

Labor Saving and Labor Making of Value in Online Congratulatory Messages

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Abstract. Social reminder interfaces on social networking sites (SNSs), such as the Facebook birthday reminder, make sending a congratulatory message easier than ever. However, the lower cost in time and effort can also devalue a simple message, and one-click congratulations may be criticized as impersonal. Nevertheless, they are still widely used. In this paper, we investigate how people find value in short congratulatory birthday messages on Facebook despite the criticism. We conducted interviews with 17 participants with the aid of a reflective prompting tool developed to aggregate participants' previous birthday posts. Participants found the most value in personalized birthday posts, posts for re-connecting with dormant ties, and in the presentation of public affirmation posts for their imagined audience. We use signaling theory to interpret our findings and explain how a social reminder interface that lowers the cost in time for sending congratulatory messages can be both beneficial and problematic.

Keywords: Social reminder interfaces, one-click congratulatory messages

1 Introduction

A growing number of social reminder interfaces — the birthday reminder on Facebook and Google Plus, the wedding anniversary reminder on Facebook, the work anniversary reminder on LinkedIn — on social networking sites (SNSs) greatly reduce the effort required to acknowledge a person's life events such as birthdays, graduations, and wedding anniversaries. With a single click, these reminder services allow users to send a congratulatory message to people in their social network. However, this growing number of abstracted one-click congratulatory systems are often criticized as “masquerading as a social network” [36], “programmed, canned,” and “sent without thought or personal feeling” [27]. Perhaps predictably, more and more short, recurrent messages are migrating to one-click interactions (e.g., the iPhone “I can't talk right now...” response while dismissing a call). Burke likens short, recurring written birthday greetings to one-click actions [2]. Despite these and other concerns, one-click congratulatory messages are still widely used in SNSs [15, 37].

In this paper, we address the reasons behind these criticisms, and the value in one-click congratulatory messages despite the criticisms. We define value as what people particularly appreciate while sending and receiving congratulatory messages on SNSs.

By understanding the problems and values that people experience around the congratulatory message interfaces, we present design considerations for appropriate social reminders.

To do this, we consider sending congratulatory messages as *signals* [10]. In social signaling theory, a *signal* is a perceivable action to indicate otherwise unperceivable quality about the signaler [9]. In the case of congratulatory messages, sending a congratulatory message is a visible indicator that signals the sender's affection for the receiver [7, 24]. Thus, resources such as time, money, and cognitive effort expended in producing and receiving congratulatory messages can provide important information about the signaler's and receiver's level of motivation [9]. Such resources required to produce and receive a signal are called *costs* [9, 10]. The Facebook birthday reminder, however, is designed to decrease these costs for the sender by reducing the time and effort previously required to archive birthday dates in a calendar, visit a store to buy a card, write in it by hand, and mail it. Costs for the receiver may vary depending on the number of messages; in general, the ease of seeing consolidated birthday greetings in one interface often results in a low-cost viewing experience. Since the cost as a measure of the sender's level of motivation is decreased, congratulatory messages on SNSs are criticized as being impersonal compared to other media.

To investigate what people particularly value from the sending and receiving of Facebook birthday posts, we conducted interviews with 17 participants and collected their received birthday posts data using a reflective prompt tool called "My Birthday Reflection". We contribute quantitative and qualitative findings about the values in Facebook birthday posts and outline future design consideration for a social reminder.

2 Literature Review

Birthdays¹ are notable occasions recognized through normative rituals. These rituals serve to celebrate the specialness of the individual, who is annually honored on the day of his/her birth [7, 17, 24]. In countries where they are celebrated, people expect family and friends to remember their birthday and to acknowledge the occasion by spending time with them and giving gifts. A common gift is a birthday card where a sincere message expresses affection [7, 24].

