Virgil Widrich

Case Study: *Night of a 1000 Hours* (Austria, Luxembourg, Netherlands 2016)

Luxembourg, 4th April 2017

VIRGIL WIDRICH Thank you very much. I have a lot of material. I could talk for ten hours – I will not. I'm very happy to be interrupted. I don't want to fill the whole time with a lecture, so you are welcome to ask questions.

Night of a 1000 Hours took nine years to make. We were at Sources in 2009, when we were much younger – except you, of course. [laughter] We were in Girona, Spain. I worked with a lot of people on this script who helped me. Miguel Machalski was one of them. Louise Gough acted as a special adviser on the script. As you've seen the film, I can tell you about the basic ideas behind it.

Something that's always fascinated me is this idea of Judgment Day. Having been raised Catholic, I knew all those stories and I liked the idea that one day all the dead would come out of their graves to be judged by God. I was not so keen on the God part, but what people would talk to each other about. Why should only God judge when there would also be family members? For many years, I felt this could be the seed of a great film. On a worldwide scale, this would be a very long movie, so it is reduced to one family to be able to tell it in a feature film. The dead come back with a lot of secrets, of course, and because all the witnesses of these secrets are there, it's very hard to keep these secrets. I also liked the idea of the victims and the culprits being together. Most times in stories only the victims come back to accuse somebody, but the people who did something bad do not reappear because if put in this situation, they wouldn't be able to keep telling their fake stories.

Initially, my approach was more encyclopaedic. I'm not a very efficient writer looking for plot points and fast solutions. I want to really travel around the subject with lots of ideas. The software I use is called Tinderbox, an outline program for collecting ideas and making links and many ways of displaying information in different layers so you can browse ideas. In many screenplay programs, you are forced to be linear and then you run out of colours and so you move to fonts and then you're out of fonts, and you can't label stuff anymore. When you use different tools, you get
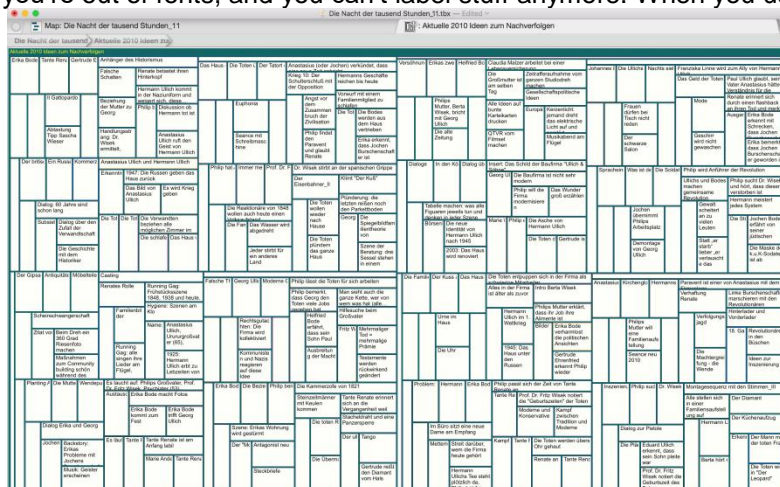
different artistic results in a film. In writing, certainly, but also in the shooting. What's nice about Tinderbox is that it's not only an outliner, it builds a very powerful database to make links, connections and has search capabilities within the script so you can do advanced searches. An example would be to extract every scene with one particular person but not another person, and then it sorts in the order of the story or however you have it

labeled. You can watch timelines as the film progresses in any kind of sorting order you like and even different versions side by side. Information can expose itself and by being able to look at it in different ways, new ideas form and you begin to see patterns where you can consolidate – maybe

two characters can become one. Of course this process takes some time. It produced a script of a thousand pages at the end, which was a little bit too long. But if Netflix ever calls, I'm ready.

Of course it was important to figure out how to structure all of this. I love visual representations as well and it produces a kind of schedule of which character appears in which scene and which dialogues and patterns emerge. It also shows the places where there are holes. Because it's a family story, I also worked with family tree software to create 300 people, all with names and

photos and life stories. We had about 200 extras in the film and all of them had a name, dates and a history. They knew how they were related and this helped to shape the story.

I worked with screenwriting legend Jean-Claude Carrière in Paris because my film always seemed to me like a Buñuel story and he's the man who wrote the director's French films. I met him with the help of Michael Haneke. They had worked together on *The White Ribbon*. I met Jean-Claude three or four times for a full day in Paris to read the script together. Each time it took me about one month to think about things, and then I wrote a new version that at the end eventually became our shooting script.

