

CHAPTER I

Introduction

One man's trash is another man's treasure – or, in this case, what a community may consider one of the biggest flaws in the current status of its language is usually a sociolinguist's treasure. This is the case for a phenomenon called /s/-retraction, which a user on the discussion forum of proofreading service “Pain in the English” described as “Strong sounds like strong, strange sounds like shtrange, and so on”¹.

The process described here in folk linguistic terms is the change from the alveolar production of /s/ in sibilant clusters to a backer version that resembles the acoustics of the post-alveolar sibilant. Orthographically, this difference is described as a difference between “str” and “shtr.” The author of the comment utters a deep concern that their “favorite NPR journalists” are now “mispronouncing” words such as *strong* and *strange*. Even the first lady in 2014 is mentioned as an example for this pattern.

This trend is cause for debate not only in this online forum; it has also been negatively evaluated on many other online platforms. In 2014, a contestant was mocked in the British show “The X Factor” for singing the song “Street Life” by Randy Crawford with post-alveolar production in that first sibilant. After she sings just a few lines of the song lyrics, juror Simon Cowell stops her: “Can I say something? It's straight street. It's not shtreet”² (The X Factor UK: 0:14). She replies, surprised: “Am I saying shtreet? Oh no let me fix it then” (0:20). She starts singing again, once again producing the retracted version of the sibilant, with all jurors immediately starting to laugh. Cowell asks: “Do you know shtop?” (1:00). Her enunciation is addressed further and, though they like her voice, Cowell states, “we have a problem with your shshs” (1:07).

Both her inability to produce anything other than the retracted sibilant and the jurors' reaction illustrate a variation in many varieties

¹ Retrieved from <https://painintheenglish.com/case/5231>, last visited 12/9/2022.

² sh added to emphasize post-alveolar pronunciation.

of English that linguists and nonlinguists alike have noticed in the last few decades: The rise of a more retracted version of the alveolar sibilant wherever it precedes stops. Most often, this version is discussed for the sibilant followed by stops /t/ and /r/, the exact /str/-combination³ that the contestant on “The X Factor” struggles with in “Street Life.” From a perception point of view this could be described orthographically as a change from the “regular” pronunciation of the word *street* (with the first phoneme identical to the first phoneme of *sea*) to a version that presents with a retracted sibilant orthographically transcribed as *shstreet*. This change from a “hissing” to a “hushing sibilant [...] with extreme rounding” (Labov 1981: 30) was first noticed by Labov, but has since been examined in many regions in the USA (Durian 2007; Rutter 2011; Gylfadottir 2015; Wilbanks 2017; Phillips 2018; Stuart-Smith et al. 2018) and beyond (Nichols et al. 2022; Stuart-Smith et al. 2018). Although scientific interest in this phenomenon is on the rise and researchers have investigated it in many varieties of English, the sound change is still considered underresearched in numerous ways.

There is discussion as to the phonological basis of this sound change concerning the status of assimilation (to an affricated version of /t/ or “at a distance” to /r/), the involvement of reanalysis in its progression, as well as its context structure within the word (Shapiro 1995; Lawrence 2000; Janda & Joseph 2003; Gylfadottir 2015; Stevens & Harrington 2016; Wilbanks 2017). Both theories of assimilation are evident in “The X Factor” video described above; the singer only retracts the cluster, but the judge extends the environment to *shstop*, which would indicate an assimilation to /t/.

Phonetically, the sibilant is described as displaying “a peculiar acoustic character” (Shapiro 1995). This character refers to its position on an imagined continuum between alveolar and post-alveolar sibilant production (Baker et al. 2011; Gylfadottir 2015). In an attempt to understand this peculiarity, the retracted sibilant’s frequency characteristics have been analyzed acoustically both in the durational center of the sibilant (Gylfadottir 2015; Wilbanks 2017; Stuart-Smith et al. 2018) and for the entire duration of the sibilant (Stevens & Harrington 2016; Phillips 2018).