Sending birthday messages has become easier and faster as new media has decreased the effort of sending birthday messages. Before the first commercial cards appeared in the 1800s, families laboriously crafted charms and block-printed cards on special days for a very special few [3]. Around 1910, the card industry began mass-producing cards containing pre-written greetings [30]. Sending birthday messages required less time and possibly less writing. Cognitive and time costs remained; people invested time archiving birth dates and contact information (e.g., maintaining up-to-date contact books including birthdays) and then directly contacting the recipient of the greeting via postal mail, email, phone calls, or personal visits. In 1994, the first electronic card, The Electric Postcard [11], further reduced the effort of buying, hand-

¹ Birthdays are cultural rituals. There are some countries that do not celebrate birthdays.

writing, and sending a card. Some recipients reacted negatively believing this new medium lacked authenticity [38]. With the coming of the Internet Age and widespread use of SNSs, in 2006, Facebook introduced a birthday reminder interface. Over the history of the Facebook birthday posts (2006 - Present), redesigns of the interface have continued to reduce the cost in time of sending birthday greetings. In 2006, users could see a list of birthdays from their friend network in the lower right portion of the Facebook homepage. This birthday reminder feature was responsible for over *half* of the direct interactions between users who infrequently interacted on Facebook [37]. In September of 2011, the Facebook birthday feature was prominently placed in the upper right corner of the home page (see Fig. 1). Clicking this window revealed a list of friends with birthdays and text fields, allowing the user to directly send a congratulatory message from his or her Facebook home page — thereby eliminating the time and effort required to visit a friend’s Timeline² and perhaps encouraging a quick note.



Fig. 1. The Facebook Birthday Reminder (2011).

Changes in signal costs and subsequent effects have been studied by biologists, game-theorists, economists, and designers via signaling theory [10, 23, 32]. We believe it explains the continued use of generic birthday greetings today. Sending a birthday message typically signals how important the receiver is to the sender [7, 17, 24]. Thus, strengths of relationships between senders and receivers play an important role when deciding how much time and effort the sender expends [17]. The receiver also expects a different cost from the sender depending on the relationship. People give an expensive birthday gift to close friends but a cheap birthday card to acquaintances. Similarly, Facebook birthday posts may act as a signal of attention to the receiver [13]. Burke alluded that different lengths and content in posts may have different effects in increasing the strengths of relationships [2]. However, these studies have not shown why people send and receive birthday posts of varying content with people of differing relationship strengths.

The audiences of birthday messages are crucial in signaling. When sending birthday messages via a private channel such as a letter, birthday card, electronic card, text message, or phone call, the sender typically considers the receiver as the only audience. On Facebook, a birthday message sent via the birthday reminder interface is posted on the receiver’s public Timeline. Depending on the receivers’ privacy settings, the audience could extend from the receiver’s friends to people outside of his or her social network. Thus, the public birthday posts not only act as a signal to the receivers, but also to the imagined audience [22], including others that can access the contents on the receiver’s Timeline.

We explored birthday post content and how the participants in our study interpreted the posts as signals based on their costs and the relationship strength with the send-

² The Facebook Timeline contains stories sent by and to the user. Based on the user’s privacy setting, the user’s friends or other Facebook users can read and write a post on the Timeline.

er. We aimed to uncover the following research question: *What do people value in sending and receiving Facebook birthday posts?*

3 Study Design: Exploring Value Understanding

We recruited 17 participants (10 female; aged 19 to 49, mean age 24) from seven departments in a large Midwestern university. Each participant received \$10 upon completion. The participants consisted of one faculty member, one staff member, nine graduate students, and six undergraduate students. All participants regularly used Facebook in their everyday lives (14 participants logged in to Facebook several times a day and three participants logged in to Facebook two or three times a week) and had experience sending and receiving Facebook birthday posts for at least four years. Combined, the participants received a total of 5,439 Facebook birthday posts and on average 65 posts per person per year.

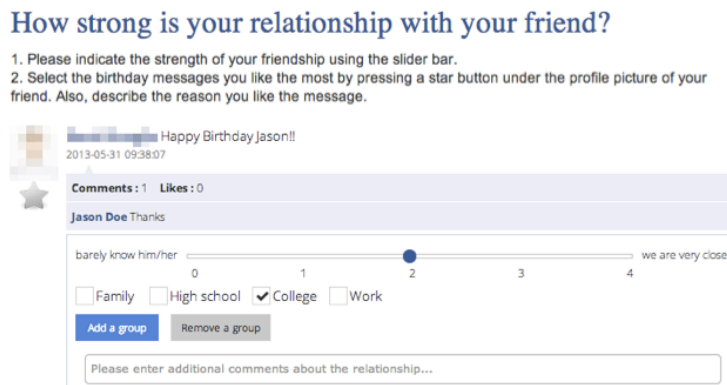


Fig. 2. My Birthday reflection: Pressing the star icon indicated a post was a favorite.

