G. S. Starostin (Russian State University of the Humanities)

ALVEOLAR CONSONANTS IN PROTO-DRAVIDIAN: ONE OR MORE?

1. <u>General remarks</u>.

It is a well-known fact that traditional Dravidology recognizes only one alveolar phoneme as reconstructed with certainty for the Proto-Dravidian (PDR) level. The exact phonetic character of this phoneme is not quite clear, but it is generally agreed that originally it was a voiceless alveolar stop (*$\underline{t}$).

This is primarily based on the evidence that in Classical Tamil this phoneme is normally classed with stops, possessing a series of allophones extremely close to those of the other stops (e. g., Zvelebil 1970, p. 96). Another piece of important evidence is the reflexation of this phoneme in certain Central Dravidian languages (primarily of the Kolami-Gadba subgroup), where they are usually reflected as either dental or retroflex stops (DED, pp. XII - XIII).

On the other hand, in many languages this phoneme is also reflected as an alveolar trill $\underline{r}$, which later often develops into simple r: this is the case of most South Dravidian languages, including Classical Tamil itself, where actual stop articulation is present only after nasal consonants. As for Central Dravidian languages, $\underline{r}$ is seen in Konda and in Maria Gondi, where it is a "voiced guttural fricative" (Zvelebil 1970, p. 96). What's even more important, sometimes both the stop and the alveolar/dental resonant reflexations are found in a single dialect at the same time. To make the picture more clear I will list below all of the languages with stop reflexation and, next, all of the languages with resonant reflexation (Kurukh, Malto and Brahui are not taken into account because of lack of data and uncertainty of reflexation).

The following languages have stop reflexations of *$\underline{t}$: Tamil (partly), Tulu (partly), Kolami, Naiki, Naikri, Parji, Gadba, Pengo (z), Manda (y < *z), Kui (j, g), Kuwi (y, probably < *$\underline{d}$).

The following languages have resonant reflexations of *$\underline{t}$: Tamil (mostly), Malayalam, Kota, Toda, Kannada, Kodagu, Telugu, Kolami, Naiki, Naikri, Parji, Gadba, Gondi, Konda, Pengo, Manda, Kui, Kuwi.

It may be seen from the two lists that nearly all of Central Dravidian languages have got both types of reflexations, e. g., PDR *$\underline{t}$ either > (1) *$\underline{d}$ or (2) *r in those languages. Moreover, in general different CDR languages tend to agree in their reflexation of PDR

*ṯ as (1) or (2), that is, a mix-up of different reflexes in a single root is a considerably rare thing. Some of these "double" correspondences were noted by scientists (cf. the table of correspondences in DED; Zvelebil 1970, p. 95; Andronov 1978, p. 128), but none of them were ever explained.

Considering these facts as well as the fact that no valid complementary distribution between the two types of reflexes can be found, the best solution for this problem is to postulate two different phonemes on the PDR level, namely, a stop phoneme (*ḏ) and a resonant phoneme (*ṟ). Such a solution would immediately resolve at least two difficult questions: a) it would account for the otherwise incomprehensible split of reflexes in Central Dravidian languages; b) it would put an end to the discussion around the status of the alveolar phoneme in PDR, that is, whether it was a stop or a resonant: since there were actually two phonemes, the discussion becomes pointless.

Besides these two phonemes, there eventually should have been a third alveolar phoneme in PDR, namely, the one that is reflected in Tamil -ṟṟ- and constitutes the "geminated" correlate to simple -ṟ-. Elsewhere I have stated my arguments for reinterpreting the traditionally reconstructed opposition "voiceless simple" - "voiceless geminated" as "voiced" - "voiceless" (see Starostin 1997). Therefore, the entire set of PDR alveolar phonemes in my transcription will look like *ḏ (voiced stop), *ṯ (voiceless stop), *ṟ (resonant)[1].

Reflexation of these three phonemes in South Dravidian languages (and Telugu) shall not interest us. The different reflexations of PDR *ḏ and *ṯ (that is, traditional *ṟ and *ṟṟ) in SDR are well described (see, for example, Zvelebil 1970, pp. 94-100), while *ṟ seems to have merged with *ḏ; at least, up to the present time I have not been able to discover any traces of their distinct statuses in Proto South Dravidian (However, they are perfectly distinguishable from each other in two main subgroups of Central Dravidian languages the Kolami-Gadba and the Gondwan (Gondi-Kuwi) subgroup. We shall therefore discuss in details the reflexation of PDR alveolar phonemes in these subgroups.

The forms are given in the same transcriptions as used in DED; after each root its standard DED number is usually given for reference.

2. <u>The fate of PDR alveolar phonemes in Kolami-Gadba.</u>
Proto-Dravidian *ḏ > Proto-Kolami-Gadba *ḏ > Kol., Nkr., Nk. d, Ga. y (all dialects), Pa. d, (ḏ in North-Eastern dialect). In Gadba, whenever this phoneme occurred before a

voiceless phoneme or in the auslaut position, it merged with PKG *ṭ and was therefore reflected as ṭ.

