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TELECOMMUNICATION TECHNOLOGIES AND THEIR RELATIONSHIP WITH PERFORMATIVE CULTURAL PRACTICES AND THEATRE: TELEPRESENCE STAGE AND “THIRD SPACE”

By Raivo Kelomees, Taavet Jansen and Petri Hoppu

The following overview examines two case studies that explore integrating telecommunication systems with theatrical practices in contemporary performing art. The first case focuses on British artist Paul Sermon, who has been employing telecommunications and interactive media for over three decades to create installations investigating the interface between physical and virtual spaces.

The second case analyzes the project “Held in Human” by Liis Vares and Taavet Jansen, which examines the interactions between the human body, hybrid spaces, and technology. Both cases underscore the transformative impact of technology on human experience and the evolving boundaries between physical and virtual environments. The following sections will explore each case in detail, highlighting their importance to the intersection.

4.1 Introduction

In Chapter 5 “Telecommunication and Performance: Online Art and Mediated Performative Practices” of our previous publication “From Past to Present: The Journey of Technological Theatre”, we looked at the spiritual and technical predecessors of telecommunication practices. It became clear that technical visions for aesthetic and emotional remote communication already existed in the 19th century. There were also visions of how remote means (such as radio) could influence masses of people to improve their health and work productivity. In reality, we know that means of communication have become tools for influencing the behaviour of the masses. Radio influenced the masses between the two world wars, later this function was left to the internet and television. We can already see the call to make radio a two-way (interactive) means of communication in Bertold Brecht’s appeal of 1932. Later calls by artists in the 1960s and 1970s in the context of so-called tele-actions also come closer to what we understand as the theatre and stage of telepresence. The desire to activate the spectator has led to an interactive art format that, in addition to international recognition, has given creators the tools to create participatory environments in education, entertainment and theatre.

In the 1970s, Kit Galloway and Sherrie Rabinowitz’s attempts to put performers on a screen ushered in what we call the telepresence stage. There, dancers were brought together on a single television screen, which we will see later

in the installation practice of Paul Sermon, who is the subject of our closer observation.

We would also like to mention the important role played by the works of Roy Ascott, Douglas Davies, Stelarc and Rafael Lozano-Hemmer in the preparation of this field of practice, which we could subsume under the term 'telepresence art'.

4.2 Telepresence

The concept of telepresence is often confused with "virtual reality".

Telepresence was formulated in 1980 by Marvin Minsky, which means the use of teleoperation systems to manipulate distant objects. ¹ Jonathan Steuer has added that "Telepresence is defined as the experience of presence in an environment by means of a communication medium." He also writes: "...presence" refers to the natural perception of an environment, and telepresence" refers to the mediated perception of an environment." And his interpretation of "virtual reality": "A "virtual reality" is defined as a real or simulated environment in which a perceiver experiences telepresence." "The key to defining virtual reality in terms of human experience rather than technological hardware is the concept of presence." ²

¹ Campanella 2000.

² JSteuer 1992.

