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# THE GERMAN CONJUGATION

MORRIS HALLE

... when forms are partially similar, there may be a question as to which we had better take as the underlying form ... the structure of the language may decide this question for us, since, taking it one way, we get an unduly complicated description, and, taking it the other way, a relatively simple one. L. Bloomfield *Language* (New York, 1933), p. 218

The purpose of the following essay is to show how the German verb can be described in a relatively simple fashion if a form other than the infinitive be chosen as basic.<sup>1</sup> It is hoped that part of the rules given here will be adopted by teachers of German in their classroom work. It is for this reason that an attempt has been made to formulate the rules in a manner comprehensible to people relatively unaccustomed to the linguist's specialized idiom.

When a student learns a German verb he must know whether the verb in question is "strong" or "weak". He is, therefore, usually told to memorize the so-called principal parts. However, were he to memorize nothing but the 3. pers. sing. of the past indicative he would know immediately whether the verb is "strong" or "weak". "Weak" verbs end in /-te/, "strong" verbs do not. The conjugation of the "weak" verbs presents no further difficulties.

The next problem is the vowel alternations in the "strong" verbs. Here again the student must memorize the principal parts, and here again it can be shown that if the 3. pers. sing. past ind. form be memorized, a relatively small number of rules suffices for describing the conjugation. E.g. from the infinitives /bl'aiben/ "remain" and /r'aiten/ "ride" it is impossible to predict whether the vowel in the past tense will be long or short. However, if the 3. sing. past indicative were to be memorized, everything would be predictable. We could then state a rule like the following: "Most German verbs whose 3. sing. past ind. stem vowel is short or long /-i-/ have the same vowel in the perfect participle stem and the diphthong /-ai-/ in the present stem." E.g. /bl'i:b/, /gebl'i:-ben/, /bl'aiben/ "remain" and /r'it/, /ger'iten/, /r'aiten/ "ride".

There are, of course, exceptions to these rules, and some of the rules which are stated in the following pages are too complicated for students in elementary German courses; nor can any description, no matter how ingenious, eliminate all memory work on the part of the learner. Nevertheless a certain amount of "cramming" can be avoided by taking the 3. pers. past ind. as the basic form.

## 0.10. Definitions and preliminary explanations.

The verb of standard literary German as it is presented in the common handbooks and grammars<sup>2</sup> lies at the base of this description.

<sup>1</sup> I wish to acknowledge my indebtedness to Roman Jakobson whose "Russian Conjugation" Word, IV, 155-167, provided the initial impulse for the present work.

<sup>2</sup> W. D. Whitney, *A Compendious German Grammar* (Boston, 1888); J. van Dam, *Handbuch der deutschen Sprache*, II, (Groningen-Batavia, 1940); G. O. Curme, *A Grammar of the German Language* (New York, 1922); *Der grosse Duden, Grammatik der deutschen Sprache* (Leipzig, 1935).

In our transcription we do not indicate those changes which are due to the action of certain phonetic rules of German. E.g. in a straight phonemic transcription we should have to write /bl'i:p/ "remained" for the 3. sing. and /bl'i:b-en/ for the plural, because in German all voiced consonants are replaced by their voiceless counterparts at the end of a word. Since, however, this is automatic, we need not indicate it, and, as a matter of fact, the conventional orthography of German does not do so either.

The symbolism employed is that of the International Phonetic Association (IPA) with the sole exception that affricates are indicated by a <sup>^</sup> placed over the corresponding fricative; thus we write <sup>^</sup>s instead of the IPA ts.

Every form of the German verb consists of a *stem* and an *inflection*. We separate the stem from the inflection by a hyphen. The vowel bearing the stress is called the *stem vowel*.