In Naiki in a few cases we have -r- instead of -d-, which means that in some contexts this phoneme merged with the corresponding resonant. However, Naiki material is so scarce that it would be imprudent to make any definite conclusions.

An accompanying development is PDR *aḏ, *āḏ > Pa. *ed, *ēd (on the development *a > Pa. *e in general see below); in Gadba *-eḏ- > -iy-.

The following roots are reconstructed for the Proto-Kolami-Gadba level with an inlaut *-ḏ-:

*coḏ- 'to send' > Nk. sor-, Pa. cod-p-, Oll. soy-p-, S. cōy- (DED 2866).

*eḏ- 'to throw' > S. ey- (cf. Ta. eṟi id.; DED 859).

*keḏ- 'to shut' > Pa. ked-p-; in other dialects the voiced consonant is assimilated to the following voiceless verbal morphemes and merges with *ṭ: Kol. get- (with a metathese of voice), S. keṭ- (DED 1980).

*keḏub 'knife' > Pa. kedub, (NE) keḏub, Oll. kiyub, S. kiyyūb (DED 1984); South Parji has kerub, but it cannot be stated for certain whether this is a regular development or not.

*kēḏ- 'to winnow' > Kol., Nkr., Nk. kēd-, Pa. kēd-, (NE) kēḏ-, Ga. kēy- (DED 2019).
*kuḏ- 'to cut' > Nk. kutk- < *kud-k-, Pa. kud-, (NE) kuḍ-, S. kuy- (DED 1859).

*kuḏg- 'thigh' > Kol. kudug, Pa. kudu, (NE) kuḍu, Oll. kuyug (DED 1840).

*maḏ- 'to hide, forget' > Kol. mad- 'to forget', Nk. mak- (< *maḏ-k-) 'to hide oneself', Pa. meŋg- (< *maḏ-ŋ-) 'to conceal' (DED 4760); Ga. has a strange -e- here: Oll. mẽy- 'to conceal', S. mey-k- 'to go astray'.

*maḏg- 'mango' > Nk. madg-e, Pa. med-i, Oll. mayg-il, S. may- ggā (DED 4772).

*naḏ- 'to smell' > Pa. ned- (cf. Ta. ñāṟu id.; DED 2918).

*peḏ- 'to pick up' > Kol. pet-k-, Nkr. pet-t- (with assimilation to the following voiceless consonant), Pa. ped-, S. piy-, pī-, piy-k- (DED 4423).

*per-yaḏ- 'big river' > Pa. per-ed, Ga. ber-eṭ (DED 5159).

*pīḏ- 'to squeeze; to milk' > Nk. pīd-, Pa. pīd-, Oll. pī(y)- (DED 4231).

*poḏ- 'top; on; hill' > Kol. pod-e, Nkr. pod-e, Nk. por, Pa. pod-i, Ga. poy- (DED 4567).

*sāḏ- 'six' > Nk. sād-i (Kolami ār 'six' is obviously a reborrowing from Telugu āṟu; DED 2485).

*sēpaḏ-i 'a broom' > Kol. sabd-i, Nk. sabd-i, Pa. cēpid, Oll. sēpeṭ, S. cēpēḏ, sēpēṭ (DED 2599).
*soḏ- 'to itch' > Pa. cod-, S. soy- (DED 2865).

*teḏ- 'to be hot (of sun)' > Nk. tir-up 'sun ray', Pa. ted-, (NE) ṭeḏ- (DED 3440).

tuḏ- 'to set fire to' > Pa. *tud-*, Ga. *tuy-* (DED 3371).

uḏ- 'to measure' > Pa. *ud-ip-*, S. *uy-k-*, *uy-up-* (DED 724).

vaḏ- 'alone; empty' > Pa. *ved-edi*, Oll. *vay-ke*, S. *vay-keṭi* (DED 5513).

vaḏ-p- 'to fry' > Pa. *ved-p-*, Ga. *vaṭ-p-* (DED 5325).

vēnd-iḏ- 'god' > Pa. *vẽdid*, (NE) *vẽdiḏ*, Ga. *vēndiṭ* (DED 5530).

PKG *ṯ* > Kol., Nkr., Nk., Pa. *t* (North-East Parji has *ṭ*), but Ga. *ṭ*. In Parji, as in the case of *ḏ*, PKG *aṯ, *āṯ > et, ēt*.

