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Scholarly Primitives of Scholarly Meetings: A DH-Inspired Exploration of the Virtual Incunabular in the Time of COVID 19

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Introduction

In March 2020, the DARIAH ERIC, a pan-European research infrastructure for the arts and humanities, was deeply engaged in the planning for their May annual event, putting final touches on its three-day schedule of papers, panels, posters and meetings featuring reflections on the twentieth anniversary of the publication of John Unsworth's seminal paper on the 'Scholarly Primitives' of humanities research.

And then, suddenly, we weren't.

Like so many other events in 2020, the DARIAH Annual Event had to be postponed (and ultimately moved online) due to the global COVID 19 pandemic. For DARIAH, however, the difficult process of coming to terms with losing our opportunity to share knowledge and exchange ideas in our usual vibrant format was accompanied by two strong resonances. First of all, as a distributed organisation, the DARIAH community was somewhat ahead of the curve in terms of moving to online meetings. While the rest of the world seemed to be just discovering the joys of 'Zoom fatigue' and that seminal *cri de coeur* of the virtual meeting 'please mute your mic,' DARIAH was already a heavy user of this very platform since 2016, and had developed a robust calendar balancing virtual and face-to-face interactions for its core and peripheral team members so as to maximise the utility of each mode of interaction. Watching the transformation of professional interaction from our position of relative experience with virtual work made us uniquely sensitive to the manner in which the blunt instrument of videoconferencing was suddenly needing to be applied to nearly every human interaction, many of which had not been imagined as use cases when the tools were designed. We were finding ourselves in a period of the 'virtual incunabular' (drawing on the idea developed in Crane et.al, 2006 of the 'digital incunabula') where the usage of a new knowledge technology was being applied according to the norms and affordances of an older one, and not always with fully satisfactory results, a model alternatively referred to by (Weinberg, 2020) as the 'online insert' model

We were inspired not only by our observations of the incunabular, however, but also by our sensitivity, honed by our engagement with the digital humanities, to the research and exchange processes that our chosen event theme of 'Scholarly Primitives' had made us so aware of. It was an accepted truism that virtual interactions were impoverished and lacking, but there was very little investigation of exactly what was missing and, as a corollary, what functions could be easily transposed to the virtual format, and what ones could not. Would it be possible, we wondered, to break down the functions of the scholarly meeting in the same way that Unsworth had with research processes, so that we might develop better recommendations for the tactical use of virtual interactions, and focus our efforts on the hard work of transcending the virtual incunabular on those contexts where they could be most effective? Had we not been long aware already of the fact that we should be reconsidering our modes of interaction within the research

ecosystem in the light of climate change anyway, the late 2019/early 2020 rush of opinion pieces questioning academic conferences would have certainly brought this to our minds (see for example Wolff, 2019 and Macdonald, 2020 for an example of each), and, as these commentators also emphasised, COVID was our sudden and unwelcome, yet undeniably still fertile, opportunity to participate in a grand experiment.

The experiment this positionality inspired us to undertake was centred on the need to pivot our development of the physical event planned for May to a virtual one, but this virtual event would seek to harness different interaction paradigms from those we had thus far been considering. To do this we would draw from scholarship on scholarly interaction and knowledge exchange, on carbon neutral conferencing, but also pedagogical paradigms and the methodologies of “critical making” (Ratto, 2011) With this event, which we eventually came to refer to not as a conference but as a virtual exchange event, we would seek to maximise audience engagement and interaction, minimise participant cognitive load, foster serendipity and discovery, and deeply explore the human side of what happens at scholarly meetings. What follows is an account of how the DARIAH VX team theorised, built, lived and evaluated this attempt to play to the strengths of the virtual scholarly meeting, and the lessons we learned in the process,

Informing a novel approach to scholarly meetings: Primitives, NCNs and beyond.

In 2000, John Unsworth presented a tentative list of *scholarly primitives*, described as “basic functions common to scholarly activity across disciplines, over time, and independent of theoretical orientation.” The immediate intention underlying Unsworth’s explication of scholarly primitives was to suggest some (recursive) functions of humanities scholarship that might be usefully embodied in tool-building in humanities computing. Unsworth’s list comprised seven discrete functions — discovering, annotating, comparing, referring, sampling, illustrating and representing — with Unsworth further noting that “referring” and “referencing” are the two true primitives, as they are in some way related to all of the others.

In an interview conducted in 2011, Unsworth reiterated the point that his list of scholarly primitives was not intended to be exhaustive. Rather, in his initial contribution he welcomed and encouraged debate on the subject. Indeed, Unsworth’s approach of using scholarly primitives as a means of understanding humanities’ research processes and building digital tools for scholarship in the humanities has been, and continues to be, the subject of much discussion within the fields of Digital Humanities and Information Sciences. The following sample of that body of literature gives an overview of these trends.

In a 2009 report on the state of knowledge of scholarly information behaviour compiled for the Online Computer Library Center (OCLC), Carole Palmer and her co-authors presented an adapted definition of Unsworth’s concept of a primitive “by emphasizing a sense of the primitive as something at the base or beginning of a larger process”. This amended definition was closely related to the authors’ concept of *scholarly information activities* which emphasised “the explicit role of information in the conduct of research and production of scholarship” (7).

Palmer et al. derived a framework of five core scholarly activities — searching, collecting, reading, writing and collaborating — with two or more primitives identified within these broader

categories. Similar to the “true primitives” of Unsworth’s model, the authors also distinguish four cross-cutting primitives that are related to at least two individual activities.

The following year, the US-based Project Bamboo (2008-2012) a cyberinfrastructure initiative for the arts and humanities, published the findings of a series of workshops held in 2008 with an international cohort of digital humanities practitioners with the aim of charting “a direction for cyberinfrastructure development in the humanities” (2010:1). This report identifies thirteen *themes of scholarly practice* and the authors of the report map the Bamboo themes to Unsworth’s scholarly primitives and Palmer et al.’s scholarly information activities.

In 2014, Annie Murray and Jared Wiercinski further developed this body of research by supplementing it to better reflect the specific activities of humanities scholars who work with audio formats (2014). Moreover, Murray and Wiercinski recommend familiarity with the work of Unsworth, Palmer and Project Bamboo as the foundation for an evidence-based design methodology for building digital tools for humanities scholars.

Unsworth’s Scholarly Primitives had been highly influential in the context of DARIAH. During its preparatory phase, Sheila Anderson et al. combined the related concepts of methodological commons and primitives “to map research work in arts and humanities e-Science, and to assist in scoping the research infrastructure for the European project DARIAH” (Anderson et al. 2010: 3785).

Lastly, in the context of this brief review of the literature on scholarly primitives that informed and inspired the DARIAH VX, the Scholarly Domain Model (SDM) proposed by the Digitised Manuscript to Europeana (DM2E) project proposed to bridge the “practices of humanist research approaches in both the analogue and digital world” (DM2E 2015: 8-9). The SDM, which consists of four “different layers of abstraction” — Areas, Scholarly Primitives, Scholarly Activities and Scholarly Operations — was based on the assumption that an understanding of Unsworth’s Scholarly Primitives is fundamental to any model of the scholarly domain (9).

This long tradition of discourse and practice in the theory and application of scholarly primitives did not necessarily prepare the DARIAH group to apply these frameworks in the specific context of scholarly meetings, however. Our first exercise as a group, therefore, was to try to translate the various components of a typical scholarly meeting into their functions. The result of this initial exercise was as follows:

Component	Presumed or possible function(s)
Papers, roundtables, keynotes	Knowledge sharing, verification and certification
Poster sessions, networking events, hallway chats, coffee breaks	Semi-structured and serendipitous individual or small group interactions
”Social listening,” common experiences, registration, name badges, buffet dinners,	Shared Experiences for community identity building

'letting hair down' with professional peers	
Workshops, sidebar meetings	Collaborative work and learning

Figure 1: DARIAH VX Preliminary List of Scholarly Activities and Primitives in Meetings

This results of this exercise were in some ways not surprising: for example, it is perhaps obvious that some elements of a scholarly meeting would map on to the traditional mechanisms for formal scholarly communications (ie. the registration, dissemination, certification and archiving functions of scholarly publishing (c.f. Roosendaal and Geerts et. al,1997 and Prosser, 2013, as cited in van der Weel and Praal, 2020, p. 26)). Other aspects seemed to recognise that for the digital humanities at least, the shifting of traditional practices of sole authorship and single scholarship to more collaborative modes of knowledge co-creation (Edmond, 2015), were driving the scholarly exchange space to be ever more an opportunity to also meet specific milestones for the work of subgroups attending. Perhaps most interesting in the light of later findings, however, was the large amount of space and time we could identify at events that was dedicated to the development of informal networks and social capital. This of course represents trends in the wider scholarly communications ecosystem, but also a certain irony, given that the rise of printed periodicals in the late 17th century was driven in large part as mechanism by which to preserve ephemeral fragments of knowledge that tended to disappear after the informal exchanges that shared them (A. Fyfe, in Science Europe, 2019, p. 9).

