Whatchanade? Rapid Language Change in a Private Email Sibling Code

Charley Rowe  
The University of Cyprus  
University of Hong Kong

Abstract

This study reports on a case of rapid change in a private language code developed by two sisters. The code’s beginnings as a spoken family code did not result in much development. Only years later when the sisters began using the rather idiosyncratic and inconsistent code in emails to each other did it begin to achieve a degree of structural stability. The social and technological aspects associated with email facilitated this stabilization, allowing the code to develop both pragmatically and structurally over a very short time. This case has implications for the nature of linguistic change in intimate and other intensive communicative situations, as well as for the potential role of technological mediation in accelerated language change.

Introduction: CMC and Language Change

Despite the increasing cumulative age of computer-mediated communication (CMC), few studies have addressed the topic of language change in the context of CMC. Those that have broached the topic have referred mainly to email, since email—unlike most forms of chat, whose transcripts must be deliberately saved—by default is archived, leaving behind a persistent trail in the form of a record that can be studied, analyzed, and quantified. For this reason, email data are well-suited to the study of language change.

The first scholar to discuss email and language change was Baron (1984). While highly intriguing, several of her speculations—some evaluated empirically by Herring (1998)—have not become realized. For example, Baron predicted an increase in stylistic convergence, but Herring (1998) showed that the more experienced users in her 11-year longitudinal study made extensive use of stylistic variation when using email (see also Crystal, 2001, p. 15; Herring, 2003). While the sisters in the study described in this article tended to converge toward a common style, they also toggled between codes as the topic, message purpose, and/or social dynamic required. Moreover, contrary to Baron’s prediction that email would come to influence spoken language, the code developed by the sisters in this study does not extend significantly past the email environment; and contrary to her prediction that email would influence users to be less ‘social,’ the sisters’ code shows an increase and promotion rather than a decrease and demotion with regard to social “bonding.”

A fundamental question is whether properties inherent in the medium influence change in the language used over email. One way to test this proposition is to hold the speakers constant, while varying the medium. The situation described in this chapter provides a natural context in which these conditions obtain. Specifically, the chapter examines the influence of email on linguistic change in a private code shared between two sisters, which I refer to here as the sibling code (SC). This code, which originated in spoken interaction, evolved rapidly over four months when it began to be used in the email medium. During this time, the code’s development showed marked increases in its degree of linguistic and stylistic sophistication (Rowe, 1996, 2001).
Using data collected from the sisters’ email correspondence, I analyze the stages of this evolution, proposing that the medium’s physical and socio-psychological properties contributed in important ways to the sibling code’s accelerated development.

**Background**

**Informality in Email**

Research has shown that when the domain is held constant, email writing tends toward a more informal style than other written (i.e., “hard-copy”) correspondence (see, e.g., Cho, Part I, this issue). Stylistic informalities often intrude even in more formal email correspondence—rendering its style conversational, albeit typically less so than in synchronous chat (cf. Werry, 1996). This can be attributed to the combination of spoken-like and written-like properties of the medium itself. For example, email expects a rapid turnaround time (and thus has a “demanding” nature) relative to traditional written modes (Maynor, 1994). The combination of this speech-like rapid turnaround with the written-like “anonymity” factor (due to the separation of speakers by physical space) results in an environment that encourages conversants to lower their guard (Guinell, 1999; Kiesler, Siegel, & McGuire, 1984; Mihalo, 1985).

Yates (1996a, p. 82) suggests that users who anticipate seeing conventional written texts are “challenged by the dynamic, interactive and interpersonal forms that CMC takes,” and the style of their messages reflects this psychological experience. For example, emailers frequently use certain spelling and punctuation techniques (including emoticons) in order to model their writing style after spoken language (Maynor, 1994), and to compensate for the lack of paralinguistic cues and gestures. To the extent that barriers are lowered in the process, email becomes more akin to journal writing; it is "soul-to-soul" rather than face-to-face (Guinell, 1999).

For these reasons, language used over email has been called a hybrid of written and spoken genres and also of formal and informal registers (Baron, 1998; Cho, 2010; Rowe, 2001). However, unlike most written media, email can serve effectively and efficiently as a dialogue device (Lan, 2000). Moreover, it is often a mirror of the writer’s spoken style (Davis & Brewer, 1997), and as a result, email can reflect the personality and mental state of the writer: playful, cautious, harried, etc. (Danet, 2001; Herring, 2004; Rowe, 2001).

**Language Play in Email**

At the time the data analyzed in this study were collected, in 1996, email was still a relatively new medium, with few strict conventions and considerable fluctuation in norms. Ferrara, Bruner, and Whittemore (1991) suggested that because early CMC was unnormed, users’ styles were “acquired during use from other users” (p. 10). It is logical, then, as Cho (Part I, this issue) notes, that “in the absence of strong norms…‘idiostyle’…will be more prevalent.” This stylistic “loosening” can foster creativity: Liberated from the bonds of grammatical rules and format conventions, early email users were free to play with their language and brand it as something of their own making.

Further, it has been claimed that CMC allows individuals to create and assert new social identities for themselves, as well as fictional worlds in which to play (Poster, 1990; Yates, 1996b). Relatedly, new linguistic situations call for new registers (Brudner, 1977; Cherny, 1999;
Danielewicz et al., 1996; Ferrara et al., 1991); thus it is not surprising that speakers engage in linguistic play when they are free to construct their own experience: They converse more, expand their linguistic repertoire, and invent new elements of linguistic ritual (Danielewicz et al., 1996). Accordingly, it has often been claimed (Danet, 2001; Danet et al., 1997; Herring, 1999b; Rowe, 1996, 2001; Werry, 1996) that textual CMC is a medium that lends itself to playful expression; thus users’ “cutting loose” in this medium and developing new registers is to be expected. In fact, Constance Hale (1996), in her *Wired* style manual, actively promotes “unruly” linguistic behavior in email:

We encourage you to...welcome inconsistency, ...treat the institutions and players in your world with a dose of irreverence. Play with grammar and syntax. Appreciate unruliness. (p. 96)

When even the casual user of email is encouraged to be freed of the stylistic bonds of traditional writing, the frequent or heavy user may fully exploit email for its entertainment value, and email itself may become ‘game-like.’ Because email messages are less likely than turns in speech to receive feedback, participants in casual online settings may expect (or at least appreciate) humor from their interlocutors in order to keep exchanges interesting; this, in turn, is more likely to lead to lengthy exchanges.

When it is used as a medium for humor or for linguistic performance, email can have the additional effect of creating in-group solidarity (Baym, 1995; see also Rowe, 2001; Schnurr & Rowe, 2008). When the sisters in the present study discover that they can "bond" over email using humorous renditions of a family code, the frequency, duration, and level of creativity of their conversations increase dramatically. The use of email appears to have been the only change in the environment to have triggered this shift.

