Places of Joy and Worries: Rīga Port Neighbourhoods in Facebook Photo Posts

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Abstract. Facebook (FB) has increasingly entered the daily lives of Latvians, and, as in other countries, the various virtual communities created within this social network site are directly connected to or even derived from communities existing in the physical world, such as place-based. This article focuses on two such virtual communities that have emerged as groups of residents of Rīga city neighbourhoods, focusing on the analysis of the images posted in these groups. There are several research questions which are centred on the neighbourhood places that are depicted in the FB posts. What do they say about the everyday mobility and borders of the neighbourhood? What places cause joy and worries? How do these visual representations differ in two FB groups? In exploring these questions, both qualitative and quantitative approaches and methods were used. An additional methodological question arose: which of these approaches is the optimal way for such a small-scale *ad hoc* study? At the end of this pilot study, it was concluded that the visual content (mainly photographs) generated by FB groups of urban residents is a valuable reference material that helps researchers understand specific neighbourhoods as if they were looking through the eyes of residents. Their vision has recorded not only the places of their neighbourhood. Comparing the content of the two FB groups, there are significant differences in this regard. By combining qualitative and quantitative image content analysis, more reliable results can be achieved, but at the same time, quantitative content analysis (both sampling and image coding) require relatively huge resources, especially if the aim is to automate workflow, which raises the question of how rational the use of this or that approach is.

Keywords: Urban Neighbourhoods, Facebook Groups, User-Generated Content, Digital Ethnography, Content Analysis of Photographs, Bolderāja, Daugavgrīva, Vecmīlgrāvis.

1 Introduction

In the research project ‘Living Next to the Port: Eco-Narratives, Local Histories and Environmental Activism in the Daugava Delta’ we focus on the relationship between the inhabitants of the Rīga port neighbourhoods and the environment in the context of post-Soviet deindustrialisation, shrinking city and port expansion. So far, our main

sources of data and methods have been life stories, interviews with community activists, participatory observations and online survey.

One of the central concepts and objects of the research is the place, as perceived in the tradition of humanistic geography [26, 31]. In already collected and analysed data, abstract 'absolute space' is becoming 'the social space' [21], meaningful and habitable, to which the interviewees and the respondents assigned certain values and stories. They can be positive, and it shows the 'place attachment', negative or neutral. Close and beloved places are most often associated with nature (sea, river, forest, park) or private space (house, yard), but ecologically and / or socially dangerous – port, streets, public outdoor space [1].

Three of our studied neighbourhoods have two active Facebook (FB) groups – Vecmīlgrāvis and Bolderāja/ Daugavgrīva – and the purpose of this article is to analyse the representation of these neighbourhoods in images of these groups. We perceive these photos as stories about the neighbourhoods and assume that residents share photographs of places that are important mostly to their everyday lives [5, 24].

This micro-study has four research questions: (1) what places are depicted and (2) what they indicate as the boundaries of the neighbourhood; (3) what places and situations cause joy and worries; (4) how the FB representations of these neighbourhoods differ (or do not differ). Both qualitative and quantitative approaches and methods were used to answer these questions, in fact generating a new research question: which of these approaches (or a combination of both) is the optimal way for such a small-scale *ad hoc* study?

A separate issue concerns the methodology and workflow of such a study. The set tasks can be performed both manually and in an almost completely automated and computerized way. The object of analysis (FB images as well as their metadata) exists digitally and in a digital environment, and today's computer vision and other data analysis algorithms are of sufficient quality to be relied upon in many cases. This is even more the case for automated data acquisition. At the same time, one may ask how the creation of such an automated workflow is justified by the goals, needs and possibilities of the given research, knowing that it would require significant resources, especially from a researcher whose education and specialization is not computational research.

2 Social Networking Sites as a Digital Representation of Place-Based Communities

'Living Next to the Port' study focuses on the attitudes and actions of individuals and the community as a whole. Therefore, community and place are among the main theoretical concepts. In defining the community, we adhere to the classical and somewhat romantic-utopian tradition of the social sciences and humanities, formed by the interpretations of *Gemeinschaft* by Herder and Ferdinand Tönnies, and in fact continued by the representatives of modern communitarianism [14]. At the same time, by taking a critical approach to the analysis of specific places / communities, such as urban neighbourhoods, we are likely to observe that nominal residents share a geographical location (which does not guarantee that they will also have regular face-to-face communication),

but common values and communication structures are already much more fragile, if they even exist at all.

