Pronounced Differences

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The study of language would be simple and straightforward indeed—not to mention boring—if we all pronounced our words in exactly the same way at all times, like a race of robots. But, for a multitude of reasons, speech sounds vary and change from one utterance to another. That is, groups of sounds that a language community has agreed to use with certain meanings are constantly being altered by individuals through haste, carelessness, ignorance, perhaps even in response to a creative impulse. What begins as an error or deviation may ultimately gain general acceptance. Awkward clusters of sounds may be so frequently and consistently altered that the new sounds become standard usage. For example, although the k of knife and know was sounded in Old English, it is no longer correct to pronounce it.

Patterns of Phonetic Change

The history of a language is largely a record of its sound changes. Italian, for example, differs from its parent Latin according to highly consistent patterns of phonetic shift. The evolution of French from the same source followed different but equally consistent patterns. Why certain ethnic groups modify a language in one way while others make entirely different changes can only be conjectured. Italian evolved among native speakers of Latin on Italian soil, French among Celtic tribes in Gaul, on whom Latin had been imposed as a second language. Probably some of the phonetic characteristics of the primitive Celtic speech influenced the way in which French speech sounds developed, just as variant sound patterns found in black English can be traced to features of African languages.

In any event, phonetic divergences are the principal basis for distinctions among languages and dialects having a common origin. In fact, it was the codification of such divergences by eighteenth century linguists that led to the discovery that such seemingly unrelated languages as Latin, Russian, German, and Hindi are all derived from one primitive tongue, called Indo-European.

Phonetic differences also form one major basis of distinction among various levels of speech—formal, colloquial, substandard. There is no essential difference between a phonetic deviation that will always remain "erroneous" or "substandard" and one that will become so widespread as to achieve general acceptance. *Ain't* (for *am not*) has been with us for centuries but seems no closer to legitimacy now than it ever was. In contrast, the transformation of *glykyrrhiza* into *licorice*, equally barbarous if not more so, carries no taint of impropriety.

It is important to distinguish genuine phonetic evolution—the gradual alteration or attrition of sounds occurring over the course of many generations—from deliberate contraction or abbreviation of a word at a single stroke. On the one hand, the metamorphosis of Latin dignitatem and redemptionem into English dainty and ransom can be traced in a series of stages through Old French and Middle English. On the other hand, the cutting down of cabriolet to cab and of Elizabeth to Liz was abrupt, not gradual.

The study of phonetic change, besides being a fascinating pursuit for its own sake, offers valuable insights into the mysterious workings of language. An understanding of the reasons for various kinds of sound change can help those who work with words to cultivate a more liberal view of human speech behavior while retaining a firm grasp on standards of correctness in formal speech, writing, editing, and transcription. In order to derive maximum benefit from this article, I recommend that you pause here in your reading long enough to record the following list of words on tape in your natural voice. Please wait to play back the tape until instructed to do so.

anatomically offensive
background preference
discomfort temperature
handkerchief scrapbook
handsome sensory
Johnson warmth

It's on the Tip of Your Tongue

No classification of phonetic change can be expected to satisfy everyone. Phoneticians, students of historical and comparative linguistics, and speech therapists all view the subject from widely divergent angles. Instead of trying to work within a rigid, artificial framework, I propose to survey the subject of sound change from various points of view, gradually building up a coherent, if necessarily incomplete, picture. One or two preliminary notes are in order here.

Although the English alphabet is phonetic, our spelling contains many ambiguities (*tear* 'ocular secretion': *tear* 'rip'; *bough:cough:dough:tough*) and inconsistencies (*deceive:believe; proceed: recede; colonial:colonel; leopard:shepherd*) and even, crowning absurdity, many silent letters (*honest, knot, yacht*). In this article, nevertheless, sounds will be represented by ordinary English letters rather than in phonetic transcription.

