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Subjective Access and Focalization in VR

Abstract

This paper examines the challenges of conveying a character's inner world in virtual reality (VR) experiences, using the production of *Finding Frida* as a case study. It explores how a "constructive dialogue" with film theory, specifically narratology and cognitive approaches, can inform VR storytelling practices. The discussion originates from a practical problem encountered during the making of *Finding Frida*: how to lip-sync the virtual character. What began as a technical issue led to deeper dramaturgical questions about perspective, subjective access, and the role of the spectator in VR. Drawing on the work of Murray Smith, Peter Verstraten, and Michel Chion, the paper investigates how techniques like focalization, voice-over narration, and sound design can be utilized in VR to strengthen dramaturgy. It analyzes the concept of the "acousmêtre" — a sound heard without its source being seen — and its potential for generating suspense and facilitating emotional engagement. The paper argues that, unlike traditional film, where subjective access is often achieved through editing techniques like shot-reverse shot, VR creators must rely on alternative methods. It proposes that sound, with its spatial and immersive qualities, can be a powerful tool for guiding the spectator's perspective and providing access to the character's inner world.

Keywords

VR creative documentary, focalization, sound design, diegetic/non-diegetic sound, environmental Storytelling, voice-over narration, practice-based research

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Virtual reality (VR) as a storytelling medium presents unique challenges for creators seeking to convey the inner worlds of characters. Unlike traditional film, where established techniques such as shot-reverse shot sequences and editing can provide spectators with subjective access to character perspectives, VR requires fundamentally different approaches

to achieve similar dramaturgical effects. This paper examines these challenges through the lens of practice-based research, using the author's (my) VR project[1] *Finding Frida* as a case study to explore how insights from film theory — particularly narratology and cognitive theory — can inform VR storytelling practices.

Kath Dooley's extensive review[2] lists different approaches that have "contributed to a body of work investigating a new wave of virtual reality entertainment."[3] Dooley cites screenwriting and screen-based approaches, as well as approaches from game studies, interactive digital narrative, and human–computer interaction, as examples from the last decade. Her discussion of screenwriting and screen-based approaches includes important questions around templating and formatting the screenplay, as the "presentation of the narrative material has 'organizational impact.'"[4] Dooley's overview also mentions narration and the positioning of the user/viewer, as well as attempts to apply the hero's journey[5] to VR narratives. The term "dramaturgy," however, is not included in any of these approaches.

Similarly, in the many development labs, pitch sessions and industry talks that we as a team have attended during the development of *Finding Frida*, dramaturgy — as a "conceptual basis for the organisation of structure"[6] — was rarely considered explicitly. In my personal experience, influences from game studies and interactive design took a more prominent role in these settings. Terms like "audience experience," "core interactivity," and "narrative architecture"[7] became the primary vocabulary, while "anagnorisis," "peripeteia," and "catharsis" were remarkably absent. As *Finding Frida*'s writer and conceptualizer, when the project grew in scope and artistic ambition, I found that I struggled with questions of a dramaturgical nature that went beyond the formatting of the script. How could I engage the audience's attention through dramatic tension when the cinematic tools of dialogue, editing, and framing do not function in VR as they do in film?[8] Screenwriter and professor Paul Gulino describes dramatic tension as something that "plays on an audience's curiosity"[9] and that "requires an emotional connection between the audience and a character — the protagonist — to achieve its effect."[10]

These questions — concerning the organization of story material, the establishment of character, and the provision of pre-story context necessary for that "emotional connection" — prompted a deep dive into film theory on perspective-taking and its implications for audience engagement in VR. Analytical frameworks from Peter Verstraten,[11] Murray

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1)   In this text, VR projects will be referred to as VR "experiences," in accordance with industry terminology.

2)   Kath Dooley, "Conceptualizing and Developing Narrative-Based VR Experiences: A Review of Disciplinary Frameworks and Approaches to Research," *Journal of Screenwriting* 14, no. 3 (2023), 229–249.

3)   Ibid., 233.

4)   Ibid., 233.

5)   Campbell in Dooley, "Conceptualizing and Developing Narrative-Based VR Experiences," 233.

6)   Kerstin Stutterheim, *Modern Film Dramaturgy: An Introduction* (Berlin: Peter Lang GmbH, Internationaler Verlag der Wissenschaften, 2019), 689.

7)   Henry Jenkins, "Game Design as Narrative Architecture," *Computer* 44, no. 3 (2004), 118–130.

8)   Paul Joseph Gulino, *The Sequence Approach* (New York: Bloomsbury Publishing Plc, 2004), 12.

9)   Ibid., 12.

10) Ibid., 12.

11) Peter Verstraten, *Film Narratology*, trans. Stefan van der Lecq (Toronto: University of Toronto Press, 2009).

Smith,[12] and Michel Chion,[13] among others, proved practically relevant to key development challenges in *Finding Frida*. This investigation demonstrates how creative practice can be informed by theoretical insights, using the specific production challenge of lip-syncing a virtual character as a starting point for broader dramaturgical exploration.

Brief Project Description: *Finding Frida*

Finding Frida is an interactive, room-scale VR hybrid documentary currently in the final stage of production.[14] The experience introduces spectators to the legacy of Norwegian textile artist Frida Hansen (1855–1931) through an immersive journey that blends past and present. Beginning in 2025, in Frida's house in Oslo, where parts of the garden she planted in 1905 still thrive — including a pear tree that is a recurring motif — the experience (virtually) transports spectators through time to 1931, for an encounter with Frida's ghost-like presence. The spectator can enter the house, which is depicted through a combination of photogrammetry technique and computer-generated images (CGI). Here, certain key moments from her life story are highlighted through voice-over narration, and the spectator is invited into Frida's dream-world, where memories and art come together. These dreamscapes allow the audience to take the perspective of the Frida character, as she looks back at her life.

