

Smart Crime Tourism as Multilayered Cultural Encounters: Exploring Aarhus via Locative Media and Crime Narratives

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This article investigates the trend of smartphone-enabled screen tourism based on the findings from practice-based research carried out during the development and testing of the locative screen tourism experience ‘DETECT Aarhus’. This work shows how smart screen tourism can facilitate multilayered cultural encounters because it can provide a multifaceted perspective on locations and can motivate people to explore local culture. App-guided tours enable the embodied and emotional experiences of traditional screen tourism, but in a more flexible way that eases the crossing of thresholds between the material space and fictional places of crime stories. The testing of the DETECT Aarhus app’s pilot version further highlighted that popular crime narratives and smart tourism technology can address a broader group beyond fans of specific crime media. In addition, visitors with no previous connection to (local) crime stories can use apps to encounter the destination as a material space, fictional place and site of cultural production.

Introduction: Screen Tourism and Smart Crime Tourism as Cultural Encounter

We have all heard about the young fans going to New Zealand to walk in the footsteps of Frodo from *Lord of the Rings* and visit Middle Earth. We also know about *Sex and the City* tourism in New York, *Harry Potter* tourism in London, *Inspector Morse* tourism in Oxford, *Inspector Rebus* tourism in Edinburgh, *The Walking Dead* in Georgia and, more recently, *Game of Thrones* tourism in Northern Ireland, Girona and Dubrovnik. Screen tourists, or film tourists, are tourists who visit a place or go on a tour because they know the places from television series, films or games. Screen tourism evolved from literature tourism, which has existed since the ‘Grand Tour’, the seventeenth- and eighteenth-century custom of a trip around Europe

undertaken by upper-class European (and particularly British) young men of sufficient means and rank. Since then we have had many examples of tourists walking in their favourite authors' or characters' footsteps: James Joyce in Dublin, Charles Dickens in London, or Sherlock Holmes in Baker Street, just to mention a few. In Los Angeles, Hollywood studio tours offer a space for visitor entertainment and in many US-American metropolises there exist guided film tours and bus trips to filming locations and studios.¹ In addition, in European capitals, visitors will find such tours showing filming locations and places known from bestselling works of literature and their authors. In general, popular stories from film, television and best-seller literature engage audiences across countries and facilitate mediated transnational 'cultural encounters'. And as Bondebjerg *et al.* (2017) have shown in their pan-European research project on cultural encounters through TV, crime fiction is particularly successful in facilitating such transnational encounters. Having encountered a different national or local culture on screen can subsequently 'induce' tourism (Beeton 2005) and give rise to local screen tourism initiatives. When tourists travel to the places they have previously encountered on screen, a 'footloose' cultural experience through digital media becomes 'place-bound' (Lorentzen 2009, 833–834). Therefore, screen tourists' cultural encounters gain a material layer.

While British crime stories have been popular for a long time, in the 2010s Nordic Noir crime films, series and novels, such as *Wallander*, *The Bridge* or *The Millennium* trilogy, achieved global visibility and subsequently attracted tourists to Scandinavian capitals as well as more remote locations, such as Ystad in Southern Sweden. This screen tourism trend is now well documented in academic literature (Waade 2013; Saumon *et al.* 2015; Askanius 2017; Migozzi 2020). For productions such as *Dicte*, *Wallander* and *The Bridge*, we also see significant local and public investments (film funds, municipality and region) not only to attract tourists and brand the destination, but also to attract screen productions and give rise to the local creative industries (Hansen and Waade, 2017). As such, screen tourism is often part of local location placement strategies and initiatives. Parallel to this rise of screen tourism in Northern Europe, mobile internet usage has spread, and screen tourism has become supported by smart technologies. Beginning in 2009 (Leotta 2016), an increasing number of cities have offered tourists mobile apps to go on walking or virtual tours based on their favourite (crime) narratives, such as *In the footsteps of Wallander* in Ystad (started in 2011) or the *Dicte* Film walks app in Aarhus (started in 2013). These early versions of smart crime tourism could often not yet exploit the functionalities of smartphones in full, because mobile data access was either limited or expensive for travellers. Today, eight in ten Europeans go online on their smartphones (Eurostat 2018) and have been able to use mobile data at no extra cost in other EU member countries since the summer of 2017, resulting in a fivefold increase of mobile data use compared with the previous year (European Commission 2018, 5). This trend has also made it possible for screen tourism to be mediated through the smartphone in new ways, e.g. by listening to Ian Rankin's crime stories

1. For example, the US based screen tourism operator On Location Tours <https://onlocationtours.com>

whilst walking through Edinburgh,² or flicking through scenes from *Game of Thrones* when standing on the filming locations in Northern Ireland. The most advanced screen tourism apps now provide users with maps, navigation, background information, video clips from the series and extensive information about the different filming locations – either virtually or on location.