Some basic notions about the anatomy of speech are a necessary preliminary to any discussion of phonetics. The speech apparatus comprises all those structures capable of modifying (under the direction of the central nervous system) the flow of expired air from the trachea so as to produce sounds. The vocal cords generate the continuous hum that we hear in the vowels a, e, i, o, and u. Differentiation among these vowels (and between long and short vowels) depends largely on the shape and position of the tongue at the moment of phonation. W is a sort of vowel formed by the lips instead of the tongue. Those who don't mind paradoxes may like to think of the sound represented by initial h (as in hot) as an unvoiced vowel. A diphthong is a combination of two vowel sounds to form a third, as in oil and out. Although loom, pain, and meat are spelled with two adjacent vowels, the sounds represented are not diphthongs; compare the same sounds heard in lumen, pane, and meter. The vocal cords also contribute to the formation of voiced consonants (for example, b and g as contrasted with p and k).

Most of the consonants are produced by an interruption of air flow through the mouth, momentary or sustained, partial or complete. Complete momentary interruptions may be made by the tongue at the soft palate (k, g) or the base of the upper teeth (t, d), or by closure of the lips

(p, b). Other consonants are produced by partial obstruction to the air flow between the tongue and the hard palate (s, sh, z, j) or upper teeth (unvoiced and voiced th), or between the lower lip and upper teeth (f, v). Note that at each of these points the consonants produced may be either voiced (g, d, b, z, j, v) or unvoiced (k, t, p, s, sh, f). Other consonant sounds are produced by certain positions or movements of the tongue without interruption of air flow (y, r). Nasal sounds result when the speaker diverts the flow of voiced air through the nose by closing off the mouth at some point-lips (m), hard palate (n), or soft palate (ng).

This greatly oversimplified summary of sound production should clarify the customary division of phonetic changes into physiologic and psychological. Physiologic (physical, anatomic) sound changes occur when the speech organs experience difficulty or awkwardness in producing a certain sequence of sounds. For example, the p sound of cupboard is universally omitted because it is virtually impossible to shift smoothly from unvoiced p to voiced p since both are produced by apposition of the lips.

Psychological sound changes result when the sound of a word or phrase is modified more or less deliberately for semantic or even esthetic reasons. The alteration of *asparagus* to *sparrow grass* plainly reveals the unsophisticated speaker's error as to the origin and purport of the word. Folk etymologies of this type are a potent force in the development of speech patterns, not exclusively among the uneducated.

The change from r to l in pilgrim (Latin peregrinus) and turtle (Latin turtur), technically known as dissimilation, reflects a quasi-esthetic objection to repeating the r sound. This pattern of sound change underlies the preference for the adjective suffix -ar (Latin -aris) over -al (-alis) in words containing an l in the base or stem (lobar, alar, hilar). It has influenced the structure of dozens of medical adjectives formed from diminutives (nearly all of which contain l's): cerebellar, tonsillar, uvular.

Only Change Is Constant

Although the distinction between physiologic and psychological sound changes is of some didactic value, it often breaks down in practice. All speech acts are subject to modification by conscious or unconscious mental activity; hence the Freudian slip, in which the subconscious mind revises a message to express more truly the speaker's thoughts. Speech begins as imitation and quickly becomes habit. We pronounce *cupboard* without the *p* sound because we learned to say it that way long before we knew how it is spelled, not because we personally had or continue to have difficulty trying to say "pb." Still, an individual's difficulties in mastering certain sounds are not without importance.

Children consistently have more trouble learning to make some sounds than they do making others. That is the reason for "baby talk," in which, for example, initial l and r may become w (widdie wabbit) and voiced th becomes v (vose, muvver). Some persons, particularly those with speech impediments, learning disabilities, or impaired hearing, may carry these incorrect speech practices into adult life. Moreover, many nursery modifications of common words and names have become part of informal English–for example, tummy for stomach and Molly for Mary.

The sounds of words and names borrowed from foreign or classical languages usually shift in the direction of sounds peculiar to the borrowing language. Sometimes the borrowed word is recast in familiar syllables that roughly approximate the foreign material, as when French *mousseron* became English *mushroom*. At other times, an effort to find an English meaning lurking in the foreign word determines the choice of syllables used to render it. Thus the change of French *écrevisse* into English *crayfish* shows an approximation of the last syllable to an English word of related meaning—another example of popular etymology at work. In any event, the native sounds of borrowed words are seldom preserved intact.

