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Education into the online world: On the appropriation of online text and the production of everyday knowledge

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Abstract

Most people alive today have learned to use technology not in classrooms, but rather from each other in day-to-day settings as new devices and software continuously transform what it means to "learn about technology." Kleifgen and Kinzer (2009) have called for research into education "with and through" technology that does not prejudice what is to be learned or who is to teach it. This paper follows everyday moments of instruction about technology in blog comment threads, where bloggers identify that some commenters are "ignorant" of how to use blogs, search engines, and other new technologies. Through these conversations, we see that education outside of institutions, rather than being a transfer of old information from experts to novices, is a process of negotiating what there is to be known, how it is to be known -- what a new social order is, in fact, to look like. This has implications not just for technology learning, but for education as a whole.

Introduction

Few people in the world have learned how to use computers in school-like settings. Even if they have, what they may have learned in a training class soon becomes obsolete as new devices and software re-open the question of how to find out what is available, how to figure out what can be done with what is available, and then how to deal with all the people who, in all sorts of ways, are engaged in telling each other the right and wrong ways to use these technologies.

In light of these realities, Kleifgen and Kinzer (2009) have called for research into education "with and through" technology that does not prejudice what is to be learned or who is to teach it. This call should in fact be made about all education, whether about language, science, health, religion, etc. — and is made by the authors in the collection within which Kleifgen and Kinzer's call appeared (Varenne, Gordon and Lin 2009). There is something particularly interesting in following the education people give each other about new technologies. Much of this ubiquitous activity is public. Attending to it allows us to systematically investigate popular, everyday, ongoing education.

Take for example the case of a grandmother who had recently discovered the power of

Facebook to track family members. She had ended something she sent with “LOL.” Her husband, a university professor with more extensive interests in technology, saw the message and asked why she had ended it in a way that seemed inappropriate. She answered that there is nothing inappropriate about ending a familial message with “Lots of Love.” This led to an exchange illustrating the forms of meaning, learning, and teaching that concern us in this research:

Professor, to wife:

LOL doesn't mean “Lots of Love” it means “Laugh out Loud.”

Wife, to professor:

No, it doesn't. It has always meant “Lots of Love”

Professor, to wife:

Let's ask the expert.

Professor, to daughter-in-law (in her thirties, via e-mail):

What does “lol” or “l.o.l.” mean?

Daughter-in-law (within the hour):

Laugh Out Loud

Rolling On the Floor Laughing

Laughing My A** Off

Those are the 3 most common ways to say you think something is drop dead funny

Our research project in this paper focused on such moments of instruction. In the world of blogging, many authors discover that those who post comments appear quite ignorant of standards which “early adopters” comfortable with the genre think are common and authoritative knowledge. Bloggers and their allies often evaluate these comments; for example:

Basically. I honestly feel sorry for you that there are such illiterate people who don't understand when people tell them that one thing isn't the other. (“Answers to Riddles”)

School-based educators may also be tempted to look for ignorance at such moments, even if they take the more moderate stance that they might just indicate a mismatch between sub-cultures. We take an alternate stance: when people discuss what something might mean, or what something might do, knowledge and ignorance are produced, and authority is constituted and challenged — that is, these are moments of education into one's world.

In this paper we analyze the instruction people give each other as they respond to earlier postings on a blog. We show that figuring out what can be done with blogs, as well as finding out what *others* are doing, is a complex social and communication process — particularly when there is disagreement about what should be done and whether it is being done correctly. Examining this process in detail opens new ways of addressing classical questions on the production of knowledge, the establishment of authority and status over knowledge, and the play of political power at all levels.

This work is inspired by Jacques Rancière (1999 [1987], 2004 [1983]), and builds on work by Varenne (2007/2008, 2009a, 2009b, 2010) which itself continues work by Lawrence Cremin (1975), Ed Gordon (2005) and others. Together, this work reopens the question of what is meant by “education.” Along with a long tradition of anthropological work in places where there are no schools (Levinson 2000), we take seriously the multiple avenues human beings use to establish what is to be known, who knows it, who may teach it, how it may be taught, who may acknowledge who knows what, and who can mete out consequences for becoming known as ignorant. All these are complex acts people make in concert with each other, in situations not entirely of their own creation.

