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PHOTO USE WHILE DATING: FROM FORECASTED PHOTOS IN TINDER TO CREATING COPRESENCE USING OTHER MEDIA

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Abstract: While studying Finnish users of the online dating app Tinder searching for longterm partnerships, we paid attention to the importance of photos in their social interactions. Based on our study, we argue that photos play an important role in online dating. Initially, photos are chosen and uploaded to influence future interactions, particularly regarding who will contact them via their profile. We term this particular future tense of photography forecasted photos. Second, photos enabled the creation of copresence between dates, especially via instant messaging services instantly after capture. Third, the classic notions of photos depicting the past became important when wanting to be reminded of previous meetings. Taken together, we argue that photos enhance intimacy building while dating on social media. This role should be accounted for by paying attention not only to photography's relation to the past or the present, but also to a future tense of photography.

Keywords: phatic communication, future tense photography, online dating, visual studies.

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INTRODUCTION

During our research of individuals using social dating sites to find long-term partners in Finland, we noticed the importance of photos for triggering future connections. Our interest was sparked by hearing conversations of teenagers on a bus ride, focused on giving each other advice of how to choose photos on one's profile for getting "matches," signs of interest on Tinder, a widely used social dating site. These matches provided the teenagers, as well as others using the service, an opportunity to meet hitherto strangers in the future, strangers who possibly might become one of the closest persons that one has. These observations led to our interest in the role of photos in building intimate social relationships, with particular attention on how they are used in concurrent social media. It soon became apparent that the search for long-term partners, which may have started on Tinder, quickly moved to other communicational media, such as WhatsApp or Skype, or to a table at a café. This temporality in dating-from searching for matches to starting first conversations, and then possibly meeting someone face-to-face—is a good example of what we call the *flows of social interactions*, that is, the sequences of interaction that have particular rhythms, temporalities, places, and people involved. Importantly, flows of social interaction do not always stay the same but change depending on the social relations among those involved and the purposes of communication.

While dating using social media technologies might seem superficial because of the initial lack of face-to-face interaction, dating sites and applications have become major players in bringing people together. Sites today range from special dating sites for Muslims, Jews, and Christians to dating sites for people of specific or all sexual orientations. Finkel, Eastwick, Karney, Reis, and Sprecher (2012) identified 14 distinct categories of online dating sites, including general (e.g., Match, PlentyOfFish, OkCupid) and specialist sites (e.g., JDate, Grindr), matching sites that use self-reports (e.g., eHarmony, PerfectMatch) or don't use them (e.g., GenePartner, ScientificMatch), and "hookup" and adultery sites (e.g., GetItOn, AshleyMadison).

Whereas newspapers, magazines, and bulletin boards have been used for decades for mediated dating, arguably the facility of using digital devices has an impact on the popularity of today's dating technologies. Furthermore, the development of graphical user interfaces has allowed for a broader spectrum of representations on dating sites than earlier (MacLeod & McArthur, 2018). Early text-based announcements are nowadays amended with photos, and in many cases, it is the image that has taken upper hand in presentations of one's online self (Senft & Baym, 2015).

This photo-driven self-presentation reflects especially the case of Tinder, a service launched in 2012 for users to find potential partners by deciding, based on a profile photo, if they think that they would like the person depicted. If both parties "like" each other, that is, swipe each other's profile photo to the right on their mobile device screens, they can start to communicate with each other. The swipe determines future interactions in a binary manner and thus is decisive for using the platform (David & Cambre, 2016). Swiping profile photos continues to be a main feature of Tinder, and in 2018, the company claimed to have 1.6 billion swipes a day.

We decided to interview and observe users of the online dating app Tinder who were searching for long-term partnerships, paying specific attention to the importance of photos in their social interactions while dating. In following a practice turn in visual studies (Lehmuskallio & Gómez Cruz, 2016), we paid specific attention to the practices in which photo use is embedded, in this case, within the practices related to finding a long-term partner. One question specifically guided our research: How are photos used during the process of searching for long-term partners?

We narrowed the research question by focusing on users from the capital region of Finland who use, or have used, Tinder for searching for long-term partners.

Mobile photography is particularly important for capturing, sharing, and displaying photos when using dating apps for finding a future partner. Earlier studies of mobile photo use have shown that mobile photo communication tends to emphasize "real-timeness" and an ephemerality of images, which is in stark contrast to past uses of snapshot photography, which were often taken in the moment in order to remember the past (e.g., Gye, 2007; Van House, 2011; Villi, 2016). In contrast to this related work, our findings, presented later, show that photos, once uploaded to a dating service such as Tinder, are used initially to influence the future. The work of selecting proper visual representations of oneself and one's surrounding is undertaken in order to frame future interactions in particular ways. We call these images *forecasted photos* because they are photos uploaded specifically to influence one's future. This photo work adds a future tense to related work on snapshot photography, which has tended to focus either on that what has been, or in the present tense, on that what is (see, e.g., Rose, 2010; and contributions in Larsen & Sandbye, 2013, and Gómez Cruz & Lehmuskallio, 2016). The importance of using cameras or photos to evoke *desired futures* is apparent in other cultural fields as well, as we will discuss at the end of the paper.

Taking a perspective on the temporal unfolding of dating practices also allows us to underscore the role of *flows of social interaction* in using communication technologies: Specific communication technologies seldom are used alone but rather as part of a broader ecology of communicative interactions. This finding is at odds with the vast amount of related research focusing mainly on a single platform or service, pointing to the importance that methodological choices have for analytical conceptualizations.

RELATED LITERATURE

Snapshot Photography

In the following, we present related work on nonprofessional photo use, focusing on the practices within which image use is embedded. Early studies on snapshot photography are among the first to explore how images are actually used, thus providing an important backdrop for reflecting on current usages. Snapshot photography became popular in the early 20th century with the advent of relatively inexpensive, easy-to-use cameras combined with an industry supporting this ease of use. Film photos were used for about a century and are characterized by their materiality, durability, and use as objects of memory. As Van House (2011) pointed out, viewing traditional film photos after capture was delayed due to technical features of taking photos, mainly film processing and printing. This means that photos cannot be seen immediately after capture, and it can take at times quite long before seeing the printed photos. Thus, when the developed and printed photos are viewed, they are always about situations that happened already some time ago. No wonder that Richard Chalfen (1987) found in his 1980s study of snapshot practices in the USA that snapshot photos at the time were taken mainly to document the present and as reminders of the past.

