William Labov: *Principles of Linguistic Change.*
Volume 1: Internal Factors


This book is a monumental work of a synthesis of years of Labov’s own research and that of others on language change, especially sound change. It is the first of the three volumes, and concentrates on internal factors. The social and cognitive factors will be dealt with in the forthcoming Volumes 2 and 3 respectively. Labov presents in this Volume 1 the study of change in apparent time and its relation to change in real time, the nature of chain shifts, the implementation of mergers, splits, and near-mergers, the controversy surrounding the regularity of sound change and the role of functional effects.

This book is not just a quantitative sociolinguistic study of one or more linguistic variables but shows the general methodology to be employed in studying language change, drawing on new methods for variationist studies, traditional dialectology, history of English, comparisons with dialects of English and other languages, instrumental analysis of the vowel systems, perceptual experiments, etc. Although aimed at an explanation of internal factors, Labov does not intend a complete separation of internal and external factors, including considerable information on the social distributions of linguistic variables. Labov, who has been at the forefront in the field, has had an enormous influence on the study of language change.

Part A (Chaps. 1–4) deals with introduction and methodology. Labov provides the methodological foundation for the study of change in progress, based on the linguistic version of the uniformitarian principle. The uniformitarian principle originates in geology. It was first formulated by the Scottish geologist James Hutton in 1785, and made the foundation of modern geology by Charles Lyell in 1833. It is that knowledge of processes that operated in the past can be inferred by observing ongoing processes in the present. Labov assumes that we can learn about the mechanism of past sound changes by studying changes in progress. He also discusses changes in apparent time and its relation to real-time change.

Part B (Chaps. 5–9) deals with chain shifts. Chain shifts, mergers and splits of vowels are among the major forces that lead to linguistic diversity throughout the world. Labov
discusses rotations or chain shifts and the general principles that control these shifts, applying the uniformitarian principle of using the present to explain the past. In chain shifts, tense vowels rise along a peripheral path, lax vowels fall along the nonperipheral path, and tense vowels move to the front along peripheral paths, and lax vowels move to the back along nonperipheral paths. Two or more of the general principles are combined to form a small number of chain shift patterns that recur throughout the languages of the world.

Pattern 1 is exemplified by the classic symmetry of the English Great Vowel Shift: the raising of the long vowels in both back and front, with the high vowels leaving the system of long monophthongs to become upgliding diphthongs.

Although Pattern 2 is relatively rare in the historical records, the most complete realization can be found in the Northern Cities Shift, one of the most vigorous changes in progress in the United States. For over a thousand years, the short vowels of English have been relatively stable. In the major cities of the Northern region: Rochester, Syracuse, Buffalo, Cleveland, Detroit and Chicago, however, a chain shift of six short vowels is observed. This is an entirely new pattern in English phonology, and it forms the most interesting discussion in Part B.

The Northern Cities Shift began in the first half of the 20th century with the tensing and raising of the entire set of ME short a words, which now follow an elliptical distribution, ranging from [æ̃] to [iə], depending primarily on the phonetic environment, the sex and age of the speaker. This was followed by a fronting of ME short o in cot, hook, Don, etc., which had previously been unrounded to a low central or back-central position. The class of ME long o in law, talk, hawk, caught, Dawn, etc. has then moved forward in a chain shift behind short o to low central position, at times overlapping short e. The class of ME short i then moved downward to the former mid-central position of short e. In the most recent developments, the short e class has shifted back towards /æ/, and /æ/ has moved to the lower mid back position of /aʊ/, completing the cycle. Pattern 2 is shown in Figure 1.

Milroy (1995: 438–439) questions Labov's chain shifts of lax (short) vowels. Milroy states that in dealing with the Northern Cities Shift, it may be prudent to bear in mind the possibility that lax vowels are subject to 'pendulum swings', i.e., lax vowels appear to swing in both directions. Labov shows that short a word class is tensed to /æh/ and undergoes fronting and raising in the Northern Cities Shift. However, we also find that short a word class undergoes backing, in many cases accompanying tensing, in a lexically
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![Figure 1: The Northern Cities Shift (Taken from Labov 1994: 191)](image)

gradual fashion in RP (Wells), Hiberno-English (Harris), Australian English (Bradley) and Vancouver English (Eslin & Warkentyne).

Pattern 3 governs the vowel systems of southern England, Australia, New Zealand, South Africa, the southern Middle Atlantic states, the Upper and Lower South, the South Midland, the Gulf states, and Texas. For example, in Norwich, /ɔw/ in *throw, blow*, etc. is close to short /əl/, /əw/ in *coast, know, note, go* is in the position /əw/, and /uəw/ in *choose, boot, too* is /uəl/. In New York City, /æh/ in *father, calm*, etc. becomes /eəl/, and /eəl/ in *law, salt, coffee*, etc. moves up to high position /uəw/. Pattern 3 is represented as the raising of the back vowels /ləl → lə → ləl → uəl in the nuclei of long vowels or diphthongs.

