One Loveheart at a Time: The Language of Emoji and the Building of Affective Community in the Digital Medieval Studies Environment

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Abstract

The Old Books, New Science (OBNS) Lab began using Slack in May 2016 to facilitate the work of a diverse research group at the University of Toronto. Yet the OBNS Slack does not simply facilitate scholarly communication: it also serves as a powerful affective network, bringing together scholars in new and sometimes unexpected configurations. The affective language of emoji is fundamental to the growth of this community. Lab members coin new emoji that are taken up by the community eagerly, many of which are meaningful only within the OBNS environment. It is common to reference Slack emoji in in-person conversation; equally, the OBNS Slack is often home to advising sessions or meetings that in another workplace would take place face-to-face. In this way, the online environment of Slack and the in-person environment of the lab are mutually constitutive. Such usage of Slack may, however, also have a dark side: by celebrating affective community in the workspace, what happens to the distinction between home and office, and consequent erosion of leisure time? We consider whether the affective practices of the OBNS Slack might allow personal and professional boundaries to be blurred in such a way as to prioritize the *personal*.

The online messaging software Slack was originally developed to streamline business communication within companies, and has been been embraced in that context for offering increases in "productivity."[1] With its increasing popularity, Slack has also been used for communication within different kinds of groups, including research labs and classrooms. The existing scholarship on the uptake of Slack within these non-commercial environments still tends to focus on productivity or effectiveness.[2] However, particularly in an educational context, we challenge the idea that "efficiency" and "productivity" are the most important features for a tool to offer a community; we therefore examine our team's use of Slack for its ability to nurture affective connections.[3]

The Old Books, New Science (OBNS) Lab,[4] a group of faculty, postdoctoral fellows, graduate students, undergraduates, and digital librarians at the University of Toronto (U of T), has been using Slack since May 2016. As members of this lab, and users of its Slack, we argue that Slack creates virtual spaces for informal interaction which, when embraced by a community, can substitute for the accidental collisions that enable collaboration in shared physical spaces. Because of how we choose to use Slack, it does not simply facilitate our scholarly communication: it also serves as a powerful affective network, bringing together scholars and technologists across generations in new and sometimes unexpected configurations.[5] Our online Slack communities and the local in-person communities do not perfectly overlap, but they do intersect.[6] Affective connections are supported both through the informal language of Slack comment threads and through the richly communicative emoji used by lab members. As we will discuss more fully, our particular usage of emoji in these virtual spaces differs from usage described in previous research on emoji, which focuses on romantic relationships and purely professional work communication. We will show that, by using emoji with community-defined meanings to "react" publicly to others' posts, members of our Slack fortify community norms

and build affective bonds. Such usage of Slack may, however, also have a dark side: by celebrating affective community in the workspace, what happens to the distinction between home and office, and consequent erosion of leisure time? We argue that communities have a choice in how to adopt technologies, and that the affective practices of the OBNS Slack allow personal and professional boundaries to be blurred in such a way as to prioritize the personal.

Our survey of OBNS Slack usage includes graphs summarizing channel participation and representative samples from user practice. We go on to address particularities, focusing on the ways that the supple and adaptive nature of the channels — and especially the generative language of emoji — participate in the evolution of our affective professional community. We will suggest that the flexible nature of Slack channels and emoji "vocabulary" permits a level of control and independence that allows individual users to shape the local Slack community, and thus participate collectively in the formation of online virtual spaces that provide safety to their members and — at least potentially — serve as a site of resistance.

Slack Overview and Initial Adoption

The OBNS lab was modelled after a science or engineering department's "lab" system, where individual researchers share their own work as well as contribute to a common project. As the lab evolved, it grew from a weekly group supervisory session for Alexandra Gillespie's graduate students to become the nexus for a grant-funded research endeavour, "Digital Tools for Manuscript Study" (DTMS), which involved multiple units at U of T, including scholars from CMS and librarians from ITS.[7] The collaboration necessary to meet project goals required constant communication and regular supplementation of project-related context from each of the two teams. However, while ITS members worked together in a central office, CMS-based OBNS members did not have dedicated space and were based at two different U of T campuses. This limited opportunities to meet face-to-face outside of the weekly lab meeting.

When we started using Slack about halfway through the first year of the project, it significantly lowered our email burden (especially planning and scheduling emails), while also opening up new possibilities for informal communication outside of the weekly lab meetings. If anyone had a question that did not seem serious enough for email, they could send a quick Slack message instead. This became especially useful for OBNS graduate students away on research trips. The paleography channels #digitaltoolsmss and #canyoureadthis continue to provide opportunities for instant collaboration and advice when an OBNS member is working remotely, enhancing the group's collaborative culture. Furthermore, since Slack conversations (unlike emails) are a semi-public record that anyone in the Slack workspace can access, new students or employees who were not present for previous conversations found they were able to contribute to existing communications as soon as they had joined.[8]

We created individual channels for discussing development needs and giving detailed feedback on usability issues during the testing phase of DTMS. In addition, we were able to invite external collaborators as single-channel guests to discuss tool development, stakeholder meetings, or grant applications. For example, one of our projects, VisColl (2018), involved substantial collaboration with Dot Porter, Curator of Digital Research Services in the Schoenberg Institute for Manuscript Studies at the University of Pennsylvania; rather than work with unwieldy conference calls or expensive in-person visits, we did most of our collaboration on Slack.[9]

Having outlined the initial adoption of Slack in the OBNS lab, including the basic channel configurations, usage patterns, and user experiences, we turn now to the development of the OBNS Slack over time, focusing especially on how the virtual spaces of the Slack environment serve its users. We deliberately use the term "virtual spaces" (in the plural) because while Slack is often represented as a virtual space (singular) that provides an alternative or a complement to the physical, in-person meeting environment, OBNS experience of Slack has consisted instead of a wide range of interlinked virtual "rooms" that members enter, participate in, and leave at will. In this respect OBNS's findings are similar to those of other Slack communities.[10] However, rather than invigilate the division of these channels to ensure that channel activity stays separate, members of our Slack participate in different channels in an ad hoc and flexible way, with little to no moderation. Some of these channels are shared, some private; some last over a long period of time, others are contingent. Some channels are intended for specific projects, others to serve a community-based need.

In the paragraphs below, we describe the ways in which channel usage developed over time, offering the outlines of an ontology of OBNS experience with Slack. We emphasize that this usage is not prescriptive, but descriptive, recognizing that other research communities will take different paths with their Slack usage. We then turn to emoji, focusing on how these too developed over time. We note differing patterns of emoji usage across our Slack, and describe the wide variety of user experience in the OBNS community. In particular, we distinguish between different modes of emoji usage, ranging from the affective (which purposely seeks to comment on and inflect the text input of other group members) to what we have labelled the "decorative," which serves a very different function — although the decorative emoji, too, add to the overall affective community grown and fostered in the OBNS Slack environment.
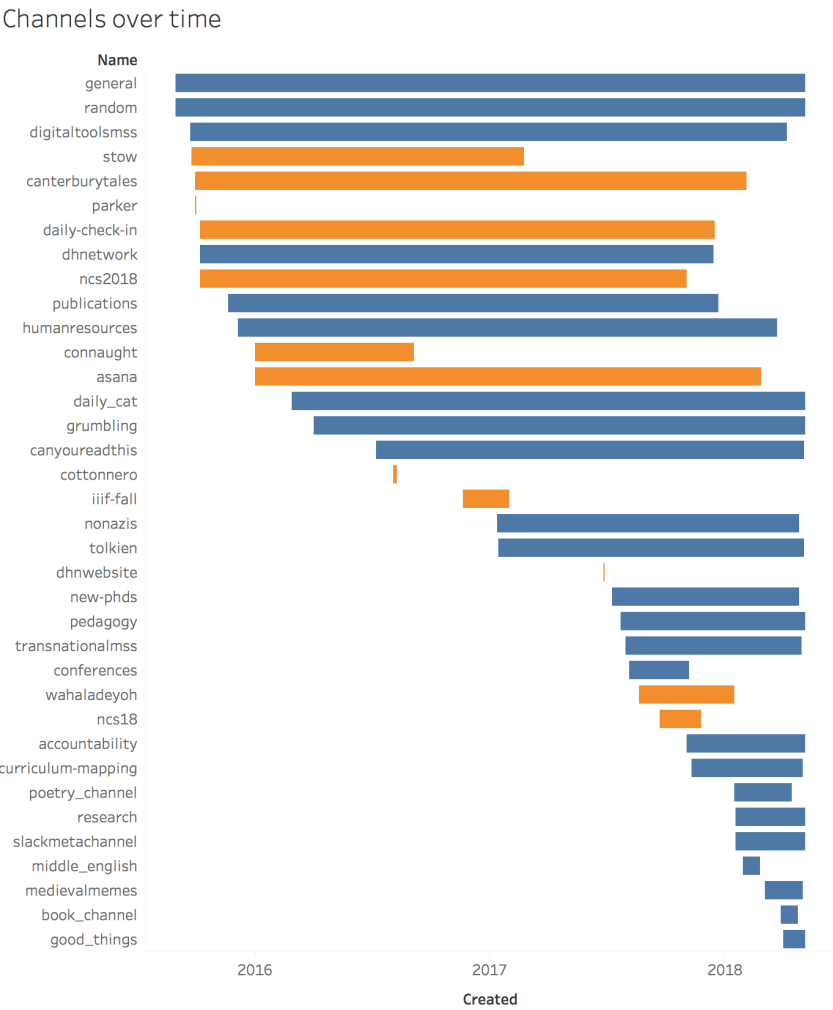

