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12. TIBETAN PALATALIZATION AND THE GY VERSUS G.Y DISTINCTION

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1. INTRODUCTION

The Tibetan script allows two ways of writing <g> followed by <y>, the one normally transliterated <gy> and the other <g.y>. This graphic distinction presumably corresponds to a phonetic distinction in Old Tibetan; revealing the nature of this phonetic distinction is an essential component of a thorough and accurate description of Old Tibetan phonology.

In writing a Tibetan syllable some letters are placed horizontally while others are placed vertically. For example the syllable /bsgrubs/ is written བསྒྲུབས, with four horizontal positions <b-> བ, <-sgru-> སྒྲུ, <-b-> བ, and <-s> ས, the second of which སྒྲུ <sgru> itself has four vertical positions <s-> ས, <-g-> ག, <-r-> ྲ , and <-u> ུ . When a person articulates a syllable the resulting sounds may only be ordered with respect to the single dimension of time. This two-dimensional graphic display must be reducible into a one-dimensional sequence of sounds. In general, simply reading the Tibetan script left to right and then top down after reaching a vertical stack results in a plausible analysis of the two-dimensional array of letters into a one-dimensional temporal sequence of phonemes. This is, however, not the case when a ག<g> is followed by a ཡ<y>. The letter <y> can be written below the letter <g>, i.e. ྒྱ. In the traditional terminology the <g> is the *miṅ-gźi* and the <y> is a *ya-btags*. Normally this sequence of letters is transliterated as <gy>. Alternatively, the two letters can be written side by side, i.e གཡ. In the traditional terminology the <g> here is the *sṅon-ḥjug,* whereas the <y> is the *miṅ-gźi*. Normally this sequence of letters is transliterated as <g.y>, simply in order to distinguish it from <gy>.

2. FIVE POSSIBLE SOLUTIONS

There are five logical possibilities available to account for a phonetic difference between <gy> and <g.y>. (1) The first possibility is that both the <g> and the <y> have their normal phonetic interpretations, and the

phonetic distinction can be credited to some additional factor implied by the different ways of combining the two letters. (2) As a second possibility, the phonetic difference between <gy> and <g.y> must be credited to a difference in the pronunciation of <g> in the two cases. (3) As the third possibility, the difference in the pronunciation must be credited to a difference in the pronunciation of <y> in the two cases. (4) A further possibility is that both <g> and <y> are pronounced differently in <gy> and <g.y>. While possible, this is not a preferable theory because it is complicated, and suggests a high degree of irregularity in the script. If all data can be accounted for under another scenario that scenario should be preferred. (5) As a final possibility it could be suggested that <gy> and <g.y> do not represent different pronunciations, and that this is a phonetically meaningless although lexicalized difference of orthography comparable with the synchronic difference between <f> and <ph> in the orthography of English. This last possibility would have the least explanatory power, and is contradicted by the divergent reflexes of <gy> and <g.y> in the Tibetan languages; this theory can be disregarded.

The potential for locating the phonetic difference between <gy> and <g.y> under the second or third of these possibilities can be further specified, because the <g> in <gy> must be [g] and the <y> in <g.y> must be [j]. The *miṅ-gźi* letter indicates the consonant immediately preceding a vowel or glide. One such consonant followed by a vowel together form the minimum Old Tibetan syllable, e.g. ག <ga> /ga/ or ཡ<ya> /ya/. If <g> did not represent [g] in this position or <y> did not represent [j], the relationship of the graphic form of these letters to their Indic ancestors and their reflexes in the modern Tibetan languages would all be rendered meaningless. One must take as a starting point that <g> in <gy> represents [g] and <y> in <g.y> represents [j]. If the <g> in <gy> and the <g> in <g.y> do not reflect the same sound, then <g> in <g.y> represents something other than [g]; if the <y> in <gy> and the <y> in <g.y> do not reflect the same sound, it is the <y> in <gy> that represents something other than [j].

If one assumes complete regularity in the principles governing the writing system, whatever characteristic may be found to distinguish <gy> and <g.y>, one would expect this attribute to characterize that position in general, because this characteristic is distinguished solely by the graphic position of the letter. Thus, for example, if <g> as a *sṅon-ḥjug* letter in the combination <g.y> were to represent a fricative [ɣ] as opposed to <g> as a *miṅ-gźi* letter representing the stop [g], one would expect that

<g> as a *sṅon-ḥjug* letter also has the pronunciation [ɣ] in combinations such as <gd>, <gś>, etc, and that other *sṅon-ḥjug* consonants also represent fricatives. Whether it is the <g> in <g.y> which does not represent [g] or the <y> in <gy> which does not represent [j], the result can be extended to that letter in that position in general. Thus, clarifying the phonetic difference between <gy> and <g.y> has ramifications for the whole of the Old Tibetan phonological system.