My Birthday Reflection. The reflective prompting tool (Fig. 2) was designed to enable participants to recollect some of the birthday posts they had received on Facebook and share their response. The tool gathered up to one hundred of the most recent birthday posts and displayed information surrounding each post including the sender, “comments”, “likes”, and the dates and time of the post. It was designed to display the contents as similarly as possible to the Facebook Timeline interface. Participants were asked to rate: *“How strong is your relationship with this person?”* on a scale from 0 (barely know him/her) to 4 (we are very close). Following Gilbert’s methodology in probing tie strength on Facebook [14], they were advised to choose a 4 rating if they could ask this person to loan them \$100 or more. Participants were also asked to annotate if a post was one of their favorite few and place the friend in a personally labeled community group of their choice. Commonly selected groups were family, high school, college, and work.

The annotated favorite posts and an explanation supporting each selection were collected. A total of 174 birthday posts were selected, with each participant selecting

an average of 11.6 posts. At the end, the tool showed participants a summary visualization of the collected birthday posts categorized by the labeled community groups and the rated relationships strengths over the years. Approximately thirty minutes were spent to complete the first part of the study.

Interviews. We next conducted an hour-long three section semi-structured interview, which was recorded and transcribed. First, we showed them the summary visualization and asked them if they could see patterns in it. This visualization highlighted the number of friends who sent the birthday posts corresponding to the strengths of relationships. Then we asked why those friends would choose Facebook to send the birthday messages and how their interpretation of the birthday posts differed based on the strengths of the relationships. In the second section, we asked participants to further describe their motivation for selecting the favorite posts and what in particular raised the value of these posts compared to other posts. We asked how they perceived the value, including the advantages and disadvantages of receiving birthday messages on Facebook compared to other media. Finally, we asked if they responded differently to messages from friends of different relationship strengths. In the third section, we asked about their experiences sending birthday posts including how participants decided whether to send birthday posts, why they chose Facebook as a medium, and if and why they employed different writing strategies in their posts.

Data Analysis. Three researchers coded the transcribed interview data using open coding [31]. Each researcher reviewed the data, extracted statements of appreciation from Facebook birthday posts, and grouped them according to relevant themes. Then the researchers met as a group over a period of 2 months to evaluate and refine the themes. We identified three core value themes from this analysis: (a) the content of birthday posts, (b) relationships between senders and receivers, and (c) imagined audience of Facebook birthday posts. Two of the authors individually conducted an initial round of open coding of the explanations supporting the favorite birthday post selections. They then met together and iteratively clustered the initial codes into higher-level category groupings until arriving at two themes: (a) the content of birthday posts and (b) special relationships between senders and receivers. We performed a quantitative analysis on the content of birthday posts and proportions of birthday posts received from different relationship strengths. Our goal was to examine if the quantitative results supported our qualitative findings. In the following section, we discuss the themes resulting from the qualitative and quantitative analysis.

4 Findings

4.1 Personal Birthday Posts

Personalization played the largest role in annotating a post as a favorite with 61% selected because the posts were personalized. The personalized messages made participants laugh, reminisce about the past, and feel cared for.

Perceived Value of Receiving Personal Birthday Posts. Personal messages referred to shared experiences between senders and receivers, used nicknames, and included humorous messages.

Reminiscing and Feeling Cared For. Participants valued reminiscing with birthday posts that referenced shared experiences. For example, remembering the times when the sender and receiver struggled all night in the library with the sender, traveled together, or had fun at a party. In the 2012 post below, P5 reminisces about times when he had fun with the sender in a bar. *“Happy Birthday P5!! Hope you have a great one and wish we could join you for a drink at Murphy’s! (tie strength = 4). P5 explained, “[this post] reminds me of everything when we went to Murphy’s. Good times!”*

Participants described the favorite birthday posts as “sincere,” “genuine,” “thoughtful,” “loving,” or “emotional.” These posts included messages expressing gratitude for teaching the sender and affective messages including the words “love” and “miss” from their close friends, parents, and children. For example, P17 selected the following 2012 birthday post from his grandmother as one of his favorites and described the post as “personal and genuine”, *“Hi My Darling - A GREAT BIG HAPPY BIRTHDAY to my fabulous grandson. Try to find some time to enjoy yourself. You most certainly deserve it. Love. Grandmother.” (tie strength = 4).*