Mixed Realities: Augmentation of Places through Screen Tourism

Screened and fictional narratives influence the more general reception and understanding of the actual places. There are thin layers of meaning mixing fictional, factual, historical, mythological stories and imageries augmenting the actual places. Sometimes these fictional narratives conflict, replace or challenge the actual history or the material space. For example, in Northern Ireland, where *Game of Thrones* is mixing the realm of the entertaining fantasy narrative with the country's border conflicts as well as the delicate ongoing Brexit negotiations. The places and landscapes are all marked by these different stories: *Game of Thrones*, Brexit, and the political history of Northern Ireland as a contested place (Joyce 2019). This mixed layer of fictional and conflicted political condition is also the case for Dubrovnik, another globally recognizable *Game of Thrones* film location, with its own war history that recedes into the background when we follow Cersei Lannister (Lena Headey) on her walk of shame in Dubrovnik's amazing medieval old city scenario.

In a seminal article conceptualizing the *circuit of tourism*, Irena Ateljevic (2000) addresses the 'cultural turn' in human geography, which attempts to transgress and reconcile dichotomous notions of production (economy) and consumption (culture). Drawing on critical theorists in human geography and cultural studies (Urry 1990; Urry & Larsen 2011; Lefebvre 1991; Harvey 1993; Thrift 1995; Hall 1997), she advocates that tourism production and consumption systems are interconnected through reproduction, and their dialectics can be studied simultaneously through John Gold's (1994) notion of *negotiation*. Negotiation refers to sense-making processes along which promotional expressions and individual experiences become attuned to a wider ideological framework. Seen through this conceptual lens, tourism is a nexus of production-consumption place-making circuits, where producers and consumers 'feed off' each other in endless cycles of place creation, imagination, perception and experiences (Ateljevic 2000, 372).

Ateljevic's idea of this circuit of tourism acknowledges the simultaneous presence of Lefebvre's threefold spatial dimensions, connecting representations of space (in advertising, fiction and mass media); material space (the actual and experienced); and symbolic-imagined spaces of representations (in the individual's imagination, in part based on media representations). In other words, tourism is a *negotiated reproduction of space*, and this notion enables researchers to address contested and multilayered place identities, cultural translations of global consumer tastes

2. See: <https://www.ianrankin.net/ian-rankin-edinburgh-app/>

and lifestyle values or material, spatial and cultural transformations. The popular cultural narrative, the technical portrayal or the story behind the film provides a place with an additional narrative layer. For instance, the recent wave of Nordic Noir (crime novels adapted for television and film) envelops the Scandinavian countryside with a gloomy, foggy and scary atmosphere; a scenographic template for crime scenes. The mixing of both fictitious and authentic foundations leads to new regional narratives and identities, allowing for innovative new experience offerings and thematic niche products such as ‘murder walks’ or vampire experiences (Lexhagen *et al.* 2013). The novelty of these kinds of place-making processes lies in that the popular cultural tourism experiences are often grounded in fictional narratives, which do not (necessarily) originate from local image resources and hence no authenticity claims can be made. For instance, Bollywood dance cruises and Indian buffet restaurants have nothing to do with Swiss cultural history or culinary traditions; still they have become an integral part of the Central Switzerland ‘experience-scape’ (Gyimóthy 2018).