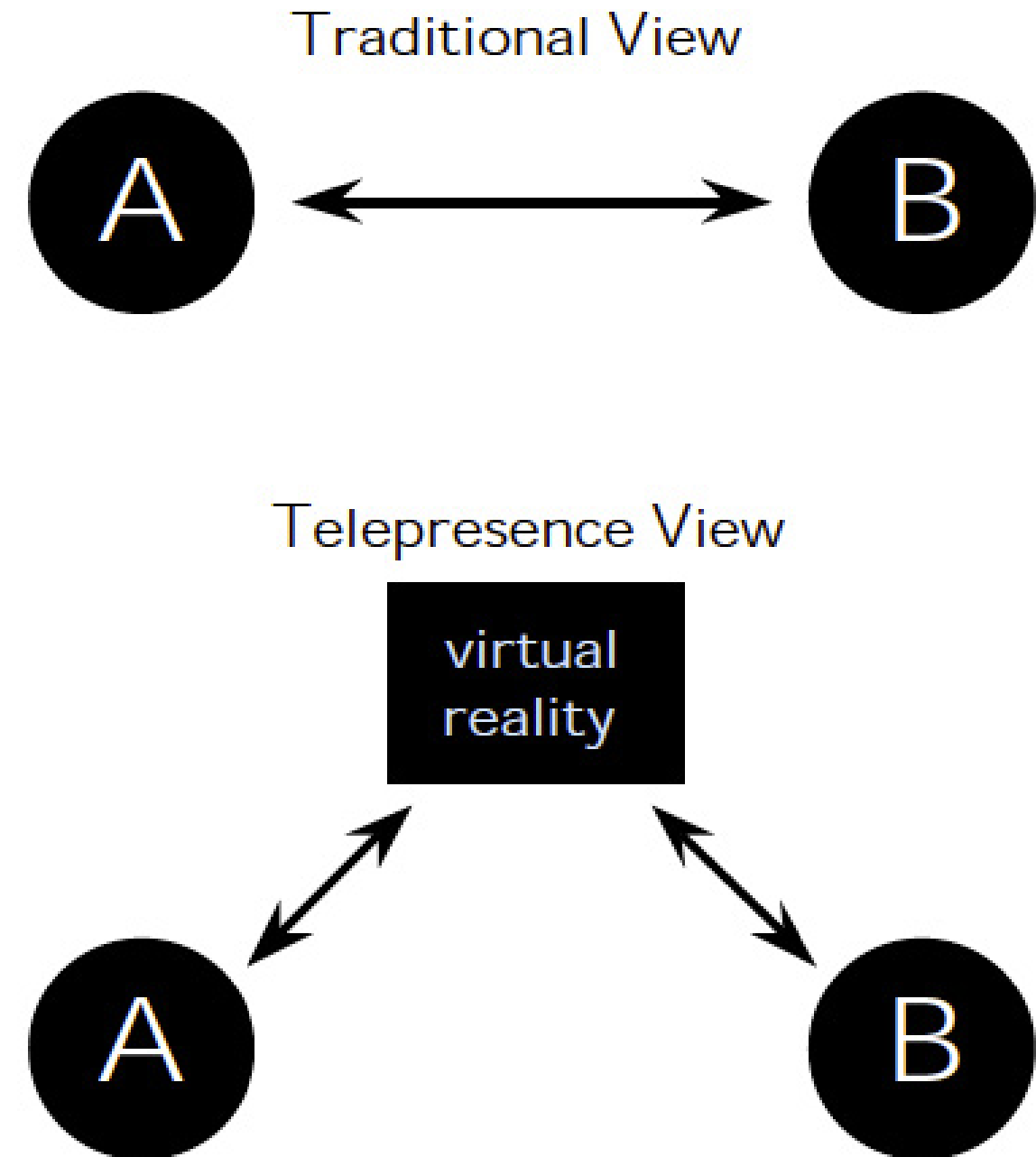


Image 1.