It is possible that the assumption of this degree of regularity in the phonetic meaning of the different graphic positions in which a single letter can occur is unwarranted. However, one can only know that this assumption is false when one finds data which show incontrovertibly that it is false. If we were to assume irregularity it would lead nowhere in interpretation, and is thus a bad research program; if on the other hand complete regularity is assumed, either a solution which accounts for complete regularity will be found, thereby justifying the assumption of complete regularity, or specific areas will be identified where this assumption of regularity fails. In either case this is clearly the more productive assumption.

First Solution: <g> is always [g], <y> always [j], and the difference is in how they combine

Benedict proposes a way to distinguish <gy> and <g.y>, where <g> always reflects [g] and <y> always reflects [j]. He suggests that the *sṅon-ḥjug* <g> in <g.y> was pronounced with a following unwritten *schwa* vowel.

> A distinction is drawn in Tibetan script [...] between cluster *gy-* and the combination *g-y-*, e.g. *gyad* 'champion' but *g-yas-pa* 'right (hand)' < TB **g-ya* ~ **g-ra*. This would indicate that Tibetan formerly distinguished between [*gyad*] and [*gəyas*], and presumably between other pairs of this type, thus making *ə* a phonemic element. (Benedict 1972: 113 note 318)

None of the modern Tibetan languages support this interpretation of the word <g.yas> 'right'. The only modern Tibetan language which might appear to support <g.y> as [gəj] at all is Mgo-log. In this language the word <g.yag> 'yak' is pronounced [ʁə'jak] and the word <g.yu> 'turquoise' is pronounced [ʁəjɯ] (Sprigg 1972: 552 and 575). It is unclear whether Benedict intends to suggest that only *sṅon-ḥjug* <g> or all *sṅon-ḥjug* consonants were articulated with *ə*. It would be a natural consequence of his suggestion to extend this *ə* to other *sṅon-ḥjug* consonants, and his

student Matisoff makes this claim explicitly and extends it also to the *mgo-can* consonants.[1]

> We cannot be sure from the W[ritten]T[ibetan] orthography how the Tibetan combinations of prefixes [i.e. *sṅon-ḥjug* and *mgo-can*] and initials [*miṅ-gźi*] were pronounced in ancient times; but judging by their excellent state of preservation in W[ritten]T[ibetan], we may surmise that they were pronounced with a following unstressed schwa-type vowel, which served to protect them from too close contact with the root-initial [*miṅ-gźi*]. (2003: 97)

Far from showing an 'excellent state of preservation', many Tibetan dialects have significantly reduced consonant clusters, and the simplification of such clusters began in central Tibet already during the Old Tibetan period (Laufer 1914: 86, Miller 1955a, Takata 1981). As an example of his supposition Matisoff gives the pronunciation of *sbrul* 'snake' as [səbrul]; in this case the 'prefix' is a *mgo-can.* In the far west of the Tibetan Sprachgebiet this word is pronounced in Balti as [ʁbul] or [ɾbul] (Sprigg: 1968: 365 and 2002: 58).[2] Sprigg argues that the rhoticization of the initial has led to the loss of the medial *-r-*. In the far east Japhug Rgyalrong has borrowed the Tibetan word *sbrul-lo* 'snake year' as [zbri lu] (Jacques 2004: 106). Such attested pronunciations at the geographic extremes of the Tibetan linguistic area suggest an Old Tibetan pronunciation *[zbrul], which reflects perfectly the Tibetan spelling *sbrul.*[3] In those dialects which preserve clusters none but Mgo-log supports the idea of clusters pronounced with anaptyctic vowels. Even Mgo-log has many examples that speak against this analysis: <bla-ma> /blama/ 'lama', <mtsho> /mtsho/ 'lake', <rṅul> /rŋi:/ 'silver', <dmag> /ʁmʌk/ 'army' (Sprigg 1972: 552, 568, 575, and 582).

The syllabification implied by Tibetan orthographic practice also provides an obstacle to the view that *sṅon-ḥjug* and *mgo-can* consonants were

[1] A *sṅon-ḥjug* consonant occurs graphically to the left of the *miṅ-gźi* and a *mgo-can* occurs graphically above the *miṅ-gźi.* For example in the syllable *bsgrubs* བསྒྲུབས *b-* is a *sṅon-ḥjug* and *s-* is a *mgo-can.* All researchers seem to agree that the difference is phonotactic and not phonetic.

