

## CHRISTOPHER BEEDHAM

# A phonotactic link between strong verbs and function words in English<sup>1</sup>

**Abstract.** In ‘Vowel + consonant and consonant + vowel sequences in the strong verbs of German and English’ (Cahiers Ferdinand de Saussure 1995-1996/49:139-63) I showed that the vowel + consonant sequences (VCs) and the consonant + vowel sequences (CVs) of the English strong verbs tend to occur only on the strong verbs, not on weak verbs, and hence serve as phonotactic markers of strong conjugation. In this paper I adduce data which show that the English strong verb VCs (though not the CVs) have an unexpectedly high rate of occurrence - 72% - in monosyllabic function words such as prepositions and pronouns. Thus a formal, phonotactic link has been established between strong verbs and function words in English. The same tendency has been demonstrated for the strong verbs of German and the non-productive verbs of Russian. The pattern revealed points towards the possibility of finding rules for the formation of strong verbs and a separate meaning - perhaps aspectual - for them, different to that of the weak verbs.

**1. Method.** The method used to arrive at the results presented here I call the ‘method of lexical exceptions’ (see Beedham 1989, 1995, 1998, 2002, 2005b). The

method of lexical exceptions is grounded in Saussurean structuralism. According to Saussure a language is a system of signs, whereby the sign consists of two parts, signifiant (form) and signifié (meaning). The sign is indivisible, i.e. form and meaning cannot be separated. If a language is a system it must be regular, i.e. governed by rules. But what about exceptions to rules, irregularities, such as the strong or irregular verbs? If a language is a regular system how do they come about? I take the view that if a rule has a large number of unexplained exceptions the rule must be wrong, i.e. the unexplained exceptions are an artefact of a faulty analysis. An analysis must be possible which does not produce such unexplained exceptions. It is my working hypothesis that just such a situation is on hand with the strong or irregular verbs of English. The strong verb forms such as drank, hid, broken must be rule-governed, if we could only find the rule(s). Moreover, if a language is a system of signs and the sign is indivisible every form in language must be meaningful. It follows that the forms seen in the English strong verbs - ablaut and -en - must have a meaning, in other words the strong verbs and their forms must have a meaning peculiar to themselves (because they have a form peculiar to themselves). It is our task to find that meaning. If our search is successful we will find the rule(s) and the meaning at the same time (because the sign is indivisible).

It is true, of course, that the strong verb forms are a historical vestige, and indeed are older than the weak verbs - the strong verb forms are the original forms of Indo-European. But so is everything in language a historical vestige. That does not stop a synchronic analysis of them being possible. And one should remember that Saussure, who introduced the synchronic method, was himself a historical linguist, and therefore he would presumably have not taken the view which I hear frequently from today's historical linguists, viz. that the strong verbs are nothing but a historical

remnant and a synchronic analysis for them - finding rules for their formation, and a meaning - is not possible.

**2. The data.** In Beedham (1994, 1995-1996; see also 2005b) I showed that the vowel + consonant sequences (VCs) and consonant + vowel sequences (CVs) of the English strong verbs, e.g. in drink [ɪŋk] and [dɹɪ], tend to occur only on the strong verbs, not on weak verbs, and hence serve as phonotactic markers of strong conjugation.<sup>2</sup> A complete list of the VCs of the English strong and modal verbs is given in Appendix A. The next step was to see if the strong verb VCs and CVs occur elsewhere in the vocabulary and grammar of English. To that end in 1999, with the help of Wendy Anderson, I examined all monosyllabic words other than verbs<sup>3</sup> listed in the Oxford Advanced Learner's Dictionary of Current English (henceforth OALD). The investigation was confined to monosyllabic words only for the following reason. If a verb is strong it is strong in all its derivatives, e.g. shine shone shone - outshine outshone outshone. When analysing strong verbs one can therefore look at simplex (i.e. non-prefixed) verbs only, in the knowledge that whatever pattern one finds is likely to extend to derivatives. All the simplex strong verbs except one - to begin - are monosyllabic. What we have here, in fact, is the first structural marker of strong conjugation: if a simplex verb is polysyllabic it will definitely not be strong, if it is monosyllabic it may be strong. It follows that, assuming we want to compare like with like, we have a structural reason to confine our search for the strong verb VCs and CVs to monosyllabic words only. This has the practical consequence and advantage that it makes the task of counting and comparison much more manageable.

