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**RESIDENCIES**

Adding value to research and technology through integration of artists in projects and synergy creation between creative industries, entrepreneurs, researchers and arts

# STARTS Residency Private Report
# Le Baptême / MYFEARSMURMURED TO YOU

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INDEX TERMS / VR / IMMERSION / GUILTY / FICTION / SENSORIALITY

## I. INTRODUCTION

With the team of experts put together by Gengiskhan, Laurent Bazin set out to create his virtual reality live experience: The Baptism. Both parties involved had the ambition to develop new technical methods to create a strong sense of proximity and intimacy in virtual reality. How does one bypass current technical limitations and filming rules in VR, in order to film characters up close and personal, closer to the spectator's eyes than ever, and accentuate the intensity of their presence? First, research focused on 360° stereoscopy, then a more fluid, lean and hybrid approach was adopted.

## II. ARTWORK

The Baptism is a VR experience, the goal of which is to produce, with the help of digital technologies, a strong sense of proximity.

The baptism is the story of a man who accuses himself of an imaginary crime and subsequently suffers intolerable guilt. In order to drive the story forward, we wanted the spectator to feel very close to the main character, but the restrictions of VR filmmaking halted our progress: for technical reasons, it is unadvised to film an actor at less than 1m40cm, otherwise his image would be altered and deformed.

We therefore had to find a way to bypass these rules, to obtain a strong sense of proximity. The goal of the Start residency, beyond current processes, was the invention of new processes in order to conjure this impression of utmost proximity.

## III. METHODOLOGY

In 2019, Tom Hooper released Cats, the adaptation of a successful musical by A. Lloyd weber. Everything pointed to a great success: budget, original work, prestigious casting… But the film tanks. This is in no small part due to a technical focus point gone wrong: overly ambitious special effects that attempted to cover the actors in digital fur, but failed spectacularly, sinking a film initially full to the brim with attractive features.

This story is emblematic of the worst nightmares haunting artists working with new technologies: it awakens the fear that too much attention paid to technological difficulties can take over, at the cost of artistic intention. When we work with new technologies, we know that time spent fixing technical issues will be greater than in

an ordinary production. What's at stake is that time spent fixing technical difficulties cannot become overly time-consuming and the main focal point.

During our research we first spent a month pursuing an erroneous path: an ambitious stereoscopic camera captured our interest, before we realized that in spite of its merits, it exposed us to too many planning variables. The decision was hard to make, since our initial investigations, from the very beginning, relied on the possibilities offered by this stereoscopic camera. Facing the possible specter of unmet deadlines, we had to find a new path.

Why this initial infatuation for stereoscopy, to the point of threatening our artistic schedule?
-because it produces a **powerful sense of presence**: when stereoscopy is done right, the sentiment of proximity is so convincing it can almost feel like an intrusion of our personal space.
-because it offers a **stronger possibility to hierarchize visual spaces**: stereoscopy can create a **multi-dimensional** image, with elements more prominent than others. This is important, for in a massively open visual space (360°), it is very useful to be able to highlight certain elements and leave others in the background. Stereoscopy is therefore a precious tool for highlights and playing favorites. It allows to discreetly accentuate the information we want our spectators to perceive first.
-the advantage of stereoscopy is that it restitutes and trumps our brains most effectively

Beyond this artistic and cognitive reasoning, there was, let us be honest, ideological motivations:
-**conforming to the social pressure exerted by the professional industry**: today, there is a sort of injunction in the VR filmmaking industry to work with stereoscopy. If immersion is the main stake of VR experiences, then it is unthinkable to deprive oneself of this depth-creating tool. Some festivals even close their doors to non-stereoscopic pieces. Fear or exclusion and being out of fashion quickly convinced every creator that stereoscopy is a must, to the detriment of their artistic convictions.

-**using this technology is in line with progressive history**. Today VR is still animated by a strong mythology: one of history being oriented by technology, as if the history of image making could be resumed to a linear itinerary towards the strongest of simulations. We would have gone from photography, to moving images, color and 3D, to 360° images, as if in the quest for a most immersive image, stereoscopy ought to be added to spherical images. This same technological imperative put pressure on VR creators to include more and more interactions. Because VR must, at any cost, be as immersive and navigable as possible, as Mathieu Triclot says so well (New Media Philosopher).

But we had to face reality. In the context of our artistic project, flaws linked to this technology overpowered potential gains. Here is what we discovered through our multiple trials:

**The impossibility of real time feedback:**
In order to work best, I need real-time feedback during filming, as close as possible to the final result in the VR headset: I need to be able to see the actors, acting.
This option, referred to as live stitch, never saw the light of day. We therefore had to settle for flat feedback, which made the sentiment of presence and intimacy emoted by actors much harder to evaluate.
A structural limitation to the proximity of actors:
Stereoscopy has a lot of constraints in terms of placement: the resurgence of presence offered by its reliefs, it somehow takes it away from the director at the same time, since it imposes a greater distance between actors and the camera, due to parallax issues.

