

Walking With 360° Video Immersive Empathetic Ethnographic Encounters With Syrians

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Abstract

Immersive media technologies continue to provide new and challenging opportunities for visual anthropology. Increasingly, ethnographic filmmakers use small 360° video cameras for anthropological fieldwork. In the light of these new technologies, I aim to re-assess empathetic encounter and embodied knowledge, sharing my own sensorial fieldwork experiences, sensory memory, and the sense of presence. This study employs 360° video technology as a qualitative research tool in a multi-sited and multi-modal urban visual ethnographic enquiry with Syrian refugees living in secondary cities in Sweden, Turkey, and Jordan. It explores the everyday experiences of Syrian refugees, namely their life worlds. I use 360° video as a walking method during participant observation of Syrian families, enabling me to take visual fieldnotes and emplacing me in the field. I critically reflect on the affordances of 360° video for ethnographic fieldwork and argue that this method is central to developing more situated and embodied knowledge in the field of sensorial and visual anthropology.

Keywords

visual ethnography, immersive storytelling, 360° video, virtual reality, sensory anthropology, empathetic encounter, fieldwork, Syrian refugees

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Introduction

The Syrian refugee crisis is the largest refugee crisis since WWII. Jordan alone has received between 670,000 and 1.4 million Syrians since 2011 (Al Qaralleh, 2022; Fache, 2022; Human Rights Watch, 2021; Krafft et al., 2018; Morris, 2019; Naseh et al., 2020). With a displacement of that magnitude, Syrians have consequently become a focus of social scientific research. The so-called European refugee crisis in 2015 caused another push in this direction within migration studies, where studying Syrian refugees has become a major trend. This study studies the life worlds of Syrian refugees and uses immersive 360° video to learn about their everyday experiences, sensory aspects of place making, and encounters with members and institutions of host communities in the cities of Adana, Turkey; Irbid, Jordan; and Gothenburg, Sweden.

This study takes sensory and immersive media into the realm of sensory anthropology and empathetic ethnography. Together with Haraway and Pink, I argue for a more situated, sensory, and embodied knowledge production within visual anthropology and the social sciences that contributes to epistemologies of location, positioning, and situation (Haraway, 1988; Pink, 2006, 2007, 2008, 2010). I think immersive 360° video can be a useful methodological tool for producing such sensory and embodied knowledge.

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Therefore, I investigate how the use of 360° video enhances the sense of 'being there', captures the embodied and sensorial nature of ethnographic fieldwork experiences in more intense ways than regular video, and finally what this method means for qualitative analysis and sensory anthropology. In other words, I explore the opportunities that the use of immersive 360° video gives ethnographers aiming to co-create empathetic ways of knowing between the ethnographic filmmaker and the participant, comparing it to the use of regular video.

In her seminal article 'Walking with video', Sarah Pink (2007) describes the use of video as a 'phenomenological research method that attends to sensorial elements of human experience and place-making' (p. 240). The method involves 'walking with and video-recording research participants as they experience, tell and show their material, immaterial and social environments in personally, socially and culturally specific ways' (p. 240). Pink et al. (2017) further reflect on the use of digital technologies and video ethnography to share and generate empathetic encounters; namely, they use a theory of digital materiality to explore empathetic feelings as an element of video research. They define digital materiality not as static but as processual, relating it to the affordances and qualities of videos to be able to evoke the emergence of feelings of closeness, understanding, and intimacy so researchers can empathise with research participants (Pink et al., 2017, p. 6).

When Pink et al. (2007, 2017) theoretically reflect on methods like video tours, walking with video, video ethnography, and empathetic encounters with participants in the field and Grasseni (2004) disentangles ways of seeing and skilled vision during her visual ethnographic fieldwork among dairy cow breeders in Italy, they consider regular digital video. Taking these methodological and theoretical reflections a step further, this study looks into the use of immersive 360° video for visual anthropological fieldwork. In this article, I aim to unpack the affordances of 360° video versus regular video and to assess the value 360° video adds to sensory and visual anthropology.

As a contribution to the theoretical debates on sense/sensory anthropology (Howes, 2010; Ingold, 2010, 2011; Pink, 2010, 2011), I explore the use of the senses as methodological tools to co-create embodied and sensory knowledge about the human experience of the everyday. According to Pink (2010), 'Sensory anthropology both has its roots in, and departs from, the anthropological study of sensory perception and categories that characterises the anthropology of the senses' (p. 331).

The study is outlined as follows: First, I give a thick description of Syrian experiences based on walking with 360° video; specifically, I present and describe several shared empathetic encounters that I documented using a 360° video camera during my fieldwork in Irbid, Jordan. Thereafter, I assess the differences between regular digital video and 360° video. Then, I describe how immersive media impacted developments in visual and sensory anthropology. In the methodology section, I set out the multi-sited, multi-modal, and immersive methodology applied in this urban visual ethnographic study. The remaining sections present the results and discussion. Focusing on the use of 360° video during fieldwork conducted with Syrians throughout the years 2021 and 2023 in Irbid, Gothenburg, and Adana, I discuss selected material produced during this study and reflect upon emplacement, sensory dimensions of place, shared corporeal experiences, sensory memory, and the dialectical empathetic encounter between myself and the participants filmed with 360° video.