The VCs and CVs of the strong verbs were transcribed into IPA symbols in the following manner:

<b>strong verb</b>	<b>VC</b>
drink	[ɪŋk]
drank	[æŋk]
drunk	[ʌŋk]

<b>strong verb</b>	<b>CV</b>
drink	[dri]
drank	[dræ]
drunk	[drʌ]

In cases where the preterit or 2<sup>nd</sup> participle has a -t or -d which is not present on the infinitive it was treated as the preterit or 2<sup>nd</sup> participle ending, not as part of the stem, e.g. with feel:

<b>strong verb</b>	<b>VC</b>
feel	[i:l]
felt	[el]
felt	[el]

However, for those cases in which the -t/-d of the preterit or 2<sup>nd</sup> participle does appear in the infinitive it was treated as part of the stem, e.g. with hold:

<b>strong verb</b>	<b>VC</b>
hold	[əʊld]
held	[eld]
held	[eld]

The VCs and CVs of all monosyllabic words (other than verbs) listed in the OALD were also transcribed into IPA symbols. It was then simply a matter of comparing the VCs and CVs found, to see if the strong verb VCs and CVs showed up in significant numbers. No pattern was found for the CVs. However, a significant pattern or tendency was found for the VCs. The results of our VC count are given in Fig. 1. It can be seen there that taken as a whole no significant correlation was found: exactly 50% of English monosyllabic words (other than verbs) have a strong verb VC, and 50% do not have a strong verb VC. However, if one distinguishes between the different parts of speech then a pattern becomes discernible. We retained the parts of speech categorisation used by the OALD. If one distinguishes between lexical parts of speech such as nouns and adjectives on the one hand, and grammatical parts of speech (or function words) such as prepositions and conjunctions on the other, one sees from Fig. 1 that as regards the lexical parts of speech again no pattern is found - 48% of (the exemplars of) the lexical parts of speech have a strong verb VC, and 52% do not have a strong verb VC. However, for the grammatical parts of speech a pattern or tendency emerges: 72% of the (exemplars of the) grammatical parts of speech have a strong verb VC, whilst only 28% do not have a strong verb VC. In the case of personal pronouns the proportion is particularly high: 13 out of 15 (= 87%) personal pronouns have a strong verb VC. The word-forms which lie behind the statistics of Fig. 1 are given in Appendix B: all the prepositions, conjunctions, pronouns etc. in

the left-hand column of Appendix B contain a VC which is associated with the strong verbs.<sup>4</sup>

**3. Pinker's 'families' of irregular verb.** The special role played by the VCs of the strong verbs emphasised here is corroborated by Pinker 1999. Pinker speaks of 'families' of irregular verb, depending on the consonant which follows and the consonant which precedes the vowel, e.g.:

blow-blew, grow-grew, know-knew, throw-threw

bind-bound, find-found, grind-ground, wind-wound

drink-drank, shrink-shrank, sink-sank, stink-stank

(Pinker 1999:83; see also Pinker 1994:138-45)

He also mentions an experiment conducted by Joan Bybee and Carol Moder in which students were asked to give the preterit of made up verbs like to spling in a context like: Sam likes to spling. Yesterday he \_\_\_\_\_. 80% of those asked said splang or splung - not splinged - because, according to Pinker, they link it up with the similar sounding verbs spring sprang, ring rang (Pinker 1999:85; Bybee and Moder 1983).