Figure 1. All public channels created for the OBNS Slack, in order of creation, showing duration of use. Orange channels have been archived.
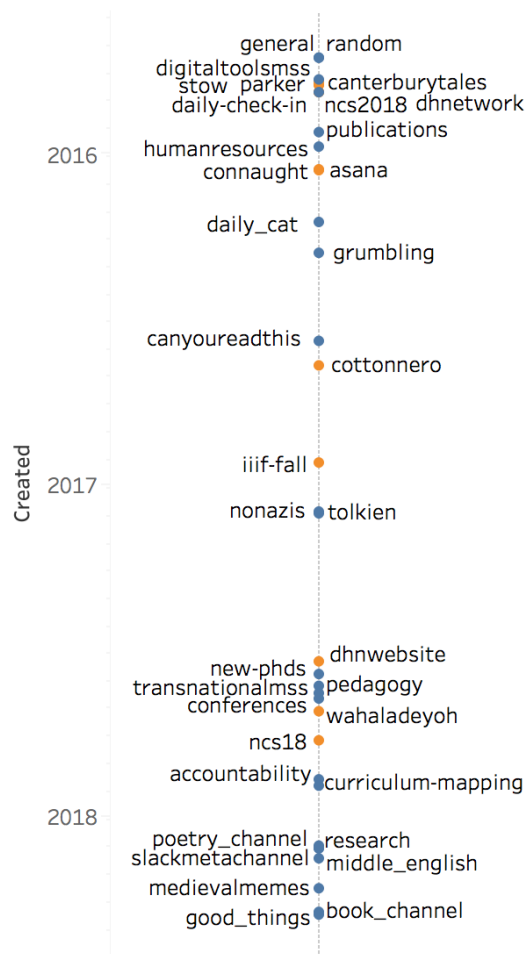
Channels over time

Figure 2. All public channels created for the OBNS Slack, in order of creation, showing the pace of creation. Orange channels have been archived.

Channel activity within the OBNS community quickly expanded beyond the default #general and #random channels. We now have, among other channels, #pedagogy, #tolkien, #grumbling, and, the most popular, #daily_cat, where members of the team post their cats (and dogs, and birds, and even turtles). Figure 1 shows a detailed breakdown of OBNS Slack's public channels and their lifespans. Each bar stretches from the channel's creation to the date of its most recent message.[11] Orange channels are those which have reached a natural end, and are no longer in active use. These "retired" channels fall into two broad categories: most were created to support time-limited projects which were ultimately completed (e.g., #ncs2018 for the New Chaucer Society conference hosted at U of T); the other two channels, #daily-check-in and #asana (named for the productivity tool containing several projects' to-do lists), were "accountability" channels which faded from use due to shifts in the OBNS user culture. The evolving nature of the culture can also be seen in the needs met by each new channel. As Figure 2 shows more clearly, channel creation ebbs and flows over time. Early channels like #digitaltoolsmss, #stow, and #canterburytales are all project-focused workspaces.[12] The addition in August 2016 of #humanresources (a slightly tongue-in-cheek name for the channel in which research assistants working on various projects are reminded with animated gifs to submit their monthly timesheets) reveals the Slack's burgeoning role as the centre of multiple financial relationships. It was not until the emergence of #daily_cat in November 2016, six months after OBNS began using Slack, that the first purely non-work-related channel beyond #random was created.[13] It was followed by #grumbling, a distinctly personal space to vent negative feelings and receive sympathy, but also by #canyoureadthis, a work-oriented channel for lab members to share illegible manuscript images. As the Slack grows, each channel constitutes its own space, with distinctive social patterns and norms. Some project-focused channels host extended ongoing conversations, such as the #slackmetachannel that

shaped this very paper.

When someone initially enters such a channel, they often need to catch up on previous messages in order to respond, and much conversation occurs as live back-and-forth. Conversely, some channels, such as #daily_cat and #poetry_channel, are more asynchronous: members can browse the "back catalogue" of posts if they choose, but can also contribute a cat photo or a poem without addressing previous posts. Most channels fall between these two ends of the spectrum, including #general.

<div style="float:right">10</div>

The #general channel, as the only channel to which every full member must subscribe, is usually intended to be a low-traffic channel for major announcements only.[14] However, in our Slack, announcements often spur conversations, giving the channel more a feeling of a common room than of a podium. Indeed, 91% of the members of #general have posted in the channel, indicating that it is a space in which even "junior" members of the lab are able to converse. In contrast, #humanresources was specifically created to be a place where little conversation happens and thus urgent materials would not get lost in a flood of commentary. Only 53% of its members have posted messages.

<div style="float:right">11</div>
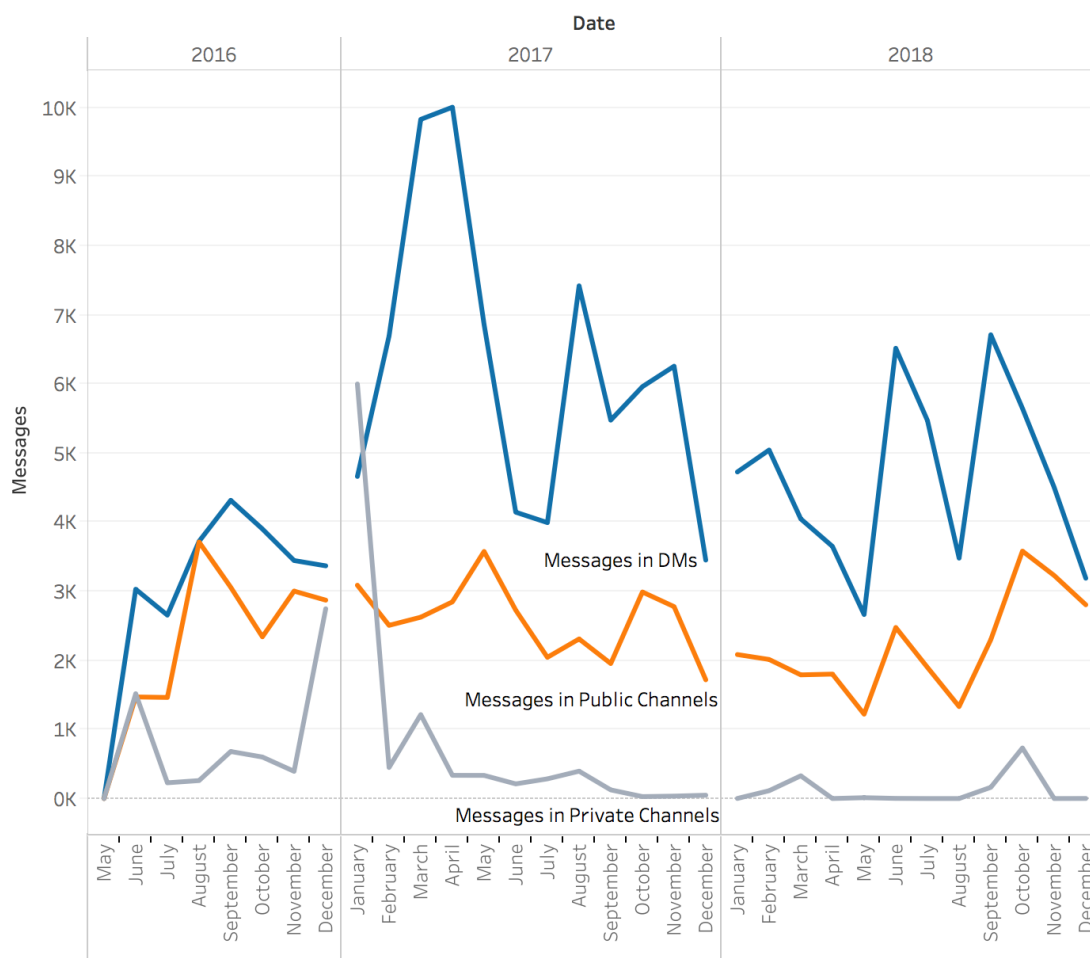
Message volume per venue

Figure 3. The total number of messages sent between all users each month, as direct messages, posts in public channels, and posts in private channels.