Walking With Hala, a Vignette

On a Thursday afternoon, Hala invites me over to her house. I take an Uber to the location she sent me through WhatsApp. Addresses in Irbid, Jordan, are hard to find because they lack house numbers, and without WhatsApp, fieldwork in Irbid would have been near impossible. Upon arrival, I walk into her apartment building, located in the city centre, carrying a small handheld 360° video camera, just in case I find a good opportunity to start recording our encounter. When I ring the doorbell, Hala comes out and greets me enthusiastically. We had already been in touch through social media prior to my travel to Jordan. She leads me to the large sitting room, meant for receiving guests. The table is set, but I seat myself on the sofa in the middle of the room. Hala is from Damascus. She moved to Irbid in 2013 after fleeing the violence of war. She came to Irbid because her sister was married to a man who already owned several apartments in Irbid before the Syrian war, and she was able to rent one of those apartments.

Hala works with a mental health NGO, providing support and therapy remotely to internally displaced Syrians inside Syria. She has four children, three daughters and a son, between the ages of 17 and 22 years. She raises them alone. Her eldest daughter just finished her education in social work and psychology from Yarmouk university in Irbid and has started working for the same NGO. Hala's husband is still in Damascus, in their old house. 'We have not seen each other for almost 9 years', Hala says. 'We only communicate via WhatsApp and are talking to each other every week.' She explains that

Syrians in Jordan are getting more anxious day by day because they are afraid that the Jordanian government will reconcile with Assad and send them back. It is not possible for us as Syrians to take Jordanian nationality or to even drive a car, so...we are stuck here.

Hala stands up to fetch something to drink, and when she returns, I explain that I would like to record our encounters using my 360° video camera. She does not have a problem with it.

After a while, she puts food on the table and invites me to eat lunch. The other Syrian families that I visited during my fieldwork in Irbid had the food placed on the floor, and we were seated around it. Those families were all from Dera'a, a rural Syrian town just over the border, but Hala hails from urban Damascus and does not serve food on the floor. These nuanced differences between Syrians in Irbid supported the use of walking with video and 360° video to learn about and document the everyday of and the commonalities and differences in language, customs, and encounters between not only Jordanians and Syrians but also between Syrians themselves.

Sharing a meal is an excellent occasion to study the everyday (Figure 1). During lunch with Hala, I situate my small 360° camera on a small tripod near the middle of the table, in between myself and Hala. Hala sits to my left at the table while her mother, who is visiting from Kuwait for 2.5 months, sits opposite me. In between us, there are at least five plates elaborately dished up with rice, salad, and grilled chicken legs. Hala points at the dishes and proudly explains them. She looks at me with a questioning smile on her face as if to check whether I know the dishes, and then she laughs.

Me: We do not have this in Sweden.

Hala: But perhaps in Aleppo, they had this?

Me: Yes, in Aleppo they had this.

Hala: You know Aleppian food for sure?

Me: Yes, of course! But I do not know how to cook it... I had wished, but I did not manage to learn it.

Then I tell her an anecdote about my old neighbour in the old city of Aleppo. Sharing my own memories of living in Aleppo in my northern Syrian dialect allows me to build rapport with Hala as well as enables me to conduct the participant observation and conversation without the need of an interpreter.

After lunch, Hala directs me to the sofa to wait while she brings the dessert and sweets from the kitchen. Her mother sits opposite of me on a second sofa, checking her mobile phone. The muezzin starts the call for *ṣalāt al-ʿaṣr*, the afternoon prayer, so I leave the 360° camera running to record the distant audio of the entire prayer call to capture this mundane auditory moment in the everyday urban environment in which Syrians live in Irbid.

Hala returns with sweets and coffee in small cups. She joins me on the sofa, and I position my 360° camera (now on a selfie-stick) in between us while we have a conversation about Syrian food and the language differences between Syrians and



Figure 1. Sharing food as an opportunity to study the everyday, Irbid, Jordan. © 2021 Wessels

Jordanians. I consciously place the camera at eye level between myself and Hala, allowing the position of the camera to create a third-person perspective that ensures both the researcher and the participant are visible in the 360° video sphere projection. The camera captures our empathetic exchange, which involves emotional expressions, hand gestures, the use of linguistic expressions in Arabic, and body language. The purpose of the 360° video recording on the sofa is to learn about the everyday, which in this instance involves the nuanced but distinct differences between Jordanians and Syrians living in Jordan.

At the core of ethnographic enquiry and anthropological fieldwork are unexpected happenings (Greverus, 2002), such as the serendipity of discovering Hala and I have a mutual friend in Sweden, who is one of Hala's relatives. In that moment, Hala's mother calls our mutual friend and her daughter at their home in Sweden and puts them on speaker. The conversation between me and the daughter of our mutual friend becomes a mix of Arabic and Swedish. This sudden intervention was a gift for me as an ethnographer because it both strengthens rapport and captures the mundane conversations that Hala has daily through her mobile phone with relatives abroad. The presence of the small 360° video camera does not impede the flow of our conversation. As an ethnographic filmmaker, I did not have to worry about the frame shot because the panoptic camera records everything in a 360° sphere. I check the 360° video on my phone using the remote-control app and then leave the camera running for the entire conversation. I have my full attention on the conversation with Hala.