³ There are several ways to transcribe the variable production of the consonant cluster that this study discusses. The most commonly used is the phonemic transcription, which is in line with the understanding that the phonotactic expectation and mental representation of the phoneme in this cluster is generally /s/. Since gradualness is expected in this change, /ftr/ would overestimate the current status. Another option would be to differentiate between the instances where I address the phonemic cluster /str/ and those where I address the sociolinguistic variable (str). In order to provide a more coherent reading experience, I side with Stevens and Harrington, and Rutter, who do not make this distinction (Rutter 2011; 2014; Stevens & Harrington 2016).

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From a sociolinguistic perspective, little other than a preference of retracted /str/ by younger speakers and thus an indication of change in apparent time has shown a correlation with this variant so far. While there are some studies on the effects of auditory perception (Scudieri 2012; Stevens & Harrington 2016), the general notion that it is a change below the level of consciousness can only be guessed from the scarcity of non-linguistic comments on it. The video described above could be interpreted in both directions. The contestant herself is oblivious to her pronunciation and even after being mocked she is unable to produce the alveolar sibilant in this position. However, Cowell is entirely aware of this pronunciation and able to perform both versions.

The present work empirically investigates all of the open questions sketched above. The research questions will be introduced in greater detail in Chapter 4, after I describe the state of the art on /s/-retraction. All research questions are generally aimed at using interview data from Austin to provide an entirely new angle on whether this nonregional sound change exists in Austin in apparent time. In addition to the evaluation of birth year and its effect on the production of /str/-clusters, I will reexamine and expand previous findings within both sociolinguistic and phonological research. The main focus lies on understanding the extent to which the present study can shed light on the social characteristics of this pronunciation variant, more specifically its ethnicity and gender profile. Before these finer-grained social factors can be meaningfully evaluated, the language-internal basis of the process needs further elaboration. Previous research has provided strong evidence for a change in apparent time (Baker et al. 2011; Gylfadottir 2015; Wilbanks 2017; Stuart-Smith et al. 2018). However, due to the limited amount of naturally occurring tokens of /str/, previous research has worked with different data sets both in terms of the recency of recordings and the number of items per speaker. The present study is one of the first to acoustically evaluate the sound change in an experimental framework designed to elicit /str/-clusters. It is therefore suited to further describe the nature of the change and extend the profile by adding intra-speaker variation. One facet of this description is evaluating gradualness in its progression. Lexical gradualness would indicate a change through lexical diffusion, while a lack of word frequency effects would further strengthen the notion of assimilation or coarticulation as a language-internal factor in this change. The phonetic gradience of the sibilant will be elaborated to evaluate the “peculiar acoustic character” further. Last, the analysis of meta interviews will provide a qualitative first approach to the sociolinguistic

salience of /s/-retraction as indicated in both the blog post and video outlined above.

The sound change from alveolar to a more retracted fricative sound in clustered consonant onsets lies at the heart of the present investigation. In their often-cited “Big-Bang Theory” on sound change, Janda and Joseph argue that every one of these changes is trifold, thus having a “sociolinguistic side, a phonetic side and also a phonological side” (Janda & Joseph 2003: 1). It is evident from the above descriptions that this holds true for /s/-retraction in many ways.

The following chapters will provide the theoretical backdrop for the sound change under investigation in this study in that same trisection. The first chapter introduces the social factors established in the literature as possible factors in sound change. The aim of this chapter is to elucidate how these social categories were developed theoretically and how they figured into sociolinguistic analyses. It begins with an introduction of the theoretical framework of variationist sociolinguistics and its understanding of language change. The conception of age that directly links to theories of change, and change in apparent time in particular, is then portrayed. Descriptions of larger social categories such as gender, ethnicity, and education complete the macroscopic lens for the sociolinguistic analysis. Subsequently, the focus is on changes within the individual through a sketch of the development of sociolinguistic theories of style and identity. The chapter ends with a section on social meaning in language, which introduces many of the theories and concepts necessary to hypothesize about the social progression and function of the change.

