

METATHESIS AS A PHONOLOGICAL PROCESS IN ENGLISH LANGUAGE

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Abstract

This study examines one of the less given attention phonological rules - 'Metathesis' - to expound on the cases in which metathesis occurs in English via the application of Hume's (2004) Model of Metathesis. Hence, reversal, reordering, or changes of some consonants/vowels in words as well as borrowing are presented as causes of metathesis in English. There are two broad classes of metathesis in English - adjacent and non-adjacent. The language in focus borrows words from Latin, German, Greek, Celtic, Slavic, French, Arabic, Chinese, etc. and most of the borrowed lexis from these languages are usually nouns with few verbs and adjectives. Other phonological issues that can cause metathesis are in the context of sound usage. Furthermore, most of the words in which metathesis occur in English are often appeared or written strictly close or similar to the original words with little reversal/reorder or change of some segments. However, in some cases, the spellings/pronunciations of the borrowed words are altered. In terms of language development, English metatheses are presented from old and modern English as well as technological advancement and economic/political progression. As regards dialectal phenomenon, English posits metathesis from the dialectal difference between British and American English. The result shows that metathesis occurs in English either as a result of borrowing, language development, dialectal differences, and the context in which sounds are used or non-conformity of words to existing rules in a given language.

Keywords: language, phonetics and phonology, phonological rules, metathesis

Introduction

Language is the process of communication ... either spoken or written in which sounds are combined into words, words are combined into sentences... (Gimson, 1980:35). Thus, language is perceived as a system of human communication that uses arbitrary signals such as voice sounds or written symbols to relay a message while the scientific study of language is referred to as Linguistics. Phonology is one of the branches of linguistics that is described as the way sounds function and operate at the level of sound systems and abstract sound units within a given language (Crystal, 2008:209).

Languages go through different stages of development including changes in sound; particularly, changes in sound patterns tend to play important roles in different stages of language development. For example, the English language before becoming as it is known today went through different stages - old English, different sub-stages of Middle English as well as modern English. Secondly, the differences in dialects of a language or variation of language types also result in sound change. Using the English language, again as an example, we have American English, British English, Canadian English, Nigerian English, Sri Lankan English, etc. besides, the borrowing of words between languages could result in sound change, reordering, or reversal of segments as well as the spelling for the new words to fit in the new languages they entered. Furthermore, the different contexts in which a language is used could have different patterns; as a result, sounds may change.

English Language – An Overview

The history of the English language is usually divided into three major periods termed as Old English (also called Anglo-Saxon), Middle English, and Modern English - (Early modern English and Later modern English). The early period, dating from approximately 450-1150 A.D., commenced with the migration of Germanic tribes (Angles,

Saxons, and Jutes) from the north-western coast of continental Europe and their settling in Britain. They brought their own languages to the British Isles and pushed the Celtic-speaking people out of their homeland into parts of the Isles now called Scotland, Wales, Cornwall, and Ireland. It is argued that the invaders spoke Germanic. The language is believed to be related to Dutch, Frisian, German, some Scandinavian languages, and Gothic language. There are no written records of the Germanic languages and so it is difficult to know how exactly these influenced the language development on the British Isles. The Germanic tribes were not the first to invade Britain. It was the Celts who first invaded Britain long before the Germanic tribes, but we see only a little influence of their Celtic language on today's English (Crystal, 1995 and Van Gelderen, 2006). And the Middle English is the period that extends from roughly the twelfth through the fifteenth centuries where in A.D.1066 a major event in the development of the English language took place such as invasion of England by William the Conqueror and the Duke of Normandy (Crystal, 1995).

The Modern English period can be divided into two distinct periods. The period of Early Modern English dates approximately from 1500-1800 and the period of Late Modern English from 1800 to the present. Two major factors clearly separate between Middle and Modern English. The first was a change in pronunciation, also known as the Great Vowel Shift, during which the vowels, in general, started shortening. The other factor was initiated by William Caxton's bringing the printing press to England, which led to the publishing of literature for the masses becoming more popular. Literacy became more common, and works in English were more popular than the ones in Latin. This move led to the need for standardized English. The London dialect became the standard (Van Gelderen, 2006)

Phonetics and Phonology

There are two sub-disciplines in linguistics that deal with sound; these are phonetics, and phonology. Phonetics examines the production of sound systems and their identifications. In other words, Phonetics is a branch of linguistics that comprises the study of the sounds of human speech. According to McMahon (2002), phonetics provides objective ways of describing and analysing the range of sounds humans use in their languages.

