

NUMERALS IN COMPARATIVE LINGUISTICS

(with special reference to Dravidian)

MURRAY B. EMENEAU

University of California, Berkeley

§1. Among vocabulary items that can be used in establishing the membership of languages in a family the numerals have always been rated high. This has certainly been true in Indo-European studies, and doubtless also in Semitic and elsewhere. But at the same time Indo-Europeanists, though they have used some of these morphemes as examples in stating certain of the phonetic correspondences (e.g. the words for 'two,' 'three,' 'ten,' etc.), have also found some difficulties of detail (e.g. in 'four,' 'five,' 'six'). Not all the difficulties have yielded easily to explanation, and it should have become clear that in Indo-European the numerals are indeed diagnostic of the inclusion of a language within the family, but at the same time must be used cautiously in establishing the phonetic correspondences that are the proof of the relationship.

§2. One of the types of difficulty has been solved by the recognition that numerals are particularly prone to influence one another's form. In most languages (but not of course those that do not have a long numeral sequence) a syntactic construction that is of the highest value in establishing the numerals as a morphological or syntactic class or subclass is the counting series in its various forms, e.g. most commonly the numerals alone in series. Less commonly there occur the numerals in series, but each of them in construction with the same noun morpheme, e.g. 'one apple,' 'two apples,' 'three apples,' etc. In another type of construction two numerals, usually contiguous members of the counting series, are in the coordinate construction with *or* (or some equivalent) and this construction is in immediate constituency with a noun, the meaning being "indefinite numeration within a small range," e.g. *two or three apples, four or five apples*. All these constructions, which are of fairly high frequency and in which the numerals occur in a fixed order, ensure that any two of the successive numerals occur in fixed proximity often enough to allow analogy (progressive or regressive) to operate.

In fact, numerous of the Indo-European difficulties are solved by statements of analogy based on these constructions; e.g. 'four' in Germanic has its initial *f* because of 'five,' 'five' in Latin has its initial *qu* because of 'four,' 'nine' in Old Church Slavic and in Lithuanian and Lettish has its initial *d* because of 'ten,' etc.

§3. It will be useful to point out that such analogies operate not only in Indo-European. Examples from the Dravidian languages should form a useful supplement, which will guarantee (if such guarantee is needed) that that this type of analogy is not merely an Indo-European phenomenon. I shall present all the Dravidian material of this sort that has been recognized so far. This includes the Kota word for 'two' (§4), the Kurukh for 'three persons' (§5), the Koḍagu for 'thirty' (§6), the pan-Dravidian, and therefore proto-Dravidian, adjective form for 'one' (§7), the Kolami, Naiki, and Ollari forms for 'two things' (§8), the Brahui words for 'one' and 'three' (§9), and certain other forms in other languages, especially Kui (§§9, 10).

§4. Kota—oḍ 'one,' eyḍ 'two,' mu·nd 'three.' oḍ is cognate with Ta. onru, Ka. ondu, Te. oṇḍu, etc., PDr. *onru, and contains clear phonetic correspondences; *o:ō, *nr:d, non-initial short vowel lost.¹ mu·nd, cognate with Ta. mūnru, Koḍ. mu·ndi, Te. mūḍu, PDr. *mūnru, also shows clear phonetic correspondences, but *nr here yields Ko. nd; the exact conditions for the two correspondences of *nr in Kota are not yet known. eyḍ, however, though cognate with Ta. iraṇṭu, To. e·ḍ, Ka. eraḍu, Te. reṇḍu, PDr. *iraṇṭu, is not entirely explicable in terms of phonetic correspondences, nor is its peculiar form due to borrowing. Its ḍ, instead of ḍ, is undoubtedly due to the analogy of oḍ and mu·nd, and most simply to that of oḍ, with ḍ, rather than to that of mu·nd with nd.² Another difficult detail in eyḍ, viz. y, is not yet explained.³

1. Abbreviations for language names: Ta.=Tamil, Ma.=Malayalam, Ko.=Kota, To.=Toda, Ka.=Kannāḍa, Koḍ.=Koḍagu (Coorg), Tu.=Tulu, Te.=Telugu, Kol.=Kolami, Nk.=Naiki, Pa.=Parji, Oll.=Ollari, Go.=Gondi, Kur.=Kurukh, Malt.=Malto, Br.=Brahui, Dr.=Dravidian, PDr.=Proto-Dravidian. A bibliography of sources for the languages is to be found in my book *Kolami, a Dravidian Language* (University of California Publications in Linguistics, vol. 12; 1955), pp. xiii-xvi. This work is referred to for short in what follows as *Kolami*. The only phonetic note needed here is the remark that certain South Dravidian languages have alveolar stops, nasal, and trill phonemes contrasting with dental phonemes and retroflex phonemes. The alveolars are indicated by underlined letters (e.g. t, r).

2. I have already given this explanation in the shortest possible form in *Kolami*, p. 153, fn. 16. Correct the Ko. form for 'three' from mu·d to mu·nd.