Some verbs have more than one form of the stem: e.g. cf. the following forms of the verb /g'a:b/, /g'e:b-en/, /g'ib-t/, "give". We shall call the different forms of the stem, *stem alternants*. Usually there is only one stem alternant in each tense. However, a number of verbs have two stem alternants in the present indicative. We shall call the stem alternant appearing in the 2. and 3. pers. sing., the *minor* present stem alternant, and the stem alternant appearing in the rest of the persons, the *major* present stem alternant. Thus in the above example /g'e:b-/ is the *major* present stem alternant, while /g'ib-/ is the *minor* present stem alternant.

The inflection, which is never accented, may consist of a suffix or suffixes, as e.g. in /r'aux-t/ "smokes", where /r'aux-/ is the present stem and /-t/ the inflection of the 3. pers. sing.; or it may consist of a prefix and suffix, as e.g. in /ge-r'aux-t/, "smoked", where /ge-/ and /-t/ together constitute the perfect participle inflection.

If in a paradigm forms with no suffix are opposed to forms with a suffix, we call the former *forms with zero suffix* and symbolize it by \*. Cf. /g'a:b-\*/ "gave" (1./3. pl.) and /g'a:b-t/ (2. pl.)

**0.20.** *The morpheme boundary.* The suffixes are added directly to the stem or to other suffixes. On the morpheme boundary the following modifications take place:

**0.21.** If by our rules two unaccented /-e-/ would occur adjacent to one another, one /-e-/ is dropped.

/l'o:b-/ "praise" /-e-/ (suffix of subjunctive mood) /-en/ (suffix of 1./3. pers. pl.) gives /l'o:b-en/ (1./3. pl. subj.) and not \*/l'o:b-e-en/.

/r'exne-/ "compute" and /-en/ (inflection of 1./3. pl. pres.) gives /r'exn-en/ but note /r'exne-t/ (3. sing. pres. ind.)

**0.22.** If the stem ends in unaccented /-er-/ or /-el-/ , and the inflection consists of unaccented /-e-/ followed by one or more consonants, the /-e-/ of the suffix is dropped. If the suffix consists only of unaccented /-e-/ , the /-e-/ of the stem is dropped.

/z'amel-/ "gather" plus /-en/ (1./3. pl. pres. ind.) gives /z'amel-n/; but plus /-e/ (1. sing. pres. ind.) /z'aml-e/.

**0.23.** After stems ending in /-t-/ or /-d-/ a special connecting vowel /-e-/ is inserted before inflections beginning with a consonant; e.g. /r'it-e-t/ "ride" (2. pl. past ind.) or /f'ind-e-st/ "find" (2. sing. pres. ind.). This connecting vowel, however, does not appear before /-st/ in the past indicative (cf. /h'i:lt-st/ "hold" (2. sing. past ind.) and /h'i:lt-e-t/ (2. pl. past ind.)), nor after a minor present tense stem; e.g. /h'elt-st/ and /h'elt/ "hold" (2. and 3. pers. sing. pres. ind.) but /h'alt-e-t/ (2. pl. pres. ind.). In the latter case, the final consonant of the minor present stem is fused with the 3. sing. pres. ind. inflection; cf. the basic form /g'alt/ "apply" with /g'ilt/ (3. sing. pres. ind.). It is to be noted that this paragraph applies only to strong verbs and to /v'an-te/ "turn" and /z'an-te/ "send". Weak verbs of the type like /r'e:de-te/ "talk" and /r'e:gne-te/ "rain" have basic stems ending in /-e-/ and hence do not belong here.

**0.24.** If a suffix beginning with /-s-/ stands after a stem ending in /-s-/, /-z-/, /-â-/, and in every day speech also after /-ſ-/ and /-ŝ-/ , the /-s-/ of the suffix is dropped. Cf. the following 2. sing. pres. ind. forms: /r'ais-t/ "tear", /r'aiz-t/ "travel", /r'ais-t/ "irritate", /r'auſ-t/ "rustle", and /kl'aŝ-t/ "clap", although in careful speech /r'auſ-st/ and /kl'aŝ-st/ are often heard.

