

INTRODUCTION

As a student of architecture, I've spent the past seven years learning the skills needed to design architectural objects, and how to use the tools and techniques needed to conceive, sketch, draw and model those architectural objects. But traditional methods of architectural representation, such as drawings like plans, sections, elevations, as well as physical models, have always felt somewhat limited to me, and I often wondered if something else could replace them, or at least supplement their weaknesses.

The way we as humans perceive the world around us, and built architecture specifically, is dynamic; it's constantly changing. Our perspective of a space is continually shifting as we move through it, and cues from all of our senses influence us as we experience a space. We can hear how the materials of the surfaces and objects within reflect our footsteps, our voice and other sounds. As we spend time in a space we perceive the changing light coming in from the outside. These dynamic qualities of architecture are not necessarily intrinsic to the traditional methods of static representation that belong to the typical architectural design process.

My interest in film and videography led me to wonder if perhaps video as a medium could contribute to the design process, as supplement to standard methods of researching, designing and representing architecture. With video, I hypothesised, it's possible to communicate movement, sequence, the passing of time, and of course audio, which could add a depth to the architectural design process that could potentially enrich the final result in novel ways.

So I set out to experiment with this approach, the following two research questions structuring my research: Firstly; In which ways can the medium of video be used as a tool throughout the architectural design process? And secondarily; How does the use of video at different stages of the design process affect design outcomes?

Through a method of learning by doing, I experimented with different ways of applying video in the design process. This resulted in the creation of six videos, of which three belong to a three part series. These videos are accompanied in this film by my commentary, in which I explain various relevant aspects of each video, including conceptualisation, planning, technical execution, evaluation and recommendations. If you haven't watched each video individually without commentary, I strongly recommend you do so before continuing with the commentaries. They are available on my YouTube channel @jonasalthuis.

COMMENTARY 1: WEEKEND

Weekend is a proof of concept video I put together to kickstart my research into using film in the architectural research and design process. These first shots are shot on a location to the south of Delft.

I wanted to experiment with placing a physical model of a building in a real life location, and marrying those two worlds in a realistic way by adding audio fragments to build a narrative. All the audio fragments I used, are downloaded from free sources on the internet.

I was lucky to find a detailed 1:50 physical model of a building that I could use to film with in

the model hall of our faculty. All of these shots are made by compositing footage of this model into footage of the location. This process is not an easy one, and takes quite some time and effort. Using a dark scene made it a lot easier to blend things together here.

A combination of lighting and colour grading effects are used here to change the light on the scene, as if the sun were coming up.

The 1:50 scale of the model proved to be decent but in future projects an even bigger model would be nice to work with, as the shallow depth of field caused by filming such a close and small object already causes a big difference in focus across the depth of the image, despite using a small aperture around f/16.

All movements here were done by zooming in on the image and moving it digitally in post. This is made possible by using a camera that can shoot 4k, generating a high resolution image.

While side views are quite easy to align with a background, perspective shots are much more difficult, as the horizon has to match between shots, something that needs much more attention in future use.

A diffuse light on this shot of the model would have worked much better here, as the light on the location was very diffuse from an overcast sky. Because of this, I recommend filming the location first and the model afterwards; here I filmed it in the reverse order.

A green or blue screen would help greatly to composite the model into the background, and would greatly reduce the time spent on rotoscoping the model, which I did manually for all of these shots. That's also the reason, among others, that there's no moving shots in this film. Moving shots would of course bring their own set of challenges .

This time-lapse like shot is done by simply moving the light relative to the model, which moves the shadow. It works quite effectively to suggest the passing of time.

These end shots are meant to reconnect the viewer with reality and leave them feeling like what they saw was all real life. For a video done in about three days, I was quite happy with how this proof of concept turned out. With more meticulous planning of shots and preparation of the physical model and location, a video of this type has a lot of potential for architectural representation.

SUMMARY OF FINDINGS: WEEKEND

To summarise the key lessons from this video:

Though they have a strong potential for architectural representation, the compositing techniques used in this video are time-intensive to execute, and require advanced tools and skills and are therefore not for beginners. Besides this, the use of audio samples can bring an architectural narrative to life, as they spark the viewers imagination, allowing them to fill in the rest of the narrative by themselves. This yields a strong result for the amount of effort it costs to do.