Since this phoneme was somewhat rare in PDR, there are only a few cases when it can be reconstructed for PKG.

kēṯ- 'widow' > Pa. *kēṭ-al*, (NE) *kēṭ-al*, Oll. *kēṭ-al* (DED 2028).

kēṯ- 'winnowing basket' > Kol., Nkr., Nk. *kēt*, Pa. *kēṭ-i*, (NE) *kēṭ-i*, Oll. *kēṭ-i*, S. *kēṭ-en* (the root is actually an old derivative of *kēḏ-* 'to winnow'; DED 2019).

puṯ- 'anthill' > Kol., Nkr. *puṭṭ-a*, Pa. *put-kal*, (NE) *puṭ-kal*, Oll. *puṭ-kal* (DED 4335).

uṯ- 'to hang' > Nk. *utt-u* 'rope for suspending articles', Pa. *ut-*, (NE) *uṭ-*, S. *uṭṭ-i* 'hanging loop' (DED 708).

vaṯ- 'to parch, to dry (tr.)' > Kol. *vat-*, Pa. *vett-*, (NE) *veṭṭ-*, Oll. *vaṭ-*, S. *vaṭṭ-* (DED 5320).

PKG *ṟ* > *r* in all languages and dialects.

There are, in fact, many roots with inlaut *-r-* in Kolami-Gad- ba dialects that show correspondences with alveolar *-ṟ-* in both South Dravidian (Tamil, Telugu) and Gondwan (Konda) languages. It is obvious, therefore, that all such roots are descended from an earlier alveolar resonant *ṟ*.

The natural question is: should we reconstruct this alveolar phoneme on the PKG level, since no live dialects have preserved it? That is indeed so; however, on closer examination one can ea- sily discover some traces of this phoneme.

The most important trace left by PKG *ṟ* is a peculiarity of Parji vocalism. It is a well-known fact that PDR *a, *ā* are sometimes preserved in Parji and sometimes develop into *e, ē*. The exact conditions of this development have not been stated yet, but most of the existing data seems to point to a general rule:

PDR *al, *ar, *aḏ, *aṯ > Parji *el, er, ed, et*.

For examples on PDR *aḏ, *aṯ* cf. the ones quoted above. As for examples on PDR *al, *ar*, they are so numerous that I will give only a few here.

On PDR *al*: *kal* 'stone' > Pa. *kel* (DED 1298); *pal* 'tooth' > Pa. *pel* (DED 3986); *tal-* 'head'

> Pa. *tel* (DED 3103).

On PDR **ar*: **kar-* 'black' > Pa. *ker-* 'to burn' (DED 1278); **mar-* 'to accustom' > Pa. *mer-* 'to learn' (DED 4722); **par-ṇḍ-* 'frog' > Pa. *beṇḍa* (DED 3955).

This development is hindered by initial palatal consonants: thus, PKG **sar-* 'to drive, chase' > Pa. *car-p-* (DED 2362); PKG **ñar-* 'to fear' (the nasal here is denoted as palatal because of its loss in Kolami and Naikri, cf. Kol. *ari* 'fear') > Pa. *nar-* (DED 3605).

Long *ā* is generally more stable in Pa., although most of the examples on PDR **āl* show Pa. *ēl*: **āl* 'pipal tree' > Pa. *ēl* (DED 382), **kāl* 'leg' > Pa. *kēl* (DED 1479), **māl* 'intoxication; li- quor' > Pa. *mēl* (DED 4822), **pāl* 'milk' > Pa. *pēl* (DED 4096).

The situation with PDR **ār* is more unclear: it seems that in general this particular combination remains unchanged in Pa., cf. **ār-* 'to shout' > Pa. *ār-* (DED 367), **sārp* 'thorn' > Pa. *cā-ka* (from < **cārp-ka*; DED 2468). On the other hand we have Pa. *pēr-u* 'shoulder, side', compared with Ko. *pār* 'upper arm', Tu. *pārè* 'hip, shoulder' (DED 4121). Unfortunately, there are too few examples to make any definite conclusions.

Now the most interesting feature of this development in Parji seems to be the fact that it involves *only* those *r* and *l* in Parji which are descended from PKG and, therefore, PDR **r* and **l*, but *not* the *r* and *l* descended from PDR **ṟ* and **ḷ*. These two phonemes have both disappeared in Parji, as well as in any other live Kolami-Gadba dialect, having completely merged with simple **r* and **l* (except in Naiki, where **ḷ* in certain contexts > *y*); however, they left an important trace in the system of Parji vocalism. Cf. the following examples on PDR **aḷ* (on PDR **aṟ* see below, among the general list of PKG roots with inlaut **ṟ*):

*aḷ-k- 'to sprinkle' > Pa. *alk-* (DED 305); **kaḷ-* 'threshing floor' > Pa. *kal-i* (DED 1376); **paḷḷ-* 'village' > Pa. *pall-i* (DED 4018); **vaḷ-* 'wind, air' > Pa. *val(l)-i* (DED 5312).

All things considered, it may be stated that a PKG **ṟ*, al- though fully merged with simple **r* nowadays, can be reconstructed for certain if:

a) external comparison shows *ṟ*-correspondences;

b) it is preceded by **a*, preserved in Parji in its original quality[2].