Most film photos were taken with considerable deliberation, which was influenced by the costs related to buying and developing film (Chalfen, 1987). Photos tended to be of a selective set of topics, mainly of people close to oneself and of special events, such as weddings, graduations, travels, and get-togethers. These images of special events and close social relationships tied people together, particularly allowing for reinforcing contact between and among people living far from each other.

Due to their specific materiality, printed photos had a specific durability: Once printed, they can be retrieved even decades later without any special equipment (Rose, 2010). While the organization and annotation of paper photos is laborious, once organized in albums, often with annotations written on or beside the photos, a collection of paper photos can make sense even to someone who knows nothing about the people in the photos, for example, by someone who finds them at a flea market (Van House, 2011).

Mobile Camera Phone Photography

During most of the 20th century, once families bought a camera, they tended to have only one that was used for family photography. However, this social use of cameras changed with the advent of cheap consumer cameras. Every family member might have his/her own camera to bring on vacation or when meeting friends. With the uptake of mobile phones, and the embedding of cameras into these devices, mobile camera phones started to replace cheap consumer cameras, and later, in many cases, all family cameras.

Mobile camera phones have affected photo capture, sharing, and display, facilitating nearreal-time sharing of place, as well as providing for distant closeness. Already in 2011, Van House suggested that digital photography was far more convenient than film-based photography, and camera phones in particular made it easy to take photos spontaneously. The automatic settings on camera phones make it easy to capture photos that are deemed good enough by many casual photographers. Moreover, digital photos can be viewed immediately after capture and then emailed or posted online. The archiving and annotation of photos is faster on the computer, and digital technologies allow easy modification of photos.

Various authors (e.g., Gye, 2007; Van House, 2011) have suggested that the digitalization of photography brought a change in its temporality: "The private photograph is now often ephemeral and shared," as Van House (2011, p. 132) remarked. Personal photos are shared by being posted online, on sites that tend to be more public than the former social viewing of photo albums that Chalfen studied. On social media, it is nearly mandatory to have a profile picture, making photos of faces essential features on social media profiles. Whereas paper photos could be bought at flea markets by random people even decades after the photos had been taken, digital photos are ephemeral. This is because they lack the durability of paper photos and often are used for immediate communication: "Because digital images are more public, malleable and immediate, they are being used for communication and interaction more widely and in continually diversifying ways" (Van House, 2011, p. 133).

In snapshot photography, relationships are a recurring theme and people continue to take photos in order to remember special events. Snapshot photography tends to focus on social relationships, representation of self with and without others, and self-expression. People use photos to create and maintain relationships by, for example, including certain people in shared photos and deciding with whom to share specific photos. Second, people use them for representational purposes, deliberately selecting certain photos that fit into the presentation of self that they want to give about themselves. And ever increasingly, especially camera phone photos are used in expressive ways, containing a specific aesthetics that tie them to imagined communities, such as the art loving or the inner city hipsters (Sarvas & Frohlich, 2011; Van House, 2011).

Sharing Place and Distant Closeness

The focus on cameras, photos, and their temporally changing use among the flows of social interaction is tied to our research question, that is, asking how are photos used during the process of searching for long-term partners. A clear difference between film and digital snapshot photography is the possibility to post photos online immediately after capture. According to Villi (2016), people "send the place" with a camera phone, mediating their current local presence to that of the receiver. With photos, it is possible to both communicate the place where the person is and mediate the presence of the person in the photo. Mediating one's presence is possible because, with a photo, the receiver can see what the photo taker looks like and what he or she is doing at that moment. Villi also pointed out that the further away people are from each other geographically, the more reason there is to send photos. As he put it, "A photograph gives presence to absence" (Villi, 2016, p. 111), and it can achieve that in the present tense.

Prieto-Blanco (2016) explored these relations via photography and online video services among transnational families, providing important empirical research on the role and value of phatic visual communication for kinship ties. Even repetitive and possibly superfluous photos, such as current selfies, are often valuable for relationships, as they maintain a connection between people and communicate presence. Sending photos gives people a "sense of being together" because the photo "re-localises the act of communication" (Villi, 2016, p. 117). Whereas Chalfen (1987) pointed out that people had to get together to view printed photos of something that had already happened, camera phones now make it possible to share a moment with another person at the very moment. An absent friend can thus be brought closer by sending photos instantly after capture, creating a feeling of presence (Prieto-Blanco, 2016).

This feeling of presence is a precarious undertaking, and it relies on the functioning of the technical infrastructure in near real-time (Weltevrede, Helmond, & Gerlitz, 2014), so that an illusion of sharing time and space together in each other's presence can be upheld. Tinder, as a location-based real-time dating app (Ranzini & Lutz, 2017), facilitates this illusion by providing users with possible dates based on location. It thus relies on affordances of mobile media, using geolocation information (such as GPS or Cell IDs) to sort who will be visible on one's screen. This visibility is often a precarious undertaking, at times done reluctantly because no other options seem viable, particularly among groups of people who fear to be stigmatized because of their sexual behavior (Cassidy, 2016).

Tinder Use Among Flows of Social Interaction

When using the dating app Tinder, photos are a particularly prominent feature of the service, as choices on whom to like—that is, deciding whether one is interested or not in someone—is based on seeing an image. When joining the service, one first has to provide an account (a phone number or Facebook account), his or her name, date of birth, and gender (male/female). After that, s/he can answer voluntarily a question and then must upload a photo to proceed and consent

to allowing the phone to track one's location when using the app. To operate the app, one touches a photo, usually of the other person's face, and swipes it either to the right (like) or to the left ("nope") to proceed. At the time of our study, each user could upload a maximum of six photos that are visible in the profile. While the photos could depict almost anything, most users upload photos of their faces to attract another person. A photo of a face, tightly cropped or as part of a broader environmental context, becomes an important image for creating future intimacy.

Related research on Tinder use has focused on understanding the motives that different users have for using the service, ranging from finding long-term love or casual sex for self-worth validation to the thrill of excitement, trendiness, and travel information (e.g., Newett , Churchill, & Robards, 2017; Sumter, Vandenbosch, & Ligtenberg 2016; Timmermans, & De Caluwé, 2017; Weiser et al., 2018). Other researchers have investigated problematic uses of the dating app, such as harassment and sexist abuse (Thompson, 2018), toxic masculinity (Hess & Flores, 2018), racism (Mason, 2016), body image concerns (Strubel & Petrie, 2017), or trolling (March, Grieve, Marrington, & Jonason, 2017). Our research adds to the literature by focusing on a specific user group, those seeking long-term partnerships, and exploring the roles that photos play in this process. As such, it builds on and advances related work on impression management in the use of Tinder (Ward, 2017), as well as related research focusing on technical affordances of the service, such as the swipe logic (David & Cambre, 2016) or gender categories as emerging from the structural needs of programming (MacLeod et al., 2018).

