



Transcript:

The Making of 'In Vitro'

00:57

Larissa Sansour: I think it's quite strange to talk about this film now because we live in a completely different time than when we were working on the film in 2019. Back then it was a speculative film, and thinking about how we could think about the future, to give us a better idea of talking about the present.

01:24

Nat Muller: It's strange how the film actually becomes quite prescient for the situation we're experiencing now. In so many ways the film is about enduring catastrophe and enduring a protracted apocalypse in very different historical frameworks, whether that's the 1948 Nakba- the dispossession of the Palestinians with the foundation of the State of Israel, or whether it's the climate apocalypse and disaster that's happening in the Film. Or whether it's the complete loss on a meta level, of identity and belonging, that you see is what is happening between the two protagonists. But that kind of situation of a loss of anchoring and this protracted apocalypse without any horizon or silver lining- is a little bit of what I think we are experiencing now.

03:26

Larissa Sansour: When we were working with *In Vitro* our biggest problem was the time restriction. We received the invitation from the Danish Arts Council in August, and the film had to be finished in March.

03:42

Ali Roche: This was a project that we had been talking about and working on for about nine months prior to that invitation in a very different form- as a single screen long form piece. I think you responded very quickly to that invitation with taking out a section of that film, and making that into a separate short film. We had to pretty much get going straight away. I think you had already had locations in your mind- particularly in Palestine, in Bethlehem, where you wanted to shoot, and you had actors in mind already at that point, so we had to get going really quickly with that. I think you particularly wanted to shoot in Bethlehem by a very specific point, during the Oliver Harvest, so we had about five weeks to get that off the ground from the point that you had received the invitation.

So that was a challenge! And then I think we were kind of playing catch up from that point, where we were simultaneously fundraising, having to draft a budget without not having fully developed that concept... get the actors in place, think about the logistics of the shoot both in the UK and in Palestine. So yeah! Many challenges.

05:21

Søren Lind: Seeing as we only had 8 months from being invited to exhibit at the Danish Pavilion, to actually installing the work, we had to start fundraising immediately, knowing well that the major part of the budget would come from the Danish Arts Foundation. But as we started scaling what we had in terms of the feature film script, down to the two-channel short we also realised that the ambition for the project would make the entire film much more costly than the initial bursary for the Biennial would cover. So, one of the very first things we had to do was initiate further fundraising, which was

very difficult to do, as we were also in the process of dividing the script into what needed to be converted into a film. So, trying to balance out, get some kind of idea of cost without actually having a final script was hugely challenging. And that sense of playing catch up continued throughout the project, even after the work premiered- fundraising efforts were still going on.

06:34

Ali Roche: Yes, and I think that was very much to do with the very condensed timescale, we were developing the project while we were also writing the project and shooting the project and editing the project. Development was happening throughout, and we were thinking through things throughout. Lots of processes that would usually happen in a much more stretched time frame were happening in parallel with each other.

07:06

Nat Muller: Usually you have single channel productions and I think this is one of the few films that you decided to go for split screen, and it's not an ordinary split screen, because sometimes the movement also merges into one. But the whole project is one of dichotomies and binaries and splitting. So, it's black and white, it's an elderly lady- so Dunia, the survivor and the clone Alia- so there is that age difference as well. There is the above ground and the underground, there is the time before and the time after disaster. So, it runs on a logic of binaries, this whole production.

07:48

Anna Valdez Hanks: If I remember rightly, when I received the script it already contained a lot of information about shots that you wanted, because of the nature of the film- it was already somewhat determined what images we would need in order to tell that story. So, the script itself was already quite conventional, where it was already listing left screen, right screen and areas where it was intended to be one widescreen shot. So, there was already quite a strong sense in my mind about how this would be assembled in the end, and that was really helpful.

08:24

Ali Roche: Very early on from the invitation from the Danish Pavilion, you were quite clear that this new short film version of the feature you had been working on was going to be two channel synchronised video work- so presented across two screens using 4:3 aspect ratio. And they would be fractionally separated in order to create a cinemascope like effect. So, the majority of the film was to be comprised by action on two screens, but was interspersed with some wide cinemascope shots, split across both. And that actually isn't very straightforward to do- it has implications about what cameras may work, what aspect ratio you should shoot in, where you create that split, how you edit, how it's handled in the post production. So, there was actually a lot to think through in terms of the technical foundations of the film.