Despite their importance to the Slack as a whole, all of the public channels combined are home to less than half of the total messages sent in OBNS Slack. As Figure 3 shows, messages in public channels are always outnumbered by direct messages. Messages are counted by Slack as "direct messages" (DMs) regardless of whether they are sent between only two people or are in ad hoc groups defined by their participants, as in a group text message. Such DMs massively outnumber private channels, the other method by which members can talk outside of public channels.[15] The

<div style="float:right">12</div>

lab's reliance on DMs is somewhat unusual: in an educational application of Slack described by Spencer Ross, for example, private channels were the most popular communication venue (making up 43% of all messages sent), followed by DMs (33%), and then public channels (23%) [Ross 2019].[16] The OBNS lab's high volume of direct messages overall shows that the lab prioritizes the affective structures of one-on-one or small-group conversations. While private channels are defined by their subject matter and talk within them is therefore restricted to a single purpose, DMs are defined by their participants, not their topics. Private conversations without set topics allows mingled discussion in which nothing is "off topic." In the course of one DM thread between two co-authors of this article, for example, conversational ground covered the logistics of cat-sitting, the intensive work of writing a report for a different department, and career advice — topics that are all unrelated to any official lab project.

The presence of such a robust DM environment speaks to the lived-in feeling of the Slack. OBNS Slack culture is more than the representative digital space in which members operate publicly , both because of the robust and multiple levels of exchange that take place within the Slack, and because private conversations that take place in DMs support the development of personal friendships that are manifested both virtually and in person. The accessibility of contact via DMs contributes to a sense that one's labmates are always "close by," easily contacted for a casual question or to share an anecdote. In a physical, in-person workspace, it is impossible to truly separate the personal and professional because of personal interactions that are spurred on by directly *perceivable* traits that people cannot hide (like a new haircut, or an upset facial expression). On a Slack with a low DM ratio, one could see an artificial "professional talk only" space begin to develop that would not be possible in a real-world workplace. In contrast, OBNS Slack's high DM count reinforces the manner in which it operates as a true virtual work *space*, with varied methods of communication and interaction.

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Emoji and Affect

Our examination of emoji has little precedent in the existing literature. Bai 2019's systematic review of 167 research articles about emoji identified several common approaches to studying emoji in different fields. Research in computer science, marketing, medicine, and education (85 articles, or 50%) typically attempts to understand the meanings of specific emoji, or presents case studies using emoji to conduct surveys.[17] Psychology and communications research (53 articles, or 32%) largely seeks to describe personal or cultural contexts which shape emoji usage, especially the quantity of usage.[18] Research in linguistics and behavioural science (31 articles, or 18%) explores questions most similar to our own: scholars in these fields examine the content and function of specific communications taking place with emoji, and describe the interpersonal motivation and impact of these communications. Some linguistics research, such as Jibril (2013) and López (2017) has tried to assess whether emoji can function as their own language, but most linguists (such as Alshenqeeti (2016) and Na'aman (2017)) instead seek to describe how emoji contribute nonverbal content to impact the interpretation of written language. Most directly related to our own case study of our communication with each other, behavioural science researchers have described how emoji can manage and maintain interpersonal relationships [Chairunnisa and Benedictus 2017] [Riordan 2017] [Albawardi 2018], or construct and express a personal identity [Ge and ACM 2019] [Kaye et al. 2016]. However, even in this last category of research, describing the role of emoji in personal relationships and identity, there is no direct comparison for our case study. Existing work discusses emoji use in either private one-on-one personal conversations or in large-scale public or semi-public social networks like Twitter and Facebook,[19] both of which have different core dynamics than the medium-sized group conversations which take place on Slack. It is a sign of the affective nature of our usage of Slack that the best parallels to our emoji use come from the papers on intimate relationships, such as Kelly (2015). In their study of two-person text message exchanges,[20] Kelly and Watts identify three overlapping uses of emoji that are "relationally meaningful," each of which are at play in lab communications: emoji are used to maintain a conversational connection, to permit play, and to create what they term a sense of "shared and secret uniqueness" [Kelly and Watts 2015].

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alexandrabolintineanu 9:18 AM
I ❤️ slack.

I see why ppl are obsessed with it, now.

alexgillespie 🖼️ 10:22 AM
I want to make a general announcement that I think partly bc of slack and the imminent Trello map of All the Things - I feel MUCH CALMER than I have for months. thanks slack. and all of you! (calm also = Laura is back)

🌿 1   👍 1

Figure 4. June 7, 2016: A :leaves: emoji reaction on one of the first-ever posts on OBNS Slack, using the image of a set of drifting leaves to represent feeling peaceful.

Although creative use of emoji was a part of the OBNS Slack culture from its first day, emoji usage increased and gained complexity over time. A turning point in both channel development and emoji usage occurred in our early experimentation with a #daily-check-in channel. Each morning, a bot would message each Slack member to generate the channel's content by asking in sequence for each member to define yesterday's accomplishments, today's goals, and current obstacles. As each member wrote about their daily tasks, however, the affective side to the lab unfolded. Obstacles of sickness, frustration, and personal grief were met first tentatively and then confidently with demonstrations of care. The lab's early emoji use is comparatively sparse, clustering around expressions of illness or frustration with emoji indicating empathy, and around photos of pets shared to cheer or comfort.[21] Over time, as lab members became more comfortable with sharing the personal and affective, emoji use expanded to celebrate or cheer on personal goals and victories in teaching, academic work, or administration.

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——————————— November 4th, 2016 ———————————

laura ⛄ 8:45 AM
I have a daily cat for today. These are my old roommate Beth's cats doing what I would like to be doing today.

IMG_2763.JPG ▾
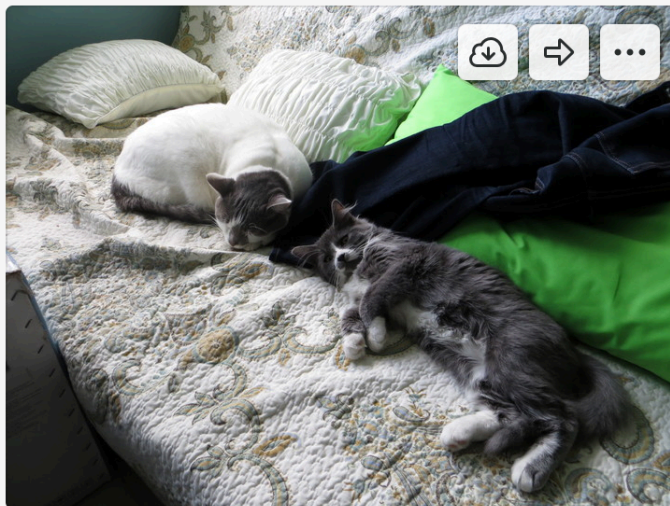

❤️ 5   😮 1   👏 1   💯 1   🛏️ 2   😻 2

Figure 5. November 4, 2016: Mitchell shares a cat photo in #daily-check-in.