Entertaining. Participants also valued humorous birthday posts that had inside jokes, nicknames, and teasing messages. Those posts made participants laugh and respond with another joke, often starting a conversation. Because Facebook is public and messages appeared on friends News Feeds, sometimes others also joined in. P7 found the following 2012 post from his sister very funny. *“Ahhh wait you’re old tomorrow...I don’t know how I feel about this!!! 22 is a socially acceptable age to get married!!! Stop this aging immediately!!! (aka love you big brother :))” (tie strength = 4).* P7 marked this as a favorite post and stated, “[It is] very personal. The comments are hilarious from my other sister and family friend. Love newsfeed stuff like this.”

Better than Generic Birthday Posts. Another reason for valuing the personal birthday posts is the stark contrast to generic, impersonal birthday posts. Participants received a significant number of generic “Happy birthday” posts (about 40%). In contrast with generic birthday posts, personal birthday posts signaled more effort from the sender. P13 stated, “I normally expect ‘Happy birthday,’ maybe just one more sentence like, ‘How are you doing?’ That would be nice, but just straight up ‘Happy birthday,’ it feels like they had to do it because it [the reminder] was there. They didn’t really want to, but Facebook told them to, so they had to put up a message” (P13).

Participants noted that the birthday reminder lowered the cost in time and cognitive effort of sending the posts. For example, P2 described “I think it [Facebook birthday posts] changes the nature of how intentional and thoughtful we have to be. Even with our closest friends, if you forget to deal with sending them a card a couple of days in advance, it’s fine. [...] It feels like Facebook will do the remembering and the effortful part of it for you. I think it makes us less responsible for acknowledging and investing in our friends lives” (P2).

Sending Personal Birthday Posts. Participants wanted to do more for close friends, by making an extra effort to express their closeness. This included writing longer or more personalized messages, using inside jokes, sharing memories, adding photographs, and carefully timing the sending of the message so it arrived early on the recipient’s birthday (just after midnight). Six participants reported that they intentionally read others’ birthday posts on the participants’ News Feed or the receiver’s Timeline in order to write something different. Those participants note that unique messages represent more effort: “I try and leave birthday out because I know that everyone else says happy birthday. I try and say something else like, ‘Happy, happy. It’s officially your day today.’” (P11). Participants had concrete rules when deciding the amount of personal content to put into the birthday posts depending on the strength of their relationship with the receiver. “If the person is [tie strength] 4 or 5, I would try to think of something more thoughtful for them. If the person is [tie strength] 2 or 3, I would do little bit more than happy birthday. If it’s just a person who is [tie strength] 1, I usually do happy birthday and [a] couple exclamation points after it” (P5).

Quantitative Analysis of Personalized Birthday Posts across Tie Strengths. We examined a relationship between the extent of personalization of the birthday posts and the strength of a relationship. Using Linguistic Inquiry and Word Count (LIWC) [33] text analysis software, the personalization level of birthday posts was evaluated by measuring the percentage of words in the following LIWC categories: Family, Friends, Home, Sexual, Swears, Work, Leisure, Money, Body, Religion, and Health. The LIWC categories contained personal messages that our participants referred to as shared activities, personal conversations, nicknames, and funny messages.



Table 1. Example of birthday posts and their TF-IDF values

Birthday posts	TF-IDF value
Happy birthday	0
Happy Birthday. hope you have a wonderful day	11.0
Happy Birthday Nick Lol Ball Out!!!	23.8
Happy birthday to my beautiful. kind. and scarily hip ma-ma!! Nothings the same without you!!! Xoxoxo	79.6

We also measured the uniqueness of each word in the birthday post compared to the entire collection of birthday posts, using Term Frequency-Inverse Document Frequency (TF-IDF) [20]. We then calculated average TF-IDF values of the birthday posts in each tie-strength category. Intuitively, words with low TF-IDF values indicate that the word is used frequently throughout the collection of birthday posts, while higher TF-IDF values indicate the word is rare. For example, the words “happy” and “birthday” have the lowest TF-IDF value of zero. For this reason, we refer to “happy birthday” as generic birthday post, and we label posts with a TF-IDF value higher than zero as personal birthday posts. Table 1 shows examples of birthday posts and their TF-IDF values.