A speaker may also blunder by imposing on a word a foreign pronunciation that doesn't belong to it. An example of this practice that will be familiar to medical transcriptionists is the gallicization (usually partial and inept) of words that are not French, such as *centimeter*, *chalazion*, (*Clostridium*) *difficile*, *phage*, *troche*, and *raphe*. The *sch* of *ischium* and *schistosomiasis* is often heard with the German sound of *sch* (*sh*) rather than the correct Greek sound (*sk*). The Hungarian name Kaposi ("káhp-oh-shee") is often pronounced as if it were Italian ("ka-póh-see").

Uneducated or careless speakers often modify uncommon sounds to make them match more familiar ones. So, for example, we often hear *Halloween* pronounced as if it were spelled *Holloween*, and *ridiculous* as if *rediculous*. These are cases of purely phonetic analogy, the commoner sounds *hollow* and *re*- winning out over the less frequently heard *hallow* and *ri(d)*. Sometimes a semantic element enters into a case of analogical sound change. Thus the frequent corruption of *congratulations* into *congradulations* probably arises in part from an association with academic graduations. Similarly, *sacrilegious* is usually pronounced (and often spelled) *sacreligious* because of its supposed kinship with *religious*. The second syllable of Middle English *femelle* was altered to match the word with which it was often paired—*male*—as if *male* and *female* were cognate words; they are not.

The pronunciation of a word or phrase may change markedly when the speaker wishes to emphasize some part of his utterance. For example, sports enthusiasts habitually shift the stress in the words *offense* and *defense* to the first syllables in order to underscore the distinction. We show some of these differences in writing: *another* 'one more', *an other* 'a different'; *blackboard* 'classroom furniture', *black board* 'any board that is black'; I bought a *tankful* of gas; they found one *tank full* of water.

Another departure from established or conventional speech sounds occurs when a speaker bases his pronunciation on the spelling of a word rather than on the way most people say it. Thus letters that have become silent through one kind of phonetic change (the *t* in *often*, the *l* in *calm*, and the *h* in *forehead*) may be restored to life through another kind of change. Adjacent letters may be wrongly combined or separated, as when *Chatham* and *Waltham* are pronounced *Chatham* and *Walth-am* instead of the historically correct *Chat-ham* and *Walt-ham*, and *disheveled* comes out *dis-heveled* instead of *dish-eveled*.

Many persons, including some with pretensions to culture and erudition, seem compelled to pronounce the indefinite article *a* like the *a* in *day* when they see it written—as, for example, when reading an announcement. The fault may even carry over into conversation when the speaker strives for greater formality or emphasis. Some incorrect pronunciations may be based on incorrect spelling. Thus, although persons who say *dip-theria* and *ec cetera* may err through

faulty observation of the spelling of these words, they may just as easily have been misled by seeing them spelled wrong (*diptheria*, *ect*).

Closely akin to these spelling-based pronunciations is the phenomenon of hypercorrection, whereby a speaker changes a correct pronunciation into an incorrect one under the impression that he is doing just the opposite. For example, a child who has been corrected for dropping his g's in words such as *nothing* and *seeing* may, besides amending his pronunciation of these words, alter *button* and *mitten* to *butting* and *mitting*. Many persons say *lozenger* instead of *lozenge*, apparently because they perceive in the plural form *lozenges* a careless or dialectal dropping or an r (as in *dange's* for *dangers*).

Jawbreakers and Tongue Twisters

One of the chief reasons why we change speech sounds is to avoid tongue twisters and other inconvenient phonetic sequences. Every living language tends to grow and become more complex by combining old elements in new groupings to express new meanings. In addition, the possible number of different combinations of new words and phrases is virtually limitless. This constant synthesis of new phonetic sequences often results in awkward groupings of sounds. The inconvenience of pronunciation may lie in the need for rapid alternation between two widely different arrangements of the speech organs (gth in strength, mpk in pumpkin, ndk in handkerchief), in the repetition of a sound with a widely different sound intervening (ktk in parked car, ndn in brand new, sks in desks)—or with no sound intervening (deep pain, duct tape, iced tea)—or in sudden shifts between voiced and unvoiced consonants with the speech organs remaining in the same or nearly the same position (dth in width, kg in background, ths in months).