The second time I see Hala, we meet at her favourite breakfast restaurant downtown. I ask her if she could show me around her favourite places in Irbid, where she finds a peace of mind and meets others, whether Jordanian or Syrian. We set off in a taxi together, and I place the 360° video camera in between us, holding the selfie stick, and she starts to indicate and describe the places we pass. Hala points at the school where her children used to go; they now study at the university. She explains that the school offered different times for Syrian and Jordanian pupils because, otherwise, the classes would be too large. She also talks about the number of Syrians in the city, the differences between the neighbourhoods where they mostly live: 'You find Syrians everywhere, in the villages, in Irbid, in Za'atari camp, you know the camp right? ... but there are more Syrians in the city than in the camp.'

Not much later, we walk through the main old souk (market) of Irbid. I follow her with the 360° camera.¹ The walk gives me a sense of places that are important to her. As Sarah Pink, similarly describes about engaging senses and walking with video (Pink, 2007; Pink, 2008), this walk with 360° video, allows me to use my own embodied sensory memory and experience as a basis from which to empathise with Syrians who walk through the old souk of Irbid, remembering and reminiscing about their homeland. Hala explains the differences in clothes – which ones are typically Jordanian and which ones are Palestinian or Jordanian. She explains that she comes here often and that the souk is also a place where many discarded clothes from Europe are sold, so it is cheaper. Hala comes to the souk in Irbid because there are many things that remind her of Syria: the smells, the sounds, the goods. These things make her happy, she explains. There are many sites where I myself experience a sensory memory of sounds and smells that I recognise from Syria; it feels like walking in the souks of Damascus or Aleppo, but it is still different in my memory. It is less 'ancient', Hala explains to me. Indeed, the souk in Irbid feels more modern than the souks in Syria.

This vignette demonstrates how a 360° video camera is used during ethnographic fieldwork to capture empathetic encounters and sensory experiences. Participant observation has been the foundation of ethnographic fieldwork. The practice of 'being there'; immersing oneself in the local culture and language; and joining in daily or particular activities such as rituals, interactions, and social events has been developed in anthropology to better comprehend the experienced reality of research participants (Bernard & Gravlee, 2014; DeWalt & DeWalt, 2011; Pink, 2007; Russell Bernard, 2006). Dialogue during fieldwork means letting the other speak and listening with all our senses. Ethnographers conventionally capture these sensory observations in audio recordings, fieldnotes, observation sheets and reflective field-diaries. In a postmodern ethnographic reflection, Greverus (2002) questions how what is experienced in the field during dialogue, namely sensory and empathetic encounters, can be explained in a text. However, textualisation is only one means of communicating the ethnographic experience. Immersive media convey that what cannot be expressed in text. They are powerful tools for re-experiencing or re-interpreting ethnographic encounters after the fact.

In the next sections, I elaborate upon the main differences between 360° video and regular video as audiovisual recording tools during fieldwork and describe the introduction of immersive media in the field of visual anthropology.

The Differences Between Regular Digital Video and 360° Video

The encounters with Hala in Irbid emphasise the sensory nature of sociality, such as sharing meals and tastes, as well as walking as a multisensory human activity that can be shared and empathically comprehended (cf. Pink, 2007). Since the 1920s visual anthropologists have used film and regular video to record these multisensory human activities (Pink, 2006). The

1. 'Transect walk Irbid Jordan' available online here: <https://youtu.be/gpwn5dHBm8?si=qYcaOWIOWRIIdj-WG>.

introduction of digital video in the early 2000s was a technological leap that has enabled visual anthropologists to carry small high-quality digital cameras into the field (MacDougall, 2001; Ruby et al., 2001; Wessels, 2001). Video recording during participant observation helps ethnographers refine their observations, monitoring and training the eye as well as giving them the possibility to revisit the footage for analytical description and explanation of the recorded reality to better comprehend sensory experiences (Alfonso et al., 2004; Grasseni, 2004).

Filmic representations of other people's experiences (which are simultaneously imprints of the corporeal intersubjectivity between filmmaker and film subject) can invoke in us responses that enable us to empathetically comprehend the embodied experiences of those represented, even though we do so on our own personal and cultural terms. (Pink, 2007, p. 248)

Another leap in technology that affected the practice of visual anthropology was the emergence of 360° video technology over the past decade. A 360° video can be watched on a 2D screen whereby the field of vision can be changed interactively using a mouse pointer. Digital 360° video footage can also be viewed, or rather 'experienced', in a Head Mounted Display (HMD) using a spherical projection and noise cancelling headphones. Footage viewed in an HMD has the strongest sense of presence due to its full immersion (Aitamurto et al., 2018).