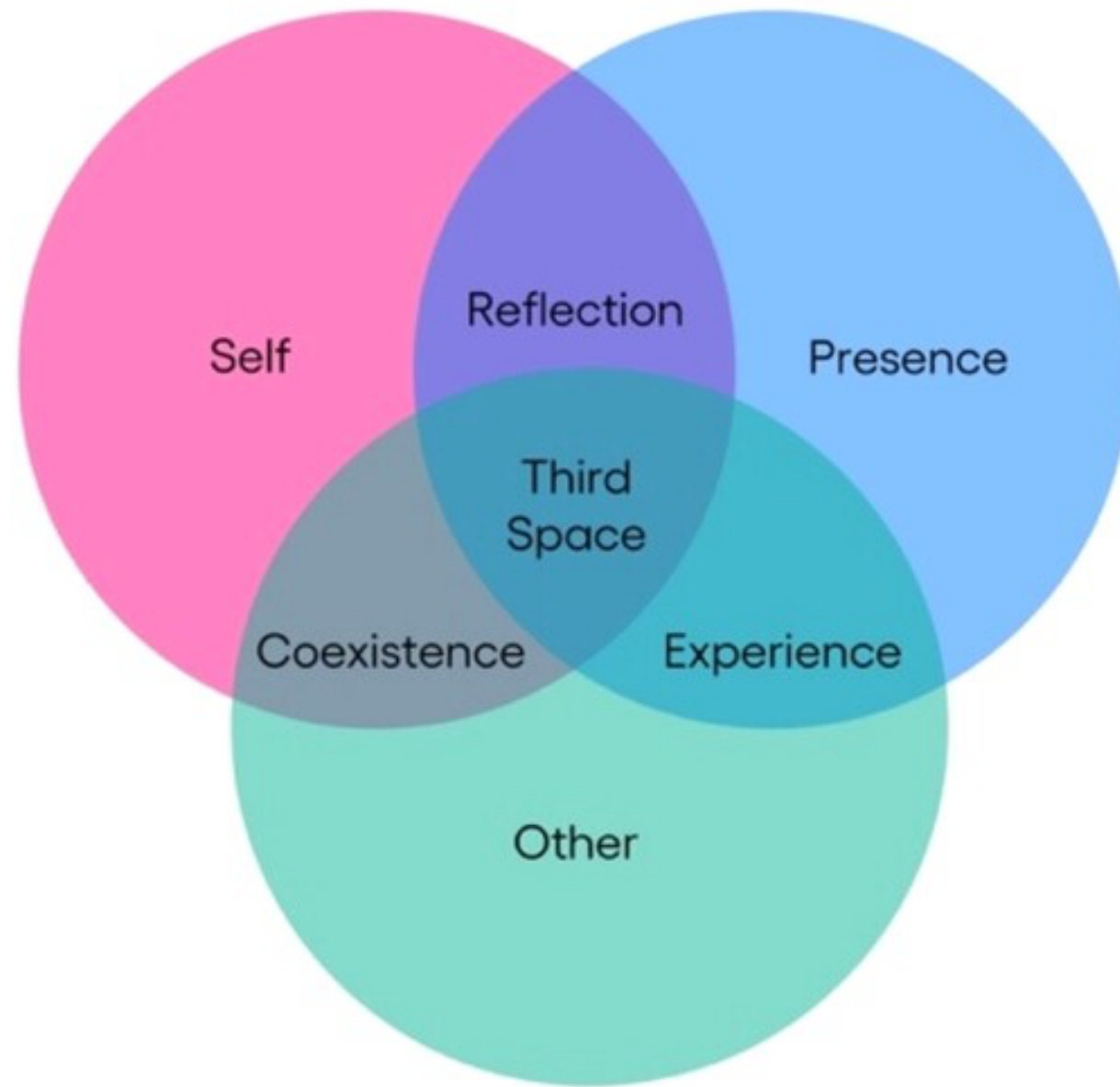


Image 2. The phenomenological model of the third space, Paul Sermon 2023.

We also borrow Jonathan Steuer’s scheme, which brings us closer to the concept of “third space”. The figure is taken from Myron Krueger’s book:³

The “virtual reality” box in this figure is undoubtedly the “third space”. It belongs to both parties to the communication, and if there are more than one, to all of them. Paul Sermon defines “third space” as “...a telepresence experience of self as other in a coexisting reflection. This is the place we occupy together as an extension of the body scheme not a separation from it. The third space is simultaneously referring to three spaces, the two locations where we exist remotely and the third location where we exist together.”⁴

Paul Sermon’s scheme is richer than Steuer’s:

Sermon refers to Myron Krueger, who has made observations about the third space in connection with his “Videoplace” installation in 1983.⁵ There, for the first time, a situation arose that the images of the two participants’ bodies began to overlap in the composite image, which created an uncomfortable situation and the idea of a certain etiquette when communicating in the composite image.