In the second chapter, phonetic and phonological theories relevant to the core of retraction are elaborated. It starts with a differentiation between the concepts of phoneme cognition and phoneme production. In a second step, cognitive models of sound production and sound perception relevant to the process at hand are explained. Based on both the cognitive and articulatory conceptions of speech production, attention then shifts to the resulting harmonic processes on both the cognitive and articulatory level, by explaining concepts such as assimilation and coarticulation.

Last, in Chapter 3, the theory of sound change is introduced, based on the previously elaborated concepts of cognitive and articulatory speech production. Once this theoretical framework has set the stage, the state of the art on this process is elaborated. Both the theories introduced previously and the findings of previous research are then used to illustrate the development of my own hypotheses and research plans.

Chapter 4 introduces in detail how the theoretical framework and previous research are renegotiated to suit my own research design and procedure.

Chapter 5 presents the findings gathered through these methods. Before regression modeling, trends and patterns in the data are explored visually using tree and forest models to better gauge the direction and future of this change based on additional social factors being modeled in comparison to previous research. Chapter 5 further investigates the patterns present in the meta commentaries of the participants through thematic analysis.

I debate all findings and trends in Chapter 6, with a strong focus on those social patterns of variation that were described differently or narrowly in previous research. Chapter 7 then illustrates the strengths and limitations of this project and sketches pathways both for the ongoing change and future research.

1.1 Sociolinguistics and Language Variation

This chapter provides an introduction to the theoretical foundation of research in sociolinguistics. It is dedicated to the social aspects that directly (factoring into the quantitative analysis) or indirectly (factoring into the qualitative analysis) inform the methodological approach and theoretical understanding of this study. The sections are designed to introduce the canonical patterns researched in most studies in the variationist framework and to provide a critical depiction of the notions that these factors are based on.

The framework for the present analysis of a possible change in progress in the phonotactics of English rests on the theories of variationist sociolinguistics. There are several theoretical assumptions necessary to meaningfully research and analyze such variation on the linguistic surface of the communicative code that we call language. The first is the connection between language and the social fabric of life. Sociolinguistics, the resulting field of theoretical inquiry, is relatively young if we consider Currie as one of its “founding fathers,” who described the field and its focus in 1952.

The present purpose is to suggest, by the citing of selected and salient studies, that social functions and significations of speech factors offer a prolific field for research. It is the intention in this connection to project, partly by means of identification, a field that may well be given the attention of consciously directed research. This field is here designated to *sociolinguistics*. Attention will be called to certain relevant research done or under way. Possibilities for further socio-linguistic research are, in fact, beyond estimation. (Currie 1952: 27)

Although dialectology as a field could generally be considered a predecessor of sociologically informed approaches to language, and sociology in and of itself may have conducted some studies in which language is a factor, the type of data gathered and the interpretation of these data is what distinguishes sociolinguistics as a discrete field of research (Chambers 2002: 6). Labov was at the forefront of circumscribing a more nuanced understanding of these “speech factors.” When he first introduced his approaches to language to the scientific community, it was not the idea of language factoring greatly in social life that was new. His work was novel because it showed how linguistic variables could be correlated with their social context in a meaningful manner (Labov 1963).

This contrast is exemplified by Chambers’ description of the aims of sociolinguistic researchers: “sociolinguists attempt to grasp language as it is used in social situations, which is to say variant, continuous, and quantitative” (Chambers 2002: 8). The quantitative nature of sociolinguistics is best described through a brief introduction of the quantitative paradigm. Bayley names the most influential principles of this approach the “principle of quantitative modeling” and the “principle of multiple causes” (Bayley 2018). The former introduces the general observation of sociolinguistic research that variation in a certain linguistic form under scrutiny may pattern meaningfully in relation to its context. The latter principle takes this variation a step further by arguing that this variation is often caused by more than one context factor.