[2] In Sprigg (1968: 365) this word is mistakenly labeled as Golok dialect. In his later dictionary Sprigg's entry reads "gbul (vul. rbul) s serpent, snake [T. sbul] (U. 317)" (2002: 58); the IPA version I have provided based upon his introduction. The IPA transcriptions given by Sprigg (1968: 365) are [ʁbul] and [ɾbul].

[3] The interpretation of <s> as [z] may seem to conflict with the voicing implied by the use of the character <s> rather than <z>. However, voicing is not a phonemic contrast in the *sṅon-ḥjug* position. The voicing of an initial Tibetan cluster is indicated by the *miṅ-gźi* and the entire cluster agrees in voicing (cf. Sprigg 1974: 261).

articulated with a schwa vowel. The Tibetan script distinguishes syllables by placing a *tsheg* punctuation mark after each one. Thus, Tibetan orthographic practice explicitly marks the syllabification of words. Words such as <g.yas> 'right' and <sbrul> 'snake' are never spelled <g-yas> or <s-brul>. The fact that they are not argues strongly against the interpretation of these words as containing two syllables. There are cases of inconsistent syllabification in Tibetan texts. In the biography of Mi la ras pa <kha rje> 'congratulations' is written <khar rje> (de Jong 1959: 49 line 21)[4] and in the Dūnhuáng document IOL Tib J 56, line 1, the word <spus mo> 'knee' is written <spus smu>.[5] Such variant spellings are of great consequence for Tibetan historical phonology, but in no case do they support the interpretation of initial clusters as articulated with schwa vowels.

The use of the *tsheg* makes clear that the redactors of Tibetan orthography and the succeeding generations of Tibetans who implemented it did not regard *śṅon-ḥjug* and *mgo-can* consonants as independent syllables. It is possible that nonetheless these consonants were pronounced with an anaptyctic schwa vowel at the phonetic rather than phonemic level. However, one would have to show that there is good independent reason for believing this. Neither the mere existence of <gy> and <g.y> nor the 'excellent state of preservation' of the *śṅon-ḥjug* and *mgo-can* consonants point specifically toward this interpretation.

Both the modern Tibetan languages and the spelling of lateral clusters in Old Tibetan such as <gl> and <kl> or <sl> and <zl> suggest that clusters agreed in voicing with the *miṅ-gźi* consonant (cf. Sprigg 1974: 261, Hahn 1999). While perhaps not impossible the suggestion that this voicing assimilation occurred across a vowel seems much less likely than that such assimilation took place across segmentally continuous consonants. Benedict and Matisoff present no evidence for their theory, and much evidence weighs against it. The solution to distinguishing <gy> and <g.y> must be sought elsewhere.

---

[4] *bla-maḥi źal-nas « khyed gñis-la khar-rje chen-po raṅ cig byuṅ-aṅ » gsuṅ* 'The lama said: "Congratulations to you both."'

[5] *khrag zag-na spu-smuḥi goṅ-na mchiṅs-pa-daṅ* 'If it bleeds put at bandage on top of the knee.'

Second Solution: The <g> in <gy> is different than the <g> in <g.y>

In exploring the possibility that the <g> in <g.y> may not refer to [g], the reflexes in the modern Tibetan languages of words written with <g.y> are a natural place to turn. Consider, for instance, the words <g.yag> 'yak', <g.yu> 'turquoise', <g.yog-po> 'servant', <g.yon> 'left', <g.yas> 'right', and <g.yer ma> 'guinea pepper'.

<g.yag> 'yak'
jaq, Purik (Zemp 2006: 81)
hjak, A-mdo, Bsaṅ-chu (Huá 2001: 74-75 #323)
hjak, A-mdo, Reb-goṅ (Huá 2001: 74-75 #323)
hjak, A-mdo, Ba-yan-mkhar (Huá 2001: 74-75 #323)
hjak, A-mdo, Rme-ba (Huá 2001: 74-75 #323)
hjak, A-mdo, Them-chen (Huá 2001: 74-75 #323)
ɣjaχ, A-mdo, Them-chen (Haller 2004: 240)
ʁə'jak, Mgo-log (Sprigg 1972: 552)