We concentrated a lot on the detective story and made the structure of that story stronger. These sessions also made clear that Hermann would be an invisible character, never to appear. It also reduced the story that happens before 1848, the time of the barricades, which you see briefly in the film. So I really liked working with all of these tools together. The Sources tools' benefit is that you have a small international audience and that's very helpful. I'm really glad to hear that many of the projects we discussed in 2009 got produced.

MARION GOMPPER: Actually about 50% - which is very good.

WIDRICH The way that Miguel, Louise and Jean-Claude contributed, helped me to find out what this story really was about. Research, of course, is important in any historical film so diving into early photography of all the characters was key. One thing that really shaped the film was the question: How do we do it? We have a film that takes place in one house with twenty-five sets, so from the beginning it was clear we needed to find a solution for the house. We couldn't finance the film just from funds in Austria. Actually, for some years we couldn't finance it at all in Austria. Without Luxembourg's enthusiasm, the film would not have been made. But there is no Viennese architecture in Luxembourg so we would have had to build the house. But it would be impossible to build twenty-five large sets. In Vienna, we could shoot houses that are already there, but they would have to be partially destroyed and it would have been an extremely complicated stitching

together of different houses. For funding reasons we needed at least half the shooting to be done in Luxembourg.

I was always interested in the technique of rear projection, which today somehow is an obsolete film technique, a technique that was important since the beginning of cinema up to, maybe, the '80s when it was completely replaced by blue and green screen and then digital green screen. So

rear projection is not used anymore. In 2012, I was invited to do the visual set design of a musical theatre piece in Luxembourg called *New Angels* based on Edgar Allen Poe's short story *The Black Cat* with music by Bach and David Sylvian, a mix of old and new. Since it's a story of a drunken man, I decided to use out-of-focus projections that move all the time, providing a subjective view of this character. There were three projectors and three screens and they produced spectacular results because we had matching perspectives and matching light.

Out of this experiment, I felt we could do this with a whole film and then have a stage set with screens where we could shoot all twenty-five sets within a very small space. Also, with so many actors, scheduling would have been very complex so it was clear we would have to shoot a lot out of order, so shooting one set completely after the other was not really possible. The projection technique allowed for a lot of flexibility. But there is a tableau for a stage that offers only one view, so there is no reverse shot possible or ability to cut in another way. Therefore we needed some kind of rotation.

I worked with my long time digital companion, Oleg Prodeus, on solving this. Someone comes in the door and you have a 180-degree shot, cut to the other side when he talks to the woman, and then go 180 degrees back, where you see the door in the background and then they would go to the window and talk. So we would cover the whole room, more or less. We have a piece of the wall in the foreground and the door and the rest outside this aisle would be a projection. For the second shot, we would keep the camera in the same position but reverse the projected background and we would also need a second screen so we have an L with two walls. We need real furniture placed there otherwise they can't interact so it was clear that we needed that right angle. So when all the shots were edited together, it would be believable that there is a room that is around us. This was made in the edit along with the way the actors reacted to one another, as well as the sound design, which creates the space as it does in any fake set that you build.
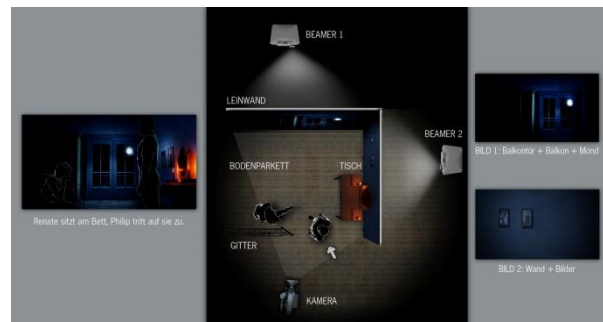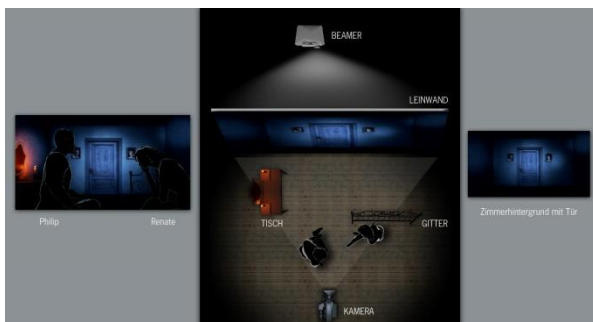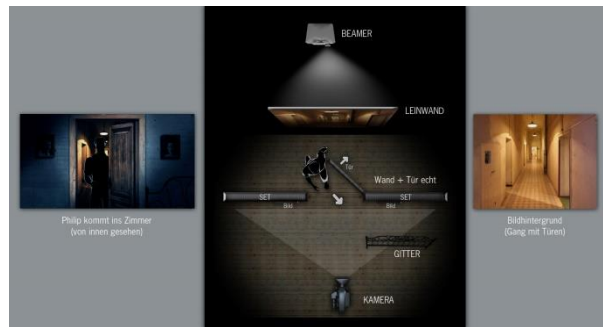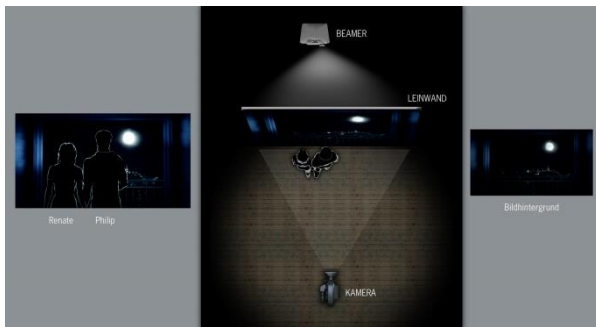
Another aspect is the geometry and fortunately Oleg is also kind of a mathematician. The objects need to be distorted if you shoot anything at other than a right angle, otherwise there will be no depth. So he also calculated this. In our little virtual set, we started playing around with what we'd

