

The Morphological Argument for the Existence of Sino-Tibetan*

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1. Introduction: Sino-Tibetan linguistic comparison

1.1. *Lexicon*

Of the main linguistic approaches which have been used to attest to the likelihood of a divergent (or "genetic") relationship between Chinese and Tibetan'---namely lexicography, syntax, phonology, and morphology, only lexicography has actually been much utilized. Accordingly, lexical comparison forms practically the sole basis for the hypothesis. Since a treatment of the Sino-Tibetanists' lexical comparisons would require a number of weighty tomes, this paper passes on that subject.

1.2. *Syntax*

Of the other main comparative approaches, namely syntax, phonology, and morphology, syntax has generally been shunned due to the radically differing syntax between the two languages in their earliest recorded forms as well as in the modern languages: the Chinese of the earliest texts (from approximately the thirteenth century B.C.) exhibit SVO syntax, while the Tibetan of the earliest texts (from the seventh century A.D.) has SOV syntax; this is also true of all known Tibeto-Burman languages---including the old literary languages, such as Old Burmese, from the twelfth century A.D.---though it

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1 Properly speaking the comparison is between Proto-Sinitic and Proto-Tibetic (or, better yet, Proto-Tibeto-Burman or Proto-Tibeto-Karenic), but as both language families have fairly unitary old literary languages, in practice one is dealing primarily with Old (Literary) Chinese and Old (Literary) Tibetan. For simplicity's sake I have used simply 'Chinese' and 'Tibetan' as labels for the latter.

is not true, of course, for the Karenic languages.²

1.3. *Phonology*

The only contemporary Sino-Tibetanist to attempt formal phonological comparison of Tibetan and Chinese to each other and to other languages on a theoretical level is E.G. Pulleyblank. His grand general phonological theory, proposing to relate Proto-Sino-Tibetan genetically to Proto-Indo-European (Pulleyblank 1965a, 1965b), is based largely on an incorrect understanding of vowel umlaut in the Proto-Tibetan (henceforth, PTib) verbal paradigm, as has been demonstrated by Róna-Tas (1985:171, 178-179), who bases his judgment on the work of Coblin (1976).

1.4. *Morphology*

The third comparative approach is tackled by Pulleyblank in what may be called the morphological argument for the existence of Sino-Tibetan (henceforth, ST). In his linguistic writings, Pulleyblank has made much of a 'Proto-Sino-Tibetan' system of functionally-marked unvoiced root-initial and voiced root-initial (henceforth, "unvoiced" and "voiced") transitive-intransitive pairs. The origin of this hypothesis is in the 100-year-old work of Conrady (1896), who noted the existence in several Asian languages of semantically related pairs of words marked by certain phonological distinctions in syllable initials, particularly an unvoiced-voiced distinction marking transitive and intransitive respectively, which could demonstrate the existence of a divergently (or "genetically") related family of languages. Pulleyblank's own version of this tenacious hypothesis is founded upon his interpretation of the Tibetan prefix {*h*-}: "...the function of the Tibetan *ha-č'uŋ* or 'voiced *h*' prefix...is particularly associated with the formation of intransitive verbs, e.g., *hgrib-ba* [sic] 'grow dim' from *grib* 'shadow, *fgrogs-pa* 'be associated with' from *grogs* 'friend, associate'." ((Pulleyblank 1973:114; 1986:9, 10-11) In the modern Lhasa dialect (the basis of the Tibetan lingua franca) in prevocalic root position---for example, the name of the letter used to write the prefix in Tibetan, *ha*---the letter *h* represents a consonant with the value of a

2 Karenic, though it is generally considered to be related to Tibeto-Burman, has SVO word order, like Taic and Chinese. The Karenic languages also have "a substantial non-TB element in the lexicon, a[s] demonstrated by Luce." (Bradley 1994:180) The standard classification of Karen (Benedict 1972:6; but cf. Bradley 1994:180) places its connection to TB at a superordinate level, thus making it one of the two major branches of a Tibeto-Karenic family of languages, wherein Tibeto-Burman forms the other branch. Although it is to my mind far from clear that all the languages currently classed as TB are divergently related, if Karen is indeed to be related genetically to TB at least two explanations are possible: 1) SVO word order is the original word order, and TB has diverged; 2) SOV is the original word order and Karen has diverged. Sino-Tibetanists have been particularly interested in this problem because of the otherwise clear syntactic distinction between TB and Chinese. It has often been suggested that the divergent word order of Karen is due to Taic influence.