<g.yu> 'turquoise'
xju, Balti (Bielmeier 1985: 232)
xju(u), Balti (Sprigg 1972: 581)
hiu, Balti (Rangan 1975: 65)
yu, Ladakh (Koshal 1976: 200)
juˊ, Mṅaḥ-ris, Sgar (Qú and Tán 1983: 256-157 #328)
juˊ, Mṅaḥ-ris, Ru-thog (Qú and Tán 1983: 256-157 #328)
juˊ, Mṅaḥ-ris, Spu-hreṅ (Qú and Tán 1983: 256-157 #328)
juˊ, Mṅaḥ-ris, Rtsa-mdaḥ (Qú and Tán 1983: 256-157 #328)
jəˊ, Mṅaḥ-ris, Dge-rgyas (Qú and Tán 1983: 256-157 #328)
juˊ, Mṅaḥ-ris, Mtsho-chen (Qú and Tán 1983: 256-157 #328)
jəˊ, Mṅaḥ-ris, Sger-rtse (Qú and Tán 1983: 256-157 #328)
'ju [ʔju], Nangchen (Causemann 1989: 43)
ju^{1}, Dbus-gtsaṅ, Lha-sa (Jīn 1958: 101)
ju^{2}, Dbus-gtsaṅ, Gźis-ka-rtse (Jīn 1958: 101)
ɣjə, A-mdo, Them-chen (Haller 2004: 240)
jɤ^{2}, Khams, Chab-mdo (Jīn 1958: 101)
ʁəjɯ, Mgo-log (Sprigg 1972: 575)
ʁju, Japhug Rgyalrong (as a loan from Tibetan) (Jacques 2008: 138)

<g.yog-po> 'servant'
joˀlpɔˊ, Mṅaḥ-ris, Sgar (Qú and Tán 1983: 264-265 #392)
joˀlpoˊ, Mṅaḥ-ris, Ru-thog (Qú and Tán 1983: 264-265 #392)
joˀlpoˊ, Mṅaḥ-ris, Spu-hreṅ (Qú and Tán 1983: 264-265 #392)

joˀ˥po˩, Mɲaḥ-ris, Rtsa-mdaḥ (Qú and Tán 1983: 264-265 #392)
joˀ˥po˩, Mɲaḥ-ris, Dge-rgyas (Qú and Tán 1983: 264-265 #392)
joˀ˥po˩, Mɲaḥ-ris, Mtsho-chen (Qú and Tán 1983: 264-265 #392)
joˀ˥p'o˩, Mɲaḥ-ris, Sger-rtse (Qú and Tán 1983: 264-265 #392)
hjok ko, A-mdo, Bsaṅ-chu (Huá 2001: 70-71 #275)
hjok ko, A-mdo, Reb-goṅ (Huá 2001: 70-71 #275)
hjok xo/hjo wa, A-mdo, Rdo-sbis (Huá 2001: 70-71 #275)
hjok xo, A-mdo, Ba-yan-mkhar (Huá 2001: 70-71 #275)
hjok ko, A-mdo, Rme-ba (Huá 2001: 70-71 #275)
hjok ko, A-mdo, Them-chen (Huá 2001: 70-71 #275)
ɣjoχku, A-mdo, Them-chen (Haller 2004: 240)
ʁjoʁ, Japhug Rgyalrong (as a loan from Tibetan, Jacques 2004: 109)

<g.yon> 'left'
jõ:˥, Mɲaḥ-ris, Sgar (Qú and Tán 1983: 310-311 #794)
jõ:˥, Mɲaḥ-ris, Ru-thog (Qú and Tán 1983: 310-311 #794)
jø:n˥pa˩, Mɲaḥ-ris, Spu-hreṅ (Qú and Tán 1983: 310-311 #794)
jo:n˥ma˩, Mɲaḥ-ris, Rtsa-mdaḥ (Qú and Tán 1983: 310-311 #794)
jo:˥ma˩, Mɲaḥ-ris, Dge-rgyas (Qú and Tán 1983: 310-311 #794)
jo:n˥pa˩, Mɲaḥ-ris, Mtsho-chen (Qú and Tán 1983: 310-311 #794)
jõ:˥ma˩, Mɲaḥ-ris, Sger-rtse (Qú and Tán 1983: 310-311 #794)
hjon, A-mdo, Bsaṅ-chu (Huá 2001: 146-147 #961)
ɣʲē, A-mdo, Reb-goṅ (de Roerich 1958: 23)
hjøn, A-mdo, Reb-goṅ (Huá 2001: 146-147 #961)
hjon, A-mdo, Ba-yan-mkhar (Huá 2001: 146-147 #961)
hjon, A-mdo, Rme-ba (Huá 2001: 146-147 #961)
hjon, A-mdo, Them-chen (Huá 2001: 146-147 #961)

