

Infinitival perfects in Appalachian English: modals vs. infinitival to

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1. **The Audio-Aligned and Parsed Corpus of Appalachian English, Tortora et al. (to appear)** (<http://csivc.csi.cuny.edu/aapcapp/>)

The AAPCAppE is a publicly available corpus of vernacular speech which is:

- Available online by March 2017
- 1,024,043 words / 127,375 sentence tokens
- syntactically annotated according to PPCHE method (and searchable by any standard tree query language e.g., *CorpusSearch*, Randall 2009)
- accompanied by a full set of digitized recordings of the underlying speech signal, in the form of *.wav* files, text-searchable using Praat (Boersma and Weenink 2011)

Underlying speech signal: The AAPCAppE is based on the speech from oral history project recordings housed at various colleges and institutions in the Appalachian region:

I. Dante Oral History Project (DOHP). Collection of interviews on cassette tape with residents of Dante, VA (recorded 1997-98). Recordings are housed at, and curated by, the Archives of Appalachia at ETSU.

II. Joseph Hall Collection (JHall). Interviews with residents of the Great Smoky Mountains in Tennessee and North Carolina (1939); collector: Joseph Hall.

III. Appalachian Oral History Project (AOHP_I) at Alice Lloyd College, in Pippa Passes, KY. This history project was conducted from 1971-75 and its materials are housed in the library at Alice Lloyd College, Pippa Passes, Kentucky.

IV. Appalachian Oral History Project (AOHP_II) at Appalachian State University, in Boone, NC. This history project was conducted from the 1960s through the 1980s, and its materials are housed in the library at Appalachian State, in Boone, NC.

V. The Appalachian Archive (SKCTC) at Southeast Kentucky Community and Technical College, in Cumberland, KY. This history project was conducted from the 1960s through the 1980s, and its materials are housed in the library at Southeast Kentucky Community and Technical College, in Cumberland, KY.

2. **The infinitival perfect in the AAPCAppE**

2.1 **Infinitival to**

The AAPCAppE exhibits structures with infinitival *to* followed by what appears to be a participial verb form, instead of an infinitival verb (e.g., *to go*), such as *to went*, *to been*, *to had*, *to got*, *to gone*, *to done*, *to slipped off*, *to worked*, *to told*, *to killed*, *to gave*,

- (1) a. And them mules went right on up there, just where they was supposed **to went**.
cf. *...just where they was supposed to go*.
- b. But the men should've refused **to went** in. (> into the mines)
cf. *The men should've refused to go in*.
- c. Course, if it'd've lasted much longer, he would've had **to went**. (> off to war)
cf. *If it'd've lasted much longer, he would've had to go off to war*.
- d. That was supposed **to been** a rare seed.
cf. *That was supposed to be a rare seed*

- e. She continued to work as long as she was able to work, which she had **to been** up in her sixties...
cf. *...she had **to be** up in her sixties (..when she quit working)*
- f. I'd've loved **to had** them back. (> about her grown children)
cf. *I'd've loved **to have** them back*
- g. I' [əz] supposed **to got** one. (= an award)
cf. *I was supposed **to get** an award.*
- h. I would've really loved **to got** that baseball. (> foul ball in the stands at a game)
cf. *I would've really loved **to get** that baseball.*
- i. They wouldn't knowed what **to done** with the underclothes they've got today.
cf. *They wouldn't have known what **to do** with the underclothes they've got today.*

Is this none other than the **infinitival to-perfect**, with “silent HAVE,” as in (1')?

- (1') a. And them mules went right on up there, just where they was supposed **to HAVE went**.
 b. But the men should've refused **to HAVE went** in. (> into the mines)
 c. Course, if it'd've lasted much longer, he would've had **to HAVE went**. (> off to war)
 d. That was supposed **to HAVE been** a rare seed. etc.