voiced laryngeal spirant--i.e., as Pulleyblank says, a 'voiced *h*'. (Pulleyblank 1973:114; cf. Róna-Tas 1985:347, Róna-Tas 1966)³ Perhaps thinking that the modern Western name for this letter, **ha chung** (usually transcribed '**a chung**'), 'little A', is an authentic, meaningful Tibetan term, he has interpreted it as a reduced vowel parallel to a supposed full-grade prefix **{ʔa-}*, i.e., **ʔa chen**, 'big A' (Pulleyblank 1986:10)⁴ The theory is not new, since it is quite similar to that of Wolfenden (1929:177 et seq.), continued in Benedict and Matisoff (1972:122-123),⁵ but Pulleyblank has expanded upon his interpretation at great length and has used it to draw far-reaching conclusions about the early history of ST and, in particular, about Chinese historical linguistics.⁶

3 The consonant [h] is nowadays normally transcribed by Tibetologists with the apostrophe, '. Earlier Western literature more often used **h** (or **ḥ**) which was equally unfortunate, since it frequently (if covertly) appeared to equate the phoneme in question with the Skr. *visarga*. Although in some non-Central dialects it may have become a glottal stop in pre-vocalic position, in at least one Eastern dialect it is (or was) articulated as a voiceless velar fricative, [χ] (Jäschke 1881:xvi), thus confirming that in Old Tibetan it was undoubtedly velar as well, as Róna-Tas has pointed out (1966). It is possible that the idiosyncratic transcription of [h] used by some early Tibetologists, including R. Shafer and G. Tucci, namely "a", is responsible for some of the confusion that has grown up around [h].

4 The glottal stop consonant [ʔ] is usually left untranscribed by contemporary Tibetologists. The terms **ha chung** and **ʔa chen** are unknown both to the written Tibetan grammatical tradition and to native Tibetan scholars who have not worked with Westerners. Indeed, they appear to have been developed under Western influence in the nineteenth century.

5 Neither Benedict's original treatment, which is close to Pulleyblank's, nor that of his book's glossator, James A. Matisoff (Benedict 1972:122-123, 123 n. 339), can be followed, at least with respect to Tibetan. Wolfenden (1929), unavailable to me at the time of writing, is cited after Benedict (1972:122).

6 "To assume that before another consonant the prefix *h-* was realized something like [ə] in the Tibetan of the T'ang period thus seems to be very reasonable." (Pulleyblank 1986:11) Among other things, Pulleyblank relates Tibetan **na** [locative postposition and conditional conjunction; verb 'to be sick'; etc.] and **naŋ** [noun, 'the inside'] with an OChi pair **ʔāā*, "in" and **ʔāŋ* "inside" (Pulleyblank 1986:7, 9) Note that the non-Pulleyblank definition for the second of these is 1. central, middle; 2. midway; 3. distant; 4. to finish; 5. already; 6. a city six li square; 7. broad; etc. (Morohashi 1958-1960:2826-2827); although the list of definitions is reminiscent of the categories from "a certain Chinese encyclopedia" invented by Borges, the innovative definition "inside" does not occur. It is odd that he did not choose to compare the Tibetan forms with Chinese (Mandarin) **nèi** 'in, inside', attested in OMan as **ḥdwe** and **ḥdei** reconstructed as **d'āi*, alongside the standard *ch'ieh-yün* T'ang pronunciation reconstructed as **nwāi*³ (Takata 1988:320-321). (In view of Pulleyblank's argument for a relationship between ST and Proto-Indo-European, this whole article is mystifying. One should have expected him to at least mention the PIE root **nei* (also **en[n]*, **eni*, **ni*, **n-dhi*; > English **in**) 'in' (Pokorny 1959:311 et seq.), which could be a well-pedigreed relative of both the Tibetan and the Chinese forms.) He claims further that "the preposition **ʔāā* represents the same root as a prefix *ʔa-/a-* and an infix *-a-*, both having 'introvert' meaning, found not only in Chinese but in Sino-Tibetan generally." (Pulleyblank 1986:11)

2. Areal and Typological Considerations

It is overlooked by Pulleyblank that semantically related verb pairs (including transitive-intransitive pairs), noun-verb pairs, noun-noun pairs, and noun-adjective pairs, distinguished primarily by a difference in voicing or aspiration, exist in many languages, including several in East and Southeast Asia. Thus the fact that Tibetan and Burmese have them is interesting only as further evidence of the Southeast Asian Sprachbund, which includes the Tibeto-Burman (henceforth, TB) languages as well as Chinese. Yet, though such pairs do exist in Chinese, they are actually quite rare in the modern language, and are in any case hardly perceivable as constituting any sort of system of alternation as in Tibetan and Burmese.