We are particularly concerned with the times when ignorance becomes an issue that leads to further action. Acknowledging ignorance (in the act of asking a question), or identifying ignorance (in the act of telling someone he is in error), leads to other actions, all anchored in a specific temporal here and now. Such moments highlight an argument made by certain social science traditions: namely, that identifying and correcting “errors” are not minor activities produced by the incomplete socialization or enculturation of certain participants. Rather, as the ethnomethodological tradition has established (Garfinkel 1967, 2002), these activities are particularly good moments to study the work everyone must perform in order to figure out what to do next. In this perspective, knowledge is not a pre-condition for participation in everyday life. Rather, knowledge is *produced* on an ongoing basis *during the course of* everyday life.

Working from this perspective raises new questions about the mechanisms involved in the production of “what there is to know” for a particular purpose, at a particular time, and among a particular group of people. To do this, we pay attention to the moments and settings when someone claims ignorance, whether this claim is initiated by the speaker (“*what does this mean?*”) or by an addressee or over-hearer (“*this is not what it means!*”), and when, then, a sequence of teaching and learning (i.e., education) is started.

Blogging is a particularly good activity to investigate these general principles precisely because the medium (both hardware and software) is relatively new and not quite controlled by established authority. Editors, schools, teachers, and academies may still attempt to establish authority, but they remain on the periphery. Blogs, obviously, are texts to be written and read. Thus, they allow for all forms of literacy practices, from the most practical to the most poetic (in Jakobson's sense, 1960). Most significantly, blogs' commenting feature allows and even encourages particular practices often ignored by cognitive approaches to reading and writing, which are concerned primarily with encoding and decoding. Posted texts often specifically refer to earlier posts and attempt to control future ones. Studying blogging thus requires that we move from the problematics of author/reader to the problematics of conversation, and thus of interpersonal interaction.

Interestingly, blogging software also severely limits interpersonal interaction. Like many written media, it cannot communicate non-text based cues generally available in face-to-face conversations (e.g. gesture, gaze, positioning, para-verbal cues, etc.) used to signal understanding and acceptance. Blogging does not afford methods for ongoing, real-time, synchronous checking and correction. In this way blogging is more akin to writing letters than it is to the usual forms of conversing (including on the telephone). Still, the visual display of comments, which may imply response (through adjacency or threading), as well as the public nature of the genre, raise all the classic questions about participation and the constitution of meaning that have been brought to our attention by conversation analysts (Sacks, Schegloff and Jefferson 1974; Goodwin 1981).

In this paper, we illustrate how bloggers find themselves struggling with commenters over the overall point of a blog. We look briefly at such struggles on two blogs, and then focus on a post on a third blog (“Lemonodor: A Mostly LISP Weblog”) in which topical drift became quite extreme. We wonder: Was this blog discussion about LISP (the programming language) or about lispng (the speech impediment)?

One can give many facile answers to such a question. The simplest answer would claim that the blogger stated in the first post what the thread is to be about. But, as we show, original intent in any blog can become quite blurred. Commenters may or may not notice a blogger's statements of intent. They may accept the statements as authoritative, or they may challenge them, wittingly or not. As the thread lengthens, things can get unpredictable and require more and more repairs by the ostensible author to keep things on track. In extreme cases, the original intent is replaced by an alternate one: in our case, what started as a blog post about LISP becomes a comment thread about lispng. Such a radical transformation may be rare, but more temporary cooptation is not. Many bloggers have reported it; Andrews (2010) continues to collect many instances of struggles over intent. In all cases we see acts of interpretation, instruction, explanation, etc., that

confirm the claim that routine everyday communication, whatever the technology, requires ongoing work to establish what is going on, the method for doing so, and what should be done next. People do not simply rely on old learning (socialization, enculturation, schooling, etc.) to make sense. Rather, as they participate, people learn (Lave and Wenger 1991).