In the tradition of humanistic geography, the definition of place is dominated by a phenomenological approach that seeks to explore reality from the individual's position, his/her experience, his/her daily world, his/her paths and landmarks [31]. Although vague and difficult to grasp, one of the most important concepts is place attachment, which refers to people's subjective and emotional attachment to certain places [11, 12, 37]. The conceptualization of the latest concept of place highlights another important trend driven by the increasing mobility (including everyday) of people. Different geographical locations are becoming closer and more accessible, and in the course of people's daily lives, various spatial constraints are becoming less important, which means that our daily lives and identities can be linked to multiple places at the same time [9, 17, 23].

Although even in the relatively recent past FB and other social networking sites (SNS) were often seen as more of a youth affair, this has changed and the content of FB groups is increasingly being researched as a digital representation of certain territorial communities. The increasingly popular SNS groups of the neighbourhoods seem to be a real tool for building and strengthening the identities of these imagined and planned communities, even for initiating collective action. These assumptions about the impact of virtual communication on community development, empowerment, mobilization, belonging, placemaking, formation of place identity in studies are most often confirmed [3, 24, 32]. Communication in FB groups strengthens weak ties, cultivates social capital, and connects the virtual world to the physical [2, 6, 7].

3 Background of Rīga Neighbourhoods

In 2006, Rīga Municipality launched a project that divides the city into smaller territorial units – neighbourhoods (*apkaime*), in line with the increasingly common political vision of community-based development in the Western world, which, among other things, strives for more systematic use of endogenous resources in urban planning and management[1]. The city is still divided into six administrative districts, but since 2008 the 58 neighbourhoods defined so far are only a non-administrative division of the city, which aims to '[..] promote the strengthening of the identity of residential areas (neighbourhoods) by supporting territorial balance and improving the living environment.' The residents of the city have accepted it, as evidenced by the fact that more than a half of them have established neighbourhood associations (in the form of NGO). 24 associations have their own page / group on FB[2].

In the study 'Living Next to the Port', we are focusing on five of the dozen of neighbouring to the Freeport of Rīga neighbourhoods, but only FB groups of the biggest –

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[1] Rīgas teritorijas plānojums 2006.-2018. gadam, Rīgas dome, 2009 [Rīga Spatial Plan for 2006 – 2018, Rīga City Council, 2009, pp. 25]; https://www.rdpad.lv/wp-content/uploads/2014/11/RTP_Paskaidrojuma_raksts_ar_grozijumiem.pdf, acc. 2020.11.30.

[2] https://apkaimes.lv/apkaimju-kontakti/, acc. 2021.03.30.

Bolderāja/ Daugavgrīva and Vecmīlgrāvis – have been selected as the object of this article. Residents of Mangaļsala and Kundziņsala do not have such FB groups.

Bolderāja and Daugavgrīva are two neighbouring neighbourhoods, but their identities overlap more than in the case of other adjacent territories of Rīga. Not only Rigans living elsewhere, but even the inhabitants of these areas themselves often identify these areas as Bolderāja, using such spatial designations as 'Bolderāja beach' or 'Bolderāja pier' in everyday language, although geographically both the sea and the estuary are located in Daugavgrīva. The joint creation of the Bolderāja and Daugavgrīva FB page also testifies to this common identity.

In terms of population, the neighbourhoods of Bolderāja / Daugavgrīva and Vecmīlgrāvis are similar, each with about 20 000 inhabitants[3]. There are significant differences in the territories, both in terms of buildings and infrastructure and in terms of access to nature. Bolderāja together with Daugavgrīva occupies 10 km², whereas Vecmīlgrāvis – 7 km². Vecmīlgrāvis consists practically only of buildings (mainly block houses) and industrial territories (mainly the Freeport of Rīga), there are only two public access spots to the Daugava River and small patches of urban forest, whereas Bolderāja / Daugavgrīva is diverse in all of these parameters. Although a significant part of the territory of these neighbourhoods 'belongs' to the port and this territory is also fenced and inaccessible to the population, and access to Daugava river is available only at a few narrow spots, there are more forests, meadows, and a sea beach.