COMMENTARY 2: FIRST ENCOUNTER

First Encounter is a video documenting a five day excursion to the Ski Arlberg ski area in Austria for my friend Valentin's graduation project about the future of skiing areas. With

no clear goal or plan for the video beforehand, most footage filmed is observational, and documents a first encounter with the landscape.

This interview, which was shot quite spontaneously on the last day of our trip, actually become really useful, if not essential, for building up a narrative in the video. It's a collection of spontaneous answers to spontaneous questions about Valentin's impression of the landscape and the human-made infrastructure within it.

One of the big challenges on this trip was reducing the tools required for filming to a minimum, as we had to carry everything around with us for the time we were there. To always be able to film while on the move, I carried my camera in my hands the whole trip and filmed a lot of things handheld at around eye-level, creating quite a dynamic and human-scale perspective on a big landscape filled with big objects. Stabilisation of the footage during editing was needed, to make the video less shaky.

Unfortunately, Valentin found it quite difficult to use the final video in his own research, as he had collected and created so much material of his own during the trip which he first needed to process and examine. To me, the video works as a problem statement for Valentin's project; a concise and powerful visual way to convey the key issues and interests related to the future of such areas, though this wasn't necessarily a planned goal of the video from the start.

Though we had a drone with us on the trip, in the end I decided against using footage from it because I felt it didn't fit together with the rest of the footage I had shot, neither visually nor thematically. The shots filmed from the sky were interesting, and beautiful, but also very far from a human perspective, and in the end I found the human perspective more important than the beauty of those shots.

The order of the shots shown through-out the video is not chronological, instead I chose for a thematic order, arranging footage based on relevance to Valentin's statements. This helps to capture the feeling of desolation and strangeness of the empty skiing area, which is important because it's the condition that the area is in for quite a big portion of the year when there are neither winter nor summer activities, I found this aspect quite important to show.

Seeing it again, several months after making it, the video is missing a closer level of detail of the area. Many of the things I filmed are wide shots of big landscapes, but the smaller details, such as this one, are actually also very interesting, especially architecturally as it relates back to the human scale within a huge landscape. Unfortunately, these are lacking in the video, something I would do differently in the future.

Going to a location and filming what you come across can be a valuable method because the act of filming, similar to photography, makes you look at that location carefully. Constructing a narrative with the footage afterwards, which admittedly would have been much more difficult without the interview in this case, in turn forces you to take a position on the issues related to the location or project, which can be useful for generating insights.

SUMMARY OF FINDINGS: FIRST ENCOUNTER

To summarise the key lessons from this video:

A video such as this can effectively function as a problem statement; concisely communicating key information about a location or topic. However, even with beautiful footage, such a video is only interesting for a few minutes without a storyline, and finding a meaningful and coherent

storyline can be difficult. Finally, giving a broad overview of an area via wide landscape shots can give viewers a general impression of a location, but showing the small details is just as important in communicating the richness of the place to make it tangible.

FIELDWORK PART 1 COMMENTARY

Fieldwork is a three part collection of videos about the research phase of a project in Liege, Belgium, which another friend of mine, Ines, was working on for her graduation project. In her research, Ines was looking at her site and the surrounding neighbourhood from a social and anthropological perspective, with a specific focus on the women in the neighbourhood and their needs. Fortunately, Ines was quite interested in how film could be used next to her own methods in documenting the site and her research, and many of the decisions made throughout the video making process were made in collaboration.

We visited the location twice, and filmed a variety of things over the course of these two visits. Ines, of course, had already visited the site several times before I first joined her, and went back numerous times afterwards as well. In that sense we only collaborated for a snapshot of roughly two months of her project and process.

The goal with this video was to document the daily happenings in and around the main site of the project, which was the park. There were plenty of interesting aspects to show, including old and new architecture, unplanned but thoroughly used informal paths through an empty plot next to the park, rubble from demolished buildings that became a trash dump, fences and other barriers. Of course we were only there for a few hours on a random day of the week, so the video is exactly that; a snapshot of the place at a random moment, not by any means a representative overview. This is something to keep in mind when filming a location; day, time and weather can have a big impact on how the place is being used and how it is perceived.

One of Ines' initial ambitions with the video was to show it to local residents to start a dialogue with them, the idea being that by showing physical aspects of the park in a more focused way, it may generate thoughts about the place that they may not usually have as they use the park in their daily lives. Unfortunately, this never really came to fruition.