<g.yas> 'right'
jɛ:˥, Mɲaḥ-ris, Sgar (Qú and Tán 1983: 310-311 #795)
jɛ:˥, Mɲaḥ-ris, Ru-thog (Qú and Tán 1983: 310-311 #795)
jɛ:˥wa˩, Mɲaḥ-ris, Spu-hreṅ (Qú and Tán 1983: 310-311 #795)
ja:˥pa˩, Mɲaḥ-ris, Rtsa-mdaḥ (Qú and Tán 1983: 310-311 #795)
je:˥pa˩, Mɲaḥ-ris, Dge-rgyas (Qú and Tán 1983: 310-311 #795)
jɛ:˥pa˩, Mɲaḥ-ris, Mtsho-chen (Qú and Tán 1983: 310-311 #795)
je:˥pa˩, Mɲaḥ-ris, Sger-rtse (Qú and Tán 1983: 310-311 #795)
hje, A-mdo, Bsaṅ-chu (Huá 2001: 146-147 #962)
ɣʲǒn, A-mdo, Reb-goṅ (de Roerich 1958: 23)
hje, A-mdo, Reb-goṅ (Huá 2001: 84-85 #409)
hje lak, A-mdo, Rdo-sbis (Huá 2001: 84-85 #409)
hji, A-mdo, Ba-yan-mkhar (Huá 2001: 84-85 #409)
hji, A-mdo, Rme-ba (Huá 2001: 84-85 #409)
hji, A-mdo, Them-chen (Huá 2001: 84-85 #409)

<g.yer ma> 'guinea pepper'

ʔe^{1} ma^{1}, Dbus-gtsaṅ, Lha-sa (Jīn 1958: 101)
ʔe^{1} ma^{1}, Dbus-gtsaṅ, Gźis-ka-rtse (Jīn 1958: 101)
hjer ma, A-mdo, Bsaṅ-chu (Huá 2001: 100-101 #558)
hjer ma, A-mdo, Reb-goṅ (Huá 2001: 100-101 #558)
hje ma, A-mdo, Rdo-sbis (Huá 2001: 100-101 #558)
hjar ma, A-mdo, Ba-yan-mkhar (Huá 2001: 100-101 #558)
hjer ma, A-mdo, Rme-ba (Huá 2001: 100-101 #558)
hjer ma, A-mdo, Them-chen (Huá 2001: 100-101 #558)
je:^{1} ma^{1}, Khams, Chab-mdo (Jīn 1958: 101)

One would like to provide an equal number of citations for words beginning with <gy->. This is, however, not possible. The small number of words found with such spellings cannot be confirmed in the modern dialects. Guillaume Jacques has kindly drawn my attention to the minimal pair *g.yaṅ* 'auspicious' and *gyaṅ* 'earth wall', both of which are present as loan words in the Japhug Rgyalrong as /ʁjaŋ/ and /caŋ/ respectively.

In summary, the reflexes of <g.y> in the contemporary Tibetan languages include [hj], [xj], [ɣj], [ʔ] and [j]. Them-chen, in which Haller reports [ɣj] and Huá reports [hj], perhaps suggests that some of the forms given in the literature with initial [hj] are in fact phonetically [ɣj] or [xj]. Looking at this selection of reflexes one is tempted to suggest a pronunciation [ɣj] for <g.y> in Old Tibetan. The result of such a suggestion is to identify *sṅon-ḥjug* <g> with [ɣ] and *miṅ-gźi* <y> with [j]. The difference between <gy> and <g.y> would then be the difference between [gj] and [ɣj]. Jäschke was the first to propose this solution (1881: xv). However, Walleser raises a very sensible objection.

> Diese Erklärung scheint mir indessen daran zu scheitern, daß man annehmen müßte, man habe zur Zeit der Einführung des tibetischen Alphabets keinen Unterschied zwischen Explosiven und Frikativen gemacht, indem man sie mit den gleichen Schriftzeichen belegte.
>
> [It seems to me that this explanation falters in that one must assume that at the time of the propagation of the Tibetan alphabet no difference was made between explosives and fricatives, because they are indicated with the same letter.] (Walleser 1926: 7)

It would be surprising if the redactors of the Tibetan script saw fit to write a fricative with the same letter they used to write a stop. The Tibetan alphabet has six letters to represent fricatives (s, ś, h, z, ź, ḥ); of these, the three letters representing voiced sounds are without precedent in Indic scripts. Adding further letters to account for further fricatives would have been well within the competence of those responsible for first capturing Old Tibetan

in writing; that they did not do so probably indicates that they had no need to do so, because such fricatives were not there.