Fig. 1: Pear tree at Bestumhus, 2024 Oslo. Photogrammetry. Copyright: RippleX/Steffen Aaland

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12) Murray Smith, "Altered States: Character and Emotional Response in the Cinema," *Cinema Journal* 33, no. 4 (1994), 34–56.

13) Michel Chion, *The Voice in Cinema*, trans. Claudia Gorbman (New York: Columbia University Press, 1999).

14) Production funding received from the Norsk Filminstitutt (Norwegian Film Institute) in February 2025.

Background and Inspiration for *Finding Frida*

Before examining the theoretical implications of this project, it is important to understand how this biographical story became the inspiration for a VR production. On an early morning in 1889, a woman from the small Norwegian town of Stavanger boarded a ship. Her husband had been against this trip since she first told him of her plans, and she had already postponed it once, when her daughter fell sick. At this point in her life, she had already experienced the loss of two of her three young children and suffered a devastating bankruptcy. When her husband left the country in search of new opportunities,[15] she had engaged in handicraft work, consisting of embroidery and the mending of wedding dresses, which led her to a newfound interest in textile and weaving. Later in life, she was to say that it was the work that saved her, not only by providing a meager income, but also by giving her agency.[16]

It was this agency that helped her overcome both inner and outer resistance to go forth with her endeavor: to travel by herself to the innermost valley of the Sognefjord and look for someone who could teach her about an old, traditional weaving technique that was on the verge of being forgotten.[17] Well underway, the ship ran aground along the rugged western coast of Norway. As the passengers around her erupted in panic, the woman sat quietly below deck, accepting God's punishment for being overly ambitious and, in her own words, "egotistical."[18] The woman's name was Frida Hansen — my great-great-grandmother.

Fig. 2: Frida Hansen, ca. 1880. Copyright: Privat

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15) And, according to family lore, hiding from the shame of taking Stavanger's financial infrastructure with him in the fall, after having monopolized the town's shipping industry.

16) Anna Rogstad, *Kjente menn og kvinner* (Oslo: Dybwad, 1926); "Obituary," by S. Mundal, 1931, Nasjonal-biblioteket, Oslo, Norge.

17) This weaver was Kjerstina Hauglum, as referenced in Anniken Thue and Frida Hansen, *Frida Hansen: (1855–1931): Europeeren i norsk vevkunst* (Oslo: Kunstindustrimuseet, 1973), 20.

18) "Obituary," Mundal.

In this anecdote lies the seed of what would become a successful career for Frida Hansen, one of Norway's most prominent and innovative textile artists.[19] As an independent scriptwriter, I recognized all too well the feeling of being "egotistical" when pursuing an artistic career. Writing, like weaving, absorbs time and resources that are not always reflected in the income it generates. As one of the few in my family to depend on creativity to make a living, it was a relief for me to discover that Frida, over the course of her life, had "come to see these things differently."[20] [21] I was curious as to how she had moved beyond this initial feeling that pursuing art is egotistical. As I so often do, I turned writing to find an answer. Perhaps, on some level, I began working with my great-great-grandmother's story to justify my own choice of career; if Frida could rise from financial ruin through the practice of "women's art," perhaps filmmaking could stand a chance, too. At the heart of the story was also something genuinely feminist which appealed to me: in the way the patriarchal, capitalist system that had led to the Hansen family's ruin was overcome by the "soft" (dare I say feminine) art of weaving. Moreover, as is often the case for women artists, Frida was scarcely acknowledged by scholars of art history until 1973, when art historian Anniken Thue published her book *Frida Hansen: (1855–1931): The European in Norwegian Textile Art Around 1900.*[22], [23]

Fig. 3: Frida Hansen, 75 years old. Copyright: Privat; Fig. 4: Concept art, by Inna Hansen. Copyright: RippleX Studios

Aside from the subject matter, there was also the esthetic quality of Frida's work that motivated this creation of a VR hybrid documentary. Her most famous weaves[24] are large, wall-sized examples of what one may call, in game development terms, "environmental storytelling." Media scholar Henry Jenkins[25] explains that environmental storytelling

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19) Thue and Hansen, *Frida Hansen.*
20) "Obituary," Mundal.
21) "Nu har jeg jo et litt annet syn på disse ting." Ibid.
22) Thue and Hansen, *Frida Hansen.*
23) Textile and graphic artist Annie Albers says: "When work is made with threads, it is considered craft; when it is on paper it is considered art." F. Dijke, *Annie + Josef Albers* (The Hague: Kunstmuseum Den Haag, 2023).
24) *Melkeveien* (F. Hansen, 1898); Salome (F. Hansen, 1900); Semper vadentes (F.-. Hansen, 1905).
25) Henry Jenkins, "Game Design."

Fig. 5 (left): Early concept art, by Daniel Ernst. Copyright: RippleX Studio; Fig. 6 (right): Melkeveien, 1899, Frida Hansen

Fig. 7 (left): Semper Vadentes, 1905, Frida Hansen; Fig. 8 (right): Art comes to life, still from *Finding Frida*. Copyright: RippleX Studios

"creates the preconditions for an immersive narrative experience" by allowing spatial stories to evoke narrative associations, provide staging grounds for events, embed narrative information within mise-en-scène, or offer resources for emergent narratives.[26] In an industry talk in 2013, game designer Steve Gaynor defined the term as existing "in the conceptual space between game play and scripted story, the story that the player deduces from the gameworld itself."[27] Like environmental storytelling, Frida Hansen's weaves provide clues and traces from her lived life and become — borrowing from Henri Lefebvre[28] — "representational spaces, embodying complex symbolisms." It was this quality that made the creative technologist, who was to create the first, tentative sketches of the *Finding Frida* universe, exclaim upon our first meeting, "This is VR!"