Participants received more personal birthday posts from closer friends, supporting our findings from the qualitative analysis. Table 2 shows how the percentage of personal words and average TF-IDF values gradually increase as the relationship strength between the sender and receiver increases.

Table 2. T-test of average % of personal words and TF-IDF values in Facebook birthday posts across different strengths of relationships. A mean reported with an asterisk (*) indicates a significant difference with the tie strength value before. * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Tie strength	weak		strong			Graph
	0	1	2	3	4	
% of Personal Words	1.06%	2.42%	3.17%	4.36%	5.44%	
Average of TF-IDF Values (SD)	7.26 (21)	10.06 (17)***	16.08 (22)	19.49 (24)	31.89 (32)***	

4.2 Sending and Receiving Birthday Posts with Dormant Ties

39% of the favorite birthday posts were selected because participants have a special relationship with the sender. Special relationships included close friendships, *dormant ties*, and *special weak ties*. We define *special weak ties* as people with whom the participants have never been close but they nevertheless respect, admire, or like. *Dormant ties* are people with whom the participant was once close, still desires to be close, but has ceased contacting [21]. Making contact with old friends via Facebook is quite common [12, 19], but it happens more frequently on or near one’s birthday. The Facebook birthday reminder functions as a social catalyst [18], and creates an opportunity to establish a connection that would otherwise not exist.

Receiving Birthday Posts from Dormant Ties and Special Weak Ties. Because participants normally did not expect to receive birthday posts from dormant ties, they perceived the messages from them as very meaningful, even if the birthday posts were the generic “Happy birthday”. P6 explained, “It meant something to me that Steve took the time to write ‘Happy birthday’ even though we haven’t spoken in at least 6 years” (P6). Moreover, P15 described that she could reminisce just by seeing an old friend’s name in a Facebook birthday post. “What I most liked in the survey is that the birthday greeting came from an old family friend. He basically just said happy birthday. I was like, oh, I remember some good times with you, so just remembering him again to kind of boost [my] memory just from the fact of seeing him on Facebook” (P15).

Participants also found value in birthday posts from *special weak ties*. For example, P2 said, “Over the ones I just read, I think the only one that have my eyes starred that friends of me that I’m not particularly close to, as a coworker who just said she missed me. I was, ‘Oh that’s so sweet. I miss working with you too.’ It’s not something I would expect from her, right? We were coworkers. We didn’t necessarily do

this endearment kind of things. But, it's true. We really like each other so it was just touching" (P2). In reaction to the following favorite birthday post "*Happy Birthday Buddy :)*" from a high school friend (tie strength 1), P8 said, "He's a nice guy who I don't know that well but I like him so it's nice to get a greeting from him" (P8).

Sending Posts to Reconnect with Dormant Ties. From the senders' perspective, we discovered that etiquette around Facebook birthday posts make *dormant ties* easier to contact. On Facebook, it is easy to find a lost contact and become a "friend" on Facebook [12]. Further, the Facebook birthday reminder provides an excuse to contact others. Direct contact from people with whom one has not contacted in a while via phone calls or text messages may be awkward. With Facebook, however, *dormant ties* could initiate conversation easily without fuss. While the public visibility of writing a personal birthday post can be intimidating, generic birthday posts are commonplace on Facebook and for some may be a better option. "I can see its potential for more bonding over Facebook in ways it couldn't happen before because if someone from a high school I went to high school with called me, it would be a bit awkward, if I haven't spoken [to] them in 23 years. In Facebook, it is perfectly acceptable. And it's nice because you have [the] option to start the conversation if you want" (P1).

4.3 The Imagined Audience of Facebook Birthday Posts

Sending an electronic or a paper card can be a semi-private ritual where the sender typically intends the card to be viewed only by the recipient. It is possible recipients may display the cards in their homes, but it would be unlikely that all senders would be able to see all the cards sent by others. Facebook birthday posts, however, are public and Facebook friends can see all of birthday posts that are not explicitly made private. As a result, users become aware of third-party observers.