need for the house. Then we approached Christian Berger, Michael Haneke's long time director of photography. He's the only one who survived six films with Haneke [laughter]. He's extremely interested in experimentation and technology. Christian was immediately fascinated by the idea of filming projections. You're somehow shooting in a cinema to make cinema and he liked that.

With his own Lumix camera, a borrowed consumer projector and some furniture, we played around for a day. We learned that colours didn't match, nor did perspectives easily match. We also saw that the more something is out of focus, the more convincing it becomes. We learned we could manipulate the depth of field. The level of detail in the background is not dictated by the geometry of the lens or the f-stop. Since it's fake, we could have whatever depths of field we wanted. This went for the relationship between foreground and background, as well: the more layers of depth we created, the better the outcome would be.

This was the first tableau that we made with a projected window, a real candle and light. We were quite happy with the results from this testing day and convinced that all this could be pulled off somehow. We knew that spilled light would create a major problem, but Christian was already

finding ways to solve this. He also introduced me to a Danish painter called Vilhelm Hammershøi, who lived from 1864 to 1916. Hammershøi only painted his flat and the neck of his wife – for forty years! Sometimes she's not even in the frame. He studied what light can do in an old apartment. We took this as a guide because we knew that this night of a thousand hours needed different kinds of nights – a yellow night, a green night, a bright night, a dark night.

I'm a film buff so I researched film history about how family scenes have been filmed throughout time. I stole that famous moment when the family finds the corpse and the camera is below them, eye level with the deceased. You learn about visuals and how to frame. Silent movies are a great visual reference because they had to build everything and therefore had to think about it beforehand. We also wanted to put actors behind the screen so they can cast shadows, both real ones and fake ones by doubles, and we could combine them. Charles Laughton did something like that in *Night of the Hunter.* Reflections and using mirrors are interesting, too. Somehow by working like this, the house became a character. As we know, psychology also uses this term "projection", as in how we project ourselves onto other people. The house is a projection and a memory of the family, both the dead and the living simultaneously.

Here are the storyboards: you can see the moment when Renate, played by Amira Casar, wakes up from the dead and another moment here where Philip is arrested in the elevator. These drawings were made many years before we actually shot the scenes. It's still almost exactly as it is in the film. Another important collaborator was Christina Schaffer, the production designer. She's German but lives in Luxembourg and has done many beautiful films. She started analysing Viennese architecture and asking who would have been the house's architect. We selected an architect called Oskar Marmorek who was modern, but not too much art deco. I felt the people in the house were conservative. So she started to draw the house and think about moods and different times from the '30s, or when the Nazis come back and re-dress everything and also when it's destroyed at the end. I never wanted to have the audience see the whole house even though she drew it completely. I wanted that to be a mystery, but first we needed to design the whole house. Then it was possible to create mystery by not showing the whole thing.

We could play with characters by also making a model house out of paper, start to play with scenes and see how many people were needed to fill the frame so we could calculate the number of extras needed. For costumes, hair and makeup, we needed to go for very iconic designs so it was easily clear from which time they came. Every man in 1900 had a moustache, for example. This created a shooting schedule even for the extras, and that's unusual since extras are usually just treated as a mob or group and not as individuals as they were here.