**1.00. The basic stem.**

As already stated, the 3. sing. past indicative form is the form from which the most economical set of rules can be obtained. Hence it will be at the base of our description. This form has one of two inflections: either /-te/, which indicates that the verb is a weak verb; i.e. has only one stem form (except for the 16 verbs listed in 2.7); or /-\*, which indicates that the verb is a strong verb; i.e. has several stem alternants.

**2.0. Inflections.**

In the following chapter the choice of different stem alternants, which is fundamental in the conjugation of the strong verbs, will be discussed only in passing. It is the subject of chapter 3.

**2.10.** The suffixes which indicate the person and number (simultaneously) are always final suffixes; i.e. they must be at the end of the word. These suffixes are

	Singular	Plural
1. person	-* or /-e/	/-en/
2. person	/-st/	/-t/
3. person	-* or /-t/	/-en/

The 1. and 3. person forms are identical in all cases except in the singular of the present indicative, where the 3. person has the suffix /-t/ while the 1. person has the suffix /-e/. This difference between the forms of the first and third persons is even greater in the case of those strong verbs which have two present stem alternants. Such verbs have the major alternant in the first person singular and the minor alternant, in the third person. Cf. 0.23.

/g'a:b-/ "give" (1. and 3. pers. sing. past ind.), /h'elf-e/ (1. and 3. pers. sing. pres. subj.), /ʃp'i:l-en/ "play" (1. and 3. pers. plural pres. ind. and subj.), but /g'e:b-e/ (1. sing. pres. ind.) and /g'ib-t/ (3. sing. pres. ind.), /h'elf-e/

(1. sing. pres. ind.) and /h'ɪlf-t/ (3. sing. pres. ind.), /ʃp'i:l-e/ (1. sing. pres. ind.) and /ʃp'i:l-t/ (3. sing. pres. ind.)<sup>3</sup>.

In all other cases, the 1. and 3. pers. sing. have the suffix -\*. Examples are given above.

**2.20.** It is usually stated that there are three moods in German: indicative, subjunctive and imperative. The imperative has only 2. pers. forms and no tense distinctions. It is thus completely unlike the other two which are parallel to each other in most respects. For this reason the imperative is best considered separately.

**2.21.** There is no special imperative inflection or stem. The imperative singular is formed by adding /-e/ or -\* to one of the stem alternants of the present tense. Strong verbs with a major present stem alternant in /-e-/ and a minor alternant in /-i-/, have the inflection \*, which is added to the minor alternant. All other verbs add the inflection /-e/ to the major (or only) present stem.

/ʃp'i:l-e/ "play!" /r'ait-e/ "ride!" /f'a:r-e/ "travel!", but /g'ib-\*/ "give!" /n'im-\*/ "take!"

The imperative plural is identical with the 2. pl. pres. indicative. /ʃp'i:l-t/, /r'ait-e-t/, /g'e:b-t/, /n'e:m-t/, /f'a:r-t/.

**2.22.** The suffixes of the other moods immediately precede the personal suffix. They are \* for the indicative and /-e-/ for the subjunctive. (In the following we shall not indicate this \* suffix). Cf. /ʃp'i:l-st/ "play" (2. sing. pres. ind.) and /ʃp'i:l-e-st/ (2. sing. pres. subj.)

Since /-e-/ is the only vowel found in German inflections and since sequences of /-e-/ are inadmissible (cf. 0.21), many subjunctive forms are identical with the corresponding indicative forms.

/l'o:b-en/ (1./3. pl. pres. ind. and subj.) "praise"

The subjunctive stem alternants of strong verbs are usually identical with stem alternants of the corresponding tense.

/r'i:f-\*/ "call", (1./3. sing. past ind.) /r'i:f-e/ (1./3. sing. past subj.); /r'u:f-t/ (3. sing. pres. ind.) /r'u:f-e/ (1./3. sing. pres. subj.)

However, strong verbs which have two alternants in the present tense have only the major alternant in the subjunctive.

/f'al-e/ "fall" (1. sing. pres. ind.), /f'el-st/ (2. sing. pres. ind.) but /f'al-e/ (1./3. sing. pres. subj.) /f'al-e-st/ (2. sing. pres. subj.).

