

**VARIABILITY
AS AN EMPIRICAL
PHENOMENON
AND ITS
IMPLICATIONS FOR
LINGUISTIC THEORY
(A CASE STUDY)**

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ABSTRACT

VARIABILITY is an empirical fact about human language, most notable for its inherent connection with language change over time (Chambers, Trudgill and Schilling-Estes 2002; Labov 1992). In fact, the empirical study of **VARIABILITY** by variationist sociolinguists has yielded a reliable methodology for observing language changes in progress (Bailey et al. 1992; Bailey 2002). It is now widely acknowledged that the empirical facts of language change are of great importance to theoretical inquiry (Bhattacharjee 2004; DeGraff 1999; Holden 2004; Kroch 1989; 1994; Lightfoot 1999). However, despite the implications of its demonstrated connection to language change, **VARIABILITY** as an empirical phenomenon has yet to be identified or addressed under any general, articulated theoretical framework.

This poster presents an illustrative case study of morpho-syntactic **VARIABILITY** and change in progress, and considers some implications and questions these data pose for linguistic theory. The poster is an attempt to persuade theorists that **VARIABILITY** merits serious attention. It concludes by proposing a research program for the theoretical and empirical investigation of **VARIABILITY** and language change.

I begin by offering a working definition of **VARIABILITY**, and then a brief sketch of the methodologies used by variationists to study **VARIABILITY** and language change in progress. I then turn to the case study, which is an illustrative example of the phenomena in question. A remarkably rapid language change is currently taking place in the insular community of Smith Island, MD (Mittelstaedt and Parrott 2002; Mittelstaedt 2003; Parrott 2003; Schilling-Estes and Wolfram 1999; Schilling-Estes 2000; Wolfram and Schilling-Estes 2002). After a broad look at the linguistic situation on Smith Island, I examine the details of a particular instance of morpho-syntactic **VARIABILITY**: the variable occurrence of *it* in the syntactic environments of expletive *there* ('weak expletive *it*', or WEIT) (Parrott 2000; 2002).

Like the other Smith Island variables that have been investigated, WEIT is participating in Smith Island's rapid language change. Expletive constructions have received a good deal of attention in linguistic theory (Castillo, Drury and Grohmann 1999; Chomsky 1995; 1998). WEIT thus provides a direct point of comparison between linguistic theory and the empirical facts of **VARIABILITY** and language change. It is not clear how the facts of WEIT **VARIABILITY** and change

could receive any account on current theoretical approaches. Indeed, WEIT **VARIABILITY** appears to directly contradict current theory.

VARIABILITY as an empirical phenomena has implications for linguistic theory. First, **VARIABILITY** is directly affected by the social knowledge and conscious intentions of individuals; therefore the theoretical mechanisms of **VARIABILITY** must be located in a suitable part of the language architecture (not, e.g. the syntactic computation or LF). Second, children acquire **VARIABILITY** from their speech community; therefore the theoretical mechanisms of **VARIABILITY** must be capable of interacting directly with environmental input (again not, e.g. the syntactic computation or LF). These implications clearly suggest that **VARIABILITY** is located in the lexicon or the PF interface.

Work in progress aims to develop a research program for the investigation of **VARIABILITY** and language change (Parrott; Mittelstaedt). This program calls for empirical study (on Smith Island and elsewhere) of **VARIABILITY** and language change, using the methodologies of variationists, and the development of theoretical accounts of these phenomena.

Specifically, we propose to utilize the theoretical framework of Distributed Morphology (DM, Halle and Marantz 1993) to account for **VARIABILITY**. DM offers articulated mechanisms capable of accounting for the observed empirical facts of **VARIABILITY**, and is coherent with current theoretical understanding of the language faculty and its architecture (Chomsky 1995; 1998; Grohmann 2003). The utility of this DM-based approach to **VARIABILITY** is supported by our analysis of *weren't* leveling on Smith Island. This DM analysis captures the empirical facts, and illuminates the (Distributed) morphology theoretic process involved (Mittelstaedt and Parrott 2002; Mittelstaedt 2003; Parrott 2003).

This research program should lead directly to a more precise empirical picture of the ways language change takes place, and the role of **VARIABILITY** in language change. It should also lead to further refinement of the theory of Distributed Morphology. Furthermore, we hope that this research program will shed some light on more general issues: the language architecture under the Minimalist Program, the PF interface and the theory of morphology, the nature of 'parameters', and the role of environmental input and its interaction with the genetic endowment for language (UG) during the acquisition process.