4 Characteristics of Two Analysed FB Groups

Both FB groups of those neighbourhoods – 'Daugavgrīva / Bolderāja / Усть-Двинск / Болдерая' (https://www.facebook.com/groups/dvinskcity) and 'Vecmilgravis' (https://www.facebook.com/groups/vecmilgravis) are very similar in terms of statistics and functioning and the content. They both started operating in the beginning of 2011, both are bilingual (Latvian and Russian, though the dominant one is the latter), they have a similar number of users (12 and 15 thousand, respectively).

Comparing the statistics of the FB group users I obtained from the group administrators, they are surprisingly similar, which is a good reason for comparison of their contents making sense and providing a statistical basis [20, 28]. In both groups women make up 60% (real proportion in all three neighbourhoods is 57%[4]) and 55% of the users are 25-44 years old. According to FB statistics, based on users IP addresses, 84% of members of either group reside in Rīga, while 12% of users are from abroad, and the rest are Latvians living outside of the capital. Which means that 16% of users do not live in the respective neighbourhoods (most probably they are expats). If we assume that all Rīga resident users are inhabitants of those neighbourhoods, then approximately ⅔ of all adult residents of the neighbourhoods have signed up in the groups.

The story of their creation and also of administration slightly differs. Vecmīlgrāvis group was created by two young individuals: 'Just because there was no Facebook

[3] Central Statistical Bureau of Latvia (2021) Table RIG010 [https://data.csb.gov.lv/pxweb/en/iedz/iedz__riga/RIG010.px, acc. 2021.03.21.].

[4] Ibid.

group of the neighbourhood;' [20] possibly also thinking of it as a possible source of income (they are still the only administrators-moderators of the group), whereas the Bolderāja/ Daugavgrīva group was initiated and continues to be maintained by local activists grouped around the association (non-governmental organization) 'Bolderājas grupa'. This FB group has two administrators and four moderators.

Partially different motivations for creating these groups are also determined by the 'Group rules from the admins'. The rules of Vecmīlgrāvis emphasize two things, apart from the fact that admins are the 'tsar and god' of this group and that cursing is forbidden. First of all: 'Without POLITICS (Political posts will be deleted !!)'; second, unsolicited advertising, including private advertising, is not permitted and will be removed. 'If you are interested in buying advertising in our group write here: [administrator's FB address]'. The rules of the Bolderāja group, on the other hand, are dominated only by calls to observe the norms of courtesy and respectful treatment of other participants in the discussion.

5 Empirical Analysis

Using two relatively unobtrusive methods, a qualitative analysis based on a digital ethnographic approach and a basic descriptive statistical content analysis, I analysed the images (mainly photographs) published in two FB groups of residents of the Rīga city neighbourhoods.

The analysis is based on two general assumptions: first, these FB groups are digital versions of these place-based communities and show the identities and meanings of these geo-social places given to them by the inhabitants themselves; second, the images have been published by the individuals and accepted by the group administrators because they seemed important to them and in accordance to group's objectives, so that each image represents a specific function(s) valued in these territorial communities.

A hybrid approach to computational and manual methods was used for data acquisition and analysis. The general population of images to be analysed qualifies as big data – the total number of images of these two FB groups alone make up about 200,000 items, not including the accompanying textual information and metadata. However, this can be considered as a pilot or even experimental study, one of the tasks of which is the development of the methodology, so a relatively small number of manually processed samples have been selected for analysis.

5.1 Qualitative Analysis

For three years I have conducted digital ethnographic research of both FB groups, 'watching what people do by digitally tracking them;' [25]. When our research project 'Living Next to the Port' began in 2018, I signed up in both groups and, as a regular FB user (I visit the site almost every day), I systematically follow their posts. In ethnographic research, not only presence but also engagement is important [4], however, the second element in this case is almost missing, unless 'liking' of FB posts is not considered such an activity.