We recognised that the potential for bias in this analysis was high, however. In part, this was something we felt we would have to accept as a constraint of the limited time we had to inform the structure of our event. But we were able to apply two further measures to attempt to check any unconscious biases we might be inadvertently allowing overt influence over the event we would design, namely a wider literature review and an effort to crowdsource further input for our model from our event itself.

To deliver on the first of these, we sought out existing adjacent research literature to inform our activities. Of particular relevance for our work was a set of pre-publication blog posts and releases for the collection *Right Research: Modelling Sustainable Research Practices in the Anthropocene* (Rockwell et al, forthcoming). In particular the taxonomy of ‘presences’ developed there, highlighting social, cognitive and leadership presences, as well as the space where research agendae can be negotiated (Rockwell et.al, 2020) provided the DARIAH VX team with a perspective on the values of the scholarly meeting that organised similar observations to our own according to a different organising principle.

(Clancy, 2020) provides an excellent review of research across a number of fields into the question of whether conferences facilitate collaboration. In spite what one might see as a relatively narrow, STEM specific conceit underlying the studies he cites (the measure of collaboration being a shared publication or funding application within a relatively limited period of time) the results did still provide a resounding confirmation of the vibrancy of interactions as a facilitator for knowledge consolidation, with one study (Boudreau et.al, 2017) demonstrating that being in a randomly assigned discussion room increased the probability of submitting a joint

grant proposal by 75%. On the other hand, as the author concluded, these studies all focussed on face-to-face interaction itself, not in comparison with virtual alternatives.

Interestingly, we found that our conceptualisation of the virtual scholarly meeting from the ground up led us to very different conclusions from some of the existing literature. Two particular points of departure were the benefits of asynchronicity (as proposed by Rockwell et al, 2020) and the capacity for virtual meetings to be more inclusive (a benefit cited by Nick Byrd, 2020). On the former issue, while of course making materials available in multiple formats provides some benefits, our analysis of the social and intellectual processes involved in a scholarly meeting led us to believe that it was precisely the informality and ephemerality of many of these engagements that delivered the most value, and that enhancing their formal aspects might achieve a different aim, but not perhaps the most crucial ones of supporting openness and disruptive thinking and interaction. On the second issue, while we would agree that anything that increases access to knowledge for marginalised groups is a benefit, we saw strong threats possible that the virtual could lower barriers in some ways only to raise them in others, bringing not only the impact of technical digital divides and timezones more to the fore, but of course also making it more difficult to hear voices, such as those of early career researchers, that might not come in to such a meeting already confident or empowered, and perhaps also perpetuating assumptions that just because someone *can* log in to a meeting from their home means that they can be afforded the time and space they need to truly participate.

The unprecedented times made us aware of a need to gather perspectives specific to the current moment as well, however. We therefore decided that in the spirit of inclusivity and engagement we wanted to place at the heart of the DARIAH VX event, we would also solicit input from participants at the point of registration as to what they felt the latent and manifest purposes of scholarly meetings were, and what place these events held for them in the landscape of inputs and opportunities they might have for personal and professional development.

In the registration form, we included two sets of questions:

The first question asked: “Please give us up to three of your most important reasons for attending meetings with other researchers. Note that while you do not have to frame these as either functional or cross-cutting primitives, we will use your response to inform the list of primitives we will discuss at the meeting.” We also asked, for each example, whether the person felt that a given ‘primitive’ was better served by the analogue context, the virtual context, or both.

The second information request was more open, and designed to explore the anecdotal and emotional weight of scholarly meetings: “Please share with us your strongest memory of a scholarly meeting (positive or negative)”

Ultimately, 85 people registered for the event and filled in this information, from which we then extracted and aligned key terms with each other (as we had not controlled vocabulary) and with our enriched internally defined set of functions. While the crowdsourced responses to the first question did not contradict the initial framework, they did enrich it greatly, and brought out a couple of key nuances, in particular the very strong weight given to the informal, open-ended aspects of the interaction meetings enabled and fact that these ‘people processes’ were perceived

to be far less well-served in the virtual environment than those that supported the circulation of ideas. These responses were distilled into the following visualisation:

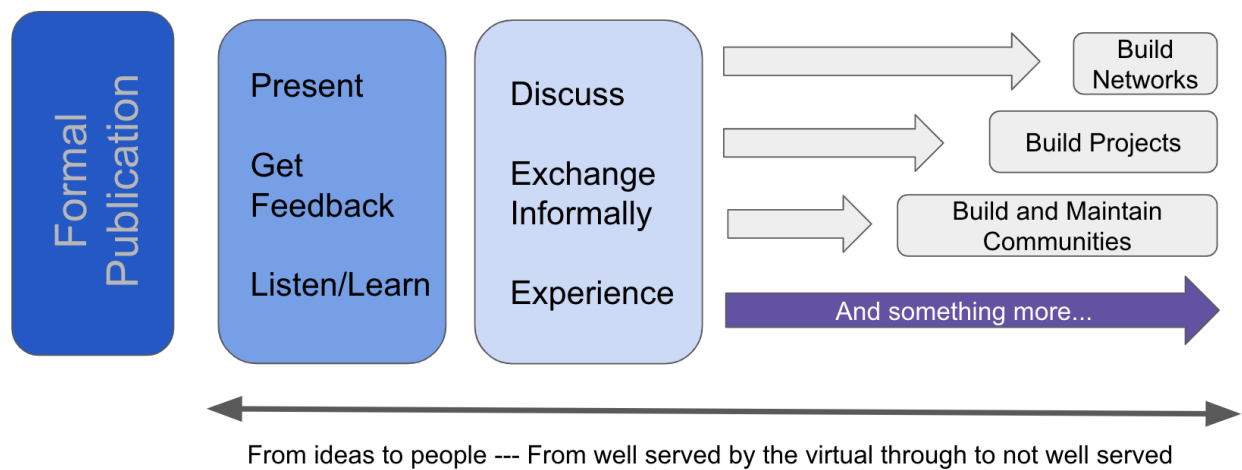


Figure 2: Visualisation of the Emerging Primitives as Processes

What was perhaps more interesting and surprising for its intensity, if not its content per se, was the overwhelming preponderance of strongly positive accounts given in the personal anecdotes. With one exception, all of the responses to this question related not just positive experiences, but very strongly positive ones, deeply personal and often life-changing. An extract of some of the common terms appearing in this corpus is as follows:

Inspiration, Productive, Passion, Creativity, Liberating departure from the norm, Different contexts coming together, Taking risks, Discovery, Unique ideas, Contacts made, Connections solidified, Still vivid, Conversations through the night, Lasting impact, Curiosity and motivation, Feel part of a community, Share, Delighted, supportive, Friends smiling, Warmth, Glad to be valued, Recognised, Positive experience

 Changed my attitude, Changed my life

Figure 3: Emotional Vocabulary of Scholarly Meetings, Extracted from Participant Anecdotes

This led us to conclude that while the manifest purpose of scholarly meetings might well be achieved in a number of ways, the latent purpose of building careers, friendships and professional identities was not only present, but exceptionally strong.