2.1. *Examples from non-Sino-Tibetan Thai*

Taich (which was in Conrady's time---and until quite recently, still---included by most scholars in the ST 'family'), exemplified by Thai, has a number of such pairs, for example:

- bæ** 'to open (the hand)' ~ **phæ**, 'to spread out'.
bid 'to twist; false (in **bid būn**)' ~ **phid**, 'to err, wrong'.
cūi, 'to rub, tickle with a finger or other object' ~ **chūi**, 'to point at with a finger or other object'.
cūm 'to put (s.th.) in the water' ~ **chūm** 'to get really wet'.
kān 'to obstruct (a way)' ~ **khān** 'to partition off (a room); mark a book'.
klīng 'to make round' ~ **khīng** 'to roll'.
kum 'to hold (a hand)' ~ **khum** 'to watch over, to control (o.s.)'.
pād 'to wipe off, dust off' ~ **phād** 'to fan; a fan'.
tān, 'to resist, oppose' ~ **thān**, 'to bear (the weight), resist'

Most of these pairs would seem to be related etymologically, though it is not clear exactly how. The point is that one can find such pairs in almost any language (for example, Arabic, or Old English), but it would seem to be only where the phonological register of a language becomes reduced to the level of many eastern Asian languages (such as those in the Southeast Asian Sprachbund, where most languages have monosyllabic root morphemes), that they become noticeable and eventually, perhaps through the human tendency to systematize similarities, significant and productive.

3. The Old Tibetan evidence

Even if, with Pulleyblank, we ignore the typological counterevidence, however, his ideas about the hypothetical pair of prefixes cannot be upheld. To begin with, the glottal

stop consonant does not occur at all in Old Tibetan (henceforth, OTib) except in the transcription of foreign words. There is, in addition, absolutely no evidence internally (in prosody, for example) or externally (in foreign transcriptions) that the {*h*-} prefix was ever articulated as a vowel in OTib or its daughter tongues. Furthermore, despite Pulleyblank's citation of examples to support his hypothesis (see above, §1.4), many other examples may be cited where both voiced and unvoiced root initials occur in the paradigms of the same OTib verb, thus casting doubt on the validity of his assertion.

3.1. *Diachronic analysis of the Old Tibetan verbal prefix {h-} and its effects*

In order to clarify the Tibetan evidence, it is necessary to examine the OTib verb pairs exhibiting a voicing distinction in the root initials of individual paradigms. An examination of a standard table of Tibetan verb forms⁷ reveals that the {*h*-} prefix does not by any means occur with all verbs, nor does it affect verbs in the ways attributed to it by Pulleyblank when it does occur.

3.1.1. *Voiced initial in the present tense*

When both *voiced* and *unvoiced* forms appear within the paradigm of one verb (i.e., in what will be called henceforth 'split-voiced paradigms') an {*h*-} prefix always occurs before a voiced initial in the present, as, for example, in (1).⁸

⁷ There are, unfortunately, no OTib verb tables, either medieval or modern, so it has been necessary to use Classical Tibetan ones. I have used the verb tables in the following works:

The dictionaries of Chang (1985) and Semichov (1963). These cover primarily the recent literary language, and are occasionally misleading or incorrect with respect to Classical Tibetan forms. So far as I have noticed, they make no pretense to deal with OTib at all. The conservative Classical Tibetan verbal system is, however, presented with moderate accuracy in the verb tables.

The verb tables of Phun-tsoqs Dbag-rgyal (1960) and Tshul-khrims Phun-tshogs (1821). The first of these, a modern publication based on the classics of the Tibetan grammatical tradition, is relatively accurate for the recent literary language, and includes a number of interesting, old-looking variants. The second work, a pre-modern Bonpo grammarian's table, is especially accurate, and particularly interesting in its organization of the material.

I have also checked all exceptional forms (which are discussed in the Appendix) in the OTib glossary of Richardson (1985), in Imaeda and Takeuchi's concordance to twelve OTib manuscripts (1990), and in Takeuchi's concordance to the OTib contracts (1995). In addition, I have compared my data with that in Jäschke's dictionary (1881), but it must be noted that the paradigms given in dictionary entries by Jäschke and other dictionary compilers are often unreliable even for Classical Tibetan, and should never be used as the basis for historical-comparative linguistic research.