1. WHAT IS VARIABILITY?

VARIABILITY is known as **variation** in the eponymous field of linguistics dedicated to its study (Chambers 2002; Chambers, Trudgill and Schilling-Estes 2002). But in linguistic theory the word **variation** is already used, and means something else: "The differences between languages, explained in terms of the setting of linguistic *parameters*." (Uriagereka 1998: 608, italics in original)

VARIABILITY is a completely different kind of phenomenon. As revealed by the empirical "study of every-day speech", **VARIABILITY** occurs when individual "speakers use different forms to express the same meaning." (Labov 1992: 115)
Here's a working definition:

VARIABILITY

For an individual speaker, two (or more) alternate forms appear in the same linguistic environment, with no effect on truth conditional meaning or grammatical status.

- ☠ Variationists refer to a particular instance of **VARIABILITY** as a **variable**.
- ☠ The alternate forms that appear in the environment of a variable are called **variants**.

1.1 METHODOLOGY FOR THE STUDY OF VARIABILITY

Variationists have developed and refined a methodology for the empirical study of **VARIABILITY**.

- ☠ Researchers conduct and record **interviews** with speakers or groups of speakers from the community under investigation. Researchers do not (typically) elicit particular forms, or request acceptability judgments, from speakers. Interview topics are intended to produce--insofar as possible--**naturalistic, non self-conscious** speech.

- ☠ Using recordings and/or transcripts of interviews, researchers identify **variables** (i.e. instances of **VARIABILITY**). This means describing the variable's linguistic **environment(s)** and the **variants** that appear there.

- ☠ Variables under investigation are **quantified**. For a given speaker, researchers count the number of times a variable's **environment** occurs, and the number of times each **variant** appears in the environment. Then they can calculate the frequency with which a given variant appears ($= \text{variant}/\text{environment}$). This value is usually expressed as a percentage, but it can also be expressed as a probability.

☠ The data are subjected to computer aided **statistical analysis** (often using the program VARBRUL). The purpose of this analysis is to determine whether any specific factors (linguistic, social, or otherwise) condition the **VARIABILITY**. In other words, does anything make a particular variant statistically more or less **likely to appear**?

Using this methodology, variationist research has yielded a major discovery: the **frequency of variants is statistically correlated with extra-linguistic social factors**, such as the speaker's age, sex, race or ethnic group, social class, etc. (Chambers 2002; Chambers, Trudgill and Schilling-Estes 2002 and references therein). Even extremely local factors, such as the nature of the discourse event, can influence the frequency of variants (Schilling-Estes 2001). Individuals have varying degrees of **conscious control** over their use of variants (Schilling-Estes and Wolfram 1999).

1.2 VARIABILITY AND LANGUAGE CHANGE

VARIABILITY is inextricably linked with language change over time. Indeed, in some sense language change is **VARIABILITY**. As Labov notes: "though we have stable [**VARIABILITY**] without change, there is no change without [**VARIABILITY**]." (1992: 115, substituting **VARIABILITY** for variation)

The empirical study of **VARIABILITY** by variationists has yielded a second major discovery: language change can be observed as it happens. This is possible using the **apparent time method** (Bailey et al. 1992; Bailey 2002), a substantive advance in the study of language change.

☠ The **apparent time method** works by statistically correlating variant frequency with the **age** of speakers in a community. If the frequency of a variant increases, or decreases, across generation groups, a change is taking place.

☠ The **apparent time method** has been replicated many times, and has been confirmed by comparison with **real time** data.

1.3 VARIABILITY AND LINGUISTIC THEORY?

VARIABILITY as an empirical phenomenon has yet to be identified or addressed as such by a general, articulated linguistic theory.

☠ Phonological theory, and especially Optimality Theory (Prince and Smolensky 1993), has begun to engage with **VARIABILITY** as an empirical phenomenon (Anttila 2002 and references). However, phonological theory does not address the phenomenon of morpho-syntactic **VARIABILITY**, or where and how **VARIABILITY** fits into the overall architecture of the language faculty.

☠ General linguistic theory has acknowledged the importance of language change (e.g. DeGraff 1999; Kroch 1989; 1994; Lightfoot 1999 among many others). Lightfoot (1999: x) observes:

"Any theory of grammar and any theory of acquisition need to be compatible with that fact that languages change, but some current theories fail in this regard and give no understanding of why changes happen in the way they do."

☠ The relevance of language change has even been recognized by the wider scientific community beyond linguistics (Bhattacharjee 2004; Gray and Jordan 2000; Holden 2002; Holden 2004). Language change phenomena thus provide linguistic theory with a point of contact, and an avenue for collaboration, with scientists from other disciplines.