November 2016 saw the creation of a new channel, #daily_cat, which was the first channel after #random to have a specific non-project focus, and which confirmed OBNS Slack's focus on care as an integral part of the digital workplace experience. As #daily-check-in filled with expressions of empathy and personal struggles in addition to its original more narrow aim of self-assessment and goal-setting, lab members began sharing pictures of cute animals to cheer each other up. Originally intended to save #daily-check-in from increasing numbers of cat photos, #daily_cat became a voluntary, recreational place where members of OBNS, no matter their employment status or place in the academic hierarchy, were equal in their love of felines. Lab members posted photos of their own cats, or of cats they encountered "in the wild"; others contributed pictures of internet cats or other cute animals. "Cat" soon came to mean any animal: lab members have posted photos of dogs, turtles, birds, and more.
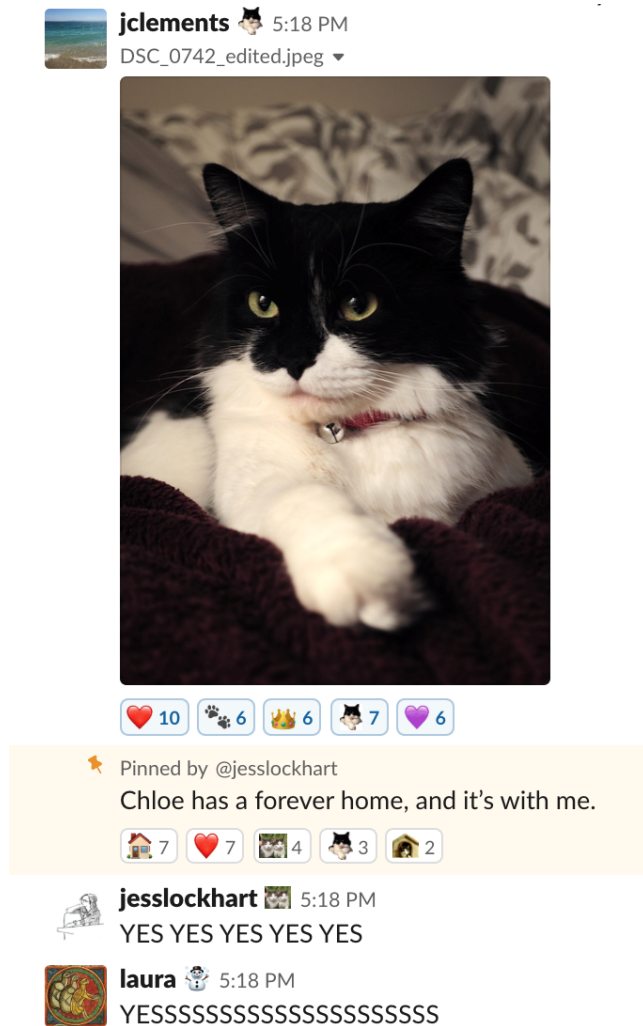

jclements 5:18 PM
DSC_0742_edited.jpeg ▾

❤️ 10   🐾 6   🔥 6   🐱 7   💜 6

📌 Pinned by @jesslockhart
Chloe has a forever home, and it's with me.

🏠 7   ❤️ 7   🐱 4   🐱 3   🏠 2

jesslockhart 5:18 PM
YES YES YES YES YES

laura 5:18 PM
YESSSSSSSSSSSSSSSSSSSSSS

Figure 6. May 1, 2017: Chloe's adoption, announced on Slack.

Certain cats, especially those owned by lab members, became celebrities. Jacquelyn Clements, one of #daily-check-in's prolific cat-posters, fostered cats for a few months just as #daily_cat was becoming active and shared photographs with the channel. Soon lab members became invested in the saga of Chloe, a beautiful black and white longhair, and her search for a "forever home." After a near-miss with a potential adopter, Chloe eventually became a "foster fail" and was adopted by Clements, much to the jubilation of #daily_cat. Chloe's adoption elicited a "platter" (i.e., long string) of emoji, including the first example of a custom lab cat emoji. In Figure 6, the fourth emoji reacting to the news is itself a custom emoji created from the photograph of her at her adoption. Custom emoji for specific cats have become commonplace in #daily_cat; the creation of a new custom emoji indicates that the cat is now part of the wider OBNS community. These custom emoji serve not only as a way of welcoming new cats into the #daily_cat rotation, but also creating a sense of permanence and belonging for the new lab member. These emoji may then be used throughout the Slack as an expression of care. One example is that of :cat-hug:, which is commonly used to denote reassurance and caring for a

team member in need of encouragement. Originally a photograph of Akbari's cats Bob and Charles snuggling, captioned "Hold still and let me wash you," its wider use transcends its origin in #daily_cat — so much so that one lab member was unaware that it represented specific lab cats.
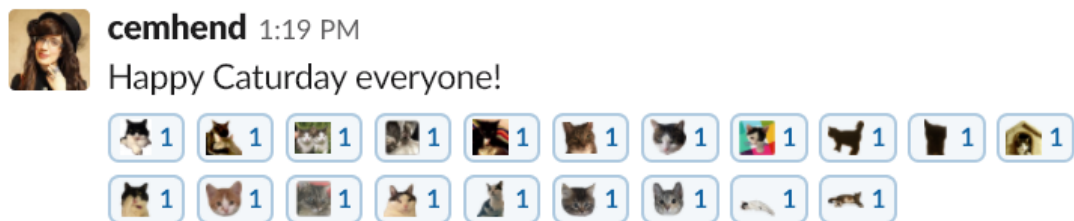

Figure 7. All the custom lab cat emoji as of time of writing.

These personalized cat emoji led to a wave of tea emoji, celebratory emoji including a rainbow sheep and dancing Mr. Darcy, and finally the outgrowth of emoji as specific as "Voynich ladies" (a medieval image of naked women in a green spa, which denotes a rare and surprising luxurious experience, or alternately a conspiracy).[22] "Decorating" a post with one or more emoji now operates as a language of digital gestures showing interest, comprehension, appreciation for the other's presence, and (with greater intensity depending on the number or creativity of emoji) excitement or approbation for an idea. We lifted a number of "reward animals" from Asana, a project management tool we used early in the first grant project; when someone did not want to do a task, a common encouragement was to shout "Think of the unicorns!"[23] While we gradually abandoned Asana and returned to a more ad hoc and decentralized mode of task organization, we kept the part that still fit with the more horizontal and distributed way that we conceived of our work — namely, the reward animals.

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Our most common emoji currently include "this^," "100%," thumbs-up, smiles, frowns, and lovehearts, but many Slack users have individualized emoji that have come to represent them — the boar, the two cats side by side, the frantically typing cat, the dancing party wizard. Many of these individualized emoji were created by Slack members or downloaded for the Slack, but others are default emoji that have taken on additional personal meaning in OBNS Slack. For example, King told the Slack a story about her parents' home in Hawaii playing host to wild boars each winter, an unusual situation which elicited the heretofore little-used :boar:. Months later, she greeted the Slack with a tale of a bizarre situation on public transit (see Figure 8 below). Lockhart reacted with a small emoji platter, including :boar:, and declared that :boar: now had an extra meaning, signifying "incredible story that could only happen to @juliaking." Now regular news updates from King featuring less fantastical happenings still elicit :boar:, which has become personalized.

19

juliaking 😆 3:43 PM
today was a comedy of errors commute that I think you will all appreciate:

juliaking 😆 3:49 PM
8:15 am: Leave house, marvel at nature's beauty, congratulate self for leaving on time because the TTC might be a little late, all things considering.

• • •

8:50 am: Realize that in fact, the reason it is so crowded on this streetcar is that there is a man there with a full sized DOOR and he is now trying to wedge it out of the rear doors. However, because so many people are crammed onto this streetcar, he is basically pushing us around in circles.
8:55 am: Man finally gets door out of streetcar.

• • •

9:46 am: Arrive Massey College, a mere 45 minutes late.

🚪 2 🚋 3 🙀 4 💩 5 🐗 1

jana 🎃 10:03 AM
woah @juliaking 🙀 holy moly.. and here I thought getting late by 15mins for me was a bad day.. you WIN 😝

juliaking 😆 10:03 AM
@jesslockhart betcha never thought you'd use the door emoji

jesslockhart 🖼 10:04 AM
Ha ha ha

This is an amazing story.

juliaking 😆 10:04 AM
@jana it continues to surprise me that I'm still surprised by the ttc 😛

jesslockhart 🖼 10:06 AM
The boar emoji now signifies 'incredible story that could only happen to @juliaking '

Figure 8. The creation of :boar: as a personalized emoji (abridged).

