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Rule-Based Morphological Processing in a Second Language: A Behavioural Investigation

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According to dual-system accounts of English past-tense processing, regular forms are decomposed into their stem and affix (*played*=play+ed) based on an implicit linguistic rule, whereas irregular forms (*kept*) are retrieved directly from the mental lexicon. In second language (L2) processing research, it has been suggested that L2 learners do not have rule-based decomposing abilities, so they process regular past-tense forms similarly to irregular ones (Silva & Clahsen 2008), without applying the morphological rule. The present study investigates morphological processing of regular and irregular verbs in Greek-English L2 learners and native English speakers. In a masked-priming experiment with regular and irregular prime-target verb pairs (*played-play/kept-keep*), native speakers showed priming effects for regular pairs, compared to unrelated pairs, indicating decomposition; conversely, L2 learners showed inhibitory effects. At the same time, both groups revealed priming effects for irregular pairs. We discuss these findings in the light of available theories on L2 morphological processing.

1. Introduction

Dual-system accounts of morphological processing in English as a native language (L1) have suggested that the regularity of a verb determines how its past tense form is processed (Pinker 1997). According to these accounts, regular past-tense verbs (e.g. *played*) are processed by automatic outstripping of the *-ed* suffix, based on a linguistic rule which permits accessing of the base form *play*. On the other hand, processing of irregular verbs does not presuppose the application of a linguistic rule: forms like *kept* are idiosyncratically formed, and therefore occupy lexical entries separate from their present-tense forms, like *keep*, to which they are only semantically related. This has been challenged by Crepaldi et al. (2010), who claim that inflected forms, even irregular ones, activate the lemma representation of their base form. Therefore, some relationship exists between *keep* and *kept* which cannot be simply reduced to semantics.

Several recent studies have investigated morphological processing in a second language (L2), addressing the question of whether or not L2 learners are able to achieve the automated processing that underlies rule application in L1 and the factors that affect L2 morphological processing. Ullman (2004) presented a model about how L2 learners acquire grammatical rules compared to L1 learners. Using neurolinguistic data he claimed that if L2 is acquired after a critical period, rule usage should be gradually harder and therefore restricted for L2 learners. Consequently, L2 learners are expected to acquire grammatical structures in a less automated way, without being able to compute grammatical rules online, as native speakers do, but by learning them declaratively and consciously applying them when appropriate (cf. Paradis 2004). As far as processing of inflection is concerned, Ullman predicts that the absence of the automated past-tense rule in L2 speakers' linguistic skills will prevent them from decomposing regular forms into their constituents online. As a result, L2 learners should process regularly inflected forms as separate lexical entries, similarly to irregular forms.

However, the available behavioural and neuroimaging evidence on the processing of inflectional morphology by L2 learners remains scarce and somehow contradictory.

1.1. Behavioural studies on L2 morphological processing

Processing of past-tense morphology in L2 learners has been investigated in a considerable number of studies using various behavioural techniques (Kirkici 2005; Pliatsikas & Marinis 2013). One method regarded as particularly efficient in the study of morphological processing is the masked visual priming technique (Rastle et al. 2004). This experimental method investigates the relationship between two words (prime-target) by masking the first one and requiring a lexical decision on the second one. Masked priming has proved successful in uncovering morphological relationships between word pairs, by leaving out any phonological or semantic effects (Rastle et al. 2004). The rapid masked presentation of the prime is thought to be sufficient to activate its lexical but not its semantic representation; consequently, a reduction in the reaction time (RT) for the lexical decision of the target is thought to indicate a lexical relationship between the prime and the target. This is based on the idea that activation of the lexical entry for the prime facilitates (or primes) recognition of the target.