09:27

Ruaidhri Ryan: The very first shot list that came through- the coding of it was kind of really difficult to translate. There were lots and lots of shots, and I think that we were trying to figure out the best way to navigate our way through that bulk of shots and if they were necessarily all required or not.

09:49

Larissa Sansour: I remember that when I was looking at the shooting schedule and deciphering the shots it was very confusing.

09:47

Ruaidhri Ryan: We had the London Industrial estate location and we had Oxford which was our sort of brutalist underground Sci-Fi hospital location, and we were working with 2 variable aspect ratios and we were also working with visual effects and with Arabic, which is not a language that I have any knowledge of particularly at all. So, I was trying to wrap our heads around how we would even handle the dialogue and make sure everything that was scripted was being relayed verbally.

10:31

Søren Lind: The way that we did the script was to actually already factor in the left side and the right side, which means that we wrote the script as two separate columns, and whenever we would go out into the wide shot in the film, the two columns would meet in the centre.

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Ruaidhri Ryan: Quite often when you are working with artists' moving image you should be prepared for scripts being unconventional in the way that they are laid out, or the way that they are formatted. I don't really think anyone should expect artists to have to use that kind of conventional format that you would have for a typical theatrical release where one page of script equals one minute of dialogue and all that kind of stuff.

Certainly, the challenge of this script was first of all trying to figure out what each of these two columns represented, and what was going to be seen on screen with that dialogue at a given time, because the dialogue wasn't always necessarily synch. You might be in Bethlehem with a bit of Oxford over here, or you might have some sphere stuff- a memory- happening over here, with a bit of Oxford. Or you might have just a bit of straight archive footage or a bit of straight VFX with something else going on. I think that dividing the shot list based on those two things that were occurring, it was like, I suppose trying to generate two shot lists that would make sense!

12:06

Anna Valdez Hanks: As always it was important for me to try to get to a place where I understood what aesthetics you were keen on and what you felt this was- and some of that was already there in the script and some of that was through conversations. Quite quickly I understood that you both wanted very strong framing, a power in the simplicity of the image was very important, and that there were areas where we had a lot of room to play with- such as the long dialogue scenes. Those were the most challenging to realise in terms of keeping them feeling unique, keeping them feeling powerful and making them very right for this film- not imposing some other idea onto them. Making sure everything in this film was right for this film, so somehow through our conversations in prep we quite quickly got to that place. I understood that you liked camera movement and the whole thing creatively seemed to develop in the right direction early on, which was good because then you can start building on the idea.

13:16

Sue Giovanni: You'd done it really nicely, so you'd worked out that one ratio was double the other, and they are all true film ratios. As soon as I understood what Anna had done, it all made complete sense. It all made sense in terms of filmmaking, the way she'd shot it and some of the edits- I need to credit Anna for! It's the way it was shot and the way everything had been put together had been considered from the very start. Which is always what I do. When people come and talk to me about a project, I always ask them how it is going to be shown- go right to the very end of the process and then work back from that point. And that is what you were already doing.

14:14

Anna Valdez Hanks: I was always really excited about this idea of the two 4:3 images that were sometimes separate and sometimes together and that gives a lot of opportunity. The 4:3 frame itself is kind of perfect for portraiture- because when you are close up in 4:3 it kind of excludes everything else, you are completely engaged with the face, and then the face becomes a landscape and the face becomes the totalising force- there's nothing else quite like it. And then to also have landscape and widescreen format to play with as well was a gift.

14:52

Sue Giovanni: So Having two screens does add more than twice the complexity, I think, because whether you've got something on this screen and that screen- there's a third element somehow There's so many combinations all of a sudden, and this is a double edit always during the film, because you can juxtapose, as well as cut so, but then the sort of power of that juxtaposition was really important in this film.

15:37

Søren Lind: It's a 28-minute film, but you only had so many wides in there, and the rest were that single 4:3 side by side, meaning we actually probably have it 40/45-minute film.

15:54 Ali Roche: You had a very specific idea about what you wanted the film to look like, and what the kind of world within the film would feel like, and therefore, the kind of locations that we needed to find in response to that.