3 Krueger [1983] 1991.
 4 Sermon 2024.
 5 Krueger [1983] 1991.

4.3 Paul Sermon's telepresence stage

Paul Sermon deserves attention for his consistent practice of creating telecommunicative works for over thirty years and for his contribution to the development of telepresence stage projects.

A large part of the British artist Paul Sermon's telematic projects are based on user interaction. Since the early 1990s, Sermon's name has been associated with performative projects between different locations. His works 'Telematic Dreaming' (1992), 'Telematic Vision' (1993), 'The Tables Turned' (1997), 'A Body of Water' (1999) and several others are built for viewers operating in different physical locations whose images are merged. Participants see each other's feedback images on the screen and manipulate them like electronic puppets. These projects have become favourites of art historians and survey exhibitions, and are the clearest expression of the dia- and polylogic of interactive and telecommunication art.

Paul Sermon uses the possibilities of the Internet to connect people from different places, while allowing audio communication and incorporating facial expressions and gestures. In this way he achieves a result that is the pinnacle of intimacy. His works could be described as "interlocal art". They are interactive and communicative installations between physically separated places.

A strong social aspect is manifested in Sermon's visualised site-specific installation 'A Body of Water', 1999, where visitors related to the visitors of the second part of the installation, who were in the miners' dressing room

in the abandoned mine in Herten. A video of one of the visitors in Duisburg, projected onto a water screen, became a concrete and realistic presence in the Waschkaue, while historical footage of miners showering was projected on the other side.

4.4 Proprioception in telepresence artworks

Paul Sermon's work in the 1990s is a significant contribution to the evocation of the proprioceptive sense in the viewer. His solutions took place in a completely new technical environment and were again realised with the help of an expensive Internet connection. In Sermon's projects, different locations are brought together on a single screen, but the image and the object depicted are not connected remotely. Instead, touch takes place at the level of the image rather than through a direct physical interface. If two participants wish to touch each other remotely, they do so only insofar as the images of their respective bodies are merged into a single image on the screen and thus appear to touch. In Sermon's legendary "Telematic Dreaming" (1992), beds are placed in two different locations. Each bed is viewed through a camera suspended above it, and beside each bed is a screen and speakers to transmit sound and images. The participants lie on the distant beds and see each other's bodies projected onto a single bed on their screen. In this case, an interesting phenomenon can be observed in the reactions and behaviour of the participants, where even though they are not in the same room, they each react to the combined

image as if they were in contact with the body of the other person shown in the combined image.

We have only seen this work of art once, in an art museum. On that occasion there was a small group of high school students. They had been divided into two groups - half in one room, the other half in another. When the familiar faces of their schoolmates appeared on the screen, apparently in the same bed, they began to play with each other, punching each other's bodies with their fists. You can probably imagine the fun they were having and the raucous laughter, but they also seemed to behave as if they were delivering and receiving punches directly with the other group. In this example, it is clear that the same ancient layer of the human psyche mentioned above was activated by the experience, enabling them to engage easily with the pictorial object. It seems that, from the perspective of the deep human psyche, the being and the image of that being actually belong to the same territory, so that the image and the object are inseparable.

There is a kind of intimacy without real intimacy. Technology unites and separates. Obviously, you could experience an exciting astonishment when you later meet the 'original' coming from another room, i.e. the person projected on your bed.

Sermon's subsequent project 'Telematic Vision' (1993) is similar in that two different groups interact from two separate rooms, but in one room there is a large couch on which this group of participants sits in front of a blue screen. The installation took place in Karlsruhe, one sofa in the Badisches Landesmuseum and the other in the ZKM Centre for Art and Media in Karlsruhe.