To investigate L2 morphological processing of inflection, Silva and Clahsen (2008) conducted two masked priming experiments with advanced L2 learners of English from various L1 backgrounds (Chinese, German and Japanese) compared to native speakers of English. They hypothesised that if L2 learners process past-tense inflection according to a dual system, then priming should be observed for regular pairs such as *played-play*, since the two words share the same lexical entry. Regular verbs were presented as targets, paired with three different primes each, in order to construct three conditions typical in masked priming: (a) Test prime, using the inflected form of the verb (*boiled-boil*); (b) Identical prime (*boil-boil*); and (c) Unrelated prime (*jump-boil*). A mask was presented for 500 ms., followed by the prime, presented for either 60 ms. (Experiment 1) or 30 ms. (Experiment 2), followed by the target that was always presented in upper case for 500 ms. Participants had to make a lexical decision (word/nonword) on the target by pressing one of two buttons, and their accuracy and RTs were recorded. In both experiments, the native speakers showed priming effects in both Identical and Test conditions, in which RTs were significantly shorter than those in the Unrelated condition. Silva and Clahsen suggest therefore that the priming effect in the Test condition is due to the decomposable nature of the inflected form, which shares the same lexical entry with the stem (target) and therefore facilitates its recognition. On the other hand, the L2 data revealed strong priming effects for the Identical condition only; RTs in the Identity condition were significantly shorter than both the Test and Unrelated conditions. This finding indicates that inflected forms did not differ from unrelated forms in processing terms. The authors' conclusion is that since L2 learners were shown to be sensitive to the masked priming task, the absence of a priming effect for the Test condition indicates that they lack the capacity to (de)compose regularly inflected forms; conversely, they store them as separate lexical entries, which are not morphologically related to their stems. However, Silva and Clahsen did not include irregular verbs, which means that no strong conclusions can be drawn with respect to a dual-system of morphological processing in L2; if L2 learners process regular verbs by rote, similarly to irregular verbs, this similarity can only be established by a direct comparison between the processing of regular and irregular verbs.

More recent studies directly compare regular and irregular verbs, showing that L1 and L2 speakers demonstrate similar effects in processing inflection. Feldman et al. (2010) tested native speakers of English and Serbian-English L2 learners in a modified version of the masked priming task, with 48 ms. prime duration. They included uninflected verbs as targets, which appeared in three conditions: Morphological (e.g. *billed-BILL*), Unrelated (e.g. *careful-BILL*), and Orthographic (e.g. *billion-BILL*); the latter included primes with the same

degree of orthographic overlap with targets as the Morphological condition, but no morphological relationship. The target verbs were of three types: regular verbs (e.g. *played-PLAY*), irregular verbs whose present and past tense forms differed in length (e.g. *taught-TEACH*) or had the same length (e.g. *fell-FALL*). Native English speakers were found to process Morphological pairs significantly faster than the other two conditions, which was common for all three verb types. At the same time, no main effect of verb type was observed, indicating that the three lists were processed in a similar way. L2 learners were also found to process Morphological pairs faster than the other conditions, but processed irregular verbs of varying lengths faster than the other two verb types. In all types of verbs, facilitation was found for Morphological compared to Unrelated pairs; additionally, only regular verbs revealed significant facilitation in the Morphological condition compared to the Orthographic one, an effect that was not found in either of the irregular conditions. Similar results were obtained in a cross-modal priming experiment included in the same paper. The authors interpret their results as not supportive of the dual-system model, as facilitation was observed in both groups across all three conditions. This finding also challenges the assumption that L2 learners process inflectional morphology in a different way from native speakers. Feldman et al. (2010) suggest that even in native speakers the observed facilitation for regular pairs, which is well documented (Silva & Clahsen 2008), is due to a high degree of shared form between a regularly inflected past tense verb and its present tense equivalent, which in all studies feature respectively as the prime and the target. This also explains the facilitation they observed for irregular verbs, since there was a significant form overlap between the prime and the target, and especially in the condition in which inflected forms did not differ in length from their target. Concluding, Feldman et al. suggest that a single-system account of morphological processing explains their findings better than a dual-system, being primarily concerned with the form and semantic properties of the verbs rather than their morphological status.

1.2. The present study

To address the controversy surrounding the processing of past-tense morphology by L2 learners of English, the present study used a masked priming task with regular and irregular verbs with Greek learners of English and native English speakers as controls. The research questions for this experiment were as follows:

- Will native speakers of English show priming effects for regular pairs vs. unrelated pairs, thus suggesting rule-based decomposition of the inflected forms?
- Will native speakers also show priming effects for irregular pairs, suggesting accessing of a lemma representation that is common for present and past tense forms?
- Will L2 learners show a pattern similar to that of native speakers?
- How do these findings agree with dual-route suggestions for morphological processing?

Based on previous findings (Silva & Clahsen 2008) for native speakers of English, we predicted that regularly inflected primes would facilitate the recognition of their base forms. Irregular past-tense forms were also expected to prime their base forms, based on the suggestion by Crepaldi et al. (2010). For L2 learners, we predicted no priming effects for the regular pairs, replicating the findings of Silva & Clahsen. We also predicted priming effects for irregular pairs, similar to native speakers, since the activation and access of the underlying irregular lemma representation (Crepaldi et al., 2010) does not entail rule application. Different effects for irregular vs. regular forms for L2 learners would signify some kind of dual-route processing, whereas similar effects for both conditions would suggest a single system that does not differentiate between the two.