Christina's team also helped select props and atmosphere to help with where we are in the story. The company in the story is a telephone company, so we needed telephones throughout history from 1890 to today. We needed a fake history and fake logos, even logo redesigns because logos change throughout time.

Now you can see here that I will go through one room to show the development. Interestingly, it's a bit like a video game production. We used gaming tools for producing the digital output for the beamers. Game engines are extremely powerful to quickly design 3D-rooms, including quick real-time lighting, ray tracing and atmosphere. We couldn't afford to have large Maya models that would have had to render for hours. We needed something more flexible for the set. There was a lot of experimentation to get to where we could work efficiently and easily.

Here's the green breakfast room where our Philip meets Renate for the first time. In digital you start with the materiality of everything, the textures, the walls, the paintings on the walls, windows,

woodwork, floors, and radiators. Christina collected stuff that was photographed and scanned and then rebuilt in 3D. Some were used for real, so these objects had a double life sometimes, both digital and real, sometimes only one or the other. You still need a truckload of stuff plus a complete database for the team to manage all these assets on set. We were in the same studio in Luxembourg for thirty-eight days. We always had the two screens and there was also a good amount of construction to be done. Here you see the 3D model of the room and the carpenters who are building the real stuff, and they all have to match so that it doesn't matter if you film the digital door or the real one.

In a 3D production, as a director you would have to first approve the shape of things before your team starts colouring, lighting and making the material layers – water, dirt and other things to make it look used and old. And then comes Christian Berger with his special lighting system to light a digital set, which has different laws of nature.
In other words, when you have a light source in the digital space, there won't be any output of light in real space. So he needed to duplicate any digital light with real light output that would hit the actors. You also need fill light and this famous light that "comes from nowhere" that you have in almost all films to give the audience enough texture to see what's happening. Meeting in the

morning on a shooting day could look like this, with Christian meeting with his gaffer Jakob Ballinger on the set, which is only six by six metres, the blue light from outside, the yellow light from a door we never see and from soft fill from the top and some yellow light coming from the side from a door where Philip enters the room. Jakob would render all this and make a design. This scene was used as a test shooting, a simulated shooting day in order to test out all this technology and discover how complicated it might be to re-light. We had a full day for testing in Holland with our partners there.

Here's a shot compared to what we really see, the real things and the built frame where we see the door. You see it's really super believable that he's standing in front of the door. Of course, in reality he's almost touching the screen. In this instance, the screen is here, so that means here the floor is digital, and here it's real. There's a line here but that would be in any room. But all the reflections were quite convincing and we did want to go for realism in this shot. We were also interested in

how low the light could be, such as here, the darkest scene in the film meaning there's almost no information coming from the beamer and none being taken by the camera. Christian was worried that there would be nothing but grey, but there was enough information to make it seem as if it was a believable dark room.

There was a set being built in Luxembourg with a light rack of 120 parallel lights not touching the screen using a stage software they use in stage plays and live shows. It could memorise lighting schemes for the scenes and also rotate them, each light being able to be controlled individually. They all sat in a tunnel of black cloth and we could switch them on and off depending on where the actors were located. Christian invented a lighting system called CRLS (Cine Reflect Lighting System) based on putting indirect light on the actors with reflective boards. He puts one large light source very far away and then he can hit the actors with the indirect light. So the actors don't have to be surrounded by tripods and lamps and the light is very parallel, more like sunlight. Christian is a master of these techniques. He can even put it in a mobile phone so when an actor looks at it, she would be hit by a reflection.

After some days, the team became very fast and good at set-ups. Every morning, the Mac computer welcome screen greeted us. It was a bit worrying to come to an empty set each morning. There was nothing but a computer station where everything could be controlled and produced – and the output for the two projectors and the input from the Alexa camera. It was important to do preliminary colour grading on set because of the mismatched backgrounds and temperatures. To the eyes, the colours looked quite fake. But for the camera they looked good. So here is the set fully lit, and when you switch on the right background, it's like this.

Curtains and certain things on the walls were real and here's the rig. Much of the paintings on the walls were fake. The big advantage of that was that there was no reflection from glass. In the same time it would take to light a scene, it was also painted and re-lit digitally and manipulated the way we needed it. Here we have the big scene, the dream sequence with all the dead bodies. There were not so many bodies here, but they were enhanced with ones from the projection. I can give you an example of how surreal some of the shooting days were. [shows stills] When it's combined in the editing, it becomes a space, a real room. We have rotated the set with the screen in the background. This is the cinema magic.