Receivers Feeling Special. On average, participants received 65 Facebook birthday posts per year. Although each birthday post was perceived as costing less effort than a post card or electronic card, they have an aggregate value: participants felt special when they received a large number of birthday posts. For example, P12 said, "I value it [Facebook birthday posts] just because I can see how popular I am maybe" (P12).

Sending Public Birthday Posts as a Gift of Status. As senders, participants were concerned about their friends' public presence. They wanted to make others aware of their friend's birthday so that the friend would receive more birthday posts on Facebook. Essentially, participants wanted others to see their friend as popular: "I think part of it is I want my friends to have something public on their wall. I want other people to say 'Oh look at how many birthday wishes that this person got'" (P6).

The Facebook timeline interface also explicitly presents a total number of birthday posts that person received such as "10 people posted on your timeline for your birthday." This interface design might have encouraged senders to send a public birthday post to make their friend receive more birthday posts.

Sending Posts to Publicly Confirm a Close Relationship. Even if participants had greeted a close friend face-to-face on their birthday, they also acknowledged their friend’s birthday as a public performance on Facebook. More than half of participants said that, for close friends, they would send a public Facebook birthday post as well as birthday greetings via private media such as a phone call, SMS, email etc. Friends use multiple media to show their efforts to the recipient; Facebook’s labor-saving technology thus becomes a labor-making technology [4]. “I think part of it is the publicized aspect of it because people see you wishing them a happy birthday and then people, they’re like, ‘Oh, they’re so close. They’re such close friends’” (P8).

5 Limitations

One of the limitations of this study is that we interviewed 17 participants in a university setting — an elite tech-savvy group of users. While an acceptable starting point, a wider demographic of subjects would highlight greater variance in Facebook birthday posts adoption, sense making, and changes in practice. Our Facebook application collected received posts, therefore, participants may have emphasized received posts over sent posts. We asked participants about their sending practices, but an analogous probe highlighting sent posts would provide symmetrical analysis. Finally, a longitudinal approach to explore practices over several years would lead more insight into how people’s practice evolves with the changing birthday reminder interfaces.

6 Discussion

Using the visualization of Facebook birthday posts, participants found it easy to discuss issues of their value. While we were originally concerned that it would be an onerous task, participants appeared to enjoy going through up to a hundred previous Facebook birthday posts. One said, “It was interesting to see people who have written messages a long time ago that you haven’t talked to or messages recently I missed. Kind of refer to parts of your life that you forgot about” (P7).

Our findings suggest value in Facebook birthday posts for reminiscing about past memories, entertainment, and feeling cared for which parallels findings in a study probing text messages as gifts [34, 35]. Especially, the value of connecting with dormant ties resonates with a use of electronic post cards as a gift for keeping in touch without having to say anything [11, 29]. However, the Facebook News Feed interface, publicly showing others’ birthday posts, added its own value in feeling special, improving their friends’ reputation, and exhibiting the closeness of their friendship to imagined audiences.

6.1 Facebook News Feed as a Social Signifier of Facebook Birthday Posts

Norman defines social signifiers as signals created or interpreted by people signifying normative social behaviors and activity [25]. On Facebook, the News Feed displays

Facebook birthday posts to the receivers' other Facebook friends. Thus, birthday posts from other senders can act as a social signifier to send a birthday post to the receiver. Burke also found that Facebook users who see their friends contributing on Facebook are more likely to share more content themselves [1]. Our participants noted that dormant ties can easily send Facebook birthday posts because they often see a large quantity of birthday posts that have already been sent to the receiver. Adding another birthday post to this collection follows this existing social pattern. It is also possible, however, that this volume of birthday posts can create sender obligation: an expectation that sending a Facebook birthday post is the least they can do and not sending the birthday post may be perceived as rude. "It [sending a Facebook birthday post]'s better than nothing. Even just for a split second because other than you forget all the people that didn't" (P17). This negative impact of sending obligatory birthday posts resonates with Dindia's holiday greeting card study findings [5]. She emphasized the hygienic factors inherent in holiday greeting cards; their presence does not positively affect relational maintenance, but their absence may have a negative effect on relational maintenance.