16:02

Larissa Sansour: Very early on, we saw that it was quite important, specifically for me, to shoot all these memory scenes in a family cabin that we have outside of Bethlehem. And so, in that sense it kind of anchored it for me, emotionally and conceptually. These scenes were undebatable that they were supposed to be shot there. We also shot in the Nativity church, and that probably is part of me being so interested in what signifiers we have as Palestinians or how an identity in flux, or in limbo that experienced a trauma holds on to these symbols. And what's a bigger symbol for Bethlehem than the Nativity church?

16:55

Nat Muller: You start the film with a very rather violent act of iconoclasm the whole church of the Nativity is destroyed by this surge of oil. So, I mean that you're already completely destroying the symbolism and iconography there. And then, the main part of the dialogue is exactly about what you say- this whole discussion between Alia and Dunia about belonging and signifying, do we hold on to this and what does it mean to hold on to these signifiers and symbols, when we've lost everything? We're sitting here underground, and above ground everything is destroyed, so what sense does it make to still hold on to this. And I think it's the first time in a film that that is so outspoken actually, that that is the crux of the critique.

14:50

Anna Valdez Hanks: It was my first time going to Bethlehem, so it felt very new and very interesting to me because it's such a kind of apocryphal place, in so many different ways. There was a lot of understanding to come to and a lot of emotions as well. Going there being there.

18:12

Henrik Back Christensen: I have lots of fond memories of shooting in Bethlehem. It was definitely the funnest place I've shot, it was also the most nerve-wracking place I've shot. I think due to the whole

security thing about it. For someone who's a privileged Scandinavian like me, being yelled at by IDF, guns being drawn and stuff like that was definitely not on my fun fun list.

18:36

Søren Lind: That first shoot in Bethlehem was definitely for me the romance of the shoot. Such a good spirit, such a good crew. And so many challenges that we somehow magically overcame one after the other,

18:52

Anna Valdez Hanks: The main focus of our shoot the first time we were there was getting into the church of the Nativity, and that kind of endless hoops to jump through with the paperwork, and us never been quite sure whether we actually had all the paperwork or not, and there being so many grey areas and we just felt like, do we turn up two or three times, to the Nativity Church before dawn. There's nobody there it's the only time nobody is at the Nativity church in Bethlehem.

And I just remember us all being very cold sort of eating hummus and waiting for that moment where we can try to invade this church. I think we got kicked out the first day, didn't we, and then we had to go back the second day. There was a moment when I felt hopeless, like we were never going to be able to film in that church and we're coming up with all sorts of unsuitable alternatives. Somehow it felt like a miracle, we got in there we got some shots which we weren't able to light. We weren't able to do very much with, but we managed to get enough that Henrik could do his magic and create something more from that.

19:52

Søren Lind: We were scheduled to have a half a shooting day inside the church. And eventually, after haggling with an Armenian father who came to our rescue around 10am we were granted, half an hour to shoot everything that we were supposed to spend half a day doing.

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Larissa Sansour: I was amazed by the resilience of the team that were building the tracks. They constantly started building the track before dawn and then they got kicked out and do it again the next day!

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Anna Valdez Hanks: That was really nice there's an amazing atmosphere. Everyone was very willing. Sometimes shooting in the UK crew work all year round and sometimes, every job feels like a bit of another job to them, but it was very different in in Bethlehem where everyone was very very committed and working very hard. We had to build this old track and we only had one Allen key so, the speed of our progress was all determined by our one Allen key you needed on every single join on the track. And I think we were lacking in a couple of joints in the end, but yeah, we managed to make it work. We had one of those old cranes where you sort of sit on the crane and seatbelt yourself in and you just really, you're just kind of putting your life in the hands your grips hoping they won't forget and let go of it or sort of like smash into a wall or something.

21:21

Henrik Bach Christensen: And I remember looking up the side of the crane and just seeing the entire structure just wobble whenever we would move it, that also came through in the recording. We stabilised a lot of that thing just to get it working. So that was actually another layer on top of this extremely complicated shoot.

21:43

Anna Valdez Hanks: Yeah, it was. It just felt so remarkable that we managed to achieve the shots that we needed to achieve, given all of the given all the issues that we had.