Creating the Virtual Exchange Event

Ultimately, we had neither the time nor the resources to experiment with every idea or tool we thought could harness digital humanities knowledge to enhance the experience of a virtual event. We therefore decided upon a suite of seven measures that we felt would have the most impact on making the event both informative but also different, in the sense of the idea of paradigmatic

regression developed by Joris van Zundert (NN), questioning preconceived notions in the attempt to achieve something different. These measures were as follows:

- Use of a pre-workshop virtual exhibition to allow participants to ‘settle in’ to the cognitive space
- Use of plenaries to establish a common set of themes, informal tone, build community and instill certain social norms
- Incorporation of crowdsourced insight from registration into the event, including professional assessments and personal anecdotes
- Emphasis on break-out session discussions
- Featuring a contrasting, but complementary, embedded arts research perspective
- Technologies deployed kept few and simple
- Rich and open communication before the event and documentation afterward

This set of guiding principles and the instruments that delivered them mapped on to our refined set of primitives we wanted to address as per the table below:

“Primitive” or transversal	Our Response
Semi-formal knowledge sharing: presenting, learning, feedback	Break out presentations/discussion, embedded ‘Liveness’ project, exhibition, plenary, approach to documentation (recordings, notes, capture, reports)
Serendipitous discovery, making (new, contextualised) connections between ideas and people	Break out session format and interactions, exhibition, encouragement to network
Community identity building and sharing of experiences, embodied and situated learning	Sharing of stories, ‘crowdsourced’ plenary, unique format and informal tone, artistic reflection, opening breathing exercise
Management of the constraints: transparent technology, ‘channeled’ distraction	Small number of commonly used, well-tested tools, well prepared and socially supported implementation, strong ‘narrative’

Figure 4: Mapping Primitives to Event Activities

Each of these elements will be discussed in more detail in the following sections/

Serendipity and the Prepared Mind: The Virtual Exhibition

If engagement, serendipity, discovery and connection all seemed to be impoverished in virtual meetings, The DARIAH VX would need to find some way to encourage its participants to give themselves the time and space to prepare their minds if the event was to be a success. The pre-meeting virtual exhibition was our answer to this challenge.

The intention behind the exhibition was to recreate the sense of anticipation and serendipity in knowledge acquisition that one achieves through conference attendance by creating a *wunderkammer* of resources: offering multiple routes to different items, with no expectation that all participants might engage with every single item on display. To achieve this, a few different platforms were investigated, ranging from the virtual reality exhibition space Artsteps¹, to the more dynamic route offered through online presentation platform Prezi. However, in order to complete this in the limited time available, and with the motto of ‘keep it simple, stupid’, it was decided that, while certainly less dynamic and less likely to provide a sense of space, a Wordpress.org based site was the most feasible. Yet, despite the lack of dynamism in such a platform, the layout was such that it still allowed for the serendipitous discovery.

The structure was informed by the most common spaces found at face-to-face meetings, and the information one may find in them.

¹ Artsteps Virtual Exhibition platform: <https://www.artsteps.com/explore>

DARIAH Virtual Exchange Event

EXHIBITION SPACE FOR THE SCHOLARLY PRIMITIVES OF SCHOLARLY MEETINGS

You Are Here

Home | Registration Desk

Registration Desk



Welcome to the DARIAH VX Registration Desk

You can find here all the practical and essential information about the event, the team behind it, the topic and other COVID-related initiatives that inspired its structure.

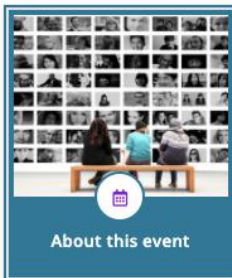


Figure 5. Virtual Exhibition ‘Registration Desk’ Page

The Registration Desk offered lists of fellow attendees, practical information such as how to sign up to the main Virtual Exchange event, and a programme of events. It also introduced the organisation (DARIAH) and the team behind the event, and provided some links relevant to the topic of Scholarly Primitives.

Welcome to the DARIAH VX Knowledge Exchange Exhibition.

Here you can explore a selection of resources and ideas exploring the many primitives of and issues surrounding scholarly meetings, together with a broader range of sources relating to the current COVID-19 crisis. This living online exhibition, organised by DARIAH-EU, will be updated from 21 until 28 May 2020.

The exhibition acts as a pool of prompts and provocations for thought and conversation, a dialogue that will culminate in a 2-hour synchronous virtual exchange session on the 28th (from 14:00-16:00 UTC+1). Further information about the event, the team behind it, the topic and other COVID-related initiatives that inspired its structure are available [here](#).

To facilitate and encourage serendipitous discovery, we have arranged the resources in the following formats:

1. As a set of Thematic Research Collection;
2. As a provisional list of scholarly primitives of scholarly meetings;
3. As an exhibition "floor plan";
4. As a dynamic, multi-dimensional presentation.



Figure 6. Entry page for the 'Knowledge Exchange' Space

Next came the main auditorium, renamed here as the Knowledge Exchange space, in the items related to the themes of the live event were grouped thematically, sometimes overlapping, or offering different perspectives on similar topics.

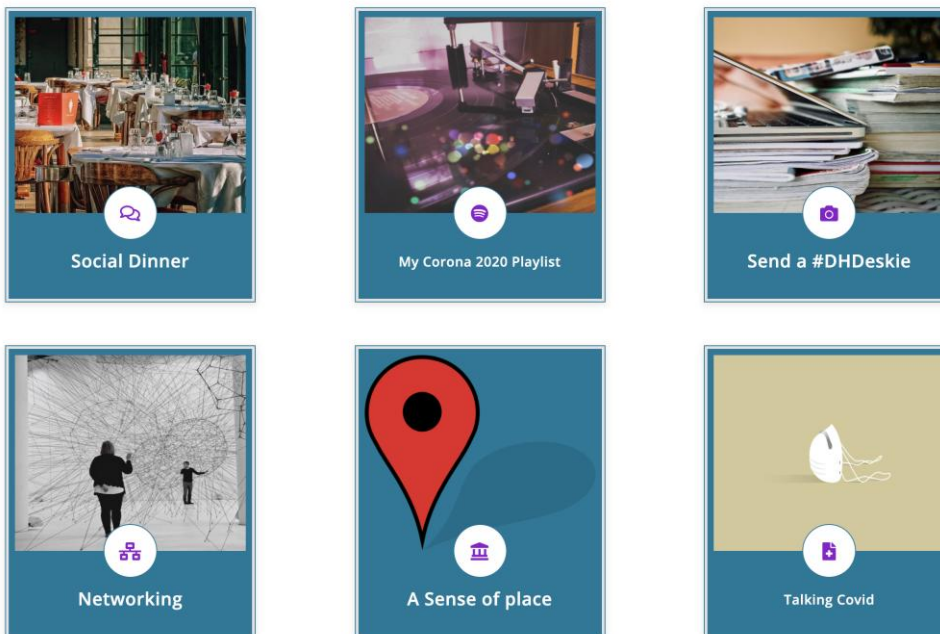


Figure 7: Navigation in the 'Coffee Break' space

Finally came the Coffee Break space that encouraged interaction and allowed for less formal discussions around the themes of the event (including the participant anecdotes and the 'elephant

in the room,' COVID 19, about which we featured examples of humanities research approaches). The Coffee Break section of the exhibition also included resources intended to invoke, if not truly serve, some of the most prominent latent purposes of scholarly meetings, referencing interpersonal connections and a sense of space and place with links out to various audio-visual experiences elsewhere on the internet, and a Spotify playlist compiled by members of the DARIAH Coordination Office, who are themselves dispersed across Europe and offer a wide selection of idiosyncratic musical tastes, and a place to upload a 'deskie' photo that would allow participants to share images their participation spaces with the wider group..

These three elements within the Virtual Exhibition allowed attendees to spend as much or as little time as they wanted (indeed they were specifically encouraged to do so, and to not feel it was something they needed to 'complete'), finding new perspectives on the theme of the Virtual Exchange. There was discussion in the programme committee as to whether we should include a 'floor plan' that listed all the items on offer, or whether it would be best to allow participants to discover things for themselves, in an 'easter egg' style. While plans were made to develop a floor plan, time ultimately made the decision for us as we got closer to the launch date for the virtual exhibition space, and we moved to return to the floor plan at a later date. Additional challenges in creating this space lay in the decisions around which items best fit into which spaces, and identifying at what point we might start imposing our own biases on the pathways people could take through the exhibition and risk removing the sense of accidental discovery that we wanted to achieve. As ever, knowledge organisation and asset curation is a challenge, so we made sure to flag very clearly to participants the status of these resources as 'prompts and provocations' rather than a complete, fully theorised, scholarly collection.

