

Sturtevant's Paradox

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Formulated by Sturtevant in 1947, this paradox captures the relationship between sound change and analogy. It states that sound change, which is highly regular, causes irregularity whereas analogy, which is irregular causes regularity (Anttila, 1989).

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Explanation

The American linguist Edgar H. Sturtevant (1875–1952) stated this paradox in his book *An Introduction to Linguistic Science*, published in 1947, as follows:

“Phonetic laws are regular but produce irregularities.

Analogic creation is irregular but produces regularity.” (Sturtevant, 1947: 109)

Therefore, Sturtevant's paradox proves that analogy, which may be ad hoc and sporadic and does not always work in a systematic way, is a moving force in the removal of irregularities or anomalous forms left by sound changes. Conversely, regular sound changes may generate alternations or variant allomorphs in the different inflected forms of a word; this creates morphological irregularities and makes the system more complex. The development of the verb *to choose* in English

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and German is a clear example of this paradox, that is, of how analogy levels out the irregularities left by regular sound changes.

(1) The paradigm of the Proto-Germanic verb **keusan* 'to choose, to test', became very irregular in Old English due to the influence of three sound changes:

palatalization, voicing and rhotacism:

	Proto-Germanic	Old English
	*kéusan	??osan /t?/ - /z/
Past singular	*káus	??as /t?/ - /s/
Past plural	*kusún-	curon /k/ - /r/
Past participle	*kus-ágecore	n /k/ - /r/

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On the one hand, in the present and past singular forms /k/ was palatalized to /tʃ/ -spelled here as *ch*- before a front vowel /e:/. The presence of a back vowel in the past plural and past participle kept the /k/ unchanged (<c>). On the other hand, in the Germanic branch of Indo-European, voiceless fricatives became voiced between voiced sounds, if they followed an unaccented syllable in Indo-European (a sound change known as Verner's Law). Later, in the transition from Proto-Germanic to West and North Germanic, the voiced consonant /z/ that resulted from /s/ became /r/. This phenomenon, called rhotacism, accounts for the past plural and past participle. Finally, in Old English, the surviving *s* became voiced (/z/) in intervocalic position, which explains the alternation between /z/ and /s/ in *wasan* and *was* /s/ —this change was not reflected graphically in old

Old High German, being a North Germanic language, also showed the same type of alternation in the medial consonant:

Present	<i>kiusan</i> [z]
Past singular	<i>skotar</i> [s]
Past plural	<i>skurun</i> [r]
Past participle	<i>skorpan</i>

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	[r]
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In both cases analogy leveled out the irregularities left by the above mentioned sound changes and made the paradigm uniform again. In the case of English, stem allomorphs were reduced by extending the form of the present to the rest of the verbal forms. German, however, generalized the –r- form of the plural. As a result, consonant alternations disappeared and the system was simplified. This explains the regularity that both verbs exhibit nowadays.

English

German

Present	küren
	/r/
Past singular	kor
	/r/
Past plural	kor
	/r/
Past participle	gekoren
	/r/

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Present	choose /t?/ /z/
Past singular	chose /t?/ /z/
Past plural	chose /t?/ /z/
Past participle	chosen /t?/ /z/

In sum, Sturtevant's paradox illustrates the relationship of sound change and analogy as diachronic processes that leads to the partial or complete elimination of alternations within a paradigm by reducing the number of allomorphs.

Related concepts

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Morphological change

Conditioned and unconditioned sound changes

Palatalization

Rhotacism

Analogical leveling

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