In addition to the method of 'digital participant observation', I use a more focused qualitative content analysis of images, not just searching for the answers on initial research questions, but also working on two more tasks related to the needs of later planned quantitative analysis of images: (1) combining an initial list of codes and categories, which would be developed as a rigid code system (codebook); (2) formulating several specific hypotheses. The development of the codes was determined by the tasks of this article, as well as the theoretical setting of the whole research and research questions. At the same time, it was also an open coding type, in the spirit of the grounded theory method / approach [18].

Using the 'Download All Images' extension of the Google Chrome web browser, I saved three-year (November 2017 - November 2020) images of these two neighbourhood FB groups to my computer[5]. After that, I browsed the corpora (Bolderāja 14,397 files [~ 720 MB] and Vecmīlgrāvis 9,488 files [~ 460 MB]), in a quick manual mode making notes on potential codes and hypotheses.

As a result, I had a list of about 100 codes and categories and several hypotheses formulated, as well as digital fieldnotes, in which, among other things, I wrote down what was not visible in the pictures and how the visual content of the two groups differed.

Browsing this set of three-year photographs, and focusing on the research questions (what places are depicted and what they indicate as the boundaries of the neighbourhood; which pictures show joy and troubles; how the visual representation of the two neighbourhoods differs on FB), I formulated four main conclusions.

Firstly, the depiction of neighbourhoods is highly spatial, dominated by man-made infrastructure and natural landscapes, and very few people. People most often end up in the centre of the image either unwillingly (when photographing troublemakers, such as thieves, or those who solve the troubles, such as police officers, firefighters), or wanting to promote their social, political or economic activity or business (such as a yoga teacher or kickboxing coach).

Secondly, there are often photos from other neighbouring neighbourhoods. They are dominated by two topics: hanging out in nature, pictures of which most are often described as beautiful, although some of them feature littering (most often – household waste); the road to/ from home, and often these are problematic situations on the roads (traffics, accidents). Photos from recreation (forest, meadows, sea, beach) in the neighbouring or more distant neighbourhoods of Rīga are especially characteristic of the Vecmīlgrāvis FB group.

Thirdly, the photos feature a lot of pets (mostly cats and dogs) and wild birds and animals. These include both 'problem photos' of missing, found, stray, injured pets or disturbing wildlife (such as seagulls screeching in the block early in the morning) and 'beauty pics' with cats, swans or ducks.

Fourthly, there are relatively few images that would indicate the industrial pollution of the environment mainly caused by the port operation (in Bolderāja also by some

[5] These photos and images do not contain any original metadata other than the file name, e.g., "123008935_1712756705560843_6902050882996672503_n.jpg".

other entities, such as woodworking factories), and with which the residents are constantly dissatisfied. This may be due to the fact that most of the types of port area pollution (water, air, vibration, light) are difficult to photograph. The most typical visualized type of pollution is black dust. Transhipment of coal from trains to ships in an open space takes place on one bank of the river, next to Bolderāja, but the residents of Vecmīlgrāvis on the other side of the Daugava also complain about coal dust.

5.2 Quantitative Content Analysis

Based on the ethnographic analysis of FB posts' images, which showed both the great structural similarity of the images of these two groups and some specific differences in content, the hypotheses were formulated and categories defined for coding. The images posted by members of FB groups of two neighbourhoods systematically show places that are geographically outside of their territory of residence, but (H1) the proportion of out-of-neighbourhood locations differs significantly in the corpora of Bolderāja/ Daugavgrīva and Vecmīlgrāvis. The same places can bring both joy and worry (H2).
The codes resulting from open coding were grouped into four general categories: geographic location, function, social space, flora & fauna. Each of them consists of a system of hierarchical codes branching into two or three more sub-levels. Total – 77 codes[6].