From a technical standpoint one of the things that gives this video a very observational feeling is the static camera. Almost all of the shots are filmed on a locked-off tripod. This was actually a specific choice up-front because Ines and I thought it would fit well with the slow pace of life in the park. It's also in strong contrast with the dynamic way that you would perceive the park if you actually walk through it. I think this contrast suits the purpose of architectural research well because it highlights which aspects of the site are static, such as the buildings, and which are dynamic, such as the people and cars. The video takes you out of your dynamic, moving perspective of a human and places you in a static perspective of a building. The static process of filming in this way, where you stop to film for a minute or so every 30-40 meters also led to insights itself, because you take a longer, considered look from many different places on the site.

Because the site was much smaller compared to the huge mountain area in the previous video, it was a lot easier to film the small details that contribute to a sense of place for visitors of the location; these are the things that both positively and negatively impact the perception of the park. I think this also makes the video feel more complete, because it has a broader range of shots, both wide and close-up.

In a first attempt at editing the video, I tried a chronological approach, which showed the park in the sequence of how we walked through it on our first visit. This didn't really work, as it was disjointed and didn't manage to communicate a spatial understanding of the park and its surroundings. Afterwards, I experimented with editing in a way where shots flowed more fluently from one to another, aimed at creating a visual, and partially also a spatial, continuity. To do this, I placed shots that were similar in contents next to one another, so that from one shot to the next there was almost always something recognisable. In this way, the video slowly builds an understanding of the location and the things that happen there.

This first video became a tool for dialogue and remembering, a basis of understanding of the location that you share once you've watched the video. The video itself is quite sober and neutral; it attempts to show the site as it is, with an even representation of different positive and negative aspects, without a built in layer of judgement or commentary about the qualities of the site. I don't think its useful to call it objective because there is always some subjectivity involved in the filming and editing process, but I'd like to think that if someone else went to this location to film with the objective of documenting the place, they would end up with a similar video. This is really just a first step in understanding a location though, and it can be argued that it lacks the dimension and depth that would come with other methods of analysing a location, something that the second video tries to build on.

FIELDWORK PART 2 COMMENTARY

After finishing the first video about Ines's project location, we soon started to think about how we could add an extra dimension to it. I was quite happy with how the first video turned out, but I also saw room to add another layer to it, especially one that was more specifically related to Ines's research and project goals. During her research, Ines had come into contact with an organisation that was working in the neighbourhood to organise workshops for women, some of whom were quite isolated from society. One of the underlying objectives of the organisation was to help them integrate and learn French, and if possible become more independent. Ines was able to organise an interview with the staff of this organisation and attend one of their workshops. Audio recordings from these moments became a great way to add the dimension to the video that we were looking for.

To edit this second video, Ines and I first ordered the audio fragments together into a coherent narrative, mixing fragments from the interview with fragments from the workshop. Then, with new footage from a second visit to the location, we re-edited the original video so that the footage aligned thematically with the contents of the audio fragments. In some places, this meant showing footage related to what was being mentioned, but in other places it was interesting to show piece of footage that was contrasting the audio fragment, to show the dissonance between the social conditions and the physical environment of the neighbourhood.

The recordings, while the contents are great, unfortunately weren't the greatest quality, and of course, need subtitles for most people as they are in French. This presented a difficult challenge of keeping the video understandable and not overwhelming the viewer with too much information at once. Because of this, I tried not to show too many different shots and instead I let the shots play for longer so that there is time for the viewer to listen to the voices and read the subtitles. The cuts are also generally timed together with the end of sentences so that its easier to follow.

Choosing the right footage to place under the audio fragments was quite difficult because they needed to make sense together but I also didn't want to imply too many things by combining

certain statements with specific shots. The goal here was still give a balanced view of the park and its surroundings as in the first video, but to add depth to it by telling the human stories of the neighbourhood that aren't visible. I think this extra dimension was really valuable for Ines because it captured the details and contrasts in her findings about the neighbourhood in a concise and powerful way, and made a strong case for her project concept, which was to design a community centre focused on the socially isolated women in the neighbourhood.