There are crucial differences in technological affordances between regular digital video and 360° video. First, the projection and degrees of freedom given to a viewer are different: In regular video, the shot is predetermined to a frame selected by the videographer, such as wide-shot, close up, or medium shot. In 360° video, the viewer is surrounded by a spherical projection and given more agency to determine where to look in the recorded spherical space (Dooley, 2020; Engberg & Bolter, 2020; Gómez Cruz, 2017; Jones et al., 2022; Tricart, 2018; Wessels, 2025; Westmoreland, 2020). This does not mean that filmmakers cannot 'direct' the viewers in 360° video; the 360° videographer still selects the proximity of the camera to the subject as a means of framing and can determine the angle from which the viewer enters the 360° sphere. Second, the videographer can make use of light composition and sound effects to direct the attention of the viewer. Third, the transparency and corporeal image that is projected in 360° video can lay bare the dialectic relationship between the one holding the camera and the filmed subject. Gómez Cruz (2017) discusses this immersive reflexivity and the possibilities 360° video offers in ethnographic fieldwork for the interconnection of image making and placement. The camera becomes what Gómez Cruz (2017) calls a 'panoptic spectator', shifting the directing agency of the camera person to the camera recording and everything that happens around it; in other words, there is no 'behind the lens', which has important implications for ethnographic observation (Gómez Cruz, 2017; Tojo et al., 2021).

Emerging Immersive Media for Visual Anthropology

Experimenting with immersive reality media and virtual reality (VR) is not a new phenomenon. Already in the 1950s, there was a cinematographic desire to create immersive experiences that move all of the viewer's senses, resulting in the development of the Sensorama and the Telesphere Mask by Morton Heilig (Wessels, 2025). Necessity is often the mother of invention, and under great stress, videographers find new ways of telling their stories. In 2014, Syrian video activists used a self-made rig consisting of six GoPro cameras to produce the very first 360° video from a war zone – called 'First Ever War Zone in 360° Virtual Reality: Welcome to Aleppo' – which they could not upload onto YouTube until 2015, when the platform was finally able to screen 360° video (Wessels, 2019, 2017).² Since then, the technology for viewing and recording 360° video has rapidly changed into smaller high-resolution cameras, stand-alone HMDs, and a much faster workflow to produce 360° video.

Thus, the use of 360° video for visual ethnography has become much more accessible for visual anthropologists (Gómez Cruz, 2017; Wessels, 2025; Pagett, 2023; Westmoreland, 2020; Tojo et al., 2021). Gómez Cruz (2017) suggests three possible ways of applying 360° video in ethnographic fieldwork: (1) emplacing the ethnographer, namely placing the ethnographer in the picture while they are in the field; (2) sharing fieldwork experiences, where embodiment allows the emplacement of the ethnographer to become a shareable action; and finally, (3) using the immersive footage as visual fieldnotes.

The use of 360° video allows the ethnographer to revisit the recorded footage from different angles – what I call 'the immersive playback method', whereby the viewer can focus on a different frame of view and perspective in its 360° projection in every separate playback. Both Pagett (2023) and Montero (2024) report on the use of this technique. In particular, Montero (2024) combines this technique with walking and uses collaborative methods to collect 'sensory discourses, where participants directly reflect on their own behaviour during a self-recorded transect walk', which he calls 'reactivated experience' (p. 115). Through this immersive playback method, the researcher and the researched can experience

2. Available at https://www.youtube.com/watch?v=Nxxb_7wzvJI.

the sensory impressions (visual and aural), the sense of space, digital materiality, and conversations repeatedly, enabling further analytical reflection (Pink, 2007, 2008, 2010; Pink et al., 2017).

Aitamurto et al. (2018) describes how immersive features of VR include field of view (degrees of freedom), body tracking, frame rate, image and sound quality, user perspective, and realism. Combined with the use of spatial audio, an affordance which further increases the sense of presence, 360° video provides a particularly strong sensorial experience of 'being there'. Using spatial audio situates the viewer more firmly into the virtual space than stereo: With stereo, sound sources in the headphones move along with head movement of the viewer when using an HMD, whereas spatial audio recordings keep sound sources fixed in the 3D sphere. Therefore, special sound imitates how we listen in real life, where our sight and hearing locate our body in space, by means of coding spatial information in the auditory and visual systems (Popper & Fay, 1997).

This concept of 'sense of presence' is a crucial distinguishing aspect of 360° video and an important component of any research on human interaction and immersive media over the past decade (Aitamurto et al., 2018; Cheney & Bronack, 2011; Coelho et al., 2006; Engberg & Bolter, 2020). A study testing brain activity while the participants watch an affective 360° video by a charity organisation demonstrated a correlation of decrease alpha frontal power with an increase in self-reported spatial presence (Tjon et al., 2019). Evidently, watching 360° videos using an HMD influences our brain perception. 'Presence' is defined as the feeling of 'being there' created by a technological immersion that gives a perceptual illusion of non-mediation of reality; the medium disappears from the conscious attention of the viewer (Coelho et al., 2006; Frentzel-Beyme & Krämer, 2022; Nash, 2018; Nikolaou et al., 2022; Wessels, 2025).