A full list of the assets in the Virtual Exhibition appears in Appendix 1 of this paper.

Structuring the Synchronous Event

Although the preparation phase for this event was given particular attention, the 2-hour event, held roughly two months after the initial decision to undertake this challenge was taken, was of course the central experience within our ad hoc laboratory experiment of the possible. We did not feel that any more than two hours would be productive: one of the greatest misunderstandings of the early days of day-long face-to-face meetings being taken virtual was the assumption that an eight hour session in a room could simply be replaced by a similar day of work online. Even within this limited window, we felt that a variety of interaction types would be needed, each no longer than 30 minutes. We therefore ultimately decided on a structure composed of 1) an opening plenary; 2) breakout sessions; 3) a short break followed by a presentation from a very different perspective on presence and connection informed by a small-scale piece of performing arts research we would commission and 4) a closing plenary to share the results of the break out groups and wrap up the event. In each of these sessions, we were mindful of what we wanted not just the meeting, but the virtual medium to achieve, with the results as follows.

a. Opening and Closing Plenaries

Given the goal of the meeting to draw people together into a sense of having experienced something communal, we felt that we would not be able to avoid an opening plenary. The risk of this strategy, however, was that people would fall too easily into the habits of large virtual meetings, (over)stretching their cognitive capacities in a state that technology consultant Linda Stone has named ‘Continuous Partial Attention’ (Stone, 2009). We therefore deployed a number of specific measures within this block in order to maintain not just shreds of attention, but engagement with the ideas and topics we were hoping to focus on. The specific flow by which we sought to achieve this included the following:

First, we gave a notification that the plenary sessions would be recorded. The plenaries were the only sessions we recorded, in spite of our desire to have as full a record as possible of the event. Ultimately, we felt that our desire to have the comprehensive record that technology *could* give us should not be allowed to exercise a potential chilling effect on what the participants *would* give us, in particular in the breakout sessions. It only took a brief thought experiment of imagining a conference where your every exchange could be traced and documented to convince us such an approach would be antithetical to the spirit we were trying to promote, which is fuelled by the freedom of the ephemeral.

Second, the plenary moderator (DARIAH Director, Jennifer Edmond) asked all of the participants to pause before the start of the session to take three breaths with her. The idea of using this technique to open the programme was suggested by the arts researcher on the programme committee, Courtney Grile, as a way to bring an element of the shared physical grounding of the face-to-face meeting - the tang of a particular floor cleaner, the waft of an urn of coffee outside the door, the humidity on a rainy day, the shadows through the windows on a sunny one - that we lose in virtual spaces. Breath is a powerful centrepiece for creating a communal experience, but also had a signalling function for us, indicating that it was our intention to deliver an event that did not abide by the established heuristics by which scholars generally navigate their meetings.

Third, we made the ground rules we wanted people to follow explicit. Some of these were simple and general aspects of good virtual behaviour: mute your microphone, turn off notifications to the extent you can, try to keep your attention on the topic, if not on the presentation, be kind, be generous, be empathetic. But we also used this rule-setting phase to encourage what could have been seen as a new social norm with a ‘rule-breaking’ role, namely that we encouraged the virtual version of chatting in the back of the plenary room. We drew attention to the participants list and the chat window, and explicitly encouraged people to take advantage of whatever back channels they were comfortable with to reach out to fellow participants they knew. For people who might be new to the community, we explicitly invited them to make contact with one of three programme committee members whose role in that session was specifically to be available for questions and chat. The rationale for this encouragement not to pay attention to the plenary was twofold: first, full attention was unlikely anyway but second, we wanted to try to emulate the experience of what we referred to as ‘shared social listening,’ that communal experience of not just hearing the same words and processing the same ideas at the same time, but of also weaving those words and ideas into our own neural and social networks, the intellectual and relational components of our professional identities.

After these preliminaries, we moved to the actual opening plenary presentation of what we wanted the event to achieve and what inspirations underpinned it. In this session as well, however, the emphasis was on the communal experience of knowledge creation, balancing aspects of our formal secondary literature review with the insights from the registration process, described above. This attempt to keep the focus on the knowledge of the group assembled, rather than of the programme committee or of a small group of individuals was continued in the closing plenary as well, which moved through four stepping stones chosen to bring a sense of closure to the group and the experience: an efficient, open and thought-provoking reporting format from the break out discussions (see a description of this below); a ‘reveal’ of how our event had been conceptualised to meet the needs the collected input led us to focus on; a brief report drawn from expert input on the question of what the future technologies for virtual interaction might hold (provided via email by Professor Sarah Kenderdine, a member of the DARIAH Scientific Advisory Board), and a brief reflection on some of the lessons the DARIAH VX programme committee felt they had learned in the course of developing the VX content and structure.

Recordings of these plenaries were added to the virtual exhibition after the fact and are available here: <https://www.virtualexchange.dariah.eu/>

b. Breakout Sessions

It seemed an obvious choice to include breakout sessions in the DARIAH VX event, as a way to encourage engagement and connection among participants. The same registration form that solicited their input about events and primitives was also used to identify and cluster their interests resulting in seven breakout session themes, titled as follows:

1. Making (virtual) interactions work better
 - **Presenters:** Rimi Nandy (Adamas University) and Sarah Middle (Open University)
2. Breaking down barriers - of career stage, language, discipline or other - between researchers
 - **Presenters:** Paul Spence (King's College London) and Nicole Basaraba (Trinity College Dublin)
3. Academics in the Ether: Tackling the challenges of working away from the office
 - **Presenters:** Claire Warwick (Durham University) and Mariann Hardey (Durham University)
4. DH Methods and Tools Gone Wrong: Discoveries, Failures & Advice for the Future
 - **Presenters:** Quinn Dombrowski (Stanford University) and Amelia del Rosario Sanz (Universidad Complutense)

5. Working together to move forward: Fostering collaboration for projects, grant proposals, or publications
 - **Presenters:** Michelle Doran (Trinity College Dublin) and Francesca Morselli (DARIAH-EU)
6. The Academic Footprint: Sustainable methods for knowledge exchange
 - Geoffrey Rockwell (University of Alberta)
7. In Praise of Presence: Why do we Travel to meet?
 - Vicky Garnett (Trinity College Dublin) and Courtney Grile (Trinity College Dublin)

Participants were informed before the sessions that discussion would take place in small groups and last 30 minutes, and were designed as opportunities to make connections and share ideas. Each session was supported by a team consisting of a chair, support person and 1 or 2 people charged to present some starting thoughts, and the Zoom platform breakout groups function was used to move participants automatically to/from the small group. Participants were also informed that the sessions will not be recorded, but that we had set up shared documents for each group in which they could keep a record of their discussion.

Each of the seven breakout sessions focussed on some facet of academic conferences, in-person versus virtual, and the impacts these formats have in terms of travel, sustainability, and ability and methods for researcher collaborations, and were designed to provide participants with a chance to make connections and share ideas, more similar to the informal discussions that happen in the hallways after conference presentations than those presentations themselves. The sessions were 30 minutes long and participants were pre-divided into groups of less than 10 people each, to ensure the potential for real discussion. Each session included two five-minute presentations from two selected speakers (based on their answers to the registration questionnaire, or recruited outside of the registration process to meet a specific need) and was supported by a DARIAH VX organising team member, a chair, a support person who served as rapporteur of the discussions, and 1 or 2 people charged to present some starting thoughts. The breakout sessions were not recorded but the rapporteur took notes in a shared Google document that all session participants could view and contribute to. Across the seven sessions, four main themes of conversation emerged which are: (1) navigating personal and professional spaces, (2) technical and financial practicalities, (3) methods of communication, and (4) academic status.

In terms of navigating personal and professional spaces, breakout session participants discussed how working from home during COVID-19 has created greater challenges in separating the formal workspace and time from leisure and family time in the home. Academics may try to multitask during online conferences, but they need to explicitly block out time for virtual conferences as they would when travelling for an in-person conference. The physical separation of colleagues during COVID-19 had made people more conscious about connecting with those whom they would normally meet informally without making specific plans. This extended to the casual relationship building that happens at in-person conferences when new people meet professionally but form friendships through the collective experience of listening to presentations and participating in the social and cultural activities. The consensus was that virtual conferences

and meetings could be useful for people who have already met and established a working relationship, but that establishing this rapport was more difficult to build online when meeting someone for the first time.