PKG roots which match both criteria are:

*kaṟ 'sapling' > Pa. *kar*, cf. Ka. *kaṟu* 'calf' (DED 1411).

*kaṟ 'quill, tooth' > Kol. *garr*, Pa. *karr-a*, cf. Te. *kaṟṟa* 'wood; stick' (DED 1389).

*kaṟ-k- 'chebulic myrobalan' > Pa. *kark-a*, cf. Ta. *kaṭu-kkāy* (here the development seems to have been: **-ṭu-k-* > **-ṭ-k-* > **-ṟ-k-*; DED 1134).

*maṟ-i 'after, again' > Kol., Nkr., Pa. *mar-i*, cf. Te. *maṟi* 'and, again, etc.' (DED 4766).

maṟ- 'banyan tree' > Kol. *marr-i*, Pa. *mar*, cf. Te. *maṟṟi* (DED 4773).

paṟ- 'to cut, split' > Kol. *par-t-*, Pa. *par-ŋg-* 'to be cut, split', Ga. *par-iŋp-* (this root is compared in DED 3962 with Ta. *pari* 'to separate, cut asunder, etc.', but this is impossible from a phonetical point of view; both roots may have been contaminated in PKG, though).

paṟ- 'to spread; to crawl' > Kol. *pār-akeng* 'to crawl (of babies)', Pa. *par-p-* 'to spread', Ga. *pamp-* < *par-mb-* 'to crawl like a child' (DED 3949; this root has parallels with both simple *r* and alveolar *ṟ* in various languages, and it is hard to determine which variant is original; maybe there are again two contaminated roots here).

paṟ- 'garden' > Pa. *par*, cf. Kon. *paṟu* 'a cultivated plot' (DED 4030).

paṟ-c- 'to scratch' > Kol., Nk. *pars-*, Pa. *parc-*, S. *pārc-*, cf. Ta. *paṟ-aṇṭu* id. (DED 4023).

Roots which match only criterion (a) (that is, are not prece- ded by Parji *-a-* or are preceded by Parji *ca-*):

goṟ- 'sheep' > Kol., Nk. *gorr-e*, cf. Te. *goṟe* id., Ta. *koṟi* id. (DED 2165).

koṟ 'hen' > Kol., Nkr., Oll. *kor*, Pa. *korr*, S. *korr-u*, cf. Kon. *koṟu* id. (DED 2160).

kuṟ- 'calf' > Kol., Nk., Pa. *kurra*, cf. Kon. *kuṟa* id. (DED 1801).

meṟ- 'to lighten' > Kol., Nkr. *merp-*, Pa. *marp-* (the deve- lopment *-e- > -a-* is probably regular in Pa. before *ṟ*; this ma- kes me suggest that both vowels were neutralized in the positions before *ṟ*, *r*, and their allophones afterwards redistributed), S. *merc ēr-* 'to glitter', cf. Te. *meṟacu* 'to glitter' (DED 5074).

muṟ- 'dirt' > Kol. *murr*, Nkr. *mur-g* 'a bad smell', Pa. *mur*, *murru* (Oll. *muyuṟ* is unclear), cf. Te. *muṟiki* 'dirt' (DED 5007).

peṟ- 'cream, curds' > Kol. *per-eg*, Nkr. *per-ag*, Pa. *par-ṭub*, S. *per-gu* (said to be < Te.); this root usually has simple *-r-* in other languages, cf. Ta. *peruku*, Te. *perũgu* 'curdled milk', but there is also Te. *pēṟu* 'to congeal, curdle' (DED 4421).

saṟ 'neck' > Pa. *car*, cf. Te. *aṟu* id. (DED 2419).

tuṟ- 'pig' > Kol., Nkr. *turr-e*, Nk. *tur*, *turr-e*, Pa. *turr-a* 'a sp. animal', cf. Ma. *toRe* 'sp. animal' (DED 3348).

3. <u>The fate of PDR alveolar phonemes in Gondwan languages.</u>

The same three alveolar phonemes can be reconstructed with certainty for PG. Their reflexation in daughter languages is as follows:

PG *ḍ* > Proto-Gondi *R (the exact phonetic character is hard to determine; maybe it coincides with the one in Ma.); Proto-Pengo-Manda *z; Proto-Kui-Kuwi *y in the

intervocal position (but PG *ḏi in most cases > PKK *ri), *R (probably an alveolar reso-
nant) before and after consonants; Konda ṟ.

In most live Gondi dialects the original *R has merged with simple *r, except for Hill
Maria, where it has been preserved in most cases in the form of a voiced velar fricative
(R).

In Manda *z > j (> y in the auslaut position), while in Pengo it has remained intact.

In Kui original *y > j; *R in most cases > g; in most Kuwi dialects *R develops into
simple r, while *y remains intact.