The corpus

The total corpus for Andrews' research includes 39 comment threads (including the Lemonodor thread), containing a total of 3,572 unique comments. The number of comments in each thread ranges from two on the shortest through 713 on the longest. The topics of the comment threads are of a general nature, what Gee (2004) has identified as within "vernacular" or "everyday" knowledge like shopping, requesting assistance with web use, or talking about celebrities. More technical discussion threads were discarded from the corpus.² The threads themselves were chosen on the basis of one major criterion: there had to be explicit evidence that one person had identified an earlier comment as as erroneous, given what the blogger had established as the goal of the post. In other words, the basic unit of analysis was a three-turn sequence, identified as a sequence by the third statement:³

1) [initial statement] "this(1) is what this discussion is about"

2) [later statement] "this(2) is what this discussion is about"

3) [later statement] "this(2) claims to follow this(1), but it does not!"

Here is an example of the three-turn structure characterizing comment threads in this corpus. Jonathan Coulton, a musician who writes mostly humorous songs about the Internet and technology, posted an entry titled "Please Please Cancel My Account." His post consisted of the following:

Here's a recording (if that link's swamped, here's a mirror) of a guy trying to cancel his AOL account. Now THAT is funny. Thanks Dr. Smith ...

Some ways into the ensuing comment thread, someone wrote the following comment (spelling as posted):

... My understanding is that AOL so longer charges for using their services. I am still being charged \$14.95 per month on my Visa credit card. Please cease charging me each month. If you persist in this I will advise Visa to no longer honer your charges. Please advise me by return mail that these charges have been canceled. Robert G Porter [who then leaves his email address.]

The thread included many other comments like Robert's, but also a number identifying such comments as in some way in error. One of the latter ended with the admonishment:

(by the way people, this is not where you go to cancel any kind of account. Please try elsewhere)

The basic pattern can be formalized as follows:

blog post...

← response...

← identification of response as error...

With these criteria, Andrews gathered comment threads through referral from other bloggers and Internet users, including comment threads from Andrews's own blog and a friend's. Andrews found a number of other threads on the news aggregator blog MetaFilter, where readers discussed similar misunderstandings and added others they had found (in threads titled *Tuesdays with Maury*, *Jeremy Jordan Loves Demon Dogs*, *How Hawkish*, and *I Do Not Understand About Google At This Time*). Andrews followed links from these threads to other discussions of this phenomenon, finding new threads in the process — a sort of snowball

sampling. In addition, Andrews put out requests for additional threads like these on the Association of Internet Researchers (AIR-L) mailing list, on an Ask MetaFilter thread, etc.

One not so simple case

On November 4, 2008, someone who signed “Nelson” reached a blog post about Ph.D. research opportunities at Google. Over three minutes, he posted five requests to “cancel Google from my home page”:

Do not want Google. Take me off please.

by nelson November 4, 2008 8:41 AM

Do not want Google. Take me off please.

by nelson November 4, 2008 8:42 AM

Do not want Google. Take me off please.

by nelson November 4, 2008 8:42 AM

This is my second try. Please cancel Google from my home page.

by nelson November 4, 2008 8:44 AM

Do not want Google. Take me off please.

by nelson November 4, 2008 8:44 AM

Note that, by the time he mentioned making a “second try,” he had already posted three comments. We cannot tell whether he did this wittingly, or whether something in his software did not provide confirmation that the comment had been posted. There may also have been delays in transmission of the confirmation. In any event, “taking off Google” is not something that would get done through posting on this blog.

Nelson was not alone in requesting that someone at this website “cancel Google” for him. Another person who signs “Frank” (and lists his phone number) writes “Somebody put google on my computer and I do not want it. how do I remove it.” Another commenter writes

I can not get google off my home page, I let a friend use my computer and now every time I turn on my computer google shows up. I want to cancle google being my home page. thank you!

Several other people noticed these comments and wrote several statements identifying them as errors. These statements label people like Nelson or Frank as ignorant (or worse):

I can't believe how many stupid people are out there! I mean, just because this page came up for googling “cancel google” doesn't mean it will cancel your google. Anyway, you don't subscribe to Google.