The aim is for the two groups to place each participant so that they are sitting on this one couch. The significant difference here is the performative collaboration that ensues as the two groups (one in the sofa room, the other in a second room/location) try to arrange themselves to perform together. Participants in both rooms tend to focus more on their image as it appears on the collaborative screen, rather than looking directly at their body as it is located in the actual physical space immediately around them. A game of (accidental) and awkward eroticism takes place as people who do not normally know each other in the physical world negotiate the positioning of their bodies and the arrangement of their limbs. The situation has some similarities to the experience of standing in front of a mirror, but unlike a mirror, there is no left-right reflection, so when a person raises their right hand, they see the image of the right hand on the screen, which is also raised, but facing their left side on the screen. This makes coordination difficult and participants move awkwardly as they try to orientate their own body while looking at it on the screen, rather than focusing on themselves in the room.

Here we can use the term "proprioception," which is rarely used in connection with interactive art, although author have previously done so in an article about contemporary screen practices.⁶

"Proprioception, first defined by Sir Charles Sherrington in 1906, is a person's perception of their own body position. It is usually an intuitive understanding of the position of the body and body parts in space. It is a kind of sensory system and a form of interoception, but it is difficult to describe as a "sense". It is certainly an internal coordination system based on the nervous system:

⁶ Kelomees 2017.



objectively, the internal network of nerves in the limbs and parts of the body provides the brain with information about the position of the body in space. This usually happens unconsciously during a person's physical movements, such as touching their nose or putting on their shoes.

Sermon's previous project shows a situation where participants have to actively assemble visual and physical feedback, and where the use of a feedback image serves to awaken participants' proprioceptive sense. We can talk about the awakening and activation of this sense in cases where physical activity is placed in an unfamiliar situation: the participant should focus their attention on the position of their limbs in space in order to find or locate them again and complete the tasks presented by the artwork. This situation is similar to learning any new physical activity that requires unfamiliar coordination of the body, such as when a person learns to ride a bicycle, skate, dance, swim, or play a musical instrument. Driving a car requires a person to coordinate their perceptual and physical apparatus, which can be learned, but is certainly not immediately intuitive to the learner.

4.5 Telepresence Stage

A new chapter in Sermon's research was the "Telepresence Stage" project, which he also described as a new paradigm born during the pandemic. An extensive article has been written on the subject.⁷ It is a

⁷ Sermon, Dixon, Popat Taylor, Packer & Gill 2022.

Image 3. Paul Sermon "Telematic Vision" (1993).

technological and conceptual platform for different theatre companies to realise remote theatre projects. The authors write: “In response to the COVID-19 impact on the performing arts sector, this project identifies new and creative ways for actors, dancers and other performing arts professionals to rehearse and interact together in shared online spaces and to produce collaborative live performances from remote sites.” In the case of these projects, the concept of ‘third space’ emerges clearly. It is a virtual shared space created by combining physical space and virtual environment.

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This platform was offered to a number of theatre companies that were struggling with the fact that traditional theatre activities had almost come to a standstill during the pandemic. The “third space” is both a metaphor and a visual-practical outcome. It is a situation in which actors from different geographical regions are placed in one screen environment, one “space”. They only see each other together on the screen and act towards each other by seeing this composite image. Here the issue of proprioception becomes relevant again. The participants, actors or dancers control the screen by watching their body movements. They are in their body and at the same time watching it from the side. This is different from standing in front of a mirror, where the left and right sides do not change and the reflection is visually ‘wrong’, although objectively correct.

The telepresence stage project was designed for several theatre groups, enabling them to perform during the pandemic, but also teaching the performers new ways of acting in virtual space. Understandably, the new technological environment also enables new methods, and these create a new conceptual situation.



Next, we will discuss an art project called “Held in Human.” The project was carried out in Tallinn, Estonia, from August to September 2023. It was a three-week durational performance/interactive installation by artists Liis Vares and Taavet Jansen. The project aimed to link visitors in a gallery space

Image 4. View of the “Held in Human” installation (2023).

4.6 “Held in Human”

“Held in Human” was held in collaboration with the Estonian Academy of Arts and the elektron.art platform. It was part of the project “ACuTe - Culture Testbeds for Performing Arts and New Technology” and lasted from 21 August to 13 September 2023. The artists created a digital layer around an art installation in a physical space so that people could access and participate in the work.