The impact of these emoji is due to the affective work underlying them.[24] As each lab member contributes a novel use of emoji, their in-the-moment play builds over time into a unique shared language. Kelly and Watts note that "[i]n interaction design, effort is typically seen as something that should be minimised; the less work a user has to do, the better," but that in interpersonal relationships, effort can hold value, since "invested effort can indicate caring towards others" [Kelly and Watts 2015, 3]. Accordingly, deploying a rarer emoji indicates special attention to the post thus decorated. Adding a new custom emoji to decorate the post indicates that something very important has been said and/or that a new need has been identified in the Slack. For instance, :eyestoothless:, an emoji of fierce, catlike staring eyes, made from a screen capture of Toothless the dragon in the first *How to Train Your Dragon* film, is one example of Kelly and Watt's relationally meaningful emoji. Originally added in December 2016 because of a need in #daily_cat, :eyestoothless: now represents unwavering attention and judgment in other contexts and is one of the most widely used and enduring emoji across the Slack. It subsequently took on a secondary significance within #daily_cat to refer to Akbari's cat Bob, whom it resembles.

20

December 13th, 2016

😍 2 🐱 2 🐈 1 👀 2 🐾 2
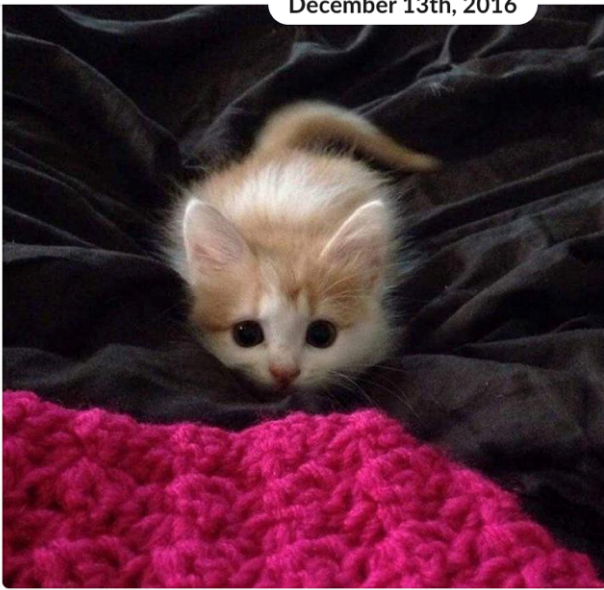
jesslockhart 🖼 4:54 PM
So cozy, yet so fierce! (edited)

laura ⛄ 4:55 PM
exactly!

jesslockhart 🖼 4:55 PM
And so fuzzy!

Because it happens so often I had to create an emoji for Toothless's fierce eyes!
👀

Also, who created a 🦚 emoji for us and why? I love it!

Figure 9. December 13, 2016: the creation of :eyestoothless:, in which it indicates a cat's fierceness.

Also this paper I'm writing will be either a disaster or the weirdest thing I've ever written bar none. (I'll be close-reading a IIIF manifest among other things.) 👀 IIIF

🖼 1 👏 1 🐱 2 🐾 1

Figure 10. March 19, 2018: @alexandrabolintineanu using :eyestoothless: to represent her academic work in #general, in which the emoji plays on the idea of close reading.

As these examples show, the emoji moves between literal and figurative references, in which different details are salient. As a representation of the kitten's fierceness, the first use draws on a reference to Toothless the dragon in the source film; elsewhere, in #daily_cat, this meaning is expanded to represent Bob even when he is not fierce due to a literal resemblance in colouring. For the joke on close reading in Figure 10, the second use draws on the intensity of the eyes, and on the community's pre-existing association of the emoji with fierceness. It is the history of :eyestoothless: within the lab that makes it more appealing than the default :eyes: emoji, which could also humorously indicate intense scrutiny of a text. The creative invention of new meanings over time, in itself, constitutes the value of these emoji. Our experience thus counters Ian Bogost's general claim that "emoji are becoming more specific and less flexible as more icons appear," with the result that "[m]atching icons to words encourages fixity of meaning, especially as it becomes harder to find any single emoji by scrolling" [Bogost 2019]. On the contrary, the coining of additional emoji within the OBNS community has facilitated an exuberant proliferation of new meanings. This proliferation, in turn, has fuelled the interpersonal engagement of the OBNS lab members. While Kelly and Watts studied partnered relationships in their survey of "relationally meaningful" emoji usage, their findings nonetheless effectively describe the lab's experience,

highlighting the affective nature of the conversations occurring within this "work" space [Kelly and Watts 2015].

The affective role of emoji production and use is also evident in the soft distinction between reactive and decorative emoji in the OBNS Slack. Reactive emoji express a direct emotional response to the affect of the post: a screaming face in response to a terrible story; a thumbs-up to express agreement; a loveheart to express adoration. By contrast, decorative emoji convey reader interest and understanding by representing the content or subject matter of the post in symbolic or literal form. Emoji reactions in OBNS Slack show the original poster that their post has been read by the community. In Figure 11 below, the emoji represent passages and themes from the Old English poem *Beowulf* as well as the autumnal day observed by Bolintineanu. Decorating a post with emoji in this way enables the reader to interact creatively with both the content of the post and its creator. The purpose is to delight or surprise the original poster by conveying a response beyond a conventional reaction. These reactions can be obvious referents (:fallen_leaf: directly referring to "my tree slowly losing its leaves"), in-group referents (only Slack members familiar with *Beowulf* will recognize :dragon:'s relevance to "Beowulf lecture"), obscure referents that may require explanation (:amphora: representing the hoard of the last survivor), or purely symbolic or metaphorical responses (a night sky standing in for coldness, transience, death, an emotional response to *Beowulf*, or any other feeling a reader might attribute to it). Decoration takes advantage of the range of emoji available in the Slack interface, a functionality that invites these kinds of surprise encounters.
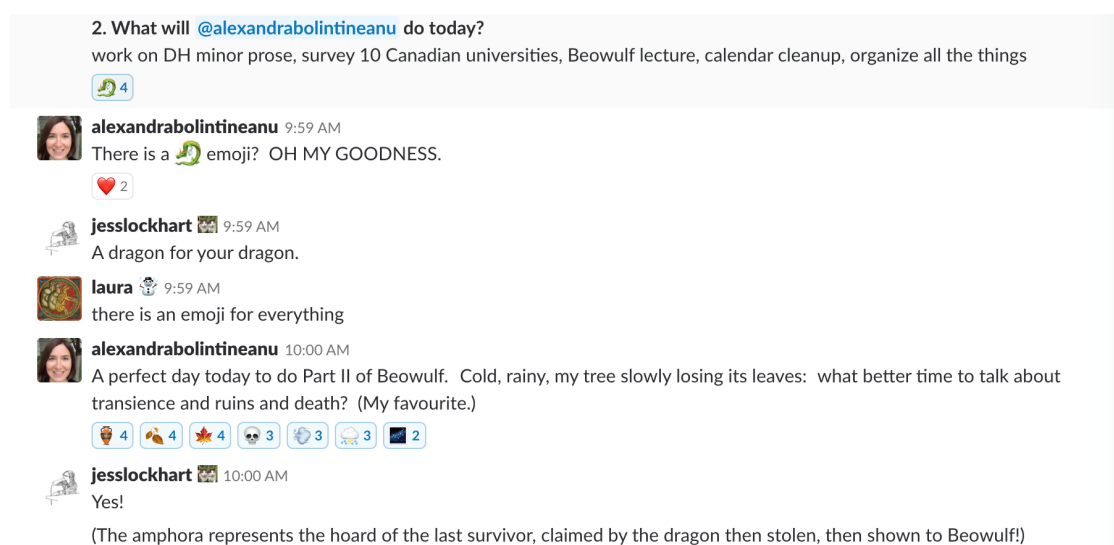

Figure 11. September 29, 2016: a platter of decorative emoji responding to a post about Beowulf.