3. Is it possible that this is the i-suffix found in neuter forms for 'two,' 'three,' and 'four' in Kol., Nk., and Oll. and used in reconstructions in §8 below? The metathesis in Ko., *edy (< *iraṇṭ-i) > eyḍ, would have many parallels in the language, but cannot be discussed here.

§5. In Kurukh each of the four low numerals has two forms. They are differentiated on a gender basis: ort 'one (indefinite masc.-fem.)', onḍ/onṭā 'one (neuter)'; irb, enḍ 'two'; nubb, münd 'three'; naib, nākh 'four'.⁴ In these forms the *n-* of nubb 'three persons' needs explanation, since the neuter is münd and *m-* is to be expected in both forms; cf. Ta. Ma. Ka. mūvar 'three persons,' Koḍ. mu•vē, Tu. mūveru, mūvveru, muvveru, Te mūguru, mugguru; Kol. Nk. muggur 'three men,' Pa. mūvir.⁵ The explanation is the analogical one; nubb owes its initial to naib 'four persons.' The forms for 'four' have the etymologically justified initial; cf. Ta. nāl, nālku, nāṅku, Ma. nālu, nāṅku, Ko. na•ng (n, not ŋ, before g), To. no•ng (n, not ŋ, before g), Ka. nāl(u), nālku, nāku, etc.

§6. In Koḍagu (Coorg) there occur nuppadī 'thirty' and na•padī 'forty.' The same analogical explanation as for Kurukh nubb 'three persons' is undoubtedly to be given here for the *n-* in nuppadī. It is somewhat unexpected and noteworthy that the analogy should have worked in the tens series (i. e. 30, 31, ..., 39, 40, 41, ...). Cognate forms are: Ta. muppatu, nārpātu/ (colloquial) nāppatu; Ma. muppatu, nālpatu; Ko. muat (< *mu•vat), na•lvat/ na•lat; To. mu poṭ, naṭ poṭ; Ka. mūvattu, nālvalu/ nalvattu; Tu. muppa, nālpa; Te. muppadī/ (colloquial) muppai, naluvadi/ nalubadi/ (colloquial) nalubhai.

§7. Reconstruction of Proto-Dravidian yields for 'one' and 'two' the following forms: *onru 'one (neuter)'; *oru adjective before consonant, *ōr adjective before vowel; *iraṇtu 'two (neuter)'; *iru adjective before consonant, *ir adjective before vowel. Both the neuter forms are morphological complexes which contain a neuter suffix *-tu. *onru is to be analyzed as having a base *on- with alveolar nasal (this need not be written with a special character, since there is no contrast with a dental nasal); the morphological cluster *-n-t- yields regularly *nr, with the dental t becoming the alveolar r by assimilation in position to the alveolar nasal. Similarly, *iraṇtu is a derivative of *iraṇ- plus *-tu with assimilation of the dental t to the retroflex ṭ; further justification for *iraṇ- is found transparently in Ta. iraṇai 'couple, pair,' as well as less obviously in some other forms which

4. I have given the meanings from F. Hahn, *Kurukh Grammar*, p. 66. A. Grignard, *A Grammar of the Oraon Language*, is obscure on the matter of 'four,' and in his *Oraon-English Dictionary* he says, incorrectly in all probability, that naib is 'four (used with animals and things).' The analogical explanation for nubb was already given by L. V. Ramaswami Aiyar or E. H. Tuttle or both, but I am unable at the moment to give the references.

5. So T. Burrow and S. Bhattacharya, *The Parji Language*, p. 36 and Voc. My citation of mūvir in *Kolami*, p. 142 and Voc., is incorrect.

need not be given or discussed here. Further examples of the suffix *-tu in the numeral series are found in the neuters *mūnru 'three,' *ayntu 'five,' *eṭṭu 'eight,' *pattu 'ten.'

The adjective forms for 'one' and 'two' present a problem. Adjectival *iru/*ir beside *iraṇ- (presumably *ir-aṇ-) is clear. Adjectival *oru/*ōr, however, is not what is to be expected beside *on-. When morphological doublets occur with the alveolar nasal n and a trill, the correct trill is the alveolar one, i.e. *r, and not the post-dental *r̥. The reconstruction *oru/*ōr is correct on the evidence. All the languages that retain the distinction between the PDr. phonemes *r and *r̥ (or rather, all the languages that provide evidence for the PDr. contrast by the contrast in their own data) have the reflex of *r in these forms, viz. Ta., Ma., To., Ka., Tu. (probably), Te. (in a few derivatives such as orima 'unanimity, friendship'), Go. (ōṛul 'a certain man,' with r̥=PDr. *r), Kui-Kuwi (probably), Kur.-Malt. (probably).⁶ Notably also forms with doubled r, occur in Ta. and Ma., viz. Ta. orri 'to be united with, to be odd (as numbers),' orrumai 'union, oneness,' orrai 'one, one of a pair, odd number, singleness, uniqueness,' Ma. orra 'one, single, odd,' or with the reflex of this doubled r, e.g. Tu. ottē 'single, solitary.' Since the reconstruction is justified and unexpected, an explanation for *r rather than *r̥ must be sought. It is the result of the analogical influence of *iru/*ir 'two' in pre-Dravidian.