At this point, a question arises: Why should email be more open to playfulness than oral language? After all, spontaneous spoken conversation is generally informal, and it lacks many of the prescriptive rules that govern most writing. On the one hand, oral language is ephemeral (Chafe, 1985); after it is uttered, it disappears into thin air and can only be recaptured through speaker or addressee memory. Written language, on the other hand, creates a record that can be retrieved at any time, reviewed in full, and inserted in written responses to other texts. Email, unlike traditional writing, provides a convenient conversational tool—namely, the “include previous message” or “quoting” feature available in most email software packages (see Herring, 1999b; Hodsdon-Champeon, 2010; Rowe, 1996; Rowe 2001; Severinson Eklundh, Part I, this issue). This feature allows the respondent the option of including (parts of) the previous message in the response, to remind the reader(s) of what was said before. If both participants use the feature without exception, the entire message history is included in each mailing. The result is that the email exchange has what Herring (1999b, n.p.) terms the “illusion of adjacency” and is thus more conversational, providing the “memory” aspect to compensate for the lack of immediacy in email interchange.

It stands to reason that when conversants exploit both of these optional features of email (speedy turnaround and an immediately visible and persistent record of the previous message) to their fullest, the potential for meta-linguistic awareness (Cazden, 1976) is heightened. Metalinguistic
awareness, in turn, creates an environment ripe for language play; indeed, it is a prerequisite for language play (see, e.g., Herring, 1999b; Rowe, 2001). This is especially true when the participants already have a history of engaging in language play together, as do the sisters in the present study.

Finally, as Ferrara et al. (1991) point out, CMC, as a unique hybrid of written and oral language, is both interactive and editable. Oral conversations are difficult for speakers to self-edit; speakers must either plan carefully or repair, neither of which allows the speaker much room for quick-wittedness. One can edit written texts in conventionally-written or typed letters (or in word-processed letters), but because the time between the exchange of such texts is so long, interactivity is low. Email provides an opportunity to edit (promoting creativity) while interacting fairly rapidly (sometimes within minutes or even seconds), another combination of features that is conducive to language play.

**The Sibling Code**

*Origins and Oral Development: The Paternal Code (PC) and the Family Code (FC)*

N,³ the father of the two sisters in the study, is the source of the original paternal code (PC). He is Caucasian and speaks a lower-class dialect characteristic of his hometown, M., in the coastal plains of North Carolina, about 150 miles from where the sisters were raised. M.’s population was 27,000 around 1950. N was 63 at the time of the data collection.

The mother of the sisters (Z) is Caucasian and was also born and raised in M. She speaks a characteristically upper-middle-class version of the town's dialect; accordingly, she displays the salient features of r-lessness and some syllable-initial $t > d$ substitution characteristic of M.⁴

The older sister in the study (S1) was born in eastern North Carolina, but moved with her parents to western North Carolina during her early childhood; she was 42 years old at the time of data collection. The younger sister (S2) was born in western North Carolina, where she also was raised; she was 34 years old at the time of data collection. Both sisters speak acrolectal western North Carolina natively. Both sisters have college degrees. S1 holds a professional position at a high administrative level of a public agency; S2 holds a medical research position at a post-secondary institution. There are no other siblings. The sisters worked 30 miles apart and lived approximately 150 miles from each other at the time the emails in this study were exchanged.

Although the family relocated to western North Carolina when the parents were in their twenties, the parents' speech, in particular N's speech, is still strongly characteristic of the town M. and of his socioeconomic class. Because he was raised in a different dialect region and in a different socio-economic class, N's dialect differs significantly from that of the two sisters S1 and S2. Specifically, N's idiolect is strongly marked with certain idiosyncratic and regional expressions, chiefly discourse markers and other special expressions, and reflects no significant influence outside of the dialect community and family he grew up in.

When N married Z and had children of his own (the sisters in the study), his became the minority gender in his family, and lightheartedly referred to himself as “overruled” by the females in the family. Possibly because of N’s “overruled” status, and apparently in rebellion against her father, S2 parodied her father’s lect, the paternal code (PC), when she was approximately eight years
old. Typically, pet phrases produced by N in the context of disciplining his children provided the basis for the parody. This situation provided a ripe opportunity for S2, the younger sister, to create a "dialect caricature." S2’s parody of the PC is stage IIa in the development of the code in Table 1.⁵

S2’s sister S1 and mother Z eventually began to parody the PC as well. According to S2, these parodies reflected S2’s rendition, with no modifications. This is stage IIb. Later, N himself began to parody the others’ rendition of him. When he did, he made minor modifications by exaggerating the features of his own idiolect that S2 had parodied; this is stage IIIa. Thereafter, S1 and S2 used the stage IIIa code, adhering to the father’s new variants; this is stage IIIb. The mother, Z, tended to remain at stage IIb, while S1, S2, and N usually used the stage III code.

The family eventually began to weave other parodic variants into the stage II/III code which reflected family bonding, events that the family had shared together: Archie Bunker phonology and phrases (from the television series All in the Family that aired in the U.S. 1971-1979), variants from a family friend’s performance code,⁶ and variants from relatives and others living in M.

<table>
<thead>
<tr>
<th>Participant(s)</th>
<th>Speech Type</th>
<th>Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father (S2, S1, mother)</td>
<td>Original dialect-idiolect (father); Paternal Code (PC)</td>
<td>I</td>
</tr>
<tr>
<td>S2 (father, S1, mother)</td>
<td>Parody of father’s speech</td>
<td>IIa</td>
</tr>
<tr>
<td>S2, S1, mother (father)</td>
<td>Parody of father’s speech based on S2’s parody</td>
<td>IIb</td>
</tr>
<tr>
<td>Father (S1, S2, mother)</td>
<td>Parody of S2’s parody of father</td>
<td>IIIa</td>
</tr>
<tr>
<td>S2, S1, father</td>
<td>Parody of father’s parody based on S2’s parody</td>
<td>IIIb</td>
</tr>
<tr>
<td>S1, S2, father, mother</td>
<td>IIb or IIIb code, plus external features (from tv characters, friends, extended family etc.) Family code (FC), orally as well as via fax</td>
<td>IV</td>
</tr>
<tr>
<td>S2, S1 (in email context)</td>
<td>Family code via email plus additional modifications = Email sibling code (SC)</td>
<td>V</td>
</tr>
</tbody>
</table>

Table 1. Stages of code development (with audience members indicated in parentheses)

The added bonding variants made the code structurally more complex. For example, there are lexical items with medial /er/ that are borrowed from the Queens, New York dialect of All in the Family’s Archie Bunker (e.g., hoit ‘hurt,’ hoid ‘heard,’ woik ‘work,’ woid ‘word’). Other Archie Bunker variants overlap with the t->d of the PC (e.g., the function words and articles da, dat, dis,
deze, doze, dere, din'). Lexemes with final /er/ are associated with an aunt living in M. (e.g., thaya 'there,' prepaya 'prepare'); words with medial /or/ are associated with a cousin in M. (mawnin 'morning,' bawn 'born,' gawgeois, etc.). A pet phrase (dot's troo) was borrowed from a family friend’s performance code; its initial th-> d (dot ‘that,’ dere, din, da, etc.), as with the Archie Bunker variants, is consistent with the PC.