⁸ All verb paradigms are given in the order Present-Past-Future-Imperative (intransitive verbs rarely have Imperative forms), followed by an alternate phonetic transcription if useful, a brief gloss, and an indication of the verb's transitivity.

(1) **fdon bton gdon thon** 'to expel' (trans.)

3.1.2. *Unvoiced initials throughout*

Verbs with unvoiced initials throughout are unaffected by the presence or absence of the {**h**-} prefix, which can occur anywhere in, or even throughout, the paradigm, as for example in (2).

(2) **fkhyam fkhyams fkhyam fkhyoms** 'to wander' (intrs.)

Thus, despite Pulleyblank's notion that this {**h**-} was responsible for "alternations of voiced and voiceless obstruent initials" (Pulleyblank 1973:111), in example (2) the initials have clearly remained unvoiced in the presence of {**h**-}.

3.1.3. *Voiced initials throughout*

Similarly, as in §3.1.2, verb paradigms with voiced initials in both the present and the past have voiced initials throughout the paradigm regardless of the presence or absence of the {**h**-} prefix. See, for example, (3), (5), (7), and (8).

(3) **fbod bos bod bos** 'to call, invoke' (trans.)

3.1.4. If a paradigm with a voiced-initial present prefixed with {**h**-} has an unvoiced imperative, an affricating element appears in verbs with (otherwise) sibilant initials. See, for example, (4). The affricating effect of the {**h**-} prefix has been frequently noted (Li 1933; Róna-Tas 1985:108).

(4) **hjug bcug gʒug chug** (= **hɕʊg bʃʊg gʒʊg tʃʊg**) 'to insert' (trans.)

Such paradigms also always have an unvoiced-initial past form, and both the past and the imperative forms are affricated. Compare example (1). It has been argued that in some paradigms with the sibilant phoneme /ʒ/ ([ʒ]) as root initial in the future the sibilant is a secondary phonetic development due to the prefix {**g**-} (Li 1933; Róna-Tas 1985:168), and the original root initial was an affricate, [tʃ] ([ɕ]). This is clearly not the case in (4) and in other split-voiced paradigms, since the {**h**-} prefix regularly caused affrication of the present; the future in such paradigms is regularly voiced whether or not it has a sibilant initial; and the {**h**-} prefix (see §3.2.2.2) regularly caused the affrication of the past and imperative (regardless of voicing elsewhere in the paradigm). The argument also ignores the existence of related nouns that have voiced sibilant initials (see §3.2.2.1).

3.1.5. If there are any other prefixes or consonant clusters involved in the initial (excepting those of the form $\sqrt{\text{Cr-}}$ or $\sqrt{\text{Cy-}}$), the {**h**-} does not occur, and all forms in the paradigm have either voiced or unvoiced root initial consonants; in other words, there is no split voicing. This would throw considerable doubt on the possible early existence of the {**h**-} prefix in the present forms of such verbs, as suggested by Coblin (1976:48, 62), if Pulleyblank's theory of the voicing effect of {**h**-} were followed.

3.1.6. Only a relatively small number of verbs in Tibetan have both voiced and unvoiced forms within the same paradigm. These verbs are all transitive. Moreover, although there are some transitive verbs that are undoubtedly related etymologically to intransitive verbs, the contrast morphophonologically between the two paradigms generally does not appear in the voicing of the initials of one paradigm as opposed to the unvoicing of the initials of the other, but rather in a difference between split-voiced and non-split-voiced paradigms. In most of these verb pairs, {**h**-} is prefixed to the present in both paradigms. For example, see (5) and (6).

(5) **hbab bab hbab** 'to descend, fall down' (intrs.)

(6) **hbebs phab dbab phob** 'to make descend, throw down' (trans.)

3.1.7. Since affricate initials in some non-split-voiced paradigms prefixed with {**h**-} in the present have sibilant imperative and other forms, demonstrating clearly the primacy of the sibilant, in such cases it is apparent, as long ago pointed out by Li (1933) that the {**h**-} prefix is connected with the affrication of the present. See, for example, (7).

(7) **hjug b'zag g'zag z'og** (= **h'z'og b'zag g'zag z'og**) 'to put down' (trans.)