It is not clear to whom this is addressed. The second and third sentences are addressed to “you” who misread a “page,” and who does not understand how Google works, while the first sentence makes a more general address. Still, the overall comment makes the most sense if it is read as addressed to “the knowledgeable.”

Another commenter writes:

Put down the technology and step away from the PC. You are clearly underqualified to use such equipment and would benefit from a large dose of Clue™. Why bother understanding and designing interaction when morons ultimately use it? *sigh*

Other people attempted to instruct Nelson or Frank on how to accomplish the desired technical task:

go to config, and then to software...than remove it from the list...and google toolbar is gone... Right click on the google toolbar, and untick next to “Google Toolbar”⁴

We do not know what Nelson or Frank did with these comments, or even if they read them; our focus is on activities made public on blogs, and no evidence of further actions from Nelson and Frank are available.⁵ However, what we *are* able to see in these comments and responses is vivid: the labeling of Nelson and Frank's earlier statements turns into what Garfinkel once called "degradation ceremonies" (1956). This is one possibility for interaction on these blogs; but other things can happen, as is revealed in our next case.

A more complex case: Co-opting a blog

On the Google thread, the blogger made active efforts to control the discussion, deleting and mocking comments. Between his deletions and the jokes and noises of outrage from commenters who agreed with him, the discussion remained predominantly on the side of the blogger. But, sometimes, a new order is constituted in the complex interaction between a blogger's initial statement of purpose, the responses commenters then label "in error" on the basis of how they have read the statement of purpose, and the possible collusion of the blogger.⁶

On February 2, 2002, the blogger at lemonodor.com posted an entry initiating a new thread:

Paul Graham's *On Lisp*, always in high demand and yet tragically out of print for some time, is now online. [Comment #1]

The word "online" in that phrase links to an online version of a textbook about the programming language LISP. This statement by the blogger did not receive any response for more than a year.⁷

Then, on February 23 2003, someone posted the following comment:

how do i get rid of my lisp i dont want it no more please help. [Comment #2]

This statement, too, does not see a response until several months later. By September 2003, more comments get posted. They continue to interpret the word "lisp" in the lower-case, speech pathology sense. And they begin specifically referring to specific earlier messages:

Does anybody have advice on how a lisp can be corrected while singing and recording. My lisp really is not that bad while speaking, but is noticable while i sing. Digital recording studios have picked my lisp up while recording. Is there a different therapist for people singing with a lisp? Thanks a lot [Comment #41]

Despite the dearth of information on speech impediments in the blogger's initial post, commenters gather and generate information and additional relevant questions about lisps, posting them to the thread where they subsequently remain available for all further commenters:

Ok heres some ways to get rid of it. U kinda smile and put ur tounge up a lttle above ur teeth. Or u can have a messed uo tooth, or chiped which made mine worse. Braces give u lisps to. And i have a lisp i practice. Im cool at my shool and when people make fun my lisp i just act gay and make them laugh as a joke, or say i dont care. Or just talk to ur docter to see wuts wrong with ur teeth.[Comment #61]

does anyone know if haveing a big tongue makes a lisp? i have a HUGE tongue(and people have pointed it out to me) and i stick my tongue out whenever i say my S's. i have tried keeping it in, but it makes a KKKsssss sound when i try. [Comment #75]

Most people's lisp can be FIXED. Though they can be fixed in different ways depending on what type of lisp you have. For all you people who know you have a lisp because of dental problems, all you have to do is get your dentist to use a filling (sorta like artificial teeth), to cover gaps or whateva between ur teeth. You can get this done at any age.

For everyone else who lisp because they are used to it, all you have to do is go to a speech pathologist, and eventually your lisp will be reduced and probably disappear as you get used to talking the new way.