Over the past decade, several studies in psychology and human computer interaction have focused on the effects of embodied and perceptual experiences generated through immersive virtual environment technology and 360° video that lead to helping behaviour and increased empathic concern (Ahn et al., 2013; Bertrand et al., 2018; Schutte & Stilinović, 2017; van Loon et al., 2018). There is a difference between digital immersion (i.e. creating an illusion of reality), perspective taking, and empathy, the latter defined as the ability to share and understand the emotions of others and is related to social bonding and the urge to help others (Aitamurto et al., 2018; Bertrand et al., 2018; Mohammed-Amin et al., 2025; Young et al., 2022). Several studies demonstrate VR's strong ability to evoke emotion and foster empathy through immersion, presence, embodied experience, and perspective taking. Mohammed-Amin et al. (2025), in their assessment of an immersive VR experience documenting the Yazidi genocide in Iraq, found that users related the experience to their own experiences, which fostered understanding and emotional resonance. Young et al. (2022) tested two different VR experiences, *Notes on Blindness* and *Travelling While Black*, on an Oculus Quest 1 HMD and found that users experienced a sense of understanding in a way that other non-immersive media could not.

Empathy in itself is a complicated concept, and it has been used to hype VR as an effective medium, or 'empathy machine', to tell refugee stories (Irom, 2018; Young et al., 2022). An empathetic exchange involves gestures, touch, emotional expressions, and shared postures. Research shows that VR perspective-taking may enhance prosocial behaviour and compassion, but the exact relationship between immersion through VR and empathy remains inconclusive (Bertrand et al., 2018; Herrera et al., 2018). A good reciprocal in-person conversation can also increase empathetic concern without the need for immersive mediation through VR, namely without having to digitally 'become the other' and embody their visual and auditory perspective through VR. Immersive media can digitally simulate the sensory auditory and visual experience of fieldwork, either from the perspective of the participant, a third-person perspective, or the perspective of the fieldworker. This relates mainly to eyesight and hearing.

However, the sensory immersive experience of a conversation and ethnographic fieldwork is more than just visual and auditory: it also concerns smell (olfactory), touch (tactile), taste (gustatory), movement (vestibular), and body awareness (proprioceptive). Therefore, when humans make an unmediated connection in real life and establish an empathetic encounter between each other, it supersedes what can be simulated in digital immersion. This is why VR users can get an uncanny feeling, where something feels off and eerie. In that sense, immersion in 360° video risks flattening the nuances of lived experiences, and it cannot yet fully replicate the empathetic encounter experienced during an unmediated real-life conversation in the field.

Methodology: Multi-Sited, Multi-Modal, and Immersive

Fieldwork for this study took place in Jordan, Turkey, and Sweden between 2019 and 2023 within the framework of a six-year research environment. After a first initial visit to Irbid, Jordan, in spring 2019, I had planned to return soon the next year. However, due to the global COVID-19 pandemic in 2020, my project team was forced to change plans and rethink the fieldwork. New ideas for conducting digital ethnography and methods emerged (Lupton, 2020). Through existing social media networks, the search for informants and participants snowballed into sufficient contacts on the ground in Gothenburg, Irbid, and Adana. The visual ethnographies were organised in three stages.

The first stage is a pre-fieldwork period whereby rapport with participants was built through digital ethnography and participatory photography, first at a distance and later for use in in-situ photovoice group interviews that were recorded on 360° video. Auto-photography is not something new, but the technological ability has become easier and quicker, with participants using their own mobile phones (Glaw et al., 2017; Harper, 2002). The participants were asked to take a picture with their mobile phone every day over a period of three weeks. Themes were everyday interactions, memory of place, shared identities, and things that made them feel at home.

In the second stage, 360° video camera technology was used to record the everyday and the mundane during participant observation of Syrian families in Irbid, Adana, and Gothenburg. These recordings entailed *immersive anthropological VR shorts* based on participant observation in each city and transect walks through the urban areas that were meaningful for the participants. Walking as a qualitative method has previously been applied to interrogate how place is 'entwined with the social, material, cultural, and political dimensions of diverse human bodies, experiences, and communities' (Springgay & Truman, 2022, p. 172). For example, Flick et al. (2019) employ walking methods to examine and compare immigrants' perceptions and aspirations regarding belonging, participation, and integration through an intersectional lens.

In the last stage, a follow up with the participants was initiated. I facilitated a participatory 360° video workshop for immersive storytelling and the re-enactment of encounters and experiences using photo-elicitation. Photo-elicitation is a technique of qualitative interviewing in which participants are asked for their reflection, reaction, and insight towards a photograph or image (Copes et al., 2018). All the data collected during these three stages have been entered into a qualitative database using NVivo software to build a multimodal multi-sited anthropological dataset across Irbid, Gothenburg, and Adana. In this article, I focus on the non-participatory use of 360° video during the first two stages of the study.

Results: Immersive Fieldnotes, Walking, and Sensory Fieldwork Experiences

After the COVID-19 pandemic slowed down in August 2021, academics in Sweden were slowly able to resume travelling abroad. In November 2021, I travelled to Irbid. I could reconnect to Syrians in Irbid whom I had met in 2019 and who had agreed to take photographs of encounters in their everyday lives during the pandemic. The aim was to conduct photo-elicitation interviews which I recorded on 360° video.