Infused with visual motifs and references to Frida's personal life experiences, many weaves also have a three-dimensional quality that matches the VR medium. This is obtained through a special semi-transparent technique[29] that Frida developed and patented. As a child, I remember staring at a weave on the wall in Frida's house (which by then had become my great-aunt's home) noticing the square-shaped details of the red-haired mer-

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26) Ibid., 123.

27) Steve Gaynor, "AAA Level Design in a Day Bootcamp: Techniques for In-Level Storytelling," *CDCVault*, accessed September 21, 2025, https://gdcvault.com/play/1017639/AAA-Level-Design-in-a.

28) Henri Lefebvre, *The Production of Space*, trans. Donald Nicholson-Smith (Oxford: Blackwell, 1991), 33.

29) See F. Hansen, *Juni*, 1918 and F. Hansen, *Sommernattsdrøm*, 1914.

maids in *Havfruer, som tænder Månen* (F. Hansen 1895).[30] Looking at the work we have done thus far in VR, I see the same squareness in the form of polygons.[31]

A Practical Challenge: The Lip-Sync Problem in *Finding Frida*

During the development of *Finding Frida*, a specific technical issue arose that emphasized the importance of a deep, dramaturgical investigation of perspective and its relation to diegetic and non-diegetic sound in VR. While working on the creation of Frida Hansen's virtual character, the creative team[32] ran into the problem of lip-syncing. As preparations began for a motion-capture recording of Tone Danielsen — the 75-year-old actress who was to embody the main character — the technical team raised a question about how to register her lip movements. The actress was covered in sensors from head to toe, but the studio equipment did not provide a solution for recording her face.

Fig. 9 (left) and 10 (right): Actress Tone Danielsen in motion capture studio. Copyright: RippleX Studios/Hilde K. Kjøs

This practical problem led to a heated discussion about whether lip syncing the character was important at all, which again raised questions reaching deep into the core of the story's dramaturgy. As it turned out, the issue with lip syncing was not so a much a technical problem, as a symptom of unresolved questions on the level of story — or its "poetic architecture," as scholar and filmmaker Kerstin Stutterheim words it in her book *Modern Dramaturgy*.[33]

To navigate these complex questions, on which I will elaborate later, I turn now to established theoretical frameworks from film studies and narratology, seeking analytical tools that can shed light on deeper issues around perspective-taking in cinema and VR.

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30) "Havfruer som tænder Månen [Billedvev]," *digitalmuseum*, accessed September 20, 2025, https://digitalt-museum.no/021049525941/havfruer-som-taender-manen-billedvev.

31) Cecilie Levy, "Light from Aside: A Screenwriter's Perspective in Virtual Reality" (PhD diss, Inland Norway University, 2023) 67.

32) The team is comprised of a writer, director, unity developer, creative technologist, photogrammetry and motion capture expert, and producer.

33) Stutterheim, *Modern Film Dramaturgy*, 15.

Spectatorship and Perspective-Taking in VR

In his book *Film Narratology*, author and academic Peter Verstraten writes: "Focalization is always a matter of subjective colouring, an interpretation of (sensory) impressions."[34] And further, that a "narrator in a novel communicates the story with words, whereas in film the communication is accomplished by images combined with sounds."[35] Straightforward as this may sound, it is worthwhile to consider how this communication is accomplished in VR. In the book chapter "Shifting Diegetic Boundaries," Ole Kristoffer Haga argues that the boundary between the diegetic and the extra-diegetic[36] becomes diffuse in VR.[37] [38] As the spectator is assigned a role in the virtual story-world, and can even interact with and influence the environment, questions arise about "where the represented diegesis ends and the extra-diegetic begins."[39] The word "user," as opposed to the more traditional "spectator" in film studies, implies that the audience adopts a different attitude toward the story in VR than in film. This also has implications for the question of perspective — and of focalization. As a maker, I question whether the "user attitude" is the only way to approach the issue of spectatorship in VR.

Looking at examples of recent and/or notable VR experiences where my viewing experience was closer to that of a spectator than a user, the seminal *Notes on Blindness* (Arnaud Colinart, 2016) comes to mind. What makes this work effective and captivating is the elegant way in which the spectator is enabled to take the perspective of the protagonist. In my view, the first-person perspective in *Notes on Blindness* is more similar to the singular point-of-view perspective in *The Lady in the Lake* (Robert Montgomery, 1946)[40] than to a first-person user experience in a video game. Whereas in a video game, the incentive is to *do* things, or to *accomplish* something, in *Notes on Blindness*, my primary motivation as a spectator is to *understand* something: the lived experience of losing sight and a shift toward a form of echolocation. The tension that arises in this work between the "visual narrator" and the "auditive narrator"[41] is something to which I will return later.

Another work that operates within this tension between interaction and spectatorship, is the Canadian *Book of Distance*[42] (Randall Okita, 2020). The creators refer to co-creation

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34) Verstraten, *Film Narratology*, 43.