Affordances, Potentials and Challenges of Smart Crime Tourism; the DETECt Aarhus App: Idea and Concept

In the light of the potential of popular crime dramas to attract tourists to European locations and the new technological possibilities of screen tourism that come with the ubiquity of smartphones and mobile data, the DETECt project includes the task of creating and managing ‘a web mobile app for the comprehension of European trans-locality and transidentity’ (DETECt 2018). Because of the international popularity of Nordic crime drama, Denmark’s second biggest city has been chosen as the site for developing a smartphone-based screen tourism app. The ‘DETECt Aarhus’ mobile web app was created between May 2019 and March 2020 in a collaboration between media scholars from Aarhus University, the tourism office VisitAarhus, and the Copenhagen-based software company MOTES, which developed a platform and content management system that facilitates locative smartphone-guided city tours. The task of creating a screen tourism app provided a unique opportunity to combine practice and research in such a way that new forms of insight into the potential and limits of screen tourism apps could be generated. In the following, we elaborate on the functionalities of the DETECt Aarhus app, and present the findings from the testing of the pilot version with Danish and international students,³ which has

3. The testing of the app consisted of three phases: (1) observation and discussion with eight small groups of international students, while they were taking the pilot tour led by Cathrin Bengesser (September 2019); (2) an independent walkthrough by 14 small groups of Danish undergraduate students (November 2019); and (3) 18 qualitative individual or group interviews with international and Danish users of the pilot version carried out by the latter group of Danish undergraduate students (November 2019). In the latter testing phase, the students developed their own research questions in relation to the app based on their experiences in the walkthroughs, and recruited and interviewed participants with guidance by Cathrin Bengesser and Ida Hertz.

allowed us to nuance our understanding of the challenges and potentials of smart-phone-based screen tourism.

The location Aarhus, in itself, brought potential as well as challenges to the project. Aarhus gained international visibility as European Capital of Culture in 2017 but had already been a growing tourism destination before this (Degn *et al.* 2018, 100–101).⁴ The large student population of over 40,000 Danish and 4000 international students makes Aarhus an attractive terrain for intertwining practice and research, since we were able to involve Danish and international students in testing the app. On the one hand, Aarhus is a city pre-destined for screen tourism. The most popular Aarhus-based production is the crime series *Dicte*, which has already been the subject of screen tourism activities by VisitAarhus and Filmby (Filmcity) Aarhus. *Dicte* has been estimated to have generated for the city a brand value of €12 million with its last season (Edmund Consulting 2016). Even though the series concluded in 2016, *Dicte* is still available on streaming in several countries. Moreover, Aarhus has a rich heritage of silent film, an active literary scene, and, through the studios and creative hub in Filmby Aarhus, the city has become an attractive space for filming new productions, too. On the other hand, Aarhus is a tricky case for screen tourism. In contrast to Copenhagen, Aarhus does not have the global recognition of a European capital. The reach of its most famous production, *Dicte*, is also not comparable with the sustained international popularity of *Wallander* or the Copenhagen/Malmö-based Nordic Noir series *The Bridge*.⁵ Finally, Aarhus is not always recognizable as the setting of a particular movie that has been shot there;⁶ a fate it shares with major European production hubs such as Budapest. This status makes Aarhus an interesting terrain for exploring how screen tourism can work in locations where the films or series will not be the main pull factor for tourists, because they do not know what has been produced in the location and therefore do not know that they can be screen tourists in the city.

Acknowledging Aarhus' mixed visitor profile, the DETECT Aarhus app is targeted at non-Danish tourists on daytrips or holidays, cruise ship passengers on excursion, business visitors with a few hours to kill, and international students who have just relocated. The app is accessible by opening the website www.detectaarhus.eu in the smartphone browser, which makes it easily usable across operating systems without previous installation. To reflect the DETECT project's focus on

4. Between 2012 and 2017, the number of overnight tourist stays in Aarhus Municipality increased by an average of 9.7% annually. In 2017, the increase was 11.5% (Degn *et al.* 2018, 100–101). In the year following its celebration as European Capital of Culture, Aarhus recorded 1.4 million bednights, about half of those from business visitors, welcomed 90,000 cruise ship passengers and hosted about 3000 international students.

5. On the IMDB movie meter, *Dicte* ranks in place 3881, while *Bron/Broen* (The Bridge) ranks at 545 and the British and Swedish *Wallander* series are ranks 1191 and 1510, respectively (in January 2020). This popularity measurement is based on visits to the Internet Movie Database page of the individual series. This page tends to be among the first search results if users look for the series on Google, therefore it is an indicator for viewers' interest. Since all of the series have now ended, the current position indicates in how far the series still generate interest.