Pinker (1999:91) observes:

The verbs undergoing a given irregular change are far more similar than they have to be. If you are a verb and want to undergo the i-a-u pattern, all you really need is an i. But the verbs that do follow the pattern (drink, spring, shrink, and so on) have much more in common; most begin with a consonant cluster like st-, str-, dr-, sl-, or cl-, and most end in -ng or -nk.

... Imagine a rule that said, 'If a verb has the sound consonant-consonant -i-ng, change i to u'.

(see Beedham 2002)

**4. Interpretation of data.** We have discovered a formal, phonotactic link between strong verbs and function words in English: both sets of lexical items share to a large extent the same VCs. What is the significance of this discovery? The significance is that we are moving slowly but I hope surely towards the discovery of rules for the formation of the strong verbs and a meaning for them. What kind of meaning might it be? According to Tobin (1993:327) the strong verbs of English are resultative in meaning, as compared to the weak verbs, which are process-oriented; so in broad terms there is an aspectual difference in meaning between the strong and the weak verbs. Quirk 1970 and Quirk et al. (1985:106) reach a similar conclusion when they say that strong burnt, dreamt, smellt etc. are perfective, whilst weak burned, dreamed, smelled etc. are durative. Whilst I am prepared to believe that Tobin and Quirk may well be right, they have not produced the formal, sentence-grammatical evidence to prove it: Tobin adduces evidence of a textual and intuitive nature, whilst Quirk's evidence is the willingness of his informants to assign one form or the other to a durative-type or perfective-type context. We need more than that, however. We need formal either morphological or syntactic or phonotactic evidence which will literally prove - in the linguistics equivalent of a mathematical proof, since the sign is indivisible and form determines meaning - that the meaning proposed is correct.

What kind of rules for the strong verbs are we moving towards? On the basis of the work presented here the rules for the formation of the strong verb forms will be of a phonotactic kind. At this stage I can say no more than that. Clearly, more research is needed, to probe further the nature of the phonotactic link established between the strong verbs and function words. If Tobin and Quirk are right about the semantics of the strong verbs the angle to take on the function words will be an

aspectual one: is there something aspectual, e.g. resultative, about the function words in the left-hand column of Appendix B? Given that aspect is compositional (Verkuyl 1972, 1993), i.e. involves the participation of items other than the verb in the overall aspect of a sentence, it is certainly feasible. But we will have to wait and see what further empirical, sentence-grammatical research unearths.

University of St Andrews

Department of German

Buchanan Building

Union St.

St Andrews

Fife KY16 9PH

Scotland/UK

c.beedham@st-andrews.ac.uk

## APPENDIX A

VCs of English strong and modal verbs (VCs of archaic forms in brackets; complete list from our data)

∅ zero consonant

æt	el	i:n	Λk
æd	eld	i:l	Λg
ætʃ	e∅	i:∅	Λst
æv	eɪk	ɪə(r)	Λm
æz			



æm	eiv	ɒt	ʌn
æn	eim	ɒd	ʌŋ
ænd	eIØ	ɒs	ʌŋk
æŋ	eə(r)	ɒst	u:t
æŋk	It	ɒz	(u:v)
æI	Id	ɒn	u:z
aIt	Ik	(ɔIl)	u:Ø
aId	Ig	ɔ:t	ju:Ø
aIk	Iv	ɔ:l	z:t
aIv	Iz	ɔ:(r)	z:d
aIz	Im	ɔ:Ø	z:st
aIn	In	əʊt	(z:n)
aInd	Iŋ	əʊd	z:(r)
aIØ	Iŋk	əʊk	
aʊnd	Il	əʊv	
a:st	IlI	əʊz	
a:(r)	IlId	əʊl	
ep	i:p	əʊld	
et	i:t	əʊØ	
ed	i:d	ʊt	
ef	i:k	ʊd	
(em)	i:tʃ		
en			

ent	i:v	ʊk
end	i:z	ʊØ
	(i:m)	ʌt

A total of 104 VCs from 159 verbs

NB The vowels are given in the following order: a e i o u, first short, then long, then diphthongs. Consonants are given in the following order: p, b, t, d, k, g, tʃ, dʒ, f, v, θ, ð, s, z, ʃ, ʒ, h, m, n, ŋ, l, r, j, w, Ø. The symbol Ø stands for zero consonant, e.g. blow ends in a zero consonant and its VC is written as [əʊØ] (strictly speaking it is a half consonant but for simplicity it is treated here as zero consonant).