FIELDWORK PART 3 COMMENTARY

For the third part of the Fieldwork series, I wanted to broaden the context of the first two videos, adding more information and depth by having Ines explain her project and the way video contributed to her process. It's a self-reflective video where the outcomes of using video as a tool are explored, so for the most part this video is self-explanatory. Another goal of the video was to make the topics related to Ines's project and the use of video in architectural research more accessible, understandable and interesting to a broader audience.

This video also represents an important shift in filmmaking approach because the researchers, Ines and I, are present in the video itself, which wasn't the cases in the first two fieldwork videos, but was the case in the First Encounter video in the mountains. This is a conscious choice, and it changes the dynamic between creator, viewer and the contents of the video. It shows a behind the scenes look at our approach and what it was like to be there at the site.

The use of moving shots here, in contrast to the previous videos, is also intentional, as it brings the moving, human, perspective into the video and show how it was to walk through the site. It really brings a different feeling to the footage of the location. I think this topic of moving vs. Static would be quite interesting to explore further in future site research videos.

As Ines explains here, and this edit with the cut to the insert shots shows, the objects and characteristics that Ines mentions are immediately understandable when you see the footage. Which can be very valuable because in a discussion with someone, you know you're talking about the exact same thing once you've seen both seen the video.

I was inspired to use the interview format again for this video because it was so helpful in the First Encounter video to build up the narrative in a useful way, and it suits this video particularly well because its focused on Ines's thoughts on her project and on using video alongside her own process. Because of this, this video really helped me to reflect on my experiments with using film, seeing their value and their shortcomings.

SUMMARY OF FINDINGS: FIELDWORK

To summarise the key lessons from these videos:

Observation through video works well, and is useful for the purpose of site research, but can lack depth or dimension as it lacks a storyline. Besides this, it is neither subjective enough to be artistically interesting nor objective enough to be factual, placing it somewhere between the two. Qualities such as pacing, flow and visual/conceptual continuity can strongly influence how the key information in a video is perceived by viewers, so these is important to get right in editing.

COMMENTARY 4: LINEATION

Lineation was the final video I made during the research phase of the project and despite it being significantly shorter in length, it was one of the most time-intensive ones to make. It started with a wonderful opportunity because a different studio at our faculty had created three

highly detailed site models of different streets in Antwerp for their own use, which were for a time just sitting untouched at the faculty. I immediately thought it would be cool to do a video with these models, and I wanted to see if I could combine the process of sketching with video.

After a first experiment I found that sketching into a moving shot, which I at first wanted to do, was not really feasible because it would take an immense amount of work to completely redraw every single frame. Because of that, the base shots of the model are actually just still photos, and the movement is added digitally in the editing process.

The sketches are drawn using a program called adobe Animate, and I decided to draw every other frame so that there was less work to do. I intended this technique to be an experiment in sketching a random design idea into the site model, initially as a means of generating new ideas similar to how sketching on paper can help to generate ideas. I soon realised though that there isn't really anything spontaneous to it, because you have to plan out each shot and each frame of each shot quite methodically. Because of this, I think it functions better as a method of representation rather than a method of generating or testing architectural ideas. The amount of time it takes to draw everything is just too high to really contribute any spontaneous ideas during the design process.

While this video was fun to do, and it even has some extra dimension to it with the cityscape audio under it, it was far too time-intensive to really be a reasonable method, either for generating ideas or representing them, unless you already have a lot of experience in drawing animations or if it really suits the project. I think a more fruitful technique could be to experiment with placing foam models of a building concept into the site model and filming that as a way of comparing different forms.

SUMMARY OF FINDINGS: LINEATION

To summarise the key lessons from this video:

Animating architecture into a model is an interesting way to represent ideas and the thought-processes behind them, as it can show the process and bring the design to life with the addition of audio. However, such techniques, involving a filmed physical model and digitally animated sketches are very time-intensive and lack spontaneity. Because of this, they don't aid in the design process but could instead be applied to communicate a design once it's complete.

CONCLUSION

As the key lessons from each specific video have already been mentioned and summarised, this conclusion will focus on the broader findings related to applying video in the architectural design process, followed answers to the research questions.

Because of the continuity that a video has, the over-arching story is important, much more so, compared to sketches, drawings, or physical models, which can more readily function as one individual item. Without something to structure the video, it can feel fragmented or random, which can be a stylistic choice, but can also leave the viewer without a feeling of having understood or gained something from watching the video. Generating this story or through-line is one of the challenges of making videos, and should be considered before starting a video based project.