By paying attention to the roles of photos in this process, we additionally underscore the usefulness of a practice-based approach to understanding Tinder as one part in a broader ecology of flows of social interaction. Related work on online interaction, even when focusing on photo use, tends to concentrate on interactions within one technology or platform only, such as a social network service, an online gaming environment, or a chat service, mainly due to methodological restrictions (e.g., McLaughlin & Vitak, 2012). Many of these studies contribute to our understanding of presenting self (e.g., Uski & Lampinen, 2016) while neglecting the importance of evolving interactions in an ecology of communication technologies for creating and maintaining social relationships.

In contrast to these studies, our research points toward the flows of social interaction by studying how these evolve during online dating. In a similar vein, Yang, Brown, and Braun (2014) showed how layers of electronic intimacy are negotiated during the development of personal relationships. They illustrated this in relation to their study's respondents: "They usually started communicating with new acquaintances through Facebook and then progressed to instant messaging (IM), after which they might exchange cell phone numbers and, finally, scheduled a time to meet, if everything went well" (2014, pp. 9–10). In this example, each communication medium represented a different form of electronic intimacy to those studied. This perspective calls for studying social relationships across digital media and through a series of interactions in order to understand how flows of social interaction are constituted. Our aim, then, is to understand specifically the role of photographs in the build-up of long-term partnerships.

METHODOLOGY

People searching for a long-lasting romantic relationship are good participants to study because they specifically want to build close relationships, and they need to consider what communication

technologies to use in order to do so. Moreover, flows of interaction can be studied efficiently by studying how two people, often initially strangers to each other, get to know the other person, starting from the first match of swipes on Tinder. Photography is here of particular interest, as the decision to like someone is made based on visual cues in the photos uploaded. We are interested in understanding how photos are used when trying to find long-term partners and how their role changes during the flows of social interaction, starting from Tinder and then quickly moving to other communicational settings, including face-to-face meetings.

We interviewed 13 participants: nine females and four males. The participants' ages ranged from 23 to 42 years, with an average of 29.5. Based on whether the participants were searching for men, women, or both on Tinder, one participant was bisexual and the rest were heterosexual. At the start of our study, nine of the participants were single and four were in a relationship, with two being in a long-distance relationship and one dating someone not met on Tinder. None of the participants mentioned having any children. Most of the participants had a university degree or were pursuing one. Although we did not ask for more specifics of their sociodemographic backgrounds, as far as we can tell, the research participants belong to the broad, educated middle class and live in the capital region in Finland.

We recruited the study participants using Facebook. The sample was chosen carefully in order to meet three main requirements: They (a) are or had been seeking a romantic life partner, (b) are or had been using Tinder, and (c) had met some of their Tinder matches face-to-face. For ethical and practical reasons, the subjects had to be at least 18 years old and live in the Helsinki metropolitan area. All interviewees were informed of the voluntary nature of providing information and were asked to read the project description prior to consenting to participate in the study. All interviewees confirmed participation in the study, as well as allowed for the analysis of the data collected. Personal identifiers were anonymized; however, one participant agreed to a selection of her photos to be published as part of this research article.

As research methods, we used semistructured interviews and observation, which were deemed suitable for studying a novel topic. Semistructured interviews allowed ample space for research participants to reflect on their dating experiences, while also providing the interviewer a means to guide the conversation and ask clarifying questions. The interviews were held in autumn 2016 in the Finnish language at university premises (i.e., Aalto University and the University of Helsinki). In the interviews, the participants were asked to tell about the Tinder matches they had and about the way the relationship with these people progressed. The participants told freely about their relationships while drawing a timeline of main events and a curve showing feelings toward their date at specific times depicted on the timeline. The use of the visualization task was added early to the interviews because we noticed that when the interviewees simply told how an event unfolded, they needed assistance for reflecting on what had actually happened. In addition to interviews, the study participants were asked for permission to see and analyze their Tinder profiles, as well as the conversation histories that they had. This part enabled us to access the kind of photos that the participants used in their Tinder profiles and exchanged on instant messaging services with their dates.

All interviews were conducted in Finnish, transcribed by one of the authors and a transcription service and then analyzed using grounded theory. First, topics and themes were identified, and these were discussed among the authors in regular meetings. While the individual stories of the participants differed, after conducting and analyzing 13 interviews, we

deemed to have reached thematic saturation. The quotes for this paper have been translated into English by the authors.

FINDINGS

Photos Used to Influence One's Future

In online dating, profile photos primarily influence people's futures, instead of functioning as reminders of the past. The profile photos may have been taken initially to remind oneself of the moment of capture but, once uploaded to Tinder, they await an uncertain future. This is the case because users are aware that many expectations of them are formed based on profile photos. Due to the user interface, a user must choose between a nope and a like for each profile presented in order to proceed to the next possible match. Thus, profile photos play an important role for finding a long-term partner via the service: A profile photo forms expectations for future social interactions.

These expectations are verified, changed, or proved inaccurate later in conversations on Tinder or other communication services, or at the latest when meeting for the first time in person. Due to the role of expectation formation, users want to manage the impressions they give to others by choosing their profile photos with their futures in mind, as they want to draw the interest of certain others who could be potential romantic life partners. The ways in which this is done is culturally specific, and interesting comparisons could be made in future work between research participants from very different backgrounds. In the following, we show how our participants negotiated these expectations in visual form.

Visual Appearance, Versatile Personality, and Distinguished Codes of Communication

When searching for potential long-term romantic partners, the participants had expectations toward others' based on their Tinder profiles. These expectations were geared specifically toward the photos in the profiles. Based on these expectations, our participants noted explicitly three aspects to include in profile photos in order to draw their interest. First, visual appearance was very important for the interviewees. They wanted to see what the other person looks like and particularly wanted the other person to be attractive in their eyes. Most participants felt that seeing the other's face was mandatory, underscoring the importance of the facial profile pictures. Second, the participants were not only interested in visual attractiveness of those depicted, but they wanted to get to know something more personal about the potential date. For example, they were interested in something about the person's personality or hobbies that could be deduced from the visual clues (see Figure 1 and Figure 2). Versatility in pictures enabled others to get a good idea of what the other person looks like and what s/he is interested in, not through just one image but in several images. Finally, the participants wanted profiles to be distinctive, not repeating the same visual tropes as others, so that the profile would stand out positively from other profiles. They thus expected the person uploading profile photos to be knowledgeable of the Tinder visual code of communication and the ways in which they could distinguish themselves from it.