## APPENDIX B

English monosyllabic function words, ordered by part of speech, with a strong verb VC and without a strong verb VC (taken from the OALD, using its categorisation; complete list from our data)

### with a strong verb VC

### without a strong verb VC

#### Prepositions

as	down
at	ex
bar	from

but	less
by	off
cum	plus
ere	since
for	up
gone	worth
in	9
like	
near	
nigh	
o'er	
on	
past	
per	
pro	
qua	
re	
round	
save	
than	
through	
till	
to	
26	

**Conjunctions**

and	how
as	if
but	lest
cos	now
ere	since
for	while
like	6
nor	
or	
save	
so	
than	
that	
though	
till	
when	
where	
yet	
18	

**Verb particles**

by	back
for	down
in	off

near	out
on	up
past	5
round	
through	
to	
9	

### **Personal pronouns**

he	thou
her	us
him	2
I	
it	
me	
she	
thee	
them	
they	
we	
ye	
you	
13	

**Possessive pronouns**

mine 0

thine

2

**Interrogative pronouns**

who whom

whose 1

2

**Indefinite pronouns**

none 0

one

2

**Determiners**

that own

1 such

this

3

**Possessive determiners**

her its

his our [aʊə(r)]

my 2

our [a:(r)]

their

your

6

### **Indefinite determiners**

all

least

each

less

few

most

more

much

4

4

### **Interrogative determiners**

what

which

1

1

### **Negative determiners**

no

1

0

### **Definite article**

the [ði:]

0

1

**Indefinite articles**

a [eɪ]	0
an	
2	

**Contractions**

he'd	I'll
he'll	it's
he's	they'd
I'd	they'll
I've	who'd
she'd	who'll
she'll	you'd
she's	you'll
they're	8
they've	
we'd	
we'll	
we're	
we've	
who's	
who've	
you've	



---

 ENDNOTES

<sup>1</sup> I am grateful to Wendy Anderson, who worked as Research Assistant on the project described, for her fast and efficient contribution to this research. I am grateful also to the British Academy for their support.

<sup>2</sup> A similar pattern was found for the strong verbs of German (see Beedham 1994, 1995-1996, and 2005b) and the non-productive verbs of Russian (see Бидэм 2004 and Beedham 2005b), except that in Russian it is the VCs only, not the CVs, which indicate non-productive conjugation.

<sup>3</sup> Nouns and adjectives which have a homonymous verb, e.g. act, ache, bare, were excluded, because those verbs and their VCs/CVs were already included in the earlier count. If the homonymous verb, however, has a different meaning to that of the noun or adjective, as with bail or ball, the noun or adjective was included.

<sup>4</sup> The same tendency was found in the strong verbs of German (Beedham 2005a, ms, 2005b) and the non-productive verbs of Russian (Бидэм 2004, Beedham 2005b), with the added finding that the Russian grammatical endings also showed an unduly high density of non-productive verb VCs.

## REFERENCES

- Beedham, Christopher. 1989. "Investigating Grammar through Lexical Exceptions: tense and irregular verbs in English, German and Russian." Journal of Literary Semantics XVIII:187-202.
- Beedham, Christopher. 1994. "The Role of Consonants in Marking Strong Verb Conjugation in German and English." Folia Linguistica XXVIII:279-96.