2. Method

2.1. Participants

The experiment was administered to two participant groups: the first consisted of 24 highly proficient L2 learners of English (L2 group, mean age: 28.7, range: 19-37, SD: 5.06) who received a monetary reward. The second consisted of 53 native speakers of English (NS group, mean age: 21.5, range: 18-29, SD: 2.86), who were undergraduate students at the University of Reading and were awarded with course credits. All L2 participants reported English as the foreign language they spoke the best and were assessed for their proficiency in English with a Quick Placement Test (UCLES 2001). Their average score was 86% (range: 68-100%, SD: 10.34%), and all participants scored at Effective-Mastery proficiency levels.

2.2. Materials

The participants were presented with two types of prime-target pairs, which provided the two conditions of this study: Morphology (e.g. *played-PLAY*) and Unrelated (e.g. *head-OFFER*). They had to perform a lexical decision about the second word, which was the target. The Unrelated condition was not expected to produce any priming effects; the Morphology condition was predicted to yield shorter RTs than the Unrelated condition. If Morphology and Unrelated yield RTs that do not differ significantly, then no priming can be assumed.

A total of 80 English uninflected verbs were used as targets in this experiment along with 80 nonwords; 40 of the verbs were regular and 40 irregular. The regular and irregular targets were paired with one of two types of primes, yielding the two experimental conditions of this study. In the Morphology condition, the primes were the past tense forms of the targets, while in the Unrelated condition the targets were paired with real words (nouns or adjectives) that bore no semantic or morphological relation to them (e.g. body-ALLOW, month-FIGHT). Ten regular and ten irregular targets appeared twice, once in the Morphology and once in the Unrelated condition; the remaining ten regular and ten irregular verbs appeared only once. Four experimental lists were created: Regular Morphology (RM), Regular Unrelated (RU), Irregular Morphology (IM) and Irregular Unrelated (IU), consisting of 20 pairs each. The lists appear in the Appendix. Only highly frequent verbs were selected for all verb lists. For real-word targets the mean frequency of occurrence per million of words was assessed through the CELEX database (Baayen 1995). Additionally, the mean orthographic neighbourhood density (number of orthographic neighbours) of each target list was checked through the ELP database (Balota et al. 2007). The four lists were compared for length, frequency and orthographic neighbourhood density with one-way ANOVAs. The analyses did not reveal any significant differences in terms of Frequency [$F(3, 76)=0.649$, $p=0.586$, $\eta^2=0.025$], Length [$F(3, 76)=1.162$, $p=0.330$, $\eta^2=0.044$] or Neighbourhood Density [$F(3, 76)=0.351$, $p=0.789$, $\eta^2=0.014$]. Table 1 illustrates these attributes of the targets in each condition.

	Length	*Frequency*	*Orthographic neighbourhood density*
RM	4.4 (0.5)	302 (119)	8.1 (4.0)
RU	4.5 (0.5)	333 (185)	7.7 (4.5)
IM	4.5 (0.6)	384 (275)	7.2 (4.3)
IU	4.7 (0.6)	373 (226)	6.8 (4.1)
nRR	4.4 (0.5)	n/a	n/a
nRU	4.5 (0.5)	n/a	n/a
nIR	4.4 (0.5)	n/a	n/a
nIU	4.5 (0.5)	n/a	n/a
p	ns	ns	ns

Table 1.Mean attributes of targets (SD) in each condition.

This experiment also included 80 nonword pairs for the lexical decision task. The nonword targets were created by changing one letter of an existing English verb in a way that created a phonologically valid word. Half of the nonwords were created from regular verbs and half from irregular verbs. Similarly to the real word pairs, the nonword pairs were either primed with Unrelated nonword primes or with Related nonword primes, which were formed in a similar fashion to the nonword targets. Therefore, another four nonword conditions were formed: Nonword Regular Related (nRR), Nonword Regular Unrelated (nRU), Nonword Irregular Related (nIR), and Nonword Irregular Unrelated (nIU). The four nonword lists were compared to the four experimental lists for their average target length, measured in number of letters. A one-way ANOVA did not reveal any significant effects in Length [$F(7, 152)=0.754$, $p=0.627$, $\eta^2=0.034$], so all eight conditions were of comparable length. The mean lengths of the targets in each of the nonword conditions are listed in Table 1.