It seems that in PG clusters of the type *ḏ + *voiceless consonant were existent and *ḏ
was not devoiced in such cases. This is clearly seen from the development of such
clusters in Gondi, where the usual reflexation of *ḏ before voiceless consonants is h (ẖ
in Hill Maria, which is the voiceless correlate of R) and not t < PG *ṯ. In most other
dialects such PG clusters as *-ḏk-, *-ṯk- have completely merged.

PG *ṯ > Proto-Gondi *ṯ; Proto-Pengo-Manda *c; Proto-Kui-Kuwi *c; Konda R (the
voiceless correlate of ṟ).

PG *ṟ > r everywhere BUT in Konda, where the alveolar articu- lation is preserved and
the phoneme has therefore merged with *ḏ (or with *ṯ before a voiceless consonant, e. g.
PG *-ṟk-, *-ḏk- > Kon. -Rk-).

Below is a list of the most trustworthy roots which have to be reconstructed with an
alveolar phoneme in PG (because of volume considerations the material is not given in
its fullness, and dialectal data is not differentiated except for Hill Maria Gondi, because
of its crucial importance; see DED for more details).

PG *ḏ is reconstructed in the following roots:

*aḏ- 'to be correct, suitable' > Go. arr-; Kui abga < *ag-ba 'to be seemly, be proper' (DED
325).

*āḏ- 'to be cool; to warm' > Go. ār-, Ma. āR-; Kon. āṟ-; Kui āj-a, Kuwi aiy-, āy- (DED 404).

*iḏ- 'to throw' > Kon. iṟ-; Kui ibga < *ig-ba, Kuwi ir- (DED 859).

*kāḏ- 'weed' > Kon. kāṟ-u; Kuwi kāy-u (DED 1439).

*kāḏ- 'to plaster' > Kon. kaR- (assimilation before some voiceless suffix?); Pe. kāz-; Kui
kāj-a, Kuwi kaiy-ali (DED 1503).

*keḏ- 'to shut' > Go. keh-; Kon. keR-; Pe. geh-, Man. geh-; Kui gebga < *geg-ba (the root
was obviously used before voiceless verbal suffixes in PG, whence voiceless reflexes in
Gondi, Konda and Pengo-Manda; in Proto-Pengo-Manda, moreover, there was a

'metathese of voice' when *keḏ- > *geṯ-; for a similar development see PG *sēḏ-; DED 1980).

*koḏ- 'hen; fowl' > Go. *korr, kor*, Ma. *koR*; Kon. *koṟ-u*; Pe. *koz-u, kuz-u*, Man. *kuy*; Kui *koj-u*, Kuwi *koy-u* (DED 2160).

*kōḏ- 'horn' > Go. *kōr*, Ma. *kōR-u*; Kui *kōj-u* (DED 2200).

*kuḏ-g- 'thigh' > Go. *kurk-*, Ma. *koḫk-i*; Kon. *kuṟg-u*; Kui *ku- j-u, kujg-u*, Kuwi *kudg-u* (the development into *-y-* was hindered by the following stop), *kudug-u* (DED 1840).

*maḏ-ŋ- 'to lose, forget' > Go. *mar-ēng-*, etc., Ma. *maRŋg-*; Kon. *marg-* (? dialectal form of *maṟ-g-)* 'to conceal oneself'; Pe. *jaŋ(g)-*, Man. *dāŋg-* 'to be lost' < *mṟaŋ-*; Kui *mrāng-a*, Kuwi *jāŋg-* 'to get lost' (DED 4760; development is obscured by metathese processes).

*maḏaj 'axe' > Go. *mars*, Ma. *maRs-u*; Kon. *marz-u* (DED 4749).

*maḏ-k- 'mango' > Go. *mark-*, Ma. *maḫk-*; Kon. *maRk-a*; Pe. *mask-a*, Man. *mahk-e*; Kui *mah-a*, Kuwi *mahʔ-a* < *maṯk-a* (DED 4772).

*nāḏ- 'village' > Go. *nār*, Ma. *nāR*; Kon. *nāṟ-u*; Pe. *nāz, nās*, Man. *nāy*; Kui *nāj-u*, Kuwi *nāy-u* (DED 3638).

*paḏac 'gourd' > Go. *paras, parās*, Ma. *paRas*; Kon. *pṟās-u, paṟas-u*; Pe. *jāc-ka* < *pRāc-*; Kuwi *jāc-u* < *pRāc-* (DED 4021; here the regular development is obscured by aphaeresis).

*peḏ- 'to pick up' > Go. *per-, peh-k-* < *per-k-*, Ma. *peʔ-k-*; Kon. *peṟ-*; Kui *pebga* < *peg-ba*, Kuwi *per-* (DED 4423).

*piḏ- 'rain' > Go. *pir, pirr*, Ma. *peR, paR*; Kon. *piṟ-u*; Man. *piy*; Kui *pij-u*, Kuwi *pīy-u, piy-u* (DED 4199).