Strong verbs which in the *past* indicative have a stem alternant with a "mutable"<sup>4</sup> vowel; i.e. long or short /-a-/, /-o-/, /-u-/, have in the past subjunctive a stem alternant with a "mutated" vowel: /-ɛ-/, /-e-/, /-ø-/, /-y-/. Cf. also 2.70.

<sup>3</sup> In our description the inflection of the 1. sing. pres. ind. is /-\*e/.

<sup>4</sup> "Vowel mutation" or *umlaut* refers to the correspondence between the following vowels which is employed to express certain grammaticalized meaning differences: /u/-/y/; /u:-/ /y:/; /o/-/ø/; /o:-/ /ø:/; /a/-/ɛ/; /a:-/ /ɛ:/; /au/-/oi/. E.g. /m'uter/ (sing.), /m'yter/ (pl.) "mother"; /gr'o:s/ (positive), /gr'øser/ (comparative) "great"; /g'a:b/ (1./3. sing. past ind.), /g'ɛ:be/ (1./3. sing. past subj.) "give".

/br'a:x-#/ (3. sing. past ind.) "break" /br'ɛ:x-e/ (1./3. sing. past subj.).

**2.221.** Certain strong verbs with a past tense stem alternant in short /-a-/ have a subj. alternant with /-ø-/ or /-y-/ instead of /-e-/. (See 3.4111 + 3.431).

**2.222.** The verb /z'ot-#/ "boil" has a subjunctive as if it were a weak verb; i.e. /z'i:d-e-t-e/, etc.

**2.3.** The modal suffixes are preceded by suffixes expressing tense: past or present (non-past). In the case of weak verbs the past tense is expressed by the non-final suffix /-te-/, and in the case of the strong verbs by the non-final suffix /-#/ and a stem alternant different from that of the present tense. The present tense of all verbs is expressed by the non-final zero suffix.

/z'a:g-t/ "say" (2. plur. pres. ind.), /z'a:g-te-t/ "said" (2. pl. past ind.); /g'e:b-en/ "give" (1./3. pl. pres. ind.), /g'a:b-en/ "gave" (1./3. pl. past ind.)

**2.4.** In all verbs except /v'a:r-#/ /z'ain/ "to be" the infinitive is identical with the 1./3. pers. pl. pres. ind.<sup>5</sup>

/g'e:b-en/ "give", /f'a:r-en/ "travel", /z'a:g-en/ "say", etc.

**2.5.** The present participle is formed by adding /-d-/ to the infinitive.<sup>5</sup>

/g'e:b-en-d-/ "giving", /f'a:r-en-d-/ "traveling", /z'a:g-en-d-/ "saying"

**2.6.** The perfect participle is formed by adding /-t-/ to the only stem of the weak verbs, and by adding /-en/ to the proper stem alternant of the strong verbs.

Verbs which have the accent on the first syllable of the basic stem take in addition the prefix /ge-/.<sup>6</sup> All other verbs have no prefix.<sup>6</sup>

/ʃtud'i:r-te/ — /ʃtud'i:r-t/, "study", but /ʃp'i:l-te/ — /ge-ʃp'i:l-t/ "play" and /g'a:b-#/ — /ge-g'e:b-en/, "give".

**2.7.** The following weak verbs have two stem alternants. It is to be noted that they all have short /-a-/ as their vowel.

Basic stem	Second stem	
/br'an-/	/br'en-/	"burn"
/k'an-/	/k'en-/	"know"
/n'an-/	/n'en-/	"name"
/r'an-/	/r'en-/	"run"
/v'an-/	/v'end-/	"turn"
/z'an-/	/z'end-/	"send"
/br'ax-/	/br'ing-/	"bring"
/d'ax-/	/d'enk-/	"think"

The basic stem is used in the past indicative, in the perfect participle and, with a mutated vowel (/e-/), in the past subjunctive. In all other forms the second stem is used.