6.2 A Minuscule Sociotechnical System

Even in our small sample of 17 people, many issues emerged around sending, receiving, and replying to Facebook birthday messages. Participants could articulate rather complex social patterns of behavior, even informal rules of etiquette that they and others had evolved and seem to keep on evolving. Of course our society has seen this kind of thing emerge many times before. Social commentators, such as Emily Post, the famous writer on etiquette, noted the rules followed by some members of society, making explicit to aspirational groups how to emulate the frequently unspoken rules followed by certain social elites. Emily Post also noted the disruptive influence of a particular kind of social media - the telephone - on the social rules around writing letters and sending telegrams [28].

Our participants seemed to find discussing their actions and their meanings pleasurable. Their reaction could even be one of amusement that they were following 'rules' (often self-created) that they weren't necessarily conscious of - in a similar way to which native speakers can be asked to reflect on how they consistently follow certain conventions in speech that they may not have been aware of. Such social norms can emerge without people explicitly realizing. They may only become visible when someone violates them. There do not seem to be Emily Post-like rigid rules of social etiquette. As one participant explained her detailed behaviors: "That's just me." However, that does not mean that people act randomly. There are patterns. It's just that they may not be visible or explicit. One way to uncover norms is by breaking them - even in thought experiments.

The Facebook birthday message set of features can be thought of as a sociotechnical system - albeit a really tiny one. This can help both in understanding what we have seen and why, but also as a way to inform broader sociotechnical systems analysis and design. Most sociotechnical systems are far larger and many are far more important. But their size and complexity makes them exceptionally difficult to analyze,

let alone to design or improve without a considerable risk of actually making things worse. By studying use and change in a microscopic sociotechnical system and (as we do below, undertaking a few thought experiments about designs that uncover norms by breaching them) we believe we can contribute to the analysis of much larger and more important sociotechnical systems.

In the most literal sense the Facebook birthday message setup is obviously a kind of sociotechnical system (STS) – it involves the use of particular computer technologies embedded in a particular social media application (Facebook as a whole) in order to send socially and culturally appropriate messages (birthday greetings). But it is an STS in a more subtle sense too and problems occur if designers think of the setting as a purely technical or individual-technical optimization problem. We speculate that certain Facebook developers have over the years looked at the birthday message application in precisely that manner. If you think that the ‘problem’ is that first remembering and then sending birthday messages is rather effortful, and that forgetting a birthday is a rather embarrassing social faux pas, then naturally the design challenge is to create an application and associated interface that makes sending birthday messages as easy as possible. With such a (perfectly reasonable) interaction design worldview, you might expect that your innovative redesigns to reduce the cost of sending messages would save people some time and effort. You might also expect that your redesigns could lead to more messages being sent, probably to a wider circle of acquaintance. That follows a classic rational economic model. What you might not expect from this individual-technical perspective would be what we saw – people deliberately making their lives more difficult by creating more personalized messages in order to show that they care about the recipient.

Another example of this effect is carefully timing the sending of the message so it arrives early on the recipient’s birthday (just after midnight). As one participant noted: “If they are really close, I login to Facebook to write them a message at midnight. If they are my best friends, I’ll wake up and post on their wall when their birthday happens and then send them a text and go to sleep.” Again, it is perfectly possible to redesign in order to reduce that cost – but that assumes that cost reduction is actually desirable when in fact it may not be. For example, the birthdayFB [40] application lets you save greeting messages in advance, and then automatically posts the messages at a random time on the morning of their friend’s birthday. This saves effort, but that saving may destroy the meaning of a friend taking special trouble to directly send the message at a significant time.

6.3 The Virtual Social Secretary

Participants often found Facebook to be a very reliable up-to-date contact book, and Facebook birthday practices allow easy contact with people who are not close, and reconnection with people who used to be close without the awkwardness associated with similar face-to-face encounters. Effectively, Facebook becomes our social secretary, reminding us of a friend’s birthday, and offering to obtain, write and deliver a card for us. This sounds very convenient, low cost and highly desirable. But that very lowering of effort can make people feel a little uncomfortable. It may feel less per-

sonal if we don't do all the work ourselves. Most of us do not have a (human) social secretary; so we have to figure out what that means in our day-to-day lives and how others may interpret our actions. We may have seen TV shows where a male executive has a secretary who reminds him about the birthdays of both close friends and business acquaintances and buys and sends the cards, or even the gifts, on the boss's behalf, generally minimizing the bother of these social exchanges. This delegation to a (human) agent certainly increases efficiency, but seems uncaring.