Go to this site for info about lisping and how to treat it:

http://members.tripod.com/Caroline_Bowen/lisping.htm

Good luck ppl.[Comment #85]

Solutions to lisping suggested by commenters range from the physical, to the instructional, to interpersonal workarounds. Commenters respond to each other, affirming each others' experience or amending each others' suggestions:

hey ,this kinda sounds like lisp anaonymous or something. but i totally feel your pain. iv had a lisp for a s long as i can remember. but really...not to be mean..... you guys are all complaining, but there are easy ways to get rid of them. im 14 now and have been in speech therapy at my school for a little over a month. i thought that id be imbarressed about it but no one knows. sure you see different people in there, but you dont tell anyone to respect their privacy, so they dont either. so i encourage all of you to join. and STOP COMPLAINING snd do something about it. [Comment #87]

r u sure thts th reason tht ppl have lisps? bcoz they're tongues r 2 big 4 their mouth? i thort it woz 2 do with the alignment of ur upper n lower teeth...? im 14 n i have a lisp... [Comment #172]

i know how everyone here feels but the only way to get rid of a lisp is to go to a speech therapist even if your really embraessed telling your parents. I tried looking for an answer for 4 years online and it didnt work. I tried everything from watching people's mouth as they talk and avoiding s words. i finally got so fruastrated that i broke down crying in front of my mom and she brought me to a speech therapist that helped me be cured!! wished i went sooner so that i could have enjoyed going to school but i guess eventually is better then never. heres the website i used that helped me find a speech therapist in my area.

<http://www.asha.org/proserv/> [Comment #225]

While comments like these pile up, there are dissenters. Other commenters insist that the thread must be about LISP, the programming language. They work at policing the site in the name of the blogger's initial intent:

Does anyone of you people sending comments have any idea what the original post is about ?! [Comment #115]

A comment which stated "This website doesn't actually concern lisps as speech impediments." is signed "Stop abusing this site" [Comment #53]. Others suggest where other forums could be found:

While I feel the pain of the majority of posters, this Weblog entry is about a Programming Language called "LISP", not the speech disorder!...

I'm sure there are many forums on the web for Lisp Sufferers, so I wish you luck.

This place seems to have a forum for such issues

<http://groups.teenhelp.org/> [Comment #120]

The policing comments had almost no impact on the ongoing accrual of additional speech-impediment comments. As Figure One illustrates,⁸ most of the policing comments are bunched together. They do not trigger a return to LISP. Overall, out of the 248 comments in the thread, only two mention LISP the programming language without mentioning lisp the speech impediment as well. A single question "I am looking for a good web deployment of lisp [sic]. What do people recommend lately?" [Comment # 131] may or may not have elicited a subsequent comment which could be taken as an answer: "I'm using two lisps [sic]: CMUCL (at home) and GNU/CLISP (at work)...." [Comment #145]. But this apparent response is posted two months and many comments later, and it appears to turn into a joke about the politics of programming languages:

...And I feel fine with it.

You shouldn't feel bad just for using a Lisp. Other people have it worse. Think of all the Java programmers and PHP users. [Comment #145]

Other comments are also phrased as jokes about speech impediments, jokes that require some insider understanding of LISP programming:

I'm curious: How many lisp programmers have trouble pronouncing 's and 'z'?

Personally, I'm still learning lisp programming, and I've never had a lisp in my speech. [Comment #129]

I also got a lisp damage, my Pascal labs came back with comments about lisp damage. Just because I like recursion. [Comment #133]

In a few cases, LISP-savvy commenters performed the kind of status degradation we documented earlier:

wow.....lol.....this is sad.....if only people actually clicked the links, or read CERTAIN COMMENTS before talking about their speech impediments..... [Comment #125]

Indeed the comments are fascinating. It would seem like dyslexia and lisp go hand in hand... :) [Comment #128]

Compared to the rest of the corpus of contested comment threads, the insulting comments on this thread were mild. But they are still interesting as they highlight several not-so-obvious properties of blogging. As Figure One illustrates, the frequency of comments stating "this is not about lisp and you should know better" far outstrips the frequency of comments specifically about the programming language. Those interested in LISP continue to visit the site, but they are now in the position of onlookers, if not lurkers or voyeurs. They may attempt to police the site, but they do not control it. A new order had been established, partially due to the sheer number of comments about lisp. One could imagine programmers might have reclaimed the thread simply by posting technical questions and answers about LISP. They did not. The most powerful act in the constitution of the new order would be the one performed by the ostensible author of the blog: as the administrator of his site, he could have deleted all lisp comments. He did not. In effect, if not in explicit intent (since there is no public statement of his motivation), he agreed with the one commenter who, while acknowledging that this thread ought to have been about LISP, wrote that it should remain about lisp:

Leave it alone. Everyone here seems to have created a cute little supportive community. It might not have been the original intent, but what resulted is cute and worthwhile... [Comment #119]

The blogger, by not deleting the comments, gave his support to the lispers.⁹

As we mentioned, such moments of thorough reconstitution through cooptation are rare, but they are the moments that highlight what is always the case: maintaining the meaning of a conversation, or the knowledge on which it appears to be based. In essence, this is an ongoing process requiring constant correction through instruction, debate, justification, and deliberation.

The reader, the machine, and the crowd

We started the paper with a call to go beyond simple models of education into computers, the Internet, and social networking software. It is a major error to consider education to be a matter of an expert teaching the ignorant in a way that is most efficient for the ignorant to learn. Not only is this wrong for philosophical and humanistic reasons, it is wrong for social scientific reasons. Everyday life is not divided between those who know and those who do not; it is not united by the sharing of old knowledge. Rather, as we have shown in building on extensive research in other fields, everyday life is the setting for the constitution of the knowledge that is to count as knowledge for the present, as well as the challenging of this knowledge. This process can lead either to reconstitution of the past, or the production of new forms. These are

fundamentally educational processes precisely because they concern ongoing deliberations about knowledge, including the methods to find out new knowledge, or spread it further.

New technologies are a particularly good place to examine these processes both because they are so public and because learning and teaching about them remains almost fully beyond the reach of state-controlled institutions. Almost no-one imagines, learns, or teaches the new technologies in school, and there is little legal framework to establish what there is to know, or who is to teach it. As Varenne argued against much misconception (2009a, 2009b), most education into what is most important about modern life also proceeds outside state controlled institutions. Health matters, religious matters, the political consequences of scientific developments, etc., all get discussed on an ongoing basis that always escape those who claim authority. Like bloggers trying to discuss LISP, experts on health, religion, and science face people who would rather discuss lisping—that is, people who would discuss matters quite tangentially related to what the experts think ought to be discussed, or how it should be discussed. Depending on the legal or political framework within which they operate, experts may struggle with non-experts. Health professionals complain about “non-compliance.” Religious leaders (including those pushing atheism) fear their proselytizing is failing. Computer interface designers throw up their hands at users who “misuse” their software. Scientists wonder how to get people to accept their views on, say, evolution, or global warming.

In conclusion, we would like to develop briefly another correlate of our decision to interpret the work we document people performing on an ongoing basis as ‘education.’ In the social scientific literature in general, such work is treated as a matter of cultural change, from state A to state B, with ensuing confusion among the old timers. In an alternate tack, ethnomethodology approaches ongoing instruction as an aspect of the ongoing reconstitution of social orders that are always in need of what conversational analysts call “repairs” (Schegloff, 2000). New challenges always enter everyday life, and not only in the form of new technologies. Much of the work performed is a matter of repairing and thus reconstituting what can then remain the status quo. We insist, however, that these are matters that do not just ‘happen.’ They easily get taken out of the taken-for-granted, or shared, and trigger complex meta-communicational deliberations. These are the deliberations that we call to the attention of social scientists, as well as policy makers.

Social scientists have a long history of tracing the altogether unpredictable consequences of the entry of new objects into established populations. Salisbury told us about what happened when the Siane of New Guinea first gained access to steel axes (1963). Peltó wrote about snowmobiles among the Skolt Lapp (1973), Aporta and Higgs about GPS devices among the Inuit (2005). In every case, the authors mentioned that at least some of their people did discuss the wisdom of the changes, their consequences, and the future. We would have made much more of these discussions. Similarly, we would emphasize ongoing education as an essential aspect of the development of capitalism and industrialization. A particularly well-documented study shows the wide variety of issues which the development of new mechanical weaving looms produced for the entrepreneurs building factories in the early 19th century, their foremen, workers, etc. (Wallace, 1978). Those involved did not just have to “learn” the new ways. They could not quite “teach” them, either. They first had to discover what these ways would be and how they might still be changed. Two hundred years later, as both capitalism and industrialization have evolved, the same fundamental matters are debated in every polity from the most local (familial or communal) to the most general (national or global) levels.