35) Ibid., 47

36) Haga writes that "story content that is accessible to the fictional characters is usually considered diegetic, while anything only the viewer can perceive, like musical scoring, voice-over, titles, superimposition, and end credits are characterized as extra-diegetic," in Ole Kristoffer Haga, "Shifting Diegetic Boundaries," in *An Introduction to Screenwriting for Virtual Reality: Story, Space and Experience*, ed. Kath Dooley and Alex Munt (Cham: Springer Nature Switzerland AG, 2024), 29. In my understanding, extra and non-diegetic are mostly synonymous.

37) Haga, "Shifting Diegetic Boundaries."

38) In the text, cinematic virtual reality (CVR) is the primary reference, but the principle applies to room-scale, CGI VR, as well.

39) Haga, "Shifting Diegetic Boundaries," 30.

40) *The Lady in the Lake* (1946) uses first-person perspective throughout, with the camera serving as detective Philip Marlowe's eyes; it is a film that Verstraten describes as "the most notorious experiment with a subjective camera," in Verstraten, *Film Narratology*, 96.

41) Ibid., 130.

42) Winner — Best Immersive Experience, Canadian Screen Awards.

and (participatory) theater as a model and inspiration for their experience, with the central focus being the story that unfolds and that we are invited to witness. As director Randall Okita explores his painful family history, serving as both performer and virtual guide, the audience witnesses his visualization of these events. He contextualizes the scenes with his commentary, and we see the story through his eyes. Okita and his team have referred to it as "a virtual pilgrimage with a friend who is trying to uncover his family's past."[43] Although they reference a Janet Murray quote — "the satisfying power to take meaningful action and see the results of our decisions and choices"[44] — the actions available to the spectator/user in this experience do not influence the narrative. The creators refer to story types as described by Kent Bye and Devon Donlan, distinguishing between "local agency" and "global agency." Only the latter has influence on the narrative, while the former can "control the outcomes of your own experience in small ways, but these small actions may have no real impact on the overall outcome."[45] This leaves the focus of the narrative design with the perspective taking, to experiencing "from the inside."[46]

The final work that I will mention is the Danish experience *End of Night* (David Adler, 2021), winner of Best VR Story at the 78th Venice International Film Festival. In this experience, the spectator is seated in a rowboat that moves through a dreamlike representation of occupied Copenhagen during the Second World War, while the main character — the rower — recounts the story of a failed attempt to escape the Nazis with his Jewish wife.[47] As a spectator, we get to be present inside his fragmented memories and relive a traumatic experience. The virtual world through which we travel becomes a representation of his memories.

Returning to Verstraten and his notion of a visual narrator,[48] he describes this narrator as the implied intelligence that chooses (again and again throughout a film) which perspective we take in a scene or a shot: this is what we call "focalization." When we are presented with a shot-reverse shot, we are drawn into the perspective with which the visual narrator presents us. As an example, Verstraten describes a scene from *Out of Sight* (Steven Soderberg, 1998), with several shifts in focalization. As the character of an escaped convict (played by George Clooney) leans back in a hot, steaming bath, eyes closed, we see what we assume is an objective shot of an FBI officer (played by Jenifer Lopez) who silently enters the house, gun raised, to make his arrest. However, as she appears in the bathroom, instead of arresting him at gunpoint, she kisses him, and we realize that the shot is

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43) David Oppenheim and Randall Okita, "The Book of Distance: Personal Storytelling in VR," in *ACM SIG-GRAPH 2020 Immersive Pavilion (SIGGRAPH '20)* (New York: Association for Computing Machinery, 2020), article 5, 1–2.

44) Janet Murray, in ibid. n.p.

45) Kent Bye, in ibid. n.p.

46) For a discussion on "central and acentral imagining" in Smith, "Altered States," 36; and for a discussion on experiencing "from the inside" and "from the outside," see Marie-Laure Ryan, "Beyond Myth and Metaphor: Narrative in Digital Media," *Poetics Today* 23, no. 4 (2002), 593.

47) During the VR experience, we come to realize the significance of the boat as, during the Nazi occupation, many refugees escaped by rowing to Sweden. It seems as if the main character is "eternally rowing" as an expression of trauma.

48) In the original Dutch text, Verstraten makes the distinction between *beeldverteller* (visual narrator) and *geluidsverteller* (auditive narrator), who together become the *filmische verteller* (filmic narrator). Verstraten, *Film Narratology*.

in fact not objective, but a daydream — his, we presume, but then the perspective changes again. We see the FBI agent wake up in a hospital bed with her father standing next to her, telling her that she was talking in her sleep: "She: 'What did I say?' Father: 'Hi, yourself.'"[49] This sequence establishes a strange emotional connection between the two characters, as if they have shared dreams.

This example demonstrates the ability film can have, through inventive use of focalization, to grant "subjective access," a term coined by film theorist Murray Smith in his essay "Altered States: Character and Emotional Response in the Cinema."[50] Smith proposes a "structure of sympathy" as a "model of spectatorial engagement"[51] consisting of the concepts of recognition, alignment, and allegiance — each "a kind of narrative system that relates to character."[52] "Recognition" refers to the perception that a spectator has of a character as a (usually) human agent. Even if we know that a character is an artefact of a fictional world, we assume that they "correspond to analogical ones"[53] in the real world. "Alignment" refers to the extent to which the spectator has access to a character's actions and inner world and motivations. "Allegiance" flows from the other two, as the spectator evaluates the moral and ideological result of the character's actions and motivations. Smith emphasizes that the systems are dependent on the "cooperative activity of the spectator" working with them, and that, more broadly, they are responses "neither solely in the text nor solely in the spectator."[54] Smith suggests that alignment is akin to the literary term "focalization," Gérard Genette's term for "the way in which narratives feed story information to the reader through the 'lens' or 'filter' of a particular character."[55] In cinema, this lens becomes an actual lens that can be aligned with the viewpoint of one or more characters, and we see the world through their eyes.[56]

