor. Does Patent Owner
8 want a minute or two to respond to that?

9 MR. JAIRAM: I would appreciate that, Your Honor, and I'll be
10 very brief here. Any new evidence must still be regarding previously
11 presented arguments. There cannot be new arguments, and if Petitioner puts
12 forward whether it's a new figure or points to a different portion of
13 disclosure, the question is, is that a new argument or is that new evidence?
14 Well, Your Honors can certainly see from the petition in whichever relevant
15 context what exactly the argument propounded by Petitioner was. And in
16 several instances where the Patent Owner identified flaws in the Petitioner's
17 argument and the Petitioner goes back and changes course, it would not be
18 fair to allow new arguments to come in under the guise of simply being new
19 evidence. It might be new argument and new evidence, but where the
20 arguments were previously not presented, that would be unfair given that the
21 Petitioner is the master of the IPR proceeding and has the burden to have
22 presented its case in chief in full with clarity in its petition. Thank you,
23 Your Honors.

24 JUDGE PARVIS: Thank you, counsel.

25 JUDGE WEINSCHENK: Any other questions or -- I'm sorry.

26 JUDGE PARVIS: No questions from me (INDISCERNIBLE -

1 TECHNICAL DIFFICULTY).

2 JUDGE WEINSCHENK: Anything else, Mr. Stephens?

3 MR. STEPHENS: Nothing further from the Petitioner. Thank
4 you.

5 JUDGE WEINSCHENK: All right. Any questions or concerns
6 from you, Mr. Jairam?

7 MR. JAIRAM: No, Your Honor. Thank you.

8 JUDGE WEINSCHENK: All right. Well, before we go, I just
9 want to say thank you all. We've had three hearings over multiple weeks
10 now. It's clear that you all have put a lot of time and effort into your
11 presentations. These hearings are very helpful to us, and we certainly do
12 appreciate all the work that you guys put in. So, thank you all for that.
13 We'll take these cases under advisement. We're adjourned.
14 (Whereupon the above-entitled matter went off the record at 3:54
15 p.m.)

IPR2023-01172 (Patent 11,055,583 B1)

IPR2023-01173 (Patent 11,055,583 B1)

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