Pattern 4 begins with a laxing of the nuclei of /iəl/ and /eəl/, so that they are located on the [-peripheral] track. The basic movement is a downward chain shift of these nuclei. The nucleus of /eəl/ falls, usually in the most open position, and the nucleus of /iəl/ follows. In the Gulf states, Texas, /æl/ is monophthongized and shifts to the front as long [ə]. In Southern England, Australia, New Zealand, and the coastal areas of the Eastern United States, /æl/ and /eəl/ move up along the back [+peripheral] track. The original short, lax vowels become [+peripheral]. I will return to the problem of chain shifts below.

Part C (Chaps. 10–14) examines the general properties of mergers and phonemic splits. Labov continues to use the present to explain the past, and discusses the two cases of "falsely reported mergers" in the history of English: the development of ME /ɪ/ in eModE and the merger of ME /ɪ/ and /əi/ in the 18th century, where word classes were said to have merged and afterward separated. These are well-known difficulties that cause problems for the notion of the neogrammarian phonetically gradual change.

The traditional views by Wyld (1936), Kökeritz (1933) and Dobson (1968) assume that ME /ɪ/, /ə/ and /aɪ/ merged in educated upper-class speech. This supposed merger creates great difficulties in explaining when and how ME /ɪ/ developed to [ɪ] and is now identical with ME /ɪ/ in the great majority of ME /ɪ/ words, and why the [ei] pronunciation is only
reflected in a few words (great, steak, break, and yea), and why ME ā and ME ai did not merge with ME ě as [ǐ].

Labov reexamines the reported mergers of the 16th and 18th centuries in light of mergers in modern speech communities and the new conception of the asymmetry of production and perception. The recent work in Belfast by Milroy and Harris shows that older speakers continue to pronounce meat [met] that was characteristic of 16th century London. They are not generally capable of distinguishing ME ě words from ME ā words, but the two classes are distinct in production, with a great tendency for ME ā words to rise to high position and develop diphthongs.

Labov explains the merger of ME ě and āi in the 18th century by the instrumental measurements of the dialect of Essex, where the word classes of /ay/ and /oy/ are in close approximation but acoustically the same. He concludes that it appears that the sound changes in the 16th and 18th centuries may bring two phonemes into such close approximation that semantic contrast between them is suspended for native speakers of the dialect without necessarily leading to merger.

Labov's solution of the paradoxes in the historical record by the concept of "near-merger" in modern dialects is interesting. His interpretation as well as traditional views of historical mergers is based on the neogrammarian regularity of sound change. However, there is still another solution. Ogura (1980, 1987: Ch. 2) finds that the development of ME ě is most satisfactorily explained by the mechanism of lexical diffusion, a process which is implemented in a lexically gradual manner, diffusing across the lexicon, originally proposed by Wang (1969) (see below).

Ogura shows, based on the systematic and exhaustive investigation of ME ě rhymes in the late 14th and 15th centuries, together with other evidence in the 16th, 17th and 18th centuries, that some words had already changed to [e] (> [i] in the late 15th century), some were fluctuating between [e] and [ě], and others still remained [ě] in the late 14th and 15th centuries. In the 16th century, most of the ME ě words still had dual pronunciations, one conservative [e], the other advanced [i], and only a small portion of the words had an [i] pronunciation. As the 17th century advanced, more and more relevant words came to be pronounced with [i]. Finally in the course of the 18th century, most educated speakers adopted the [i] pronunciation for all the ME ě words except great, steak, break and yea. According to Dobson (1968), the 16th- and 17th-century orthoepists do not distinguish these four words from other ME ě words, and the 18th century evidence commonly shows [i] beside [e]. Therefore Ogura assumes that in great, steak, break and yea
the [e] and [i] pronunciations competed for some centuries and after the 18th century the [e] at last ousted the [i] pronunciation and became [ei] in PresE.

Ogura (1987: Ch. 3, 1995) also finds that ME i and a implemented in lexically gradual fashion (see below). Thus even if ME i merged partially with ME ai, the class of words which originally had ME i could still change to [ai].

Part C also deals with the phonemic split, the converse of merger. Old English short diphthongs and the split of short a in closed syllables in Middle Atlantic states are examined. The split of short a into tense /æɪ/ and lax /æ/ shows lexical diffusion, which is again discussed in Part D.

Part D (Chaps. 15–18) aims at a resolution of the controversy on the regularity of sound change. Before discussing Labov's argumentation, I would like to review a historical background of the regularity controversy. The most explicit hypothesis on how sound change comes about was proposed by the Neogrammarians working in Germany in the mid-1870s. Their doctrine is clearly stated by the two leaders of the neogrammian movement, Osthoff and Brugmann: “... every sound change, inasmuch as it occurs mechanically, takes place according to laws that admit no exception” (1967 [1878]: 204). The neogrammian hypothesis was a working principle that defined sound change, and Hockett (1965) labeled the central product of the neogrammian movement ‘the regularity hypothesis’. Labov (1981, 1994: Ch. 18) further made the regularity of sound change definite, claiming that regular sound change is conditioned only by phonetic environments.

The neogrammian conception of the regularity of sound change has been accepted in various forms by virtually all major schools of historical linguists. Since the 1880s the comparativists have insisted on the exceptionlessness of sound change, whereas the dialectologists have argued that each word has its own history. As a result, still today there exists an unfortunate chasm between the study of language in time and the study of language in space.