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**An image of lesser quality:**

Finally, the price we have to pay for using stereoscopy is that the final image will be of lesser quality, since the amount of information is divided in two (stereoscopy relies on the fact that each eye receives a different flow of images). Here as well, there is a sort of checks and balances system between what is gained on one hand, and what is lost in the other.

**The issue of time:**

Generally, stereoscopy forced us to face strong temporal concerns: very large files & the time it takes to edit them slowed down exchanges, creating vacuums of lost time. Moreover, calculating times are so sizeable that it becomes impossible to draft, which is absolutely necessary to my methodology. Without the ability to produce sketches, we tend to minimize risk taking, and end up filming as we already know how. We use innovating and experimental hard & software, and somehow, we see the act of experimenting taken away from us.

ACCEPTING TO CHANGE AN IDEA

Facing the dead end of stereoscopy undoubtedly allowed us to be more innovative. Rather than waiting for the salvation promised by a single magic camera that would answer all our needs, we decided to use several different cameras. Our efforts migrated from shooting itself, to focusing on aesthetic unity throughout the entire film.

We ceased to focus on the shooting part alone, to turn to the entirety of the production chain: from shooting to color grading and editing.


THE ISSUE OF UNIFYING FORMATS

One of the audacious aspects of The Baptism in its new visual direction was to multiply processes and formats within a single piece, so that we'd obtain, concomitantly, very near and very distant images.

Let us sum up of some of these processes:

Photo story:

the film starts as a photo story, a succession of still images that come one after the other, subtly interceded with a fade to black. This scene takes place in the troubling atmosphere of an underground parking lot.

360° captation with the Sony Venice camera

Most of the images in the film were shot this way, and particularly the ones in darker settings.

360° captation with the Go Pro Fusion

This camera does not have the same sensibility as the Venice and does not allow for real-time feedback in a VR headset, but it allowed us to shoot in a pool, a strong advantage.

Videos in rectangular format: taken with a high quality camera.

IMPORTANT OBESERVATION: There is in the film, a variety of different visual apertures depending on the scene: in some scenes, the visual scope available is 360°, while in others it is 240° or 120°.

This diversity of formats demanded a strong and unified ethos: three main factors were chosen: black and white, soft focus and vignettes.

**Black and White as a choice:**

This choice was made as a **convergence between artistic imperatives and technical reasons**:

**Artistic point of view**

-black and white projects spectators in the time of memory, it creates a sort of distance between the narrator and the events recalled.

-choosing black and white gives the paradoxical feeling of a future that's already happened, when the genre

chosen is anticipatory science fiction.

-black and white allows for a graphic endeavor, since it unifies shadows and strengthens contrast between lines and masses.

-additionally, choosing black and white gives off the impression that images are born in a sort of dark void, a primitive and uncertain mindscape: it is from black that memories emerge, and to black they return, black is like consciousness retreating into itself.

**Technical point of view**

-black and white allows us to unify the disparate images created by different cameras, set colors and costumes.

-it allows to easily mask special effects, which are necessary to film faces and bodies up close.

-it also helps overcome the chromatic limits imposed by VR headsets (whose current color spectrum is rather limited). In order to avoid the comparison between our images and traditional cinema standards, we preferred avoiding utmost realism altogether. Colors appears in very rare moments, not to naturalist ends but to dramatic ones, as to highlight a plot point.

Same goes for two other phenomena of visual limitation: **soft focus** and **vignettes**:

 **Soft focus**: the entire film alternates between precision focus and artistic blur. The use of soft blur here is a phenomenological endeavor, it must translate a sort of perturbed state of consciousness within the character. We created this soft blur with a decentering lens and various color grading tools that account for the absence of reference points that plague the character, both physically and morally.

It must be added that this soft blur, justified by the subject matter of the film, also allows to overcome the lack of sharpness inherent to current VR headsets.

**Vignettes**: when the image is not 360°, we have systematically chosen to represent vignettes that seem to gradually dissolve the edges of the image into obscurity. This intuition is in line with one aspect of the visual experience: at the periphery of our field of vision, there is no straight line, but a gradual disappearance of precision, a halo, vignettes are a transcription of this phenomenon. This also allows to fool the spectator and impose close ups he ignores are not true 360° images. The immersion produced is the same, but it relies on the conjugation between traditional image and postproduction manipulation of the 360° space.