The use of the stage II or stage III code with added family bonding variants comprises stage IV in the development. This family code (FC) is an insider code that is contextually restricted to performance speech or speech parody. As expected in an in-group code, the FC is characterized by idiomatic phrases (as seen in (1) below) and reduced forms (Bernstein, 1971; Sapir, 1921; Gumperz, 1982). The sisters estimated (personal communication) that the FC comprised less than 10% of their spoken communication with each other prior to their interacting over email. According to S2, the FC typically used only certain idiomatic phrases of the PC:

(1) FC:

Ya playans been chainged, sistah 'Your plans have been changed, young lady!'
I can't beleeb dat 'I can't believe that!'
I mane dat tang 'I'm serious about that!' (lit. 'I mean that thing!')
I'll tell ya one tang right now 'I promise' [warning] (lit. 'I'll tell you one thing right now!')
Whatcha nade? 'What’s up?' (lit. ‘What do you need?)

The FC phrases, as described by S2, were woven into the sisters' oral exchanges in very familiar, informal situations. The FC as it occurs in the sisters’ conversations at this stage is idiolectal and “decorative;” as such, it seems to constitute more a bricolage than a lect. There was no rule governing independent phonological segments that were not part of special PC phrases of the type in (1).

The sisters reported that when they used the FC with interlocutors outside the immediate family, translations or interpretations for some of the FC's expressions were necessary. In other words, non-family members were out of the loop, lacking common ground and background knowledge necessary to interpret the FC variants (see Gumperz, 1982), either in their literal/original or their figurative/evolved use. This is typical of private languages (Vygotsky, 1934/1986, p. 248; see also Rowe, 2001). Outsiders’ difficulty understanding the code began at stage IIa.

The Fax Period

The fax period (November 28, 1995 - February 16, 1996), during the sisters’ adulthood, represents a stage intermediate between the FC (oral) and the SC (email). During this period, S1’s email account was not yet established, and S2 could not conveniently access her own account, so the sisters relied on fax as a way to communicate daily to avoid “telephone tag.” When the sisters used the FC over fax, suddenly the family code—which had previously occurred only sporadically in their spoken discourse—was forced to acquire a graphemic system; that is, it required some type of spelling conventions. Because faxes are generally regarded as complete, independent documents that usually just happen to be originally composed using word processing software (with the implication that their prescriptive norms mirror those of other word-processed documents), they show few of the linguistic effects typically associated with
CMC (Rowe, 2001). Moreover, both sisters worked in offices where the fax was centrally located, with multiple users, so it is possible that privacy issues may have also played a role in the sisters’ early conservative use of the code (Rowe, 2001). In the sisters' brief fax correspondences, the FC was restricted mostly to opening and closing greetings:

(2) 12/1/95
Listen, sistah…
[…]
G’s package came in the form of a pick-up slip at the PO. So, I’ll go by there in the AM and get it for her. There was a box of checks in the mailbox and could have taken up some of the needed space.

So, at 3:30 you’ll be major on the brain! Let me know ASA you know!!! I’m getting positive “vives.”

Sooner or later,

E.

The Email Period (SC): Summary and Overview

The fax period ended on February 16, 1996, having lasted approximately two and one-half months; the email period began on January 26, 1996. Thus there were 21 days of overlap between the two periods while the sisters struggled with setting up their email accounts and finding convenient means to access them during the workday. When the sisters subjected the FC to email, new extensions arose and stabilized, as discussed in the sections that follow. This marks the emergence of the sibling code (SC), stage V of the code’s development.

Investigation

Data and Methods

The data—245 email messages—were collected from S2, who is personally known to the investigator, between January 26, 1996 and May 26, 1996. These emails were logged by S2, who did so habitually with her personal emails. The subjects communicated by email over the duration of the 4-month period without the knowledge that a study would be conducted of their correspondence. Follow-up face-to-face and telephone interviews were also conducted with the participants in the study as to their background, motivations, etc. I have chosen 3/26/96 as the date demarcating the major transition to a distinct sibling code (SC), based on the increase in frequency of code variants that visibly occurs in the documentation around this time.

To begin the analysis, the number of emails between the two sisters was tracked over four months’ time, and the relative frequency of email correspondence was charted (Figure 1).
Figure 1. Relative frequency of the sisters’ email correspondence over time

In the first month or so of email exchange, the density of FC/SC variants reflected the oral family code. As in the representation of the code over fax, the code elements occurred primarily in the opening and closing greetings, with a few elements occurring mid-message:

(3) 2/6/96

S1: You didn't say if you want me to forward D's email to you. Be glad to...just say the wued! [...] Gotta run...hectic schedule today.
   Ah-ite. Beh.
   Your much-better-these-days-but-still-warped...Sistah

(4) 3/1/96

S1: Well, thank God you finally sent some mail...I failed to get my address (e-& PO) and faxes off of my computer and have nowhere to send anything I wanna say. I asked ya mudda, but so far she hasn't sent. Didn't have my mail up until Tuesday, anyway. So send me a fax [...] so I'll have ya numba!...Gotta run...gotta prepayah for Wisconsin!
   Lub, Ya Sistah

(5) 3/5/96

S1: Teh ya one ting rite now...I'm gonna buy one of those yuppy roll-along luggage tings today; connecters in Michigan and Chicago [...] you bet!...Anyway...won't be
at the office this week after today; so any mails, faxes, etc won't be responded to til Monday...Let me hear from you today.
Ya sistah's gonna get herself a toddy on de plane dis time, teh ya dat rite now!
Love, E.

(6) 3/12/96
S2: Ight! Let's set a time for Sat.- whatcha thank? I could come after aerobics, which would put me there about 3 o'clock, 3:30 la-test. Or better to skip it? Don't know if I communicated correctly, now that I read your msg. [...] Wep. Back to my headache!

By late March, tokens of the code are more frequent (approximately 130 per 100 lines of text):

(7) 3/29/96
S2: Hey FIBE!!!!!
In uniquely Fibe fashion, I notice you didn't answer my question re: the nail parlor search!!! Well???
I've got more on my plate than I know what to do with: [...] support wib yo daddy [...] yo daddy is one ub dem! [...] support for my buddy and colleague R., the smoking menopausal study?! [...] aerobics. AAAAAAH!
bye, my fabe fibe!
LUB!
Ya bizzy sista!
p.s. no tehhhhhm fa min!

(8) 3/29/96
S1: Girl, dare's alwa tehhhm fa min...ya make dat tehhm if ya hab to!
While I wuz ansring ya 2nd maeh, I had an application failure, so it was wiped out; didn't hab time to repeat. Still don't hab tehhm to talk. ...finally got some excitement!!
Beh
lub ya!
E.

(9) 4/2/96
S2: Hey! Dat was a shote may! Yo daddy didn't raise no quiet youngns, naeho! Have you communicated wib de parental unit yet???? [...] Hab day written you?

S1: Ya no, dare ah times when shote maze is betta dan no maze! Ya lucky ya got dat!

An increase in frequency of family code (FC) variants visibly occurs in the documentation after March 26, 1996, as shown in Figure 2. At this point, the density of the code within the email texts increases sharply.

To quantify this increase in code density, the lines of each email message were counted, and the number of sibling code (SC) instances was divided by the number of lines of text of individual
emails to derive a ratio of SC to non-SC email text. Then a running average ratio of SC to non-SC text was obtained and mapped over the 4-month period (Figure 2).