The artistic metaphor for “Held in Human” was “a fetus growing in the womb.” The gallery was a safe, immersive space where sound, light, video projections, objects, and an augmented reality layer nurtured a single idea to flourish.

The project was broadcast live on the elektron.art website, where viewers could chat and influence the projections in the gallery. The chat content was recorded in an augmented reality archive that spiraled up to the ceiling. The artists had removed the gallery ceiling, making it look like the archive was spiraling out of the room into the sky.

Telematic presence using text

Telematic presence is the technology-enabled sensation of being present in a place other than one’s actual location.⁸ This idea has usually been used explicitly with video transmission, but in ‘Held in Human’ the authors were

⁸ Dixon 2007.

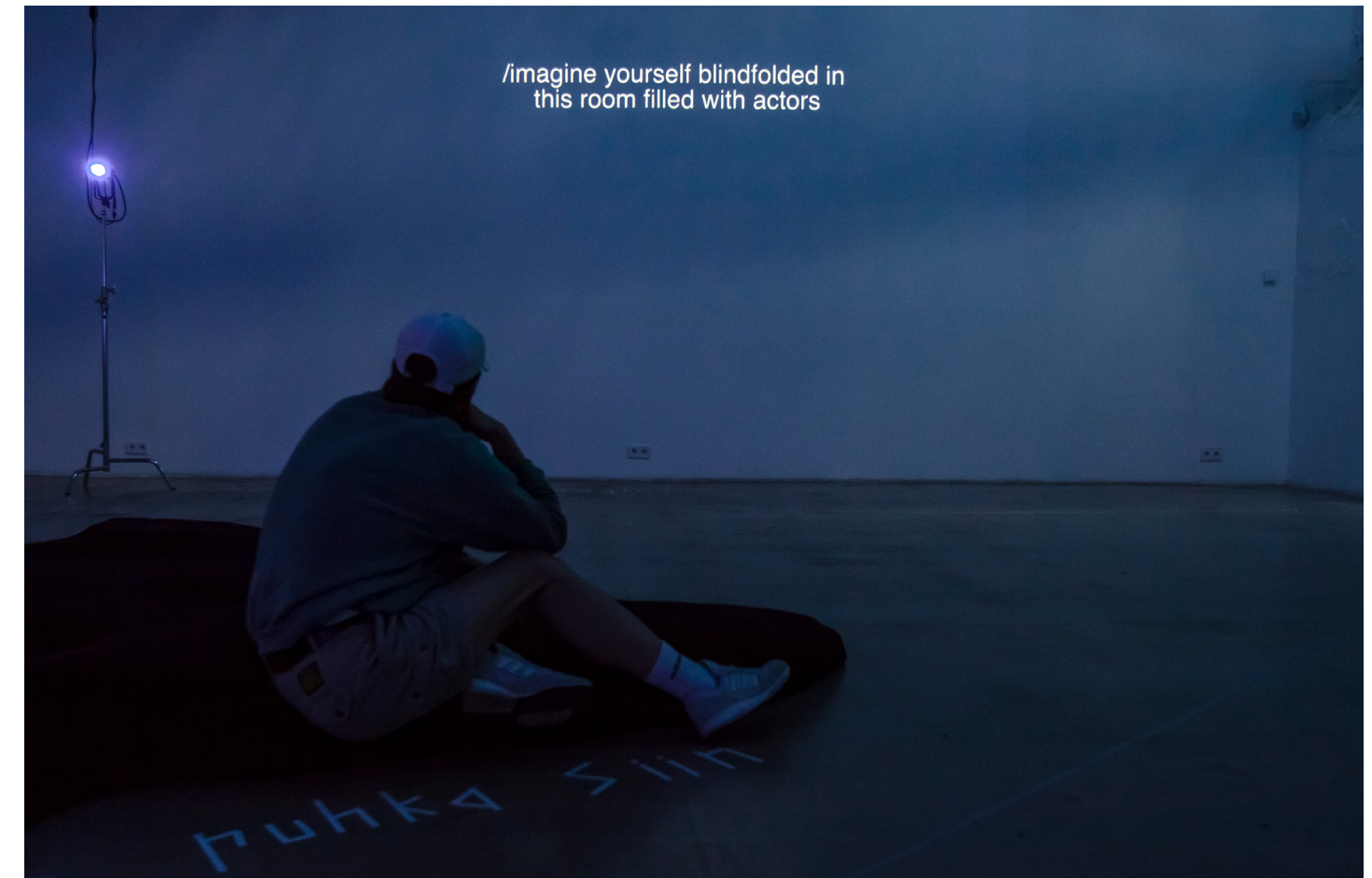


Image 5. A lone visitor reading a notice on the wall.

looking for ways to bring the ideas of online viewers into the gallery, so that the viewer’s trace would remain in the space even if the viewer never arrived.

The focus of this project was on text - creating text, writing text, appearing text, pronouncing text and reading text. They explored how to translate the viewer’s thoughts into physical space and find a form for them that would have a poetic and artistic quality. Everything that viewers typed into the chat window

was analysed, and the software filtered out posts with specific keywords and used them in the video design. The keywords had a poetic depth to intrigue viewers and inspire writers to include them in their sentences. The keywords were in English and preceded by a '/' sign to distinguish them from random words in the sentence. The keywords used were /imagine, /remember and /whisper.

/imagine

There were large video projections on the gallery walls. When the keyword /imagine was used in the chat, the phrase was projected onto the gallery wall. The authors did not provide a specific direction for the viewer's imagination, but welcomed any interpretation projected onto the large wall. This collective thinking space encouraged an uncensored starting point where everyone could share their ideas and take ownership of their writing. Visitors to the gallery could also visit the website and design the projection while they were there. In this way, messages were also left for other visitors, turning the gallery space into a playful environment. As some visitors left profound messages, this variability created a sense of lightness and anticipation throughout the installation.