That's the way every shot was done!

I can show more examples of what Christian assembled for the lighting. These are his reflectors. This scene in the cellar where Philip is arrested, there would be light falling in through the windows from the moonlight. These are the projected windows, and combined they would put the light on the actor's face very close to the right direction it should come from. So the real reflectors were on top of the digital windows. The moonlight hitting the table was also projected with the reflector to enhance the digital projection.

We could then play around and maybe try to overexpose a scene. Here is the White drawing Room we could overexpose heavily to give it a heavenly glow as opposed to the dark room when the Nazis return.
So we also started to work with these elements. These could be considered errors, but I like them. For instance, there's this. [plays video] You can see in the corner, it falls apart as the camera moves. [plays video] In this shot, we moved the background and it's going too fast so when Philip standing still, it looks like he's gliding, being sucked into something like in a dream. These are things you can easily do with this technique. The shootings as they were happening did not look so spectacular but they did need to be precisely choreographed. Here is a set that was built for one particular viewpoint from the camera. [plays video] So there was a lot of faking and a lot needed to be done in post-production, as well. The colour correction of this film was a lot of work. At this point, I hope you have a lot of questions since I have a lot of material and other clips I can show. We can also talk about the sound design, a huge project, as was the music, which took a

year to produce, as did the editing. I am happy to interact with your ideas and questions.

AUDIENCE Why did you choose not to show Hermann?

WIDRICH There were a few possibilities. In an early script, he was in the film but the audience would never know that it was Hermann because he disguised himself as someone else. I liked this idea but it needed so much time to establish. The other idea is that you have a "guest star" appearing at the end, which I find a bit stupid. I also liked the idea that Hermann is *everybody*. It's more true to the theme when we see Hermann at the end with this photo stamped out – you can put your own face in there. We photographed Laurence Rupp as Hermann because according to the story they have to look alike: Renate falls in love with Philip because of his similarity. But I took that out because I also found this unconvincing. It was much better to see Hermann as a kind of placeholder. He's a character that appears all the time throughout each era with a different face.

AUDIENCE You've already spent a lot of time on technical issues, but I wanted to know if you ever had any issues with depth since you might have been successful in distracting the viewer from this problem by the way you mixed artificial and real light. I know with animation this can be a problem.

WIDRICH Of course there were many things we couldn't do – we were very limited. We couldn't go through the house with a Steadicam, but who wants that? [laughter] Christian says many films are shot on real locations as if for tourists. A scene is shot in Versailles and the filmmakers have to prove they were there. So there's the Steadicam shot or the wide shot. You don't need it for this story. The characters are the most important element. Also we could never move from one room to the next in one shot. But on the other hand, we could create magic with what we had. The depth issue was a problem when someone was standing very close to a wall and so it was more of a challenge to light them and if their clothes were bright, we would have an issue with the light bounce. Therefore we had to avoid too bright clothes and people being placed too close to a wall. In a real house, who would ever shoot a chase sequence like this? [plays video] This was a solution because of the limitations we faced.

AUDIENCE That means that limitations can also trigger artistic freedom, so to speak.

WIDRICH It's hard to find a real staircase to film that would work for this – they're never wide enough. Let's say you find something in Vienna, then yes, you can do it. But we've seen this a million times. We had only one real cheesy shot made in post-production where we flipped a frame to create this kind of wonderful moment. But, yes, I believe those limitations are interesting for the artists because they force us to find other solutions.

AUDIENCE Can you show the dream sequence where you made the projection of the extra actors?

WIDRICH Yes. [plays video] In this shot we filmed all the people in the morning and then we projected them as a background, reordering the extras again for a new foreground.

Below my mouse would be reality and above it is all projection and this is how we duplicated everyone.

AUDIENCE The techniques are remarkable but how was it for the actors to be so limited?