These are very general matters that are particularly salient in the online world. The movement from the initial appearance of a machine (say the first software allowing people to talk to each other across computers) to later versions of the machine (say the current software for e-mail, blogging, etc.) is an iterative process. Beginnings (“when I first logged into a computer”) soon disappear in a haze as new iterations require recasting. Learning (how to use a given) technology is useless and can even be dangerous unless one becomes aware that the very methods to find out whether something is possible, or whether one has achieved what one was trying to do, themselves change. Simplifying such processes into the problematics of teaching and learning

limits our understanding. Shifting to the problematics of everyday education should help.

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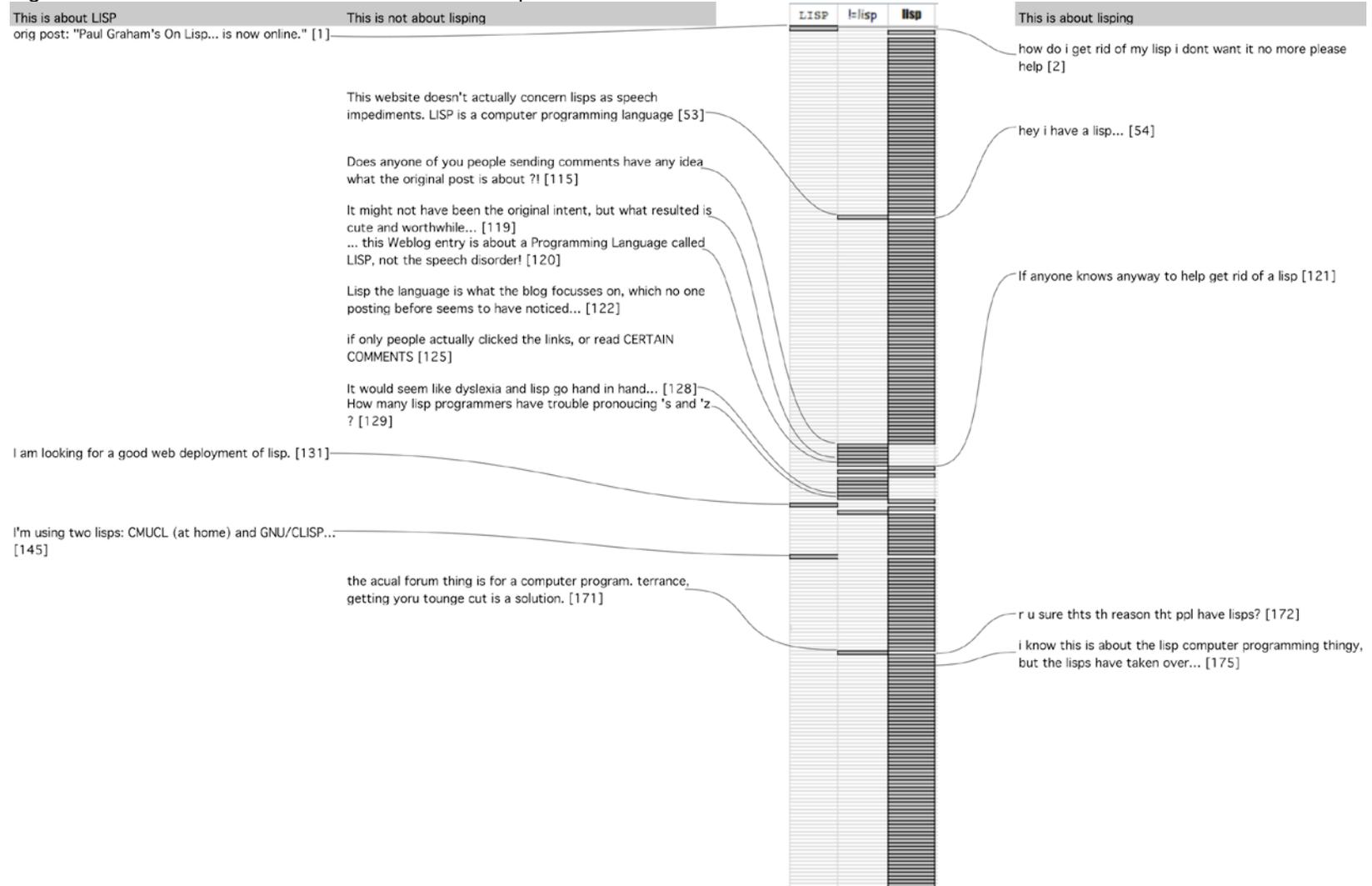
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Figure One: Orientation of comments in the LISP/lisp thread