In resolving these various difficulties, speakers resort to a variety of expedients, most of them more or less automatic and stereotyped. An awkward sound may simply be deleted, as in asthma, pronounced as'ma; clothes, pronounced clo's; Wednesday, pronounced We'n'sdny; and in the substandard pronunciations barb'wire, enviro'ment, Feb'uary, and stren'th. It will be noted here and elsewhere that these so-called physiologic sound shifts frequently operate on the first element in the cluster. This would seem to indicate not only anticipation of difficulties but also some measure of deliberation.

The somewhat unsatisfactory term assimilation denotes a change in one of the sounds of an awkward cluster whereby the transition to or from another sound is rendered easier. *Assimilation* is often used in the narrow sense exemplified by the very word *assimilation*, from Latin ad+similare. Although it is true that in our spelling of the word the d "has become an s," phonetically it has just vanished. That is, this is just another case of omission or deletion of a sound. The same can be said with respect to *accurate*, *afferent*, *aggregate*, *align*, *amount*, *announce*, *apply*, *arrest*, *associate*, *attend*, and dozens of other words in which the d sound of the preposition ad (alias the prefix ad-) has disappeared. Such assimilatory deletion is a regular feature of the formation of many Italian words from Latin. For example, Latin ct is invariably converted to tt in Italian: ditto from dictum; dottore, from doctor; petto, from pectus, and so

forth. In contrast, we often find the *t* in such pairs deleted in the careless pronunciation of English: *con-duc's*, *stric'ly*.

The term *assimilation* might more fittingly be applied to changes like those seen in *symptom* (from Greek *syn+ptoma*), where the shift from *n* to *m* smooths the transition to *t*. Some of the Latin *-ct-* groups mentioned in the preceding paragraph are themselves products of this type of assimilation: *rectum* 'straight' for *regtum* from *regere* 'to rule'; *pictura* 'painting' for *pingtura* from *pingere* 'to paint'.

Other important kinds of assimilation are voicing and unvoicing of consonants. When we say, "Add s to form the plural" and "Add -ed to form the past tense," we are reciting spelling rules, not phonetic ones. Our plural s (as well as the s used to form the third person singular present tense form of verbs and the s used with an apostrophe to denote possession) represents one of two sounds depending on what precedes. After an unvoiced consonant, these s's are also unvoiced (shirts, sleeps, Jack's), but after a vowel or voiced consonant, they are voiced, that is, pronounced z (shoes, abrades, John's).

In centuries past, the verb ending -ed was pronounced as a separate syllable (as it still is in banded and splinted). The silencing of the e in many verbs has led to a situation exactly analogous to that of final -s. After an unvoiced consonant the -ed sounds like -t (talked, slipped), and after a vowel or voiced consonant it sounds like -d (leaned, rowed). These regularly occurring changes in final -s and -ed are instances of assimilation in which the final element is altered so as to accord better with what precedes. The habitual unvoicing of have and has before to (haf to, hass to) has led to the creation of phonetic variants of these two verb forms with altered meanings ('must').

Still other common forms of assimilatory change are nasalization and palatalization. In English words, nasalization usually consists in inserting an ng sound to smooth the transition from n to k: cong-quer, ung-cle; contrast con-quest, un-clear. Palatalization is used as a means of softening certain consonants before certain vowels: educate (ejucate), nature (nachure), nation (nashon), mission (mishon), miss you (mishu), azure (azhure), has your (hazhour), special (speshal), don't you (donchu), soldier (soljer). Most of these examples have been part of standard English pronunciation for centuries. An even older historical example is the softening of hard c and g before the vowels e, i, and g, which took place in Latin and Latinized Greek words not long after the close of the Classical era: angina, cephalic, cilia, cycle, geriatrics. The usual modern pronunciation of gynecology with hard g (in contrast to gymnasium and misogyny) is one of those freaks of usage that defy rational explanation.

Metathesis, a change in the order of sounds, may be used to break up an awkward group. Most people say *comftorble* instead of *comfortable* and *hors d'oeuvres* instead of *hors d'oeuvres*. Less acceptable are *aks* for *ask*, *nucular* for *nuclear*, and *intregal* for *integral*. One of my professors in medical school, a cardiologist of some renown, invariably said digitatize instead of *digitalize*.

