Remote Wayfaring and Virtual Fieldwork

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Abstract: Regular users of the methods and techniques of digital landscape architecture (DLA), were presumably little disrupted by the paralysing impact of the current Covid-19 pandemic. But these digital operators have a front row seat in seeing how the global virus vaulted the field in a forward direction, rapidly increasing its prevalence. It was not only those in the business community that stopped travelling, became home-bound, and were tied to their desktop and computer screen. The scientific and academic communities were in the exact same position. Digitizing a workspace does not affect everyone equally, but it is particularly restrictive for landscape architects where "groundtruthing" is fundamental. It is not possible to completely replace real-world action and mobility with digital technology. However, with few options left, alternatives are necessary for those who usually develop their project and research work based on fieldwork, associated with travelling. A notable developmental leap in digital technologies in landscape architecture thus came in the most trivial and mundane form thinkable. In this paper, we describe how we conducted fieldwork in places that could not be reached without travelling, using commonly accessed digital tools as our forms of wayfaring.

Keywords: Remote wayfaring, fieldwork, digital landscape architecture

1 Context

Six years ago, daring statements were written like *fieldwork is not optional; it is mandatory* (REKITTKE 2015). The author now works with master's students of landscape architecture at the Norwegian University of Life Sciences (NMBU), who chose their study programme**,** amongst other motives, for the opportunity to conduct fieldwork in a global context. As researchers, we are, inter alia, embedded into a department research group in 3D visualization, and, as designers, we are standing for an outdoor profession – landscape architecture. It is a faculty and study programme that is aspiring to global relevance. The university reputes itself as a *sustainability university*, and therefore is looking to minimize travel activity in the future. This strategy began before and is independent of the current Covid-19 pandemic. But due to the pandemic-related ban on travel, a decision had to be made for this year's master's students as to whether the fieldwork component would be abandoned. We considered this to be a unique chance to test an inchoate approach that we refer to as remote wayfaring and virtual fieldwork. We refer to Olson's understanding that remote work is performed outside of the normal confines of space and time (OLSON 1983).

2 Research Forerun

Pandemic alarm hadn't yet begun during the developmental phase of the new international master's programme in Landscape Architecture for Global Sustainability (GLA) at NMBU in Ås, Norway. This phase included a pilot study with undergraduate and graduate students travelling to the Greek island of Lesvos to conduct analytical fieldwork. We named the pilot study NYMORIA – The Moria Project. Migration was the thematic subject, and we used a processing centre for asylum seekers and other migrants in Moria as a first study and design

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case. The Moria camp was hopelessly overcrowded. In April 2020, an estimated 21.000 people were insufficiently sheltered and served in squalid living conditions, because the premeditated facilities had been laid out for 3.000 people. Our assignment was to design an adequate reception and identification centre structure, in order to make humane living conditions possible. Ten days of fieldwork in February 2020 were allotted for this, in and beyond the Moria camp. Our post-pilot-study plan was to spend twenty-eight days of fieldwork in September 2020, together with the first cohort of GLA students, focusing on the Moria Camp once more, as well as conduct research on efforts and patterns of urbanization already made by the many migrants and refugees. Due to the persistent pandemic protective measures, this plan was not approved by our university management. Interestingly, our decision to conduct the pilot project in Greece and on the Moria Camp, was already an evasive manoeuvre from our first idea to work in, and on, Palestine. This was also not approved by the university due to safety concerns despite us having colleagues, such as NMBU's Ramzi Hassan and Karsten Jørgensen, with long-established academic relationships in Palestine. In fact, they almost succeeded in establishing a joined MLA Program, together with the Palestinian Birzeit University, located near Ramallah, West Bank (JØRGENSEN & HASSAN 2014).

3 Foreboding Self-Restraint

A distinct cohesion exists between the NYMORIA project loop ways and a concept titled *Convergent Digitality for Design Action in Obstructed Landscapes*, a paper published and presented in June 2020, at the 21st Annual International Digital Landscape Architecture Conference, hosted by the Harvard Graduate School of Design (GSD). We wrote: "Obstructed environments, often hold problems that landscape designers should be interested in. Investigating and making these problems visible, creating awareness, developing related design proposals, and initiating preferable change, forms the core of our design efforts" (REKITTKE 2020). The concept of Convergent Digitality constitutes a compromise of field presence and remoteness: "Not only due to the institutional, ecology-minded default, that travelling may not be obligatory for students in the future, we refrain from the assumption that all participants of our studios or projects will or can be present in the field, for fieldwork. As a basic principle, we plan for having a field team on site (Team 'Field'), and, at the same time, having a second team in a 'ground control' function, home on campus. To this group, we refer to as Team 'Houston'" (ibid.). We consider two persons in the field, they may be staff or students, as minimum requirement for adequate operability, the provision of expert testimony, as well as ground-truth. Real-world problems still make real-world contact and experience expedient, if not indispensable (ibid.). As if we had had a presentiment of what would follow, we hypothesized that the hand-in-hand collaboration between a team in the field, and a team in a control-room on campus, could result in significant additional benefits for globally operating landscape architects. We did not yet get an opportunity for adequately testing the respective self-restraint for its operability and efficiency, because not even the smallest team could travel for fieldwork after the concept had been published, due to the raging pandemic.