The 'GEOGRAPHIC LOCATION' category consists of two top-level codes: 'hood' and 'non-hood', which describe whether the image belongs to or does not belong to the neighbourhood. Each of these codes is further divided into two sub-levels. The category 'FUNCTION' has four subcategories: 'advertisements' (ad commercial; ad private), 'beauty', 'informative' (greetings, memes; historic; info group; info municipal; info private; *poterjashka*[7]), 'problematic'. The categories 'SOCIAL SPACE' and 'FLORA & FAUNA' continue to branch into a three-tier coding system.

Content of one month period (October 24 - November 25, 2020) was chosen to create samples of images for the purposes of analysis[8]. Using *Web Scraper* browser extension (web data extraction application[9]) all post data was collected including images in this period (*.CSV files with photo URLs, names of publishers, posts' dates) (2020).

The list of image URLs is then converted and opened in Mozilla Firefox, then all images are saved to the computer using the 'Download All Images' plugin. The result is two samples consisting of 474 (Bolderāja/ Daugavgrīva FB group) and 288

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6 See full Codebook here: https://zenodo.org/record/4308059#.X8v2_c0zZPY.

7 *'Потеряшка'* – colloquially in Russian means missing, lost property (or a person who has lost something).

8 In Latvia, which is located in the humid continental climate warm summer subtype zone, this is the beginning of the darkest season, when the day is already twice as short as the night, and the first short-term snow is expected. From 9 November, a state of emergency was declared in Latvia to control Covid-19 ('State of emergency to be declared in Latvia on 9 November'; (https://www.mk.gov.lv/en/aktualitates/state-emergency-be-declared-latvia-9-november, 06.11.2020 State Chancellery), acc. 2020.12.01.)

9 Web Scraper - Free Web Scraping, v. 0.5.4 https://chrome.google.com/webstore/detail/web-scraper-free-web-scra/jnhgnonknehpejjnehehllkliplmbmhn?hl=en; https://webscraper.io.

(Vecmīlgrāvis FB group) image files obtained from 223 and 186 posts respectively. In parallel with the samples of images, two HTML files were prepared (directly saved from the FB), containing not only images, but also metadata and original post texts of these FB groups of the same period.

I use *NVivo 12* software for Windows to encode the analysed images. The coding was performed manually, coding the whole image (without separating individual sections), assuming that the image has a central object and a dominant function. Each image was encoded with at least three codes (maximum number 16; average nine codes). The assignment of specific codes was determined by my interpretation, which in some cases was certainly subjective, especially in determining sentiment and function, although I also relied on metadata and textual information of posts. Geo-spatial coding was easier and less ambiguous because during the implementation of the project I got to know these neighbourhoods better, although I already was quite familiar with them due to living my whole life in Rīga.

The first hypothesis (images published in two FB groups of local residents systematically show not only places that are geographically outside their neighbourhood but the proportion of out-of-neighbourhood locations differs significantly in the corpora) is confirmed: 7% of Bolderāja/ Daugavgrīva pictures (n=364) and 36% of Vecmīlgrāvis (n=278) show places outside the neighbourhood[10]. Of these, the neighbouring neighbourhoods are 20% in Bolderāja's pictures (other categories are 'Rīga', 'Latvia', 'abroad'), while Vecmīlgrāvis – 81%[11]. This shows the different intensity and varying distances of daily mobility of the inhabitants of these neighbourhoods, and the resulting other types of relationships with places in their own and other neighbourhoods.

The second hypothesis (the same places can bring both joy and worry), which is also confirmed, follows from a broader research question: what places and situations cause joy and/or anxiety? To test this, I initially selected images coded as 'beauty' and / or 'problematic' in the four categories of 'function' (excluding those coded as 'advertisements' and 'informative'[12]). 31% of Bolderāja/ Daugavgrīva (n=273) and 47% of Vecmīlgrāvis (n=150) images are coded as 'problematic', but 77% and 53% are 'beautiful', respectively[13].

Selecting only the 'beautiful' pictures, 94% of them in the Bolderāja/ Daugavgrīva group (n=206) depict the neighbourhood, while in the case of Vecmīlgrāvis these are only 36% (n=80)[14], so in the second case the beauty is more often seen elsewhere. Although the residents of Vecmīlgrāvis also admire some places in their neighbourhood, such as the promenade by the Daugava, swans on the river, the cultural centre 'Ziemeļblāzma' and the park, the sky, often photographed through the apartment or car

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[10] Statistically highly significant differences as $p < .001$.