6. The recent film *Undtagelsen* (The Exception, 2020), which is set in Copenhagen but was filmed in Aarhus and Budapest, is a prominent example of this 'problem' of Aarhus as a screen tourism location.

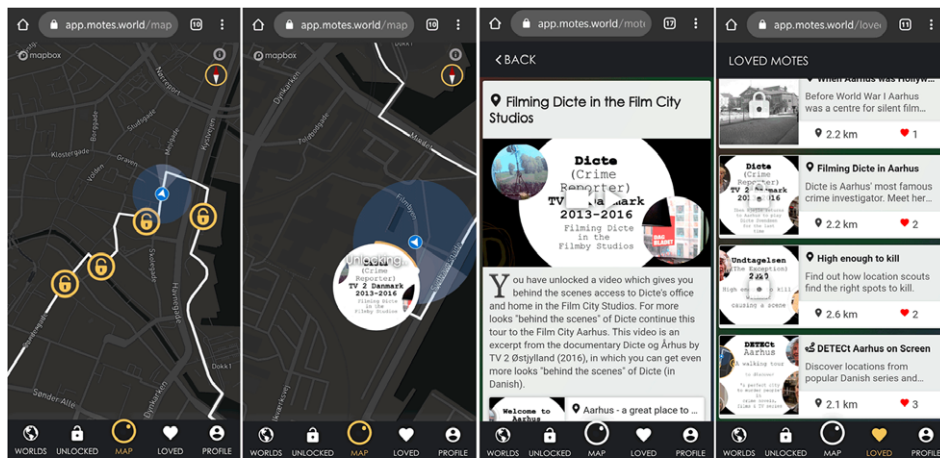
literature, film and TV, but also the diversity of Aarhus' (crime) culture, the app offers a choice of three differently themed tours: *Aarhus on Screen*, focusing on recent film and TV productions, *Literary Aarhus*, which introduces contemporary writers who have been translated, and *When Aarhus was Hollywood*, which celebrates the vibrant silent film production in the city before the First World War. Each tour takes about one hour on foot and features between five and eight audio-visual stories connected to specific locations in the city plus tips for food and drink. Each story contains a combination of audio (e.g. interviews with authors and experts), video (e.g. trailers or behind the scenes videos), images (e.g. stills from silent films) and texts (e.g. historical information about the location). The test version developed between May and October 2019 included eight stories that were the basis for the three tours that have been extended after the test phase (Figure 1).

All of the audio-visual stories add specific layers of meaning to the material space users are in. Therefore, tourists have to be in Aarhus and navigate to specific locations to experience the stories. Because it can only be used on location, the DETECT app belongs to the category of locative media. According to Rowan Wilken and Gerard Goggin (2015, 3) locative media are 'broadly defined as media of communication that are functionally bound to a location'. The app's geolocation functions help users navigate to the locations on foot, bike or public transport. The interactive feature of 'unlocking' the stories on location adds the feeling of a paper chase. Users are invited to share their comments and experiences and 'love' their favourite locations, whereby they create an archive of the content they unlocked.

Testing the Affordances of Smartphone-based Screen Tourism

The first step in the research process was mapping the terrain of screen tourism in the Nordic region, to identify what sorts of experiences are offered to tourists, how they use them and to assess which qualitative changes the use of smartphones brings to screen tourism. In digital media research, these offers, uses and qualities are characterized as 'affordances'. The term designates what sorts of practices a technology allows for, both from the perspective of its technological properties, but also through the way people use it, which is not necessarily aligned with the intended use (Hopkins 2016, 1–3). To determine the affordances of screen tourism offers in the Nordic region, we used the method of walkthroughs (Light *et al.* 2018) of existing (screen) tourism apps and offers. Based on these walkthroughs and desk research, we developed a typology of screen tourism experiences that classifies them according to their form of mediation (personal, locative and virtual), the specificity of their reference to fictional places as well as the level of commitment they ask from their users. This research has been documented in Waade and Bengesser (2020).

The following section focuses on how we have developed our understanding of the affordances of smart tourism during the testing phase of the DETECT Aarhus app between September and November 2019. We have determined three qualitative changes that the use of smartphones and location-based services have brought to



GPS navigation from story to story on foot. The app also allows for public transport, bike and car navigation to the tours' start point. Unlocking on location in front of Filmby Aarhus. After unlocking users can watch a video about how *Dicte* was shot in the Filmby Studios. Love feature to mark favourite spots and stories across all tours. Unlocked content can be rewatched, -listened or read wherever the user is located.