- Beedham, Christopher. 1995. German linguistics: An introduction. München: Iudicium.
- Beedham, Christopher. 1995-1996. "Vowel + consonant and consonant + vowel sequences in the strong verbs of German and English." Cahiers Ferdinand de Saussure 49:139-63.
- Beedham, Christopher. 1998. "Structuralism and lexical exceptions in three languages." Proceedings of the Sixteenth International Congress of Linguists (Paris 1997). Ed. Bernard Caron. Oxford: Elsevier/Pergamon. Paper No. 0195 (CD-ROM).
- Beedham, Christopher. 2002. "Irregularity in language: Saussure versus Chomsky versus Pinker." A review of Words and Rules, by Steven Pinker. WORD 53:341-67.
- Beedham, Christopher. 2005a. "Eine phonotaktische Verbindung zwischen starken Verben und grammatischen Wörtern der deutschen Gegenwartssprache." Deutsch als Fremdsprache 42/3:167-172.
- Beedham, Christopher. 2005b. Language and Meaning: The Structural Creation of Reality. Amsterdam: Benjamins.
- Beedham, Christopher. Ms. Eine phonotaktische Verbindung zwischen starken Verben und grammatischen Wörtern der deutschen Gegenwartssprache: Die Daten.
- Bybee, J.L., and C.L. Moder. 1983. "Morphological classes as natural categories." Language 59:251-70.
- OALD. See Oxford Advanced Learner's Dictionary of Current English.

Oxford Advanced Learner's Dictionary of Current English. 1989. Ed. A.S. Hornby.

Fourth Edition. Chief Editor: A.P. Cowie. Oxford: Oxford University Press

[quoted in the text as OALD].

Pinker, Steven. 1994. The Language Instinct: The New Science of Language and Mind. London: Penguin.

Pinker, Steven. 1999. Words and Rules: The Ingredients of Language. London: Weidenfeld & Nicolson.

Quirk, Randolph. 1970. "Aspect and Variant Inflection in English Verbs."  
Language 46:300-311.

Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, and Jan Svartvik. 1985. A Comprehensive Grammar of the English Language. London: Longman.

Tobin, Yishai. 1993. Aspect in the English Verb: Process and Result in Language. London: Longman.

Verkuyl, H.J. 1972. On the compositional nature of the aspects. Foundations of Language, Supplementary Series, Volume 15.

Verkuyl, Henk J. 1993. A Theory of Aspectuality: The Interaction between Temporal and Atemporal Structure. Cambridge: Cambridge University Press.

Бидэм, Кр. 2004. "Последовательности гласный + согласный в простых непродуктивных глаголах на -ать/-ять и -еть в русском языке." Язык и Речевая Деятельность 7:9-38.

Fig. 1: Statistics of English monosyllabic words with a strong verb VC and without a strong verb VC, ordered by part of speech (based on the OALD)

<u>English monosyllabic words</u>	<u>with a strong verb</u> <u>VC</u>	<u>without a strong</u> <u>verb VC</u>
<b>lexical parts of speech</b>		
nouns	614	747
adjectives	120	104
cardinal numbers	8	3
adverbs	80	57
interjections	15	9
abbreviations	<u>5</u>	<u>4</u>
<b>Total lexical parts of speech</b>	<u>842</u> (= 48%)	<u>924</u> (= 52%)
<b>grammatical parts of speech</b>		
prepositions	26	9
conjunctions	18	6
verb particles	9	5
personal pronouns	13	2
possessive pronouns	2	0
interrogative pronouns	2	1
indefinite pronouns	2	0
determiners	1	3
possessive determiners	6	2

indefinite determiners	4	4
interrogative determiners	1	1
negative determiners	1	0
definite article	1	0
indefinite articles	2	0
contractions	<u>17</u>	<u>8</u>
<b>Total grammatical parts of speech</b>	<u>105</u> (= 72%)	<u>41</u> (= 28%)
	—	—
<b>Grand total</b>	<u>947</u> (= 50%)	<u>965</u> (= 50%)