On the other hand, phonology is the study of the sound system of a language and how sounds in a given language are contrasted to form a cohesive system for encoding meaning. Phonology (initially called phonemics) concerns itself with the study of the linguistic behaviour/sounds in language, it explains sound patterns in language and identifies the principles that underline such patterning (Awonusi, 2007). In the view of Roach (2000), phonology is the abstract side of the sounds of language which is related to but different from phonetics. According to Francis (1996) to understand phonology, one must have a grasp of the basic concepts of phonetics, the study of the inventory of all speech sounds which humans are capable of producing. However, McMahon (2002) suggests that phonology is the language-specific selection and organization of sounds to signal meanings. In this sense, phonology studies how sounds are organised and accurately pronounced in languages. It tries to uncover the emotional patterns and underlying organisation of sounds shared by native speakers of a certain language. From the foregoing, we can perceive that phonology is the study of how sounds function in languages, including phonemes, syllable structure, stress, pronunciation (accent), intonation, and which sounds are unique elements within a language or as the study of the sound system of a given language and how particular sounds contrast to form an integrated system for encoding information. Such integrated sound systems lead to the existence of what is known as phonological rules.

Sequel to the above, phonological rules formalise general statements about the distribution of non-contrastive properties of

segments; they provide the phonetic information necessary for the pronunciation of utterances in a given language.

The motive of Phonological Rules

The motive behind phonological rules is to modify the phone (physical speech sound) network, taking into account phonological variations; a speech segment that possesses distinct physical or perceptual properties, considered as a physical event without regard to its place in the phonology of a language. The mechanism for the rules allows the potential for generalisation and extension. Some examples of phonological rules include general rules for well-known variants as well as rules to handle allophonic variations, using the reduced phone set. So, instead of having a syllable or word-final allophones for the voiceless stops, they are optionally allowed to be replaced with their voiced counterparts. There are more specific phonological rules such as the deletion of the off glide /w/ in the phone sequence /aw/, as found in the word “how” (Davenport, 2000).

Characteristics of Phonological Rules

Hayes (2009:13) lists the beneath common characteristics for all phonological rules:

- A) **Language Specificity:** a rule which is present in one language may not be present in other languages, or even in all dialects of a given language.
- B) **Productivity:** phonological rules are applied even to new words. for example, if an English speaker is asked to pronounce the plural of the word ‘wug’ (‘wugs’), he will pronounce the final ‘s’ as /z/, not as /s/, even though he has never used the word before.

- C) **Untaught and Unconscious:** native speakers apply these rules without being aware of them, and the speakers acquire the rules early in life without any explicit teaching.
- D) **Intuitive:** the rules give speakers intuitions about what words are well-formed or acceptable. If a speaker hears a word that does not conform to the phonological rules of a given language, the word will sound foreign or ill-formed to the listener.

Some of the common kinds of phonological rules are assimilation, dissimilation, insertion, and deletion, others include, metathesis, linking, strengthening (fortition), and weakening (lenition). For the purpose of this study, we delimit the above cited phonological processes to investigate only metathesis because it receives less attention from researchers.

Statement of the Problem and Justification for the Study

In the words of Blevins and Garrett (1998) cited in Tracy A. Canfield, M. S. (2015:16), "Metathesis has long posed problems for phonological theory. These problems are of two main types: metathesis has resisted analysis in terms of phonetically natural or motivated sound change, and the reordering of sounds, and metathesis has required extensions of otherwise highly restrictive phonological formalisms." Chomsky and Halle (1956) found it necessary to extend their formalism specifically in order to describe metathesis, using context-free rules from a higher level of the Chomsky's Hierarchy than the other rules set forth in SPE. They write, "Consider first the manner in which the process of metathesis was treated [...] [W]e were forced there to take advantage of powerful transformational machinery of the sort that is used in the syntax. This increase in the power of the formal devices of phonology did not seem fully justified since it was made only to handle a marginal