What suggests this? Like infinitival *to* in (1), modals in the AAPCAppE can also be immediately followed by a participial verb form, without an intervening infinitival auxiliary *have*:

2.2 Modals

- (2) a. I said, No, you the one **should said** something, cuz I wasn't going to say nothing...
 b. But he **shouldn't** never **told** me like he did.
 c. You **could heard** a pin drop.
 d. I **must been** four or five years old.
 e. I don't know what in the world I **would done** if it wasn't for Ginny.
 f. They **wouldn't knowed** what to done with the underclothes they've got today.

As with (1) above, it seems reasonable to posit that these structures too are hidden **infinitival perfects**, with a “silent HAVE”:

- (2') a. I said, No, you the one **should HAVE said** something, cuz I wasn't going to say nothing...
 b. But he **shouldn't** never **HAVE told** me like he did.
 c. You **could HAVE heard** a pin drop.
 d. I **must HAVE been** four or five years old. etc.
- (3) What is the nature of this null element?
- a. is it the silent version of the morpheme *have*? (i.e., silent HAVE), or
 - b. is there a morpheme *have* in the underlying representation but it's just deleted via a phonological reduction rule? or
 - c. is there no such morpheme in the underlying representation at all? (radically missing)
 - d. AND FINALLY: should we be thinking of this morpheme (which is typically pronounced [əv] or [ə]) not as a form of the auxiliary *have*, but rather, as the “complementizer” *of*, a la Kayne 1997?

To put aside for now. Though please note that wherever I say *have*, it's in reference to a form that is always pronounced [əv] or [ə]

2.3 Summary: modal-perfects and *to*-perfects

- an **infinitival perfect** is form of the auxiliary verb *have* (typically pronounced [əv] or [ə]) plus a participle
 - UNDER MODAL: She would **have said**...
 - UNDER *TO*: She has to **have said**...
- The data in (1) and (2), exhibiting *to* + participle and modal + participle, might reasonably be taken to involve infinitival perfects with a silent HAVE (with caveats in (3))

3. The AAPCApPE: the behavior of silent infinitival perfects with modals versus *to*

- The data in (1) and (2) at first glance give the impression that silent HAVE is a uniform phenomenon with infinitival *to* and modals.
- Previous literature, Montgomery & Hall (2004): “[a]uxiliary *have* and *had* are sometimes elided in Smokies speech, especially between a modal verb and a past participle...; [this phenomenon is] more favored under a modal verb.”
- **Our study reveals the opposite.**

It is true that infinitival perfects with modals are overall more frequent than infinitival perfects with *to*:

- (4) a. modals + infinitival perfect: 797 tokens
 b. *to* + infinitival perfect: 69 tokens

However, despite their differences in absolute frequency, silent HAVE is relatively less frequent with modals, and relatively more frequent with infinitival *to*:

- (5) **TABLE 1:** Frequency of [modal + infinitival perfect] versus [*to* + infinitival perfect]

	overt <i>have</i> [hæv] or [əv] or [ə] or [v]	silent <i>HAVE</i>	total
modals + infinitival perfect	715 (90%)	82 (10%)	797
<i>to</i> + infinitival perfect	19 (28%)	50 (72%)	69

- there is a total of 797 infinitival perfects with modals
- there is a total of 69 infinitival perfects with *to*
- only 10% of the infinitival perfects with modals occur with silent HAVE
- in contrast, 72% of the infinitival perfects with *to* occur with silent HAVE

- (6) **TABLE 2:** [modal + infinitival perfect] broken down by modal

	can	could	may	might	must	need	ought	shall	should	will	would	zero	total
[hæv]	0	16	14	15	65	0	0	0	4	1	51	0	166
[əv] / [ə]	0	83	7	67	69	0	0	0	24	0	272	1	523
‘ve	0	9	0	2	2	0	0	0	0	0	12	1	26
silent <i>HAVE</i>	0	13	4	1	7	0	2	0	2	0	49	4	82
total	0	121	25	85	143	0	2	0	30	1	384	6	797

4. What's different about *to*-perfects?

4.1 The “pleonastic” Sequence-of-Tense (SoT) infinitival perfect vs. true anterior tense

THAT IS: There may be a previously unnoted semantic difference between **silent HAVE vs. overt *have with to*-perfects** indicating that the “silent HAVE construction” is a marker of a particular tense interpretation (or lack thereof!)