3.2. *Analysis of Old Tibetan {h-} and its effects*

3.2.1. The {**h**-} morpheme was undoubtedly articulated in the same way as the syllable-initial consonant [**h**] when the script was invented in the early seventh century (i.e., presumably as a voiced laryngeal continuant), because the OTib script, which is remarkably consistent and precise phonologically, has one letter for the phone regardless of its position. However, the morpheme appears to have had the underlying shape {**hd**-} (perhaps from a Proto-Tibetan *{**in(d)**-}⁹), which appears in OTib as [**h**-], [**hd**-], or [**ht**-],¹⁰ though the script

⁹ Shafer (1951:1020-1021) suggests this reconstruction, with the [I] vocalism posited to account for the present-future negative **mi**. In his review of Inaba (1954), Roy A. Miller cites Dragunov, who proposed that the morpheme {**h**} was homorganic [n] preconsonantly, but [h] prevocally (Miller 1955:481). This is certainly the case for many contemporary dialects, including---in post-initial-syllable position---even the

obscures the morpheme boundary.

3.2.2. *Split-voiced verb paradigms*

There are two possibilities to explain the phenomenon of split-voiced paradigms.

3.2.2.1. The first possibility, suggested by Pulleyblank, is that the *voicing* of present and future forms in verbs with unvoiced pasts and imperatives is secondary, a result of prefixing; the roots of these verbs would thus originally have unvoiced initials.

If this were so, however, the prefix that produced the voicing of the initials of the present and future forms of such verbs would indeed have to be the {*h*-} in the present. The future form must then be explained as a secondary development of this present form. This is, however, extremely problematic, if not impossible, in many cases, especially in view of the frequent occurrence of etymologically related but prefixless nouns with initials matching the future of the related verb. See for example the noun *zo* 'milk (hon.); yogurt' and the verb 'to milk (hon.)' in (8).

(8) *hjo bžos bžo žos* (= *hđžo bžos bžo žos*) 'to milk (hon.)' (trans.)

It is clear that the original root initial of this verb was [ž], not [j] (i.e., [ʒ], not [dʒ]), as Li (1933:148) observed.

Lhasa dialect, and can be shown to have been in effect already in the later Middle Ages. However, as spelling errors reflecting such a dichotomy do not occur in Old Tibetan texts (at least, not in datable early texts), it was undoubtedly not the situation in OTib or pre-OTib.

10 Since nearly all Tibetan words which have prevocalic syllable-initial [h] have rounded vowels, and such words--a number of which are frequent in colloquial speech--are today in the Central dialects articulated with initial [w], several writers have suggested that some or all of these rounded-vowel words had in PTib an initial [w]. One may note in passing that the idea (Pulleyblank 1986:10) that the initial consonant [w] is "extremely rare" in Tibetan is untrue for modern Tibetan, where this particular phone is in fact extremely common (but of different origin). In fact, OTib originally had no simple graph for [w] at all, as G. Uray has demonstrated. (Uray 1955) It is obvious from the OTib sources that the Tibetans invented the digraph ancestor of the modern letter for [w] to write foreign words which had initial [w-], because the letter (digraph) only occurs in such transcriptions. (Note that standard Tibetan dictionaries normally have less than a single page devoted to words beginning with the letter.) Though Pulleyblank (1986:10) dutifully quotes Róna-Tas to the effect that "the graph for *w* in Tibetan consists of *ha-čhuŋ* with subscript *wa-zur* and that some dialects pronounce it with velar friction," he draws the conclusion "*h* < **w*- < [w- < **h*k'-". However, the graphs for *h* and for *w* cannot be explained this way. The graph for *w* originally "denoted a consonant-cluster...the two elements of which had independent sound values." (Uray 1955:110) Paleographic evidence (especially OTib alphabets from Central Asia) indicates the digraph, *hb* (i.e., [hw]), "very early changed into a simple consonant...w..." (Uray 1955:111)

One argument against the theory of secondary voicing is that the "linguistic universal" tendency for change in voicing status is from voiced to unvoiced, with few, highly circumscribed, exceptions. However, the data themselves disprove it: as mentioned above, the {**f**-} prefix occurs before numerous unvoiced-initial roots (both transitive and intransitive) as well, producing no voicing anywhere in their paradigms. Thus it would clearly be impossible to write a rule for such voicing.