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Henrik Bach Christensen: I think we realised this when we went on a tech recce to Bethlehem, that there's not a single building that is straight in Bethlehem. Everything is sort of sliding to the side some sort of really really crooked so I think really early the decision was made to that we had to scan location because we wanted that perfect contact with the liquid, and because you need kind of like a mesh, like a 3D mesh that the liquid will interact with- we needed the precision mesh and we got that from the scan. I don't know if anybody's been scanning Bethlehem like that before, but it was really interesting to do, I think.

And that helped us quite a lot because obviously we had a moving camera in a lot of it so we needed to do a camera 3D track which meant that we had the camera that have a virtual camera within 3D work to do the simulation, then a sort of rendering to 2D to merge it with our footage. I think that the Nativity square had its own challenges because it is a place that religious people will come to and I think, being down there, there was an immediate problem which was pilgrims everywhere. And it was really difficult to get a clear shot of the, of the square.

So we actually ended up stitching, all our scans, really spending a lot of time cleaning up random people from the scans, but eventually we got a really really good scan, a hybrid scan of the entire structure, which helped us when we were 3D tracking our camera, because once you have actual measurements it's easier to do it, but it also really helped us with the interaction with the fluid.

23:41

CG fluids are generally just really difficult to work with. There's a lot of lead time in terms of simulating the fluid, and re- simulating the fluid and sort of a lot of iterations that go into it. I think we were probably re-simming for about a month. I think that was one of the late things we finished was the fluid shots.

Sometimes when you try to do something that's, that's really physical, you realise that that it doesn't behave the way you want it to behave. We wanted a certain kind of weight to the fluid, and I think eventually we found that, because the oil has a certain you know kind of viscosity, a certain look to it. Which I think in the end we kind of achieved.

24:37

Søren Lind: I remember one of the issues also with Nativity square- it's easier to simulate the liquid when you have a lot of structure that the liquid bounces off- like when we shot it in the narrow street, or when it gets a life of its own and it splashes it goes here and there. The square is surprisingly huge and therefore, have you not inserted artificial obstacles I remember behind the camera.

25:08

Henrik Bach Christensen: We did a lot of squares and a lot of things to get, but I think we were always like taken by surprise by sort of how uneventful it was in the beginning. Because we did the sim, and it sort of passes the camera and then it just sort of travels along, towards the end. And when you've been on the square you know this this square is quite massive actually, but from that perspective we're watching it, it wasn't really as exciting as we were hoping for. So, we ended up inserting all these objects to give us that possible turbulence and vorticity.

It swells up and it has a life to it. I think we also wanted to signify is is that the oil has been doing a lot of damage just before it arrives there, it's basically gushing all over the city. I think we also ended up cleaning up kind of a lot of the interior of the church in the background plates we had the oil on just to make it a lot more simple. We took away some railings and some of the things that were there.

26:05

Søren Lind: let alone the extra amount of praying people at the altar, as well, that also needs to be...

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Henrik Bach Christensen: Yeah, I think with the altar we ended up cutting out a lot and we I think less than a second of the altar not being surrounded by people. So, we're sort of repeating that that bit. It definitely had its challenges shooting inside the church.

26:28

But we also had the challenge of shooting the nun in a gas mask in front of Nativity church, because you're not allowed to shoot fiction films. We realised, as we were shooting! And we had all these pilgrims that the police kind of kept behind us. We had maybe how many minutes, maybe 20 minutes each time to just keep them off the square. And we, we had to shoot the scene quickly. It was a scene where a nun in a gas mask walks across the Nativity square, and two people are carrying a green screen behind her because actually the Nativity Square was supposed to look damaged- so it's after the apocalypse.

27:18

Anna Valdez Hanks: And it was hard for them to coordinate the green screen so it was actually behind her, because a bit of habit would always be off the edge or something.

27:34

Ali Roche: I think the most challenging thing about this project was we were such a small core team, and juggling lots of things and trying to do it in quite a compacted period of time. I think we shot in Palestine over in Bethlehem, over a period of five days, and you returned and we pretty much shot in the UK across two locations straight after that. Then off the back of that, we went back out to Bethlehem. We had very few breaks between all of that.

And we were having to work with those different teams around all of that, while Henrik was also concurrently beginning to work on the VFX. While we were shooting in the UK, Henrik was already handling the material that you'd shot on the first shoot in Bethlehem, starting to work through the demos of that. And then coming over to the UK to kind of feed into how we would shoot the sphere scenes.