<sup>5</sup> Since our description is based on the 3. sing. past ind. form, verbs with "separable prefixes" are unambiguously distinguished from verbs with "inseparable prefixes". The conjugation of the latter is completely regular (but cf. 2.6). The order of morphemes of the various forms of verbs with "separable prefixes" can only be stated in terms of the clause in which the form in question appears. Hence this statement belongs properly to the syntax of the language.

<sup>6</sup> Some verbs in which the place of the accent is not definitely fixed have two past participles; e.g., both /fro:l'ok-t/ and /ge-fr'o:lok-t/ "rejoice" are found.

**2.71.** The following eight weak verbs are completely irregular and their conjugation is not considered in the formulation of our rules.

/h'a-te/ "have", /d'urf-te/ "may", /k'on-te/ "can", /m'ox-te/ "like", /m'us-te/ "must", /v'ol-te/ "want", /v'us-te/ "know", /z'ol-te/ "shall".

### 3.0. Stem alternants.

In view of the fact that all verbs discussed in the following chapter have a  $\#$ -inflection in their basic form, we shall not indicate the inflection when quoting the basic form. Thus we shall write /bl'i:b/ instead of /bl'i:b- $\#$ /.

It is usually stated that a certain number of German verbs are inflected like strong as well as like weak verbs. In the language of this description this would mean that German possesses couples of verbs whose forms coincide in part and which can be used interchangeably in most (though not all) contexts; e.g. /l'u:d/ and /l'a:de-te/ "load".

**3.01.** In general, all stem alternants of a given verb have the same consonants. The following twelve verbs form an exception to this rule. For the convenience of readers who might refer to standard grammars we are giving their infinitives in the conventional orthography: *sein* "be", *werden* "become", *gehen* "go", *leiden* "suffer", *schneiden* "cut", *hauen* "hit", *ziehen* "pull", *sieden* "boil", *sitzen* "sit", *tun* "do", *stehen* "stand", *essen* "eat".

With the following rules it is possible to predict all stem alternants of any strong verb from its basic form alone. In order to know to which alternant pattern a given verb belongs, it is necessary to know what its stem vowel is and, in some cases, what phonemes precede and/or follow the stem vowel. E.g. the verb /ʃ'o:b/ "shove" is conjugated as follows: By its stem vowel we know that since it is not one of the verbs listed in 3.22 and 3.23, it will follow the rules of 3.2 and 3.21; i.e. its perfect participle will have a stem identical with the basic stem and the present stem will have /-i:-/ as its stem vowel, thus /ʃ'o:b/, /ge-ʃ'o:b-en/, /ʃ'i:b-en/.

Numbers in parentheses indicate how many verbs follow each pattern without exceptions.

**3.1.** If the basic stem vowel is /-u-/ or /-u:-/:

Basic stem /-u-/	Present tense /-i:-/	Perfect participle /-u:-/	
/ʃ'und/ "flay"	/ʃ'ind-en/	/ge-ʃ'und-en/	(1)
	or /-a:-/and/-ɛ:-/ /-a-/and/-ɛ-/	or /-a:-/ /-a:-/	
/f'u:r/ "travel"	/f'a:r-en/, /f'ɛ:r-st/	/ge-f'a:r-en/	
/v'u:ʃ/ "wash"	/v'aʃ-en/, /v'eʃ-t/	/ge-v'aʃ-en/	(9)

The second stem in the present tense is the minor stem.

**3.11.** The stem vowel is long in all stems in which it is preceded or followed by /-r-/ or /-l-/. Where this is not the case, the vowel in the present tense and in the perfect participle stems is short.

Compare in addition to the two verbs above also /gr'u:b/, /gr'a:b-en/, /gr'ɛ:b-st/, /ge-gr'a:b-en/ "dig".

**3.12.** The verb /ʃ'u:f/ "create" does not have a minor present stem alternant; cf. /ʃ'af-en/ (1./3. pers. pl.) and /ʃ'af-t/ (3. pers. sing.).