4.1.1 The “Sequence of Tense” (SoT) phenomenon

Zagona (2014):

- (12) Terry believed that Sue was pregnant.
- The time of Sue's pregnancy precedes the time of Terry's belief (precedence)
 - The time of Sue's pregnancy overlaps with the time of Terry's believe (simultaneity)

The **simultaneity** interpretation is the **pleonastic / SoT** interpretation (= not a true anterior)

Another example:

- (13) I thought you **meant** how big the entire corpus **was**, in terms of sentence tokens. (*was = is*)

Here, the form *was* is “pleonastic” (or put differently, has an “SoT interpretation”); it does not have a true anterior interpretation. This is simply a case of **formal agreement** in tense features (Zagona 2014).

4.1.2 Perfect SoT in written English

English has also historically exhibited a pleonastic (SoT) tense interpretation with the infinitival perfect.

PPCHE

- (14) a. He had intended **to have gone** to London with Mr. Oates. (= *He had intended to go to London*)
 b. If the prisoner had chosen **to have staid** in France... (= *If X had chosen to stay in France...*)

Molencki (2003): pleonastic perfect has essentially been rigorously proscribed out of the language, though one can still find the following variant in *would have loved to...* type contexts:

- (15) I would have liked **to have settled** down sooner.

However, in writing, editors (e.g. of newspapers) routinely correct forms like that in (15) before going to press, to one of two possible variant forms:

- (16) a. I would have liked **to settle** down sooner.
 b. I would like **to have settled** down sooner.

Do not lose sight of fact that *to*-perfects can also have a true anterior interpretation (cf. (12)):

- (17) a. Mary believes Sue **to have won** the prize. (true anterior)
 b. Mary believed Sue **to have won** the prize. (ambiguous between SoT and anterior, like (12))

4.1.3 Perfect SoT in vernacular speech (the AAPCAppE)

Some preliminary notes:

- **to-perfects are rare:** Recall from Table 1 in (5) that we have only 69 tokens of *to*-perfects in the corpus. The corpus is comprised of 127,375 sentence tokens. This means that *to*-perfects occur only .05% of the time.
- **the rarity is not just a function of vernacular speech:** This rarity is not due to the vernacular-speech nature of the corpus: the *Penn Parsed Corpora of Historical English* (PPCHE) exhibit an equally rare rate of occurrence of *to*-perfects:
 - Early Mod. English (years 1500-1710): .05% of all tokens (58 of 105,614 sentence tokens)
 - Mod. British English (years 1700-1899): .07% of all tokens (129 of 178,160 sentence tokens)

Hypothesis: silent HAVE in *to*-perfects is a marker pleonastic SoT.

Recall (1): the majority of our *to*-perfect examples with silent HAVE correlate with a SoT interpretation:

Examples from (1) are all SoT perfects:

- (1) a. And them mules went right on up there, just where they was supposed **to went**.
cf. ...*just where they was supposed to go*.
- b. But the men should've refused **to went** in. (> into the mines)
cf. *The men should've refused to go in*.
- c. Course, if it'd've lasted much longer, he would've had **to went**. (> off to war)
cf. *If it'd've lasted much longer, he would've had to go off to war*.
- etc.

...been saving this example for last:

- (18) Wouldn't you like **to worked** in the mines today?

(asked by an AppE speaker, to an AppE interviewee, who was talking about how hard it was to work in the mines back in the day; the AppE interviewer notes that things are a lot better today, and then asks (18))

The example in (18) indicates that the tense agreement is purely **formal agreement**, and not interpretive: the formal [+past] marking of *would* triggers the SoT.