The second theme that arose in discussions surrounded the technical and financial considerations for virtual conferences and meetings. Zoom had emerged as the most popular platform among academics, and calls often lasted between one to two hours. However, Zoom calls can be exhausting because they take more mental effort to carefully consider what you say since you are in a “performance-like” situation. There can also be a multitude of possible environmental distractions, including the background views of individuals’ personal spaces, and if two people are meeting for the first time on Zoom, these distractions could be considered unprofessional by the other person due to the lack of an existing relationship. If Zoom calls are recorded, it also often results in modified behaviours of participants. There have also been technical and security issues with some virtual calls as well as data protection issues, which in some cases resulted in weakened trust. It was noted that funding would be needed to have technical support for large virtual conference calls, which may also have smaller breakout sessions, in order to permit conversations and presentations to flow without interruption.

In regards to methods of communication, some key differences were highlighted between in-person and virtual conferences. DARIAH VX participants noted that sometimes it can be difficult to read people’s body language when online, only thing you may get a sense of is from the tone of voice, which is not always the best way to understand colleagues or conference participants. Another person said that they can become distracted by seeing their own face and background during a video call. Each academic community, whether it be at an annual conference or the specific disciplinary conventions, has different styles and expectations for presentations and interactions, but across the board, ability to digitally access and share content is very important to virtual academic exchanges. Issues of inclusion were very much on the minds of the DARIAH participants as well: the presence of a moderator or chair is often needed for larger groups to ensure each voice is heard and that those with questions or comments from the ‘audience’ get the chance to speak up. In addition, as when many in-person academic conferences are in English, linguistic marginalisation can flatten diversity in the discussions and the academic discipline more generally, a situation only intensified by the impoverishment of online communications. One possible solution offered was to include slides in another language to allow for better communication to those who may not speak or understand English as their primary language. This would allow them to get more out of the presentation/content if they can follow along in their first language. Finally, it can be difficult to connect with another scholar/participant until they give their presentation as the ability to discuss ideas flows easier after one hears about the other’s worth in more detail. Collaboration often relies on serendipity, but social distancing has drained much of the serendipity out of our professional lives, with everything needing to be scheduled and social media offering an active space for connection, but one in which diversity, complexity and context might be diminished.

The final theme that emerged in the discussions was the role of hierarchies and status in academia in relation to attending and playing specific roles in conferences. For example, flying to conferences confers status and this culture needs to change so that academia can be more inclusive of those who cannot get university funding to travel to exchange knowledge. Another

consideration is the limited discussions on academic methods and practice. Early-career researchers may fear that publishing or speaking about their ‘failures’ or methods that did not produce fruitful research results could have negative consequences for the academic career. On the contrary, in a luxury condition, where status or reputation is already assured, it is easier to talk about research shortcomings one has experienced. Without discussing or sharing ‘failures’ scholarship can fail to move forward, with other scholars making the same mistakes because nobody has documented a similar attempt that did not work. A solution that was offered was that if one scholar does not want to bear the weight of ‘failure’ alone, they could discuss or publish it as a collective group or write in other venues like on social media.

The difference in terms of the keynote speakers versus PhD candidates and the lack of informal conversations between senior and early career scholars is a gap at virtual conferences that some felt in-person conferences were perhaps far better able to facilitate, though not without investment needed to break down barriers. Whether a better model could be developed in the virtual was an exciting opportunity to explore. People, after all, are the focus of collaboration: we do not work with institutions, we work with each other. Even while there may be an enduring valorisation of the solitary scholar, there is also a generation of scholars who recognise that we have to work together.

These break-out sessions offered the participants opportunities not only to explore the themes of the workshop, and put them into the context of their own words and experiences, but also to connect their current experiences to their wider personal and professional lives. In particular topics like hierarchies, dealing with failures, isolation and mental health, and inclusiveness cut to the heart of not just how we might as a community of scholars navigate the ‘new normal,’ but also how we might use this moment to improve conditions of the preexisting state of scholarly communities. Many of these topics were not specific to digital humanities, and yet the context and many of the connections made, such as the role of collaboration and the tensions between cultural and communicative signals and the technology that mediated them, most certainly were.

The DARIAH VX approach to reporting back from the plenaries also reflected our intention to use the opportunity of the COVID-forced change in format as an opportunity rethink the format of the scholarly meeting at a higher level. The group shared a certain frustration with the level of engagement that tended to be accorded to the mechanisms sharing break-out discussions with a plenary, while also recognising their important role as a social buffer between larger and smaller groups. We therefore imposed a specific format on each group: to provide back to the plenary five keywords that reflected central points of their discussion, one challenge statement and one opportunity statement. These inputs were included in the slides for the final plenary, where they were presented and connections between them drawn out, without the opportunity for longer discussion.

The list of keywords was as follows: uneasy, domestic, accessibility, aura, interactivity, participation, trust, intentionality, diversity, failing gloriously, distance, mentorship, connecting individuals, eternal prototypes, respect, networking, place, noise, stigma, facilitating (role of institution) cultural experience, social bonds.

The list of challenges was:

- Where it is hard to concentration, compose oneself or know when to be heard;
- Attention of attendees/ Control of Students / Multiple channels / Risk Situation / Surveillance;
- What's stopping you from talking about failure? It could be (mostly) unfounded to think too much about what funders/colleagues may think;
- small conferences are. might be better in handling this - digital conferences which by aspiration/default are large are less suitable for that;
- We do not want to lose the connection and the rich experience;
- personal VS professional life, how much do we share; and
- the environmental impact of travel, the monetary expense and if we can travel in after times

The list of opportunities was:

- To experience new ways to simply 'be' in digital space.
- maybe we can make interactions more accessible across barriers (economic, career stage, regional
- Flexibility and inclusiveness
- Towards a taxonomy of failure
- we need a look-up, inspirational corner about conference formats, flavours - a kind of chocolate box you can choose from; elements other disciplines are good at, and one might to try out;
- personal VS professional life, how much do we share; and
- Zoom offers moments of insight - get to see where someone lives!

Although this method did not encourage the kind of conversation and linking across groups that traditional forms of reporting back to plenaries might have, it did bring the additional benefit of allowing the discussions to be seen from an almost 'distant reading' point of view, while also not increasing potential cognitive load on participants with a session of reports that could easily have run long or lacked structure.

c. An arts-based response: The Liveness Investigation

Realising as we did in our preparations that what we could never recreate in a virtual space was the situated, physical, embodied experiences and learning of the face-to-face meeting had us thinking from an early moment of how we might bring in an explicit conceptual element to our event to explore these aspects. Luckily, DARIAH is an infrastructure for the arts as well as the humanities, and no one knows the difference between live engagement and interactions mediated by space, cameras and microphones as well as performing artists, in particular theatre practitioners.

The ideas of liveness and co-presence are inextricably linked with drama practice. While many theatre arts practitioners have begun to play with new technologies in order to adapt and bring them into the arts practice, the COVID-19 pandemic has accelerated innovation and rethinking of how it might be possible to practice the craft in an online setting. Within applied drama praxis, with its focus on embodiment and collaboration, the tools of drama/theatre are specifically utilised in order to explore ideas and create dialogue amongst workshop participants. The

collective knowledge that is generated through this process relies on participants' absorption and interpretation of information through their entire being: all of their senses, body, mind, and feelings/emotions. How is this altered when it is moved into a completely online space? What might be gained? What might be lost?

In the spirit of 'show me, don't tell me' (a mantra of theatre educators around the globe), the 'Liveness Investigation' created specifically for this DARIAH virtual exchange event sought to explore this topic by incorporating a presentation and discussion of a piece of research comparing two instances of theatrical collaboration, with the same format and participants, but delivered ten years apart, first in a physical space (captured during the development of a 2011 project entitled 'The Other F Word'), then in a virtual space. The materials offered to the VX participants also included the reflections of the workshop participants on the adaptation from an in-person setting to an online one, and of the project leaders.