3.2.2.2. The second possibility is that *devoicing* of the initials of perfect and imperative forms is secondary.

The {**f**-} prefix does in fact occur with both transitive and intransitive verbs, in all forms, in both uniform-initial and split-voiced-initial paradigms, but in the latter it occurs in a particular distribution. It is only in such split voiced/unvoiced-initial verbs that the {**f**-} could have played a role in phonological change---namely, it could have been due to its absence that the devoicing occurred. However, the tendency for voiced initials "unprotected" by prefixes to be unvoiced and aspirated, seen already in late Old Tibetan and generalized throughout the Central dialect by modern times, was not yet present in Pre-Old Tibetan. Moreover, the fact is that numerous OTib verb paradigms and word families exist with "unprotected" voiced initials. Why then did only these past and imperative forms become unvoiced? Or why did they lack the {**f**-}, which would have kept them from becoming devoiced?

It appears that the devoicing was caused by another prefix, with the form *{**h**(**t**)-}, which disappeared as a discrete morpheme before OTib times. (Here [**h**] represents devoicing, since in OTib there was no phonemic distinction between aspirated and unaspirated unvoiced initial stops, which appear in complementary distribution throughout the language.) The prefix {**h**-} appears in the past and imperative forms of split-voiced verb paradigms as [**h**-] or [**ht**-] (and could be reconstructed for Proto-Tibetan as *{**ah**(**t**)-}, the vowel reflecting the vocalism of the respective past and imperative negative, **ma**, as well as the vocalism of the past tense forms of verbs in -**a**-, parallel to Shafer's reconstruction of {**f**-} < *{**ind**-} based on the present-future negative **mi** (see §3.2.1), as well as the pre-OTib vocalism in -**a**- of OTib imperatives (Shafer 1951:1023; Röna-Tas 1985:168-169); both reconstructions accord with the regressive direction of vowel assimilation in Tibetan). This hypothesis of a second prefix morpheme, {**h**-}, is supported by the direct phonological evidence of split-voiced paradigms and of the metathesized initial clusters of other paradigms. It is, moreover, applicable without exception to the data.

4. Conclusion: Consequences for Sino-Tibetan linguistic comparison

4.1. Prefixes, voicing, and verb pairs

On the basis of the data, it can be stated unequivocally that the prefix {**f**-} could not

have been a vowel, and whatever else its shape, it also could not have been followed by a vowel. Moreover, it is clear that one cannot reconstruct a system of two vowel prefixes responsible for the formation of OTib transitive-intransitive verb pairs or verb-noun pairs from originally unvoiced root-initial forms. The evidence from split-voiced paradigms, which are all transitive, is in fact evidence for the opposite: it is probable that the initials of all such paradigms were originally voiced throughout, and it may not be possible to reconstruct any system of transitive-intransitive verb pairs for Proto-Tibetan, since the stems of verbs that appear in OTib as (split-voiced) transitive-intransitive pairs originally had the same, voiced, root initial. There was thus very likely only a single verb root in such cases. In fact, based on what is understood now about the early shape of the OTib verb, it is probable that there were no OTib-type paradigms at all in Proto-Tibetan; the transitive-intransitive verb pairs would seem to have come into being over the course of time under the phonological influence of later prefixing and suffixing systems.

As a final note on the hypothesis that prefixed {h-} caused widespread voicing in Old Tibetan, it may be remarked that it is of course not difficult to find examples of secondary voicing of unvoiced stops in various languages. However, this is the opposite of the normal direction of sound change, it is much less common, and it occurs under very narrow constraints. Although Pulleyblank is not arguing that *all* initial stops became voiced, it is worth bearing in mind the linguistic universal that "...the sound change turning [b, d, g] into [p, t, k] has been observed in several language families of the world (for example in the history of Chinese). This change constitutes part of the consonant shift known as Grimm's Law, which separates the Germanic branch from the rest of the Indo-European languages. On the other hand, a sound change turning all instances of [p, t, k] into [b, d, g] has never been reported." (Hyman 1975:17). More recently Pulleyblank argues, "Benedict (1972) assumed that the original contrast was between voiced and voiceless, with aspiration being a secondary, non-distinctive feature of the voiceless series in Tibetan but in Burmese the two types appear as voiceless non-aspirates and aspirates respectively and this is also their correspondence in Chinese, the Middle Chinese voiced obstruents being clearly secondary. It appears, therefore, that the original plain voiceless stops became voiced in Old Tibetan in both initial and final position. (In the modern language they have, of course, again become voiceless, with concomitant effects on the development of tones.) The voiced obstruents of Middle Chinese were derived partly through the 'hardening' of voiced continuants under certain conditions (*l > d, *w > ɣw, etc. ...), partly through the effect of a prefix *ä, cognate to Tibetan *ha-chung*... A typical [Tibetan] example is the verb *hgebs-pa* [sic] (<*ä-kəp) 'cover', Perf. *bkab* (<*p-k'ap), Fut. *dgab*, Imv. *k'op*. That is, the Perfect and Imperative have the aspirated form of the initial consonant. The phonological process involved is not clear. ... Alternations between aspirates and non-aspirates are also found in Chinese word families." (Pulleyblank 1987:3-4) He then cites as an example a pair