29:10

Ruaidhri Ryan: So, we got to the location for the industrial space, and I think that we did a really quick recce when we first arrived, as everyone was loading the gear in. And I remember we were kind of just looking at the spaces where the sphere was going to be. We were looking at those storyboards and considering where the sphere was going to go, and I think that we got a camera up to have a look at those shots.

And I remember someone- may be referring to you Larissa, you we're going in and looking. None of us knew how big the sphere was going to be! So, I think you went in and you were like: 'I think it's probably going to be like this big sort of thing.' Then someone would just go up to the monitor with

a tape measure or something, and just go 'Right it's that big' and then we just made a sphere out of gaffer tape that was about those dimensions for that shot and we just stuck it on the monitor. Then I think we ran around taking photographs of all of the shots that we were going to have the sphere in from that time on, and just kind of guesstimating the size of the sphere in all of those shots.

30:16

Henrik Bach Christensen:

We had some challenges with the sphere because we wanted to maybe be slightly reflective. And we also wanted the actor to have something to play with. We wanted something physical because nothing really ruins the visual effects like somebody just staring into the abyss. Beside the optics we wanted that physical relationship. We didn't have a lot of time to figure things out, so we got the yoga ball. So, I think that that works so there's something to relate with physically. And we also shot the some of the reflections on this 360 camera- I guess that'll be in the pictures. Because we wanted to have the opportunity to sort of map, some sort of its reflection on some of it because the 360 camera basically just makes you have a nice round image. We actually used it, but it was very subtle. I think it actually worked out quite nicely.

31:14

Ruaidhri Ryan: I think it was probably quite a bit smaller than the sphere was going to be, but it was good just to have it in, certainly for those shots where the hand was like coming towards the sphere to touch it. I remember feeling the power of the sphere. I remember for those shots the yoga ball was pretty handy, just so that they knew what they were reacting to and like just having some kind of shape and stuff.

31:42

Henrik Bach Christensen: It was really good to have but I think the whole concept of the sphere was something that threw us off a few times right because we had the physical sphere that was super black but it was difficult to figure out how would that presence sort of work in the black and white. I think we struck a nice balance between something that's got a shape to it, and something that's undefined

32:08

Søren Lind: But that that was also very difficult. We replicated the sphere in real life. And in real life it has its dimensions, and it was a matter of getting those dimensions to go away by painting it the Blackest Black, so that you get the illusion of a flat object. Whereas in, when we did it in on the film, it was kind of the other way around. If you deprive it of any kind of dimensionality, it just looks like a flat disc, without ever giving that illusion that it may be a three-dimensional object. So, we had a lot of trouble there.

32:46

Henrik Bach Christensen: And I also think that because we make, we gave it some shape, it became slightly more dangerous. In a way, I think. I think that was a really good decision.

32:57

Larissa Sansour: In the film itself, the sphere is not present. This is one of the few objects in the film which are not real- they are CGI. So, the actor is just interacted with nothing really when you're filming. Whereas, when we were installing the monument- the sphere in the pavilion- was just a huge endeavour and you were there during installation, as well and that was like a puzzle to put up and so many people were working on it. So, I find this kind of contrast between how physical the real monument is, and how ephemeral it is in the film to be quite interesting conceptually.

33:54

Nat Muller: I think what's also really interesting is that even though the sphere is CGI'd, and obviously, it has a cinematic presence in the film, it's always present in Alia's anxiety. It's actually the thing she fears most, and it's the thing she continuously carries with her. In that sense it's also her burden that sphere. I think you named the sculpture- the five-metre sculpture that we placed across the film in the pavilion- very well as a monument to lost time, which I think is again something, we are experiencing very much. Time has become so fluid so difficult to mark. But what I think is also interesting about the difference between the sphere in the film, and the sphere as a sculptural object, is that in the film it's perhaps a hyper signifier because it's that repository of memory, of belonging, of identity, of actually a whole collective memory of those who perished in that climate apocalypse.