Figure 1. A participant wanted to show her social and happy personality in a Tinder profile photo. The photo also shows her face, which most participants wanted to see in a Tinder profile.



Figure 2. In this Tinder profile photo, the participant is writing poems. She also wrote a poem on her Tinder profile to illustrate further this interest. With the photo, she wanted to show the deep and thoughtful side of her personality in order to find a similar person.

Visual Appearance in Profile Photos

Our participants paid considerable attention when choosing their own Tinder profile photos, with the goal of visually appearing attractive to potential future dates. Additionally, when they chose with whom to match, personal attraction toward the other person's visual appearance was paramount. This did not mean that the person had to be "*some Mr. Finland or Ms. Finland*," as illustrated by Sarah's comment. Rather, some of the participants compared attention to appearance on Tinder to that of going to a bar, as told here by Jason:

If you compare Tinder with going to a bar, it's the same thing: You see directly from someone's face or her profile photo [on Tinder] what she looks like. And you can tell if she looks like someone you'd like to talk to.

However, even though one's visual appearance can be seen from profile photos and may be deemed attractive at the time of the swipe, there is no guarantee that there is attraction toward the person when meeting face-to-face. In fact, it was very important for participants to meet personally, at some point, with their Tinder matches in order to know whether there is chemistry between the couple. Many of the participants thought that this spark cannot be perceived online. Nevertheless, some participants did talk about instant feelings of chemistry online, but even they suggested that meeting face-to-face was essential in order to verify attraction offline as well. Sarah talked about the necessity to meet the other person offline to know whether there is chemistry:

For me, it's the meeting in real life that counts because, no matter how good the communication is there [on Tinder], if I'm not interested in him physically, then I'm just not interested. It's a lot about unconscious things like how you like his scent, for example. You can't know that there [on Tinder].

In these cases, the profile photos were chosen to facilitate pleasurable face-to-face meetings in the future. The participants underscored that offline meetings with that certain bit of chemistry might lead to long-term relationships.

Distinguished Codes of Communication in Profile Photos

Individual profiles on social dating sites are part of larger photo collections, of operational photo archives (McQuire, 2013), consisting in many cases of hundreds of thousands of others who are also looking for future romantic partners. So while a single account may have very interesting photographs, these photos often tend to consist of repetitive visual attributes that easily lose their distinctiveness. Jason remarked on this repetition in visual presentations pointedly:

People have a lot of dullness in their photos. For example, very often, there is an extreme sports photo where one's skydiving or they're on a holiday somewhere. All those holiday photos, people have them very often. If it's not the first photo, then it's one of the other photos. And there are these social media trends that you pose in a certain way, this can especially be seen among the profiles of younger women, very like, somehow, I dunno. Like all the photos look exactly the same. You can't tell the difference between these people. I think I've seen this person before, even though I haven't. You categorize these people very easily as people who, somehow, probably don't have much to them.

Many participants felt that most profiles are actually rather similar on Tinder, as illustrated by Jason in the previous quote. The participants named several clichés in pictures, such as cars, gym selfies, and vacation and sailing photos. They disliked seeing these common themes in profiles, and these clichés were often a reason to dismiss a profile. However, Tinder users must know of and about the visual code of communication in order to distinguish themselves favorably from the crowd.

Interestingly, participants saw different things as clichés depending on their own interests. Therefore, although some might consider a particular visual attribute a cliché, it may not bother someone who likes the same thing. Instead, the photo suggests common ground, which many consider a good start for dating.

Balancing Being Honest with Showing One's Best Qualities

In a Tinder profile, a person can present only six pictures and 500 letters of text. Particularly because it is not possible to include significant information in the profile, pictures are chosen with great care. After an initial selection, many participants talked about modifying their Tinder profiles from time to time. Some of them wanted to test different kinds of profiles to see what kind of information improves the matches—in terms of both number and quality. Additionally, through experience with using the service, the participants gained knowledge of successful codes of communication, which they then used to modify information in their profiles. The outcomes of online discussions following a match and disappointments from first dates helped them gain the knowledge needed to tinker with their Tinder profile toward better future interactions. As Holly realized when others kept asking for a photo showing her figure, it was beneficial to add a picture showing her body figure on her profile:

But now I have noticed that I don't have a body photo there, so people ask for it in a conversation, and I've been thinking that maybe I should add a body photo here.... But now I've started to think that maybe it limits my chances if I don't have a body photo, that maybe people think I'm a beached whale if I don't have one, I don't know. But I'm seriously considering that I should take a proper body photo of myself.

The research participants wanted to show their best qualities in their Tinder profiles, which might lead to very specific kinds of pictures, providing their matches with wrong kinds of expectations. This is why our research participants thought it beneficial to be open and honest about themselves in their profiles, thereby including other types of images that might not interest seekers generally but might interest better matches. This need for authenticity has been found in related Tinder research too (e.g., Ward, 2017). This approach was especially true for our participants because they were hoping to find a romantic life partner—and avoid meeting a variety of one-night stands. In order to draw the interest of potential life partners, interviewees believed it was better to concentrate on honesty rather than overemphasizing their appearance or abilities. Betty described the thinking behind her choice of her first Tinder profile picture that she thought was not very attractive but showed her personality well:

I made quite some changes to my profile because I felt that I wanted to be met as me, as a person, and not because of my looks. I am searching for a soul mate who would like me as the kind of person and human being that I am. In the first photo, I have no makeup on and I think that I look odd and not that pretty. However, it's the most genuine me, and I was

happy when the photo was taken. I thought that photo shows my personality better than an intentionally cute photo where I am something that I would like to be.

