

Units of Analysis

Word/Sound. These were discrete vocalizations, including words, parts of words, and sounds. Standard, whole words (e.g., "Mara?"), contractions (e.g., "it's"), elisions (e.g., "'cause"), and words pronounced in nonstandard ways (e.g., "er" or "or") were all considered word/sound units. When two words were transcribed as one (presumably to capture their productional quality), they were coded as separate units. For example, "haveyou" (T2, L22) was coded as two units, "have" and "you." When a single word was divided and separated by a space (again, to capture its productional quality), it was counted as one unit. For example, ">after< noon" (T3, L53) was coded as one unit. Discourse markers, parts of words, and cut-off words/sounds were also treated as individual units, such as "Oh" , "Well", "Uh:m:", "Mmm:", "Y-" (T1, L50), and "(gran-)" (T2, L101). In one case, Transcriber 4 described a sound instead of transcribing it, "((Burp?))" (T4, L35); this was coded as a word/sound unit.

Silence. These were anything transcribed as a period inside parentheses "(.)" (i.e., a micropause) or seconds and tenths of seconds of silence represented numerically, with a decimal point, within parentheses (e.g. "1.6" is one second and six-tenths of a second).

Inbreath. With one exception, inbreaths were operationalized as any unit comprising a "period" followed only by "h", such as ".hh" (T1, line 27). The single exception was ".pth ((lips opening))" (T3, line 45) which was coded as an in-breath.

Outbreath. With four exceptions, outbreaths were operationalized as any unit comprised solely of "h", such as "hh" (T3, line 21). One exception was a "forced" exhalation, "-hhhh" (T1, line 36). Three other exceptions were transcribed in unconventional manners but explicitly noted by transcribers (i.e., in double parentheses) as outbreaths, including "nhh" ((outbreath through nose))" (T3 lines 45), ".nhnhnh ((nasalized outbreath))" (T3, line

92), and "eh(h)hh" ((breath through nose))" (T4, line 98).

Laugh token. The transcription combinations for representing "laugh tokens" were/are too numerous to specify *a priori*. Laugh tokens in the four transcripts were rendered in the following ways: (a) canonical laugh tokens: "huh", "hih", and "heh"; (b) canonical laugh tokens with additional preceding or following "h" letters: "hheh" and "hehh"; (c) the vowel "e" followed by letter "h": "ehh", and "ehhhh"; (d) the letter "h" followed by a vowel: "hu" and "he"; (e) the letter "h" followed by an "m": "hm"; and (f) one or more letter "m" followed by an "h": "mh" and "mmh". In 2 cases, laugh tokens were preceded by periods and were coded as "laughter," not "inbreath": ".hhuh" (e.g., T3, line 62) and ".heh" (e.g., T4, line 42).

We realize that "breathing" and "laughing" are not mutually exclusive alternatives; laughter is sometimes embodied solely through inhalations or exhalations. Thus, some of our "inbreaths" and "outbreaths" may embody laughter. Although this distinction is lost in a mutually exclusive coding schema, note that: (1) the purpose of this study is to test the reliability of the CA transcription system, which nonetheless has different symbols for inbreath, outbreath, and laughter; and (2) the distinction between breathing and laughter may not be completely clear for communicators either.

Unitization and Parentheses

Sounds, or parts of words, in parentheses, such as "(th)", "(uh)", and "(A:f-)", were coded as single "word/sound" units. Words in parentheses were coded as constituting a number of "word/sound" units equal to the number of syllables contained in the parenthetical word(s). For example, see the same stretch of interaction as transcribed by T1-T4:

Example 1

(T1, L122): figured I warn ya

(T2, L109): figured I'd warn you.

(T3, L104): figured I'd warn ya

(T4, L124): figured I'd >(maurice),<

T4's two-syllable word ">(maurice),<" was coded as representing two

"word/sound" units, and this corresponded to the two units/syllables, "warn" and "you", rendered by T1-T3. This decision rule produced a conservative estimate of the reliability of unitization. For example, see the same stretch of interaction as coded by T1 and T2:

(T1, L115): I j's went an' got that . . .

(T2, L104): I (worked that) out . . .