4 All-Digital and Stationary

Cancellations or prohibitions sometimes feature a good side. Suddenly, we were free to tackle our work and the world under changed conditions. Being not allowed to travel anyway, we

chose places that are truly contested and obstructed, and – would we be physical travellers – entirely out of reach for us. The locations for the studio were related to our pilot Moria project and the guiding subject of migration and refugees: 1) war-affected Syria; 2) crisis-stricken Lebanon; 3) despaired Gaza. We set out for our fieldwork destinations as digital travellers, or remote wayfarers. These countries respectively subareas (Gaza) were our remote (virtual) travel and fieldwork destinations, our starting points for defining problem statements, and the sources of inspiration for migration-related design efforts in the course of our studio. Although none of the students moved from anywhere to anywhere, physically, the fieldwork led, for all intents and purposes, to meaningful design thinking and project work. We exemplify this by using two specific works for our paper. The remote wayfaring approach constituted a high risk of failure, but the results of the students were promising, well-grounded, and serious. It was genuine all-digital landscape analyses and design work, involving everything conceivable and accessible, from GoogleEarth to the CIA Fact Book, from popular Instagram to respectable university libraries, from pen-on-paper sketches to Geodesign approaches (PATTERSON 2007, FLAXMAN 2010, STEINITZ 2012). Three important things happened during our month-long virtual fieldwork. First, on the night of September 8th, the Moria camp burned down completely (AL JAZEERA 2020). Second, after returning from the field without having been to the field, we made a discovery worth reckoning with – a complementary method of landscape design related analysis and research. This method is minimally invasive spatial knowledge acquisition for global empiricism, or, in simple terms, remote wayfaring and fieldwork. Third, as academics, we realized, that the almost exclusive use of digitally accessible, secondary material of others – maps, videos, photos, texts, etc. – formed an ideal opportunity for deploying and teaching the unconditionality of sources in a scientifically correct way. This, though trivial, is not necessarily a matter of course for every design student in their daily practice. The students were taught to document their references using the NMBU-specific Harvard Referencing System, accessible remotely via their website, of course (NMBU 2020).

5 From Oslo to Bar Elias in Bekaa Valley

We chose two samples of works authored by studio participants, to exemplify possible approaches to the difficult task of travelling and field working without moving. The first work leads us from Norway to Beirut, Tripoli, and Bekaa Valley in Lebanon. Each leg of the trip happened as authentically as possible – 'see' the scenery en route to the airport with Google Street View (GOOGLE MAPS 2020), 'fly' on real, bookable flights and monitor them in live mode (FLIGHTRADAR24 2020), and 'reserve' real accommodation (AIRBNB 2020). Slowing down the pace of the digital travel to everyday speed and using ordinary online tools mimicked authenticity and reflected that travelling is continuous, unlike Google Earth's jumps suggests. The assignment was freely interpretable and gave no introductory site information. Without the student knowing anyone or anything about Beirut, she landed in the city and began. A shuttle took her to her hostel (BEIRUT AIRPORT TRANSFER 2020), and she began systematically walking Beirut's warm streets (YR 2020) via the unglamorous imagery of Google Street View (GOOGLE MAPS 2020). Beirut was an ideal starting location both as the capital and as one of the three densest locations of refugees (DIONIGI 2016). Facebook gave a voice to Beirut residents (FACEBOOK 2020a, b, c) and Snapchat informed her on local food and music (SNAP MAP 2020). The sensory information combined with news and articles began to shape a realistic depiction of everyday life while the news informed her of the current

events (SHERLOCK 2020), something reinforced by her sketches. The early phase of the digital travel was defined by informal information sources, and was recognized as having distinct biases, but nonetheless useful for providing introductory information.

Fig. 1: Remote wayfaring from Norway to Lebanon. Left: Overview graphics by Kristin Lee Pedersen, 2020 (based on GOOGLE EARTH 2020). Right: Traveling from Beirut to Nahr El-Bared, through Tripoli (Graphics: Molly Andrews 2020. Photo: GOOGLE EARTH 2020).

The Beirut case study of refugees began with a host family in the Palestinian camp of Burj al-Barajneh (STEFANINI 2018). They spoke extensively about their experience as part of a diaspora and the intense restrictions that they face from the Lebanese government. Their lives and their conversations, regardless of being indoors or out, were defined by enclosure – homes were small and lacked natural light, corridors outside were tight, balconies or small roofs blocked much of the remaining light, and the jungle of cables finished the framing. While it was possible to find open space, it was limited to the few shopping streets, mini plazas, and a cemetery (GOOGLE MAPS 2020). The camp visit was supplemented by a visit to the American University of Beirut and their various ongoing research on the environment and refugees (AUB 2020).

Fig. 2: Virtual (remote) fieldwork photography. Left: Burj al-Barajneh, Lebanon (Photo: EID 2019). Right: A wedding party celebrating in the street in Nahr El-Bared (Photo: NO REFUGE LEBANON 2015).