Immersive Fieldnotes: Group Interviews Recorded With 360° Video

During autumn 2020, Syrian refugees in Irbid took their own photos (auto-photography) to provide insight into their daily lives and everyday encounters in their new urban areas. The photos in themselves provided information and evoked feelings and memories during the interviews. The interviews took place in different constellations, sometimes one on one and sometimes surrounded by a group of people, with the photographs at the centre. I used a small stationary 360° video camera to record the focus group and individual photovoice interviews, placing it in the middle of the group or at a distance for individual interviews in a third-person perspective. Through the photo-elicitation focus-group interviews, I gained insights into the daily interests, passions, and activities of the participants. Most of the participants of the photo-elicitation interviews came to Irbid when they were in their early teens, around the age of 12 or 13, and they all went through personal traumas of war and displacement. The photos the participants took started many of these conversations. In one interview, a photo of food prompted a conversation about Syrian food, which was regarded as better and more sophisticated than Jordanian food. A photo of a Jordanian friend initiated a conversation about the differences between Jordanians and Syrians.

The variety of photos that the participants shared prompted many discussions about not only daily encounters, work, and finding work but also plans and passions for the future. In addition, the participants also took up the opportunity of taking daily photographs for their unsaid thoughts and mental struggles. For instance, in an individual interview with one of the participants, a beautiful photo she took of the full moon gave rise to a conversation between me and her about her mental health status and post-traumatic stress. Immersive playback allowed me to repeatedly watch and choose where to focus, perhaps on a particular group member and the body language they displayed, and analyse the dialectic communication process between myself and them.

*Immersive Transects: Walking With 360° Video*³

In subsequent fieldwork periods in the three cities, I applied 'walking with 360° video' as a technique to gain insight into the participants' embodied corporal experience of places in urban surroundings they visit daily and the spaces that are important

3. A selection of immersive transects from Adana, Gothenburg, and Irbid can be watched online here: https://www.youtube.com/watch?v=_RcdvXzVGO8&list=PL8fjpwOGK3siRMIHmCK9T2Dw3u_9r8atm.

to them emotionally as well as insight into the meaning of these places for them. The vignette I shared in the beginning of this study describes how I used a handheld 360° camera on a selfie-stick to walk through the streets of the souk of Irbid. In Adana, the transects described below led me to the shops and restaurants of the locally called 'Street of Syrians' and in Gothenburg to the migration office and surroundings. All these transects were done with female participants of various ages.

The immersive transect in Adana is filmed with a female participant who walks with me from the centre of Adana to the 'Street of Syrians', where most of the Syrians live, congregate, and do their daily shopping. The call for prayers is heard in the background. We cross a big urban decorative sign which says 'Adana', and the scene places the viewers right in the heart of this Turkish city. I hold the camera in my hand between myself and the participant, the panoptic camera documenting our conversation. Two minutes into the walk, I ask her how people know whether she is Syrian or Turkish, and she explains it is the type of clothes she is wearing. The immersive video shows her black hijab and yellow long waist coat as a seemingly typical Syrian women's dress style which differs from that of Turkish women. My face, my uncovered blonde hair, and my clothing (tank top, blouse, and linen trousers) stick out, marking me as a typical white European. In the playback, I can also observe myself and my reactions during the conversation, further enhancing the opportunity for reflexive analysis on positionality.

In our walk towards the neighbourhood, we traverse from a typical Turkish upscale urban surrounding, with Turkish billboards and Burger King signs, to a Syrian neighbourhood where the street image has a completely different outlook, with more signs in Arabic and more Arabic spoken around us. Through the use of immersive video, this sensory experience conveys this shift in flow in the sounds, sights, and spatial features of urban surroundings, which can be sensed both visually and aurally. The neighbourhood where we arrive is Little Syria in Adana. The 360° video camera records myself walking with my participant towards the area where Syrians congregate, and the 360° video footage was edited as an immersive anthropological VR short to condense time in the beginning and the end.⁴

Upon reaching Little Syria, I situate the 360° video camera in a strategic corner of a shop, where my walking participant and I are in view in the background. The next shot is handheld to capture myself in conversation with one of the cigarette sellers while also showing his shop's selection of spices and other foods that are particular to Aleppo. I ask where he is from, and when he answers that he hails from Wadi Askar, I respond that I lived in Jbaileh, which creates an immediate rapport with him. Later in the conversation, I tell him his shop feels like it is in Aleppo. Affirming my feeling, he says, 'everything here is like in Aleppo'. He points at the frikeh (a type of green grain originating in the Middle East) and indicates that the Turks do not know it, but if someone has lived in Aleppo, they will know and recognise everything.

When I put on a VR headset to re-watch the Adana transect described above back on campus in Malmö, Sweden, I felt transported back to Adana and present in that moment, momentarily forgetting I am in Malmö. I also noticed that I felt this area was closest to Aleppo and Syria than the other two cities in the study. Having lived in Aleppo, this observation is an interpretation of the immersed experience based on my own shared cognitive, sensory memory, and embodied knowledge of space and place. I can repeatedly focus on all the little details that are recorded.

In Gothenburg, the transect is a walk towards the immigration office. The conversation is in Swedish, where the participant speaks in an accent typical of the city.⁵ The participant explains where we are and how she arrived with her family in Gothenburg in 2015: 'I did not choose Gothenburg, Gothenburg chose me.' The migration office still forms a big part of her life because she still has not received a permanent residence permit. The sensory experience of this 360° video is different than the transects from Turkey and Jordan. For one thing, the urban surroundings are grey as it is wintertime, and compared to the walks in the other cities, this transect walk shows a lot less people on the streets; moreover, the urban soundscapes are less vibrant, apart from the occasional sound of a car passing by or the chirping of birds.