![Graph showing the change in density of the email sibling code over time.](image)

**Figure 2.** Change in density of the email sibling code over time

To summarize: When the sisters had been emailing each other for about two months (around March 26, 1996), the following two major effects could be noted:

(a) Increased frequency of email use. When email became convenient and easy for the sisters to use (as opposed to the often cumbersome nature of fax), their email use increased, as shown in Figure 1.

(b) An increase in incidence and thus density of FC/SC variants. With the increased frequency of email exchange, the density of FC/SC variants increased markedly, as shown in Figure 2.

**Analysis**

After two months of emailing, the sisters’ FC/SC variants were still being negotiated for common and frequent lexical items. The similarity of the variant forms suggests a negotiation for normalization in spelling to reflect pronunciation:
Some definitive shifts can be identified in the development of the sibling code. One type of shift is phonological (or rather: the graphemic representation of phonology), such as the generalization of some assimilation rules from the paternal source lect PC. Some shift comes in the form of lexical and morphosyntactic innovations. Another type of shift is morphosemantic, such as the decontextualization and subsequent semantic shift of function words and discourse markers. Each of these types is discussed below.

**Phonological Shift**

Table 2 shows rule generalization, through the loss of phonological conditioning rules, in the substitution of stops for continuants (th->t, d; v->b; z->d) from the PC to the FC/SC. Most SC variants are a parody of the PC. In the PC, these variants were conditioned by certain phonetic environments (e.g., word-final and medial v->b, as in *love (it) -*lub (it)*); in the oral FC, these were imitated as closely as possible (with fricative b). In the SC (email), the stop-for-fricative substitution is more fully generalized (e.g., not only medial and final, but also initial v->b, as in *very->bery*).

<table>
<thead>
<tr>
<th>Paternal Code PC</th>
<th>Family Code FC</th>
<th>Sibling Code SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>v-&gt;b word-finally before a stop; e.g., <em>beleeb dat 'believe that'</em></td>
<td>v-&gt;b word-finally before a stop; e.g., <em>beleeb dat 'believe that'</em> and between vowels, e.g., <em>lub it 'love it'</em></td>
<td>v-&gt;b everywhere: word-initially, e.g., *beleeb dat 'believe that,' bery 'very'; intervocally or between a vowel and /r/, e.g., *ebolb 'evolve,' lub it 'love it,' ebry 'every'; word-finally, e.g., <em>I'b 'I've'</em></td>
</tr>
<tr>
<td>Voiced th-&gt;d word-initially, e.g., <em>dat, dis</em></td>
<td>Voiced th-&gt;d word-initially, e.g., <em>dat, dis</em>; Voiced th-&gt;d word-finally, e.g., <em>wid 'with'</em>; unvoiced th-&gt;t word-initially, e.g., <em>ting 'thing,' tink 'think'</em></td>
<td>Voiced th-&gt;d word-initially, e.g., <em>dis 'this'</em> Unvoiced th-&gt;d word-finally, e.g., <em>wid 'with'</em> Unvoiced th-&gt;t word-initially, e.g., <em>tink, ting</em> (same as FC)</td>
</tr>
<tr>
<td>z-&gt;d restricted to the word <em>bidness 'business'</em></td>
<td>z-&gt;d restricted to the word <em>bidness 'business'</em> (same as PC)</td>
<td>z-&gt;b word-finally, e.g., *ib, wub 'is, was' (S2 only) l-&gt;b word-finally, e.g., *whibe 'while' (S1 only)</td>
</tr>
</tbody>
</table>

Table 2. Rule generalization: Substitution of stops for continuants
Some rule generalization seems to affect certain lexemes particularly strongly. The variants for ‘your’ and ‘with,’ which are particularly vulnerable (perhaps because they are high frequency words), are shown in Table 3. The choice between yo and ya is stabilized to certain lexemes (although the motivation for the choice is unclear). It seems that yo is lexicalized for yo daddy and some other nouns (e.g., yo immuno). By the late SC stage, ya has been generalized for other nouns. The rule for wid~wib is at first (PC, FC, early SC) phonologically conditioned. At some point early in SC, the variants indicate that the morphophonological conditioning rule has been lost. In later SC, at the initiation of S1 (March 11, 1996), wib is generalized to other, non-conditioning environments.

<table>
<thead>
<tr>
<th>Paternal Code PC</th>
<th>Family Code FC</th>
<th>Sibling Code SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule: ya before {a, e, C}; e.g., ya apple, ya egg, ya sista</td>
<td>yo~ya (3/13/96; 3/26/96; S1); yo daddy (3/1/96, S2)</td>
<td>ya sista, ya mudda; ya numba yaanga, ya woes, yo daddy; yo immuno (4/25/96, S2);</td>
</tr>
<tr>
<td>Rule: phonological conditioning (spoken)</td>
<td>ya mudda (2/7/96, S1); ya sista (3/1/96, S1);</td>
<td>Rule: Invoke yo (‘your’) for selected nouns (classification uncertain); invoke ya elsewhere.</td>
</tr>
<tr>
<td>‘with:’</td>
<td>yo sista (3/4/96; S2), yo SISSta (3/26/96; S2) [emphatic]</td>
<td></td>
</tr>
<tr>
<td>wib before labials (fine-wib-may ‘fine with me’; wib Barry); otherwise wid (wid Julia)</td>
<td>wib (FC and early SC)</td>
<td>wib more generalized (S1 and S2); wibout (4/26/96, S2)</td>
</tr>
<tr>
<td>Rule: phonological conditioning (spoken)</td>
<td>wib yo daddy (3/29/96, S2)</td>
<td>Rule: No condition; wib more generalized after 3/29/96 (S2 and especially S1, the initiator of wib)</td>
</tr>
</tbody>
</table>

Table 3. ‘Your’ and ‘with’

**Semantic and Morphosyntactic Shift**

Shifts in meaning, reference, and usage also occurred. With increasing frequency of use, certain family words and phrases became associated with meanings shared between the sisters:

11) whatcha nade ’what’s up?’ (lit. ‘What do you need?’) (spelling initiated by S1 per fax, 12/5/95)
   naeh ‘now’ (emphatic particle)
   yamudda (lit. ‘your mother’)

In the SC’s morphosemantic shift, discourse markers are strongly affected—possibly because these are directly linked to family experience. Such discourse structures became more conventionalized, resulting in shifts in semantic nuances and generalizations of usage, as shown in Table 4.
<table>
<thead>
<tr>
<th>Paternal Code PC</th>
<th>Family Code FC</th>
<th>Sibling Code SC</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>I'll tell ya one tang right now</em> [emphatic warning]</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>I'll tell ya dat ting rite now</em> [nonemphatic]</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>I teh ya dat ting rite now</em> [morphological blend, with deictic particle <em>dat</em>; some emphasis, but no mark of warning] (2/21/96; S1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**I teh ya dat ting rite now** [semantically vacuous; non-warning; unmarked for emphasis]

**naeh** [interjection, emphatic, warning, nontemporal] | Same as PC | Naya/naeh/naeho/naeho [interjection, emphatic, non-warning, nontemporal] |