2.3. Procedure

For this experiment the visual masked priming technique was used (Forster & Davis 1984). Each trial consisted of three visual events following a fixation (*): (a) a forward mask, a set of symbols common across all trials (#####) presented to the participants for 500 ms.; (b) the prime, which appeared in lower case immediately after the mask for 33 ms.; and (c) the target in upper case, which immediately followed the prime and stayed on screen until responded to for a maximum of 1500 ms. The experiment was designed and presented through the E-prime experimental software, which was also enabled to collect RTs and accuracy data per trial. All stimuli were presented in white characters (font: Courier New, size: 18pts) against a black background in the centre of a 14" CRT screen (Resolution: 800x600, colour depth: 16-bit, refresh rate: 60Hz). Participants used the E-prime 5-button Serial Response Box with two active buttons ('yes' and 'no' responses). They saw and responded to all word pairs.

The participants were initially given on-screen written instructions and were allowed to ask questions about the task. At the beginning of the experiment they were presented with a practice session with ten prime-target pairs, in half of which the target was a nonword. They were asked to indicate whether or not the target was a real word by pressing the corresponding button as quickly as possible (lexical decision). The experimental stimuli followed immediately after the practice trials, in a fixed order. The experiment lasted for ten minutes. The participants were subsequently asked about what they thought they saw during the experiment, and a very small percentage reported seeing a "flash" between the mask and the target, but nobody reported seeing a word.

3. Results

3.1. Accuracy

Both groups were highly accurate in all four experimental conditions, as shown in Table 2.

	NS	L2
Regular Morphology	95.5 (5)	93.5 (8)
Regular Unrelated	96 (5)	91.7 (8)
Irregular Morphology	97.7 (4)	95.2 (6)
Irregular Unrelated	96.6 (4)	93.5 (5)

Table 2. Accuracy % (SD) per group and per condition.

A mixed three-way ANOVA with two within-subjects factors, Verb Type (Regular, Irregular) and Condition (Morphology, Unrelated), and one between-subjects factor, i.e. Group Type (NS, L2), was conducted to test for any differences in the groups' mean accuracy per

condition. The analysis revealed a main effect of Group [F (1, 75)=8.990, p=0.004, η^2=0.107], which indicated that the NS group was overall more accurate than the L2 group. The analysis also revealed a main effect of Verb Type [F (1, 75)=7.922, p=0.006, η^2=0.096], indicating that the participants were more accurate in recognising Irregular than Regular targets, as well as a main effect of Condition [F (1, 75)=5.283, p=0.024, η^2=0.066], which suggested that participants were more successful in recognising targets in Morphology than Unrelated pairs. Importantly, no significant interactions with Group were revealed. Erroneous trials were removed from the RT analyses.

3.2. Reaction times

Only RTs for real-word targets were analysed. The RTs were screened for extreme values defined as any RTs below 100 ms. No upper limit was defined because the responses were limited by the design to a maximum of 1500 ms. No extreme values were found. Additionally, the data were screened for outliers, defined as values that lay beyond 2 standard deviations from the mean RT for each condition per subject and per item. This was 8.65% of the data for the NS group and 9.36% for the L2 group. The outliers were subsequently replaced by the subject or item mean RT per condition. Table 3 illustrates the mean RTs per condition for each group.

	NS			*L2*		
	Morphology	*Unrelated*	*U-M*	*Morphology*	*Unrelated*	*U-M*
Regular	535 (29)	542 (32)	7*	572 (41)	558 (35)	-14^
Irregular	522 (32)	551 (26)	29**	548 (37)	590 (39)	42*

Table 3. Mean RTs (SD) per group and per condition (** p<0.001; * p<0.05; ^ p<0.06).

To investigate differences in the mean RTs per condition between the two groups and the four conditions, a mixed three-way ANOVA was conducted with two within-subjects factors, Verb Type (Regular, Irregular) and Condition (Morphology, Unrelated), and one between-subjects factor, Group (NS, L2). The analysis revealed a main effect of Condition [F (1, 75)=55.660, p<0.001, η^2=0.426], a main effect of Group [F (1, 75)=18.077, p<0.001, η^2=0.194], a significant Condition x Verb Type interaction [F (1, 75)=74.391, p<0.001, η^2=0.498], and also a significant Condition x Verb Type x Group interaction [F (1, 75)=13.812, p<0.001, η^2=0.156]. No main effect of Verb Type [F (1, 75)=0.094, p=0.760, η^2=0.001] or any other significant interactions were found. Because of the significant three-way interaction, we analysed RTs per group separately.