In this multi-sited ethnography, the 360° video transects capture the atmosphere of the three locations, the way the participants relate to place, and the sensory experience of navigating these everyday spaces. This co-created immersive knowledge also enables me to describe the different urban environments of each location in minute detail.

Immersive Participant Observation: Sensory Fieldwork Experiences

When conducting participant observation with Syrian households in Irbid, Gothenburg, and Adana, I also used my 360° video camera to record everyday events in the household, such as moments of sharing food in the morning or afternoon, when the family members come together. The edited immersive anthropological shorts based on such footage can be used as a VR installation for academic exhibitions to share immersive fieldwork experiences. These shorts give insight into the everyday

4. 'Transect walk Adana Turkey' is available online here: https://www.youtube.com/watch?v=_RcdvXzVGO8&list=PL8fjpwOGK3siRMIHmCK9T2Dw3u_9r8atm&index=1.

5. 'Transect walk Göteborg Sweden' is available online here: https://youtu.be/78UluDMU_Cg?si=ieKfTxgIV2o3eWOW.

life of Syrian families in the urban areas of Adana, Irbid, and Gothenburg and their reflections on everyday social encounters in their host country and their integration into its society.

In one of those encounters with a family in Irbid, the living room functions as room for eating and a small bird in a cage fills the space with its high-pitched songs. The elderly father of the family and I are both in the living room looking at the bird as we wait for lunch. He explains to me that his son gave this bird to them because he hoped it would make them feel more at ease. They worry a lot. I ask if I can use the 360° video camera to record the bird and the lunch, and he agrees (Figure 2). Not long after, his wife comes with a big dish of mansaf. I sit in the middle between the couple while their cousin sits opposite of me, and we all eat from the big dish. The camera is positioned at a slight distance from the food, so it captures the entire living room and the viewer can see the middle of the room.

The panoptic camera records the conversation while we eat, also showing other family members eating but not sitting with me around the same dish.⁶ When watching the scene with a VR headset, I observed the family constellations more closely and learned who sat where and how their interaction was, something I would not have been able to observe while having lunch and listening to the couple. Focusing during my re-watch session on what was recorded in the background, I noticed that the younger daughters had lunch together and that the grandmother ate by herself from her own dish in bed, which was in the back of the room (Figure 3).

The 360° video immersive playback method allows me to meticulously observe and describe the space repetitively, recording how it is organised, who is there, and how the people in the image communicate and relate with each other. This is possible to do within the scene duration or frame by frame because a 360° video still in itself already gives a lot of information.

In Adana, I stayed with a Syrian family after a powerful earthquake had taken place on 6 February 2023. During my stay, I learned that they had built their own clay oven to make a traditional bread called *ḵhubz al-tannūr* in Arabic, a typical kind of flat bread from Syria and Iraq. I remembered the type of bread and these kinds of ovens from my own experience inside Syria. In the village where I conducted my long-term anthropological fieldwork, bread was made by slapping flattened dough onto the hot walls of a clay oven and lifting it out by hand, once the bread had bubbled up and transformed into a chewy texture with a charred, smoky flavour. This kind of breadmaking finds its origin in third millennium B.C. Mesopotamia, and the word *al-tannūr* derives from the Akkadian word for clay oven: *tinūru* (??) (Monier-Williams, 1872). In Adana, I decided to record this



Figure 2. The 360 video camera placed next to the birdcage at a household in Irbid. © 2021 Wessels

ancient breadmaking in the moment and prepared an edited version of the everyday event as an immersive anthropological

6. 'Lunch conversation in Irbid' is available online here: https://youtu.be/MgLLtzBPIM8?si=UL_sw9NplBfv1pJs.



Figure 3. Still of a 360 video footage, where a grandmother is reading the Quran. © 2021 Wessels

VR short. It resulted in a nine-minute short immersive film that shows the process of this traditional breadmaking.

The position of the camera in the short film varied according to where the action was happening. I did not hide myself from the recording sphere. The short film starts with an early morning scene outside in the garden, in which I sit next to one of my male participants, the father of the family, and have a conversation about language, the earthquake, and its impact on the household while sipping green yerba mate tea. In this scene, the camera is positioned in the middle and captures the circle of people and children seated around it. The corporeal image shows me and my conversation partner as well as his wife, who is preparing the tea, and the many children gathered around the camera. Thus, the embodied perspective of the viewer in this immersive anthropological VR short is from a somewhat unnatural position – a third-person perspective of someone seated on the eating mat. However, the immersive experience is not less valid; on the contrary, the sounds, the children, and the many different sensorial inputs can be overwhelming when watched in a VR headset.