(1) *can't b(e)lieb dat, naeh(o)!* 'I really can't believe that!' [emphatic] with intrusion of naeho particle

**Whatcha need?** 'What do you need, why are you calling? what can I do for you?' [telephone response after the caller has self-identified] | **Whatcha nade?** 'What's up? What's new?' [generalized greeting for telephone used by the receiver to the caller after the caller self-identifies] | **Whatchanade?** 'What's up? What's new? What's wrong? What do you think?' [general wh-particle; meaning varies] |

|  |
|  |
|  |
|  |

Table 4. Semantic shift of discourse markers

The two expressions *teh ya dat* and *naeh* have both undergone semantic emptying, as described by Eble (1996). This occurs when some words become clichés in the conversational context, and as a result, lose their semantic "punch" (Arlotto, 1972, p. 159)—a grammaticalization-type process which, according to Meillet (1921), is motivated by the expressive function of language. Taken a step further, as Arlotto notes (1972), emptying can result in the creation of a new category, in which the old word or expression is used in a semantically and syntactically different context. This is precisely what we see with the *whatchanade* particle:

(12) 5/7/96

S2: […] Ya wanna just do the bond ting *nex* fri. and kick outta bed the nex mawnin? Or whatcha nade? ([…] I’m just trying to find out whatchanade.)

(13) S1: […] I just figured we'd be close to C. and wouldn't have to get a late start Sat am. Whatchanade?

(14) S2: Or, you could let yamudda keep babies obernight an' let Axsh bring them in the mawnin. I nade dat a lot betta […]

(15) 5/7/96

S2: Ok, whatchanade.

The first instance of *whatcha nade* in (12) and the single instance in (13) show the lexeme’s use as a bare interrogative. Here the meaning is clearly not ‘What do you need?’, but something along the lines of ‘What do you think?’ The second instance of *whatchanade* in (12) shows the nominalization of the wh-lexeme. The meaning appears to be the same as the interrogative, but
with embedding, i.e., 'I'm just trying to find out what you think.' In (12), S2 chooses betta ('better') instead of mo ('more'), which indicates that the new meaning of the whatchanade concept (opinion or preference) is preserved, even though the wh-element itself is not present. In other words, nade here means 'like,' and cannot mean 'need.' Finally, the use of the marker in (15) with the meaning 'whatever' shows its extended use as a general wh-element. The example in (16), provided by S2, shows that the father N is not party to the new meaning of the particle; he interprets the wh phrase literally (PC ‘What do you need?’) rather than as a greeting (late FC/SC):

(16) S1/S2: Whatcha nade?
N: I need a lot of things.

The reference of the grammatical particles yo/ya underwent a shift in early SC for ya mudda. Originally, according to S2, N used ya mudda (PC) when speaking to his daughters to refer to their mother, e.g.:

(17) N: Do what ya mudda says, and hush!

S2 (FC stage) then transferred the lexeme yamudda to all environments to refer to her mother, whether talking to her father or to her sister, as illustrated in Table 5.

<table>
<thead>
<tr>
<th>Paternal Code PC</th>
<th>Family Code FC</th>
<th>Sibling Code SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>N's vocative reference to the sisters: Sista(h)</td>
<td>any vocative reference to the sisters: Sista(h)</td>
<td>any reference to the sisters: <a href="PC">x sista(h)</a>; gurl, gul, girl (borrowing from AAVE)</td>
</tr>
<tr>
<td>And reference to the mother, Z when addressing S1 or S2: Ya mudda</td>
<td>Yamudda refers to Z when used by S1 or S2 with N</td>
<td>Yamudda refers to Z when used by S1 or S2 with each other (this reference is “natural”; if there is reference shift, it is opaque)</td>
</tr>
</tbody>
</table>

Table 5. Shifted reference

The ya/yo identities originally had normal deictic pronoun reference (ya mudda='your mother,' yo daddy='your daddy,' ya sista='your sister'), after which they were shifted (yamudda='mother of S1 and S2,' yo daddy='father of S1 and S2,' ya sista='S1' or 'S2,' dis sista='I/me, the speaker S1 or S2'). By "shifted reference," I mean that the pronominals have become opaque, and the entire unit (pronoun + noun) lexicalized, such that they have become referring expressions for specific entities, i.e., for the parents of S1, S2, and the sisters themselves. By the late FC stage, according to S2, the father (N), the speaker of the PC, made errors in interpretation when his daughters used elements from the evolving FC:

(18) S2: What was yamudda like as a teenager?
N: I don't know, I wasn't born yet.

In example (18), N in his interpretation failed to switch the reference of yamudda from ‘your mother’ to ‘Mom.’ He clearly believed that the reference was to his own mother, rather than to Z (his wife and the sisters’ mother). In this instance, N’s misinterpretation resulted from his
adherence to the original compositional meaning of the phrase; he was not aware of its new lexicalized interpretation that developed between the two sisters in the FC stage. Similarly, a de-relationalized form *dis sistah* emerged over email (in the SC). The source was an observation by S1 about a recent *Lois and Clark* television episode:

(19) Did ya see our [super-]man shrinking da udder night? I was almost in tears when he wasn’t sharing his woes wib Lois. You can share ya woes wib dis sistah, Clark!

Here S1 used the phrase *dis sista* in reference to herself as a separate entity. S1 apparently construed *sista* as no longer relational, having deleted the pronoun *ya* and substituted *dis* ‘this.’ Since S1 was contrasting herself with Superman’s girlfriend Lois (who is not her sister), *sista* no longer means ‘female sibling,’ but rather ‘female,’ and with the addition of *dis* ‘this,’ it refers exclusively to the speaker.¹⁴

**Borrowings and Neologisms**

In the course of the code’s development, borrowings and neologisms became more common. Some examples are given in Table 6. For the sisters, borrowings and neologisms appear to be a way to further the creative “machine” in the code. Indeed, by extending the parody to all forms of grammar, the code becomes more complete. In this sense, it mirrors natural language creation, as typically seen in creoles, for example.¹⁵

<table>
<thead>
<tr>
<th>Paternal Code PC</th>
<th>Family Code FC</th>
<th>Sibling Code SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Few borrowings:</td>
<td>Lexical borrowings with medial /er/ are quoted directly in entire Archie Bunker phrases: Woik ‘work,’ woid ‘word’ (e.g., Don’t say dat woid!, I come home from woik…) Lexical borrowings (all from African American English) restricted to certain words, e.g.: jivin’ ‘jamming,’ stayin’ ‘residing,’ tell it! ‘Amen!’ Borrowing from family friend: dot’s troo ‘that’s true!’</td>
<td>All borrowings used in FC plus: -oi- spread into other instances of medial /er/; hoyt ‘hurt,’ hoid ‘heard’ Lexical borrowing from AAVE: vocative girl, gul Copula borrowing from AAVE: Zero-copula (You crazeh) “Invariant” be (it be a fibe) “Movable” –s (I DOES)</td>
</tr>
<tr>
<td>from child language:</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>I hurt mytef!</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Few neologisms:  
*boyfriennin* 'hanging out with a boyfriend'