type of phenomenon, p. 56." More than forty years later, working within an Optimality Theory (OT) framework, Riggle (2004:33) noted that "[U]nbounded permutation of the input segments cannot be described with finite-state methods." If, however, formal languages more powerful than regular languages are used to describe phonological grammars, these languages will also have the generative power to describe many possible patterns that are not attested in natural language. Hume (2001) observes that the formalism Chomsky and Halle adopted for metathesis also allows the complete reversal of input strings, which has not been observed in human language.

Metathesis, or the process by which the linear ordering of segments switches, is a poorly understood process, [as such it receives less attention from scholars] (Hume, 1998). She further explicates that metathesis is attested in a wide range of languages, as a synchronic process, it is often considered to be marginal and, as a result, relatively little attention has been given to it in the phonological literature, particularly in comparison to such well-studied processes such as assimilation. Similarly, Rajaa (2012) posits that unlike assimilation and other speech processes, metathesis is given relatively less attention.

Also, metathesis is often used as a means of distinguishing between morphological classes. Hence, one might argue, metathesis lies outside the realm of phonology and, consequently, phonological theory needs not provide an account of it (Hume, 1998). However, McCarthy's (1995) cited in (Hume, 1998) convincingly shows, even in the cases of metathesis which serve to distinguish morphological classes, prosodic requirements play a central role in determining the particular shape of the metathesis alternates. An even stronger case would be one in which metathesis is not only pervasive and regular but driven by purely phonological considerations.

Due to the wide-ranging aspects of phonological processes and paucity of literature concerning metathesis, this research is limited to

the process of metathesis in English to examine its presence with a view to identifying its causes, types, classification etc. This research selects Standard British English (SBE) for the analysis.

Hume's Model of Metathesis

According to Palma, (2013), Hume's (2004) model of metathesis is an essential case in point of the application of usage-based techniques to a phenomenon [metathesis] that has puzzled linguists for many years. Hume defines metathesis as "the process whereby in certain languages the expected linear ordering of sounds is reversed under certain conditions. Thus, in a string of sounds where we would expect the ordering to be ...xy..., we find instead ...yx..." (Palma, 2013:203). For instance, in recent American usage, the word *chipotle*, can frequently be heard as *chipolte*, where /t/ and /l/ are shifted.

Perhaps the most perplexing element is that a pattern of sounds occurring in one order in language A can occur in the opposite order in language B. Consider examples drawn from Hungarian and Pawnee. In certain Hungarian forms, glottals that precede approximants surface as approximants preceding glottals (/h/ + /r/, in this case, becomes /r/ + /h/). Thus the dative *tehernek* ("load") becomes in the plural *terhek*. In Pawnee, just the opposite occurs. The expected ordering /ti-ir-hissaskus/ becomes *tihrisasku*, with the glottal appearing before the approximant. According to Hume, this led metathesis to be analysed as a phenomenon that is irregular, found in child language, the result of performance errors, or simply the result of language change (Palma, 2013).

In fact, implicit in her discussion, though distinctly underplayed, is that metathesis leads to permanent language change. That is, metathesis is a diachronic phenomenon. This raises metathetic change from a mere curiosity whose regularities can be described to an element of language change. And, as Joan Bybee, a leading figure in the

usage-based camp reminds us in her recent book, “nothing in linguistics makes any sense except in light of language change” (Bybee 2010, p. 10). Although the pronunciation of /*chipotle*/ as /*chipolte*/, not simply within a linguistic generation but within a single speaker, can be accounted for by her model, Hume’s work becomes really interesting when it tries to account for what was once a puzzling aspect of linguistic change (Palma, 2013).

Palma, (2013) states that diachronic processes are not the primary interest of Hume’s model of metathesis. Because, metathesis can be reframed in evolutionary terms. What any naturally selective process needs is an initial state, an environment that favours certain forms over others, and an output. Hume’s work provides all the three aspects. The initial state, of course, is “the expected linear ordering of sounds.” The output is the reverse ordering. The “certain conditions” correspond to the phonological environment that favours some forms over others.