Figure 1. Screenshots from the DETECT Aarhus pilot version. © DETECT project.

screen tourism: (a) a convergence of activities; (b) a trend towards customized, flexible experiences; and (c) an easier crossing of thresholds between locations as tourism destinations, sites of production and fictional places. At the same time, we have identified three aspects of screen tourism that remain unchanged or challenged by the use of smartphone technology, namely (a) the tension between commitment and the experience of co-creation through interactivity, (b) the uniqueness of embodied experiences, as well as (c) the importance of the users' personal emotional connection to the media text.

Technological Augmentation of Screen Tourism Experiences

The smartphone is a site of media convergence as it combines distinct services and practices. The combination of navigation, playing audio-visual media and interactive features in the DETECT app is a case in point. Its offer of different functions and a choice between different modes of information was in line with our test-users' expectations.

I was expecting a map of basic Aarhus and the locations where you need to go and the guide for the way there with some text about the information about the audio clip, but then what exceeded it was that there were videos and interviews [...]. [...] I also like that you've got the option to either listen to the audio or read the texts or watch the videos or look at the pictures and [it] didn't matter in what order you did it because you got the information anyway so you could start with the video or audio and then you could read the text or vice versa, so I quite like that where you got given the option instead of it being forced upon you. (Group interview with two British students, 8 November 2019)

Our observation of the international student group testing the app in September 2019 showed that, in general, users prioritized the audio-visual information, which has made us realize that the choice between different media and functions is a key quality of smartphone-mediated tourism. Users' preference for audio-visual content, subsequently, not only affected our choices of which types of media to present on the app, but also led to the conclusion that practical information, such as where to navigate next, must be offered to users through several media. Moreover, the combination of functions that converge on a screen tourism app is supposed to bring added value to the user. For the foreign students, this added value became clearer than for the Danes. Discovering the city was a main motivation for the foreign users and therefore they expected and enjoyed being led to new places and being offered different layers of new information about these places.

[...] it was the location in front of the Women's Museum. Because I found [it] really interesting, to get to know that over there, there was the town hall and the first woman as a politician in Aarhus [...]. So, while they explained some of the film locations, they also explained history. (Spanish student I, 8 November 2019)

This statement exemplifies that for foreign visitors not only a convergence of technical functions, but also a convergence of screen tourism and traditional site tourism is important. While the app enabled the foreigners to discover something new, the Danish students said that they did not know what to do with the information they found in the stories. For the Danish students, the app's combination of functions did not have the same added value, because they already knew their way around town, had (some) information about Aarhus' sites and were not particularly excited about the films and series that had been shot there. In fact, the mention of *Dicte* made them doubt whether the app would be interesting.⁷

The differences in expectations between the groups surveyed and users' appreciation of the choice between different media are connected to another affordance of smartphone-based tours: customization and personalization of experiences. In contrast to pre-booked guided tours, people taking smartphone-guided tours do not have to commit to a fixed time and place to start the tour and are also free to digress from the designated route. Yet, the expectation of customization also exceeded logistical flexibility:

Well, I expect it to be able to find the things that I personally would find interesting, and not just give me some big grand overview over everything that everyone finds interesting. Because I don't want to know the same thing like maybe you, or what you think is interesting or would like to see. (Danish student who recently moved to Aarhus, 8 November 2019)

The affordance of personalization of information and experiences is at the heart of many social media and travel apps. Services such as Foursquare achieve this customization through vast amounts of user data, a practice that was not feasible

7. 'When I heard that the topic was *Dicte* and TV series and so on, I was perhaps a bit unsure if it would be interesting' (Danish student from Zealand, 10 November 2019).

for a small-scale pilot project such as DETECt Aarhus. Instead, the app offers personalization through choice between different media, topics, protagonists and types of stories. Still, we found that users were also ready to be surprised by what the app offered to them.