35:09

It's also the DNA memory that's injected into the clones, who are produced by the survivors. Whilst when you take it out of the cinematic context, it becomes a dead signifier- it's empty. It does not convey any meaning- so I think there's a very interesting contradiction there between something that has too much meaning, or has a hyper meaning, and something that is devoid of any meaning and just becomes a black sphere. That is very imposing and has a presence, but otherwise does not transmit anything of actual value, and in that sense it's also perhaps a dead object.

35:57

Søren Lind: Niklas- when we were developing the sound for both the film *In Vitro* but also for the sculpture installation, you all of a sudden, came across this fantastic instrument in Paris.

36:13

Niklas Schak: It's called, Cristal Baschet and it's invented by the Baschet brothers in the 50s- Francois and Bernard Baschet. And they were creating these sculptures that you can play on. I've known them for many years, they were used in abstract classical music and the abstract improvisation music since the 50s. But I didn't really know about this place in Paris. So, I was just waiting for the right project to come around.

When you play the instrument, you connect with it instantly, because it's resonating in your, body. The instrument is created by glass, which creates the individual tones, and they are amplified by the metal plates. They're amplifying the tone that you're playing on, and it's created by glass, where you put water on your finger and then you play on these glasses. Well it sounds really, really, organic. It sounds really real. When you play it resonates in your body, so you instantly connect with the, with the instrument.

38:22

We were talking about how we could create an emotional soundtrack, without playing the violin or playing cello.

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Søren Lind: Choosing the Cristal Baschet trombone, as you say, it's a musical instrument that already resonates with you as a person because you play it quite physically with your fingers. So that actually already created the sensation in the recording situation that we wanted to replicate in the sculptural installation, and the film, mainly to have a deep resonance at such a low frequency that it interacted with you. We wanted to create the physical presence of the music, rather than just a background score.

39:17

Niklas Schak: I remember we were talking about a Shepard tone and we were talking about creating a deep drone. To begin with, we were talking about the monument to lost time- the sphere- and I was thinking that, for me, from the musical perspective: I was thinking about how time in one way, time and how could we create something that was moving and standing still at the same time. That's actually what the Shepard tone is doing. It's rising, but it's not really in a tonal aspect, going anywhere. It's on the same pitch.

40:31

Ali Roche: We pursued trying to find locations that could perform on their own. Rather than thinking about any significant set design. I think within that you had some quite clear ideas about what you wanted those spaces to look like and we trolled through tonnes. You were very specific about the kind of look and feel of those spaces.

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Larissa Sansour: The bunker scenes could have been really filmed anywhere. So, we didn't have to film them in Bethlehem. It was easier for us to really film them in England. But we wanted them to be a bit different than your usual lab or futuristic kind of bunker. We wanted to kind of build on that nostalgia that you see in the Bethlehem scenes, but have the nostalgia kind of also recreated in the UK scenes, where we used brutalist architecture.

41:29

Søren Lind: What we found with the Oxfordshire location was that it had that very rough very rugged appearance, at the same time as magically also being very sculptural in the sense that it had a lot of elements within that otherwise very minimalist space that leant themselves, extremely well to that set up. I guess what the brutalism was supposed to do, was also contrast this nostalgia and tactility and the textured sense of the past that keeps on permeating throughout the film in Bethlehem, the flashbacks are textured. You see the young girl constantly touching her surroundings: the stone gates, the walls, to get that feeling not only of a town with history, but also of a childhood, of that interaction but with the floor, with the bricks, with the walls within your spaces.

And even though the brutalist architecture of the future is stripped down and barren, you still see Alia- the clone version- down the line, interacting with that space also. As if trying to sort of secrete a sense of belonging, out of it.

42:59

Ali Roche: I think that the locations brought some logistical issues. Particularly the two locations in the UK, neither of which had any electricity. When we were shooting the majority of the underground scenes, which we shot it in an abandoned boys' boarding school in Oxfordshire (which was an amazing location, but it was the beginning of December, it was freezing). It rained every day. The building that we were shooting in, had leaks everywhere.

There was no electricity. It was quite hard to access. We were shooting with quite a large amount of kit and getting that into that location, and getting power to that location, meant we had to have a huge generator lorry, that are used regularly in most film production processes, but probably not on an artist film. Getting them to power that building for us required a lot of people so that's how things kept growing and ambition.