*pīḏ- 'to squeeze' > Go. *pīr-* 'to milk', Ma. *pīR-*; Kon. *pīr-* (a dialectal form?; DED 4231).

*pUḏ- 'pigeon, dove' > Go. *pur-*, Ma. *puR-aṛ*; Kon. *poṟ-oz* (DED 4334).

*saḏ- 'way, road' > Go. *sarr-ī, sar-i*, etc., Ma. *aR(i)*; Kon. *saṟ-i*; Pe. *haz-i* (DED 2417).

*sāḏ- 'six' > Go. *sār-ung*, etc., Ma. *āR-vur*; Kui *saj-gi* (DED 2485).

*sēḏ- 'husband's or wife's younger brother' > Go. *sēr-anḍū, sēr-īyāṛ*, etc.; Kon. *sēṟ-on*; Man. *hēj-un*; Kui *sej-enju* (DED 2819).

*sēḏ- 'to winnow' > Go. *hēc-, hēh-*, Ma. *ēʔc-, ēc-*; Pe. *jēc-* (used before voiceless causative suffixes in PG, whence Gondi *h*; in Pengo 'metathese of voice', as in *keḏ-*. See also the derivative *sēṯ-*. DED 2019).

*soḏ- 'to itch' > Gon. *sōh-t-, soh-*, Ma. *oʔ-* < *oh-* (DED 2865; Kui *soha* 'ringworm' hardly belongs here).

*sūḏ- 'stale' > Kon. *sūR-*; Kuwi *suh-nadi* (assimilation before voiceless suffixes and nasal *-n-*; DED 2745).

*teḏ- 'to be fierce (of sun)' > Go. ter-/tar-, Ma. taR-; Kon. teṟ- (DED 3440).

*teḏ- 'to extract' > Go. ter-, Ma. taR-; Kon. teṟ- (DED 3442).

*uḏup- 'iguana' > Go. urp-al, Ma. oR-pal; Kon. urb-u (probably from *uṟb-u; DED 592).

*vaḏ- 'to fry' > Go. var-s-; Kon. vaṟ-; Pe., Man. vah-; Kuwi vah- (in Pengo-Manda and Kuwi devoicing before voiceless suffixes; DED 5325).

*veḏg- 'firewood' > Go. verrk-i, vark, Ma. vaḫk, veḫk-i; Kon. veṟg-u; Pe. vezg-u, Man. viyk-e (here the consonant is devoiced like in the auslaut position); Kui vej-u, vejg-u, Kuwi veg-u, verg-u (with specific developments due to the cluster; DED 5440).

*veḏi- 'to fear' > Go. warī-, veri-, Ma. vaRi-; Kui bree inba 'to be afraid' (< *veri- < *veḏi-) (DED 5489).

*yēḏ- 'water' > Go. yēr, ēr, Ma. ēR; Kon. ēṟ(u); Pe. ēz, Man. ey; Kui ēj-u, Kuwi ēy-u, ēy-ū (DED 5159).

PG *ṯ is reconstructed in the following roots:

*mūṯ- 'mucus of nose' > Go. mūt-er; Kon. mūR-i; Pe. mūc-i, Man. mūc-i; Kui mūs-i, Kuwi mūc-i (DED 4909).

*puṯ- 'anthill' > Go. putt-i; Kon. puR-i; Pe. puc-i; Kui pus- i, Kuwi pucc-i, puc-i (DED 4335).

*sēṯ- 'winnowing fan/basket' > Go. sēt-i, Ma. ēt-i; Kon. sēR- i; Pe. hēc-i, Man. hēc-i; Kui sēs-i, Kuwi hēc-i (verbal derivative of *sēḏ-; DED 2019).

*uṯ- 'rope network' > Kon. uR-i 'net suspended from roof in kitchen'; Gondi has Ma. uṭum and Koya uṭi 'ropes of carrying yoke' which are dubious because of the retroflex ṭ; these forms may be borrowed from Te. (DED 708).

*vaṯ- 'to dry' > Go. watt-, vatt-; Kon. vaR-; Pe. vac-, Man. vac-; Kui vas-a (DED 5320).

PG *ṟ is reconstructed in the following roots:

*aṟ-g- 'to digest' > Go. ro-kk-; Kon. aṟ-gi-; Kui ār-g-, Kuwi arg- (DED 316).

*ceṟok- 'sugarcane' > Kon. seṟok-i; Kuwi sērkū (DED 2795).

*goṟ- 'goat' > Go. gorr-e, Kon. goṟ-e, Kuwi gor(r)- (DED 2165).

*kaṟ- 'black' > Go. kar-ka 'rust'; Kon. kaṟ-i 'blackness'; Pe. kahr-ā- 'to be black' (inlaut -h- unclear; DED 1395).