Perhaps more damaging to the likelihood of Jäschke's proposal is the consequences it would have for the Old Tibetan phonological system. If *sṅon-ḥjug* <g> is a fricative we would also expect a fricative for the other *sṅon-ḥjug* consonants <b> and <d>. Jäschke argues in exactly this fashion that because we can establish that the difference between <gy> and <g.y> was that between [gj] and [ɣj], the other *sṅon-ḥjug* consonants should also be understood as fricatives (1881: xv). This gives [v] or [β] for *sṅon-ḥjug* <b> and [ð] for *sṅon-ḥjug* <d>.

Although some evidence can be found for this suggestion, overall it is quite unlikely. The sound [ð] occurs in no Tibetan language, nor in any of the language families which border the Tibetan Sprachgebiet. Some Tibetan languages do have fricatives for *sṅon-ḥjug* <b> and <g>. Jäschke gives /vdun/ as the pronunciation of <bdun> 'seven' and /vrgyad/ for <brgyad> 'eight' in both Balti and Khams (1881: xv). He similarly gives /ɣser/ for <gser> 'gold' in Balti and Khams (1881: xv). However, other languages point unambiguously to stops. Lhasa Tibetan, which has lost syllable initial clusters altogether, famously preserves *sṅon-ḥjug* <b> as [p] where it has been reanalyzed as the coda of the preceding syllable (Chang and Chang 1967, Róna-Tas 1985: 179-181, Shirai 1999). Jäschke's own forms include <bcu> /bču/ 'ten', <bkra-śis>/bṭa-šī/ 'luck', and <btum-pa> /btọm-pa/ 'covered' (1881: xx). He acknowledges but does not explain these stop reflexes (1881: xv).

A further obstacle to suggesting that *sṅon-ḥjug* <g> was pronounced as [ɣ] is that the letter <ḥ> was pronounced as [ɣ] in Old Tibetan (Hill 2005, 2009). It is true that the Tibetan languages suggest that in Common Tibetan *sṅon-ḥjug* <ḥ> indicates the prenasalization of the following stop and only *miṅ-gźi* <ḥ> represents [ɣ] (Hill 2005: 114-115),[6] and thus it would be possible for *sṅon-ḥjug* <g> and *miṅ-gźi* <ḥ> to both represent [ɣ] in differing positions. This solution would have <g> represent [ɣ] as a *sṅon-ḥjug* and [g] as a *miṅ-gźi*, and would have <ḥ> represent prenasalization as a *sṅon-ḥjug* and [ɣ] as a *miṅ-gźi*. Although technically compatible with the linguistic facts this solution is quite counterintuitive. To imagine that this is how the inventors of the Tibetan script intended their script to be

[6] By 'Common Tibetan' I refer to the Ursprache reconstructible on the basis of the Tibetan languages of today. These languages would have diverged from eachother as the empire expanded some time after the invention of the alphabet in 650. Consequently, 'Old Tibetan' is older than and the direct ancestor of 'Common Tibetan'.

used, writing two separate phonemes with one letter and one phoneme with two separate letters, is at face value unlikely. A more elegant solution is to have <g> always represent [g] and <ḥ> always represent [ɣ], and to suggest that the changes of [ɣC>NC] and [gC>ɣC] occurred at a time subsequent to the invention of the script, but perhaps still before the break-up of Common Tibetan into what would become the modern Tibetan languages. Jäschke's hypothesis that the difference between <gy> and <g.y> is the difference between [gj] and [ɣj], although it fits well the modern reflexes of words with <g.y>, raises more problems than it solves and cannot be maintained.

Third Solution: The <y> in <gy> is different from the <y> in <g.y>

If the attempt to distinguish <gy> and <g.y> by suggesting two different types of <g> is unsuccessful, and Benedict's proposal that both <g> and <y> have their normal values but that in the case of <g.y> an anaptyctic vowel is present between them is no more adequate, one must consider the option of differentiating two types of <y>. Gong follows Simon in reconstructing a glottal stop before *miṅ-gźi* <y> but no glottal stop before <y> when it occurs as a glide (*ya-btags*) (Gong 2002[1977]: 383). Simon simply assumes the existence of this glottal stop and does not present arguments in its favor (1942: 966). For Gong the glottal stop serves two functions: the first is to allow him to distinguish <gy> /gy/ and <g.y> /g-ʔy/, and the second is to fit well typologically with his version of Old Chinese (2002[1977]: 383).