The degree of prerequisite skills required for the different techniques I experimented with varies. Some of these, such as going to a location and filming different parts of it, are

accessible to most people. It can be done with a smart phone, and doesn't require complex editing skills. Other techniques, such as compositing different shots together or animating drawings, are far more advanced and require more technical skills and experience. Another important aspect to consider is the time required; certain techniques can simply be very time-intensive, and the ratio between effort required and value of the final result should be critically considered.

Because of the nature of video, a lot of control over the final product comes from the editing process. On the one hand this gives a degree of freedom, as you can shape the narrative in a later stage of the process rather than having to decide it from the beginning. On the other hand, it means you have to work with the footage you manage to film, because it's not always easy to return to a location to film again.

A more practical conclusion concerning the use of video is that it isn't always accessible to show videos to an audience, as it requires infrastructure, like a screen or projector and a sound system to be present. This asks for the necessary planning before hand. Another aspect of this is that time is required to watch a longer video, so it's not always the most convenient method of presenting, especially when time is limited. Showing a fragment of a video can work, but doesn't communicate the same message as watching the whole thing.

My research questions going into this project were:

In which ways can the medium of video be used as a tool throughout the architectural design process?

How does the use of video at different stages of the design process affect design outcomes?

Certainly for the research phase of a design project, video has a lot of potential in contributing meaningfully to the process. It can do so in different ways, like highlighting a problem statement, or showing a location's atmosphere and the things that go on there day to day. Video is also suited to telling the human stories of the stakeholders related to a project, such as the future users or target audience for the design.

Based on my both own findings and from the peers who I collaborated with, video can be a very strong basis for starting a dialogue, in the academic context with tutors, but otherwise perhaps with coworkers or clients. This is because it communicates a very complete portrayal of something, be it a location or a design idea. The benefit of this is that there's less room for misunderstanding, leading to more fruitful discussions.

In a similar vein, it's also a very strong instrument for remembering, which can be especially useful when visiting a project location in earlier stages of the design process. Capturing the atmosphere of a location by filming it, while it takes some effort, is an investment as it can later be revisited again and again by rewatching the video. This is useful when more visits to a project location aren't possible.

The specific process of creating a video can itself also lead to meaningful insights, as it requires a high degree of patience, vision and preparation from the beginning. While filming on a location, the movement and waiting that come with capturing footage from different angles also forces you to stand in different positions, leading to views and insights that may not have been found otherwise.

Applications of video in the later phases of the design process, associated with generating

and developing ideas, and then presenting these ideas also exist. Especially in the final representation of a design, video has a lot of potential. For example by using a model and compositing it into footage of the location. Using different lighting set ups and adding audio fragments can bring the design to life.

The phase of generating and developing ideas however, is perhaps less suited to video. This could be because videos take a lot of planning to produce, and it's generally not a spontaneous process, compared to sketching for instance. Applying video in this phase requires further experimentation and research.

As I initially hypothesised, video can be an addition or supplement to existing design tools, but is not necessarily capable of replacing them completely. A combination of traditional methods and tools, together with video, have a lot of potential to lead to interesting new insights and design results, and I'm excited to research these possibilities further in the future.

REFLECTION

To me, this research doesn't feel complete yet. Experimenting with how video could be used in the design process meant going into uncharted territory, with little to help me in terms of reference projects or other existing work. Because of this, a lot of time went into just thinking and figuring things out. This meant each video took a lot of time and in total, I was unable to complete as much as I had hoped. Fortunately, I could continue experimenting with video in the design phase of the project as well, though that isn't shown in this film.

One of the interesting qualities of these videos is that they are both 'the research' and the documentation of the research at the same time. Compared to more typical research methods, where the experiment and the means of documenting that experiment are separate, the combination of the two creates interesting possibilities in how to approach research. On the other hand, it can also get confusing, as it's less clearly defined what is what. This added a level of complexity to the research process that took a while to figure out. A way to evaluate the videos was also still missing once they were complete, and the commentaries became a good way to do this evaluation.

In the end, I'm happy with what I managed to do, and I think I found out some interesting techniques and ways to apply video. Though it is quite a specific niche, I think there's a huge amount of potential, especially in the current world where so much of our media and communication is video-based. To me, architecture and the built environment have qualities that most mediums can only capture partially, but video can help tell a slightly more complete story.