Smith describes "subjective access" as one of two interlocking functions[57] with which to analyze alignment.[58] To what extent does the alignment (focalization) give the spectator access to what the characters "know and feel"?[59] I understand focalization, as Verstraten uses it, as one way of providing access to the subjectivity of a character. It is dependent on Sergei Eisenstein's visual counterpoint[60]: The shot-reverse shot of a character looking at a soup bowl and appearing hungry is as effective as the novel's narrator telling us, "I was bitterly hungry, wished myself dead and buried."[61] In cinema, the feeling of hun-

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49) Ibid., 119.
50) Smith, "Altered States."
51) Ibid., 40.
52) Ibid., 39.
53) Ibid., 39.
54) Smith, "Altered States."
55) Ibid., 41.
56) Simon Weaving proposes that, in VR, the movement of the camera in film is taken over by the spectator/ user. Simon Weaving, "The Nature of Narration in Cinematic Virtual Reality," in Dooley and Munt, *Screenwriting for Virtual Reality*, 79.
57) The other one being "spatial attachment": to what extent the spectator can follow the "spatio-temporal paths" of the different characters. Smith, "Altered States," 41.
58) Ibid., 40.
59) Ibid., 41.
60) Stutterheim, *Modern Film Dramaturgy*, 29.
61) Knut Hamsun, *Hunger*, trans. George Egerton (New York: Knopf, 2005), 27. „Project Gutenberg eBook of

ger in a character is inferred, as the editing tells us something about the character's interest in the soup bowl. According to Smith, this is not a question of identification or of mimicking a character's feeling; it is a question of understanding.[62]

In VR, where there is no frame and no editing, the mechanism of shot-reverse shot to provide subjective access is no longer there. As creators, we need other ways to help the spectator understand the character's subjectivity, at least to the extent that it matters to the story. How do we induce the "cooperative activity of the spectator"[63] and provide enough clues and information for the spectator to understand, and eventually sympathize with the protagonist?

Voice-Over Narration and Implicit Storytelling

Through my work with *Finding Frida* and the interdisciplinary, iterative development process, I have wrestled with these questions of alignment and subjective access. As demonstrated by Verstraten, the shot-reverse shot exempts the scriptwriter from explicitly articulating what a character is thinking and feeling. The "visual narrator" enables implicit storytelling, and this heightens spectator involvement, as they are inferring emotions and motives and actively anticipating what will happen next. In the VR experiences mentioned earlier, in place of shot-reverse shot is what becomes a kind of prolonged first-person point of view of the spectator.[64] It is tempting to assume that the perspective of the story then becomes that of the spectator, hence the emphasis in VR development on the audience experience and the assigned role of the spectator.[65] However, doing so would be to ignore the notion of a filmic narrator, that, in Verstraten's words, "negotiates the relation between the auditive and the visual tracks."[66], [67] A review of a freeze-frame in *All About Eve* (Joseph Mankiewicz, 1950) illustrates this. In this review, Verstraten discusses Seymour Chatman's view that sound and text are "hierarchically superior to images."[68] The freeze-frame in this discussion seems to be instigated by the voice-over of the character Addison, but in Verstraten's view, this is an illusion. Verstraten argues that the visual and auditive narrators operate on an equal level and that their synchronization is regulated by the filmic narrator:

Hunger, by Knut Hamsun," *gutenberg*, July 6, 2003, accessed September 20, 2025, https://www.gutenberg.org/files/8387/8387-h/8387-h.htm.

62) Smith, "Altered States," 42.

63) Ibid., 39.

64) According to Weaving, "The viewer's point of view in CVR is best described as being either impersonal or personal (more or less subjective) depending upon the filmmaker's narrational strategies." Weaving, "The Nature of Narration in Cinematic Virtual Reality," 80.

65) In VR work, the spectator is sometimes assigned a role, for example as "the monster under the bed."

66) Verstraten, *Film Narratology*, 130.

67) Although Verstraten seems to reject the idea of an implied author, he suggests that the filmic narrator, who regulates the visual and the auditive narrator, could resemble an implied author in some ways. Ibid., 130.

68) Ibid., 130.

> Prompted by the filmic narrator, the visual narrator freezes the image for Addison's
> commentary. The smug critic Addison is led to think that he can direct the narrative
> with his voice-over, but he can indulge in that fantasy only because the filmic narra-
> tor has determined that the visual narrator should conform itself to it.[69]

What this discussion makes clear to me is that, even in a first-person perspective in
VR, there is still a narrating agent. This role is not taken over by the spectator the minute
they don the VR goggles and are free to look around. There is still an agent that organizes
the visual and auditive[70] information to enable understanding of actions, motives, or — in
Smith's words — the "apportioning of knowledge among characters and the spectator; the
systematic regulation of narrative knowledge [that] results in a structure of alignment."[71]
According to Smith's structure of sympathy, from the first two concepts (recognition and
alignment), allegiance follows. This last stage is important to me in the development of
Finding Frida, as the spectator must assemble snippets of information and cues about the
character's outer and inner life to become emotionally involved. As a scriptwriter for VR,
I felt that I only had limited tools to accomplish this. When shot-reverse shot is excluded,
traditional ways of giving subjective access essentially boil down to dialogue and voice-
over.[72] The Frida character can *tell* us how she feels and what she wants, or she can tell a
secondary character, but this does not feel very dramatic,[73] and may evoke less emotion in
the spectator. The option of dialogue between characters in VR runs the risk of excluding
the spectator, making them feel ignored. This effect[74] was made clear to me in the narra-
tive VR experience *Age of Sail VR* (John Kahrs, 2018) in which, during a long exchange be-
tween two characters on the deck of a sailboat, my attention drifted. Only when the per-
spective changed to first person and I had the embodied experience of sinking under
water, did my attention return.