3.2.1. Native speakers. A two-way repeated measures ANOVA was conducted with two within-subjects factors, Verb Type (Regular, Irregular) and Condition (Morphology, Unrelated). The analysis revealed a main effect of Condition [F (1, 52)=68.159, p<0.001, η^2=0.567], and a significant Verb Type x Condition interaction [F (1, 52)=21.492, p<0.001, η^2=0.292]. Paired samples t-tests were conducted in order to unpack the interaction. They revealed that RM had shorter RTs than RU [t (52)=2.293, p=0.026], and that IM had shorter RTs than IU [t (52)=8.792, p<0.001], suggesting a priming effect for regulars and irregulars. Additionally, it was shown that RM had longer RTs than IM [t (52)=4.113, p<0.001], and that RU had shorter RTs than IU [t (52)=-2.852, p=0.006]. No main effect of Verb Type was found [F (1, 52)=1.065, p=0.307, η^2=0.020].

3.2.2. L2 learners. The same analysis was conducted for the L2 learners. Repeated measures ANOVA revealed a significant main effect of Condition [F (1, 23)=11.194, p=0.003, η^2=0.327] and a significant Verb Type x Condition interaction [F (1, 23)=45.054, p<0.001, η^2=0.662], but no main effect of Verb Type [F (1, 23)=0.449, p=0.510, η^2=0.019]. Paired-

samples t-tests revealed that IM had significantly shorter RTs than IU [t (23)=10.296, p<0.001], suggesting a priming effect, and also than RM [t (23)=2.955, p=0.007]. Additionally, RU had shorter RTs than IU [t (23)=6.227, p<0.001], and RM had marginally longer RTs than RU [t (23)=1.951, p=0.063], thus suggesting an inhibitory effect.

4. Discussion

This study aimed to investigate processing of regular and irregular past-tense inflection by native and non-native speakers of English, using the masked priming technique. The main findings of this experiment can be summarised as follows: native speakers of English were significantly facilitated for both regular and irregular morphological pairs compared to unrelated pairs. Additionally, L2 learners of English revealed significant facilitation for the irregular pairs only, with the results from the regular pairs hinting towards an inhibitory effect. The following sections discuss the findings for each experimental group, and compare their performance to the predictions and findings from previous studies.

4.1. Native speakers

The findings for native speakers replicated the findings of previous studies: significant facilitation was observed for regular Morphological pairs compared to Unrelated ones, suggesting that automatic decomposition of the regularly inflected prime took place, giving rise to facilitatory effects in the recognition of the target. This effect suggests a rule-driven mechanism, in accordance with previous findings on native speakers (Silva & Clahsen 2008). Priming effects were also observed for irregular pairs, which additionally had shorter RTs than the regular pairs. This pattern of effects is explained by and replicates the theory proposed by Crepaldi et al. (2010). The priming effects observed for both types of verbs suggest that a common type of processing takes place for regular and irregular verbs, according to which the inflected forms access a lemma representation that is shared with their base form irrespective of their regularity.

The findings of this study cannot be explained by a single-system account. The direct comparison of regular versus irregular morphological pairs revealed that regular pairs had significantly longer RTs than irregular ones. If a single system was involved in the processing of both types, then this difference should be attributed to some other factor showing a significant difference between the two target lists. However, the two target lists were matched for average length, neighbourhood density, and frequency. Therefore, it is not possible to identify an important difference between the two lists from this perspective: lists of lexical items with similar characteristics should yield similar processing patterns.

Thus, it is more plausible to assume that regular and irregular past-tense processing is distinguishable. Indeed, if decomposition occurs in regular pairs only, it may inflict additional processing load compared to the load inflicted in irregular pairs. Therefore, although there are priming effects in both cases, this additional load may have inflicted a delay in the target recognition for regular pairs. Although facilitation is present for both verb types, the decomposition of the regular form into its constituents may have caused a significant difference between the two verb types, which in turn suggests a dual-system inflectional processing.