*kaṟ- 'stick' > Go. karr-a 'shaft of arrow'; Kon. kaṟ-u 'a small piece of wood' (reconstruction of *-ṟ- here is not certain, since the Ma. form is missing, but external data, namely, Kolami- Gadba, shows *-ṟ-; DED 1389).

kaṟ-k- 'chebulic myrobalan' > Go. *kark-*, Ma. *kahk-*; Kon. *kaRk-a*; Kuwi *kark-a* (DED 1134).

kuṟ- 'male calf' > Go. *kurr-a, kur-a*; Kon. *kuṟ-a*; Kuwi *kurr-a* (DED 1801).

muṟ-k- 'dirt' > Go. *murk*; Kon. *muRk-i* 'dirty' (DED 5007).

naṟ-k- 'to cut, chop' > Go. *nark-*; Kon. *naRk-* (DED 3625).

paṟ- 'to spread' > Go. *par-*; Kon. *paR-* (devoicing before a voiceless suffix); Kui *prahpa* < *par-s-pa*, Kuwi *par-pu* 'cushion, mattress' (DED 3949).

tuṟ- 'rubbish' > Kon. *tuṟi*; Kui *tur-ki*, Kuwi *tur-ki, tru-ki* (DED 3346; maybe also Pe. *tuker* 'dirt' with a metathese).

veṟ- 'fool; mad' > Kon. *veṟ-i* 'foolish'; Kuwi *ver-ila* 'mad- man' (DED 5511; the root may be reconstructed as *veḏ-* as well).

4. Evidence for PDR *ḏ - *t - *ṟ.

It may be seen from the lists of roots above that the percentage of Gondwan roots with *ḏ is much more high than that of such roots in Kolami-Gadba. This results from the fact that a large number of roots with PDR inlaut *-ḍ-, having preserved the retroflex articulation of this phoneme in PKG, have changed it to alveolar in PG (by and large the development *-ḍ- > PG *-ḏ- seems to be almost regular). Thus, roots like PG *kāḏ- 'weed', *kōḏ- 'horn', *nāḏ- 'village', *ōḏ- 'to burst, break', *suḏ- 'to cook', etc., all have correspondences with retroflex consonants in Kolami-Gadba (as well as other Dravidian) languages.

Having eliminated all such cases, we still have a fairly large number of parallels between PKG and PG (especially considering the general scarcity of Central Dravidian data). Most of the roots listed below have been encountered earlier, so their reflexations in daughter languages can easily be checked above; those that were not (mostly local roots, met in one or two dialects of either Gondwan or Kolami-Gadba, that become interesting only on the level of external comparison) are given together with their reflexes in modern dialects and with their DED number.

PKG *ḏ - PG *ḏ:

PKG *keḏ- - PG *keḏ- 'to shut'; PKG *kuḏg- - PG *kuḏg- 'thigh'; PKG *maḏ- 'to lose, forget' - PG *maḏ-ŋ- 'to forget, to be lost'; PKG *maḏg- - PG *maḏk- 'mango'; PKG *peḏ- - PG *peḏ- 'to pick up'; PKG *pīḏ- - PG *pīḏ- 'to squeeze, milk'; PKG *sāḏ- - PG *sāḏ- 'six'; PKG *soḏ- - PG *soḏ- 'to itch'; PKG *sūḏ- 'stale' (Kol. *sūd-i*; DED 2745) - PG *sūḏ- 'stale';

PKG *vaḏ- - PG *vaḏ- 'to fry'; PKG *per-yaḏ- 'river' - PG *yēḏ- 'water'.

PKG *ṯ - PG *ṯ:

PKG *kēṯ- - PG *sēṯ- 'winnowing fan/basket'; PKG *puṯ- - PG *puṯ- 'anthill'; PKG *uṯ- - PG *uṯ- 'to hang, rope'; PKG *vaṯ- - PG *vaṯ- 'to dry'.

PKG *ṟ - PG *ṟ:

PKG *aṟg- (Ga. arg-ēr- 'to be digested'; DED 316) - PG *aṟ-g- 'to digest'; PKG *goṟ- 'sheep' - PG *goṟ- 'sheep, goat'; PKG *kaṟ - PG *kaṟ- 'quill, tooth'; PKG *kaṟk- - PG *kaṟk- 'chebulic myro- balan'; PKG *kuṟ- - PG *kuṟ- 'male calf'; PKG *meṟ- 'to lighten' - PG *meṟ- (Kon. meṟs- 'to glitter', Kuwi mer- 'to light' (DED 5074); this root could probably go back to *meḏ- as well, but *ṟ is a better reconstruction due to external parallels); PKG *muṟ - PG *muṟ-k- 'dirt, dirty'; PKG *paṟ- - PG *paṟ- 'to spread'; PKG *tuṟ 'rubbish' (Pa. turr-i, Oll. tur; DED 3346) - PG *tuṟ-, *tuṟ-k-.