**3.13.** One verb is irregular: /h'u:b/, /h'e:b-en/, /ge-h'o:b-en/ "raise".

**3.2.** If the basic stem vowel is /-o-/ or /-o:-/:

Basic form and perfect participle have identical stem alternants	Present tense
/-o-/ or /-o:-/	/-i-/ or /-i:-/
/b'o:g/, /ge-b'o:g-en/ "bend"	/b'i:g-en/
/fl'os/, /ge-fl'os-en/ "flow"	/fl'i:s-en/
/gl'om/, /ge-gl'om-en/ "glimmer"	/gl'im-en/ (23)

**3.21.** Verbs with stems ending in /-m-/ have a short /-i-/ in the present tense alternant; all other verbs in this class have a long /-i:-/ in the present tense alternant.

**3.22.** Nine verbs in this class have present tense stems in /-e-/ or /-e:-/. The quantity of the present tense stem vowel is the same as that of the basic stem. All of these verbs except /(be)-kl'om/ "oppress" have a minor present tense alternant; however, this minor alternant is not always used. The nine verbs are: /dr'oʃ/ "thresh", /(be)-kl'om/ "oppress", /fl'ox/ "braid", /f'ox/ "fence", /h'o:b/ "raise", /kv'ol/ "gush", /m'olk/ "milk", /ʃm'ol& / "melt", /ʃ'o:r/ "shear".

**3.23.** Fourteen verbs have other present stem vowels as follows:

Present tense stem vowel	Basic stem
/-a-/	/ʃ'ol/ "sound"
/-au-/	/ʃn'o:b/ "snort", /ʃr'o:b/ "screw", /z'of/ "drink", /z'o:g/ "suck"
/-ε:-/	/g'o:r/ "ferment", /v'o:g/ "weigh"
/-e-/	/ʃv'ol/ "swell"
/-e:-/	/v'o:b/ "weave"
/-ø-/	/l'oʃ/ "extinguish"
/-ø:-/	/ʃv'o:r/ "swear"
/-y:-/	/k'o:r/ "choose", /l'o:g/ "lie", /tr'o:g/ "deceive"

**3.3.** If the basic stem vowel is /-i-/ or /-i:-/:

Basic form and perfect participle have identical stem alternants	Present tense
/-i-/ or /-i:-/	/-ai-/
/b'is/, /ge-b'is-en/ "bite"	/b'ais-en/
/r'i:b/, /ge-r'i:b-en/ "rub"	/r'aib-en/ (36)

This is the most important group of the strong verbs, about a quarter of all strong verbs follow this pattern.

**3.31.** Thirteen verbs follow a different pattern: they also have two stem alternants; however, these verbs have a common alternant in the present tense and the perfect participle and a different alternant in the basic form. The quantity of all alternants is usually the same except for the 3 verbs whose present tense form is listed in parenthesis after the basic form. Furthermore, with the sole exception of /r'i:f/ "call", all verbs having a "mutable" stem vowel<sup>4</sup> possess minor present stem alternants which contain the "mutated" vowel.



Present tense stem vowel	Basic stem
/-a-/ or /-a:-/, /-e-/ or /-e-/ (minor)	/bl'i:z/ "blow", /br'i:t/ "roast", /f'i:l/ (/f'al-en/ "fall", /f'ing/ "catch", /h'i:lt/ (/h'alt-en/) "hold", /h'ing/ "hang", /l'i:s/ (/l'as-en/) "let", /r'i:t/ "advise", /ʃl'i:f/ "sleep"
/-ai-/	/h'i:s/ "be named"
/-au-/, /-oi-/ (minor)	/l'i:f/ "run"
/-o:-/, /-ø:-/ (minor)	/ʃt'i:s/ "push"
/-u:-/	/r'i:f/ "call"

**3.4.** If the basic stem vowel is /-a-/ or /-a:-/:

**3.41.** Verbs with short stem vowels followed by a nasal consonant

Basic stem	Present tense	Perfect participle
/-a-/	/-i-/	/-o-/ or /-u-/
/ʃv'am/ "swim"	/ʃv'im-en/	/ge-ʃv'om-en/
/ʃv'ang/ "force"	/ʃv'ing-en/	/ge-ʃv'ung-en/ (23)

Verbs with stems ending in a nasal have perfect participle alternants in /-o-/. Verbs with stems in which the nasal is followed by a consonant have /-u-/.