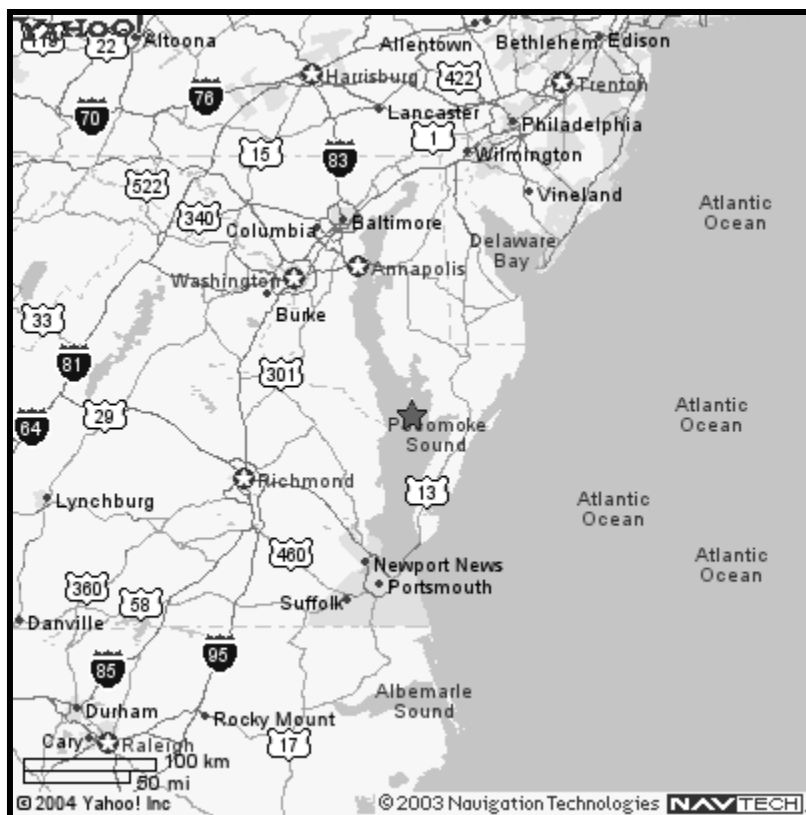
There can be no theory of language change that does not include some theoretical account of **VARIABILITY**.

Moreover, by studying **VARIABILITY** we can learn much more about "why changes happen in the way they do" than is possible using the traditional methodologies of historical linguistics.

2. CASE STUDY: SMITH ISLAND, MD.

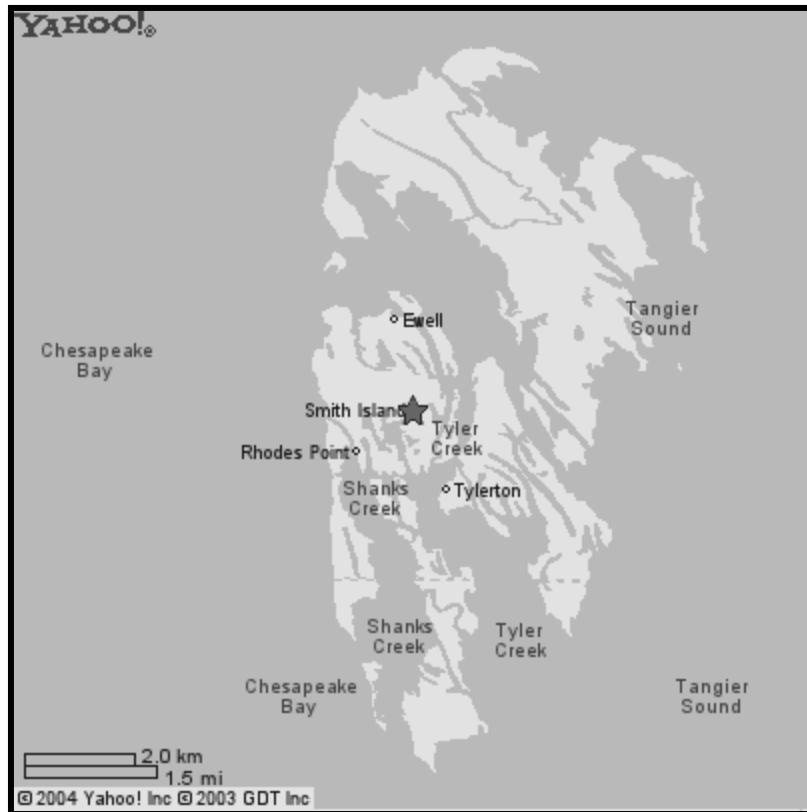
2.1 THE ISLAND LABORATORY

Smith Island is an insular community situated on a cluster of islands and wetlands in Maryland's Chesapeake Bay.