In a moment of reflection, she paused to ask three questions: What have I seen? What haven't I seen? And most significantly, who haven't I seen? Much of the available information in Beirut, and later Tripoli – either academic or informal – was focused on Palestinians (BRITISH COUNCIL 2021, KNUDSEN 2007, FIDDIAN-QASMIYEH 2015), thus highlighting a clear bias

and void. There are overwhelmingly more Syrians than Palestinians nationally – an estimated 1.500.000 Syrian refugees (UNHCR 2021b) compared to 500.000 Palestinians (UNHCR 2021c). This expedited her final case study in rural Bekaa Valley where over one-third of registered Syrian refugees reside (UNHCR 2021a). The town of Bar Elias in the Bekaa Valley governate is situated at the convergence of the extremely polluted Litani River and several of its tributaries (USAID 2012). It has as a high proclivity to flood (JESUIT REFUGEE SERVICE 2019, REUTERS 2019) along with seasonal water shortages (USAID 2012), something expected to worsen with climate change. Many Syrians have historically worked in Bar Elias in agriculture and construction (ALSHEIKH KHEDER & IBARRA SANCHEZ 2018), an attracting point for refugees. Since the beginning of the Syrian war in 2011, it has more than doubled its original 50.000 residents (FRANCIS 2017). Its rapid growth resulted in the urban sprawl of informal tented settlements that are shelter to over half of the refugee population (UN-HABITAT 2018). And while not every town has tolerated the presence of refugees (FRELICK 2018), Bar Elias residents are open because they feel that their community benefits from the presence of NGO (KNOWLES 2019). Still, no place wants to host the refugees permanently (AL AYOUBI 2018). A mapping analysis identified the first project problem: too many refugees are living indefinitely in tents. Various reports on the Litani River informed on the second problem: severe degradation of water quality coupled with inadequate management. The third problem is a common thread in the debate about refugees: complicated social relations with locals. The three problems were distinctly intertwined. Combining maps of informal settlements (ZOOM EARTH 2020) and flood zones (USAID 2012), showed a large overlap that highlights the compounded vulnerabilities of refugees.

Fig. 3: Virtual (own) fieldwork sketching. Left: Bar Elias, Lebanon. Sketches by Kristin Lee Pedersen, 2020. Right: Shatila Camp, Lebanon. Sketches by Molly Andrews, 2020.

The resulting two-fold project addresses these problems in short and long-term scales. The student first defines appropriate urban development zones. A pilot project on 3.9 hectares (ZOOM EARTH 2020) proposes block housing with a large, protected interior plaza on a current tented site. It accommodates 330 families (HOUSING AGENCY 2018), or 2100 Syrian refugees (UN-HABITAT 2018). The outdoor space is left mostly open for self-defined use but incorporates elements that refugees miss from their homes. Sensitive to the flooding issue, the plaza stores rainwater. The second part of the student's project addresses the vacant agricultural land as refugees are relocated. Farmers that converted their plots into informal settlements will most likely not have the resources to remediate it (NASSIF et al. 2020). This is a valley-wide problem. A land reallocation scheme frees up space adjacent the Litani River and upstream from Bar Elias and provides indebted farmers a pathway to continue their livelihood. The vacated land is converted into a wetland. It resituates materials on site to alter and slow the river flow, so it strategically floods into a designated plain. Excavated informal

settlements become retention and treatment ponds. Trenches that already exist between the fields connect these ponds and encourage water to spread further, hopefully resulting in an aesthetic that hints at local agriculture as well as the refugee crisis. But it importantly protects Bar Elias from costly and regular flooding. Feedback on the student's work suggested real-world plausibility, but there are distinct shortcomings for fully digital fieldwork. Most significantly, images and narratives can be misleading and often capture an exaggeration of reality. There is no on-site presence to moderate this, only cross-referencing. This student's project was highly reliant on the accuracy of mapping informal settlements. Large groupings of tents are easy to identify from satellite imagery, but there is certainly room for error in the visual analysis. The sources used by the student began as very informal, shifting to academic literature, and lastly organizational reports as the fieldwork continued. This was not a coincidence, since her investigations and reflections led her to an area that is information-rich because of scientific, political, and NGO pursuits. While her first assumption was that Bar Elias was an unknown place, the reality is far from that and shows limitations in accessibility in truly remote, digital wayfaring.

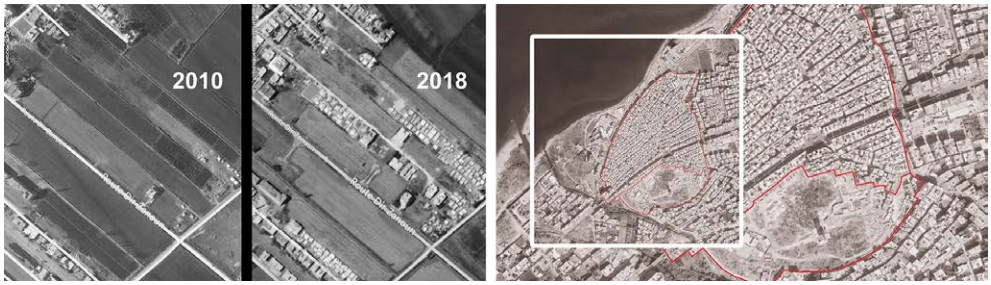

Fig. 4: Left: Growth of informal settlements in Bar Elias, Lebanon (Photos: ZOOM EARTH, 2020). Right: Nahr al-Bared, Lebanon (Graphics: Molly Andrews 2020. Photo: GOOGLE EARTH 2020).