Even though T2's "(worked that)" is transcribed as being "in doubt" (the parenthesis convention) because it consists of two syllables, it was coded as representing two units. However, as transcribed by T1, this stretch of interaction contained six units. Thus, this decision rule was conservative in that, although T2 included "(worked that)" in parentheses and indicated doubt about its hearing, T2 was only given credit for having transcribed two units. When only parts of words were transcribed in parentheses, such as "Gilli(an)", "D(u/e)stin", and "(un)pa:k,", they were considered to be part of the word and not coded as separate units.

Empty sets of parentheses, such as "Are they()" (T1, L18) indicate that something was heard, but that its nature was unknown or in doubt. Empty sets of parentheses were unitized after developing the comprehensive sequence of units and were coded as representing a number of units equal to that indicated in the comprehensive sequence. In total, there were only six empty sets of parentheses, four of which were coded as representing one unit and two of which were coded as representing two units. Thus, in only two cases were transcribers "artificially" given credit for more than one unit. In these cases, the coding decision was valid relative to other transcribers. For example, see the same stretch of interaction as transcribed by T1-T4:

(T1, L18): Are they () or

(T2, L17): Are they watchin one ur

(T3, L17): Are they watchin one er

(T4, L18): Are they watchin'one or

The comprehensive sequence included five units for this stretch of interaction, corresponding to "Are/they/watching/one/or." T1's "()"

was coded as consisting of two "word/sound" units, corresponding to the units "watching" and "one", which all other transcribers rendered without doubt.

Variables

Unit Type. It was possible for transcribers to note the presence of similar units, per se, yet render different types of units. For example, look at the same stretch of interaction as transcribed by T1-T4:

Example 2

(T1, L9-10) Mara: He:y=[Ⓢ]).=
Tina: =.hh Uh:m:

(T2, L7-9) Mara: Hey::a
(0.4)
Tina: u::m.

(T3, L8-9) Mara: He:y. hh
Tina: Uh::m

(T4, L8-10) Mara: Hey:.h
(.)
Tina: Uh:m,

The comprehensive sequence of units for this stretch of interaction contained 3 units (schematically represented as "hey" + "silence or breath" + "uhm"). Although all four transcribers observed the presence of three units in similar locations, they varied according to the types of units rendered. Regarding the second unit, T2 and T4 rendered a silence, T1 an inbreath, and T3 an outbreath. Each unit was coded for one of six unit types: word/sound, inbreath, outbreath, laugh token, silence, and "unit not observed."

Semantics. It was possible for transcribers to agree on the presence of word/sound units, yet disagree on their semantics, or meaning. For example, look at the same stretch of interaction as transcribed by T1-T4:

Example 3

(T1, L33): he's !like #I am gonna go

(T2, L33): he's like "Iright I'm gonna go

(T3, L34): he's !like !!I am gonna go

(T4, L41): he's like !I am gonna go

Despite the fact that T1-T4 agreed on the presence/absence of each unit (per

se), as well as on the type of each unit (i.e., word/sound), they disagreed on the semantics of units 3-4: T1, T3, and T4 transcribed "I" and "am", whereas T2 transcribed "right" and "I'm".

We did not code on "semantics" for inbreath-, outbreath-, or silence-units because it was not relevant for these units. That is, their format is virtually prescribed/standardized by the CA system: inbreaths are periods followed by "h" (e.g., ".hhh"), outbreaths are "h" (e.g., "hhh"), and silences are tenths of seconds enclosed in parentheses (e.g., (0.2)). We did not code on "semantics" for laugh units for the opposite reason; their formats vary too dramatically (and we do not advocate their standardization). Note that transcribers' abilities to reliably render different types of units is captured by the variable "unit type."

Semantic differentiation was as conservative as possible, including differences between words such as "in" and "an'", "no" and "know," "yeah" and "yes," "It's" and "(th)'ats," "gave" and "give," "time" and "times," and "I" and "I'd,". For example, look at the same stretch of interaction as transcribed by T1-T4.

Example 4

(T1, L112): my gre(f)- my gran'parents

(T2, L101): my gran- my gra:nparents

(T3, L96): my grem- my granparents

(T4, L115): my gram- my grandparents,

T1-T4 were coded as being in complete disagreement regarding the semantics of the second unit: "grem-", "gran-", "gref-" and "gram". When units were spelled differently, but only in such a way as to capture a feature of pronunciation (e.g., "just" vs. "j'st"), they were coded as being semantically similar (Spelling differences were captured by the variable "orthography").

For each word/sound unit, transcribers were compared to each other for whether their renderings agreed/disagreed semantically. "Semantic" represents all word/sound units, including those transcribed as being in doubt by placing them in parentheses.