Smith Island, Chesapeake Bay, and surrounding areas

Smith Island has several characteristics that make it an ideal 'laboratory' for investigating **VARIABILITY** and language change in progress.



Ewell, Rhodes Point, Tylerton, and surrounding areas

- ☠ The population is very small. There were only **364** residents in 2000 (U.S. Census Bureau). In the future, we are interested in potentially interviewing all of residents, perhaps longitudinally.

- ☠ The population of Smith Island is extremely homogenous, and the speech community is extremely homogeneous.. **98%** of residents identified themselves as "white" (U.S. Census Bureau, 2000). Nearly all of the island's residents are natives. Issues of multiple dialects are minimized.

- ☠ The island is physically and socially isolated from the mainland. The nearest mainland town (Crisfield, MD) is 45 minutes away by boat. Mainlanders are sometimes referred to as "foreigners." Issues of language contact are minimized.

2.2 DEATH BY CONCENTRATION

The unique dialect of American English spoken on Smith Island is undergoing **dialect death** (which is a kind of language death, which is a kind of language change) due to severe and ongoing **population attrition**.

- ☠ Erosion will make Smith island uninhabitable within the next century, when it is swallowed up by the Bay.

- ☠ Political and environmental factors are having a devastating effect on the small-scale seafood industry (oysters and crabs) that is the economic backbone of Smith Island. Therefore residents leave the island permanently, in increasing numbers, in order to find employment.

Some moribund dialects undergo death by a process called **dissipation**:

- ☠ Wherever the dialect displays **VARIABILITY**, the apparent time method shows that usage of **variants** characteristic to the dialect is **decreasing** over time.

☠ Dialect death is complete when usage of characteristic variants reaches 0 for all **variables**.

☠ In other words, as the dialect dies, it becomes **more like** the encroaching dominant or majority dialect that will eventually replace it.

Dialect **death by dissipation** is currently taking place on the Outer Banks island of Ocracoke, NC (Schilling-Estes and Wolfram 1999; Wolfram and Schilling-Estes 1995) and has been documented elsewhere (Wolfram 2002 and references therein).

Dialect death on Smith Island is taking place by a very different process, called **concentration**:

☠ Wherever the dialect displays **VARIABILITY**, the apparent time method shows that usage of **variants** characteristic to the dialect is **increasing** over time. In the case of Smith Island this increase is rapid, taking place over a few generations.

☠ Dialect death is complete when the speech community is so dispersed that there will be no more native speakers of the dialect. Until then, "linguistic distinctiveness [i.e. usage of characteristic variants, JKP] is **heightened among a reduced number of speakers**." (Schilling-Estes and Wolfram 1999, emphasis added)

- ☠ In other words, as the dialect dies, it becomes **less like** the encroaching dominant or majority dialect that will eventually replace it.

Dialect death by concentration was first documented on Smith Island (Mittelstaedt and Parrott 2002; Mittelstaedt 2003; Parrott 2002; Schilling-Estes and Wolfram 1999; Schilling-Estes 2000). It has not yet been documented elsewhere. This is probably because the set of **social circumstances** that lead to death by **concentration** are much more rare than the **social circumstances** that lead to death by **dissipation**.

2.3 VARIABILITY AND CHANGE ON SMITH ISLAND

A total of 4 instances of **VARIABILITY** (i.e. **variables**) have been investigated on Smith Island to date. Two are phonological variables; two are morpho-syntactic variables. All are participating in the process of rapid change due to death by concentration.

2.3.1 TWO PHONOLOGICAL VARIABLES

The phoneme /ay/ is raised, e.g. [roId] ‘ride’

- ☠ The linguistic **environment** for this variable is anywhere the phoneme /ay/ could appear.
- ☠ This variable has two **variants**: [ay] and [oI].

☠ The **characteristic** variant is [oI].

The phoneme /au/ is glide-fronted and/or raised, e.g. [saIɪnd] or [sEɪnd] ‘sound’

☠ The linguistic **environment** for this variable is anywhere the phoneme /au/ could appear.

☠ This variable has three **variants**: [au], [aI], [EI].

☠ The **characteristic** variants are [aI] and [EI]. For quantitative analysis, [aI] / [EI] are counted together, as opposed to [au].