## IV. CO-CREATION PROCESS

The dialogue between stage direction, RIG creator, stitching expert, color grading specialist, editor, production team & software creators for VR editing is where the co-creation process started.

Over several months, exchanges between these different teams were had, so that everyone could have the clearest vision possible of the other's tools, and each could harmonize said work tools with the general vision carried by the artistic direction.

It is near impossible to be exhaustive regarding this co-creation work, as it is made up of an aggregation of small interventions that led to the final process' fluidity. Here are a few examples nonetheless:

We created close ups by transgressing the rules of VR filmmaking: we shot characters too close, because we developed a special effects technique that allowed us to correct deformities in post-production, and preserved the effect produced by proximity.

We managed to set up a wireless and live feedback of stitched images, which allowed for a *mise en scène* from further away than in ordinary configurations.

Numerous small ameliorations were added to processes, in the end making the use of technology seamless and almost invisible, therefore liberating spontaneity. The goal of these preliminary exchanges, so numerous and fertile, was to allow them to be much shorter during the actual shooting: to this end it may be said that the increasing rapidity & progressive shortening of interdisciplinary dialogue is the sign of a truly harmonious

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workflow. How wonderful it is to not have to talk to understand one another, and when this communication is established with machines as well, jubilation ensues.

## V.  IMPACT

Research impact:

We hope that this project will help adjust VR cameras to the needs of those that use them. Sometimes engineers adopt a sort of implicit & unconscious value system that orients their research, unintendedly in an erroneous direction, against the real necessities of those that use their tools.

VR technology is therefore permeated, in my opinion, with an overemphasis on stereoscopy. Moreover, it might sound harsh and it is a point worth developing, but I find that it is often more attached to "clean images" rather than "true images".

Artistic impact:

The Baptism was presented in a recognized cultural institution: LE CENTQUATRE. Feedback received is proof of a true integration of technology serving an artistic purpose. Cooperation between artists and designers allowed us to understand we were not condemned to the use of preexisting tools, that we were capable of creating our own. Often, I have had the reflex to think that available tools on the market, the bestsellers, were evidently best suited and able to answer every query, if not why would they be so widely adopted? Our search for the best tool reminded me how candid this vision was. No one can assure that, because a product dominates the market, it is indeed the best: The case of VR cameras is a telling example of this.

## VI.  ART-SCIENCE INTER-RELATIONSHIPS

We have been innovators in our gathering of technologies that usually do not coexist, both in image making and sound design.

All these separate elements were gathered in a unified experience that does not give off the sentiment of painful labor. For the public, this creates a sentiment of evidence and experiential unity, this is without a doubt the greatest triumph of the relationship between art and technology.

## VII.  FUTURE DIRECTION AND ACTIONS

The VR industry will have to prove, in the coming years, that this technology is not a circus-like curiosity, but a new ground for expression.

If one pays closer attention, 360° writing possesses all the assets to become a true and complete artistic medium : it can explore a complex and subtle combination of images & sound and yet, neither the 19th century panoramas nor the Géode since its creation in 1985 have inspired many works of art. Panoramas and spherical creations have remained marginal. One of the most important stakes of VR is to prove that this new technology will escape the fate of Circarama theater or the Sensorama, and other sensationalist creations that never managed to escape the narrow niche of 20th century amusement parks.

In a sense, as long as experiencing the medium of VR wins over the content itself as far as spectators are concerned, it will not attain the status of art form : it is its disappearing as an innovating medium, in favor of the message delivered, that will be the terms of its ascension as a true discipline.

Fluidifying VR making, rendering it more intuitive, faster and more affordable is in itself lending a hand to artists who want to use the medium and deepen artistic proposals for the public. Our entire work will have been, during this residence, the search for a simplicity in image making and its manipulation in a spherical space: this quest of an intuitive evidence is still long and needs to be pursued.

We also endeavored to demonstrate the possibility to write VR in different formats and types of images, while maintaining a coherent discourse. We managed to achieve this, facilitated by the use of black and white during our shoot. We wish to pursue this integration of various formats, this time in color, without the helpful and aesthetically pleasing smoothing of images provided by B&W.


## VIII.  CONCLUSION

We have not mentioned this yet, but our desire for proximity has taken on an additional and unexpected dimension thanks to innovating processes in spatialized sound design. In virtual reality, sound has the power to enlarge images, amplify their vibration, something we measured spectacularly by developing a successful soundscape conjugating spatialized, octophonic sound design and headsets transmitting sound through bone conduction to the spectator.

Throughout this research, interrogations regarding images have thus taken on new proportions and transformed into sensory based research: had we focused solely on our initial goal, creating close ups in VR, we would have surely missed this stimulating and promising path. This final thought opens up the reflection, common to all research projects, on the balance between stubbornness and flexibility.