This effect of feeling excluded was one I wanted to avoid in my own concept. My ex-
periment with the first drafts of the script confirmed this instinct. Although dialogue
helped me with exposition and opportunities for "plants and pay-offs," I felt that the scenes
in which two characters were talking to each other "over the head" of the spectator, in-
duced distance. The inability to visually narrate the dialogue through shot-reverse shot
made the dialogue unengaging, and the construction felt expositional. In the subsequent
drafts — written alongside style tests and VR prototypes — we returned to the concept of
a voice-over narration to assist the spectator's alignment with the Frida character, al-
though we struggled with what form that narration should take. Sometime during this

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69) Ibid., 130–131.

70) And in the case of VR, haptic and kinetic information about how to move your body in the virtual space.

71) Smith, "Altered States," 41.

72) According to Weaving, "Point of view in CVR filmmaking is dramatically different from traditional filmma-
king because the methods of controlling the viewer's access to narrative information rely more on mise-en-
-scène and staging than framing and editing." Weaving, "The Nature of Narration in Cinematic Virtual Re-
ality," 80.

73) As in mimetic — i.e., according to Halliwell, "fully dramatic representation […] of the characters 'all in ac-
tion.'" Stephen Halliwell, "Diegesis — Mimesis," in *Handbook of Narratology*, ed. Peter Hühn, Jan Christoph
Meister, John Pier, and Wolf Schmid (Berlin and Boston: Walter de Gruyter GmbH, 2014), 133.

74) VR practitioners call this the "Swayze effect" in reference to the film *Ghost* (Zucker, 1990).

process, the question of lip-syncing the Frida character was raised, and it led to a heated discussion. The technical team advocated for traditional lip-sync using AI technology, arguing that it would look more professional and create better presence in VR. However, the director felt intuitively that static lips would be more effective, proposing that the character was not speaking directly to the audience but rather reflecting internally. As the director explained, "She's not talking to us; she's talking to herself." She based this viewpoint on previous documentary experience where a similar approach had created intimacy, "as if we were listening in on her thoughts." Despite technical concerns about reduced presence and the irreversible nature of the decision, the team ultimately chose the unconventional approach. This final decision was weighted with uncertainty, as the technical lead warned: "You know that if you decide on this now, there is no going back."

During development, many decisions are made intuitively and hunches are followed, as there is not always time to investigate or analyze deeply. There is a meeting and there is a deadline, and someone must make the call. As the writer, I backed the director's decision that lip-syncing the character was not a priority. However, I had yet to figure out what this meant for the narrative perspective and how it aligned with another idea: using an old gramophone as a diegetic sound source for the character's voice.

Fig. 11: Frida's "ghost," VR screenshot/still from *Finding Frida*. Copyright: RippleX Studios

In film and VR, a voice-over narration can be either diegetic or extra-diegetic, depending on its conceptual quality. A distinction can be made between the kind of voice-over that is an "inner voice," and for that reason accessible to the character in the story-world (diegetic) and one that is only accessible to the spectator (extra-diegetic).[75] The ironic voice narration in *Barry Lyndon* (Stanley Kubrick, 1975) is an example of the latter. When

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75) See Haga, "Shifting Diegetic Boundaries."

working with the first prototype of *Finding Frida*, we listened to different examples of voice narration in VR and, on instinct, tried to decide which would best suit our experience. Intuitively, we connected to the "click" of the tape recorder in *Notes on Blindness* and to the static noise of the old recordings, either real or added for effect. The "click" gave the voice-over an immediacy, as if we were there alongside the real-life character who was making the recording. It added direction, or perspective, to the experience. Akin to the freeze-frame in *All About Eve*, the "click" suggested a narrative agent that organized the auditive and the visual aspects into a shared experience with the story's subject — separate from our perspective as spectators — while remaining very present.

Another example is the direct address of *Book of Distance* and of *End of Night*, where a character talks directly to the spectator, telling them the story while the visual narrator illustrates the words spoken with small scenes, or tableaux's, in the surrounding space. And *Songbird VR* (Lucy Greenwell, 2018) demonstrates a hybrid approach: an extra-diegetic voice gives an introduction, providing the context necessary to follow the narrative. The recorded voice of a scientist, upon whose story the VR experience is based, then takes over. The spectator is invited to "re-live" or perform the story, with (again) a tape recorder as a central prop.[76]

This being invited *in*, to see a lived experience through someone else's eyes, is a way of providing subjective access. The first-person perspective becomes aligned with the thoughts of the character who may or may not be visually present in the experience. The story-world itself becomes the subjectivity, the alignment with the character. The design of that world — the narrative space — reflects the character's interiority. In VR, the spectator's entry point and perspective can be guided by the auditory narrator, which is often more flexible than the visual, as it is not limited to a single viewpoint. A voice in VR can be far away, or close by; it can be *inside* you, or inside a character. It can also be outside of the story-world, with the spectator having access to both.

