

A Very Northern California Shift?

The Vowel System of Southcentral Alaska

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We know very little about the phonetic system of English in Alaska.

Therefore, we ask: Does Alaskan English match any of the systems found elsewhere in North America, and if so, which one?

English in Alaska

Alaska is a multilingual state, with nineteen surviving indigenous languages and several immigrant languages (there are 94 home languages spoken by children in the Anchorage School District alone) spoken alongside the colonial languages of Russian and English. However, the vast majority of Alaskans (84.6%) speak only English at home, and only a small proportion (5.8%) reported themselves as speaking English less than very well.

Permanent English-speaking settlers arrived in Sitka, Alaska in about 1867, but more widespread English-language settlement did not occur until the gold rushes around the turn of the twentieth century, and began to rise rapidly after World War II.

Despite English having more than a century of history in Alaska, relatively little work has been done on English in the state (and most of that work has focused exclusively on the local lexicon). Part of this gap is due to its relative remoteness and the expense of reaching some parts of it, but even accessible areas (such as the city of Anchorage) haven't been studied enough to give a starting point for further study.

This poster presents preliminary results from a pilot study of the phonological system of Alaskan English, with a geographic focus on Alaska's southcentral region, home to the majority of the state's population.

The Northern California Shift

The Northern California Shift involves movements of several vowels: The vowels /o/ and /u/ are both fronted, while a chain shift occurs involving the lowering of /ɪ/ and /ɛ/ plus retraction of /æ/ and the merged /ɑ/~/ɔ/ vowel. In addition, there is a split of /æ/ and /ɪ/, which are raised respectively before nasals and before /ŋ/.

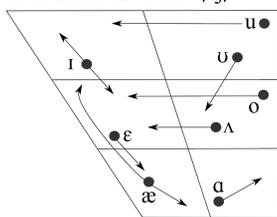


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Handouts

Alaska and Anchorage



Alaska is the most northwestern of the United States (the darker area in the map above left), and is the largest of the states, but has the lowest population density (2010 population 710,231). It shares a land border with Canada (British Columbia and Yukon), but not with any other states. Alaska's geography is largely rural, and about one-third of the state's population lives in areas inaccessible by road.

41.1% of the state population lives in the Municipality of Anchorage, which is unified with the 1,961 square mile county-equivalent Borough of Anchorage (the darker area on the map of Alaska, above right), in the middle of the state's southcentral region. Since the municipality is so large, we follow local custom and use *Anchorage* to refer only to the main urban core of the municipality (home to more than 80% of the municipality's inhabitants), with other local names such as *Eagle River* and *Girdwood* used for distinct and separate communities within the municipality.

Methodology and analysis

Thirty lifelong Alaskans were recorded reading "Comma Gets a Cure" and a word list. A total of 8,161 vowel tokens in various phonetic environments were collected and acoustically analyzed to obtain F1 and F2 values, and the resulting patterns were then compared to documented vowel shifts. We found that the patterns exhibited by the speakers were most similar to those of the Northern California Shift.

For reference, vowel charts for six of the speakers are shown to the right on this poster, along with some discussion. (For simplicity, these show only those vowels involved in the California Shift, plus /i/ and /e/ as points of reference.)

Social factors

We looked at a few social factors. Since the sample was small and non-random we don't claim that these are generalizable, but they do point the way for further investigation.

- Sex did not appear to have an effect when individuals of similar ages from the same place were compared.
- Region appeared to have an effect, with speakers further from Anchorage possibly having backer /o/ and higher /ɔ/ than socially similar speakers (see speaker 17).
- Age had a strong effect, with older speakers, for example, being more likely to have a fully backed /o/ than younger speakers (see speakers 26 and 30).

Future plans

This study was largely directed toward finding out whether there are coherent phonetic patterns in southcentral Alaska that are worth investigating further, and the answer is yes.

Next, we will develop a study of Anchorage using a sounder sampling strategy and more focused survey instrument. In parallel, we will conduct studies of a few rural villages off the road system, to determine whether there is an urban-rural distinction as strong as local conventional wisdom holds.

Once we have done this, we will have the basics in place for our ultimate goal, the development of a dialect atlas of Alaska English—but that's still a few years off.

The sample



All respondents were lifelong Alaskans, and came from the following cities:

- Anchorage: 12
- Girdwood: 1
- North Pole: 1
- Sutton: 1
- Wasilla: 6
- Eagle River: 3
- Haines: 2
- Palmer: 1
- Talkeetna: 3
- Total: 30

Note that the distances in the map are large; from Anchorage to Girdwood is 38 miles, Anchorage to North Pole 372 miles.