As the participants disliked seeing clichés in other people's profiles, they tried to avoid clichés in their own profiles. To achieve this, they considered how they might present themselves in photos to make themselves stand out from the crowd. Sometimes this was difficult when clichés and interests were overlapping, as Jason noted:

But it was funny when I began using Tinder, and I've honestly always liked cats, since I was young. And I've liked music since I was 13 years old, and so I had these things in my profile. But then it was amusing when the Iltalehti, a local daily [newspaper], wrote: "Men, put these in your profile to get matches," and these same things were there [already in the profile]. My friends were like, "You're pretty bad for using those kinds of clichés." But it was easy for me because I genuinely like these things. But, then, the other sex thinks that, "Oh no, this is one of those guys again." And I've heard from many female Tinder users that there are a lot of cat guys in there. And a woman often has in her profile, "No cat guys," or something. It's like, I've been cornered! That's why I don't have anything about cats in my profile, I think, and no cat pictures because there's this stigma on Tinder, a kind of meta thing. So, there's nothing about these things in there.

Because Jason thought his love of cats was a cliché on Tinder, he did not want to show his interest so that he would stand out from the crowd. However, when looking for a romantic life partner, he was also considering that it could still be better to tell about one's interests. When choosing to tell openly about things that may cause some people to dismiss the Tinder profile, one can influence the future by avoiding likely future conflicts and disappointments, as told here by Annie:

At times, I even put up a photo of me and my cat even though it's a huge risk. Some people are so allergic to animal photos. Like "Okay, this one has a cat; she's crazy—next!" [laughs]. Usually I didn't put up any cat photos but, maybe a couple of times, I did when I thought that if someone hates cats then he's not for me.

Therefore, while visual presentations were often chosen in order to get many matches, our research participants were also clear about the need to discourage those from contacting who would not be in accord with important parts of their lives. A match from someone on Tinder is not necessarily a match for life.

Drawing Impressions of Others from Minor Cues in Photos

To generate a clear idea about a person on Tinder, the participants formed impressions of others based on minor cues drawn especially from photos. These impressions were linked to the things that the participants valued in others. For example, as most of the participants were university graduates or students, some of them also valued education in others, and interestingly believed that they could figure out a person's education level from photos, as depicted here by Carol:

Well I can give a provocative example that educated men never have a huge number of tattoos, and they don't have a cig between their teeth and are wearing a Guess shirt by the campfire [laughs]. But, even if they are once a year at a summer cottage like that, they wouldn't have a photo of them taken like that, or they wouldn't put it on Tinder.

For Carol, tattoos, smoking, and clothes of certain brands in a profile photo symbolized lesser education. However, the formed impressions on any given profile are based on the likes and dislikes of the viewer. As can be expected, then, impressions formed by different people from the same profiles can be diverse. Similarly, the participants also talked about different things that they perceive in profiles. Participants noticed various cues in the photos and interpreted these in their own ways. In the following quote, Emily talked about her dislike for sailing photos and other cues in photos depicting wealth.

If a person is interested in sailing, sure he can have a photo of himself in a sailing boat nothing wrong with that. It's just that, from many of them, you can clearly see the purpose behind them, that the golf and sailing photos are there only to show a certain amount of wealth, and not for any other reason. It doesn't matter if it's a photo showing a man in a suit with a glass of sparkling wine in a sailing boat or wherever, if the point is to show, "Hey, I have dough." And I'm not interested in dating people who feel the need to tell you that.

While our research participants valued education, many considered that wealth was something that should not be made explicit in order to fit their ideals of a socially suitable match. This is very much in line with broader societal values in Finland, where showing off is considered inappropriate behavior, and heads of state, as the current president, is depicted in mass media as someone who is happy to sit at an event on the stairs if seats are no longer available.

Searching for as Much Information About Others as Possible

As the information in a Tinder profile is scarce, the participants usually searched for other social media profiles, bulletin boards, or information on company Web pages to verify their initial impressions and to gather additional information about the persons of interest. The interviewees usually wanted to get as much information as possible before going on a date with someone. Some of the participants realized that, at times, it is possible to get crucial information from other social media profiles. For example, some participants mentioned that they decided not to continue communication with the person of interest after seeing on that person's Facebook profile that s/he was racist or in a relationship with someone else, as told here by Jason:

This particular female had her Instagram username in her Tinder profile, and her Instagram had her name. And when I put her whole name to Facebook, I found out that she was in a relationship. Then I backed off—went away. It was really shocking! I was like, I can't believe how I dodged a bullet here.

Some of the participants realized that social media profiles also are lacking in information and that the impressions formed from the profiles may sometimes turn out to be untrue. The additional information gained from other social media profiles influenced, and at times changed, how a person on Tinder was perceived. The initial photos seen and initially evaluated and selected by the interviewees to direct their futures often were accompanied by additional searches on that person, if a spark of interest had been ignited. Although someone might seem visually pleasant, most participants wanted to avoid dates with people who they considered in advance not being suitable life partners, which is why they tried to search for as much information as possible online about their Tinder matches. Moreover, a few female participants were concerned about their safety when meeting an unknown person for the first time and thus wanted to gather information to be more at ease. These mediated means of communication were of particular importance in directing dating behavior. Still, the research participants stressed the significance of the first face-to-face date. When meeting in person, the participants tried to verify or prove inaccurate the expectations they had made from online information, thus they valued face-to-face meetings as particularly revelatory, in contrast to mediated interactions.

Restricting Available Information About Oneself

Participants believed that they usually can form accurate impressions of others by searching for additional information on the Web on possible dates and were eager to look at information on social media profiles beyond Tinder. However, the participants did not want to provide too much information about themselves in their social media profiles. This *desire for information asymmetry* represents a paradox: They sought online information to confirm the suitability of their selection of whom to date, yet they wanted to restrict available information about themselves because they did not want to risk others forming incorrect impressions about them. For example, while it is possible to link one's Instagram profile to one's Tinder profile, most of the participants preferred not to share this content with unknown people. This paradox in wanting to search for a lot of information but restricting one's own available information remained for some interviewees difficult to explain verbally. Jason exemplified the paradox well:

I believe I have a pretty good sense of people, especially in terms of the kinds of profiles people have, for example regarding Facebook or Tinder. But I can also think about it the other way around—that I don't want people to make assumptions about me based on my Facebook feed because I have only posts concerning cats. And I do like cats a lot, but someone might think that I'm just interested in one thing. I'd like to be able to create the image of me myself—in interaction.