6 From Oslo to Nahr al-Bared in Lebanon

The second work sample leads us from Oslo Airport to Beirut, Tripoli, and Nahr al-Bared in Lebanon. She spent the first day and a portion of the following days exploring Beirut to begin to understand the extents of the digital fieldwork tools available. Through initial Google Maps and Facebook searches, the student discovered the Beit Beirut Cultural Centre, a former control point and sniper location that was positioned on the Green Line that divided Beirut during the civil war (BEIT BEIRUT 2020). This cultural centre has an active Facebook page where visitors can share their own images and experiences. Online travel blogs such as Runway27 (ibid.), allow the virtual traveller to read the personal experiences and opinions of the visitor alongside the visitor's images of the place. Beit Beirut hosts a series of fine art and photography exhibitions. The exhibitions have been photographed similarly to Google Street View so that the viewer can move about the building, even with a VR headset (HOBGOOD 2019). These exhibitions, such as Hala Younes' Lebanese landscape showcase', are usually documented by press (EL HAJJ 2018) and visitors (YOUNES 2020, ARIDA 2020), allowing to virtually attend an exhibition. The project offered 'a deep exploration of Lebanon's geography and landscape' (ABDEL-RAZZAQ 2020) which the student felt would help her to build a

greater understanding of the subsequent fieldwork. She found footage of the respective 3D video installations on Instagram. Having tested a few digital wayfaring tools, she then intended to begin researching the Shatila Refugee Camp located within Beirut. However, rather than beginning a blind search for any information, she decided to investigate a for her familiar field of work. A golden rule applies to remote wayfaring and virtual fieldwork – we see what we know, and we find more than usual once we decided for a certain focus. Previously trained in textile design, the student found an embroidery studio operating in the camp. The Shatila Studio provides jobs for refugees in the camp, preserves traditional skills whilst also creating the opportunity to express a narrative of life in a refugee camp in the form of illustrative embroidery. Similar to Beit Beirut, the Shatila Studio has its own Facebook page which links to their Instagram site. Here they promoted one of their stockists on their Facebook page through a video (SHATILA STUDIO 2019). The video is an ordinary, unspectacular, informal piece of information. Although it is only a secondary source, it authentically shows an episode of daily life in a small boutique in Lebanon. The Shatila Studio has been featured in a short documentary by Tania Safi which was uploaded to YouTube (SAFI 2019), containing a great deal of footage and imagery that displays daily life in the Shatila Camp. The student paused Safi's video and sketched some of the visible landscapes, taking a pointed interest in the amount of light which is visible at street level. She then decided to search for additional existing projects taking place within the Shatila Refugee Camp. Recalling sources that she used when researching textiles, she was keen to explore the British Victoria and Albert Museum's online database (VICTORIA AND ALBERT MUSEUM 2020). The museum has a vast catalogue online which can be refined by country or region, materials and format.

Fig. 5: Left: Informal settlement in a vacant lot in Bar Elias, Lebanon (Photo: ALSHEIKH KHEDER & IBARRA SANCHEZ 2018). Right: The Shatila Camp in contrast to the reconstructed Nahr El-Bared Camp, Lebanon (Graphics: Molly Andrews 2020. Photos: SWANSEA CITY OPERA 2019, FREARSON 2013).

Through the Victoria and Albert Museum website the student found the *Culture in Crisis programme* (CULTURE IN CRISIS 2020). The site acted as a catalogue of projects taking place internationally and could be filtered by location. Within the Shatila Camp, she found a project called the *Swansea City Opera Lebanon Heritage Project*. The project organized a festival in which local dancers and singers could participate, they emphasized the importance of preserving traditional skills and events that were significant to the heritage of the inhabitants of Shatila. The Swansea City Opera project has stored much of this material with the American University of Beirut in an online archive which is available to the public. The student conducted more research into Palestinian refugee camps and read about the Nahr El-Bared Camp

in the north of Lebanon near Tripoli. This camp had been almost totally destroyed in 2007 through conflict, and it had been decided that the camp would be reconstructed on the same site and restored to how it had been before 2007 (THE AGA KHAN AWARD 2011, RAMADAN 2009, UNRWA 2020). The intentions behind this were to preserve the social fabric of the site by learning from the inhabitants where their homes had been and who their neighbours were. The designers also had a goal of improving the quality of life in the camp by increasing the amount of open space (FREARSON 2013). This was achieved by reducing the footprint of each building, building higher, and making rooftops accessible spaces. Once in Nahr El-Bared, this location was explored through the lens of information from UNWRA, an article on Dezeen (ibid.), and the Aga Khan Awards web page (THE AGA KHAN AWARD 2011).

Fig. 6: Left: Regional-scale project area, Bar Elias, Lebanon (Graphics: Kristin Lee Pedersen 2020. Photo: ZOOM EARTH 2020). Right: Neighbourhood-scale project area, Nahr al-Bared, Lebanon (Graphics: Molly Andrews 2020. Photo: GOOGLE EARTH 2020).