Some neologisms: 
*crab-troo-tunnez* ‘crawl-through tunnels’ (innovation) 
*at this point, now, at this point* (reduplication of characteristic PC phrase *at this point*)

More frequent neologisms:  
*immuno-*, *immuze*, ‘immunization(s)’  
*9-baby* (youngest child of S1)  
*fibin’* (lit. “living,” i.e., ‘avoiding’)

Table 6. Borrowings and neologisms

**The New Code SC**

The code variants interwoven in the sisters' conversations in the course of email correspondence over two to four months' time came to form a definitive code, albeit an unstable and loosely structured one. The following data occur well after March 26, 1996, the date demarcating the emergence of a recognizable sibling code:¹⁶
(20) 4/15/96
S2: Hey Honey,

Thanks for the bonding time (those 6s will figure out a way to bond, now, teh dat right naeho!), and esp. for the fibe letter. it was really a help confidence-wise, and I know it took somewhat ub a sacrifice fo a FIBE to write it! Thanks, sista. ! Liked your intro about attitude majustent- that's the perfect intro fo such a talk! really enjo-ad bay-bez. (the only fighting really WUB in de lass fibe minit!). T.S. is prob mo evolbed dan iny 2 I know! she has become "overtly" honest (tough fo tooz!): like, she told me I really needed to wash my hands again to get the bike grease off! I was very impressed! I lubbed it! and de yunga wun is becoming much more sense-ub-huma-ful wib tings she disagree wib)...wep. tanks fo da tawks. lub dat sista naeho, teh DAT!
BEH! lub ya sista […]!

(21) 4/15/96
S1: I meant ta talk to BB bout da childrearin ting, but forgot to. I'll call her. Tanks fo da reminda, I need all ub dose I can get! Yep, joyed the bond'n time. De stained milk was good, too. Tanks! I did hab sum 2nd thoughts bout rebel in sum ub ma inna-mos taughts in da mae da udda day; but I figga yu ma sistah and ya need hep wib dose fibe tings fo ya korea (-good one, huh?) an I guess it woodunt hoyt when da 2 sistahs run up ona prob. Anyway, I guess one way to figga owt a fibe is to get him/her to anlize anudda fibe (dough it's probly betta not to teh him it be a fibe he's analizin! But cents I'm sooooooo evolved, it's ok fo me! Shoa am glad ya enjoyeed da babeez; day always come...home talkin bowt dare Aunt H.!!!!! Dare already lookin forwud to da nex trip. Keep me posted on da […] korea front. Peyut wants your "hard" address and I wasn't shoa I rememba'd it, so ya might wanna may him de street numba an all dat.
Take cayuh! Lub […] ma Sistah!!!!!!!!!!!!!!!!!!!!
Beh

(22) 4/26/96
S1: Que ese "UB"?
Mom is going at dis ting wib mo zest dan anyting I'b seen in a lawng time, gul. Personally, I can lib wibout goin and I AM tinking bout flying Valuejet, so I don't hab to be in de cah so long and put up wib all dat whinin fo 2 days up dare and 2 days back! Plus, we'll be too crowded...(Dat did it...enuff sehd!)
Lub,
Da fattest fibe ya know, gul!

By the fourth month of email correspondence, the SC seems to be fully integrated into the sisters' email conversations, as seen in the exchange of messages in (23):

(23) 5/7/96
S1: I had in mind dat we would sistah-bond ova dinna while W. is dribin to get girls. Dat would gib us probably 3+ hours. Whatchanade? I would gib ya exampas ub.
tings we could go in dat time but I'll leeb dat up to you! Dinna site is yo choice (cep fa Jacques')! Let's just ask Mom whether she wants to do cold plate smorgasborg(sp) or outside Lizbeh's. Both sound good to me!

S2: Or, you could let yamudda keep babies obernigh an' let W. bring them in the mawnin. I nade dat a lot betta.
Ya [...] SISTA!

S1: Whatchanade? Da babeez will go to sleep shortly after arrival; or, if not, W. can entertain them...Whatchanade?

S2: Wait a minute. Can W. not just bring them sa'm. at whatever time y'all would leave anyway? Besides, that would let them bond wid ya mudda an yo daddy. It would also solve the who-sleeps-wid-who problem. I KNOW you're not having a detwining problem!
Whatchanade about this playan?
Better here?
Better there?
H.

S1: [...] I can lib wib whatever. We'll definitely make da most ub da bonding time. You and I can eben go fa breakfass Sat am by oursef. Whatchanade?

S2: Ok, whatcha nade.
I should expect you at 6 then?
lub
sista

This stage V code remained, according to the sisters, chiefly email-bound, with almost no carryover into their spoken conversation.

**Domains, Context, and Accommodation**

**Domain and Context**

Domain and context determine when, whether, and to what degree a code appears. In this corpus, the use of the SC seems to be determined by the topic of conversation, as well as the email medium itself.

The context of the sisters’ email conversational exchanges directly and unequivocally affected the extent of use of the FC/SC. With the sisters, the topic of conversation, as it relates to the SC, is inextricably linked to their group identification (i.e., as sisters) and their desire to “bond” as sisters. The new variants can be said at the FC and SC stages to represent "high involvement" cues (Tannen, 1984). These elements have evolved to encode certain shades of meaning that only the users of the code understand, since it is in the context of their interaction that the meanings developed.
As expected given their relationship, personalized statements far outnumber objective factual ones. Not surprisingly, the sisters usually render highly personalized statements in the SC:

(24) 4/2/96
S2: DOT's TROO! rememba girl: she don't git mad when ya don't respond RIGHT- she jes git mad when ya don't respon! (ie, when you fibin')! BUT I did tink about de T.S. ting: It really WILL make her happy if you tell her that T.S.'s been wanting to do things...she'll like DAT, naeo! Plus, you probably now could "check in" wib her just to see whatcha nade. remember dat 2's don't HAVE to be in control (dat's 8's)- day just have to KNOW (in general, naeo, in GENERAL!).

S1: Web, my "lunch-time" is ober...See ya soon. T.S. wants me to ask you if they can come spend the Sat nite after this (the 13th). I don't tink it's for any special date; she just asked when they could spend wib Aunt H. again and I said, "When do you want to." So she came up wib dat day. Just let me know if their playuns hab bin chainged.

In contrast, in accordance with Gumperz' observations (1982), the two sisters tended to render objective factual statements (Chafe's (1988) "informational purpose") in Standard English in their email correspondence, depending on the degree of objectivity called for in the situation:

(25) 4/17/96
S1: Are you drawing parallels between you and Emily? If so, I think it's only temporary. So you don't like parties. [...] But, I've been wrong before (not often!)

Similarly, "heated" and highly serious topics are, like some of the sisters' objective factual discussions, carried out in Standard English and excluded from the SC domain. This reflects not only the "entertainment value" of the SC (and of much of email in general), but also the phenomena of divergence and social distancing:

(26) 5/20/96
S2: I don't mind if you quote me, but if you do, please quote me accurately [...]
S1: I did not intend to misquote you. I thought I checked each message before I " ".