As we have shown above, both channel structures and emoji usage developed over time in the OBNS environment, and both of these contributed substantially to the development of a community that is at once professional and personal, work-oriented and open to spontaneous play, intellectual and affective. While some channels were set up deliberately, geared toward a particular project's needs or addressing a well-defined set of tasks (some time-limited, some ongoing), other channels emerged more organically in response to the needs and desires of the lab members. Similarly, emoji usage within the OBNS Slack serves not just a utilitarian function (e.g., :thumbsup: signalling agreement with a plan of action) but also an affective one, building rapport both bilaterally and communally. "Decorative" emoji reactions, in particular, offer a kind of group communication distinct from other described emoji usage, by mirroring a member's own message back to them visually to show that they are being heard. The coining of new emoji also signals an additional level of affective engagement, based on the time and effort devoted to the task. In the following section, we explore the economic circumstances that underlie the affective community, considering to what extent the virtual spaces of the OBNS Slack permit the growth of a horizontal network of interpersonal connection, and to what extent hierarchical structures persist within even this horizontal network. We then consider how the virtual spaces of the OBNS Slack community both work within and resist the economic imperatives of the university.

Affect and Profit

The OBNS lab is in many respects a horizontal community, with a strong sense of shared goals and responsibilities. The tone of the community has from the beginning been set by Gillespie, the lab's founder and PI, who has established a work environment that seeks to enhance inclusivity and access and to model practices of care of self and of others that promote well being and personal growth.[25] At the same time, however, it is undeniable that a vertical structure underlies the community, generated by the economic and administrative environment of the university workplace. Some regular OBNS members hold senior faculty positions, including chair or director roles, and are tenured; others hold faculty positions, but are untenured or pre-tenure; some have short-term hourly contracts following the completion of the PhD, while others inhabit staff positions prior to entering doctoral study or without the intention of entering a graduate program; others are current students whose income comes from a variety of sources which may include OBNS research grants. In the following pages, we consider how this paradoxical nature of the lab — both horizontal, in terms of shared tasks, workflow, and affective community; and vertical, in terms of economic and administrative structures — is expressed within the virtual space of OBNS Slack, and suggest that the dynamic character of those spaces might challenge the economic imperatives of the university.

Our assessment of the role of emoji runs counter to Luke Stark and Kate Crawford's work highlighting the use of emoji in workplace communications [Stark and Crawford 2015]. In "The Conservatism of Emoji: Work, Affect, and Communication", Stark and Crawford compile a history of emoji, particularly in the workplace, contextualized alongside phenomena like the original smiley face, emoticons, digital stickers, and reaction gifs. They describe an "oscillating dynamic, whereby affect is captured by capital through proprietary cultural representations and subsequently escapes, only to be recaptured through new technocultural forms" [Stark and Crawford 2015, 3]. Although new methods for the expression of emotion can initially provide a burst of affective liberation, Stark and Crawford write, the top-down technological insistence on conformity ultimately repurposes affective expression to serve the exploitative demands of capitalism. The restricted, standard forms of emoji ultimately foreclose individualized personal expression. Their examination of emoji in workplace communications focuses on the tendency for employers to demand an ultimately hollow performance of cheerful sociability from employees at work. At best, they argue, "emoji are a prophylactic against the visceral traumas of what Melissa Gregg terms the worker's 'schizophrenic and unpredictable encounter' with a culture of white-collar technical work characterized by a cynical, mediated sociality" [Stark and Crawford 2015, 6]. Two interlinked aspects of the emoji usage in the OBNS Slack seem to depart from this grim picture in which "the emancipatory potential of emoji is restricted by their industrial and commercial limitations" [Stark and Crawford 2015, 8]: first, the flourishing of custom emoji created by and for OBNS members which allow individual expression without invigilation or regulation by any governing body or administrator; and, second, the intentional blurring of professional and personal interaction in order to prioritize the *personal*.

Custom emoji inhabit a very special place within the overall landscape of the OBNS Slack.[26] Scholars examining the history and use of emoji often draw attention to the unexpected role of the Unicode Consortium as a centralized authority dictating the emoji with which everyone may converse.[27] However, custom emoji introduce the potential for personal creativity and expression. Standard emoji are used alongside custom emoji borrowed from other internet contexts, and those created by lab members specifically for lab use.

jesslockhart 🖼️ 4:44 AM
Team I handed in my dissertation yesterday and now I'm off to Calgary for a week! I didn't take any books with me so I was a bit unsure what to do with my luggage space.
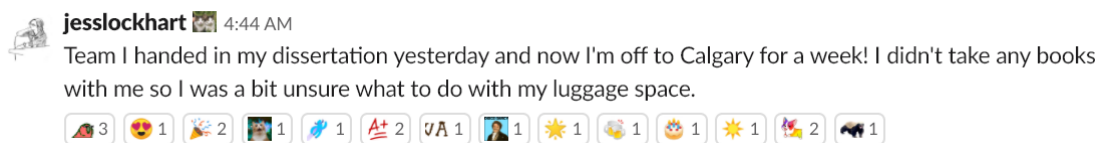🌋 3 😍 1 🎉 2 🖼️ 1 🐦 1 A± 2 𝒱𝒜 1 🧑 1 🌟 1 🙌 1 😂 1 ☀️ 1 🐈 2 🦤 1

Figure 12. July 11, 2017: A celebration of a completed dissertation, with a full emoji platter.

An example of our varied emoji vocabulary, including custom emoji, can be seen in Figure 12, which includes a congratulatory emoji "platter" in which multiple emoji are woven together to indicate a subtly nuanced feeling of praise. The platter opens with :party_parrot:, an animated, colour-changing emoji based on Sirocco, an internet-famous kakapo.[28] Available as a free download for any Slack, :party_parrot: has many costumes, and, crucially, a slow frame

rate that enables editing. (During one lab conference trip to Italy, Mitchell edited the default :party_parrot: to become :italian_parrot:, which flashed the colors of the Italian flag.) In this platter, default Slack emoji like :heart_eyes: and :tada: mingle with custom emoji including :catamazed:, :asana_yeti:, :disco_darcy:, and :hwaet:. This last emoji is taken from the first word of the Old English *Beowulf*, and is used as an exclamation of excitement, sometimes signalling a new beginning. The detailed and highly specific nature of these custom emoji, and the rich background and context that each of them carries, contributes meaningfully to the formation and maintenance of the community. Beyond this, however, the creation of a custom emoji is an act of affective labour. The process involves research, to locate suitable base images, and the application of technical skill, to modify them and upload them. The voluntary role of creator of custom emoji is a specialized one: three lab members (Laura Mitchell, Lawrence Evalyn, and Jessica Lockhart) have added 90% of the OBNS Slack's custom emoji. All three describe emoji-creation as not just a procrastinatory amusement, but a public service: a new emoji contributes a new mode of expression for the group as a whole. Evalyn, in particular, cites emoji creation as a crucial personal connection while he was away from the physical lab space in Toronto and not part of any of the ongoing medieval projects. The labour of creating custom emoji is not insignificant: on the contrary, it serves as a kind of "gift" to the OBNS community that cements its affective bonds. The emotional labour devoted to the community surely results in common profit, as long as an ethic of self-reflection and openness continues to inform our work. But how is such labour to be accounted for, or compensated?

In considering the labour that is required to sustain the affective community — which, in turn, enables the professional productivity of the OBNS lab and its contributions to the university, both academic and economic — we must turn to the implied corporate setting that underlies usage of Slack. As in other workplace environments, Slack usage in OBNS is conducive to creating workflows in many ways, ranging from the punctual submission of timesheets by research assistants to the generation of proposals and reports for granting agencies. This quality, however, extends more broadly into the lives of lab members, embracing both professional and personal spheres. Such blurring existed from the outset: Slack was running constantly in the background while students were in class, staff members were in their office, and instructors were teaching, so that the overall shared project labour was consistently present and lab members were available via Slack for consultation even while other activities were underway. This meant that, whether we were working or not, we were connected to an online chat room filled with many of our closest peers, colleagues, and mentors. The #daily-check-in channel, with its bot-enforced demands for details, particularly emphasized the public display of to-do lists. It would be all too easy for the omnipresence of Slack to be a looming Panopticon, invigilating the participants to make sure that the appropriate measure of labour would be extracted from each one. OBNS Slack, however, has evolved as a very different digital environment, in a number of respects. Because of the plural nature of our digital spaces, engagement in a wide range of professional and personal modes is possible, while the fecundity of our emoji coinage and usage provides a way for community members to express care, whether self-directed or directed toward others.