An insightful source and design impuls came from *No Refuge Lebanon* which is the personal blog of an aid worker visiting the camp in 2015 (NO REFUGE LEBANON 2015). He documents the day-to-day events and community life. There is also mention of wedding party celebrations with people dancing traditional *dabke* along the narrow streets. (CARSON 2020). This insight built up a clear image of the significance of the outdoor spaces to the Nahr El-Bared community, and the student decided to investigate its spatial history through Google Earth Pro, where one can explore the historical aerials of a location. An aerial image from 2007, taken before the destruction of the camp, highlighted the density of the original camp. The 2020 aerial, showing the reconstructed version of the camp, provided a powerful contrast. Through the Daskara App (DASKARA 2020), a mobile application for tourists in Lebanon, the old quarter in Tripoli was explored as a design reference. This old quarter constitutes a model for successful refugee relocation (MAGUIRE et al. 2016), and the preservation of cultural landmarks (CULTURE IN CRISIS 2020). The student also discovered a link to drawings and plans of the Nahr El-Bared camp reconstruction. However, it was difficult to discern if these plans were created by the official project team, or maybe an independent theoretical project. Nonetheless, these plans did offer an insight into density reconfiguration and the design principles for the new camp.

For the final reflection on the spaces of Nahr El-Bared, the student chose an existing plaza and designed the space with a concept that sought to conserve a space for leisure and celebrations by formalizing movement routes around the designated area. Buffers provide distance between busy paths and the leisure area, thus sheltering the users of the space and

limiting contact. The choice of materials in this plaza were informed by her fieldwork: the leisure area is denoted by an embroidery pattern across the floor; the plants reflect the culturally significant species to encourage a sense of connection and ownership of the space; the layered, stepped seating provides the opportunity for people to have a clear view over the space to watch celebrations; and lighting masts would allow for additional decoration for significant holidays or celebrations.

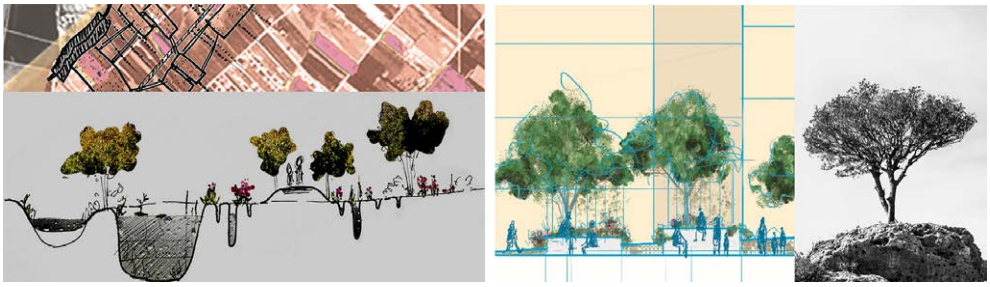

Fig. 7: Left: Constructed wetland proposal, Bar Elias, Lebanon (Graphics: Kristin Lee Pedersen 2020). Right: Neighbourhood square proposal, Nahr al-Bared, Lebanon. An olive tree, a tree of significance to Palestinian culture (Graphics: Molly Andrews 2020. Photo: CEBECI 2016).

7 Digital Sobering and Catharsis

There was nearly no use of sophisticated digital armamentarium during the uncommon studio course. This was limited to GIS-based maps for defining study areas as well as programs for designing presentations and exhibitions. We found that it was not needed for the unprecedented and challenging act of remote wayfaring and virtual fieldwork. This is presumably utterly disappointing insight, but simultaneously a very encouraging finding. We were not able to move in the field, this time, but did we need to use any different digital instruments than we would use during a physical trip or fieldwork mission? The answer is no, to a large extent, there were no outstanding differences. Even if we had been physically present in Beirut, or somewhere else in Lebanon, or any other place in the region, we would have used the same canon of catch-all digital applications, probably sitting on our hotel room sofa or in the breakfast room, before leaving for fieldwork: the standard Google applications or similar for orientation and navigation; the standard online social media and social networking services that almost everyone uses every day, in any case; and all other services and portals that can be retrieved online. The physical fieldworker typically takes numerous own photos when driving and walking around. This essential action from stroller's perspective could be astoundingly effectively substituted by the cornucopia of images and videos on Facebook, Instagram, YouTube etc. For many places there might be no image or angle of vision that had not been taken by someone before, and publicly posted on some internet platform. Exploiting these openly accessible informational treasure troves, may become a very serious element of future research methods, no matter if done by researchers themselves, with a longer corresponding reference list, or by machine-learning software. The informational amalgam of such existent, multifaceted mass information, may potentially contain much more truth, than from the personal photo or video of the individual fieldworker on site, who