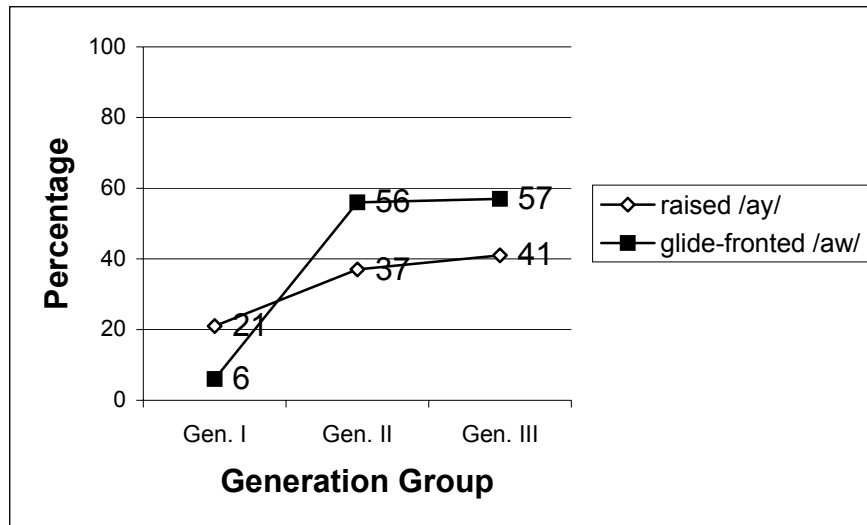
For both of these variables, usage of the characteristic variant is increasing, as shown in the **apparent time** graph below.

The Y axis shows the average percent usage of the characteristic variant (= variant/environment) by speakers, based on analysis of interviews recorded in 1983. The X axis shows the three generation groups:

☠ Generation I = b. 1899 - 1916
(age 84 - 67 at time of interviews, 1983)

☠ Generation II: b. 1944 - 1961
(age 39 - 22 at time of interviews, 1983)

☠ Generation III: b. 1966 - 1971
(age 17- 12 at time of interviews, 1983)



The progress of raised /ay/ and glide-fronted /aw/ on Smith Island, 1983 interviews (Schilling-Estes and Wolfram 1999; graph modified from Schilling-Estes 2000)

For detailed empirical analysis of these phonological variables on Smith Island, see Schilling-Estes and Wolfram (1999).

2.3.2 A MORPHO-SYNTACTIC VARIABLE: "WEREN'T"

The form *weren't* appears regardless of the person/number of the subject (an instance of **leveling**). Attested examples of Smith Island *weren't* leveling (examples from Parrott (2003)):

- (1) a. ...he weren't very good with it.
- b. ...coming home weren't too good....
- c. ... I weren't there....

Weren't leveling occurs only with negation. There is no *were* leveling on Smith Island:

(2) * *It were* me. (unattested; cf. *It was me*)

Weren't leveling occurs only with the clitic *-n't*. There is no leveling with *not*:

(3) * *It were not* me. (unattested; cf. *It was not me*)

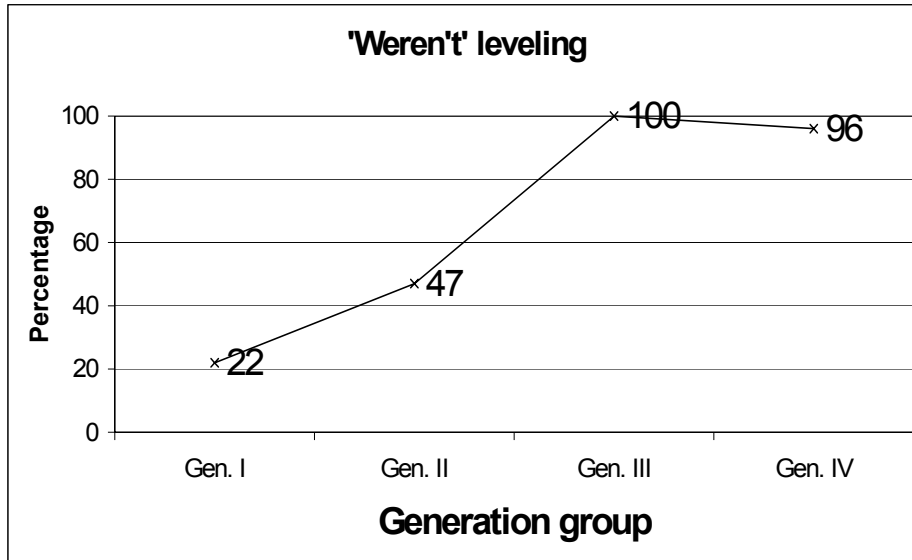
☠ The linguistic **environment** for this variable is anywhere past tense *be* appears negated with clitic *n't*. For quantitative analysis, only environments with disambiguating (1st and 3rd singular) subjects are counted.