of Chinese words, namely the specifier **bàn** (i.e., [pàn]) 'half' and the verb **pàn** ([p^hàn]) 'to cleave, divide, judge'. (Pulleyblank, 1987:4). This mode of reasoning is an integral part not only of Pulleyblank's morphological argument for the existence of ST, but also of his reconstruction of premodern Chinese phonology. It may be noted that despite Pulleyblank's criticism, Benedict was exactly right about the phonemic contrast of the OTib stops.¹¹ The hypothesis of a prefix which caused widespread voicing of originally unvoiced initials is unfounded both for {f-} and for the history of the Tibetan verb. Pulleyblank's theory thus cannot be upheld.

4.2. *Comparative Linguistics of East and Southeast Asian Languages*

The practice of "using Tibetan as a typological model for reconstructing Old and proto-Chinese" (Pulleyblank 1973:114), which has given rise to so much confusion and false reconstruction in Chinese historical linguistics, must be rejected on both methodological and theoretical grounds. In this instance, misinterpretation of Tibetan data has led to the perpetuation of a long-outdated theory and extension of its implications deep into Chinese linguistics. It should be borne in mind before attempting any comparative-historical work in the field of morphophonology that the existence of verb pairs distinguished by differences in the voicing or aspiration of root-initial stop consonants is above all an areal feature typical of the Southeast Asian Sprachbund, and cannot be used alone to demonstrate divergent ("genetic") linguistic relationships.

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¹¹ Li appears to have been unaware of the concept of the phoneme when he wrote his 1933 article (as was Shafer in 1950). The main thrust of his article was to demonstrate that of the unvoiced stops, the aspirated initials were primary and the unaspirated secondary. However, it is now known from the plentiful examples found in OTib texts that the language did not distinguish phonemically between the two types of unvoiced stops, and in fact most early OTib texts mix them almost with abandon, whereas they never confuse voiced and unvoiced stops. Unfortunately, because no one has since written a more up-to-date article on the same subject, taking into account subsequent advances both in general linguistics and in OTib studies, Li's article continues to be widely consulted and cited. It does not help that Pulleyblank consistently cites Li's article but omits any reference to the more recent studies of Tibetan verbal morphology by Shafer (1950) and Coblin (1976).

5. Appendix: Possible Exceptions

The few exceptions to the split-voiced pattern in the verb tables consulted all seem to be errors historically, though modern Tibetan (infamous for misspellings) may in fact write the paradigms as the dictionaries indicate.

Non-Tibetologists should know that modern spoken Tibetan has only a handful of variant verb forms; for most verbs, the old past tense form has become generalized to the entire paradigm. Nevertheless, Tibetan writers are extremely conservative and use the appropriate Classical Tibetan spelling, regardless of pronunciation. Thus, it is sometimes a major problem to determine just what the correct Classical spelling is.

The paradigm given in Chang (1985) for the verb meaning 'to pen up (as cattle)' is **dgar**, pt. **bkar**, fut. **dkar**, imp. **khor**; in Semichov (1963) **dgar**, pt. **bkar**, (no fut.), imp. **khor**; in Phun-tshogs Dbaj-rgyal (1960) **fgar**, pt. **bkard**, fut. **dgar**, imp. **fgard** (note that this work regularly spells final **da drag**); and in Tshul-khrims Phun-tshogs (1821) **dgor**, pt. **bkard**, fut. **dgar**, imp. **dkord**. Jäschke (1881) gives only one form, **dgar**. In view of the wide variation of forms in the sources, it is probable that we have, in fact, a ghost paradigm existing only in verb tables and dictionary entries. In any case the verb does not appear at all in the OTib sources consulted and is thus perhaps a later development. (Etymologically, the word is undoubtedly related to the verbs **fkhor-**, 'to go around', and **skor-**, 'to encircle', and to the nouns **sgor**, 'a round thing', and **mkhar**, 'a walled enclosure; fortress, castle'.)