I found out that it wasn't about the things I expected it to be about. It was more media and how media producers [have] used Aarhus as a location and from that point on, I found it was quite a lot more interesting than what I expected it to be and from then on, I actually wanted to go to the 'motes' to see what it had to tell. (Danish student, who recently moved to Aarhus, 8 November 2019)

For this Danish student who recently moved to Aarhus after commuting for a while, finding out about Aarhus as a location for crime novels, films and series was surprising and 'more interesting tha[n] something that happened 200–300 years ago'. This quote not only reiterates that the Danish testers had fundamentally different expectations compared with foreign visitors, it also shows that surprising users with content they did not anticipate can yield engaging results. Hence, the curation of content for smartphone-guided tours should not only consider data-based knowledge or preconceptions about different target groups' varying interests, but also allow for elements of surprise that lead users to places or information they did not previously know or considered to be interesting to them.

An important advantage of technology use in screen tourism experiences is the possibility to show more than the tourist can see with the naked eye, which can help crossing thresholds between the representations of space in fiction and the material space of the city. The use of audio-visual media as part of a tour can immediately evoke the mood of the crime story and thereby ease users' suspension of disbelief as they see the original and the transformed fictional location side by side. This effect comes into play when users of the DETECt app watch trailers of films set in the city or stills from the silent film era, which enable crossing the threshold into (film) history. Moreover, watching the behind-the-scenes videos in the app helps users to experience Aarhus as a site of cultural production. In fact, we would have liked to use more material from media productions and behind-the-scenes footage, but we faced problems of copyright and licensing restrictions that limited the range and amount of original content and behind-the-scenes material that we can show. Because of these restrictions faced by third parties making a tourism app after the production of a film or TV series has ended, a joint or parallel production of screen tourism material in conjunction with ongoing filming projects is advantageous. Such an integrated approach has, for example, been taken in the case of *La Porta Rossa* tourism in Trieste (Coviello *et al.* 2020, 69–70) and appears advantageous.

During the testing, it became clear that a successful crossing of thresholds through audio-visual material depends on the connection between the content and the location. This connection was not always visible for the testers of the DETECt Aarhus app. The app, for example, features the trailer for the film *Lev Stærkt*, which is a thriller about a deadly accident occurring during an illegal street race in Aarhus. In the pilot version, users could watch the trailer whilst standing on a bridge over Fiskergade, the street in

which one of the races was filmed. The trailer contains a section of this race in which the street can be recognized, but this connection was missed by some users, either because they stood in the wrong place when watching the trailer or because the scene in the trailer is too short to be memorable. One exchange student pointed out: ‘I could have watched it at home. I could have googled movies made in Aarhus and then I could have watched the trailer’ (7 November 2019). At the same time, a Spanish student, who did see the connection, found this to be the most interesting stop: ‘I would not have looked at it, and I mean, it’s just a street, and now I can look at it a second time, I mean, it’s just a street, but now I can look at it and say “it’s great”’ (Spanish student II, 8 November 2019). A similar effect was achieved by the behind-the-scenes interviews and footage that helped users to switch their perception of certain places in the city.

[T]he building in front of the central station. I mean, before, I didn’t have any idea of it, or I didn’t have any previous judgement. But now, knowing that a film was recorded there. Now I can see it through different lenses. [...] I guess that Aarhus has more potential in terms of culture and in terms of film culture than what I assumed before. (Spanish student I, 8 November 2019)

So, not only seeing material from films and TV series, but also getting an insight ‘behind the scenes’ into the work of local creatives helped users gain a different perspective on the locations. This experience challenged the students’ preconceptions about the city and its culture. This experience also shows how locative screen tourism apps can enable encounters with locations as a material space, as a representation of space in fictional narratives and as sites for cultural production. To this mix, all users bring their personal cultural backgrounds and preconceptions about Aarhus which enter into the process of negotiation. When using the DETECT Aarhus app on location, all these facets converge in the moment of use by an individual who has customized the experience based on her or his own interests and needs. For foreign visitors, this combination enables a multilayered transnational cultural encounter.