- (19) **TABLE 3** Frequency of *to*-perfects with **SoT** (= pleonastic) versus **anterior** interpretation:

	overt have	silent HAVE	total
anterior interpretation	4 (57%)	3 (43%)	7
SoT interpretation	14 (25%)	41 (75%)	55
unclear	1	6	7
total	19	50	69

- does this indicate that the silent HAVE structure is a form specializing for the SoT interpretation?
- if so, why has it specialized in this way? a response to the prescriptivist pressure to avoid pleonastic *to*-perfects?

Problems:

- we have to rely on a very careful checking of the interpretation of the *to*-perfect in context; there are cases where we cannot tell;
- the numbers are so low, any error could tip the scale in the direction of the simple fact that silent HAVE is more frequent than overt *have*, possibly not for any reasons to do with morpho-syntax / semantics (see 4.2)
- leads to the need for back up study, using experimentation

Other problems:

[A] What do we count when counting examples of silent HAVE with infinitival *to*?

- what to do with examples like (20)?

(20) a. He should've refused **to give** it to him.

- Note that the bare verb form *give* (and many others!) is robustly used as a participle. So what parse do we assume that the speaker intended? That in (20b), or that in (20c)?

(20) b. He should've refused **to HAVE_{silent} give_{past-participle}** it to him.

(20) c. He should've refused **to give_{bare-inf}** it to him.

- Is it possible that
 - (a) the existence of strings such as that in (20a), combined with
 - (b) the fact of variable use of the bare form as a past participle in other contexts, combined with
 - (c) the use of the pleonastic perfect (as in 15)

...is what gave rise to the silent HAVE grammar (as in e.g. (18))?

[B] What do we count when counting examples of silent HAVE with modals?

- Note that the corpus exhibits numerous variants of the following (leading to the question of whether *had* in such contexts should be counted as a modal):

(21) a. If only he had ___ left sooner...

b. If only he had [əv] done that sooner... (v. Kayne 1997)

- From the perspective of the “standard,” example (21a) is to be expected, and we wouldn't assume a silent HAVE
- However, from the perspective of AppE speakers: we have no reason to assume they would NOT posit a silent have in (21a) (given the existence of (21b)), as in (21c):

(21) c. If only he had HAVE_{silent} done that sooner.... (cf. (21a))

[C] How do we count examples with 'd?

Consider (22a):

(22) a. If only he'd left sooner...

- From the perspective of the “standard,” example (22a) is to be expected, under a parse where 'd = *had*
- However, from the perspective of AppE speakers: there are actually three possible parses for the string in (22a)

How are there three possible parses for (22a)? Four independent (?) issues conspire to give rise to the possible parses for AppE speakers:

FOUR CONSPIRING PHENOMENA IN APPE:

- i. The form 'd is ambiguous between *had* and *would* (cf. *he'd put it on the table*)
- ii. The modal *would* variably allows for an embedded infinitival perfect with silent HAVE
- iii. The verb *had* (in this context) variably allows for an overt [əv] between it and the participle (v. 21b)
- iv. Speakers robustly exhibit (22b) as a variant of (22a); thus, *had* < > *would've*:

(22) b. If only he would've left sooner... (cf. (21a) and (22a))

THREE POSSIBLE PARSES FOR (22a):

(22) a. If only he'd left sooner...

>>

(23) a. If only he had left sooner... (where 'd = *had*)

b. If only he had HAVE_{silent} left sooner... (where 'd = *had*)

c. If only he would HAVE_{silent} left sooner... (where 'd = *would*)

4.2 Or is it just phonology?

Does the phonological context of a preceding [tu] or [tə] make it difficult for transcribers to hear a following [əv] / [ə] (= *have*)?

Work in progress. However, preliminary measurements indicate that transcribers were not failing to perceive something in the speech signal. E.g.