Yet another means of dealing with an awkward consonant cluster is by epenthesis, the introduction of an extraneous transitional sound or buffer. This inserted sound may be either a vowel (*arthuritis*, *athalete*, *realitor*) or a consonant (*campphor*, *somepthing*, *pentcit*). The *p* used in spelling the names *Sampson*, *Simpson*, and *Thompson* is purely epenthetic.

Consonant clusters in frequently recurring expressions sometimes undergo extreme and unclassifiable forms of slurring: *goodbye* from *God be with you*; *gonna* from *going to*; *missus (Mrs.)* from *mistress*; *Wooster* from *Worcester*.

Energy Conservation Is Everybody's Business

Besides helping speakers to avoid or resolve awkward if not virtually unpronounceable sound sequences, these same processes—deletion, assimilatory changes (including voicing, unvoicing, nasalization, and palatalization), metathesis, and epenthesis—also occur in settings where the difficulty of pronunciation is less obvious. The universal omission of the *t* sound in *castle*, *listen*, *moisten*, and *soften* is a case in point. Many such changes simply reflect the tendency to economize effort. Variations in stress and sound sequence that are not enough to create appreciable difficulty for the speaker may nevertheless exert effects on pronunciation. Because it is slightly easier to say *budder* and *liddle* than *butter* and *little* (the latter pronunciations requiring a momentary interruption of voicing), many persons do so, and so, probably, will their children and their children's children. The epenthetic *d* inserted by many speakers in *drownding* is no more illegitimate than the *d*'s of *jaundice*, *remainder*, *tender*, and *thunder*; these latter have just been around long enough to be reflected in spelling.

The position of the accent (syllable stress) in a word strongly influences the phonetics of the word. Notice what happens to the lengths of the vowels as the syllable stress shifts from *phótograph* to *photógrapher* to *photográphic*. Notice, too, the effect on vowel quality and length of adding a second unaccented syllable to various one-syllable words: *child-children*, *drive-driven*, *south-southern*, *vine-vineyard*. This influence on vowel quality or length exerted by a following vowel—in effect a sort of vowel assimilation—is called *umlaut*. Some of our irregular plurals (*men*, *feet*) are examples of umlaut in which a gained syllable (*maniz*, *fotiz*) caused a vowel change (*meniz*, *fetiz*) before being lost again during the prehistoric development of the Germanic language family to which English belongs.

English differs from most other modern Western languages in its extensive use of vowel glides. If you listen carefully to the way you say day, no, feel, and male you will hear dayee, no-u, feeul, and mayul. The intrusion of vowel glides into the pronunciation of a language such as Spanish (de, no) or German (fiel, Meht) instantly betrays the native speaker of English. In most languages, however, vowels undergo some modification before an r sound, for purely anatomic reasons. Mire and sour could hardly be pronounced otherwise than miyur and sowur. But such sounds are apt to be spelled more phonetically in other languages (compare German Meier, sauer). You may think you pronounce flower differently from flour, but you probably don't. Another species of vowel modification is the helping y inserted before u in such words as b(y)utane and (y)unit. Exaggeration of vowel glides is a cardinal feature of some dialects: ayusk for ask, cyarry for carry, befowa for before, fleish for flesh, schoowel for school.

The consonants l, m, n, and r are capable of assuming a vowel-like function in certain settings. We spell spasm, rhythm, bubble, and bottle without a vowel letter separating the final consonant groups even though a rudimentary vowel sound is certainly there. The same sound, when heard before n and r, is always represented by a vowel letter: button, water (often

pronounced *butt'n*, *wat'r*). Some speakers completely vowelize *l* at the end of a syllable, saying, for example, *bubbo* for *bubble* and *reo* for *real*.

When two vowel sounds come together at the junction of two words, they may be either pronounced separately or fused. The fusion of adjacent vowel sounds (more often simply the deletion of one of them) is known as *elision*: *I'm, he's, they're*; *don* from *do on*. Separate pronunciation, known as hiatus, demands slightly greater effort. Say the following phrases aloud: *law officer, he entered, go on*. Notice that in the first phrase you separate the two vowel sounds with a momentary closure of the vocal cords (glottal catch) and that in the others you insert faint consonantal dividers: *he(y)entered, go(w)on*. Or you may insert an epenthetic *r* instead of a glottal catch: *law(r)officer*. You are more likely to do so if you habitually tack an *r* sound onto words ending in unaccented schwa: *idear*. An intrusive *r* sound within a syllable occurs as a kind of vowel modification in some speech styles: *warsh, dorg*. Speakers of English striving to produce the German umlauted *o* sound in Goethe and Kóchel sometimes give up and settle for "ur": Gurthe, Kurchel.