4.2. L2 learners

The L2 group demonstrated a different pattern of effects compared to the NS group. For regular pairs, there was no facilitation for Morphology compared to Unrelated. This effect resembles the results presented by Silva and Clahsen for all their L2 groups, in which a regularly inflected form failed to prime its present tense form. This finding could suggest that

the morphological relationship between the past-tense form and the corresponding present-tense form is not established for L2 learners, who treat both morphological and unrelated primes as separate lexical entries. However, the L2 group showed a trend towards an inhibitory effect. This finding is not in accordance with the majority of lexical decision studies, with single-word tasks reporting priming for regular forms with both native speakers and L2 learners (Kirkici 2005; Feldman et al. 2010). Therefore, these findings are inconclusive as to whether or not L2 learners establish a morphological relationship between the past-tense form and its corresponding present-tense form.

The most important finding of this experiment was that the L2 learners had significantly shorter RTs for irregular morphological pairs than unrelated ones, suggesting that they were significantly primed by irregular pairs only. This constitutes evidence of the L2 learners' ability to identify some relationship between an irregularly inflected form and its base form. A plausible explanation for the observed priming is provided by Crepaldi et al. (2010), who suggested that processing of irregular forms at the lemma level allows for a relationship to their base forms to be established. Our findings suggest that the process also occurs during L2 processing. The same explanation could also account for the other studies that report priming for irregular pairs by L2 learners (Feldman et al. 2010). In all cases it could be argued that the priming effects are due to a common lemma for the prime and the target. The fact that the same effect has also been observed in native speakers (Pastizzo & Feldman 2002) makes this theory a strong candidate for the description of processing of irregular past-tense inflection in both NS and L2 learners.

The priming effects for irregular verbs by L2 learners pose an interesting question: if L2 learners process regularly inflected forms as separate lexical entries, similarly to irregular ones, why were there no priming effects for regular pairs? It is logical to assume that the two separate lexical entries for *played* and *play* share a common lemma, in the same way as *fell* and *fall* do. Only a marginally significant inhibitory effect was documented for regular pairs in L2 learners, which could point to increased cognitive load for these pairs. If this is the case, and taking into account the reduced priming effects in native speakers for regular pairs, the absence of priming effects for regular verbs in L2 learners may not be due to the absence of a linguistic rule; it may be the application of the rule *per se* that is costly and eliminates priming effects, and this could also apply to Silva and Clahsen's findings.

Based on the above evidence, we suggest that a dual system of morphological processing in L2 cannot readily be rejected. More research is necessary to validate these findings; for example, an fMRI study with a similar design would help to identify the brain areas involved in morphological processing, and whether they differ for natives vs. non-native speakers of English.

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Appendix (Experimental stimuli pairs)

	Prime	*Target*		*Prime*	*Target*
Regular	agreed	AGREE	*Irregular*	became	BECOME
Morphology	allowed	ALLOW	*Morphology*	began	BEGIN
	caused	CAUSE		broke	BREAK
	covered	COVER		caught	CATCH
	helped	HELP		drew	DRAW
	hoped	HOPE		drank	DRINK
	moved	MOVE		drove	DRIVE
	offered	OFFER		fell	FALL
	opened	OPEN		fought	FIGHT
	proved	PROVE		grew	GROW
	reached	REACH		held	HOLD
	seemed	SEEM		left	LEAVE
	served	SERVE		lost	LOSE
	showed	SHOW		meant	MEAN
	started	START		sold	SELL
	staid	STAY		slept	SLEEP
	turned	TURN		spoke	SPEAK
	waited	WAIT		spent	SPEND
	walked	WALK		stood	STAND
	worked	WORK		wrote	WRITE
Regular	body	ALLOW	*Irregular*	road	BECOME
Unrelated	form	CARRY	*Unrelated*	dark	BEGIN
	past	HOPE		dead	BRING
	today	JOIN		happy	BUILD
	week	KILL		basic	DRAW
	issue	LEARN		view	DRIVE

	mind	NEED		same	FEEL
	head	OFFER		month	FIGHT
	side	OPEN		face	HANG
	night	PLAY		sense	HOLD
	water	PROVE		land	KEEP
	call	REACH		pull	LEAVE
	town	SHOW		trade	MEAN
	wall	START		share	MEET
	power	STOP		good	SEEK
	hand	TALK		real	SELL
	less	TURN		force	SEND
	case	WAIT		main	SLEEP
	home	WATCH		half	TEACH
	nice	WISH		woman	THROW

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