The second scene of the short entails the lighting of the fire and the breadmaking. The breadmaking is women's work, and three women (Fatmah and her two daughters) are making the bread. I alternate positioning the camera, placing it near the breadmaking itself or handholding it, while I am visible in each recorded shot. The most important actions of the breadmaking process – kneading the dough into hand sized balls, making the dough flat by hand, slapping the bread leaf on the side of the oven, and taking it out by bare hands – require special kinds of skills and fireproof hands. In postproduction, I edited the rough material on the rhythmic movements of the breadmaking. It also meant that the film, if viewed in equirectangular projection, contains a jump cut between every shot. Editing 360° video in Adobe Premiere gives the possibility to direct the viewer's entry point when using a VR headset. This means that for every shot, the viewer's entry view is predetermined, focused on the action, and thus the jump cut is not immediately visible in a headset. Since the short is edited on the rhythm of the breadmaking, it does not feel awkward in playback as with regular video, where jump cuts are immediately visible.⁷

The shorts were exhibited at the Workers Museum in Norrköping, Sweden, on 17 February 2024 during the Swedish Anthropology Day. Visitors who experienced 'Our Daily Bread' reported that they almost felt the heat of the oven fire and smelt the bread. Their senses were triggered by the experience. Syrian visitors felt emotional after watching the short film, which evoked strong sensory memories and recognition (*Sveriges Antropologförbund, 2024*). The immersive technology

7. The immersive anthropological VR short 'Our Daily Bread' is available online here: <https://youtu.be/XmlntYj-aiU?si=v1Jp24Gy2eLMIEKf>.

provided a new experience of an event that I had experienced first-hand, enabling me to share it with an audience in a more deep and profound manner than an academic text.

Discussion

Over the past few years, ethnographers have realised the advantages of the use of immersive video as a method. For example, Pagett (2023) found that using a 360° camera proved to be a flexible, data-rich method for recording dye craft practice (Pagett, 2023). Akin to the introduction of digital video in the 2000s, the emergence of 360° video offers exciting new opportunities for visual anthropology. A main feature of immersive video is the ability to simulate the feeling of ‘being there’, also called the ‘sense of presence’, through both visual and spatialised auditory immersion. Another impactful affordance of 360° video is the reflexive nature of the panoptic recording, in which the filmmaker and subject can be observed in playback. This creates innovative opportunities epistemologically and ontologically to further analyse researcher positionality, empathetic encounter, field relationships, and placemaking. As an ethnographic filmmaker, my own sensory fieldwork memory assisted me in building rapport with the Syrian refugees who participated in the study and in iteratively interpreting the recorded 360° video footage viewed in an HMD.

The type of embodied and sensory knowledge documentation described in this study demonstrates an important added value and affordance of using immersive media for visual ethnography. In this study, 360° video was used to (1) document photo-elicitation interviews, individually and in focus groups; (2) conduct urban walking transects, also called ‘walking with 360° video’; and (3) record specific observational fieldwork experiences. The technique was used to document the mundane, everyday moments of social interaction during activities such as walking through the city, sharing food, shopping, and sitting in the living room and having conversations or simply waiting. The immersive transects give a rich sensorial experience for the viewers as well as the visual ethnographer (Montero, 2024; Pagett, 2023), who can use the immersive footage to compare three different cities and gain embodied knowledge on the nuances and differences of the three different life worlds and everyday experiences in three different countries.

The use of 360° video for visual ethnography requires a different approach to editing and cinematic language than regular video. Framing shots as close-ups, wide shots, and medium shots does not apply when using 360° video. Gómez Cruz (2017) reflects on the hope that Margaret Mead had that 360° video cameras would be able to document and record almost naturalistically, supposedly unbiased, what was happening in front of the camera as an almost objective device, a panoptic camera. In this study, I have aimed to use 360° video not as a surveillance mechanism but as a tool to document empathetic encounters in the field. There is no such thing as an objective observer tool during fieldwork; the ‘fly on the wall’ principle has long since been cast aside in ethnographic filming. The mere positioning of the camera already implies subjectivity and positionality. While conventional video framing applies in the cinematic language of 360° video, the filmmaker can choose the proximity towards the subject and decide how close to position the camera. In the case of the breadmaking video, I placed the camera as close as possible to the breadmaking, on the surface of the oven. This proximity forces the viewer to see the bread and the women who bake the bread as enormous. In the actual postproduction, I edited the piece based on the rhythm of the bread making action to be able to share the fieldwork experience effectively.

Film has given visual ethnography opportunities to represent other people’s experiences in movement, and as Pink (2007) argues, it is indeed often movement that makes other people’s experiences visually interesting to watch. For instance, walking can also be interpreted as a form of place-making practice. The use of 360° video takes the corporeal and embodied sensory knowledge creation a leap further and can create a deeper sense of presence, allowing ethnographers to share fieldwork experiences. I argue that not only walking but also the placement of the camera gives visual anthropologists the opportunity to share field experiences with others in ways not possible with regular video. The recorded observations are embedded in a whole sensorium, which is one of the most important affordances of 360° video that regular video cannot provide. Therefore, the use of 360° video for ethnography contributes to Donna Haraway’s (1988) argument for embodied knowledge and etymologies of location positioning and situating, where partiality, not universality, is the condition of being heard to make rational knowledge claims.

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Ethical Considerations

This study has been approved by the Swedish Research Council Board for Ethical Review for studies involving human participants or animal subjects. Informed consent forms were signed by all research participants.

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