The extent to which our space is one that resists the workplace's demand for constant labour is evident in the kinds of things for which we hold ourselves accountable: not the constant completion of ever more tasks, but the self-protective measures of saying "no," taking breaks, and acknowledging when we have done "enough." This significantly contrasts with Bunce's (2018) ethnographic study of the IRIN (Integrated Regional Information Networks) News[29] newsroom as it adopted Slack as its primary mode of communication. Although the study's authors describe Slack as encouraging collaboration and deepening relationships, they mean more effective professional relationships, rather than friendships. Perhaps as a result, users of the IRIN News Slack describe experiencing more negative impacts from "always-on" culture than in our Slack. Journalists describe working later than intended because they can see indicators that their coworkers are still online, feeling the need to compete with them; they also describe finding it difficult to step away from Slack, to accomplish needed work or to enjoy a break. They concluded that the infiltration of work into personal time was likely due to the strong role of managers in hierarchically directing the creation and use of the Slack, by creating channels and providing feedback to employees publicly. In the case of an academic work environment, where work schedules are often fluid and are not constrained to the 9 to 5 demands of an office, the "always-on" mentality has long been a feature of the profession.[30] Perhaps because academics are used to a non-traditional work schedule, a horizontally collaborative space like Slack is less jarring for them than it would be for a traditional office worker. Overall, the newsroom offers an interesting contrast to our own experience of Slack, which reveals that increasing horizontal

collaboration and fostering affective community are not the same.

In this respect, an environment of shared accountability in OBNS Slack promotes the sense of flattened hierarchies, a shared horizontal community. This is evident in the Slack channel now dedicated to this purpose, #accountability. This channel originally began in July 2018 as #votenow: lab founder Alexandra Gillespie, having found she was agreeing to do more things than she had time for, asked lab members to weigh in on individual requests for her service. For two months, the channel functioned as originally intended, with graduate students and other more junior lab members furnishing yeses, nos, or praise (for already having said no) as appropriate. However, at the end of September, one lab member (a recent PhD) chipped in with their own question, and soon after Gillespie asked the channel to ensure she completed a specific set of tasks by 10 a.m. the next day. The purpose of the channel had suddenly enlarged, and its usage accordingly boomed. The newly renamed #accountability immediately became popular, with several updates, requests, and jubilant reports of task completion within hours of being opened more widely. Six people joined on the first day, and at present nineteen members (~36% of the population of the Slack) now use the channel regularly for requests for sympathy, updates on task completion, grumbling, workshopping tasks, and co-working sprints. Accountability, in other words, is not simply understood as the employee's obligation to the employer: on the contrary, it is understood as the obligation to take care of oneself and one another, in a horizontal framework of shared expectations and mutual support. Moreover, the use of the explicit task-setting channel, #daily-check-in, eventually collapsed in favour of the completely work-free daily channel, #daily_cat, as described above. These two examples emphasize how the OBNS lab has rejected Slack's intended "productivity" and "efficiency" uses in favour of community building. Papapanagiotou (2018) observes the rise of "social machines" structuring an increasing proportion of human interactions, in which "participants typically have limited autonomy to define and shape the machines they are part of" [Papapanagiotou et al. 2018, 1208]. As part of their call for the development of decentralized participant-driven social machines, they note the danger in the fact that "monolithic platforms provide useful services, but they stifle innovation, and enforce centralised notions of what sociality may or may not be" [Papapanagiotou et al. 2018, 1208]. Our lab operates within Slack's social machine, but we contend that nevertheless this is a freeing and creative experience for its users.

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Conclusion

Looking back on OBNS Slack usage over time, and the ways in which the channels served as virtual "rooms" for our community, we see how the dynamic quality of our Slack is fundamental to its success and to the level of satisfaction experienced by its users. Initially, we organized and labelled our Slack channels to reflect the different aspects of the research project: discussions about conferences we were attending had an individual channel that was separate from the channel about publications we were producing, and we used the two Slack default channels, #general and #random, for their intended purpose. Team members could respond to messages in the assigned channel, through direct message, or by creating an emoji reaction to the message, and we made substantial use of all three methods of communication. However, we soon found that #random was insufficient for the amount of non-project-related conversation and collaboration that was taking place. We discovered that our use of Slack was growing in such a way that was, although unanticipated, one of the greatest benefits of the entire undertaking. In addition to the official designated channels we had put in place, other unrelated projects were beginning to spring up in private channels between team members. Team members worked on articles, organized guest lectures in one another's classes, and applied for grants and funding. Slack became a valuable internal resource: those engaged in university teaching talked about the classes they were taking and teaching, while doctoral students talked about their dissertation research and writing, and members generally talked about how to navigate the various stages of graduate school and beyond. Because of the diversity of the team, with people at many different stages of their academic careers as well as PhDs who have taken non-academic career paths, there was a wide variety of experiences that the graduate students could draw upon. It is clear that Slack allowed all members of the OBNS team to get to know one another better and to create shared spaces for our geographically scattered team. OBNS Slack now exists for itself; we have overcome the limitations of physical space availability on our campus to create our own virtual social-professional space. In fact, team members, including some of the authors of this article, have moved across the country and abroad for other jobs and continue to be active within the non-project channels, which is an indication of how OBNS Slack has grown beyond its origin as a project management tool. The story we have told in this article is illustrative but not prescriptive: we

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recognize that different research and work communities will grow their Slack in other ways. If there is an exemplary quality in OBNS Slack, that quality lies in its organic, adaptive nature. The tension between the horizontal structure of our self-reflective affective community, and the vertical structure of the administrative and economic landscape that OBNS inhabits within the university, is a productive one. The virtual spaces of our OBNS Slack are not static, prefabricated rooms but (to use a metaphor) garden spaces, which grow and change over time, responding to changes within our community and in the world around us.

Notes

[1] A key example here which we will revisit is Bunce 2018, a yearlong ethnographic study of Slack in a newsroom. They found that introducing Slack as a tool in the workplace enhanced communication efficiency and enabled new and better collaborative projects, but also eroded boundaries between personal and professional life by giving managers greater access to their employees, allowing professional expectations to intrude upon previously private time. Other studies of workplace usage of Slack include Wang's (2019) use of machine learning to predict the performance of project teams based on their conversational patterns in Slack.

[2] For example, Gofine (2017) and Perkel (2017) both discuss the use of Slack within scientific research groups, emphasizing the convenience of increased and rapid communication for project management. More pedagogical uses of Slack are discussed in Sabin (2018), Tuhkala (2018), and Ross (2019), which describe classroom implementations of Slack in order to communicate in a way which will feel "up to date" to young adult students. These papers pay more attention to the idea of encouraging collaborative interactions between peers within Slack, but maintain an emphasis on the "professionalizing" nature of Slack, as in Tukhala's (2018) assessment that introducing students to Slack is valuable because it is "similar to what students would expect and experience in the workplace." For the wider context concerning the emergence of "productivity" as a measure of job performance and the way it negatively impacts workers' efforts to define work limits, see Gregg 2018.

[3] While Gregg et al. (2010) notes, in the introduction to *The Affect Theory Reader*, that there is "no single, generalizable theory of affect", they define affect as "a gradient of bodily capacity — a supple incrementalism of ever-modulating force-relations — that rises and falls not only along various rhythms and modalities of encounter but also through the troughs and sieves of sensation and sensibility" [Gregg and Seigworth 2010, 3].

[4] https://oldbooksnewscience.com

[5] This affective network is sustained, in part, by the exchange of virtual objects — emoji — which serve as "happy objects," as formulated by Ahmed (2010), whose "sticky" quality establishes and cultivates affective bonds that link the members of the network: "Affect is what sticks, or what sustains or preserves the connection between ideas, values, and objects" [Ahmed 2010, 29].