44:04

Nat Muller: I only started to realise the scale of it when I came to Oxfordshire and I saw this huge truck that was generating electricity and the cables. When I entered the set, I saw this army of people running around, and then was actually when I realised that this is a huge production on such a professional scale. That was actually really interesting to see. I think it was probably also the coldest day you were filming.

44:41

Ruaidhri Ryan: Inside a concrete building, no heating, so we had these huge fire cannons, that we would fire up between takes. Hiam was particularly just always locked into her bed: (she was playing a dying lady) so she was pretty restricted. I remember a lot of my work was just making sure that her hot water bottles were topped up so that she didn't freeze.

45:08

Anna Valdez Hanks: Yes I remember it was actually very very cold: extremely cold. Yeah, I remember the steam coming out of the mouths and we were worried about that at the time, weren't we? Actually, I think it's quite cool when you see it on the screen. It sort of adds to the atmosphere

45:22

Ruaidhri Ryan: We didn't really have a production office and we'd unloaded all of the kit into the actual shooting location. There wasn't a room to put surplus kits so there was this continuous dance: 'What corner are we looking into? Oh, and that's where all the kit is.'

45:42

Anna Valdez Hanks: Yeah, it's true and also lighting. Lighting in that space was interesting because there were very few windows and they were in very difficult to access places, so we had to do a lot of the lighting from inside a building as well. So, then you have to move all of those lights, every time you move the camera, otherwise you're going to see the lights in the back of shot.

And it's also really interesting lighting for black and white because especially in the 4:3 format you are composing with shapes. You've got the opportunity to use your light to compose the image, to cut lines across your image using shadows or using highlights. We were doing a lot of that and having a lot of fun with that. We're using these lights called Source four, where you can completely angle them. You can just literally make your highlight go that way, and make a stripe across your frame. You need something to bring the frame alive when you don't have a window in the background, so we were playing a lot with that.

What we were able to do on this film, which I've never done before (and I don't think anyone's really done before because it's quite unusual to do this. Usually when you're framing two actors having conversation you do a wide shot to set the geography, and then you do over the shoulder shots where you show a bit of shoulder of the person in the foreground and then you show the person that's talking to beyond.

47:00

You do that because you don't want to confuse the audience and you want them to know where they are in the room, and where people are and who they're talking to. But with this it didn't feel necessary to give all that information. We did shoot wide shots because we had an amazing brutalist location. But then when we did the close ups, we tried to be as sort of as original and as flexible as we could make ourselves be, around how we would engage with the actors at a particular moments in the script, so as the tension was mounting in certain areas or as it became more emotional. We would switch the camera to being directly in front of the face, and ask the actors to look directly

over the camera at each other so they weren't looking into the lens, but they were so close to the lens that when you're watching that you're feeling that total engagement with that person. And then when you move away from that and you take the eyeline slightly off, then you disengage.

49:09

It was a pure joy to be able to mix up these different camera positions that we had. We were in that room and that building for quite a few days. It was quite long dialogue scene so we were able to sort of push that idea as much as we could and then try to use camera movements as well sometimes with two 4:3 images, the camera moving in different directions. All of that was just a hugely exciting, creative opportunity.

49:49

Sue Giovanni: Alia actually traces her hands along the wall, and walks around the space. We've got three angles during that sequence, and talking about not being able to know the sensation of feeling- her clothes the lights and things like that. But she walks around the space and we kind of cut through three angles in that sequence, it is a very rhythmic and sort of choreographed sequence which to me I feel is one of those happy accidents. One of those happy moments that I'm able to discover, a bit like an archaeologist- being able to discover within the footage. It's in the footage- I couldn't actually cut it if it wasn't there.

50:31

Nat Muller: What I thought was also interesting about the film is that it deals on so many levels with human relationships. It's not only the relationship between a scientist and her creation so Dunia and her engineered clone, Alia, but it's also very much an intergenerational conversation between a mother and a daughter. The mother is on her deathbed. There's a lot of emotion in this film, and especially when we showed it in Venice I was so moved to see how many people actually came out with tears in their eyes, or they were crying, or they said that this film, really touched them on the human level. You can actually extrapolate the whole experience to so many diasporic narratives.