However, some carryover from the SC is evident in the sisters' moderately serious discussions:

(27) 4/30/96
S2: [...] L. has been o-o-t @ a conference (which I knew), and A. wanted (as you know) to "proof" [...] before I gave L. his copy. So I only just gave L. his yesterday. I've promised A. to get back to him (A.) tomorrow to check. To contact L. now would mean email (no waiy) or telephone (no waiy in H!); so I'm having [...] mtgs. wib L. [...] very soon to discuss my memo and ideas. will hear tomorrow what A. has to report. BEH! gotta run!... ya S!
S1: [...] Sounds like your ducks are in a good row re: L. Just don't let him hide OOT too long! NO MORE EMAILS, TELEPHONE CALLS OR UDDER NON-FACIAL COMMUNICATION TO DAT FIBE! (Dis fibe is addicted and feels as dough she gets da emotional message across as intended; no?)...
Beh

Interestingly, moreover, the SC was easily adaptable for the two conversants in their email discussion of technical topics, a domain where technical jargon might typically be invoked. The sisters report that the FC/SC would not have been used in the following long excursus if the conversation had been oral:

(28) 4/26/96
S1: Da stupud ting bout da beurocracy is dat da organization doesn't make sense half da time. Here goes about dis ting:
- D. is a Department of da Gov't; it's leadership is Sec. Jonothan Howes (he works directly for Gov Jim)
- Two ub da Divisions under D. are E. and M.
- C. is a Section withing E.: Immuno was a Branch unda C. until 2 years ago when it became a Section in its own right...
- Part of Immuno's responsibilities is dealing wib vaccine preventable diseases (VPD)
- C. deals wib da udda diseases
- Day should be under the same Division...Immuno doesn't have a Surveillance Branch and relies on C. for statistical surveillance. It's a mess, gul!
- Dare's some hush-hush talk bout moobin Immuno back to E., but who knows? I don't tink dey want to moob back now (fa raisins I won't say...!)
Anyway, dats da first class ub D. 101.

The code’s use in moderately serious and technical topics shows its versatility, which appears to have expanded over time. This is an important event in the life of the SC, marking its stability: It is evidence that a code has become more stable when its use is extended (elaborated) to include more environments.

Accommodation

The code the sisters share and develop is based on a long series of specific shared background experiences; with this ‘common ground,’ a foundation is already laid for their communication. When emailing in code, each sister can assume that despite the code’s fluctuating forms, it will be completely comprehensible to the other. As a result, the code can develop rapidly and steadily, its mutation and expansion further facilitated by the sisters' frequent interactions over email.

Socio-emotional factors (e.g., bonding needs and solidarity)—as the sisters attest to in their communications—also promote the mutual convergence of personal styles that feed into the SC. This convergence (see Bell, 1984, 1992), in turn, seems to promote the proliferation of similar interchanges between the two sisters (as predicted in Tannen, 1984), which provides for increased convergence and more extensive language modification. Convergence is maximized by
the sisters' ostensibly conscious efforts to match each others' styles, as seen especially in contiguous message interchanges. In such examples, the density of one sister's SC text results in a matching density of SC text by the other sister. Similarly, individual variants (spelling and lexical choice) are frequently matched. In example (29), S2 initiates the form *plaistic*; S1, in response, subsequently uses the form *plaistic* instead of *plastic*, as in her first email:

(29) 5/2/96  
S1: [...] Just be selective in your shoe purchases! Buy them wider and softer if you can and absolutely NO PLASTIC SHOES!  
S2: [...] I "did not know that" about the plaistic – whatcha nade?  
I DOES buy soff nonfemalest of the female shoes, dough (you saw de ones I bought wichour caad!)
Whatcha nade about plaistic?  
S1: [...] Plaistic shoes gib bout as much as ya tight hatband, gul; tink bout it.

S2 initiates the use of the full-fledged SC in this exchange, to which S1 responds in kind. S1’s initial message contained no SC; indeed, she used not even colloquial language, but standard English, as shown for example in her use of elevated vocabulary like *purchase* instead of *buy* and *selective* instead of *choosy* or *picky*. But when S2 replies with an all-SC email, S1 responds in kind—in full SC mode, complete with a PC quote (the ruralism *tight hatband*), thereby creating an all-code message that contrasts markedly with the style of her initial message.

The more the sisters identified the code with solidarity, play, and family events, the more they could use the email genre—already a popular venue for language play—as a vehicle for the development of their special code. Accommodation—specifically, convergence—as seen in the previous examples, helped to accelerate the formation of the code: The use of SC variants by one of the sisters inevitably stimulated a "firing back" of SC variants in the other sister's response, which ultimately resulted in a mutual proliferation of those variants in the sisters' conversational exchanges.

Both the socio-psychological and the creative tendencies of email play a role in the formation of the sibling code. The sisters draw upon the range of features inherent in email: the convenience and rapid turnaround time (rendering the exchange “conversational”) combined with the features that feed creativity—namely, the “anonymity factor” (separation by physical and visual space), the entertainment value of email, the “quote” feature, the persistence and visibility of the conversation thus far, and editing time sufficient to compose humorous epistles. These features used in combination maximize the sibling code’s creative potential and its capacity for linguistic change.

**Discussion**

In the previous sections, I outlined changes in lexis, phonology, morphology, syntax, and semantics that occurred in the sisters' email correspondences over a four-month period. I also discussed factors that affected the code’s use and development: its nature and origin, its domain of use, accommodation tendencies, and linguistic performance and language play.

*Language@Internet*, 8 (2011), article 6. (www.languageatinternet.org, urn:nbn:de: 0009-7-32140, ISSN 1860-2029)
To summarize, the SC had its origin in a series of parody routines initiated by S2. When the father (N), the mother (Z), and S1 began to play along, the code became a set of family code variants; at this stage (FC), the function, distribution, and usage of variants were still in flux. This stage in the code’s development persisted for several years, and was essentially unaffected by three months of daily faxing. Data following the sisters’ changeover to email, however, show notable rapid development by the end of the second month of email communication. By the end of the fourth month, there appeared to be less negotiation of variants and more stability in common linguistic forms, particularly discourse markers. These observations—combined with the lack of carryover into spoken conversation—lead to the conclusion that the email medium provided the unique conditions that promoted the evolution of the sibling code.

In contrast to most long-term language change, the code does not develop blindly; on the contrary, its form and development are self-consciously produced. That the sibling code was consciously manipulated by its speakers is seen in meta-comments by S1 (e.g., yo korea (-good one, huh?). Email, by virtue of certain inherent features, such as the lag time factor and the availability of “quoting,” is an optimal medium for planned, self-conscious language to emerge. At the same time, the open, free, and “loose” nature of email allows for unfettered creativity (see, e.g., Schnurr & Rowe, 2008), which is often linked with unconscious but also high metalinguistic activity. Either way, it is not surprising that performance language would be very much at home in the email medium (see also Baym, 1995; Herring, 2011; Rowe, 2001; Schnurr & Rowe, 2008).