The biggest takeaway from this project for the participants and the Artist-Researcher who facilitated was the understanding that moving the practice online created something new, with new possibilities. Many elements of connection that manifest when sharing physical space, such as nuanced nonverbal communication (especially eye contact) and kinetic information relayed through placement, proxemics, and direction were largely lost in the online space. The 'machines' created in-person allowed for each contributor to build upon what the previous person had offered. The creative process for working in shared physical space allowed for deeper co-creation and collaboration intrinsically during the act of creation. This is in contrast with the 'machines' that were created online being much more of a collage of individual contributions to the ideas offered (ie love/hate machine). The online creative process was marked by most individuals responding² on their own to create within a kind of vacuum with the collaboration and meaning-making actually coming afterward in the workshop reflection attempting to understand the machine as a whole. The online practice showed signs of potentially further empowering participants to contribute more personal, individualised responses, however.

In light of these discoveries, what becomes clear is that the format (in-person or online) which will be most conducive for a meeting, workshop, or gathering depends a good deal on the purpose and goals of the gathering. If it is crucial to build a sense of community and co-create contemporaneously, then an in-person setting would be ideal. However, if it is crucial to allow space for each participant to act individually, then an online platform may well be optimal for highlighting that endeavour. The nature of these differences, and the manner in which technological affordances might be tweaked in order to be more focussed on certain kinds of interaction defined in these terms, is still largely unexplored. While a great deal more remains to be explored in this area, it feels necessary to encourage a 'both/and' way of moving forward with in-person and online gatherings rather than an 'either/or' model when it becomes available post-COVID.

The Prezi and videos of the Liveness Investigation can be found here: <https://prezi.com/view/sBDCS3iZisELjh76VCq1/>

² There is one exception where a participant expressed afterward that their contribution was in response to an earlier contributor, but this was not readily apparent to any other participant during the reflection.

d. Managing the technologies and data: before, during and after the event

Mapping the above considerations about the scholarly primitives of online events into the practicalities of setting the virtual stage for the synchronous event also entailed making informed choices about the technology we relied on. The enormous impact the COVID pandemic had on IT infrastructures and especially on online meeting services (see.e.g. Abusaada and Elshater 2020, Zaveri 2020) made the ethical complexities inherent in their use, acquisition and development, together with how exposed we were to them (see e.g. discussed in Stoviac 2020, Lau 2020) even more malleable. Although many of us would have preferred an open source alternative (particularly given some of Zoom's privacy issues, see Doyle et al 2020), we had to prioritise three core criteria at short notice: reliable performance, rich functionality, and the degree of familiarity of DARIAH communities with the tools in question. We also wanted to ensure we followed best practices shared in our broader communities, such as the experiences of the COPIM team with moving events online and setting up breakout rooms the smoothest possible way (Barnes 2020).

To keep a delicate balance between giving to our audience the richest possible experience vs. avoiding cognitive overload in online meetings and learning environments (see e.g. Costley 2020), we decided not to involve external tools (e.g. Mentimeter, Miro, Mural etc.) but put the emphasis on maximizing the potentials of Zoom (e.g. via using break out rooms, facilitating exchange in different chat rooms, enabling the audience to share content etc.) instead and facilitate serendipitous discussions of different sorts between and across speakers, breakout chairs and the members of the audience. In doing so, the help of technical facilitators (also known as Zoom angels) was inevitable. These support roles, forming human bridges between the technical and people, included a technical coordinator who was responsible for the overall smooth running of the online event (setting up and tailoring the virtual environment to our needs, testing, managing different contributor roles and enabling content sharing, setting up the breakout rooms and assigning people to them, supporting members of the audience with connection problems or getting lost in the virtual spaces) and technical facilitators, members of the DARIAH Central Office in each breakout room. They made sure that everyone arrived and felt comfortable in their breakout rooms and also provided help with note taking (use the one additional tool we did allow ourselves, Google documents).

DARIAH's well-established routine of conducting virtual scholarly meetings as well as the best practices we incorporated in our technical set-up enabled the smooth running of the synchronous event. However, it is worth mentioning three specificities of online events as take-aways that are worth keeping in mind when organizing future events. First, we saw a significant difference between the number of registrations to the event (with breakout room pre-assignments) versus the actual attendees. This became somewhat problematic in assigning the sufficient amount of audience to all the seven breakout rooms. Second, enabling small-group interactions in itself does not demolish academic hierarchy. As a result of which we experienced that not all the early-career researcher attendees felt comfortable with joining the discussions even contrary to the encouraging and sensible contributions of the breakout chairs. Third, for these sessions to work well, they need to be well staffed, and those contributors need to be well briefed on their specific roles. The DARIAH VX guide to the roles we assigned in each session can be accessed here: [URL](#)

Evaluation of the DARIAH VX Experience

As the DARIAH VX event came to an end, the programme committee gathered again to discuss and evaluate the event as an experience both for us as organisers, but also for the audience participating and following the event through social media. What was their experience and how did this compare to ours? Was the event considered meaningful and useful? Had we succeeded in creating an engaging virtual experience? Soon after the event, we launched a follow up survey to capture these reactions and opinions. This survey consisted of eleven multiple choice and three open questions and was left open for two weeks. It welcomed answers from both participants but also presenters in the various sessions and organisers. In the end, thirteen people completed the survey and overall they valued positively the event and their participation.

The questions asked aimed at evaluating various aspects such as pre-registration questions and information, networking opportunities and knowledge exchange during the event, the virtual exhibition, technology, sense of belonging and level of engagement. Out of thirteen responses, twelve rated the event as good to excellent and there was positive unanimity that the technology used was appropriately managed and not intrusive, and that the event was easy to listen to and stay engaged with. By the time the DARIAH VX took place, people had already experienced almost three months in the pandemic, with all of their work and interactions happening online. Therefore, one of the issues we were facing was whether we would succeed in keeping people engaged or if ‘Zoom fatigue’ would already be a barrier to those following the event. It seems however that keeping the event condensed and focussing on more informal, welcoming interactions among participants in the various breakout rooms contributed to overcoming that barrier and helping people to stay engaged.

One of the aims of the event was to encourage informal conversations happening in the background, in parallel to the event, either in social media or in the chat. This was also stressed in the opening keynote, as discussed above. Conferences are great networking opportunities, places to meet colleagues and friends but also make new acquaintances and start new collaborations. Encouraging people to replicate this in the virtual event was again an aspect we hoped to experiment with, to see if we could improve upon the current average standard for this online. In the respective question in the follow up survey (a true/false response to the statement “the event helped me to broaden my scholarly networks and make new contacts”) the answers were very diverse. Seven replies were negative (strongly disagree to disagree), two more neutral (neither disagree or agree) and only four were positive (strongly agree to agree). Despite the fact that people did feel part of a community during the event (nine positive responses), most of them weren’t able to network and start new discussions/collaborations in the background.

The whole event, its innovative approach and the rich collection of sources hosted in the virtual exhibition made a very positive buzz on social media and in particular Twitter (the Twitter moment for the event can be found here: <https://link.springer.com/article/10.1007/s12528-020-09254-y>). Researchers and projects following the event through Twitter or indeed participating to the DARIAH VX had very positive remarks to share for the experimental approach, take away messages and new terminology emerging with this new virtual reality, the need for conferences and why they are vital to a researcher’s work. These responses also included more informal and

personal information, such as images of their home offices and reflections on how they adapted to the new situation. With a feeling of ‘we are in this together’, the DARIAH VX created a virtual space of sharing scholarly notions, expressing personal remarks and concerns on the future of conferences, traveling, research and scholarly profession that was greatly appreciated and was in some way comforting in a time when no physical contact was possible. Providing such an opportunity for personal connection, transcending our disciplines and institutions, may have been in fact one of the most important and telling contributions of the DARIAH VX.

Lessons Learned and Concluding Thoughts

The DARIAH VX was an exercise in both theorising a new kind of virtual scholarly meeting based upon a scholarly primitives approach, and, simultaneously, building an exemplary event to demonstrate how such a new paradigm might be enacted. While it may therefore have only cast some tentative first seeds on this broad field for experimentation and consideration, we can certainly propose some of the following as key learnings and points for future work to begin from in the consideration of the future of scholarly meetings:

First, we need to better harness the explosion of accepted paradigms for informal scholarly interaction online as resources to hone our virtual and face-to-face meetings. In the realm of written scholarly communications, we are observing a sea change in the rise of informal outlets for sharing scholarly knowledge. While we still may have a long way to go toward protecting this knowledge (in every sense) there is considerable inspiration to be taken and paradigms to be applied in this realm of activity. Adopting this paradigm may also assist us in managing some of the particular challenges of online events, such as, for example, the significant fall-off from registrations to participants (which can play havoc with assigned break-out groups) and the challenge of enabling new social connections instead of merely strengthening existing ones.