Orthography. Transcribers can agree that units are words/sounds and agree on their semantics, yet disagree in terms of how those words/sounds are produced as auditory phenomena. Word/sound units were coded for "orthography," which had two codes: standard and nonstandard. Inbreath-, outbreath-, and silence-units were not coded for "orthography" because they have prescribed/standardized forms that transcribers rarely vary: inbreaths are periods followed by "h" (e.g., ".hhh"), outbreaths are "h" (e.g., "hhh"), and silences are tenths of seconds enclosed in parentheses (e.g., (0.2)). Laugh units were not coded for "orthography" because they do not have standard/nonstandard forms.

Standard shapes were those that accorded to conventional dictionary spellings. The following were treated as conventional spellings: "Ah", "Uh", "Uh huh", "Um", and "Uhm"; additionally, "Mm" was coded as standard. These sounds can be compared to nonstandard versions, such as "Uhn uhn" (T3, line 52) and "Uhah:." (T4, line 117). Incomplete words/sounds (e.g., "abou(h)"), including those that were cut off (e.g., "y-"), were coded as nonstandard. Additionally, words that were "misspelled" to capture phonetic differences (e.g., "Jus'", "gonna", "thuh", "mkay", "er", "ta", "ya", "fer") were coded as nonstandard.

Speaker Designation. All units were coded for whether or not they were transcribed as being produced by a particular speaker. "Speaker designation" had three codes: Tina, Mara, and neither. The most common case of "neither" was inter-turn silence. Additionally, "neither" was coded when transcribers used only question marks (e.g., T3, line 14 "???") or empty parentheses (e.g., T4, line 144 "()") in place of a speaker designation. If transcribers designated a speaker, yet used a question mark to indicate their doubt (e.g., T2, line 33: "Tina?"), subsequent units were nonetheless coded as belonging to the designated speaker.

Transcriber Doubt. Transcribers can indicate their doubt about the nature of their rendering of any (or part of any) unit by placing it (in part or full) in parentheses (e.g., "Gilli(an)"; T2, L81). "Doubt" had two codes:

present and absent. We did not differentiate between "part of unit in doubt" and "all of unit in doubt" because, when parts of words are transcribed as being in doubt, such as "Gilli(an)" (T2, L81), it can mean that transcribers heard either "Gilli" or "Gillian", which could have been equally correctly transcribed as "(Gilli/Gillian)".

Overlap. All units were coded for whether or not they were transcribed as being in overlap with other units. Because T1-T4 did not consistently mark the offset of overlap (i.e., using the right bracket), we were only able to code for overlap onset (i.e., the left bracket). "Overlap" contained three codes: no overlap onset, onset at unit's beginning, and onset in between unit's beginning and ending.

Sound Stretch. All word/sound units were coded for whether or not they were transcribed as having pronunciations in which sounds were lengthened, which is indicated by placing a colon after the lengthened sound (e.g., "gonna:"; T1, L12). Inbreath-, outbreath-, and laugh-units were not coded for "sound stretch" because they are typically lengthened by the addition of "h", not colons. Silence units were not coded for "sound stretch" because they are lengthened by the addition of seconds and tenths of seconds (e.g., (0.2) versus (0.4)), not colons. This is a good example of how we were not attempting to measure transcribers' accurate application of a system, but rather their accurate hearing and rendering of interactional phenomena. "Sound stretch" had four codes: stretch on first syllable (e.g., "Thur::sday"), second syllable (e.g., "Thursda:y"), third syllable (e.g., ">After< noo:n."), or more than one syllable (e.g., "Thur::sda:y").

Underline/Amplitude. Units were coded for whether or not they were transcribed as being produced more loudly relative to surrounding talk, which is indicated by underlining part or all of units. Extremely loud sounds (e.g., shouting/yelling) are capitalized (e.g., "FREAK OUT"; T3, L106). Technically, underlining indicates a "stressed element," not "loudness." However, given that the CA transcription system has symbols for other canonical instantiations of "stress," such as those for pitch shift and sound

stretch, underlining is typically used to represent loudness. The conflation of underlining and "stress" is addressed in the discussion.

"Underline/amplitude" had four codes: no stress, stress on first syllable, stress on second syllable, and stress on entire unit. In total, there was only one unit transcribed as having stress on the third syllable. This unit was omitted in "underline/amplitude" and included in its "gross" version.