Image 6. Camera mounted on dolly



Image 7. A guest whispering into a microphone in the gallery.

/whisper

The camera in the gallery was mounted on a tripod, which in turn was mounted on a 3m dolly. The cables were attached to the ceiling so that visitors to the gallery could move the camera around the room, rotate it and zoom in and out. A microphone was also installed in one corner of the gallery, with a small screen in front of it. When a visitor whispered into the microphone, it was automatically recorded and played back through speakers mounted on the gallery ceiling. If an online viewer typed the keyword '/whisper' into the chat window, the phrase would appear on the small screen in front of the microphone. This allowed online viewers to invite physical visitors to whisper something into the microphone.

Bridging Physical and Online Audiences

The ability to send messages directly from the chat window to the gallery wall created a rich opportunity for interaction between online and physical viewers. For example, when the text “/imagine, you could make someone very happy by changing her point of view” appeared on the wall, the gallery visitor realised that the text was meant for her and moved the camera. As online viewers could see what was happening in the gallery, this invitation provided another opportunity for interaction between physical and online viewers.

A second option, where online viewers could invite gallery visitors to whisper something into the microphone and leave their thoughts in the gallery (and also in the video stream), created an opportunity for physical visitors to interact with online viewers. For example, if the phrase “/whisper who you love” was left on the screen, the gallery visitor could freely whisper into the microphone, “What else don’t you want?!” and thus create a dialogue with the web viewer by questioning their power relationships.

These two possibilities created unique relationships between online and physical viewers. On several occasions an extended interaction between physical and online viewers took place using these limited facilities - some people online and some people in the gallery spent some time interacting with each other and seemed to be having a good time.

“All whispers were recorded, stored in a database and played back randomly. As a result, when viewers interacted with the microphone or chatted, their thoughts were left to wander around the space. These thoughts started a dialogue with other thoughts on the walls or on the speakers”.