The terms *elision* and *hiatus* are not used when vowels come together within a word. Here, preservation of the distinction between the vowels is called diaeresis: *paraaortic*, *hero(w)in*, *angi(y)itis*. The fusion within a word of two vowels formerly separated (as in *cocaine*, *protein*, *scabies*, and dialectal *goin*') is called synaeresis.

One of the most evident effects of economizing speech effort is that certain sounds become weakened and may eventually disappear. Initial h is a frequent casualty; yuge for huge, yuman for human, and w'ite for white (actually hwite) are common in colloquial usage. A special case of the disappearance of initial n arises when it is wrongly taken as part of the indefinite article an. In this way a nadder, a napron, and a norange long ago became an adder, an apron, an orange.

Certain fmal consonants are also particularly vulnerable to attrition. The loss of final r in words such as *baker* and *car* is characteristic of British English as well as East Coast and Southern American. Loss of final g (goin', nothin')—actually a weakening of ng to n—also has dialectal and regional associations. The likelihood that the d of and will disappear in colloquial speech depends on what follows, but in any case it is fairly great. The disappearance of final b in climb, comb, dumb, and limb is ancient history.

Haplology refers to the phonetic simplification of a word by removal of what may seem to be a redundant syllable. Many instances of haplology have received formal acceptance (dilation for dilatation, urinalysis for urinanalysis) while others are still waiting for it (adaption for adaptation, cephalgia for cephalalgia). The tonic vowel—that is, the vowel in the stressed syllable—enjoys a relatively secure position. Unaccented vowels, by contrast, tend not to be pronounced with sufficient effort to retain their distinctive character, so that they degenerate into the neutral vowel sound called schwa: viral, again, fever, select, acid, direct, piston, connect, nevus, and support. Compare man and gentleman, full and beautiful. (Some speakers use a very short i sound instead of schwa, at least in some words: lettice, recignition, spacis.) The wholesale conversion of vowels into schwa destroys many distinctions in spoken English (apatite, appetite; affect, effect; mucous, mucus; perineal, peroneal; principal, principle) and is no doubt responsible for many spelling and transcription errors.

The Rest Is Silence

The weakening of an unaccented vowel sometimes proceeds to extinction. The complete suppression of a sound is called aphesis, syncope, or apocope, depending on whether it occurs at the beginning, in the middle, or at the end of a word. (These terms are applied to deletion of consonants as well as vowels.) Examples of aphesis include *special* from *especial*, tend from attend, and sciatic from ischiadic. Many cases of vowel syncope occur in natural speech (*awfly*, *basic'ly*, *cath'lic*, *choc'late*, *gard'ner*, *refrence*, *tow'l*). Some of these are endorsed by spelling changes; contrast *dexterity* and *ambidextrous*, *tartaric* and *tartrate*, *waiter* and *waitress*. I have already mentioned the disappearance of the vowel sound from the verb ending *-ed* except after *t* and *d*. The common contraction *n't* (*isn't*, *hasn't*) is another example of syncope. Apocope has silenced the final *e* in many words from both Old English (*come*, *have*, *like*) and Norman French (*age*, *grace*, *nature*). By analogy we do not pronounce the final *-e* in many words of foreign and classical origin: *Berenice*, *Candace*, *coupe* (properly *coupé*), *hydrocele*, *syndrome*.

Let's see how your own speech illustrates some of the principles enunciated in this article. Play back the tape you made at the beginning. If you are a native speaker of American English and if you dictated the list in your normal voice, without striving for unnatural distinctness or precision, you should hear the following:

anatomic'ly back'round discompfort hangkerchief (or han'kerchief) han'some (or hantsome) Johntson

offentsive
prefrentce (or preferentce)
temp'rachure
scrap'ook
sentsory
warmpth

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