[11] $p < .001$.

[12] Informative and promotional images should also be filtered out of the data set because the two FB groups have different advertising and publicity policies, which also affect the content of published images. For example, in the Vecmīlgrāvis sample only 10% of images are coded as 'adverts', while in Bolderāja – 27%.

[13] One image can be both with the code 'beautiful' and 'problematic', so the sum of % can be greater than 100 ($p < .001$).

[14] $p < .001$.

window, most beautiful pictures come from remote areas – Mangaļsala pier, Daugava and sea, Vecāķi beach and forest, Vecdaugava river, Mežaparks park, etc. The most common come from the neighbouring neighbourhoods – Mangaļsala (39%) and Vecdaugava (32%).

99% (n=82) of cases in the Bolderāja/ Daugavgrīva group images in which problematic situations have been recorded reflect their surroundings, while in the Vecmīlgrāvis group – 70% (n=71)[15]. The spatial structure of local problem situations in both neighbourhoods is similar – 90% of the residential space is depicted. Also, in terms of content, the problem photos do not differ in both neighbourhoods – 60% of them are stray, abandoned, lost or injured pets (in Vecmīlgrāvis almost only cats, in Bolderāja/ Daugavgrīva – ⅓ of them are dogs). Other more common situations are waste in unsuitable places (including overloaded trash bins), traffic accidents on the streets, antisocial behaviour in public space, car-related mishaps (improperly parked, scratched, broken mirrors, left with lights on or open windows), etc. About half of these situations are depicted in communal premises – in the courtyards of apartment buildings, stairways, near houses.

6 Research Ethics

The Vecmīlgrāvis FB group is open, but the Bolderāja/ Daugavgrīva group is private ('Only members can see who's in the group and what they post'), but visible ('Anyone can find this group'). I have been an accepted member of both groups for three years, and the group administrators and moderators know both about our study ('Living Next to the Port') and about me personally. When contacting the administrators, I told them about the writing of this article and asked for general statistics of these FB groups, which I also obtained.

The moment I start downloading FB posts images, as well as post texts that also include people's names (as they appear on FB profiles) to my computer, other rules and laws begin to apply, which I may have violated. GDPR states: 'Any processing of personal data should be lawful and fair. It should be transparent to natural persons that personal data concerning them are collected, used, consulted or otherwise processed and to what extent the personal data are or will be processed.' [15]

Legally, the processing of personal data was not lawful, as I did not request permission to download and process the data from either its authors or FB. Although EU and national legislation specifically addresses cases of data processing for scientific research purposes and even introduces some exceptions, they do not remove the basic principles for the use of personal data, the most important of which is personal consent [10, 15, 29].

My justification is not only that such procedures are virtually impossible, but also that the processing of the data required for the empirical analysis does not constitute a substantial risk of an infringement of the privacy of the data subjects, moreover, this study is publicly funded, hence – made in the public interest. I plan to post the published

[15] $p < .001$.

article in the newsfeed of the two analysed FB groups, as well as publish an abbreviated version of the article in the Latvian language.

7 Discussion and Conclusions

In the research the content created by the residents of neighbourhoods themselves, in this case the images published in FB groups (mainly photographs), which are usually accompanied by explanatory text, can be both material that complements and explains other types of data collected by other methods, as well as data to be analysed *per se*. The specificity of such data is that they were not initially created for research purposes, so they seem to more authentically express the attitudes, values, needs of the studied group of people, therefore they are especially suitable for phenomenological approach.

This micro-study combined a qualitative with a quantitative approach. The analysis of images of FB groups of two Rīga's neighbourhood inhabitants served both for the construction of instruments for quantitative content analysis of images, and was an autonomous digital ethnography inspired exploratory research method. Following the posts of these FB groups for three years, as well as quickly reviewing the downloaded image corpora of the three-year period with human vision, a relatively adequate picture of their content was formed, the typical and most common categories were clearly marked, as well as what does not appear in the images was becoming 'visible'.