[6] The authors of this article, for example, have a range of connections with each other, but have not all been part of a single project together before writing. Lawrence Evalyn (U of Toronto), C. E. M. Henderson (U of Toronto), Julia King (U of Bergen), Jessica Lockhart (U of Toronto), Laura Mitchell (St. Thomas More College, U of Saskatchewan), and Suzanne Conklin Akbari (Institute for Advanced Study) are all members of OBNS Slack in different capacities. Mitchell joined on Day 1 of OBNS Slack, 13 May 2016. Evalyn, Henderson, and Lockhart joined on 6 June 2016, Akbari on 7 June 2016, and King on 27 June 2016. King and Mitchell have since moved to other universities, but were affiliated with the University of Toronto until Summer 2018; Akbari moved on in Summer 2019.

[7] The OBNS lab has now been involved in two major grant-funded projects. The first, "Digital Tools for Manuscript Study" (https://digitaltoolsmss.library.utoronto.ca), which set out to create a toolbox of digital humanities programs to facilitate research on medieval manuscripts, ran from 2015-2018, and received $773,000 USD from the Andrew W. Mellon Foundation (reference #31500651), with Principal Investigators Alexandra Gillespie and Sian Meikle. Akbari has joined Gillespie and Meikle as PI on OBNS's current project, "The Book and the Silk Roads", also funded by the Andrew W. Mellon Foundation ($920,000 USD, reference #1802-05532).

[8] The exception to this is direct messages and private channels. New users can be added to private channels and view the previous conversation; however, it is still accessible only to the members of those channels.

[9] U of T's instance of VisColl relied upon Porter's data model, described in Porter (2017).

[10] For a description of a Slack community's purposeful enforcement of distinctive channels, see Melvær (2017). Of their practice of regulating channel separation, Melvær writes, "We have adopted the Slack's :raccoon: strategy of redirecting discussions to their respective channels. This is to reduce channel noise, but also for purposes of finding the discussion later. It can be useful to start the redirection with a link posted to OP message, to create a cross reference."

[11] Data collected January 17, 2019.

[12] These channel names refer to different parts of the Digital Tools for Manuscript Study project. #digitaltoolsmss was for general project discourse, #canterburytales for the portion of the project focused on collating the *Canterbury Tales* for use with VisColl, and #stow for the portion of the project that used the annotations of English antiquarian John Stow (1524/5-1605) as a use case for development of an Omeka plug-in.

[13] It is notable that although we stuck to "business-like" channel formats for six months, a relatively long time in the lifetime of the Slack, channels like #general and #daily-check-in contained messages that mixed the professional and the personal before the adoption of #daily_cat. See below for further discussion on this phenomenon.

[14] Slack provides tips for managing #general, which suggests this usage [Slack n.d.].

[15] In early 2017, private channels were used for a few projects that required external collaboration from people who were not full members of the Slack; after these were completed, private conversations shifted to DMs. Slack's pricing model charged by the number of "full members," and for external collaborators who functionally only needed to be in one channel, we took advantage of the "single-channel guest" membership option, which was free. The switch to DM occurred, practically, because the OBNS team was able to get educational pricing approval from Slack — and thus was no longer paying for members active in public channels. However, some lab members, including Gillespie, began work on projects early in 2017 and collaborated via DM with one or two members of the lab. Other spikes in DM activity occurred around the time of the 2018 NCS Congress, when members of the lab served as conference management and volunteer support, and contacted each other via Slack DM rather than text message.

[16] Ross uses Slack as a professor teaching undergraduate courses in marketing. Although the context of a class, in which students are evaluated by a central instructor for a grade, creates a hierarchical environment, one of Ross's findings is that "students felt that Slack transformed the course into a team-like atmosphere, reducing the monolithic feel of the instructor–student relationship and transforming the content into one that felt more student-centric, collaborative, and egalitarian" [Ross 2019, 15].

[17] For example, in computer science, Sari (2014), Cahyaningtyas (2017), Felbo (2017), and LeCompte (2017) all develop methods to use emoji in sentiment analysis. Or, in medicine, Marengo (2019) describes using emoji-based surveys to diagnose warning signs of depression, and in education Fane (2017) and Fane (2018) describe using emoji to communicate with children.

[18] For example, in psychology, Hall (2013) and Li (2018) associate emoji usage with personality traits. Or, in communications, Tossell (2012), Prada (2018), and Derks (2008) find patterns in men and women's use of emoji, and Lin (2018) compares emoji usage in China and Spain.

[19] Scholarship on emoji in Twitter is particularly prevalent, as in Barbieri (2016), Sari (2014), and Park (2014), likely because of the availability of data from Twitter's public conversations. Scholarship on private conversations typically examines text messages or text-like instant messages, as in Pettigrew (2009) and Perry (2011), both of which study romantic couples.

[20] A major difference between a two-person text conversation and a group chat in Slack has to do with the position of emoji in the conversational tempo. Two people texting are in a pattern of constant back and forth, where one person is always in the position of needing to respond to the other; in a texting app, emoji can only be sent in or as text messages. Sending an emoji in a text to one's partner just means "saying" that image to them in the moment. In a group chat, however, there is no sense of whose conversational "turn" it is at any given moment, since anyone can respond. Moreover, in addition to allowing emoji to be sent in or as messages within the conversational flow, Slack also has a feature for emoji "reactions" to be attached to other people's messages. These "reaction" emoji provide a response to someone's statements without interrupting them, or without reviving the whole conversation if the main flow of discussion has moved on. As a result, rather than keeping a conversation going without words, as Kelly (2015) describes in text conversations, we argue, emoji reactions in Slack provide a backchannel that gets outside the conversation to build a more general sense of an activated social space.

[21] The default emoji :fire:, easily bringing to mind "burning rage," "dumpster fire," "I want to burn everything down," and "I'm on fire" (a phrase used in lab to indicate a desperate, urgent need for assistance or graduate supervision), was particularly popular as an empathetic response to a wide variety of adverse circumstances.

[22] The image comes from the famously unintelligible Voynich manuscript (Beinecke MS 408).

[23] Asana randomly rewards task completion by sending a unicorn, a yeti, a narwhal, or a phoenix across the user's screen. This does not happen with every completed task; rather, the potential of possibly getting a reward animal incentivizes the user to continue completing tasks. Needless to say, we were quickly hooked.

[24] For further discussion and definition of "affective work", see Ahmed (2010).

[25] While we use "work environment" here and elsewhere, OBNS is, unlike a science lab, not first and foremost a working lab with a shared project. "Work" for us refers to the variety of duties that lab members undertake, which includes teaching and research unrelated to the lab's project(s). While all of us have performed research, administration, or consultation for the lab at some point or another, our degree of involvement has varied widely. Most new lab members enter the lab not as new project employees but as Gillespie's graduate students (who then may later be given work related to an OBNS grant project).

[26] The custom emoji have particular impact within the affective community of our Slack, following Ahmed's account of individual agency within the economy of "happy objects":

> We are moved by things. And in being moved, we make things. An object can be affective by virtue of its own location (the object might be here, which is where I experience this or that affect) and the timing of its appearance (the object might be now, which is when I experience this or that affect). To experience an object as being affective or sensational is to be directed not only toward an object, but to "whatever" is around that object, which includes what is behind the object, the conditions of its arrival. What is around an object can become happy: for instance, if you receive something delightful in a certain place, then the place itself is invested with happiness, as being 'what' good feeling is directed toward. Or if you are given something by somebody whom you love, then the object itself acquires more affective value: just seeing something can make you think of another who gave you that something. If something is close to a happy object then it can become happy by association. [Ahmed 2010, 33]

[27] Kim (1992), for example, has examined the political implications of the inclusion and exclusion of language-based character sets in the broader Unicode standard, and [Berard 2018] has applied a similar framework specifically to the definition of standard emoji. Kim and Berard both assert that the technological standards defined by the Unicode Consortium's paid membership of corporate, institutional, and governmental actors have political implications for the representation of marginalized communities: as Berard notes, when it costs $10,000 to $18,000 a year for a membership to be allowed to vote on proposed new emoji (or $7500 a year for a half vote), and when these voting members must have a technical background, many viewpoints will be excluded from the decision-making process.

[28] https://cultofthepartyparrot.com/

[29] This organization is now known as The New Humanitarian, and is a global, digital only news outlet which provides field reporting on humanitarian crises.

[30] Graduate students are especially prone to non-traditional work schedules, in part because they are rarely afforded individual workspaces to serve as "offices" and must do much of their work at home, in the library, or in a third space. This mentality, developed during graduate study, often follows an individual through their career.

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