In one or two cases the correspondences do not match so well. The strangest of such cases is PKG *koṟ 'hen', which corresponds to PG *koḏ 'hen'. The exact reason of this mismatch, as well as the original consonant, is hard to determine. However, these few cases should not distract us from the general picture.

This is not a complete list: it represents only the most interesting and trustworthy cases, but, to my opinion, even in this state it is sufficient enough to prove the existence of not less than *three* different alveolar phonemes in PDR. The fact that South Dravidian knows no distinction between *ḏ and *ṟ, even if it *is* true (of which I am not yet certain), can by no means nullify the importance of these correspondences between Central Dravidian languages. Actually, they could be rejected only if at least one of the following hypotheses were to be proved: (a) there is a complementary distribution between *ṟ- and *ḏ-roots, which is clearly not so; (b) all of the roots with *ṟ are of non-Dravidian origin (which is also very doubtful and would even- tually deprive us of extremely valuable material); (c) all of the roots with *ṟ in CDR are old borrowings from Telugu or other SDR languages; in some cases this *could* be true, but it would be ex- tremely careless to generalize such cases, especially since there are numerous instances of *ṟ-roots without Telugu or other SDR parallels.

A three-phoneme reconstruction in the alveolar series also ties in very well with the general system of Dravidian consonantism. The traditionally reconstructed system of

Dravidian dental/ retroflex/alveolar consonants (in the inlaut position) looks somewhat like this:

Traditional system

	Simple stop	Geminated stop	Resonant
Dental	*-t-	*-tt-	*-r-
Retroflex	*-ṭ-	*-ṭṭ-	*-ṛ-
Alveolar	*-ṯ-	*-ṯṯ-	?

With the system revised, the newly reconstructed *ṟ naturally occupies the last empty position, thus perfecting the general opposition structure:

Revised system

	Voiced stop	Voiceless stop	Resonant
Dental	*-d-	*-t-	*-r-
Retroflex	*-ḍ-	*-ṭ-	*-ṛ-
Alveolar	*-ḏ-	*-ṯ-	*-ṟ-

The general ways of development of the alveolar subsystem in different languages seem to have been:

(a) a complete or almost complete merger of *-ḏ- and *-ṟ-, that is, loss of the opposition 'resonant - non-resonant' in the alveolar series. This is primarily the case of SDR languages; in CDR only Konda suffered the same fate. This merger was almost always 'in favour' of the resonant articulation, although in some languages, notably Tamil, both types were preserved, with both phonemes becoming complementary variants of each other;

(b) a complete or almost complete merger of *-ṟ- and *-r-, that is, loss of the opposition 'alveolar - dental' in the resonant system (one may call this type of development 'vertical', contrary to the 'horizontal' development in SDR languages). This is the case of most CDR languages, and the merger was naturally 'in favour' of the dental *r as the less marked consonant[3].

The description I have given of the possible developments of PDR alveolar phonemes in Central Dravidian languages is by no means complete. For reasons of space such important features as secondary gemination of alveolar *ṟ, specific

reflexations of alveolar phonemes in anlaut and inlaut clusters and the possible variations between alveolar stops and resonants cannot be discussed here in much detail. They will probably be treated in a much more voluminous study which is now in the process of preparation.

NOTES.

[1]Actually, it is not absolutely necessary to accept my reinterpretation of this opposition in this particular case, since one can as well represent this triple opposition as $*\underline{t}$ - $*\underline{tt}$ - $*\underline{r}$. One can then argue whether geminated consonants should be treated as simple phonemes or phoneme clusters, but this is really irrelevant to the current case. This is just to say that the current problem is absolutely non-related to the problem of voiced and voiceless stops in Dravidian.

[2]An extremely important feature of PKG $*\underline{r}$ is its strong tendency to being regularly *geminated* in certain dialects, e. g. PKG $*go\underline{r}$- 'sheep' > Kol., Nk. *gorr-e* (DED 2165a; cf. Te. *go\underline{r}-e*), but PKG $*kur$- 'antelope' > Pa. *kur-i* (DED 1785). Unfortunately, gemination is not consistently marked in existing transcriptions, which makes this factor somewhat unreliable in a lot of cases.

[3]In this article the developments of PDR alveolar phonemes in North Dravidian languages are not discussed because of the scarcity of material; this problem still needs a more thorough investigation.

LIST OF ABBREVIATIONS

CDR - Central Dravidian
Ga. - Gadba
Go. - Gondi
Ka. - Kannada
Ko. - Kota
Kol. - Kolami
Kon. - Konda
Ma. - Hill Maria dialect of Gondi
Man. - Manda
Nk. - Naiki of Chanda
Nkr. - Naikri
Oll. - Ollari dialect of Gadba
PDR - Proto-Dravidian

PG - Proto-Gondwan

PKG - Proto-Kolami-Gadba

Pa. - Parji

Pe. - Pengo

S.   - Salur dialect of Gadba

SDR - South Dravidian

Ta. - Tamil

Te. - Telugu

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