Emily Adams (SKCTC)

(7) *They wouldn't know what **to done** with the underclothes they've got.*

vowel between [t] and [d] = 0.04 seconds

(8) *When he got this cooked just right -- (which he =ud had enough L-- “Life Everlasting” in that **to =uv [tə ə]** **made** forty gallons, but he just had about a quart of it) -- he got him a teacup and dipped down in that, and he drunk that, and all at oncet he had a pain in his stomach.*

vowel(s) [ə ə] between [t] and [m] = 0.24 seconds

(9) *She was too old **to be** put in the orphanage.*

vowel between [t] and [b] = 0.11 seconds

(10) *Mamie Whitaker and Eli Whitaker had decided they wanted **to keep** all four of us.*
vowel between [t] and [k] = 0.079 seconds

Trained transcribers not failing to hear ‘have’ in the speech signal.

Of course, even if all the measurements show no evidence of two segments in a context like *to done* e.g. in (7) — one for the [ə] of [tə], and one for the [ə] of *have* [ə]...

...this does not entail that there is no phonological rule of deletion, for example as follows:

- (11) a. [ə] ‘have’ --> ∅ / [tə] ___ or
 b. [tə] --> [t] / ___ [ə] ‘have’

5. Final remarks

Value of the AAPCAppE:

- syntactic annotation of a corpus of vernacular speech makes it straightforward to search for particular constructions, including vernacular constructions not found in written language;
- the accompanying speech signal allows independent researchers to empirically verify the appropriateness of the transcription and test for phonological indicators that might have otherwise been missed by previous researchers

The present study:

- the speech represented in the AAPCAppE exhibits the phenomenon of silent HAVE with infinitival perfects with modals and with infinitival *to*;
- the relative frequency of silent HAVE is different for the two contexts; it occurs more frequently with infinitival *to* than it does with modals;
- however: *to*-perfects in all Englishes (both written and vernacular) are relatively infrequent; this makes it hard to study them with corpora (even large corpora);
- future research:
 - hypothesis that higher frequency of silent HAVE with *to*-perfects (compared to the modal context) is attributable to semantic specialization of the construction (> SoT interpretation) must be confirmed with experimental data;
 - must seek ways to determine whether possible phonological considerations (delete *have* (= [ə])) play a role in higher frequency of “silent HAVE” with *to*-perfects (compared to the modal context); in other words, is “silent HAVE” really nothing other than a surface deletion rule?
 - must seek ways to determine whether **apparent** standard-issue infinitivals in the relevant contexts (e.g. he should’ve refused **to give** it to him; he **could give** it to him) should be counted as infinitival perfects (e.g. he should’ve refused **to HAVE_{silent} give** it to him; he **could HAVE_{silent} give** it to him); this is relevant, in light of the fact that the speakers under study also exhibit robust use of bare verb forms in past participial contexts.

**APPENDIX: NON-PRESENT variants for five speakers from DOHP
(from Tortora, Blanchette, O’Neill, & Arriaga 2015)**

began, begin	ran, run
bring, brought	ran, run, runned
brought, brung	run, runned
burned, burnt	rent, rented
came, come	sang, sung
catch, caught	saw, seen
cause, caused	saw, seen, seened
did, done	scald, scalded
done, doned	start, started
drill, drilled	send, sent
drop, dropped	set, sit
get, got	start, started
give, given	swore, sworn
gone, went	taken, takened, took
go, gone, went	taken, took
hand, handed	take, took
heard, heard	taught, taughted
held, held	tell, told
keep, kept	turn, turned
knew, knowed	walk, walked
laid, lay	want, wanted
learned, learnt	work, worked
load, loaded	
lose, lost	
lost, losted	
made, make	
open, opened	
paid, pay	
push, pushed	

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Selected Bibliography:

- Boersma, Paul, and David Weenink. 2011. *Praat: doing phonetics by computer*, version 5.2.32.
- Bowie, Jill & Bas Aarts. 2011. "Change in the English Infinitival Perfect Construction."
- Johnson, G. 2016. "The syntax of *liketa*: A case of restructuring in Appalachian English." Under review.
- Kayne, R. 1997. "The English Complementizer of," *Journal of Comparative Germanic Linguistics* 1: 43-54.
also in Kayne 2002, *Parameters & Universals*, OUP.
- Kendall, Tyler (2007). "Enhancing Sociolinguistic Data Collections: The North Carolina Sociolinguistic Archive and Analysis Project," *Penn Working Papers in Linguistics* 13.2: 15-26.
- Kroch, A. & Ann Taylor. 2000. *The Penn-Helsinki Parsed Corpus of Middle English (PPCME2)*. Department of Linguistics, University of Pennsylvania. CD-ROM, 2nd edition, (<http://www.ling.upenn.edu/hist-corpora/>).
- Kroch, A., Beatrice Santorini, and Lauren Delfs. 2004. *The Penn-Helsinki Parsed Corpus of Early Modern English (PPCEME)*. Department of Linguistics, University of Pennsylvania. CD-ROM, first edition, (<http://www.ling.upenn.edu/hist-corpora/>).
- Kroch, A., Beatrice Santorini, and Ariel Dierani. 2010. *The Penn-Helsinki Parsed Corpus of Modern British English (PPCMBE)*. Department of Linguistics, University of Pennsylvania. CD-ROM, first edition, (<http://www.ling.upenn.edu/hist-corpora/>).
- Marcus, M., B. Santorini, & M. Marcinkiewicz. 1993. "Building a large annotated corpus of English: The Penn Treebank," *Computational Linguistics* 19.2:313-330.
- Molencik, Rafal. 2003. "Proscriptive Prescriptivists: On the Loss of the 'Pleonastic' Perfect Infinitive in Counterfactual Constructions in Late Modern English," *Linguistic Insights: Studies in Language and Communication* 7: 175-196.
- Montgomery, M. & J.S. Hall. 2004. *A Dictionary of Smoky Mountain English*. Knoxville: UT Press.
- Randall, Beth. 2009. *CorpusSearch 2: A tool for linguistic research*. Includes CorpusDraw, a graphical interface for displaying and correcting parsed corpora. <http://corpussearch.sourceforge.net/>
- Stowell, Tim. 2007. "Sequence of Perfect," in Louis de Saussure, Jacques Moeschler and Genoveva Puskas (eds.) *Recent advances in the syntax and semantics of tense, mood and aspect* (Trends in Linguistics Vol. 185) Berlin: Mouton De Gruyter, pp. 123-146.
- Taylor, A. 1994. "Variation in Past Tense Formation in the History of English," in R. Izvorski, M. Meyerhoff, B. Reynolds, & V. Tredinnick (eds.), *UPenn Working Papers in Linguistics* 1, pp. 143-159.
- Tagliamonte, S. 2012. *Roots of English: Exploring the History of Dialects*. CUP.
- Tortora, C. 2014. "Evidence for the non-finiteness of English 'present' and 'past' verb forms," talk given at the NYU Syntax Brown Bag series, February 28, 2014.
- Tortora, C., F. Blanchette, T. O'Neill, & S. Arriaga. 2015. "Variation in Appalachian non-present forms," talk given at the FWAV2 Workshop, May 2015, Reykjavik, Iceland.
- Tortora, C., B. Santorini, F. Blanchette, & C.E.A. Dierani. to appear. *The Audio-Aligned and Parsed Corpus of Appalachian English (AAPCAppE)*. <http://csivc.csi.cuny.edu/aapcapp/>
- Wolfram, W. 1984. "Is there an Appalachian English?" *Appalachian Journal* 11:215-226.
- Wolfram, W. & D. Christian. 1976. *Appalachian Speech*.
- Zagona, K. 2014. "Sequence-of-tense and the Features of Finite Tenses," *Nordlyd* 41.2: 261-272.