Challenges of Technology Use and Non-technological Affordances

Neuhofer *et al.* (2014, 347) have argued that successful technology-enhanced tourism experiences ‘incorporate high levels of technology and co-creation’. Co-creation is understood here as a form of participation facilitated by interactive features. A co-created experience is not merely ‘staged’ by a stakeholder in the tourism industry; it emerges through the visitor’s (technologically mediated) interaction with them. Based on our research, we seek to question the assumption that high levels of technology use and co-creation are preconditions for successful smart tourism. Our participatory observations during the research phase preceding the launch of the pilot version highlighted that co-creation through interactive apps can indeed be meaningful for users, but there is also a trade-off between co-creation and commitment that can limit the flexibility offered by smart tourism (Waade and Bengesser 2020, 14). During the testing, another aspect of interactivity emerged, namely its interplay with

the other affordances. The Danish users, indeed, liked the interactive feature of unlocking:

I think that was a great idea, that you can unlock things that's a great feeling when you pressed and then the app said 'juhu [yeah]'. [Second interviewee:] We were big fans of that. (Group interview with Danish students from Zealand, 10 November 2019)

At the same time, this group of Danish students felt that what they actually found behind the locks was anticlimactic and 'boring', because they already knew the sites and were not excited about the series and films in the app. Therefore, the interactive features created a sense of leading nowhere for them. In contrast to this, the foreign visitors still had something to discover and were not so critical of the films and series, because they had no preconceptions about them. These different experiences highlight that interactivity alone cannot create a meaningful experience. Instead, the value of interactivity depends on its interplay with other affordances that are not necessarily bound to technology use.

In fact, one major affordance of screen tourism that has nothing to do with technology use is the embodied experiences on location. Of course, when films and series have been shot in locations that are not easily accessible to viewers, such as the locations of South Korean drama series, offering virtual 'screen screen tourism' (Schulze 2017) can be a way to substitute for travel. Still, embodied experiences on location are important, for example tasting the Wallander cake in Fridolfs Konditori (Saumon *et al.* 2015), sitting in the detective's chair (Reijnders 2010, 45) or wielding an axe in front of Northern Ireland's stunning scenery. To allow for such embodied experiences as well as for their playful discovery alongside discovering the city, the content in the DETECT Aarhus app can only be 'unlocked' and accessed when a user is at a specific location in the city. Being on location created a more meaningful experience of the stories told in the app, as is illustrated by this US-American student:

[if] someone [...] would tell me these things I would still be very fascinated [...] but if I were just to listen to them and just sit down it's imagination and the connection and the realness to the story and everything about it wouldn't be as intense as actually going to the locations. (US-American student, 8 November 2019)

By taking users to the harbour area, for example, the DETECT app invites them to hear the noises and smell the sea and the city's busy industry. This embodied experience can indeed be very memorable: in a group interview, a Danish and Spanish (II) student joked that they found this last stop of the tour creepy and 'were sure that the grand finale was that we were going to get murdered' there (8 November 2019). The same sentiment could not have been invoked by virtual travels.

The existing research on screen tourists' experiences, furthermore, highlights that it is ultimately their personal and emotional connection with the screen narrative that gives meaning to their screen tourism experience. Stijn Reijnders' (2010) and Nicky van Es and Reijnders' (2018) interviews with participants of detective tours in

Inspector Morse's Oxford or Wallander's Ystad indicate that the imagination of stepping into the story and feeling closer to beloved characters is a central affordance of visiting the film locations. In contrast to this, Tina Askanus (2017) portrays a fan of *The Bridge*, who did not join a dedicated tour of Malmö and Copenhagen to follow fictional heroes Saga Norén and Martin Rohde, but chose to cross the Øresund Bridge on his own to get into contact with locals and experience the region's transnationality. This contrast underlines that what makes a screen tourism experience meaningful is highly individual.

Creating an emotional connection to the stories it presents has proven the biggest challenge to the DETECT Aarhus app, both as a product and a site of research. Because Aarhus, in contrast to Copenhagen or Ystad, cannot bank on the media texts to offer a personal connection that attracts and engages visitors, and because different types of content appeal to different users, the DETECT Aarhus app uses several strategies to create emotional connections. In general, the app explores aspects of the genre of Nordic Noir, into which fit most of the globally popular crime series from Scandinavia. However, hardly any of the users interviewed during the testing phase knew of Nordic Noir, let alone the books, films and series the app features. Hence, the challenge was to create a reverse pull. The trailers shown in the app aim to draw viewers into the fictional worlds they do not yet know and indeed we saw that the international users actually became interested in the films, series and books through the app. The behind-the-scenes videos as well as the stories about silent film production aim to surprise the users, since Aarhus' importance for silent film history is not even known to many locals. The silent film tour thus appeals to the curiosity of users inviting them to see the spaces they are standing in with different eyes, aided by the images from Aarhus in the silent film era. Lastly, the conversations with Aarhus-based authors facilitate a way of engaging with the local culture by meeting the creatives and learning about their connection to the city. In the Women's Café, users can listen to an interview with author Elsebeth Egholm. One US-American student was particularly taken by the audio interviews with her; not least because the student himself has ambitions to work in the creative industries.