WIDRICH Built sets usually only have two walls or sometimes three, so actors are used to being asked to look in certain directions. The worst thing for actors is green screen, especially if you do it for three months. Whenever you go out of the green screen, you have a kind of shock towards the colours in reality that can almost kill you. In our case the actors can see where they are. They are in the set. The limitations have more to do with the space. As in ballet, they need to follow their marks very closely. For me, composition is very important and you always have this artistic fight between Dogma-style improvisation that creates wonderful acting, but sometimes terrible pictures, and marionettes in a perfect tableau that creates perfect pictures but results in bad acting. As the director, you need to find a good balance. Look at *Toni Erdmann.* It looks terrible. It's a great film but it looks absolutely awful. [laughter] On the other hand, there is Hitchcock's *Vertigo* where he expressed the thought that actors were like cattle, or something like this. They move from one point to the next one, which is great for composition. But the actors are very limited in what they can do. You can't have perfect composition while an actor like Marlon Brando does what he wants and you try to follow him with a camera. Maybe Elia Kazan was one of the few who made great pictures *and* created a space for great acting at the same time.
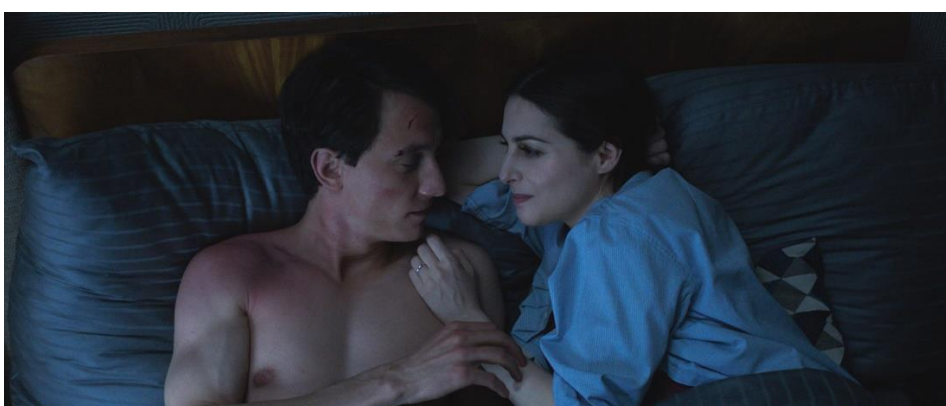
AUDIENCE How many versions of the screenplay were there?

WIDRICH Not so many – I think about fifteen official versions. Unofficially, there were maybe one hundred. The film was well prepared knowing the limitations going in since it was really important to know what we were doing. We also did a lot of editing before shooting. Moviestorm is a great program for those who want to direct and don't have much experience because it's really good to get to play on a virtual set where you can walk with your camera, stage a scene and film it to see how it's working. It will show you many potential problems with cutting what you shot. It's very useful and costs almost nothing and saves you a lot of time during your shooting.

AUDIENCE Could you talk more about your collaboration with Jean-Claude Carrière?

WIDRICH He was eighty years old when we worked together about four years ago. He's extremely young in his mind, absolutely only interested in the future. He's not nostalgic, nor is he interested in his really glorious past. I think he's the most produced living screenwriter in the world, about two hundred of his screenplays were shot, plus novels, theatre, etc. He always writes five screenplays, seven novels, and five stage plays at the same time so he's always really busy. He's a real film animal. In other words, he has no time to prepare in advance. He sits down with you to read the script once and then we begin to work. When we're reading, we stop when we feel we've run into something that isn't working. One shaky line can lead to a discussion of two hours of who the character is, do we need it, and stuff like that. Usually it took two days to go through the script once and make lots of notes and ask questions. I like to record brainstorming sessions because I don't want to miss anything. When I replay it, I can also replay my thoughts at the time. It can take up to a month or two to go through the two days of recordings and working out a new version.

Jean-Claude knows all this plot point stuff and other screenwriting techniques but he's really much more interested in the "moment" of a scene. He's a great magician in getting the magical cinematic moments and how to connect and justify them. He's really into the magic part of cinema. We don't talk much about structure. Then I would write a new version and send it to him and we would go again. We wrote another screenplay after that together because we were very happy working together. I couldn't let him go! We wrote an animated film titled "Micromeo" because he had never done that before, and our method was the same. He knows as a writer that you are writing when you don't write. As he's thinking and talking – that is the way he writes. You define the problem and then go eat something. When you come back, you have the solution.

In Jean-Claude's house you would sometimes find Carole Bouquet is waiting in the kitchen and suddenly an older man knocks on the door and you find out it is Volker Schlöndorff who's bringing a script. Film history is very much alive in his house. [laughter] Jean-Claude has so much lightness and humour – the opposite of someone with a writer's block.

AUDIENCE Did you write the script based on all the technical research you had done and so were writing to those specifications, knowing that's the way you were going to shoot?

WIDRICH No, when I wrote the script, it was not yet clear that we would end up using projections. But this did not change the script. I would have had to change a lot if we had not used projections to reduce the number of sets. Then I would have to rethink a lot with half the number of sets available. I also had many scenes with so many actors and usually the production company does not allow you to do that. You can have one spectacular shot of all the actors together and then you have two people talking in the toilet, which is cheap to produce. [laughter] A scene like that is expensive with so many actors, but it's beautiful.