The electronic medium facilitated the accelerated evolution of the FC into the SC in a number of ways. In contrast to traditional written correspondence, the email medium offers a speed of interaction closer to real time, which allows for more frequent communication. Unlike spoken communication, email messages can be viewed and manipulated, both visually and manually, and mapped onto the orthographic system to represent sounds already shared between the subjects. This effect is magnified when the respondent inserts her responses at the relevant points in the other participant’s text, rendering the asynchronous interaction more conversational.

Specifically, the combination of high-speed interchange (relative to traditional mail) and suspension of time constraints (relative to spoken communication) provided an optimal environment for change. The sisters report that when they earlier had relied on telephone to communicate with each other, they spoke approximately once per week, briefly. When they switched over to fax, they corresponded approximately once daily with brief messages, constrained largely by issues of privacy and convenience. But when they began to communicate by email, the frequency of their interaction immediately increased to several times daily. This is attributable to several factors: the intimacy of the sibling relationship coupled with (1) the entertainment value of email, (2) the privacy of email, (3) the convenience of email, (4) the near-instantaneous transfer of messages available in the email mode, (5) the editability of email, and (6) the tendency toward creative expression in email expression already pervasive in CMC culture at the time. Table 7 summarizes the factors which together effected change in the sibling code.
## Factors effecting change in the sibling code

<table>
<thead>
<tr>
<th>Factors</th>
<th>Features</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Email</strong></td>
<td>rapid turnaround (spoken-linked) quote feature</td>
<td>More conversation-like speed of exchange; “illusion of adjacency” (Herring, 1999b); more frequent interaction</td>
</tr>
<tr>
<td></td>
<td>creativity outlet (Hale, 1996)</td>
<td>Linguistic creativity</td>
</tr>
<tr>
<td></td>
<td>visibility and persistence of message (written-linked)</td>
<td>Memory aid; metalinguistic awareness</td>
</tr>
<tr>
<td></td>
<td>“anonymity” factor, i.e.: separation by space and time (written-linked) asynchronicity (written-linked)</td>
<td>Privacy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time to formulate responses</td>
</tr>
<tr>
<td><strong>Sibling relationship</strong></td>
<td>“bonding” needs; solidarity family communication familiarity</td>
<td>Frequent and intimate interactions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Established basis for language play; in-group codes are “cryptic” by nature</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sisters express themselves freely with each other; sisters have family history which provides content and contextual basis for code</td>
</tr>
<tr>
<td><strong>General sociolinguistic factors</strong></td>
<td>accommodation imitation, parody, and humor</td>
<td>Sisters accommodate their language to match each other's language</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Linguistic performance; dialect crossing; language play (Danet, 2001; Rowe, 1996, 2001); creative self expression</td>
</tr>
</tbody>
</table>

Table 7. Factors effecting change in the sibling code

## Conclusion

The constraints and affordances of email production constitute a force similar to that which external demands (e.g., pressures to conform to stylistic norms) provide for code-shifting and language standardization in both oral and written media, and which specific sociolinguistic situations provide for the genesis of sociolects like slang and other in-group codes (see Eble, 1986). However, although these processes can be inferred through diachronic evidence, we are not generally able to trace language change day by day in spoken language. The persistence of email creates a record that makes day-by-day tracking possible. In this sense, the sibling code provides a rare illustration of the formation of a specialty code in progress.

This new evidence raises interesting questions for further research. First, the rapidity of change observed in the sibling code raises the question of what rate of change is possible in other codes in intimate and other intensive communicative situations, both oral and written, inside and
outside of the CMC context, given optimal conditions (see, for example, Houghton, 1968). Relatedly, the results also raise the question of in what ways other language varieties can be manipulated consciously and their development overtly guided. Last but not least, the data provide insight into the potential role of technological mediation in language change on a macro level. The results of the present study suggest that noncanonical textual media such as CMC on the internet have the capacity to drive widespread but also especially rapid linguistic change on all levels of structure. To the extent that this suggestion is supported by other research, it has important and far-reaching implications for the principles and nature of language change in general.

Notes

1. See Herring (1999a) for an interesting study of the influence of message purpose and social dynamics on changes in contraction use in academic discussion forums over time.

2. Arthur M. Schlesinger Jr., writing for *Brill’s Content*, asserts that the challenges of the Computer Age are the result of the traumatic shift from a factory-based economy to a computer-based economy, which happened so rapidly as to deny adequate time to people and institutions to adjust. The impact of the Computer Revolution, Schlesinger (2000) writes, is “dynamic, compressed, and drastic.” (Page numbers are currently unrecoverable).

3. I use initials to stand in for names where individuals’ privacy is an issue.

4. In M, there are apparently three class-based dialectal varieties in the white population: rural, city, and "high-society"/upper class varieties. Most of the variation is reflected in phonetic detail, e.g., [saedi] (rural), [saerdi] (city), [saedadi] (upper class) ‘Saturday.’ Other differences are lexical, e.g., the basilectal (rural) use of ain’t and double negation in the rural variety.

5. At this stage, the best comparison may be to Tannen's (1984) example of "campy" behavior (an exaggerated style for humorous effect), where one of her informants in a dinner conversation occasionally lapses into a "Jewish mother" routine with no break in the conversational flow.

6. The family friend’s performance code was based on the performance code of his college roommate, which was a parody of an African-American cook the roommate was fond of.

7. I have indicated the raised prenasalized vowel as it appears phonetically; phonemically, by reference to the standard, it would be den ‘then’.

8. S2 kept personal faxes from friends and relatives, regarding them as personal letters on a par with US Post mailed handwritten letters. The fax data, while not copious, are remarkable in their structural contrast with the email data. For this reason, and in order to better explain the transition from oral to email code, I include them here.

9. Oral speech examples and other observations about the oral code were provided by S2 in personal communications. Unfortunately, I do not have recorded oral data for this code. Thus, the oral examples and observations from S2 are anecdotal and serve mainly as a reference point (chronologically and linguistically) for the primary object of this study, the email code.

10. I have replaced sensitive, extraneous, or overlong material with […]
11. The example, from 2/19/96 (S1), is a closing greeting: "...teh ya one ting rite now... gotta run........."

12. The example, from 5/8/96 (S2): "Now yo daddeh gettin his avengement fo all our mess as youngns! Teh dat!"

13. According to S2, N uses the vocative Sista(h) to his daughters in the way that some parents use the vocative Son or Boy to their sons.

14. The possible origin of this usage may lie with the father, who uses sister in the vocative to mean ‘young lady’ (see note 14).

15. Creoles are the result of linguistic hybridization; they are considered full-fledged linguistic systems because they are grammatically robust enough to handle all of speakers’ communicative needs in any imaginable sociolinguistic domain (see, e.g., Holm, 1988).

16. The exchange shown in (21) and (22) occurred a day after a face-to-face meeting; this “bonding” may have resulted in the high density of code seen in these messages. Face-to-face meetings occurred at a maximum of about once a month.

17. A "sibling spat" that took place over the following summer resulted in a significant drop in use of the code; this can be seen starting just after May 5 in Figures 1 and 2.

References


**Biographical Note**

Charley Rowe [rowe.charley@ucy.cy] is Lecturer at the University of Cyprus and Honorary Assistant Professor at the University of Hong Kong. Her interests lie chiefly in the area of sociolinguistics, both at the micro- and macro-levels.