As designers, if we see our design objective as improving efficiency by minimizing bother, surely having a social secretary is an unalloyed good. But if that bother has actual value in showing that you care, what does minimizing bother really mean? We suspect this issue is not unique to sending greetings. Within HCI we rarely question the worth of making something easier. Designing to reduce effort can be difficult to achieve, and we may be caught in an invidious tradeoffs. But of course we all agree that easier is better. Here we have at least one case where making something easier degrades its value. Part of the point of the activity was its cost. Fortunately (or ironically), in our study we found participants ingeniously create ways to make the sending of greetings more effortful in order to recover their value.

6.4 Sociotechnical Design implications and anti-implications

When designing technologies, Donath warned against removing costs that previously signaled value [9]. Let us consider some Bad Idea [6] design anti-recommendations as a way to help to explore views about this kind of interaction. Imagine if Facebook provided an option to...

- Not only remind you of a birthday but also composed a draft message for you so all you had to do was click. (Indeed Facebook already suggests a generic message of "Happy Birthday".)
- Select from a list of carefully crafted, more 'personalized' birthday messages.
- Buy a personalized message from a professional writer
- Automatically send happy birthday messages to your friends every year from now on so you don't have to bother.
- Automatically send happy birthday messages to your friends with carefully chosen phrases (different each year) so they look like you bothered to compose them.

In all these cases we suspect that many of our readers' reactions would be negative. This reaction reveals norms being violated – norms we may not have been aware of before. They are currently unacceptable, but will that change? Are they too similar to the stereotypical 1960s male executive deputizing his secretary to buy an anniversary present for his wife? Activities can be violations of social norms for one group while they are acceptable or even expected in another.

This is not unique to technology design. A good example comes from a study of the sending of physical greetings cards. West [39] notes how various commentators have been rather critical of their use. In particular, they complain about the use of pre-written texts in the card as "lazy and less authentic substitute for the best form of interpersonal communication, which would be a handwritten note or face-to-face

talk.” We see allusions to this view of authenticity in some of our participants’ comments, although in a far less pejorative manner.

West explores the idea of authenticity as a classed concept. For some a pre-printed greeting card sentiment is artificial [16], while for others it is about carefully selecting a professionally written phrasing that exactly expresses what the sender would like to say, but may not have had the words for. West examines this difference using the concepts of high and low cultural capital, as assessed mainly by formal education. Those with high cultural capital prefer short messages or even a blank card, and then personalize it by writing their own message. Those with low cultural capital may be less comfortable composing their own unique message, or don’t consider their own words as adding much value, but are happy to invest considerable effort into finding and selecting a message that exactly conveys the sentiment they wish to express. For them a blank card is meaningless and a brief message is overly terse and implies a lack of selective care.

Facebook posts have to be composed, but our participants made similar distinctions between the more formulaic messages and those more carefully crafted and personal. All our participants fit into West’s high cultural capital category, but it is important to think about other kinds of Facebook users if this work is to be extended.

These issues create a design challenge for social media technology designers. It is certainly possible to create the application features we described above. But do they meet a need? Do they potentially cheapen or pollute the activity? Donath noted that she received many requests for an automated birthday-postcard-sender feature for her Electronic Postcard system [8]. But while it would have been easy to include, she didn’t do it because that wasn’t the etiquette she wanted around the system. She felt it was a bad design decision to automate a birthday or holiday greeting.

Hallmark manages opposing needs for greetings cards (blank or terse for those wishing to personalize, and carefully crafted messages for those wishing to select a phrasing that exactly captures what they would like to say) by creating different sub-brands [26]. In social media design, it is possible that creating useful options for some may immediately devalue the experience for others, so what is to be done?

Another norm-challenging thought experiment is to consider inappropriate metaphors. We already have Customer Relationship Management (CRM) software that contains details about contacts including personal details like interests, children, birthdays etc. What if we brand certain Facebook features as Friend Relationship Management (FRM) doing essentially the same thing for our numerous Facebook friends? Does even talking about FRM software seem to violate certain norms and expectations? Will our friends feel less valued if Facebook is acting like a social secretary whispering their personal details into the ear of the Important Person who feigns to remember the last time she shook their hand? Speculations about possible Google Glass applications are already raising such scenarios. Or, will our discomfort change as we get used to the idea of lots of people having virtual social secretaries?

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