☠ This variable has two **variants**: *wasn't* and *weren't*.

☠ The **characteristic** variant is *weren't*.

For this variable, usage of the characteristic variant is increasing rapidly, as shown in the **apparent time** graph below. This graph includes a fourth generation group, interviewed in 1999 and 2000:

☠ Generation IV: b. 1975 - 1987
(age 24 - 12 at time of interviews, 1999-2000)



The progress of *weren't* leveling on Smith Island, 1983 and 1999-2000 interviews (graph modified from Schilling-Estes 2000)

For detailed empirical analysis of the *weren't* leveling variable on Smith Island, see Schilling-Estes (2000) and Wolfram and Schilling-Estes (2002). For empirical analysis, coupled with a theoretical account in the framework of Distributed Morphology, see Mittelstaedt and Parrott (2002), Parrott (2003), and Mittelstaedt (2003).

2.3.3 A MORPHO-SYNTACTIC VARIABLE: WEIT

The form *it* appears in place of the (so-called 'weak') expletive *there*. 'Weak expletive *it*' (WEIT) appears in all the syntactic environments of expletive *there* (all examples attested unless noted, from Parrott (2002)):

(4) Copular existentials

In winter, it's nothing to do.

(5) **Raising predicates w/non finite complements**

It just happened to be a EMT on this part of the island....

(6) **Unaccusatives**

Then you go straight on down, and it comes this white house here...

(7) **Passives**

And it was sharks seen down there that day.

WEIT cannot appear with a definite DP. The following are unattested (and were rejected by two informants I consulted):

(8) * In summer, it's the big barbecue.

(9) * It just happened to be the doctor on the island.

(10) * Then you go straight on down, and it comes John's house.

(11) * And it was that shark seen down there.

WEIT never appears in the environment of the homophonous locative *there*:

(12) a. It's only a handful of 'em down there.

b. * It's only a handful of 'em down it. (unattested)

- (13) a. ...it was [a] cat in there....
b. * ...it was cat in it.... (unattested)

As in other varieties of English, plural associate agreement occurs with *there* expletives on Smith Island...

- (14) There are two older than me and one younger.

...but not categorically, also as in other varieties of English:

- (15) I believe there's spirits though.

(This is probably not a true case of **VARIABILITY**, however, since it interacts with grammatical status, e.g. **Is there spirits?* See Schütze (1999), who argues that this is a processing error.)

WEIT triggers categorical (i.e., **non-variable**) 3rd singular verbal agreement. Associate agreement with a plural associate DP is unattested with WEIT (and has been rejected by two informants I consulted):

- (16) a. It's no...separate burial plots on Tylerton.
b. * It're no separate burial plots on Tylerton.
(unattested)

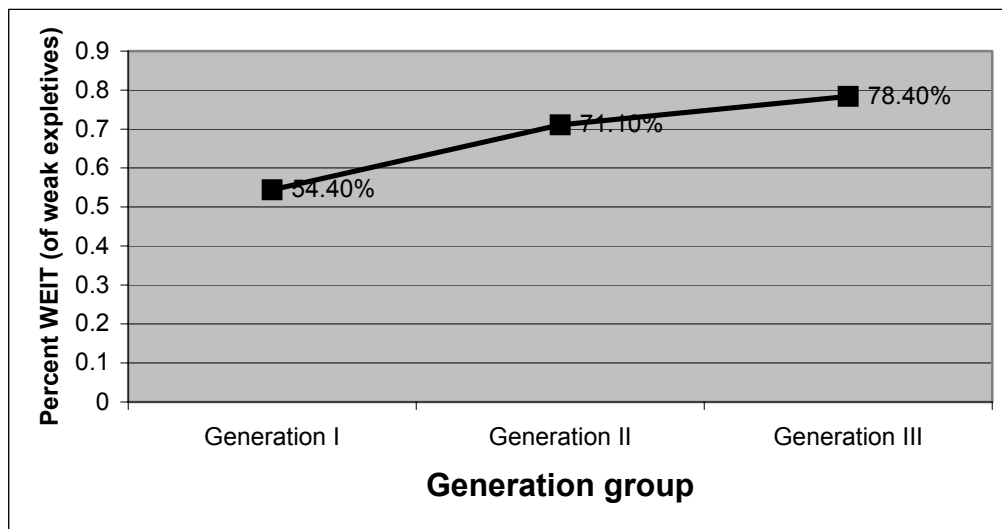
- (17) a. Is it any funny things you remember...?
b. * Are it any funny things you remember?
(unattested)

X⁸ The linguistic **environment** for this variable is syntactically defined: the environments where a weak expletive *there* may appear (see (4-6) above). For quantitative analysis, non-weak expletive *it* environments (e.g. weather predicates) were excluded from counting, as were instances where *it* had an ambiguous pronoun reading (e.g. *it was a crab*).