I think getting into the mind of the author of like just about the art and how they wanted to create this person that climbs buildings [...] so getting to the mindset of how an author or how a creative writer forms crime fiction was really fascinating. (US-American student, 8 November 2019)

Similarly, the videos with location scout Ulla Malmos were appealing to the users, because they gave an insight into the process of filming. The video in which Ulla explains how they filmed a stunt scene in the apartment close to the train station for the film *Undtagelsen* (*The Exception*) worked well with the users, because it gave insight into the production process. At the same time, Ulla also presented users with a local's perspective. A Spanish student (I, 8 November 2019) remarked that these videos made her feel connected, because Aarhus is Ulla's city.

Conclusion: Smart Crime Tourism – a New Means for Multilayered Cultural Encounters

The development process of the DETECt Aarhus App as well as the testing have shown that not all affordances of smartphone-based screen tourism are necessarily connected to the technological possibilities offered by an app. While elements of convergence, customization and an easier crossing of thresholds between material space and its representations in fiction are enabled or at least aided by smartphone technology, technological interactivity is only meaningful if a screen tourism app can also offer meaningful non-technological affordances, such as a personal connection to the stories and places and embodied experiences. The testing with Danish and international student groups has highlighted the differences in their expectations and experiences, which suggests that it is difficult to appeal to native and foreign screen tourists with one and the same offer.

Because Aarhus is a destination that is not widely known as a destination for screen tourism, our research has shown that visitors can nonetheless become screen tourists in the city and have a rewarding experience through stories told about the city as a site for production and audio-visual culture. In fact, we were surprised that many users expressed interest in seeing more after learning about these crime stories in the app.

[...] I definitely would, like, want to go home and see more about the author or, [...] if I can find it the silent movie and things are just that just to be more [...] I guess culturally appreciative towards Danish culture but also crime fiction in general. (US-American student, 8 November 2019)

[...] I think it could be interesting, because well, usually you watch the films and then maybe if you like them, you start researching the behind the scenes, let's say? I did it the other way around, so at some point I was like 'Okay it seems interesting' so yeah. [...] I'm not a film lover, and like crime stuff isn't my go-to, but I guess it's a different way to get myself involved in Danish culture [...]. (Spanish student I, 8 November 2019)

This finding challenges the usual understanding of screen tourism as an activity that is 'induced' by having watched a particular film (Beeton 2005). The students' answers quoted above indicate that there is also the potential for the consumption of audio-visual and literary culture to be induced by the visit of particular filming locations or settings of (crime) narratives. So, although usually directed at fans of films, series or authors, screen tourism offers also have the potential to be interesting for non-fans, who do not even know that they could be screen tourists in the city.

The crime genre is particularly suited for facilitating encounters with different aspects of local culture. First, it is popular across many different markets and cultures – as the international success of Nordic Noir and connected tourism demonstrates. Second, locations play important and multiple roles in crime dramas as the space investigators traverse in their effort to solve a crime, as representations of societies, and as the source of tone and atmosphere. Since screen tourism apps allow for including sounds, videos, and images from the screen productions, they can

facilitate this process of encountering different layers of meaning because they can offer teasers of literary, film and TV productions. Still, discovering new films or series to watch and broadening the appreciation of the local culture through a smart tourism app such as DETECt Aarhus, goes beyond the mediated cultural encounters offered by locations in films or TV series described by Bondebjerg *et al.* (2017). The locative nature of the app means that the encounter with the location's representation in the fictional world of the crime narratives happens at the same time as users discover the material space. Additionally, they can discover the space as a site of cultural production through behind the scenes videos or look into the past via archive material. Hence, different aspects of local culture can be discovered simultaneously. The connections but also tensions between these facets and the users' choices and embodied experiences on location have the potential to contribute to the users' comprehension of Europe as a transcultural space, because it lets them experience the negotiation between the different ways in which we encounter and understand locations of culture as tourists, locals, consumers of fictional stories, and producers of media in Europe.

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