This /ʔy/ solution faces a number of obstacles. The glottal stop, if it exists at all in Old Tibetan phonology, does so very marginally and not in any native Tibetan words. In transcribing foreign words Old Tibetan orthography is capable of writing ʔy as ཨྱ.[7] Although this fact does not prohibit a reconstruction of /y/ as */ʔy/ in pre-Tibetan, it does indicate that during the Old Tibetan period <y> was not pronounced [ʔj].

The most obvious objection to Gong's glottal stop is that it is poorly motivated and does little work for him. The rules that Gong derives through internal reconstruction could be rewritten without the glottal stop with no difficulty, e.g. */sy/ > /sky/ as opposed to his */s-ʔy/ > /sky/.[8] The way to

[7] For example the Character 翳 (Middle Chinese 'ejH) is transcribed as ཨྱེ་ (Takata 1988: 324 #258).

[8] The use of hyphens in reconstructed forms is rather common in Tibeto-Burman

clarify verb pairs of the type *g.yur, yur* 'fall asleep', *g.yeṅ, yeṅs* 'waft', *g.yor, yor* 'make crooked', and *g.yol, yol* 'avoid' is to analyze the *g-* simply as the present stem prefix; no additional reconstruction is necessary. Such clusters can be written phonemically as /gy/ exactly parallel to other verbs, such as those with /gc/ in the present, e.g. √*cad* 'cut' (present *gcod*, past *bcad*, future *gcad*, imperative *chod*). This solution is simpler and more explanatory than Gong's analysis of <g.y> as /g-ʔy/.

3. Walleser's Version of the Third Solution

Gong's glottal stop proposal is not the only possible explanation which relies on positing two different values for <y>. A parallel for how to differentiate the <y> in <gy> from the <y> in <g.y> exists in the Tibetan script, and the solution which has been tacitly assumed by previous researchers for that situation can serve as a model for this case also. The letter ཝ <w>[9] is a form of the letter བ <b>; it looks very similar to <b>, but is distinguished from it by being written small, below an akṣara (Uray 1955). The letter <w> cannot be united with <b> as representing a single phoneme because of the minimal pair <rwa> 'horn' and <rba> 'waves'. As an independent phoneme <w> occurs only in glide position, whereas <b> can occur as the initial of a cluster, before a vowel or glide, and as a final. Had an earlier generation of Tibetologists transcribed the Tibetan letter ཝ as <b> rather than <w> we would now wonder about how <r.b> differs from <rb>, but as fate would have it ཝ <w> and བ <b> have correctly been distinguished throughout the history of Tibetology.

The situation with <y> is exactly parallel. There are two forms of the letter <y>, one of which occurs in the glide position (*ya-btags*), and one of which occurs as an initial. They cannot be unified as a phoneme precisely because of the problem of distinguishing <gy> and <g.y>. A parallel problem should be subject to a parallel solution. When occurring as an initial, I will continue to transliterate this letter as <y> but as a glide it must be separately transliterated. I propose, following Miller (1955b: 53 note 1), to write it <i̯>[10] and to analyze it as a phonemic feature of

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linguistics. I do not know what linguistic reality such hyphens are intended to represent, and prefer to avoid them in my own reconstructions.

[9] In this essay with the Roman letter <w> I refer only to the subscribed glide ཝ and not the letter ཧ which did not exist in Old Tibetan.

[10] The letter 'j', already being used to transliterate the Tibetan letter ཇ, is unavailable for

palatalization. Because ཡ <y> and ཻ <i̯> are written with substantially different graphic signs, this solution does not suffer from Walleser's criticism of Jäschke's proposal that *sṅon-ḥjug* <g> represents [ɣ], namely that the inventors of the script would not have used one letter for two separate phonemes.

Walleser himself first proposed that <gy> reflects /gi̯/ [gʲ] and <g.y> reflects /gy/ [gj].