/remember

If the keyword '/imagine' led to posts on the wall, '/whisper' related to the microphone, then the keyword '/remember' invited people to contribute more thoughtful, deeper ideas. While these ideas only appeared in the AR layer, the arrival of each idea was signalled by a light effect and a sound cue. As mentioned above, an augmented reality layer in the gallery rose like a tunnel from the centre of the gallery and could be accessed by mobile phone. In this spiralling collection of text, the viewer could move up and down and read all the previous contributions. Artists were using AR technology for the first time, and while the initial effect was remarkable, the use of AR raised some doubts among creators and viewers alike.

Concerns about using AR technology

Conceptually, augmented reality is an ideal medium for adding layers to a space that are invisible to the naked eye, while leaving the space empty. In practice, however, such a solution may create a conflict between the art space and the viewer's personal space. The use of a personal technological object in an art event is still a new and alienating concept.

Firstly, the use of a personal smartphone raises issues of technological inclusion and accessibility: not all visitors may have smartphones that support AR. Furthermore, differences in smartphone capabilities can lead to different

user experiences. "For example, the AR technical solution in 'Held in Human' did not support certain phones running the Android operating system. This caused mixed feelings among their owners and also made us wonder: "Is technological disruption more tolerated in the context of art than in other fields? If an artist takes an authorial position, is it ethical to judge the viewer's experience by the devices they use?"

Secondly, the reliance on personal devices raises concerns about privacy and security. The authors used QR codes printed on the wall to access the AR, the website and the WhatsApp community. They did not explain to viewers where these codes led or how to use them - below the codes were the words 'tunnel', 'web' and 'community' written on the floor. They were interested in the viewers' exploration of the possibilities they offered and their trust in them as authors - that they would not lead them into a digital quagmire where it would be dangerous for them.

They noticed the different attitudes of visitors to the whole user experience (UX). One visitor mentioned that his interest in the installation disappeared when the online chat window did not work as expected. This is a vivid illustration of how, when using technology that the visitor is familiar with from other areas (in this case, web design and the smartphone interface), the viewer expects the installation to provide the same intuitive and seamless interaction as they are used to elsewhere. Visitors' varying levels of technological sophistication should also be taken into account. This could include providing clear instructions, troubleshooting support and possible alternative access methods for those unfamiliar with AR features or whose devices do not support the web solution.

The issue of digital literacy also needs to be considered. Visitors who have little experience or comfort with AR technology, or who are not intuitive with their devices in different situations, may need help to fully engage with the installation. The artists considered providing an assistance in the gallery space, but decided not to do this and to let 'natural selection' take its course, accepting that it is not possible to try to provide an equal experience for everyone in technologically complex situations.

Using a device in the gallery also raised the issue of immersion and distraction. While the AR solution was the only possible access channel to the full archive of the work, the use of smartphones may have been too distracting.

The Final Improvisation

Over the last two days, the creators of an installation deactivated audience interaction, redesigned the gallery, and allowed the collected material to improvise. The result was a sense that the installation had begun to take on a life of its own, combining a seemingly endless number of people's ideas.

Viewers interacting with the installation were unaware of the impact of their presence. The installation provided a platform for people's thoughts and dreams to meet without physically meeting. The result was some beautiful moments: one person's whisper resonated with another's search for a friend, while someone's imagination sparked the belief that 'this is not the end'.

It is worth noting that these physical moments in the gallery could have occurred several weeks apart, yet the installation managed to bring them together.

It is also possible that the writers of the texts had never been in the gallery. The installation became a medium through which people's thoughts and desires intertwined without their knowledge, creating a unique and beautiful experience.

In conclusion, we can see that experiments with the telepresence stage are taking place in different countries. To a significant extent, the process has been accelerated by the era of the pandemic, which has allowed targeted experiments with different theatre groups. Here we have looked at the work of the British artist Paul Sermon. To widen the perspective, we have included Liis Varese and Taavet Jansen's project "Held in Human", which was carried out after the pandemic era.



Imagine Beauty no longer counts.

Ves

HALA HA

HALA HA

Image 8. A look at the installation over the last two days.