Jason related confidence in his ability to derive accurate impressions of others based on their social media profiles while assuming others are not capable of making similar correct impressions of him. By restricting their own profiles, the participants wanted to make sure that others do not reject them as potential dates because of too few cues or posts that could be misinterpreted. However, they were not similarly worried about forming false impressions about others based on profiles. They trusted their own instincts in making correct expectations. The risk of not finding out disqualifying information about the other person, such as racism or an ongoing relationship, seemed to be a more significant concern for the participants than the risk of making incorrect impressions.

Photos Used to Share Presence

While the major task of sorting out who to date in the future is done in advance, and photos play here an important role, photos after the contact with their match are also used importantly to share presence with distant others. Once our participants had been on a date face-to-face, they kept sending, especially, photos to their love interest between dates in order to create feelings of copresence, using other media than Tinder to do so. By sending photos, our interviewees wanted to show their dates what they had been doing. As they were able to do so using mobile phones in near-real time, they could connect with each other instantly after something had happened—or often even during an event--providing a feeling of distant closeness.

Photos Help in Recalling and Gathering New Information

The profile photos on social dating sites lose much of their significance after couples have met, but they still help in recalling the person. Without photos, people would have to rely on their memories of the person between dates. Profile photos not only help in remembering, but new aspects of the other person can be inferred from the various profile photos. Additionally, the photos can be viewed differently depending on what one now knows about the other person. Betty told about the importance of photos after the first date:

It does have a huge meaning, especially as you can't see the other person. So you have a way to remember that person. And because there are different photos, you'll see other aspects of the person as well. But especially, you somehow remember better what kind of a person he is.

Photos also allow a person to see with whom a person of interest spends time. A person's friends and relatives can tell a lot about the person, and thus it can be revealing to learn more about these people. The participants did not usually meet the other person's friends early in their relationships, but they could get a sense about those friends from online photos, as Nancy told:

I actually had a pretty good idea about his friends before I met them. It was funny that I had been able to match a face and a name from Facebook, so when I met them, I already knew who was who.

However, the interviewees felt that mutual friends could be a disadvantage in Tinder dating. For example, when Rachel learned that she shared several common friends with the individual she selected, she was hesitant to go on a date with the person. From Rachel's perspective, such overlap in social networks suggested to her that the relationship is not going to last:

Well, I'd say that if there's a lot of common friends, I might start thinking that, when you know that, it's probably not someone, something, that necessarily lasts for long. So do I want to, you know, take the chance if people start gossiping about me dating some guy a lot?

Sent Photos as Conversation Facilitators

The participants typically switched from Tinder to other social media services rather quickly after a match, usually even before the first date, to make it easier to work through the logistics if they actually were planning to meet offline. One of the reasons to stop using Tinder was that it is not possible to send photos through this app. All participants enjoyed sending photos while instant messaging, and some participants felt that dates would carry even more value if photos could not be sent. Just as with social media overall, shared photos helped the couples stay in touch between dates. Moreover, the shared photos sometimes benefited the sender's communicating about certain things. For example, Mary felt it was easier to communicate feelings with pictures:

I'm not good at sending messages saying that I'm missing him or, somehow, expressing feelings in a message. So I say those things more face-to-face, and then I can send a cat meme or something like that. I can't give a very good example of it but something that shows a bit how I'm feeling with a picture.

It not only seemed easier to communicate emotions with pictures than with text, but some things (e.g., emotions, events) the participants considered important were expressible only with pictures and they would be pointless to talk about without the visuals. Emily stated that, without pictures, she would only send a text message when she has something important to say, bringing forth the idea that people might communicate less often between dates if they could not send pictures:

Many photos that I send, they don't necessarily communicate the thing itself. They are rather something that is told with images. Maybe I'd rather send messages when I actually have something concrete to say, if I couldn't send photos or something similar.

Pictures also can serve as conversation starters. Particularly when neither party has something specific to say but one would like to communicate, a sent photo provides a reason for the couple to have a conversation. Kevin described this dynamic in practice:

So, you don't have to go and ask, "How are you? How's it going?" You can send a cat photo. And then, kind of automatically, there's a contact.

The importance of using photos for phatic communication is particularly evident in dating. Indeed, Miller (2008) predicted that online communication, over time, would move significantly toward the phatic.

Sharing One's Presence by Sending Photos

When a couple cannot be together, one can update his/her love interest about what s/he has been doing by sending photos. The participants indicated that they often sent situational photos rather than selfies that did not provide a context. The goal of this practice, the participants noted, was the desire to share the things they were doing and the places they visited. The photos presented meaningful moments to the person, and the interviewees enjoyed seeing what the other person has been doing, as explained by Rachel:

Yea, you want to share that moment with that exact person—usually it's like that. It's less often anything like, yeah, usually it's not that you want to somehow, somehow show that, "Look where I am," or something. If he's someone who I'm interested in, then you send him photos and, well, you want to share the moment or you want to show that, "Hey I like to do these sort of things." For example, like I've been gathering mushrooms and then I take a photo [laughs], "I do these sort of things," because they may not come up in conversations like, "Hey by the way do you gather mushrooms?" And, then again, some may find it odd, but for me it's very therapeutic [laughs].

As Rachel's quote illustrated, the participants wanted to share their lives with their dates by sending photos. These situational photos also enabled the participants to bring forth new aspects about themselves while, at the same time, getting new information about the other person. In a long-distance relationship, the participants felt it was especially important that they could send photos to their love interests. As Annie related, the distance between them meant the couple saw each other less often:

And especially now, as I have a long-distance relationship, as my man lives in another town, we do send a lot of photos. It brings the other person closer.

Photos as Mediators of Togetherness

Already in a Tinder profile it is possible to use visual cues in photos to show what one enjoys doing. For example, Betty had a photo of sheet music on her Tinder profile to symbolize how music as a hobby is important for her (Figure 3). These kinds of cues aim for the future, as the person wants to find someone with similar interests.

By sending pictures of specific themes, a couple can create solidarity. In the following quote by Emily, she explained that photos are sent not only to show what one has been doing but also to share common interests and thus create solidarity between the couple:

And we sent lots of photos of drinks. Okay, this is silly. It probably started when we had been drinking on our first date, and then the next day we sent photos like, "I'm recovering here," photos of pints. And it kind of remained that we didn't have to specifically tell each other that, "I'm going to a bar with my friends again," but you could just send a photo of a pint. Then the other person is like, "Ah, you're there again." It brought a kind of cohesion to the relationship—that it was very important for both of us that we had our own friends who we spend a lot of time with and we both like beer. So it wasn't anything like— It was a common interest. And another one was pizza. We usually ate pizza together on Sundays while having a hangover, but we also sent each other photos of pizzas. Like, "Are you envious?"