> Wenn man hiernach den Unterschied der Aussprache zwischen tib. Konsonanten mit subskribiertem y und solchen mit postskribiertem näher kennzeichnen will, bleibt nichts übrig, als ihn so zu formulieren, daß in dem ersteren Falle die Palatalisierung [...] sich auf den ganzen Verschlußlaut, also zurückgreifend bis zur Bildung des Verschlusses erstreckt, während es sich in den Fällen, wo y nach dem Konsonanten geschrieben wird, um rein gutturale, oder doch nicht-palatale Konsonanten handelt, die auch im Zeitpunkt der Lösung des Verschlusses diesen Charakter noch nicht aufgegeben haben.
>
> [If one wants to characterize hereafter the difference of pronunciation between Tibetan consonants with subscribed <y> and those with postscribed <y> more precisely, there is no option other than to formulate it such that in the first case the palatalization [...] extends to the entire obstruent, i.e. back to the formation of the closure, while in the case where <y> is written after the consonant, it is a matter of a pure velar, or rather non-palatal consonant, which even at the moment of the release of the closure does not lose this character.] (Walleser 1926: 9)

Agreeing with Walleser a decade later, Dragunov formulates the solution in terms very similar to those used here.

> Walleser has shown that there are some reasons to suppose that the j subscriptum not to have been pronounced separately, but merely to have represented a palatalized pronunciation of the consonant, the difference between ཀྱ and ཀྭ thus amounting to the former being pronounced *g'u and the latter *gju, something of the kind of what we have in Russian e.g. in сел [s'el] and съел [s'jel]. (Dragunov 1936: 168)

The solution to distinguishing <gy> and <g.y> phonetically is to suggest that <y> as a *miṅ-gźi* represents the phoneme /y/ [j] but when written in glide position (*ya-btags*) it does not represent a segmentally articulated phoneme, but rather a feature of palatalization /i̯/ which indicates that the proceeding consonant is palatalized. The difference between <gy> and <g.y> is the difference between /gi̯/ [gʲ] and /gy/ [gj].

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this purpose. I am tempted to transliterate ཻ with the Cyrillic soft sign 'ь', but for fear it may look too exotic amid Roman type have settled for 'i̯'.

As mentioned previously, because the distinction between <gy> and <g.y> is made solely by changing the graphic position of the two letters in question, whatever phonetic attribute distinguishes the two must characterize that graphic position in general. It was discovered that the <y> in <gy> represents /i̯/, the palatalization of the preceding stop. In the analysis suggested by the structure of Tibetan orthography, all three subscript letters <y> (*ya-btags*), <r> (*ra-btags*) and <w> (*ḥwa-zur*) must be taken to represent modifications of the preceding stop rather than segmentally articulated phonemes.

The solution proposed allows one to distinguish clearly between the rule Gong proposed for internal reconstruction */sy/>/sky/ and the synchronic analysis of <ś> as /si̯/. In addition, this solution permit an elegant solution to the two Tibetan correspondences of Burmese *ry-*. The correspondence seen in Tibetan <brgya> 'hundred' and Burmese <ryā> 'hundred' can be reconstructed with the change pre-Tibetan */ry/>/rgy/ closely paralleling the change */sy/>/sky/ (cf. Li 1959: 59). The correspondence seen in Tibetan <źag> 'day' and Burmese <ryak> 'day' can be reconstructed with the change pre-Tibetan */ri̯/>/ź/ closely paralleling the widely accepted change */li̯/>/ź/, which is used to explain pairs such as Tibetan <bźi> 'four' and Burmese <liy> 'four'. This is not the place to discuss the reconstruction of pre-Tibetan phonology in detail; I mean only to point out that the solution proposed here for distinguishing <gy> and <g.y> has the potential to clarify other problems in Tibetan historical phonology.

If as proposed earlier the way to clarify verb pairs of the type *g.yur, yur* 'fall asleep', *g.yeṅ, yeṅs* 'waft', *g.yor, yor* 'make crooked' and *g.yol, yol* 'avoid' is to analyze the *g-* as the present stem prefix, one naturally comes to wonder whether the past prefix *b-* also occurs with verb roots in initial *y-*. Verb pairs such as *yib, byibs* 'hide, conceal' and *yugs, byugs* 'anoint, smear' provide strong indication that this may have been the case. However, although one may propose a sound change */by/>/bi̯/ to account for such examples, a synchronic analysis such as <byugs> /byugs/ is not possible because it becomes subject to Walleser's criticism that one letter is being used for two different phonemes. A philological study of verb pairs with *g.y/y* and *y/by* alternations must be an essential component of the internal reconstruction of the distribution of the phoneme /y/. Here it suffices to have indicated that this phoneme /y/ must be separated from the phonemic feature of palatalization /i̯/.

4. CONCLUSION

The Old Tibetan orthographic distinction of <gy> and <g.y> represents the phonetic distinction of [gʲ] and [gj]. It is necessary to analyze the letter <y> into two phenomena, a phoneme /y/ when it is written as a *miṅ-gźi* and a feature of palatalization /j̯/ when written as a *ya-btags*.

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