Hume argues that metathesis requires two conditions: An indeterminate speech signal and an output that conforms to existing patterns in the language.

In evolutionary terms, an indeterminate speech signal is one that is not optimally suited to its environment, the “existing patterns of the language.” It is important here to clarify a common misconception about natural selection. It does not claim that a given organism is optimised, that it manifests the best possible arrangement of parts. The theory explicates that differential reproduction allows an organism which is better adapted to a specific and limited environment to produce more offspring than one that is not. So, biology is neither random nor goal-directed. Hume makes a similar point about metathesis: “the goal of metathesis is not to improve the overall psychoacoustic (i.e., universal) cues of a sequence, but rather conforming to the patterns of usage of a given language is key” (Hume,

2004:225). These two ideas, that frequency of use plays a role in language development—see especially, Bybee 2010—and that metathesis can be reframed as an emergent phenomenon, are the ideas that interest us most and that put Hume’s account squarely within the usage-based camp (Palma, 2013).

What is Metathesis?

Metathesis is from the Latin lexis “*transpositio*” which means transposition of sounds or syllables in a word or a sentence. In the word of Hannah (2005), metathesis refers to the reversal of a sequence of elements, often segments in a word. Similarly, Yule. (1985) describes metathesis as a sound change which involves a reversal in the position of two adjoining sounds. In this regard, it could also be defined as the rearranging of sounds or syllables in a word or even the arrangement of words in a sentence. It is important to note that Yule’s definition as explicated above restricts the study of metathesis to “*two adjoining sounds*”. However, several other scholars in the field have applied metathesis in the study of three and even four adjoining sounds. For example; the Spanish word: ‘*dentifrico*’ changes through the process of metathesis to become ‘*dentrifico*’.

The term has traditionally been best known for the description of historical sound change often described as sporadic (irregular or periodic). Yet, metathesis is one of the several linguistics phenomena realised in phonological processes. However, there is a paucity of literature on metathesis. ‘Unlike assimilation and other speech processes, metathesis is given relatively less attention (Rajaa, 2012).

Metathesis is the phonological phenomenon in which output segments do not have the same linear ordering as the corresponding segments in the input Tracy, (2015:14). Yet, some linguists like Grammont (1950) and Chomsky & Halle (1956) claimed that metathesis is an unremarkable phonological process like assimilation or

epenthesis. According to them, metathesis came to be considered as a marginal phenomenon outside the realm of phonological grammars. However, Hume (2001) cited in Tracy (2015) refers to this dismissive view as "the myth of metathesis", quoting Spencer (1996), who refers to metathesis as a "speech error". Hence, re-ordering of input segments, or metathesis, does occur at the phonological level. Historically, this phenomenon has been dismissed as simple speaker error (Montreuil, 1981; Hume, 2001), but more recent research has shown that metathesis occurs as a synchronic, predictable phonological process in numerous human languages (Hume, 1998; Hume, 2001).

Furthermore, metathesis can be referred to as the reordering of a segment. It refers to "a reversal or reorder of two sounds or letters in a word, either as a mispronunciation or as historical development" (Warner 1989:51). Similarly, according to Chomsky and Morris (1968) metathesis permits sound transformations that affect permutation in their notation. For example, the pronunciation of words such as 'cavalry', 'ask', 'wasp' and 'hasp' are commonly reordered to 'calvary', 'aks', 'waps', and 'haps' in the English language respectively.

Significantly, metathesis occurs when syllables of a particular word are changed, reversed, or otherwise reordered to make a new word. This could be as a result of borrowing, language development stage, non-conformity to an existing rule in a language, difference in dialect, or differences in age, social status; educational background, etc. of speakers of a given language. Mostly, words in which metathesis occur usually appear or are closely related to the original word, though, with little differences in spelling/pronunciation. For instance, **Mango**, **Fan**, and **Guava** are English words loaned into Kanuri; they are changed to **Mangulo**, **Fanka**, and **Gofa** due to the effect of metathesis. Another major diversion on the notion posited by Yule (1985) above is that the sounds do not necessarily have to be adjoining as in the following instances; 'parabola', a Latin lexis meaning 'word' in English,

borrowed into Spanish changed to ‘palabra’ as a result of metathesis. Another example is the English word ‘relevant’ sometimes being pronounced as ‘revelant’; also, ‘integral’ as ‘intergal’ or ‘intregal’.