Throughout the development process, and inspired by the examples mentioned earlier, the director and I researched and experimented with the voice-over. Examples of attempts from different versions of script or prototype include:

> (A soft voice, in your ear, as if inside your head) "This is a ghost story. Or is it a dream?" (Extra-diegetic, revealing itself as diegetic in the course of the story)
> Or: "The only things I see clearly these days are in my head. Everything else is just a blur." (Diegetic)
> Or: The sound of a typewriter, we hear a voice narrate as she writes: Exterior, vast, deserted landscape, dusk. The wind howls… (Extra-diegetic)

An idea to have Frida's voice emanate from a gramophone came when the director stumbled upon an old record player while examining furniture and objects in Frida Hansen's house. It suggested that her voice had been preserved on a record, long before tape record-

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76) In a pivotal scene, the protagonist asks the spectator to rewind and replay a recording of an almost extinct bird's <u>cry</u> using a handheld device. The playback attracts the original bird, who mistakes the recording for a potential mate. The protagonist's voice-over expresses guilt over giving the bird "false hope," allowing the spectator to viscerally understand the profound loneliness of being "almost extinct."
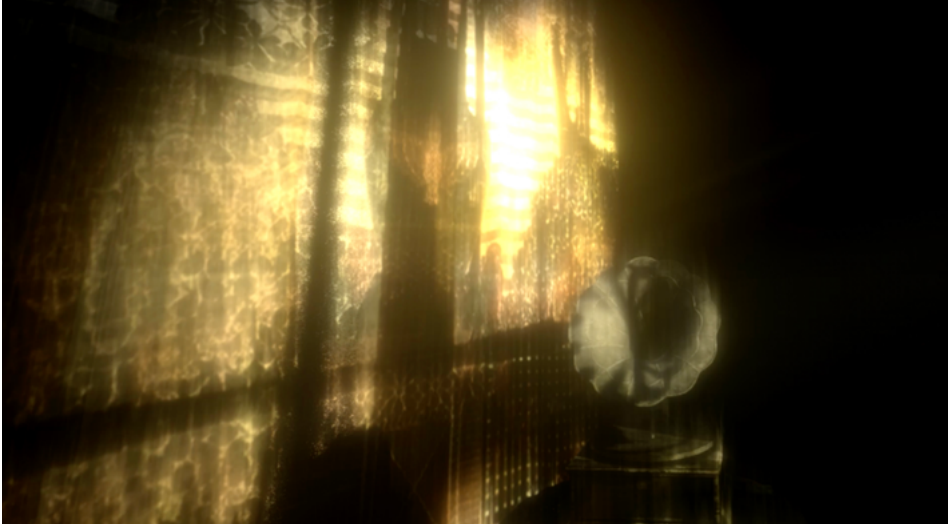
Fig. 12: Gramophone & Weave, VR screenshot/still from *Finding Frida*. Copyright: RippleX Studios

ers existed. This concept provided a narrative entry point and guided the decision to use only Frida's own words from an 1926 interview, published in Anne Rogstad's *Famous Men and Women*.[77]

In the interview, Frida talks about her life, the tragedies through which she lived, and how her creativity and art has been a synthesis of these. We decided that we would "let her speak for herself." For the voice-over, we would piece together the snippets of information from that interview and let that form the story arc and contextualization of the scenes. In this arc, we alternated between moments when the Frida character shared her thoughts with the spectator and environmental storytelling[78] — what we might call "representational spaces," as described by Lefebvre in *The Production of Space*: "representational spaces, embodying complex symbolisms."[79] In combination with Frida's voice, these representational spaces would enable the spectator to witness scenes, images, and dreamlike memories from Frida's interiority. A tension arises between the auditive and the visual narrator,[80] as the scenes are not objective reconstructions of the experiences recounted, but "emotional landscapes" that encompass the subjectivity of memory, with a dreamlike quality.

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77) Rogstad, *Kjente menn og kvinner*.

78) As Jenkins writes, "Environmental storytelling creates the preconditions for an immersive narrative experience in at least one of four ways: spatial stories can evoke pre-existing narrative associations; they can provide a staging ground where narrative events are enacted; they may embed narrative information within their mise-en-scène; or they provide resources for emergent narratives;" Jenkins, "Game Design," 123.

79) Lefebvre, *The production of space*, 33.

80) Burman asks, "Instead of us placing ourselves where we want, the space seems to decide how we are positioned; could it be that the space itself is the primary narrator of our experiences?" Nicolas Burman, "Where is Myself? A Reflection on the Spatiality and Disquieting Effects of Daniël Ernst's Virtual Reality Dioramas," *soapbox*, accessed September 20, 2025, https://www.soapboxjournal.net/onlinearticles/where-is-myself.
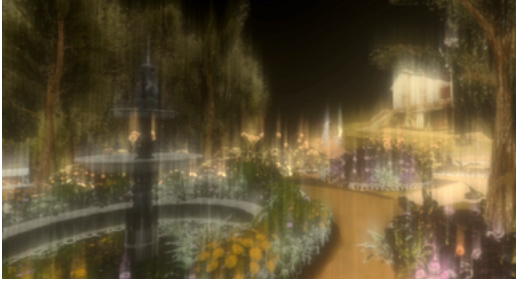
Fig. 13 (left): Dreamscape garden, VR screenshot from *Finding Frida*. Copyright: RippleX Studios. Fig. 14 (right): Frida Hansen's house in Hillevåg before the bankruptcy, around 1880. Copyright: Privat

Acousmêtre and Dramaturgy

Another piece of the puzzle fell into place when a colleague sent me a chapter from *The Voice in Cinema*, by Michel Chion.[81] In the chapter, the concept of the "acousmêtre" in cinema is discussed, and Chion offers a specification from an old dictionary: "acousmatic… 'is said of a sound that is heard without its cause or source being seen.'"[82] And further, that:

> mysterious powers are associated with the acousmatic character as "neither inside nor outside the image." The suspense that arises from this mystery is resolved when the character is de-acousmatized, "when the film reveals the face that is the source of the voice." Chion writes that this de-acousmatization results in "an unveiling process that is unfailingly dramatic."[83]

The acousmêtre often hides behind an opaque curtain, or a door, or outside the frame.[84] The origin of the word, according to Chion, is "apparently the name assigned to a Pythagorean sect whose followers would listen to their Master speak *behind a curtain*."[85] A conference paper by digital artist Wendy Ann Mansilla suggests that the "concept of *acousmêtre* is a powerful instrument in cinema that hasn't been fully realized in the interactive virtual entertainment arena to date"[86] and emphasizes its ability to create suspense in a virtual environment in which dramaturgy is often hard to capture.[87]

Chion's description of the mysterious effect of the acousmêtre, illustrated with examples from Fritz Lang and others, helped me understand the appeal of the gramophone in

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81) Chion, *The Voice in Cinema.*

82) Ibid., 18.

83) Levy, "Light from Aside," 129–131.

84) Chion, *The Voice in Cinema*, 18.

85) Ibid., 19.

86) Wendy Ann Mansilla, "Interactive Dramaturgy by Generating Acousmêtre in a Virtual Environment" (Paper presented at the International Conference on Entertainment Computing, Cambridge, September 20–22, 2006), n.p.

87) Ibid., n.p.

connection with Frida's voice: The spectator's first encounter with Frida will be with her voice only. Suspense will arise as the spectator wonders to whom the voice belongs, countering the initial sense of its purely expositional function. Gradually, they will discover the source of the voice. Only after being taken into the subjective memory world of the "ghost" of Frida Hansen will her character become visible: dark and vague, in the beginning. As the exploration of who Frida is continues — as much the character's own discovery as that of the spectator — she will become more distinct and whole.

The title *Finding Frida* encompasses the Frida character's need to see her life through the eyes of a stranger, from another time, in order for her ghost to find peace. At the same time, it reflects the wish of the creators to shine a light on Frida Hansen as a role model for feminism and female agency. As the de-acousmatization takes place, the ghostly character "re-enters the realm of human beings."[88] Together with Frida, the spectator embodies "temporalities that cannot be grasped adequately in terms of present time."[89] In this context, it is not strange that the spectator can "listen in on her thoughts" as she ruminates to herself, *not* moving her lips. There is, however, a clear sense of a connection and of presence, as the Frida character opens her memory world to the spectator.

Fig. 15: Gramophone in garden, VR screenshot from *Finding Frida*. Copyright: RippleX Studios

Conclusion

This paper has attempted to articulate an answer to the question of how we, as VR creators, can facilitates "the cooperative activity of the spectator"[90] and provide sufficient clues and information for the spectator to understand — and eventually sympathize with — the

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88) Chion, *The Voice in Cinema*, 23.
89) Moische Postone, in Burman, "Where is Myself?."
90) Smith, "Altered States," 39.

Fig. 16: Scanned clock in atelier, VR screenshot from *Finding Frida*. Copyright: RippleX Studios

main character in the VR experience *Finding Frida*. Through the lens of a practitioner, I have investigated the question of subjective access in relation to focalization and sound, drawing on insights from film theory, narratology, and cognitive approaches. The discussion began with the practical challenge of lip-syncing the virtual character in *Finding Frida*. This seemingly technical problem pointed to deeper dramaturgical questions about perspective and the role of the spectator in a VR experience.

While the field of VR narrative design has drawn heavily from game studies and interactive design, this paper proposes that a constructive dialogue with film theory and narratology can offer valuable tools for conceptualizing VR narratives. The analysis of subjective access, focalization, and the concept of the acousmêtre, exemplified through the creative process of *Finding Frida*, has demonstrated ways of approaching dramaturgy in VR storytelling. Unlike traditional film, where techniques like shot-reverse shot facilitate subjective access, VR creators must rely on alternative methods. This paper suggests that sound, with its "focal flexibility" in VR, can be a powerful tool for guiding the spectator's perspective and providing access to the character's inner world. The use of Frida Hansen's own words from a 1926 interview, delivered through an old gramophone, shows how the concept of the acousmêtre has informed the dramaturgy in *Finding Frida*. This creates an initial sense of mystery and suspense, drawing the spectator into the narrative. The gradual de-acousmatization of Frida's character, coupled with the exploration of her dreamlike memory world, allows for a deeper understanding of her subjectivity.

Furthermore, the paper highlights the importance of environmental storytelling and "representational spaces"[91] in conveying the Frida's inner life. By immersing the spectator

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91) Lefebvre, *The Production of Space*, 33.

in dreamlike environments that come to represent Frida's internality, *Finding Frida* seeks to convey a unique form of alignment and sympathy, exploring the potential of VR as a medium for intimate and emotionally resonant storytelling. The insights gained from this project suggest that further investigation into the spatialization of sound and its narratological implications in VR is warranted. Additionally, continued dialogue between VR practitioners and film theorists can lead to a richer understanding of this evolving medium and its potential for innovative storytelling.

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Biography

Cecilie Levy is an independent screenwriter and part-time lecturer in dramaturgy at the University of Amsterdam in the Department of Media Studies. In 2023, she completed her PhD in Artistic Research at the Norwegian Film School (part of Inland University) with her project *Light From Aside: A Screenwriter's Perspective in Virtual Reality*. Her work as a screenwriter includes shorts, children's series, films for television, and feature films. Cecilie's work has been screened internationally, on television, and in festivals, and has won several awards, including the Prix Jeunesse (Prix Europa), the Lucas Award, and a nomination for an International Emmy® Kids Awards.
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