The relationship between variable and context is important to the understanding of variationist research. Yet, defining the linguistic variable as such may prove difficult and has led to a strong reliance on the principle of accountability. This principle is based on the understanding that research aims “to isolate the largest homogeneous class in which all subclasses vary in the same way” (Labov 1972: 72). The largest homogeneous class in variationist analyses often describes a language-internal context in which a pattern can be expected to occur. The subclasses then are the further subgroups within the largest group that was identified. Correctly defining these classes is a precursor for the “principle of accountability” (Labov 1972: 72). A good example for research that fails to meet the principle of accountability in the present case would be an analysis of only highly frequent /str/-items. The largest class is thus not accounted for, because many lexical environments are left out and findings will be influenced by the focus on only a subclass (frequent words) of the largest class (all words with /str/).

While the discipline’s concern with relating language variation with its context and use has remained stable, Eckert perceives changes in the four

decades of variationist research in linguistics and names them “the three waves of variation studies” (Eckert 2012). She describes the survey-focused quantitative research introduced above as the first wave of sociolinguistics. She further characterizes: “studies in the first wave interpreted the social significance of variation on the basis of a general understanding of the categories that served to select and classify speakers rather than through direct knowledge of the speakers themselves and their communities” (Eckert 2012: 90). Studies in the second wave change this focus by bringing such concepts as communities and networks into the correlations. This is a shift from perceiving speakers as instances of social category mixes to allowing for agency and locality in the individual. The third wave in sociolinguistic research rests on this foundation while focusing more on the speaker not as a complex pool of network memberships but rather as an active creator of social meaning in language (Eckert 2012).

Eckert’s summary of variationist research generally provides a good overview of the various aims that have been included in variationist research. At the same time, however, this clear-cut division underestimates the fact that the empirical methods and the social categories employed by Labov are still informing research in sociolinguistics, because there are several ways in which broad social categories still affect speakers’ lives. Even if we agree that a division among gender lines cannot entirely account for the complexity of gendered identities, identifying as female shapes many of the social interactions that define linguistic identity. It is therefore a question of scope rather than of evolution to decide why and how to research the connection between a linguistic variable and broad or narrow social factors.

The sociolinguistic scope of research on /str/-retraction is limited compared to other fields, as I will show in Chapter 4. It therefore makes sense to begin by detecting patterns in the broader and canonical social factors prominent in the above-described “first wave.” Thus, the characteristics of the impact of age, gender, ethnicity, social class, and education on language are introduced first. After these inter-speaker categories, I consider the characteristics of the impact of various notions of style and identity on language. This shift changes the focus from per-speaker categories to within-speaker variation, a shift theoretically informed by concepts in “second wave” research. Last, I introduce meaning in language through the concept of indexicality. While the categories will later be used to statistically establish the social profile of the change, these notions of meaning will aid in making sense of these patterns and connecting them to the metalinguistic knowledge of participants. Before I introduce the

social aspects factoring in language variation, I will briefly differentiate between the study of language variation and language change.

1.2 Language Change

Changes in language have generally been investigated from both diachronic and synchronic points of view. These points of view also resulted in two different fields, one that aims to explain the past and one that wants to predict the future from the present and immediate past. Historical linguistics, on the one hand, has developed various methods to explain language change after the fact, meaning that these linguists observe change from the diachronic perspective. The field developed, for example, the comparative method that is used to analyze various historical stages of the language(s) to describe mechanisms of change and genealogical relations (Rankin 2008). The present study, however, describes a change in the immediate past and thus relies heavily on the synchronic approaches to language change. I will therefore focus on an outline of the development of variationist theories of language change in this section. Some of the historical notions of change will be referred to in Sections 3.1–3.3 when I introduce the mechanisms of phonological change more specifically.

The variationist understanding of language change is deeply rooted in the theories of Weinreich et al. (1968). In a groundbreaking theoretical paper, they position themselves historically as heirs to theories of language change developed by “moderate” Neogrammarians Hermann Paul and Ferdinand de Saussure, structuralist Leonard Bloomfield, and generativist Noam Chomsky. All of these linguists address the fact that language is changing and that individuals are involved at some level within this process, but they all fail to develop a theory to connect all aspects without negating or excluding certain phenomena. Chomsky is one of the most pronounced opponents to including any type of language other than ideal within linguistic theories: “Linguistic theory is concerned with the ideal speaker-listener in a completely homogeneous speech-community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention and interest, and errors (random or characteristic) in applying his knowledge of the language in actual performance” (Chomsky 1965: 3).