considers such piece of individual information as particularly authentic and true. What struck us, was the awareness that the great secondary digital information pool – *the internet* – provides insights in places and situations that we, an academic fieldwork group, would most probably never be able to visit or experience. We would not be able to visit Gaza during an airstrike and take footage of such hellscape. The people who live there do exactly that, and then subsequently post this material from their mobile phones on Facebook, Instagram, YouTube etc. Working on any design project in Gaza without considering such relevant detail of reality – recurring airstrikes – would be naive. This means for the designers and researchers, that they must, to an increasing degree, include the secondary but rich information that the World Wide Web provides. Formerly as exclusively physical travellers and fieldworkers, the forced remote wayfaring and virtual fieldwork constituted the important recognition that real fieldwork is not optional but mandatory, but that virtual fieldwork should become a self-evident complementary instrument in the course of any landscape design studio beyond one's own nose. Nevertheless, the virtual form of fieldwork is not made to supersede or replace the real one in the long term, even if some eager university treasurers may hope for that. Scientific work, also in the design fields, depends on verifiability and provability, and secondary material published online, can of course be false or misleading. Photos and videos can be manipulated, maps and other documentation can be propagandistic, and testimonies can be fake. Every secondary material has to be carefully interpreted, and, in case of doubt, be checked against further sources. However, crowdsourcing meanwhile became a serious and solid method in many areas of digital ventures. In his Wired article titled 'The Rise of Crowdsourcing', published in 2006, Jeff Howe reported of a project at the National Health Museum in Washington, DC, where information about potential pandemics like the avian flu had to be illustrated by pictures of sick people. Instead of hiring a photographer to take shots of people suffering from the flu, pre-existing images – stock photography – had been used in a successful and cost-saving way (HOWE 2006). Our approach of remote wayfaring and virtual fieldwork is to be classified as a form of academic crowdsourcing. We are aware of the related risks and shortcomings. It is primarily the banal web browser that is needed by both the remote wayfarer and the real traveller to prepare and perform systematic and serious work in the field. The difference between remote wayfaring and real travelling remains considerable, because the virtual fieldworker cannot produce what is called groundtruthing (HARTEN et al. 2020), the on-site verification of information. That said, the students' studio work accomplished through virtual fieldwork was well-founded and serious, by judgement of the related academic tutors and reviewers. Before the pandemic, the manageable community of digital landscape architecture sometimes had difficulties living down the prejudice of constantly chasing for the next sophisticated digital method, application, or workflow.

In landscape architecture, a true digital breakthrough had not yet happened, but has now materialized. Not in the form of a revolution, but quietly and silently, as an inevitable result of a worldwide crisis, and in the most self-evident and unsophisticated garb. *Being digital* (NEGROPONTE 1995), in every imaginable form, was the collective reflex during pandemic shut-downs, travel bans, etc., and, in an economic sense, epitomized the great crisis profiteers. We hope that the community of Digital Landscape Architecture (DLA) is ready to extend this once-in-a-hundred-years stimulus.

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References

ABDEL-RAZZAQ, J. (2020), This exhibit at Beit Beirut sheds light on the relation of the Lebanese to the land – Architectural Digest Middle East, Architectural Digest – Middle East. https://www.admiddleeast.com/this-exhibit-at-beit-beirut-sheds-light-on-the-relation-of-the-lebanese-to-the-land (09.09.2020).

AIRBNB (2020), SEED Kindergarten Hostel. https://www.airbnb.com/rooms/33902701 (16.09.2020).

AL AYOUBI, B. (2018), Zahle and Bar Elias: Municipal-Led Evictions in Central Bekaa, United Nations Development Programme. https://reliefweb.int/report/lebanon/zahle-and-bar-elias-municipality-led-evictions-central-bekaa-conflict-analysis-report (10.10.2020).

AL JAZEERA (2020), Locked down, then burned down, in Moria camp. PODCASTS: The Take, Al Jazeera Media Network, 9 Oct 2020. https://www.aljazeera.com/podcasts/2020/10/09/locked-down-then-burned-down-in-moria-camp/ (27.11.2020).

ALSHEIKH KHEDER, A. & IBARRA SANCHEZ, D. (2018), Syrian refugees: Tension and solidarity in exile in Lebanon, Al Jazeera Media Network, 6 May 2018. https://www.aljazeera.com/gallery/2018/5/6/syrian-refugees-tension-and-solidarity-in-exile-in-lebanon/ (23.11.2020).

AMERICAN UNIVERSITY OF BEIRUT (2020), AUB4Refugees Initiative. https://www.aub.edu. lb/4refugees/ (08.09.2020).

ARIDA, J. (2020), nou_joum: The place that remains. Instagram. https://www.instagram.com/p/B9XMKCjp9JQ/ (10.10.2020).

BEIRUT AIRPORT TRANSFER (2020), http://www.beiruttransfer.com/ (05.09.2020).

BEIRUT RESEARCH AND INNOVATION CENTER (2013), Survey on the Livelihoods of Syrian Refugees in Lebanon. https://www-cdn.oxfam.org/s3fs-public/file_attachments/rr-bric-livelihoods-syrian-refugees-lebanon-211113-en_0.pdf (27.11.2020).

BEIT BEIRUT (2020), Beit Beirut – Museum and Urban Cultural Center. http://www.beitbeirut.org/english/culturalcenter.html (28.12.2020).

BRITISH COUNCIL (2021), Tripoli Lives. https://www.tripolives.com/english/about-tripoli (18.09.2020).

CARSON, A. (2020), Dabke Dance: A Symbol of Love, Life, and Struggle. Griots Republic, Griots Republic. http://www.griotsrepublic.com/dabke-dance-a-symbol-of-love-life-and-struggle/ (03.12.2020).

CEBECI, Z. (2016), Wild olive tree in Adamkayalar, Mersin 2016-11-20 02-2.jpg, Wikimedia Commons. https://commons.wikimedia.org/wiki/File:Wild_olive_tree_in_Adamkayalar, _Mersin_2016-11-20_02-2.jpg (20.11.2020).

CULTURE IN CRISIS (2020), The Culture in Crisis programme, The Victoria and Albert Museum (V&A). https://cultureincrisis.org/ (26.12.2020).

DASKARA (2020), Smartphone App, Nature and culture guide. https://www.daskaraapp.com (05.12.2020).

DIONIGI, F. (2016), The Syrian Refugee Crisis in Lebanon: State Fragility and Social Resilience. LSE Middle East Centre Paper Series 15. https://www.researchgate.net/figure/Map-of-Most-Vulnerable-Cadasters-of-Lebanon-and-Syrian-Refugee-Presence-Source-3RP_fig1_296702476 (04.09.2020).