Types of Metathesis

Adjacent Metathesis

It is also known as local metathesis. Here, the arrangement affects two or more contiguous sounds which are switched over in a word. In other words, it affects adjoining sounds. For instance;

Cavalryto		Calvary - English
Pereh	to	Perhe (Family) - Finnish dialect
Kukke	to	kudake (to bring) - Kanuri
Foliage	to	Foilage - English
Mbeyi	to	Mbeji (presence) - Kanuri
Mureh	to	Murhe (Sorrow) - Finnish dialect

Non-adjacent Metathesis

This refers to a long-distance metathesis or hypothesis. In this case, the two or more sounds that are switched over or changed are not necessarily sided by side, at times the sounds may totally change as shown in the examples used above.

Basaas	-	Lowasar (onions) Arabic - Kanuri
Fyllan	-	Fill (old and modern English)
Arus	-	Lorussa (bride) Arabic - Kanuri.
Parabola	-	Palabra (Latin - Spanish)
Qiraa'a	-	Kora (to recite or to read) Arabic - Kanuri.
Relevant	-	Revelant in English
Yi	-	shi (leg) Kanuri - dialectal differences

Causes of Metathesis

The causal factors of metathesis are not different from the causes of sound changes which may result due to phonological

processes as discussed in the introduction of this paper. Such factors which result in Metathesis include;

Borrowing

According to Hock (1986:380 cited in Rajaa, 2012), “the term, ‘borrowing’ refers to the adoption of individual words or even large sets of vocabulary items from another language or dialect.” When speakers imitate a word from a foreign language, they are said to borrow it, and their imitation is called a borrowing or loanword (John, 2010:248). When a language borrows from another, in most cases it does not insert the new word into its vocabulary in the same way as it is used in the language it was borrowed from. This process is called borrowing, although the source language does not lose its word, nor does the target language return the word. A better term might be ‘copying’ but borrowing has long been established in this sense and words that are borrowed are called **loanwords** (Trask, 1996 cited Rajaa, 2012). The process of changing the word forms could result in coinage, blending, metathesis, etc. The beneath tables are instances from Latin to English, and Arabic to English.

Latin	English
Miraculum	Miracle
Periculum	Peril
Pondō	Pound
Arabic	English
Habl (rope)	Cable
Absaar (ability to see)	Observe
Kabsh (male ram)	Sheep

Language Development Stage

It is obvious that languages develop from one stage to another; as a result, their letters, syllables, word forms, vocabularies, sentence

forms, as well as most parts of its morphological, syntactic, semantics, etc. might be partially or totally changed due to the different stages they went through during their development. See examples below;

Old English

Bryd

Hros

Bryht

Thridde

Modern English

Bird

Horse

Bright

Third

Non-conformity of Words to Existing Rules in a Language

This cause is partially related to borrowing. When words are borrowed into a language and they do not conform to the rules of that language, the spelling may be changed as a result of metathesis. Similarly, rules of a language could change over time, when such changes happen; they could lead to metathesis. For example, the phoneme cluster /dl/ does not occur in the Spanish language so the phrase 'dejadle' metamorphosed into 'dejalde' as a result of the loan. In Kanuri some Arabic borrowed names are totally changed from their origin; these include; Uthaman to Ngare, Umar to Bunu, and Abubakar to Garwa/Garba, Amina to Sato, etc.

The Context in which Sounds are used

Language is used differently depending on individual social status, age, educational level, occupation, etc. These different uses of language in different contexts could result in metathesis. For instance, children metathesise the lexis 'spaghetti' as 'pasketti', 'spoon', as 'chupun', 'ruler' as 'lurer'. Similarly, in Kanuri words such as; 'bəri' as 'bəyi' (food), 'are' as 'aye' (come). Also, in Hausa, 'rawa' as yawa (to dance), 'kashi' as 'kaci' (defecation), These are mostly exhibited by

children. In the words of Yule, G. (1985), a cowboy will most likely pronounce the word ‘pretty good’ as ‘purty good’.