It is within this theoretical context that Weinreich et al. develop the outline of a theory that can cope with all facets of how and why language changes. In a direct response to Chomsky’s understanding of language,

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they describe it as “an object possessing orderly heterogeneity” (Weinreich et al. 1968: 101). They argue that a perfect structure could and would not change. However, only if we accept that the cases of imperfect language we are presented with are not mere chaos, but rather allow for the flexibility necessary to recreate and improve, can we apprehend how variable patterns are meaningful. To them, in “a language serving a complex (i.e., real) community, it is absence of structured heterogeneity that would be dysfunctional” (Weinreich et al. 1968: 101). Guy comments that this view of the connection between language variation and language change is one of scope. He states: “variation is the synchronic face of change, and change is nothing more than diachronic variation” (Guy 2011: 179).

Weinreich et al. employ their theoretical understanding of how variation as orderly heterogeneity relates to language change to develop a set of problems that a theory of language change needs to address if we want to understand how language changes in service to the community. They describe these problems as follows.

1. The constraints problem: “The problem of constraints on immediately succeeding language states [. . .], we too want to inquire into the set of possible changes and possible conditions for changes which can take place in a structure of a given type.”
2. The transition problem: “[I]t remains entirely relevant to ask about intervening stages which can be observed, or which must be posited, between any two forms of a language defined for a language community at different times.”
3. The embedding problem: “How are the observed changes embedded in the matrix of linguistic and extralinguistic concomitants of the forms in question? (That is, what other changes are associated with the given changes in a manner that cannot be attributed to chance?)”
4. The evaluation problem: “And how can the observed changes be evaluated – in terms of the effects upon linguistic structure, upon communicative efficiency (as related, e.g., to functional load), and on the wide range of nonrepresentational factors involved in speaking?”
5. The actuation problem: “What factors can account for the actuation of changes? Why do changes in a structural feature take place in a particular language at a given time, but not in other languages with the same feature, or in the same language at other times? This actuation problem can be regarded as the very heart of the matter.”

(Weinreich et al. 1968: 101)

The questions they pose and the problems they outline are taken together as a theory of language change able “to deal with nothing less than the manner in which the linguistic structure of a complex community is transformed in the course of time so that, in some sense, both the language and the community remain the same, but the language acquires a different form” (Weinreich et al. 1968: 102).

The presented theory of language change was adapted by many researchers and is arguably the foundation of the variationist linguistic analyses of change. Subsequent research in language change was mainly concerned with further developing the underlying principles of problems one to three. The constraints principle truly can be considered the basis of the above-mentioned quantitative paradigm. It is the very foundation of considering correlation a meaningful technique in evaluating language in its social context. The evaluation problem is the theoretical backdrop of (metalinguistic) perception and the foundation of the above-described second- and third-wave studies in sociolinguistics. While the actuation problem remains heavily debated, few studies have been able to deliver more than arguments as to why change has a specific timing (Baker et al. 2011). In particular, the transition problem leaves room to find more functional and detailed descriptions of patterns differentiating between various types of progression observed in language data. As such, it can be regarded as the foundation of the curvilinear principle as well as theories of lexical diffusion, which will be addressed in greater detail in Section 3.4.

While the five problems outlined in Weinreich et al.’s theory certainly inform the methods and possibilities of describing all factors in a change, they also provide enough room for the meaningful existence of variation. The general notion that all change results from language variation but not all variation causes change in a language was included in the features of change noted by Labov.

1. Linguistic changes show a sporadic character, beginning and ending abruptly at times that are not predicted by any universal principles.
2. Stable, long-term variation that persists over many centuries in much the same form is perhaps even more common than changes which go to completion.
3. It is not uncommon to find retrograde movements, where the direction of changes reverses, or opposing directions of movement in parallel communities.

(Labov 2001: 75)