I like this sequence and then in the morning Philip wakes up – let's take a look at this one. By the way, whenever we shoot upwards, we're running out of set, so when we make this shot, we need to shoot it like this. [plays video] This whole scene took three days to shoot. This was stitched together in the edit since most of the shoot was fake. It still looks realistic but as we go through the film, the tone becomes more surrealistic, the black curtains, the black drawing room, the shots at the end, sort of something out of *Dr Caligari*. We had to shoot in Tyrol for three days – those scenes were like an island in the film with only two actors, all you see here in this room.

AUDIENCE Why did you decide to build this in Tyrol?

WIDRICH Because they paid for it. It's called co-production madness. It involves flying people around, renting camera equipment from different countries. We had to go to the Alps to film a scene that takes place in the middle of Vienna.

AUDIENCE When you realised that you would shoot this with mostly screens, did you feel comfortable?

WIDRICH There was a pre-production period for one-and-a-half to two years before shooting but the film was not yet financed. That was the time we started investigating whether this would work. I also work in multimedia. I produce exhibitions. For me, this merging of different media is not new. Personally, I find the film industry extremely conservative. They don't want to change anything. It's quite ridiculous for a creative industry not to always look for the new. But in screenplays, especially, they are not looking for the new and in production procedures, they are extremely conservative.

AUDIENCE Had you done anything else with the screens?

WIDRICH No. This is my newest film. I made a short film that uses projections also, but it's not really comparable. I like the innovation in this project. I try to do something new with every new film I make, to investigate possibilities and maybe other people will do something with these techniques as well. I think as technology gets cheaper and faster, this is certainly one way to go in the future. Real time rendering will be the norm very soon. Projectors and cameras are getting better so there will be the possibility to do spectacular stuff on set with live rear projections or front projections. Not everyone will be using it but it will be a real option.

AUDIENCE So the theatre could also be cinematographic?

WIDRICH Yes there are actually a lot of projects done like this. It's inexpensive to do very expensive-looking work, and all the time needed to re-build something is gone. It's a click. What kills you on the set is the time it takes to light. This is not two hours or more of fiddling around so you can reproduce something. You can shoot something in between but then have that other scenario already set up and ready for the next day. This cannot happen with traditional sets or lighting.

AUDIENCE Did you use most of what was shot in the final cut?

WIDRICH We used most of the shots. Some were cheesy and you try to avoid using them in the edit. But there was not a complete scene being cut. The biggest change was that the dream sequence was not originally a dream sequence. It was part of the finale of the film but we had a problem and the fight looked really bad. So we don't have a fight. We have a great entrée that leads to nothing. Regarding this fight, the editor, Pia Dumont, had the brilliant idea to try it as a dream. It enforces the conflict between Philip and Jochen, which is good for the end when they see one another again. And it is no problem to not have an end, you can wake up any time from a dream! But it wasn't originally written as a dream, nor was it filmed that way.

AUDIENCE There's very little explanation in the film and it works. Was there a lot more explication and then you decided to cut that away?

WIDRICH Now again we enter funding madness. I never wanted any explication. The film was turned down by film funds for years because there are so many characters and people got confused. I kept insisting that in cinema, you're not confused when there are so many people. Look at a Robert Altman film. It's very simple. But when reading, yes, it is easy to hate reading Russian novels because we can't remember all the fucking names. But in cinema, you have the green woman and then the red woman, the guy with the hat. It's easy. But funders only read and it's a problem. They also wanted more explication: who are the people, a proper introduction, what's happening with the company, what are the relationships? There were two more scenes in the beginning, which were written only for the funding and we even shot those for three days! But as we discovered in the edit, it was a boring way to begin the film. I never really felt comfortable with these scenes that prepare you for what will happen and the actors didn't really enjoy them either. So it all came out. It's not missed. The rest follows the screenplay closely.

AUDIENCE So what other storylines are there in the 1000-page Netflix version?

WIDRICH [laughing] The Revolution of 1848. There was almost a twin brother of our hero Philip who could have added another hour as he had similar problems with his parents. The political events are connected. 1914 was the beginning of the collapse of the Austrian monarchy. In France, monarchy collapsed earlier. It was a nice story and Philip interacted with them and even helped them in the revolution with the knowledge he had. He ignited them, as well. It was nice, but a bit off the track. Of course, you could follow every character in a one-hour episode going all the way back to the Stone Age.