Dialectal Difference – spelling/pronunciation

Dialects are viewed simply as varieties of a language. Such varieties may be social or regional. It is obvious that there are differences between the dialects of a language. The dialectal difference in a language may result in different spelling/pronunciation either due to reordering or reversal of segments in some lexicon which are termed as metathesis. Examples:

Classical Arabic	Egyptian Arabic	
Zawj (g)	Goz	- husband
Mil’aqah	Ma’la’a	- Spoon
British English	American English	
Centre	Center	
Theatre	Theater	
Saloon	Salon	

Sequel to the foregoing, it has been observed that metathesis is very important in phonology for the simple fact that it opens up a new field of study towards a better understanding of words - morphology. Some significances of metathesis are shown below:

1. It helps in the formation of new words (productivity).
2. It ensures the conformation of existing rules of a language.
3. It makes borrowing from other languages easier.
4. Metathesis helps new words to adopt into a new language even without the original segment of the borrowed words due to some phonological agreement.
5. It accounts for common mistakes made by different categories of people, as well as the acceptability of such mistakes as a phonological theory.

Metathesis in English

Historically, the process of metathesis has shaped many English words from Old English to Modern English. Example; ‘wroht’, ‘bryht’, ‘bryd’, ‘hros’, ‘thriddle’, ‘nospryl’ ‘haps’ have undergone changes to be read and pronounced as ‘wrought’, ‘bright’, ‘bird’, ‘horse’, ‘third’, ‘nostril’, ‘hasp’, respectively as a result of metathesis.

As a Result of Borrowing

In English language, there is a significant number of words borrowed from different languages as a result of historical influence of such languages on English. These languages include; Latin, Greek, German, French, Arabic, Chinese, Japan, Persian, Celtic, etc. For the purpose of this research, we shall cite instances in Arabic, French, Latin, and German language.

Arabic

Tamr-Hind

Sifr

Sukar

Kutun

Kimiyyah (science)

Amiral-al-Bahr (commander of the sea)

Qofi

Khul

Latin

Ancora

Būtyrum

Calx

Cāseus

French

Eshes

Coronnel

English

Tamarind

Cipher (zero)

Sugar

Cotton

Alchemy

Admiral

Coffee

Kohl

English

Anchor

Butter

Chalk

Cheese

English

Chess

Colonel

Brigade	Brigadier
Seethe	Stew
German	English
Fisch	Fish
Wein	Wine
Schipper	Shipper
Maus	Mouse

6.2 As a Result of Language Development

Old English	Modern English
Habban	Have
Settan	Set
Sittan	Sit
Modde	Moth

As a Result of Dialectal Differences - spelling/pronunciation

British English	American English
Cheque	Check
Kerb	Curb
Programme	Program
Luggage	Baggage
Centre	Center
Favor	Favour

As a Result of the Context in which Sounds are used in a Language

Language is used differently depending on individual social status, age, educational level, occupation, environment, etc. These different uses of language in different contexts could result in metathesis, as shown in the examples below;

Asterisk	Asterix
Foliage	Foliage

Prescription
Plural
Rivalry

Perscription
Prural
Rivarly

Conclusion

Metathesis, as discussed above, is a type of sound variations that usually occurs as a result of either, borrowing, dialectal difference, and language development etc. of a given language. This could be as a result of the reordering/reversal of segments in a word or sentence. It is, however, not as common as the other processes of phonology, but it also occurs as a regular phonological process in the synchronic system in a wide range of languages as discussed during the course of this study. This paper also shows how metathesis has largely been considered traditionally, as a prosodic and superficial effect relegated to performance, but it also plays some key roles during phonological processes as discussed during the critical analysis of this article. In a recap, it is observed that in the language studied metathesis documentations are very few comparing to other phonological processes such as assimilation, dissimilation, deletion, linking, strengthening, etc.

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