The paradigm in Chang (1985), **dgron**, pt. **bkrons**, ft. **dgrons**, imp. **dgrons**, defined in dictionaries as 'to be assassinated', and identified by Chang as intransitive, is also incorrect. It is not given in Semichov 1963; other verb lists indicate a present in **fgrons**. Phun-tshogs Dbaj-rgyal (1960) and Tshul-khrims Phun-tshogs (1821) both have **fgrons**, pt. **bkrons**, fut. **dgron**, imp. **krons** (*sic*; this last spelling is unallowable in Classical Tibetan, though it is fine for Old Tibetan, and would correspond to Classical Tibetan **khrons**); thus it is not an exception by form. However, since the paradigm falls into the transitive split-voiced type, its supposed intransitivity is a problem.¹²

In the case of **fgrons**, the English definition 'to be assassinated' is incorrect, at least for the OTib verb. In OTib, this verb was unquestionably transitive, as the following

12 I am aware that there is a debate on ergativity in Tibetan, and that the terms 'transitive' and 'intransitive' have been argued to be inappropriate for an ergative language (Róna-Tas 1985:167). However, I have retained them because the native Tibetan grammarians and the verb lists cited above distinguish between two classes of verbs, termed **tha dadpa** and **tha mi dadpa**, corresponding in practice to the English terms 'transitive' (ability to take a direct object argument; perhaps more precisely for OTib, 'ability to take an ergative case subject') and 'intransitive' (inability to take a direct object or an ergative subject), respectively; because the terms have been traditionally so understood by Western scholars; and because there is no particular benefit (other than academic obfuscation) to be obtained by coining new terms.

example (9) cited in Imaeda and Takeuchi (1990:33) indicates.

- (9) **khyod-kyi jobo btsanpo ni| loṅam rtardz̥i-s bkroṅs-ste|**
 Pro2p-GEN lord emperor TOP PrN horseherd-ERG killed-CONVB
 'As for your lord, the emperor, the horseherd Loṅam killed him...'

Thus this OTib verb is not an exception either in phonology or in transitivity. It may be that the transitivity of the verb has changed since the OTib period.

There is in addition the odd paradigm **hjal**, pt. **bcal**, fut. **gʒal**, imp. **hjol** (Chang 1985; Semichov 1963; Jaschke 1881); **hjal**, pt. **bcaid**, fut. **gʒal**, imp. **hjold** (Phun-tsogs Dban-rgyal 1960), 'to weigh, measure', where the imperative is inexplicably prefixed with **h-** and voiced. However, the older table of Tshul-khrims Phun-tshogs (1821) gives the expected regular imperative form, **chold**. This verb is, then, completely regular; the anomalous forms are either in error or reflect modern spelling.

The most irregular verb paradigm in the verb tables (and perhaps in the Tibetan language as a whole) is without question **hjig** (**hḍig**) 'to destroy, ruin, annihilate; abolish, annul, dissolve'. Chang (1985) gives two verb paradigms under **hjig**, the transitive with fut. **bṣig**, perf. **bṣig** and imp. **ṣig**, and the intransitive, 'to perish', with fut. **hjig** (the present being frequently the same as the future in intransitive paradigms), and the perf. **zig**. The irregularity here is in the transitive, where all forms but the present are unvoiced, and moreover the past and imperative lack the initial [t] (i.e., they have only [ṣ] rather than [tṣ]). The present **hjig** is unattested in the transitive sense in Old Tibetan, though the past **bṣig** is well attested. The form **hjig** occurs only in its intransitive sense, mostly in the compound **hjig-rten** 'the world (lit., 'receptacle of that which perishes')'. Since **hjig** 'to destroy (trans.)' does not occur in the OTib sources consulted, it is probably not an exception to the rule for OTib verbs. The Classical transitive form appears thus to have been borrowed later from the intransitive. This accounts for the otherwise inexplicable lack of an affricating [t] in the verb's past and imperative forms. Clearly, the root of this verb was $\sqrt{\text{sig}}$; etymologically it probably has nothing to do with the OTib intransitive verb **hjig** 'to perish'. It may be noted here that the verbs **hchi** (**hḡi** < $\sqrt{\text{si}}$) 'to die' and **hjig** (**hḍig** < $\sqrt{\text{sig}}$) 'to perish' have been mentioned by various writers as "Sino-Tibetan" cognates. However, in light of the above irregularities, and especially in light of the nearly universal occurrence of the word **ṣi**, 'to die,' in eastern Asian languages, it must be supposed that in this case both verbs are loanwords into Proto-Tibetan (or even Proto-Tibeto-Burman) from Chinese or some other language. In any event, the verbs certainly cannot be used to prove any sort of divergent proto-relationship.

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