51:22

Sue Giovanni: although there are larger philosophical ideas within the film, but there is also a really human element and that sort of loss and memory is something that everybody can relate to. Everybody has got some element of loss in their experience. So, it is pulling people from two directions really: some quite big ideas and then the really emotional and personal stuff, and very human narratives.

When the girl looks out the window, and then suddenly you're in the streets in Bethlehem where there just is a real direct connection. Or the places where there's a tension. There's definitely a pull the whole time going on between the very intimate and personal and something huge, and that's there in the format and in how it has been shot.

I think one of the things I really liked at the start was the idea to use archive. So, I think if this was a linear edit, bringing the archive in would have had a different impact. The fact that it's here simultaneously, as you're with either one or other of the character's thoughts, and something else happening simultaneously adds a different dimension.

53:03

Søren Lind: One of the reasons why we decided, eventually, after a lot of back and forth, to include the archival footage is that it's very much a personal narrative on the part of the young character Alia, and her battle with this idea of having inherited very personal memories. At the same time, she also

seemingly has access to a wider story, a wider set of collective memories. And I guess the intention early on, of the archival footage, was to have a representation very literally, of not just random archival footage, but of very iconic scenes from Bethlehem, as far back as we could go, in order to create some kind of cohesive montage of a representation of our collective memory per se.

53:58

Ali Roche: I think that the, the two-screen approach, obviously created a greater challenge in the editing process in kind of building and thinking through that structure for the film that you were hoping to make. It was quite an exciting challenge. I think it really came through in regard to the potential it brought to that editing process, and how you resolved to work with those, and how you worked to also incorporate points at which these screens were switched off and the potential for the rhythm that allowed you to build and the greater potential in a way for structure.

54:40

Søren Lind: I think all those pauses that were necessary for the film to actually work- it is also very dense dialogue, it's very dense material, it is very visually overwhelming.

54:50

Ali Roche: I think that we definitely talked a lot about the pacing that was required through the film, we talked a lot about how dense the dialogue was and how we could get across it. You know, allow space to ingest, not just the dialogue but the concepts that were being alluded to through that. And how the images could support that, but how they could sit apart from that. That was definitely a consideration throughout- unpacking the editing process and not trying to pack too much in.

55:31

Nat Muller: What is also remarkable in the film is that it is very much a narrative of loss- of loss of identity, of loss of home- physically. Of loss of everything basically- loss of the world as we know it. In a way, it is also a tale of survival, but I still have not decided which one takes the upper hand- is it a loss or is it a tale of survival? It is in a way a tale of resilience, but it is not surviving in- again bringing it to the Palestinian narrative- things do not pan out. There is no Palestine anymore, there is no continuity of identity, of homeland, of a potential nation state- that's all lost. But Alia survives, and Dunia dies. I wanted to ask you- how does that dynamic work? Is there a suggestion that in order to survive there has to be a 'clean cut'? Or something to be severed?

56:49

Larissa Sansour: I think that with *In Vitro*, it kind of is contextualised in the Science Fiction genre, where there is always this aspect of the proleptic mourning, of imagining things happening before they even have to happen, or thinking of our future as something that has been stolen from us. So, the dialogues are between two different generations that state the differences between those generations. It very much is what is happening in Palestine, I think it is kind of omnipresent- it is happening in many other cultures as well. I think what it is trying to say as well is that trying to even pinpoint the start of a tragedy is almost illusive. At one-point Dunia- who is dying- says 'That Bethlehem was always a ghost town'. The amount of colonial powers that have been in that region...

Or in general- history, how do we imagine it? What's the idea of this clean kind of idyllic state that we have ever imagined? In any setting, not just a Palestinian context- the rise of Nationalism right now all around the world is also a statement to that. What is this idea of an amazing past that we have ever imagined? And how do we build our narratives to even fool us to think so? Or does a human being need that? The film that we are working on- me and Søren now- is a feature film that functions as a sequel to where *In Vitro* left. We see Dunia actually running a bunker, but Alia is

actually outside, and she is part of a whole set of clones that are rebuilding idyllic Bethlehem. Yet, there is some sort of faulty-mechanism that makes the revolutionary start in Alia again. Dunia programs an element of doubt in Alia.

Coming back to your question- Dunia dies and Alia survives? I think it is actually a matter of these cycles being regenerated. No matter how much we try to perfect them, they always need revisions.



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