X⁸ This variable has two **variants**: *there* and *it*.

X⁸ The **characteristic** variant is *it*.

For this variable, the characteristic variant is increasing, at about the same rate as the phonological variables:



The progress of WEIT on Smith Island (graph modified from Parrott 2002)

For a detailed empirical study of WEIT **VARIABILITY** and change on Smith Island, see Parrott (2002). For a first attempt at a theoretical account of WEIT **VARIABILITY**, in the theoretical framework of Chomsky (1998; 1999) modified as in Castillo, Drury and Grohmann (1999), see Parrott (2000).

3. A POINT OF CONTACT: WEIT VARIABILITY AND LINGUISTIC THEORY

Let's take a closer look at WEIT **VARIABILITY**, from the perspective of linguistic theory.

3.1 EXPLETIVES

There are two salient empirical facts about expletives in English.

- ☠ Verbal agreement is with the associate DP in a *there* expletive construction, but with the (3rd singular) subject in an *it* expletive construction:

(18) There are (*is) a lot of crabs in the pot.

(19) It seems (*seem) like the crabs are getting out.

☠ The expletives *it* and *there* are in **complementary distribution**. One cannot appear in the syntactic environment of the other, regardless of verbal agreement (examples from Parrott (2002)):

(20) **Weather predicates**

* There is/are rainy today.

(21) **Raising predicates w/finite complements**

a. * There seems/seem that the crabs are plentiful this year.

b. * There is/are likely that we will catch a lot of crabs this year.

(22) **Copular expletives**

* It are/is a lot of crabs in the pot today.

(23) **Raising predicates w/non finite complements**

a. * It seem/seems to be a lot of crabs in the pot today.

b. * It are/is likely to be a lot of crabs in the pot today.

(24) **Unaccusatives**

* Every weekend, it arrive/arrives at the inn a lot of unruly researchers.

(25) **Passives**

* It were/was a lot of crabs caught in the Bay this year.

3.2 THE THEORY OF EXPLETIVES

The standard theoretical account of expletives (Chomsky 1995; 1998) connects these two empirical facts. Abstracting away from the mechanical details:

☠ *It* expletives have a **full** set of Φ -features valued [3s].

☠ *There* expletives have a partial set of Φ -features.

In a *there* expletive construction, finite T checks the Case features of the associate DP. This results in verbal agreement with the features of the associate. Because *there* lacks a full set of features, its partial feature set is checked by other means (either 'LF replacement' (Chomsky 1995) or 'probing' T (Chomsky 1998)).

In an *it* expletive construction, finite T checks the features of the *it* expletive. This results in verbal agreement with the [3s] features of the subject. There is no associate DP requiring Case checking.

(26) * It are/is a lot of crabs in the pot today.

Why is a sentence like (26) bad? Either:

☠ T checks the features of *it*, yielding 3rd singular agreement *is*. The Case feature of the associate DP *a lot of crabs* is not checked.

☠ T checks the features of the associate DP *lot of crabs*, yielding plural agreement *are*. The features of *it* are not checked.

(27) * There seems/seem that the crabs are plentiful this year.

Why is a sentence like (27) bad?

☠ There is no associate DP to check the features of T. Verbal agreement cannot be with the plural DP *the crabs*, because its Case feature has been checked by finite T in the complement clause.

☠ Finite T cannot check the partial Φ -feature set of *there*, so verbal agreement cannot be 3rd singular.

So, the complementary distribution of *it* and *there* expletives is directly related to verbal agreement.

3.3 THE MYSTERIES OF WEIT VARIABILITY

Now, re-consider WEIT **VARIABILITY** in light of the theory. 3rd singular verbal agreement with WEIT indicates two things, according to the theory:

☠ WEIT has a full set of Φ -features, valued [3s].

☠ Finite T checks the features of WEIT.

But this should leave the Case feature of the associate DP unchecked in every WEIT construction. In other words, the theory predicts that WEIT should not be possible. This is a problem like that encountered by comparative syntax, or in this case micro-parametric syntax.