The California Shift in Alaska

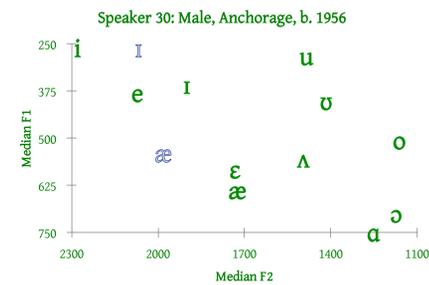
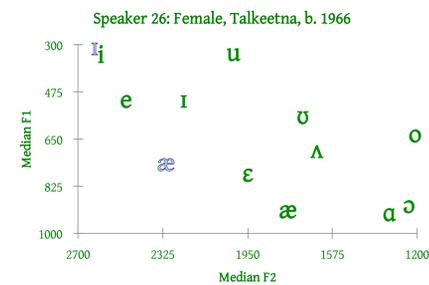
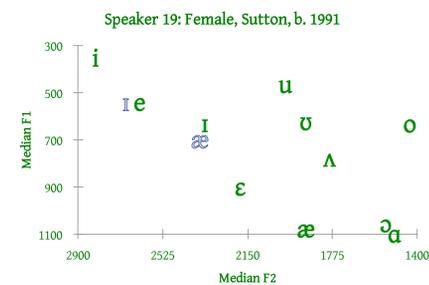
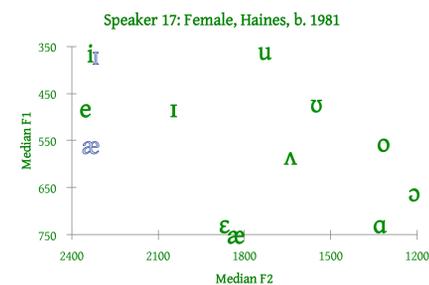
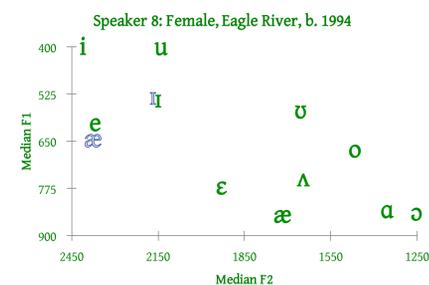
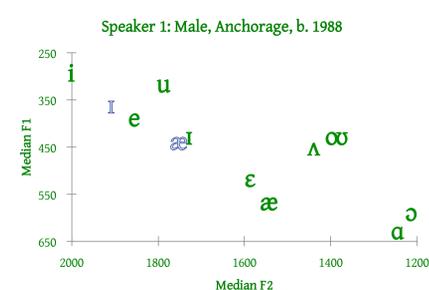
All of our respondents showed some features of the California Shift. Of course, some California Shift features exhibited by all respondents are also found in other systems (e.g., fronting of checked /u/, the *cot-caught* merger, a pre-nasal split of /æ/). However, all speakers showed fronting of /ʌ/ and at least some degree of lowering of /ɛ/ and retraction of /æ/. All speakers also exhibit the *cot-caught* merger, and the resulting /ɑ/~ɔ/ vowel is at the extreme low back corner of the vowel space. Most speakers also exhibited lowering of /ɪ/ except for raising of tokens occurring before /ŋ/, as well as lowering and fronting of /o/. In short, the California Shift is well-established in Alaska.

Questions left unanswered

- To what extent is the California Shift present across Alaska? Alaska is large (from east to west, it spans the same distance as Jacksonville, Florida to San Diego, California). This, plus the isolation of many Alaskan communities, leads us to expect large regional differences in the state.
- To what extent are Alaskans merging /ɛ/ and /æ/, if at all?
- How did the California Shift come to Alaska? Was it brought with initial English-language settlement, or later?
- Are similar patterns found in Yukon and northern British Columbia? Haines showed evidence of the California Shift, but its only road connections lead to Canada, not Alaska.

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Vowel charts: Legend and description

The six speakers to the left were chosen as examples of common patterns across the speakers sampled, rather than because of any unusual patterns they exhibit.

All sounds shown are taken from pre-obstruent position, except i and e (which are taken from pre-obstruent and word-final positions), and the differently highlighted instances of ɪ (which are occurrences before /ŋ/) and æ (which are pre-nasal tokens).

Note that, for all of these speakers, /ɛ/ before nasals is not significantly different from /ɛ/ before obstruents; and /ɪ/ before nasals other than /ŋ/ is not significantly different from /ɪ/ before obstruents.

All of these speakers exhibit at least some features of the California Shift—they all exhibit the merger of /ɑ/ and /ɔ/ (even though the medians for speakers 8 and 17 appear to show some separation, there is significant overlap for both of them) and at least some fronting of /u/ and /ʌ/. Also, all of the speakers show a split of /æ/, with pre-nasal tokens being strongly raised and fronted relative to /æ/ before obstruents.

For other California Shift features, the picture is mixed. All of them have a clearly retracted /æ/ before obstruents except for speaker 30 and perhaps speaker 17—it is difficult to tell whether the position of that vowel is actually the result of retraction or simply the fact that the range of F2 values is smaller for low vowels.

/ɛ/ is lowered in the California Shift, and this has clearly happened with all of the speakers, particularly speakers 1, 8, 17, and 19—in fact, speakers 1 and 17 have lowered /ɛ/ so far that it overlaps with pre-obstruent /æ/. Speaker 30 also has very close medians for /ɛ/ and pre-obstruent /æ/, but this is in part because his pre-obstruent /æ/ is relatively higher than that of the other speakers.

/ɪ/ is also lowered in the California Shift, and while all of these speakers show a lower /ɪ/ than one might ordinarily expect, the degree of /ɪ/-lowering before obstruents is very slight for the older speakers (speakers 26 and 30), as well as the one from Haines (speaker 17). In addition, the California Shift involves a split where /ɪ/ is raised before /ŋ/; speaker 8 does not show this at all, but all of the others do.

All of the speakers exhibit /u/-fronting, but they don't all have /o/-fronting—the older speakers (speakers 26 and 30) don't show it at all. Similarly, while all speakers show fronting of /ɔ/, the lowering of /ɔ/ ranges from little to no lowering from speakers 8, 17, and 30; to clear but not extreme lowering from speaker 26; to speakers 1 and 19 lowering /ɔ/ all the way to the same height as /o/. (In fact, speaker 1's lowers and fronts /ɔ/ in combination with fronting of /o/ and /ʌ/ such that the targets of those three vowels show notable overlap.)

In short: The California Shift is clearly present in Alaska English.