For pictures to bring a couple closer, they do not have to be photos taken by the sender. In fact, pictures or videos can build intimacy also when an unknown other person's social media posts are shared. Some participants shared funny and cute pictures or videos by, for example, tagging the other person in the comments of the picture. This kind of tagging is often mutual and it can thus create solidarity. It shows that the tagger is thinking about the other person.



Figure 3. A participant put a photo of a musical notation on her Tinder profile to symbolize how important music is for her.

DISCUSSION

As our findings show, photos are a particularly important communicational means for those seeking long-term partnerships. They are used to attract attention, as when uploading photos to one's Tinder profile, and for phatic communication, as when upholding a feeling of togetherness and distant presence after a match. The importance of photos is not self-evident because other means of communication are available, such as text, voice messages, or phone calls.

Related research on Tinder has focused mainly on the platform itself and pointed toward a variety of uses that it has, such as for casual sex, for finding long-term partners, or for purposes of excitement (Sumter et al., 2016; Weiser et al., 2018). As well, the negative uses have been studied, such as issues related to body image concerns when using the app (Strubel & Petrie, 2017), the possible addiction to a swipe logic (David & Cambre, 2016), or harassment and sexist abuse (Thompson, 2018). These studies tend to point toward other venues for meeting and communicating, but still they focused on the use of one platform. In contrast, our focus on photo use revealed different temporalities in the build-up of intimacy, depending on the stage in the process of getting to know a possible future partner. Although related research acknowledges the importance of Tinder's use for meeting later face-to-face (e.g., Duguay, 2017), and thus points towards the future tense in which many Tinder actions are performed, it does not address the particular feature of visual impression management on the dating application.

The care and thoughtfulness that our research participants showed and reflected upon when selecting their profile photos validates the importance of impression management on Tinder (Ward, 2017), as well as when using other social media (e.g., Uski & Lampinen, 2016). The future orientation of this impression management, recognizing that users do not know when someone will see their profile pictures, is evident in the use of dating applications. These photos are not intended, at least usually, to show "that what has been" (Barthes, 1980/1982), nor do they communicate in real time. Rather, the photos our research participants carefully assembled were intended to communicate toward the future and with people they usually do not know in advance. As such, the creation and selection of these images, uploaded to one's profile, entail modern forms of divination, prediction, and foretelling in that our research participants could not know in advance who would swipe their profile to like. In practice, they had to guess what kinds of images would possibly lead to a match and held a host of rules of thumb for doing so. While predictive pictures (Lehmuskallio, 2016), such as those taken by stationary traffic cameras to record speed violations, also are photos taken with a specific future in mind, their visual aesthetics are predictable because they need to be processed efficiently to sanction the speeders. Although many profile photos on Tinder seem, at first glance, to fit into the notion of predictive pictures, our findings show that what characterizes the visual assemblage of forecasted photos are the specific differences of one's profile photos in contrast to the mass of images in Tinder's image archives. What is forecast in these photos-done before they are thrown (i.e., cast) in a specific direction (fore-, *prefix*, and cast, *verb*; Oxford English Dictionary, n.d.)—is a complex reading of potential likeability, including dimensions such as education, class, body type, hobbies, and profession.

In other and earlier dating applications than Tinder, which are more text-based, the profile has been framed as a promise that needs to balance veracity and misrepresentation in order not to disappoint a potential partner when meeting face-to-face (Ellison, Hancock, & Toma, 2011). In the case of Tinder, as our research participants were searching for long-term partnerships, the forecasted profile photos were selected in order to fit one's ideals of what a desired potential

partner would like. In that sense, forecasted photos were chosen to predict what an unknown respondent would find enticing. This reflexive stance in creating and selecting one's profile photo shows the inherent uncertainty that lies within these forecasted photos, one that involves both the communicative situation and the use of photos for communication. The person assembling these photos does so for someone whom s/he does not know but who s/he hopes, in turn, will become interested in the person casting the photos. As our findings show, photos of people tend to be interpreted in a wide variety of ways and seemingly more tied to the interpreters' visual imagination than a clear set of commonly shared attributes. Although a useful first taxonomy of visual cues in selfie photos and their relation to perceptions of authenticity has been provided using the Q methodology (Lobinger & Brantner, 2015), our participants focused on a wider variety of cues in assessing the desirability of a potential partner and did not focus solely on the specific expressions of a depicted face. Thus photos and their related attracting connections facilitate a wide array of interested or disinterested interpretations that remain difficult to control, even though the visual cues are crafted carefully to achieve that explicit purpose.

From the point of view of our research participants, the person who becomes interested in their profile should not be someone who is unlikeable, harassing, intimidating, or insulting. S/he also should not be someone who does not fit within one's desires and expectations of the profile creator for his/her future. Thus, forecasted photos entail complex assemblages, making them a special case of photographic impression management, especially because one does not know who actually is looking at the photos. They differ from classic notions of impression management in which a person presents an image of the self in a particular face-to-face situation where one knows to whom one is talking (Goffman, 1990). This is not applicable in the case of Tinder.

Considering forecasted photos more broadly, it becomes apparent that an important aspect of contemporary image use, including that of profile photos, includes modern forms of divination and foretelling. For example, job applications often include profile photos, which as such do not entail comparative information for reviewers, as written lists of achievements do. Rather, the profile photo on the application reflects an understanding that an applicant has of the visual characteristics a reviewer would find compelling. While these visual characteristics in job applications differ from those found in dating, what is similar is a communicative situation in which a photographic medium needs to act as an agent convincing a previously unknown person to contact the person who cast the image. In addition to online dating and job applications, advertisements belong to this group, which is why advertisers typically strive to get a better understanding of to whom they are directing their advertising. This information, collected in the industry through various means, is used in presenting an image that leads to desired results (e.g., a customer buying a specific product or voting for a particular candidate).

The importance of the future tense for considering photos as digital images also has to do with their specific materiality that may have an effect on the use of forecasted photos. A digital image is virtual because the image cannot be seen immediately in its physical form by looking at the storage medium. In contrast to looking at, for example, developed film negatives, special equipment and software is needed to make the photo visible to a human eye.