But, crucially, WEIT is **variable**. Every **individual** on Smith Island uses **both** WEIT and *there* in expletive constructions. This raises the additional problem:

☠ Whatever the theoretical analysis of WEIT, it must be compatible with the fact of **VARIABILITY**. It's not at all clear what that would mean in the case of WEIT. Can **checking a Case feature** before reaching the interface be **variable**, or optional? Can the **presence of a Case feature** on a DP be **variable**, or optional? Either choice would have serious ramifications for the general theory.

Moreover, WEIT **VARIABILITY** on Smith Island is directly affected by social factors (and can consciously controlled by individuals to varying degrees). Here, the particular social circumstances (population attrition and the need to project a Smith Island identity) are causing an empirically observable language change. Thus:

☠ WEIT **VARIABILITY** raises the specter of having Case checking be subject to social and/or volitional influence. This would directly contradict crucial theoretical understanding, again with serious ramifications for the general theory.

It is reasonable to ask:

☠ Is the current theory of expletives simply wrong, disproved by the empirical facts of WEIT **VARIABILITY**?

IV. THEORETICAL IMPLICATIONS

Having examined this case study, what conclusions can we draw about the general theoretical implications of **VARIABILITY** as an empirical phenomena?

IV.1 SOCIAL INFLUENCES

It is an empirical fact that **VARIABILITY** is affected by **social** factors. To varying degrees, individuals can **consciously control** their usage of variants. This implies the following:

☠ However **VARIABILITY** is treated in linguistic theory, it should be located somewhere in the language architecture that can be subjected to social and/or volitional influence.

☠ Under current theoretical understanding, this means that **VARIABILITY** must not be located in the narrow syntactic computation, or in the computation to LF.

IV.2 LANGUAGE CHANGE

It is an empirical fact that language change takes place when the frequency of variant usage changes across generations. This implies the following:

☠ **VARIABILITY** must be acquirable. That is, when confronted with **VARIABILITY** during acquisition, children do not simply acquire one or the other variant (as a strict parametric approach to acquisition might suggest). Rather, they acquire **VARIABILITY** exactly (and only) where **VARIABILITY** occurs in their environmental input.

☠ This means that however **VARIABILITY** is treated in the theory, it should be located somewhere in the language architecture that interacts directly with environmental input during the acquisition process.

☠ Under current theoretical understanding, this again means that **VARIABILITY** must not be located in the narrow syntactic computation, or in the computation to LF.

IV.3 LEXICON, OR PF-INTERFACE?

The implications are clear: **VARIABILITY** is located either in the lexicon, or at the PF-interface. Or both....

V. VARIABILITY: A RESEARCH PROGRAM

Work in progress (Parrott; Mittelstaedt) aims to develop and carry out a research program for the investigation of **VARIABILITY** and language change. This research program involves:

- ☠ continued empirical study of **VARIABILITY** and language change (on Smith Island and elsewhere), using the methodologies of variationists, and;
- ☠ the development of theoretical accounts for the investigated phenomena.

We propose to account for **VARIABILITY** and language change within the theoretical framework of Distributed Morphology (DM, Halle and Marantz 1993). DM is a PF-interface theory that is fully coherent with current understanding of the language faculty and its architecture (Chomsky 1995; 1998; Grohmann 2003).

DM offers articulated and independently motivated theoretical mechanisms capable of capturing the observed empirical facts of **VARIABILITY** and change:

- ☠ **VARIABILITY** is located in DM's Vocabulary Entries, and in the interaction between the structure of Vocabulary Entries and operations in the morphological component.
- ☠ Intuitively, the selection of words should be subject to social and volitional factors. The Vocabulary can accommodate **VARIABILITY** with only slight modification to DM theory.
- ☠ Acquisition of Vocabulary Entries must be due to environmental input. ("No one ever dreamed of a universal morphology.")

The utility of this DM-based approach to **VARIABILITY** is supported by our previous analysis of *weren't* leveling on Smith Island. The DM analysis captures the empirical facts, and illuminates the DM theoretic processes involved (Mittelstaedt and Parrott 2002; Mittelstaedt 2003; Parrott 2003).

This research program should lead directly to:

- ☠ a more precise empirical picture of the ways language change takes place;

☠ a clearer understanding of **VARIABILITY**'s role in language change;

☠ further refinement of the theory of Distributed Morphology.

Furthermore, and finally, we hope that this research program will shed some light on more general issues:

☠ the language architecture under the Minimalist Program;

☠ the PF interface and the theory of morphology;

☠ the nature of 'parameters,' and;

☠ the role of environmental input and its interaction with the genetic endowment for language (UG) during the acquisition process.

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