But in recent years, several contributions have been made toward solving this problem. Especially in his resolution of the problem, Labov proposes to distinguish phonetically regularly conditioned change (“change from below”) and lexical diffusion (“change from above”). The resolution is a form of complementary distribution. Regular sound change is characteristic of low level phonetic sound changes, such as the backing, fronting, raising and loweing of vowels. Lexical diffusion affects category membership at higher levels of abstraction, such as the shortening or lengthening, tensing or laxing of vowels.
According to Labov’s taxonomy, the development of ME \( \dot{a} \) and \( \ddot{u} \) should be regular sound change. Thus, based on the data in Ogura (1987, Ch. 3, Apps. C and E), Labov (Ch. 17) reanalyzes the distribution of ME \( \dot{a} \) and \( \ddot{u} \) words at 311 sites in England by chi-square test, multiple regression and multi-dimensional scaling, and maintains that the mathematical analysis of dialect distributions supports the regularity hypothesis as well as the claim of phonetic conditioning of sound change.

Ogura (1991) examines the validity of Labov’s claims. Since Ogura’s Appendices C and E do not retain spatial information, there are many instances of lexical diffusion which do not show up in Labov’s chi-square test. Ogura compares a given pair of ME \( \dot{a} \) and ME \( \ddot{u} \) words by counting the number of sites where the pair of words is pronounced differently. Ogura shows, contrary to Labov’s conclusions, that the spatial distribution of the words through sites, which reflects the diachronic development of the words, is strongly suggestive of lexical diffusion and that phonetically conditioned change is not necessarily considered as evidence of the regularity of sound change.

Ogura & Wang (1996a, b) propose a 2-dimensional diffusion model: diffusion from word to word in a single speaker or at a single site, which we call W-diffusion, and diffusion from speaker to speaker, or from site to site of a single word, which we call S-diffusion. When W-diffusion is slower than S-diffusion, the difference is greater between words. When W-diffusion is faster than S-diffusion, the difference is greater between speakers or sites. W-diffusion may proceed so fast that it is difficult to observe it. This shows what is called the neogrammamian regularity. Our model synthesizes the neogrammamian conception of the regularity of sound change and the dialectologist’s conception that each word has its own history.

Labov considers that the chain shifts and many of the mergers discussed in Parts B and C show the regularity of the sound changes and phonetic conditioning. Our 2-dimensional diffusion model assumes that in these cases W-diffusion proceeds so fast that it is difficult to observe it within each individual, but there are great variations among individuals. Actually Labov’s instrumental measurements of spontaneous speech show that the individual vowel systems are quite different, especially along the age dimension, as shown in Figures 4.9a, 4.9b, 6.1, 6.2, 6.7, 6.9, 6.10, 6.11, 6.18, 6.19, 6.20.

The following Figures 2a and 2b are reproduced from Labov’s Figures 4.9a and 4.9b. They show the typical progress of the Northern Cities Shift across generations. Figure 2a shows the pattern of the father and the /æh/ word class shows a globular distribution in low front position. Figure 2b shows the vowel system of the son. The entire /æh/ class is
shifted upward in an elliptical distribution. The diffusion from word to word cannot be observed within each individual, but the change can be observed while it is in progress across generations. Our diffusion model uniformly can explain Labov’s examples of chain shifts and mergers.

Persistent borrowing can result in extreme hybridization, as shown in the Chaozhou Chinese study by Wang and Lien (1993), where even parts of single syllables may come from different dialect sources. The Chaozhou case was actuated externally by extensive borrowing from the northern dialects, resulting in various colloquial and literary strata. After many centuries of close contact among these various strata, there has been wholesale scrambling of parts. Most syllables are hybrids, and that all possible combinations of the 3 components, i.e., initial, final and tone, which is literary or colloquial, can be found.

Labov (Ch. 16) argues against their discussion and states that this is just an intimate borrowing, or a dialect mixture. He seems not to distinguish implementation of change from actuation of change. A Chaozhou speaker is no longer conscious of all the historical distinctions in his vocabulary. No donor dialect can be found for the hybrid syllables. Lexical diffusion is now being implemented internally and is a process that is going on in

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Figure 2a: Vowel system of James Adamo, 55, Detroit (Taken from Labov 1994, Figure 4.9a)
Chaozhou today. As Milroy (1993: 438) states, it is questionable that the likelihood that many changes are initiated by contact is not central to Labov’s argument.

Part E (Chaps. 19–21) deals with the role of functional considerations in change. It addresses the evidence from the loss of morphological distinctions for the neogrammarian contention that sound change is modified only by the phonetic environment, and not by the need to convey information. The final chapter provides a review of the principles developed and discussed in the book, followed by an extensive bibliography and a detailed index.

This book is the most stimulating, essential and rewarding in the field. Labov’s empirical linguistic research in the speech community is one of the most important developments in 20th century linguistics. His latest research and thinking inspire not only the linguists, but also the biologists, anthropologists and geologists who are interested in evolution.
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Note

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References


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