Once the digital image is made visible, that is, by rendering it on a computer screen, it is visible only temporarily. When another image is rendered visible, the previous digital image disappears or is visible usually in different form, such as part of an image collage (e.g., in thumbnails). This adds to the ephemerality of digital photos, especially of those on social media, which often are used as part of situational communication and not in order to be seen over again.

Also, the possibility of replacing a stored image with another, editing the picture in various ways, or reusing it in different contexts underscores the ephemerality of digital images, in contrast to film and paper-based photographs. In some cases, such as the photo sharing service SnapChat, this ephemerality of the digitally networked image is a key component of the design principle because a shared picture can be viewed only once and for a short time before it is deleted.

Treating networked images as forecasts with ephemeral images that are used for phatic communication is not without frictions. As recent literature is increasingly pointing out, although end-users, such as our research participants, may use photos in order to start a chain of actions that preferably leads to their intended goal, large amounts of digital images can be stored with negligible costs either in private hard drives or in the ever-increasing cloud services. This potentially limitless capacity allows people to save all photos, without the need to select which of them are important. This typically results in a person's photo archive with too many pictures, making it difficult to find a specific photo or even remember its existence. Some researchers (e.g., Halpern, 2015) have speculated that digital media change the way the human memory works, not only but also due to a person's inability to find a lot of the digital content once captured. On the other hand, a growing body of work addresses this accumulation of digital traces critically by pointing out that businesses enabling these services collect this information into vast databases, first, in order to make these photos available when needed, and second, in order to collect user data that can be used for economic purposes. The use of these photos, along with other kinds of data, is in this strand of related research equated with surveillance capitalism (Zuboff, 2015) or, even more sinisterly, with data colonialism (Couldry & Mejias, 2018).

CONCLUSIONS

Images, and especially photographs, carry specific agency in computer-mediated flows of social interactions because they allow for phatic communication—a sense of mediated intimacy—which was at times for our research participants easier to do for dating purposes than sending elaborate, witty, emotional, or analytic text messages. Common interests were felt to enhance this intimacy. As people spend time together, they form symbols of social relationships. Inside jokes are shared in person as well as on social media, and it is especially easy to share these esoteric symbols by sending pictures using social media. These symbols make the couple feel that they have something in common that others cannot understand, thus creating solidarity. Photographs have an essential role in all these, especially today when mediated social interaction is moving to networked social media, where it is easy to share photos of immediate situations and those published by others.

Before arriving at this stage of visually mediated distant closeness, our research participants took meticulous care to create and adjust their profiles on Tinder, a location-based real-time dating app, designed specifically with images in mind. We call these profile pictures forecasted photos because they are assembled carefully before they are cast into the wide and far-reaching realms of the Internet. This work was done by our case study participants in order to find someone who eventually will become very close and intimate with them, particularly so because they were searching for a long-term relationship. The initial addressees of the forecasted photos remain unknown to the person creating one's profile because one does not know in advance who will see these photos nor, due to the technical affordances of the dating service, who has seen them, especially if these others have not "swiped to the right." Forecasted photos are thus created based on one's ideas and desires of what an unknown person will like and pay attention to, an unknown person with whom one will want to become intimate. As we discussed above, the notion of forecasted photos is useful for other forms of visual communication as well, helping to pay attention to the future tense of photography.

Based on our study, we argue that photos play an important role in online dating in that they are first chosen and uploaded to influence future interactions, particularly regarding who will contact the dating profile owner. Second, although those interviewed wanted to meet a match soon in person, photos enabled the creation of copresence between offline dates, especially by sending photos on instant messaging services instantly after capture. Third, the classic notions of photos depicting the past became important when wanting to be reminded of who the person actually was, whom one had just met. Taken together, we argue that photos enhance intimacy building while dating on social media. This role should be accounted for by paying attention not only to photography's relation to the past, or the present, but also to a future tense of photography.

The empirical grounding of the main findings, as well as the implications for theory, discussed below, are limited by a relatively small sample size, focusing on 13 adults in Finland's capital region, all searching (or having searched) for long-term partnerships on Tinder. Tinder itself has important mobile affordances that explicitly support the role of photography in searching for matches, as well as lead people quickly to take up other communicational means for further interactions. This means that Tinder itself, as an application, leads those searching for dates to focus early on the visual communication via photos that may affect the latter importance that these photos have for creating copresence when using other communicational media.

While location awareness is an important mobile affordance of Tinder, its role for interpersonal communication has been followed only anecdotally while collecting the empirical data. After a match, if the relationship starts to develop, various messaging services (SMS, Instagram, etc.) are used to keep in touch and to build a shared copresence. This appears to be particularly important if there is geographical distance between the couple, as Tinder does not support communication between people being too far away from each other. While photos were sent using other communicational media to share one's whereabouts ("sharing the place"), Tinder itself does not allow doing so. The flows of social interaction are thus negotiated concerning not only time and the selection of situational communicational media to use but also regarding one's situational location. The role of place in interpersonal visual communication is an important aspect that could be taken up in future studies, asking especially how place, time, and communicational media affect interpersonal boundary regulations, and thus notions of placemaking.

Keeping track of these flows of social interaction is a challenge for future research. Researchers can partly discover them by interviewing or by accessing communication data from single services (e.g., Tinder, WhatsApp, SMS), but the exact flows may be impossible to track or to memorize. Here software that collects information about the use of a digital device and its various applications, mapping time, location, and communication partners may provide an avenue to shed light to this novel research topic.

IMPLICATIONS FOR THEORY

While previous research on online dating, especially on Tinder, tends to limit itself to studying the use of one communicational medium at a time, our work shows the importance of focusing on the flows of social interaction among multiple platforms in order to understand the role that different communicational media take in searching online for long-term partners. As our findings show, the process unfolds starting from assembling a profile to a search for candidates, to matching, starting a chat, moving to other communicational media, to a face-to-face meeting, followed both by computer-mediated and further face-to-face-meetings, all depending on both parties wanting to advance.

A focus specifically on the uses of photography within online dating allows us to point to the changing roles that visual communication takes in flows of social interaction. In contrast to related research, which tends to stress either the past ("the has been") or the networked realtimeness and ephemerality of mobile photography, our research uncovers forecasted photos, a specific focus on the future when assembling profile photos. Only later, using other communicational means than Tinder, do photos take the roles discussed in related research for creating copresence and distant closeness, used for enhancing intimacy.

Both concepts identified in this research—flows of social interaction and forecasted photos—offer new avenues for research, helping to pay attention to visual communication within a broader ecology of practice.

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