EID, J. (2019), A Palestinian woman walks down the street in the Burj Al Barajneh camp in the Lebanese capital [photograph]. The National News, 13 Aug 2019. https://www.thenationalnews.com/uae/special-report-mental-health-in-focus-as-beirut-s-refugee-camp-workers-feel-the-strain-1.897378#8 (12.09.2020).

EL HAJJ, H. (2018), The place that remains: pavilion of lebanon at the 2018 venice architecture biennale, designboom. https://www.designboom.com/architecture/place-remains-pavilion-lebanon-biennale-architettura-05-18-2018/ (09.09.2020).

FACEBOOK (2020a), Lebanon. https://www.facebook.com/pages/Lebanon/105604936139047/ (06.09.2020).

FACEBOOK (2020b), Lebanon News. https://www.facebook.com/groups/1056618058008767 (06.09.2020).

FACEBOOK (2020c), MTVLebanon. https://www.facebook.com/MTVLebanon (06.09.2020).

FIDDIAN-QASMIYEH, E. (2015), Refugees helping refugees: how a Palestinian camp in Lebanon is welcoming Syrians, The Conversation, 4 Nov 2015. https://theconversation.com/refugees-helping-refugees-how-a-palestinian-camp-in-lebanon-is-welcoming-syrians-48056 (18.09.2020).

FINCH, S. (2018), Beit Beirut and the buildings of war, Runway27L. http://runway27l.co.uk/2018/10/12/beit-beirut-and-the-buildings-of-war/ (28.12.2020).

FLAXMAN, M. (2010), Fundamentals of Geodesign. In: BUHMANN, E. et al. (Eds.), Peer Reviewed Proceedings of Digital Landscape Architecture 2010 at Anhalt University of Applied Science. Wichmann, Beerlin/Offenbach, 28-41.

FLIGHTRADAR24 (2020), Live Air Traffic. https://www.flightradar24.com/airport/osl (05.09.2020).

FRANCIS, E. (2017), In Lebanese town, mounting trash shows strain of refugees, Reuters, 31 March 2017. https://www.reuters.com/article/us-mideast-crisis-syria-refugees-idUSKBN1721Q7 (22.09.2020).

FREARSON, A. (2013), Reconstruction of Nahr el-Bared Refugee Camp, Dezeen. https://www.dezeen.com/2013/05/02/reconstruction-of-nahr-el-bared-refugee-camp/ (03.09.2020).

FRELICK, B. (2018), Our Homes Are Not for Strangers: Mass Evictions of Syrian Refugees by Lebanese Authorities, Human Rights Watch. https://www.hrw.org/report/2018/04/20/our-homes-are-not-strangers/mass-evictions-syrian-refugees-lebanese (10.10.2020).

GOOGLE MAPS (2020), Google Street view 'Gardemoen Airport'. https://www.google.com/maps/ (05.09.2020).

HARTEN, J. G., KIM, A. M. & BRAZIER, J. C. (2020), Real and fake data in Shanghai's informal rental housing market: Groundtruthing data scraped from the internet. Urban Studies, June 2020. doi: 10.1177/0042098020918196.

HOBGOOD, N. (2019), Fadia Ahmad Exhibit – Beit Beirut – Museum. https://roundme.com/tour/504974/view/1675252 (08.09.2020).

HOUSING AGENCY (2018), Quality Apartments and Urban Housing. http://www.housingagency.ie/publications/quality-apartments-and-urban-housing (25.11.2020).

HOWE, J. (2006), The Rise of Crowdsourcing. Wired, 06.01.2006. https://www.wired.com/ 2006/06/crowds/ (02.02. 2021).

JESUIT REFUGEE SERVICE (2019), JRS Lebanon Responds to Devastating Storms, 4 February 2019. https://jrs.net/en/news/jrs-lebanon-responds-to-devastating-storms/ (26.09.2020).

JØRGENSEN, K. & HASSAN, R. (2014), Capacity Building in Landscape Architecture in Palestine. In: WOLSCHEKE-BULMAHN, J., FISCHER, H. & OZACKY-LAZAR, S. (Eds.), Environmental Policy and Landscape Architecture, CGL-Studies, 18. Akademische Verlagsgemeinschaft, München, 223-235.

KNOWLES, C. (2018), Creating Inclusive Urban Space in Lebanon, Medium Media, 2 June 2019. https://medium.com/@urbanmorph/creating-inclusive-urban-space-in-lebanon-986da6da1f82 (07.10.2020).

KNUDSEN, A. (2007), The Law, the Loss and the Lives of Palestinian Refugees in Lebanon. Bergen: Chr. Michelsen Institute (CMI Working Paper WP 2007: 1). https://www.cmi.no/publications/2607-the-law-the-loss-and-the-lives-of-palestinian (25.09.2020).

MAGUIRE, S., SAAD, A., SAAD, S., KHAIL, C., SCHINDER, S., CATTEAU, M., KHAYAT, N., BERGBY, S., ABI SLEIMAN, G. & ARCHIPOVAITE, E. (2016), Tripoli City Profile. UN-HABITAT.