There is practically no private space and the residents themselves (except for social violators and their subduers) in the pictures, just as there are practically no images with places that researchers tend to call non-places, placeless. There are three dominating types of images: 'beautiful' (mainly natural or urban landscapes, wild waterfowl), 'problematic' (stray pets, polluted public environment, damaged cars) and 'informative' (lost and found belongings, current events and information on current changes in public space).

The descriptive statistical analysis of the images confirmed a number of assumptions that resulted from their treatment with the human vision. Firstly, the images show the systematic daily and holiday mobility of the population beyond the neighbourhood. It is especially true in the case of Vecmīlgrāvis where there are practically no opportunities for open air recreation (forest, beach). Secondly, the same places can bring joy and worries to the people. Both natural and urban landscapes and their details can be beautiful. 'Beautiful' images are dominated by nature (river, sea, forest, parks, trees, sky, flora & fauna), but if they are dirty or polluted, they become problematic. Thirdly, the quantitative analysis confirms the hypothesis of statistically significant differences between the images of these two neighbourhoods at least in some categories. For example, the pictures of Vecmīlgrāvis FB group contain many more pictures from other neighbourhoods and about two thirds of all 'beautiful' pictures were taken there. Whereas in the pictures of the Bolderāja/ Daugavgrīva FB group, practically only the neighbourhood itself can be seen. These and some other differences revealed in the analysis of photographs are mainly due to differences in neighbourhood infrastructure and access to nature. Vecmīlgrāvis territory is almost completely filled by man-made infrastructure

(residential houses and industrial zones), while Bolderāja / Daugavgrīva also has wide access to the sea, forest, rivers and meadows.

The use of FB group images as research data has its limitations. First of all, they are determined by the very form of this medium, there are phenomena that almost cannot be directly or indirectly depicted in photography. In the context of the study 'Living Next to the Port', this is the environmental pollution that is important to us, such as vibration, noise, water and air pollution. Second, although this is assumed to be user-generated content, it still undergoes a number of filtering and editing, ranging from self-censorship, FB auto-filters, FB group administrator monitoring, to the selection of researchers, sampling from the entire general set for analysis. Third, in the process of interpreting data, for example by coding images according to schemes created by researchers (not the authors themselves), interpretation can be a problem, especially in this case where the inter-rater procedure was not implemented.

Although both of these FB groups involved approximately ⅔ of the adult population of the respective neighbourhoods, their socio-economic, and possibly also psychological, structure differs from that of the general population. This, in turn, means that the conclusions of the data analysis should be applied with caution to all residents of the neighbourhood. For example, it is clear that these FB groups are disproportionately under-represented by those whose e-skills are insufficient or who do not have access to the Internet (for example, the less educated and seniors). It is also known that some ethnic Latvians ignore these Russian-language dominated FB groups. However, the object of the study – the daily mobility of the population, neighbourhood boundaries and attitudes towards one's living space – is relatively politically neutral. In addition, the two analysed FB groups are very similar in their objectives, structure and user-generated content, which is a good basis for comparing them.

A separate issue concerns the rationale for using quantitative content analysis, given how much manual work it requires and how much work automation of the workflow might be required. As this article has not been written in collaboration with a co-author specializing in computational research, which undoubtedly would be a good practice in DH research, it is not possible to draw practical conclusions about workflow automation. At the same time, it can be assumed that it would be too much of a luxury for such a micro-study, unless it is possible to reuse already existing tools that have been tested for that purpose.

If we compare the analysis of photographs of FB groups of residents of the two neighbourhoods discussed in this article with the use of two approaches – qualitative and quantitative, then it must be said that the second did not bring any new knowledge, but only confirmed the previous assumptions. Maybe digital ethnography would be enough? It depends on the aims and objectives of each study, and also on how strong or 'hard' evidence it requires. There are certainly cases where reliable figures are more convincing than the story of a human vision journey. After all, the 'fit for purpose' principle, which is increasingly used in modern statistics, should be decisive here [16].

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