Second, we need to still gather people, eg. in small, virtually connected groups, so as to ‘seed’ rich experiences and empathetic responses while still respecting the nomadic nature of knowledge (as already proposed by Fraser, et al., 2017) The DARIAH VX Liveness Investigation made clear the essential role of presence in supporting empathy, attention and engagement, but it also asked the question of how much presence we need: is it enough to have a small group around you, to model the kind of trustful, attentive and mindful attitude we should generally approach our scholarly meetings with? Could technology that enabled certain things currently lost, such as ‘real’ eye contact, make a difference?

Third, we need to use mobility more deftly, holistically, mindfully and evenly, making it accessible in ways that don’t simply introduce new and different barriers. One of the ideas considered and discarded in the DARIAH VX development process was that of having a ‘child-care channel’ where volunteers could read storybooks to the young children of participants. While we did not implement this, and while virtual distraction is of course not the same as actual child care, some better thinking on how to improve access to knowledge exchange opportunities across the board for caregivers, not to mention people with disabilities, bad broadband, or any number of other challenges to participation, is a topic that needs some urgent attention, investment and creative thought.

Fourth, we need interaction technologies to get us beyond the skeuomorphic facsimiles of meetings that we have to become spaces of productive chaos, rather than a fraying rope bridges. There is incredible tech out there, but for every collaborator you may have who is dedicated to Slack or passionate about Miro, Mentimeter or Hunchbuzz, there is another for whom these new tools may present an annoyance, at least, or barrier at worst, in terms of learning curve, bandwidth or screen management. The innovations we need now are social and cultural, not technological: clarity about expectations and modelling of new norms will get us part way there, but we can do more and better in concert with the emerging technological standards. These models won't necessarily come from within the communities for whom scholarly meetings are a long established end in themselves, where the means are no longer understood and considered actively and explicitly. The arts and cultural heritage are leading here: not long after the first shock of the pandemic and lockdown, cultural heritage institutions from across the world went beyond their usual user engagement strategies to innovate and plan virtual paths that would, in the first instance, showcase their content and artifacts and, on the second, make culture a comforting place for people to retreat to and learn from. Europeana for example planned a series of webinars as an opportunity to gather GLAM professionals and exchange best practices regarding user engagement in a virtual reality, disseminating ideas for small to large scale campaigns on promoting cultural content and activities that would attract and educate/entertain audiences in times of isolation and fear. They also sought to master and disseminate a methodology of planning virtual events, producing how-to guides and sharing lessons and pitfalls with fellow colleagues and professionals to achieve the best possible results for interesting, successful and engaging events.

Building on this point, the challenge of maintaining human contact within and across virtual spaces really seems to be an opportunity and an imperative to understand the art in our science. A recent consideration of art and AI come to the conclusion that:

“... art emerged as a way for our Pleistocene ancestors to strengthen their social ties and social status. For example, art can serve as gifts, as fitness signals for mating, and as displays of status and tribal affiliation. In each role, the fundamental purpose of art is to affect peoples' relationships with each other, where the relationships are themselves important.” (Hertzmann, 2020)

Hertzmann's ultimate conclusion is that computers can create art, but they don't need to: people, however, do. And while people do also need to create scientific knowledge, they can't do this without the communities, contexts and interactions that nurture their minds, bodies and souls. Let us hope that we can find creative ways to usher in new forms of scholarly meetings that combine the incentives of both science and art.

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References:

- Abusaada H. and Elshater A. 2020** Abusaada, H., and Elshater, A. “COVID-19 Challenge, Information Technologies, and Smart Cities: Considerations for Well-Being.” *International Journal of Community Well-Being* 3, no. 3 (September 1, 2020): 417–24. <https://doi.org/10.1007/s42413-020-00068-5>.
- Anderson, S. et al. 2010** Anderson, S., Blanke, T., and Dunn S. “Methodological commons: arts and humanities eScience fundamentals”. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 368: 1925 (2010), pp. 3779–3796. <http://rsta.royalsocietypublishing.org/content/368/1925/3779.short>.
- Barnes, L. 2020** Barnes, L. “Moving a Workshop Online: What Works and What Doesn’t?” *COPIM*, March 26, 2020. <https://doi.org/10.21428/785a6451.370f67b5>.
- Boudreau. K. et al. 2017.** Boudreau, Kevin J., Tom Brady, Ina Ganguli, Patrick Gaule, Eva Guinan, Anthony Hollenberg, and Karim R. Lakhani. “A Field Experiment on Search Costs and the Formation of Scientific Collaborations.” *The Review of Economics and Statistics* 99, no. 4 (October 2017): 565–76. https://doi.org/10.1162/REST_a_00676.
- Byrd N. (forthcoming).** Byrd, N. “Online Conferences: Some History, Methods, and Benefits.” In Rockwell, G., Miya, C., and Rossier, O. (eds.) *Right Research: Modelling Sustainable Research Practices in the Anthropocene*. United Kingdom: Open Book Publishers. Preprint version also available at: <https://philpapers.org/rec/BYROCS>
- Costley J. 2020** Costley, J., Fanguy, M., Lange, C., and Baldwin, M. “The Effects of Video Lecture Viewing Strategies on Cognitive Load.” *Journal of Computing in Higher Education*, April 6, 2020. <https://doi.org/10.1007/s12528-020-09254-y>.
- Crane G. et al. (2006)** Crane G., Bamman, D., Cerrato, L., Jones, A., Mimno, D., Packel, A., Sculley, D., Weaver, G., “Beyond Digital Incunabula: Modeling the Next Generation of Digital Libraries.” In: Gonzalo J., Thanos C., Verdejo M.F., Carrasco R.C. (eds) *Research and Advanced Technology for Digital Libraries. ECDL 2006. Lecture Notes in Computer Science*, vol 4172. Springer, Berlin, Heidelberg. https://doi.org/10.1007/11863878_30
- DM2E 2015** Hennicke, S., Gradmann S., Dill, K., Tschumpel, G., Thoden, K., Morbindoni C. and Pichler, A. *D3.4 — Research Report on DH Scholarly Primitives*. 2015. https://dm2e.eu/files/D3.4_2.0_Research_Report_on_DH_Scholarly_Primitives_150402.pdf.
- Doyle, P. 2020** Doyle, P. Mortensen, J. and Clifford, D. “The Trouble with Zoom,” *Australian Financial Review*. March 24, 2020. <https://www.afr.com/technology/zoom-is-the-next-privacy-challenge-20200324-p54dff>.
- Edmond, J. 2016** Edmond, J. "Collaboration and Infrastructure," In: Schreibman, S., Siemens, R., and Unsworth, J. (eds.) *A New Companion to Digital Humanities*. Malden, MA: John Wiley and Sons, 2016, pp. 54-65.
- Hertzman A. 2020** Hertzmann, A. “Computers Do Not Make Art, People Do.” *Communications*

of the ACM 63, no. 5 (May 2020): 45–48. <https://cacm.acm.org/opinion/articles/244330-computers-do-not-make-art-people-do/fulltext>

Lau J. 2020 Lau, J. “To Zoom or Not to Zoom? That Is the Question,” *Times Higher Education (THE)*. April 17, 2020. <https://www.timeshighereducation.com/news/zoom-or-not-zoom-question>.

Macdonald M. 2020 Macdonald M. “The Sudden Urgency of Online Academic Conferences.” *University Affairs*. April 8, 2020. <https://www.universityaffairs.ca/features/feature-article/the-sudden-urgency-of-online-academic-conferences/>

Murray and Wiercinski 2014 Murray, A., and Wiercinski, J. “A Design Methodology for Web-based Sound Archives”. *Digital Humanities Quarterly* 8: 2 (2014). <http://www.digitalhumanities.org/dhq/vol/8/2/000173/000173.html>.