Intonation. Word/sound and laugh-units were coded for whether or not they were transcribed as having a unit-final intonation shift. "Intonation" had four codes: no shift, falling intonation (transcribed with a period), slight rise (transcribed with a comma), and large rise (transcribed with a question mark). Only T2 used the "upside-down question mark" (e.g., "Maraç?"; T2, L3), which indicates a middle-rise (i.e., between a comma and a question mark); these were collapsed into the category of "question mark."

Cutoff. Word/sound-, inbreath-, outbreath-, and laugh-units were coded for whether or not they were transcribed as being cut off, or abruptly halted, which is indicated by placing a dash after the cut off sound (e.g., "y-"; T3, L49). In one case, an outbreath was transcribed with a preceding dash (e.g., "-hyyy"; T1, L36) to indicate a "forced exhalation," and this was not coded as being cut off. "Cutoff" had two codes: present and absent.

Pace. Word/sound-, inbreath-, outbreath-, and laugh-units were coded for whether or not they were transcribed as being produced with a different pace relative to surrounding talk. "Pace" had three codes: no pace shift, faster (i.e., units are surrounded by ">" and "<"), and slower (i.e., units are surrounded by "<" and ">"). When transcribers only marked the onset (i.e., did not mark the offset) of a pace shift, only the unit following the symbol was coded as having the indicated pace shift. "Pace" was only assessed for T1 and T3, who were the only two transcribers to use the slow-pace symbols.

Pitch. Word/sound- and laugh-units were coded for whether or not they were transcribed as being produced with a different pitch relative to surrounding talk. "Pitch" had three codes: no pitch shift, higher (i.e.,

units are surrounded by "^" and "v"), and lower (i.e., units are surrounded by "v" and "^"). When transcribers only marked the onset (i.e., did not mark the offset) of a pitch shift, only the unit following the symbol was coded as having the indicated pitch shift.

Plosiveness. All word/sound units were coded for whether or not they were transcribed as being produced with plosiveness, or bursts of exhalation, which is frequently associated with talking while laughing, crying, coughing, etc. Plosiveness is indicated by placing the letter "h" in parentheses within, or at the boundaries of, a word/sound (e.g., "nice(h)"; T1, L63). Laugh units were not coded for "plosiveness" because laugh tokens themselves tend to embody plosiveness. Inbreath- and outbreath-units were not coded for "plosiveness" because they tend to represent simple breathing, and when they involve plosiveness, they tend to be transcribed differently, typically along the lines of laugh tokens. "Plosiveness" had two codes: present and absent.

Smile Voice. Word/sound units were coded for whether or not they were transcribed as being produced while smiling, which is an audible phenomenon, and which is indicated by surrounding units with the symbol for the British pound ("£"). For example, in the utterance transcribed as "fl(h)ebanin:(h) cineple:x. or whatever.£ " (T1, L19-20), the transcriber is indicating that the it is uttered with the mouth set in a smile on each unit that falls between the "£" symbols . When transcribers only marked the onset (i.e., did not mark the offset) of smile voice, only the unit following the symbol was coded as having the indicated smile voice. "Smile voice" had two codes: present and absent.

Length. Silence length (i.e., tenths of seconds) can be timed in at least three ways. First, and traditionally, it can be counted out by transcribers, using the analog method of counting "one one thousand..." where each syllable represents approximately 2.5 tenths of a second. The metric commonly taught is: "one" = (0.2), "one one" = (0.4), "one one th-" = (0.5), "one one thous" = (0.8), and "one one thousand" = (1.0). Second, it can be timed with a stopwatch. Third, it can be mechanically assessed by measuring

the distance in the sound wave between the ending and onset of vocal periodicity. T1-T3 used the first method and T4 used the third method (with Transana™). In order to get a second data point for agreement concerning the third method, we independently measured all silence lengths with C-Speech™. The variable "Silence length (Counting)" represents agreement for method one (between T1-T3); "Silence length (Machine)" represents the reliability of method three (between T4 and our own independent measure). "Sound stretch length" represented the length of sound stretches (i.e., number of colons). For example, regarding the exact same unit, T2's "Uh::", with two colons, indicated a shorter sound stretch than T4's "Ah::::"), with four colons. "Breathing length" represented the length of inbreaths and outbreaths (i.e., number of "h" letters).