AUDIENCE What made you decide not to have prehistoric people but to start at a particular time? Were there a set number of family members?

WIDRICH In family, you have an exponential growth. After twenty generations, you have one million ancestors – this is true for everyone. And we all have the same people. That's why we are really brothers and sisters; we all share the same people as our ancestors. I like this mathematical part. We start in 1848, the parents of the people who lived during the First World War, so it's still close. For the crime story alone it would be enough to go to 1938, actually. I felt it was dangerous to veer too far off that time. It's really a script that lives from balance. The edit took one year because it took so much time to find the balance, although we couldn't change the scene order. The dream sequence was a bit of a sensation, but that was it. The rest was very delicate. We had some test screenings with a normal unprepared audience. They fill out these cards afterwards.

In the first screening, sixty percent hated the ending. They were totally disappointed. This is, by the way, the same ending you saw. The data was analysed and there was a specialist to figure out how to interpret what went wrong for them. A person good at statistics can calculate things you

never thought to ask about out of this kind of meta information. Peter Drössler, our specialist, found out that they were disappointed that the old lady was not part of the crime or working with the killer. We re-watched the film and noticed that she looks around quite a lot and so she seems to be a suspicious character. In the new version, I think we cut out something like three seconds of her looking around. After that change people suddenly were happy with the ending. This was like a lesson in filmmaking – unbelievable how powerful the removal of a few frames is! Someone opens the door and then it's a question of a few frames if this person is suspicious or not. It's something the filmmakers would never be able to find out about until an audience brings this to their attention. I really love test screenings. If they are done with the right intention and with a production company you can trust, then it's good. Not with only marketing in mind, but people who really want to make the best film. It was extremely useful.

AUDIENCE So it was an audience that knew they were going to see this movie or…

WIDRICH No, they were hired via Internet or from newspaper ads, a very general audience in Vienna – anyone who wanted to see a movie for free and fill out the form was welcome. It would be interesting to repeat this in other countries, but it's expensive because it's a month of work that involves making a version you can show, do some pre-mixing and music. Then you show it and then you learn things and it's another week to calculate what needs to be done and then another two weeks to re-edit. All in all that's a month lost in post-production for every test screening. But we spent so much money on this film that it would have been stupid not to do it.

I also like to simulate a film before it is made. I do lots of readings with actors. As a director, the more you simulate the film, the richer you are. I let five actors read the script. I record it and listen. It's only dialogue, no stage directions. You will end up killing half of it. Make a little video version and cut all the scenes together in order. You can get such a good feeling for the rhythm and discover how you can consolidate. It's very useful. Every time you cut something out in a reading, you're saving something like fifty thousand euros. It can be done with professional actors who are willing to spend an hour or so, or even students. It doesn't matter so much because it's more about getting an overview and a feeling for timing.

The hardest thing to do is getting an overview of a film that doesn't yet exist. For writing, it's the same and also for editing. Sound design, colour grading – everything has an influence. You cannot have picture lock before these things are complete. When the sound designer sees that a colour in a new version now is way cooler in the new grading, then the sound needs to be adjusted. The rain will sound different if it's bluer. The music, of course, changes the editing. Eventually, one day you have to close the box. But I reopened the picture lock several times because the film told us it's not finished. The tools today can keep everything liquid and you can keep a lot of things open till the end. You need to make decisions, of course, but you can work with elements in parallel and have it come together in the most perfect version. It's possible to do this now.

AUDIENCE Maybe this is a question for the producer. You mentioned that you couldn't change the order of the scenes, so I'm not sure I understand why it took a year to edit.

WIDRICH'S PRODUCER ALEXANDER DUMREICHER-IVANCEANU: It was not a consecutive year. There were sound design and music production, VFX, color grading and even testing the subtitles going on at the same time.

WIDRICH The editing was not figuring out the order of the scenes, but finding the balance of all the elements. I can't tell you how important the music and sound design is for this film. They show you all the things that simply don't work without them.

AUDIENCE But I can imagine that you didn't have one year for an editor in the budget originally.

WIDRICH No, we took much longer and spent more money than was originally budgeted. But what can you do? [laughter]

AUDIENCE How much time was allotted?

WIDRICH'S PRODUCER: Three months, I think.

WIDRICH They also thought it would only be twelve days of colour grading. My feeling is if you work for nine years on a film and then you don't have two weeks to re-open picture lock again and change five mistakes you know are there, it's silly. Money doesn't matter if you are making a work of art. But then it really has to be a work of art. Generally, it's very important to save as much as you can for post-production. That's one lesson I learned.

APPLAUSE