Palmer et al. 2009 Palmer, C.L., L.C. Teffeu and C.M. Pirmann. *Scholarly Information Practices in the Online Environment: Themes from the Literature and Implications for Library Service Development*. 2009. www.oclc.org/programs/publications/reports/2009-02.pdf.

Project Bamboo 2010 Project Bamboo. *Scholarly Practices Report*. 2010. <http://www.projectbamboo.org/wp-content/uploads/Project-Bamboo-Scholarly-Practices-Report.pdf>.

Ratto, M. 2011 Ratto M. “Critical Making: Conceptual and Material Studies in Technology and Social Life,” *The Information Society*, 27:4, 252-260, DOI: 10.1080/01972243.2011.583819

Rockwell et al. forthcoming. *Right Research: Modelling Sustainable Research Practices in the Anthropocene*. Cambridge, OpenBook. <https://doi.org/10.11647/OBP.0213>.

Rockwell et al 2020a. Rockwell, G., Miya, C. and Rossier, O. “What Do Conferences Do—and Can Econferences Replace Them?” *Open Book Publishers Blog*. March 24, 2020. <https://doi.org/10.11647/OBP.0173.0117>.

Rockwell et al 2020b. Rockwell, G., Miya, C. and Rossier, O. “Successful Econferences: Examples and Case Studies,” *Open Book Publishers Blog*, March 24, 2020. <https://doi.org/10.11647/OBP.0173.0120>.

Science Europe, 2020. Science Europe. “Digital Transformation in Scholarly Communication”. Event Report, Brussels, 20 and 21 November 2019. <https://www.scienceeurope.org/media/yyjngo3x/se-workshop-report-digital-transformation.pdf>

Stone L. 2009 Stone, L. “Beyond Simple Multi-Tasking: Continuous Partial Attention.” <https://lindastone.net/2009/11/30/beyond-simple-multi-tasking-continuous-partial-attention/>

Stoviac, B. 2020. Stoviac, B. “The Broader Impact of Zoom Going down on the First Day of Classes for Many Students (Opinion)” *Inside Higher Ed*, August 25, 2020. <https://www.insidehighered.com/views/2020/08/25/broader-impact-zoom-going-down-first-day-classes-many-students-opinion>.

Unsworth 2000 Unsworth, J. *Scholarly Primitives: what methods do humanities researchers have in common, and how might our tools reflect this?* Symposium on Humanities Computing: formal methods, experimental practice sponsored by King's College, London, 13 May 2000. <http://www.iath.virginia.edu/~jmu2m/Kings.5-00/primitives.html>.

Van de Weel, A. and Praal, F. 2020 "Publishing in the Digital Humanities: The Treacle of Academic Tradition" in Edmond, J. (ed.) *Digital Practices and the Practices of Humanities Research*. Cambridge: Open Book, pp. 21-48.

Van Zundert, J. 2016 Van Zundert, J. "The Case of the Bold Button: Social Shaping of Technology and the Digital Scholarly Edition." *Digital Scholarship in the Humanities* 31, no. 4 (December 1, 2016): 898–910. <https://doi.org/10.1093/llc/fqw012>.

Weinberg, J. 2020 Weinberg, J. "The Online-First Model: On Hosting an Awesome Online Academic Conference (Guest Post by Catharine St. Croix)." *Daily Nous*, March 16, 2020. <https://dailynous.com/2020/03/16/online-first-model-hosting-awesome-online-academic-conference-guest-post-catharine-st-croix/>.

Wolff J. 2019 Wolff, J. "What Hypocrisy, I Think Guiltily, as I Jet off to Academic Conferences Far and Wide," *The Guardian*. October 29, 2019. <http://www.theguardian.com/education/2019/oct/29/hypocrisy--guilt-jet-off-to-academic-conferences-plane-travel>.

Zaveri, P. 2020. Zaveri, P. "Microsoft Teams Added 12 Million Daily Active Users in a Single Week amid the Coronavirus Crisis, Bringing It up to 44 Million Total." *Business Insider*. March 19, 2020 <https://www.businessinsider.com/microsoft-teams-coronavirus-daily-active-users-2020-3>.

Appendix 1: DARIAH VX Virtual Exhibition Site Map

Parent/child relationships between pages are indicated as follows

Top level				Deepest level
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HOME PAGE
Registration Desk
About This Event
About DARIAH
On Scholarly Primitives**
John Unsworth's Scholarly Primitives
Scholarly Information Practices
Scholarly Primitives of the Scholarly Meeting**

Programme Committee
Knowledge Exchange
Thematic Research Collection
Art In A Crisis
<i>Jogging in Lipstick</i>
<i>How art can help in an emergency</i>
<i>Dear Ireland</i>
<i>Investigating Liveness**</i>
Exploring and Recording the Cultural Heritage Record
<i>The Coronavirus Corpus</i>
<i>Living in Lockdown</i>
<i>Journal of a Plague Year**</i>
<i>The Future of Museums</i>
<i>New Tech and the Preservation of Cultural Heritage</i>
<i>An Intimacy with the Physical World</i>
<i>Beyond COVID-19</i>
Eco Conferencing
<i>Successful e-conferences</i>
<i>What Hypocrisy</i>
<i>A Nearly Carbon-Neutral Model</i>
<i>The Shift Project</i>
Virtual Tools & Technology Choices
<i>The Sudden Urgency of Online Academic Conferences</i>
<i>A Nearly Carbon-Neutral Model</i>
<i>A Conference Call in Real Life</i>
<i>Covid study: Remote working collaboration using digital tech</i>
<i>The reason zoom calls drain your energy</i>
<i>The Brief - Zoom diplomacy</i>
<i>Move Fast and Roll Your Own Crypto</i>
<i>Suggestions for protecting zoom.us meetings</i>
<i>How to keep uninvited guests out of your Zoom Event</i>
<i>Tech against coronavirus</i>
<i>The Online First model**</i>

<i>Definitive Guide to Facilitating Remote Workshops</i>
<i>Experimental Models of Knowledge Exchange**</i>
<i>Virtual Conferences: A Guide to Best Practices</i>
<i>Semi Formal Knowledge Exchange</i>
<i>Collaboration and Cancelled Conferences</i>
<i>The Learning Conference</i>
<i>Investigating Liveness**</i>
<i>The Online First model**</i>
<i>A Trip Around the World**</i>
<i>First Aid for Listeners</i>
<i>Re-examining the role of conference paper</i>
<i>The Role of Space & Place</i>
<i>Investigating Liveness**</i>
<i>Why I Travel (for work)</i>
<i>Experimental Models of Knowledge Exchange**</i>
<i>Inclusivity & Accessibility</i>
<i>Representation at DH Conferences (2000-2015)</i>
<i>A Family-Friendly Policy?</i>
<i>Publication Submission During Coronavirus</i>
<i>Be More Than Binary</i>
<i>Liberating Structures</i>
<i>A Trip Around the World**</i>
<i>The Value Of The AHSS</i>
<i>World Pandemic Research Network</i>
<i>Why We Need More Than Just Scientists</i>
<i>Covid-19 Crisis Blog</i>
<i>Mapping the Public Value of the Humanities</i>
<i>Interdisciplinarity in the Times of Crisis</i>
<i>Shaping Interdisciplinary Practices in Europe</i>
<i>Irish Humanities Alliance</i>
<i>Integrating Social Sciences and Humanities in Interdisciplinary Research</i>
<i>Using Social and Behavioural Science to Support COVID-19 Pandemic Response</i>
<i>Sociology and the Social Sciences in the COVID-19 crisis</i>

Scholarly Primitives**
John Unsworth's Scholarly Primitives
Scholarly Information Practices
Scholarly Primitives of the Scholarly Meeting**
Exhibition Floor Plan
VX Presentation (J Edmond)
Coffee Break
Social Dinner
MY Corona Spotify Playlist
Send A #Deskie
Networking
Talking Covid
Times Higher Ed COVID
Hungary AVOBMAT
Journal of a Plague Year**
Erzsébet's Open Science Blog Post
FT COVID Stats
Irish Humanities Response
Sense Of Place
Noises Of Paris
Musee D\Orsay
Sounds Of Home
Zagreb Arts And Crafts
BL Wildlife Sounds
Claire Warwick Slides