**3.411.** The past subjunctive of verbs ending in /-m-/ or /-n-/ has a stem alternant in /-ø-/, although the regular /-e-/ is also admissible for the most part. (Cf. 2.221 and 3.431)

/ʃv'øm-e/ as well as /ʃv'eme/ is found as 1./3. sing. past subjunctive of /ʃv'am/ "swim".

**3.42.** There are only two verbs with a long /-a:-/ followed by a nasal; both of them are irregular according to our rules: /k'a:m/ "come", and /n'a:m/ "take".

**3.43.** Verbs which have a basic stem in short /-a-/ *not* followed by a nasal consonant

Basic stem	Present tense	Perfect participle
/-a-/	/-e-/ and /-i-/ (minor)	/-o-/
/h'alf/ "help"	/h'elf-en/, /h'ilf-t/	/ge-h'olf-en/ (9)

**3.431.** The past subjunctive of some verbs in this class has a stem alternant in /-y-/, although the regular /-e-/ is also admissible. (Cf. 3.411 and 2.221) /h'yulf-e/ as well as /h'elf-e/ is found as 1./3. sing. past subj. of /h'alf/ "help".

**3.44.** Verbs which have a basic stem in long /-a:-/ *not* followed by a nasal consonant

Basic stem	Present tense	Perfect participle
/-a:-/	/-e:-/ and /-i:-/ (minor) or /-e-/ and /-i-/ (minor)	/-o:-/ or /-e:-/ or /-o-/ or /-e-/
/ʃt'a:l/ "steal"	/ʃt'e:l-en/, /ʃt'i:l-t/	/ge-ʃt'o:l-en/
/l'a:z/ "read"	/l'e:z-en/, /l'i:z-t/	/ge-l'e:z-en/
/ʃt'a:x/ "stick"	/ʃt'ex-en/, /ʃt'ix-t/	/ge-ʃt'ox-en/
/fr'a:s/ "devour"	/fr'es-en/, /fr'is-t/	/ge-fr'es-en/ (16)

The vowel is short in the present and perfect participle if the stem ends in a fortis continuant (/s-/, /ʃ-/, /f-/, /x-/) and in the verb /(er)-ʃr'a:k/ "be frightened". In all other cases it is long. Verbs with stems ending in a vowel or in /-s-/ or /-z-/ and the verbs /g'a:b/ "give" and /tr'a:t/ "step" have long

or short /-e-/ in the perfect participle; the remaining verbs have long or short /-o-/.

**3.441.** The following two verbs have irregular short minor present stem vowels: /g'a:b/, /g'e:b-en/ but /g'ib-t/ "give" and /tr'a:t/, /tr'e:t-en/ but /tr'it-st/ "step".

**3.442.** The following three verbs have irregular present tense alternants: /b'a:t/, /b'it-en/, "beg", /l'a:g/, /l'i:g-en/, "lie", /(ge)-b'a:r/, /(ge)-b'ε:r-en/, /(ge)-b'i:r-st/, "bear".<sup>7</sup>

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<sup>7</sup> English verbs can be described in a similar manner; i.e. by using as point of departure some form other than the infinitive. In English the basic form is the past tense in most cases, and the perfect participle in the case of verbs which have a perfect participle in -n; e.g. *written*. However, the rules for English are somewhat more complicated than those of German and the advantage of a new description is correspondingly less. Cf. also B. Bloch "English Verb Inflection", *Language*, 23 (1947), 399-418 and C. F. Hockett "English Verb Inflection", *SL*, I.2 (1942) 8 p.