NASSIF, M.-H., CLOSAS, Alvar & REBELO, L.-M. (2020), Stakeholder mapping and needs assessment – Lebanon, Remote Sensing for Water Productivity Stakeholder mapping and needs assessment – Lebanon. Food and Agriculture Organization of the United Nations Rome, 2020.

NEGROPONTE, N. (1995), Being Digital. Vintage Books, New York.

NMBU (2020), Harvard NMBU – Guideance. https://www.nmbu.no/en/about-nmbu/library/write-and-cite/styles/guideance-nmbu-style#tre.seks (01.11.2020).

NO REFUGE LEBANON (2015), No Refuge Lebanon – A blog about life with Palestinian and Syrian refugees in Akkar region, North Lebanon. https://norefugelebanon.com/ (24.11. 2020).

OLSON, M. H. (1983), Remote office work: changing work patterns in space and time. Communications of the ACM, 26 (3). doi:10.1145/358061.358068.

PATTERSON, T. C. (2007), Google Earth as a (Not Just) Geography Education Tool. Journal of Geography, 106 (4), 145-152. doi:10.1080/00221340701678032.

RAMADAN, A. (2009), Destroying Nahr el-Bared: Sovereignty and urbicide in the space of exception. Political Geography, 28 (3), 153-163. doi: 10.1016/j.polgeo.2009.02.004.

REKITTKE, J. (2020), Convergent Digitality for Design Action in Obstructed Landscapes. Journal of Digital Landscape Architecture, 5-2020, 12-22. doi:10.14627/537690002.

REKITTKE, J. (2015), Mandatory Fieldwork. Pamphlet, Issue 19, 2015, Field Instruments of Design, gta publishers, ETH Zurich, plate V, 56-67.

REUTERS (2019), Lebanon's winter storm freezes refugees in flooded camps, Reuters, 8 January 2019. https://www.reuters.com/article/us-mideast-crisis-lebanon-refugees-idUSKCN1P21IO (27.09.2020).

SAFI, T. (2019), SS Ep 2. Shatila Studio Is Light Inside 'An Outdoor Prison', YouTube. https://www.youtube.com/watch?v=uvPPkQcjzG4&t=99s (03.12.2020).

SHATILA STUDIO (2019), Shatila Studio, Facebook. https://www.facebook.com/ShatilaStudio/photos/1485685241571871 (03.12.2020).

SHERLOCK, R. (2020), Rescue workers hope to find survivor of Beirut Blast one month later, NPR, 4 September 2020. https://www.npr.org/2020/09/04/909601558/rescue-workers-hope-to-find-survivor-of-beirut-blast-1-month-later (05.12.2020).

SNAP MAP (2020), [Beirut]. https://map.snapchat.com/ttp/snap/W7_EDlXWTBiXAEEniNoMPwAAYDTzF-cT0wkPtAXbStzdcAXbStzZzAO1OAA/@33.809423,35.153140,8.41z (06.09.2020).

STEINITZ, C. (2012), A Framework for Geodesign: Changing Geography by Design. Esri Press, Redlands, CA.

SWANSEA CITY OPERA (2019), Our Heritage is Our Identity. Facebook. https://www.facebook.com/2337217733270639/videos/413510782742026 (10.09.2020).

THE AGA KHAN AWARD (2011), Reconstruction of Nahr el-Bared Refugee Camp, Aga Khan Development Network. https://www.akdn.org/architecture/project/reconstruction-nahr-el-bared-refugee-camp (24.09.2020).

UN-HABITAT (2018), Housing, Land and Property Issues of Syrian Refugees in Lebanon from Homs City, UNHCR. https://data2.unhcr.org/en/documents/details/67943 (25.09. 2020).

UNHCR (2021a), Lebanon: Bekaa (Zahle). https://www.unhcr.org/lb/bekaa-zahle (20.09. 2020).

UNHCR (2021b), Global Focus: Lebanon. https://reporting.unhcr.org/lebanon (20.09.2020).

UNHCR (2021c), Where we work: Lebanon, United Nations Relief and Works Agency for Palestine Refugees in the Near East. https://www.unrwa.org/where-we-work/lebanon (20.09.2020).

UNRWA (2020), United Nations Relief and Works Agency for Palestine Refugees in the Near East: Nahr el-Bared Camp. https://www.unrwa.org/where-we-work/lebanon/nahr-el-bared-camp (24.09.2020).

USAID (2012), Litani River Basin Management Support Program: Litani River Flood Management Report May 2012. http://www.litani.gov.lb/wp/wp-content/uploads/LRBMS/007-LRBMS-LITANI%20RIVER%20FLOOD%20MANAGEMENT%20REPORT.pdf (27.09.2020).

YR (2020), Beirut. https://www.yr.no/nb/v%C3%A6rvarsel/daglig-tabell/2-276781/Libanon/Beyrouth/Beirut (04.09. 2020).

VICTORIA AND ALBERT MUSEUM (2020), Search the Collections | Victoria and Albert Museum, Victoria and Albert Museum Collections. https://collections.vam.ac.uk/ (28.12. 2020).

YOUNES, H. (2020), Hala Younes on Instagram: Finaly in Beirut. #the_place_that_remains #beit_beirut. Instagram. https://www.instagram.com/p/B9brG0RpVY4/ (20.09.2020).

ZOOM EARTH (2020), Bar Elias. https://zoom.earth/#view=33.77718,35.90381,13z (10.10.2020).