1 The authors wish to thank the bloggers whose materials appear in this paper, as well as Matt Haughey and Jessamyn West for their assistance in working with the MetaFilter community and identifying additional instances of contested comment threads. This paper builds on the theoretical framework developed by Hervé Varenne and his colleagues; original research regarding blogs is the product of Gillian Andrews's (2010) dissertation.

2 "Technical threads" in this case refers to requests from commenters that bloggers provide them with samples of computer code. This is a tricky distinction to make, considering that the main thread we will discuss in this paper appears on a blog which the blogger has designated as mostly about a programming language. The distinction lies in the fact that we are primarily considering the substance of the comment thread, not the original post. The thread on Lemonodor becomes a discussion of speech impediments. On the discarded threads, the commenters continued to talk about computer programming; just not in a way that the blogger approves of (generally, the bloggers in these threads viewed sharing examples of code as "cheating"). Because computer programming is a specific professional field, not a vernacular subject, and it would have taken further investigation specific to that field to understand the nature of the disagreement, threads about programming were set aside from the analysis described in this paper.

3 The intellectual roots of this approach include G. H. Mead (1934) and C. Arensberg (1981).

4 These instructions are not particularly clear, and may actually be based on a misreading of the situation: Nelson or Frank are not writing about the toolbar, but about the fact that Google had become their home page (as happens when one receives a new computer and installs Firefox: the initial home page is set to Google, and there is no easy instruction on how to change this, or that it is in fact possible to change it). It is also interesting to note that none of those who wrote the comments we quote considered the possibility that the problem lies with the software, and that the complaints might be aimed at Google engineers instead.

5 We can imagine that Nelson eventually found the information he needed and that he got a new home page; or that he decided to live with Google. His posting on the blog may have been a moment for Nelson to "learn" including not only how to reprogram a browser (the ostensible point of his search) but also how to find information about browsers (and this may have involved not only online efforts, but also communal and familial ones).

6 Other processes can also occur that lead to shift in the ostensible topic. Blog conversations almost always drift in ways that are not explicitly noticed.

7 We look at blogging threads in terms of the problematics of conversation analysis, though the extreme asynchronicity of blogging might make this appear a stretch. However, even in classic conversation analysis, temporality is of the essence, as well as the nature of the medium through which contact is established. As Andrews shows (2010), search engines are powerful mediating agents in blog conversations, allowing potential participants to continue blog conversations which may have lain dormant for years without any apparent consequences for the delay.

8 In this figure, each comment in the thread was coded as either being about LISP the programming language, lisp the speech impediment, or as not about lisp the speech impediment (!=lisp). The entirety of the thread is represented here, with each grey, outlined bar representing an individual comment, and the columns representing each of these camps. Quotes used in the paper are called out and excerpted here, as well as other comments around a switch in the discussion from lisp to !=lisp, to indicate how easily commenters changed the topic without much heed to the opinions of other commenters.

9 This negative act of not deleting statements marked in error opens important questions about the "ownership" of blogs—and actually of all conversations. The ostensible owner of the blog

where the Google thread appeared brings out this problematics when he writes: "This page now shows up as #1 for "cancel google". I initially deleted all comments related to that but eventually found it so amusing that I had to let them through. I get a chuckle out of the "don't be evil" mantra and then reading these comments" (Kevin Cheng <http://okcancel.com/archives/link/2004/09/google-answers-hci-phd-program.html>)