§8. The numeral 'two' also shows a peculiarity in Kolami, Naiki, and Ollari. 'Two things' is Kol. indiṇ, Nk. inding, Oll. indi. It has been demonstrated elsewhere⁷ that these three languages with Parji form a sub-family within Dr. and that the reconstruction for this word in these three languages is *inr̥-i-. The Parji form is irḍu, which must be closely related to PDr. *iraṇṭu.⁸ The reconstruction *inr̥-i- cannot be directly derived from the PDr. reconstruction nor from anything else related to it. It must be explained as influenced by either *onru 'one' or *mūnru 'three' or by both. Since no derivative of *onru occurs in any language of this sub-family, it is safest to posit influence of *mūnru alone, and in fact Kol. mu·ndiṇ, Nk. mūndiṇ (Oll. evidence is not at hand) have the same suffix -i- that is seen in *inr̥-i-. At some undetermined chronological stage, then, within the history of the sub-family, *mūnr̥-i- influenced *ir(a)ṇṭ-, or perhaps a derived form *iṇṭ- (with

6. For the phonetic correspondences, *Kolami*, p. 147, §10.15, pp. 151 f., §10.25.

7. *Kolami*, chapter 10. For a summary statement of this particular point, p. 153, fn. 16.

8. For loss of nasal in similar clusters, Burrow and Bhattacharya, *The Parji Language*, p. 6, §9(1).

loss of *r* by assimilation and simplification), to yield the form **inr-i*.

§9. The Brahui numerals for 'one,' 'two,' and 'three' present several problems. Not all of these yield to solution, since a very small number of Dr. etymologies have Br. members and consequently few certain phonetic correspondences have been found for Br. The adjective forms for these numerals are *asi*, *irā*, *musi*, and the forms that denote numbered entities are *asiṭ*, *iraṭ*, *musiṭ*. The final *ṭ* in these forms must be of identical origin and in all probability is historically justified only in *iraṭ* 'two entities.' Beside the PDr. **iraṇṭu* (**iraṇ-tu*) already referred to (§7), it is necessary to set up also a stem **iraṭṭ-* which occurs with several different suffixes: Ta. *iraṭṭai* 'pair, married couple, twins, even numbers,' *iraṭṭi* 'to double (tr.), repeat; be doubled, return, disagree'; n. 'double quantity,' *iraṭṭu* 'to double (intr.), sound alternately,' n. 'doubleness'; Ma. *iraṭṭa* 'double, even,' *iraṭṭi* 'double, twice as much,' *iraṭṭikka* 'to double, multiply'; To. *i-ṭy* 'double, even (of numbers)' (< **iraṭṭi*); Te. *reṭṭa* 'double, twofold,' *reṭṭi* 'twice as much,' *reṭṭincu* 'to double.' Br. *iraṭ* 'two entities' almost certainly represents PDr. **iraṭṭ-*; *asiṭ* and *musiṭ* must owe their final *ṭ* to that of *iraṭ*. I have left out of account here three other Brahui forms with *-ṭ*, viz. *aṭ* 'how many,' *manaṭ* 'some, several, a few,' *macciṭ* 'a little, some.' There may well be some connection with the numeral series, and the first item may have *ṭ* of a different origin from that in the numeral series, though it is not yet possible to state its history. It has been possible to find an origin for *-ṭ* within the numeral series, and if there should turn out to be influence from a second source, it merely yields a more complicated history without invalidating what we have already established. I omit consideration also of Te. *okaṭi* 'one thing,' Oll. *okuṭ*, *ukuṭ* 'one woman.' Since Br. *asiṭ* 'one entity' is not connected with those forms for 'one' that have *k*, there is in all probability no connection to be traced at all with the Te. and Oll. forms.

The *-i-* in *asiṭ* and *musiṭ* is almost certainly the same suffix that is seen in pre-Kol.-Nk.-Oll. **inr-i* (§8). It is in fact found also in Kol.-Nk. *nāliṅ* 'four things.' Elsewhere the numeral 'three' has this suffix in Tu. *mūji*, Kui (Letchmajee) *munji*, (Friend-Pereira, Gūmsar dialect) *mūnji*,⁹ all of which mean 'three things.' It is notable that Tuḷu corresponds to Br. in having the suffix in *oṅji* 'one thing' and *mūji* 'three things.' Gondi also has *-i* in the

9. Lingum Letchmajee, *An Introduction to the Grammar of the Kui or Kandh Language*; J.E. Friend-Pereira, *A Grammar of the Kui Language*.

form for 'one thing' as reported by Trench undi and Lind uṇḍi; Mitchell has onḍ—a reconstruction for pre-Gondi as *onri seems in order. Since South Dravidian shows Ta. onri 'singleness, one who is alone,' Ko. oj 'one thing alone' (< *onri), we have enough evidence (Ta., Ko., Tu., Go., Br.) to posit PDr. *onr-i. 'Two' follows without -i, except in pre-Kol.-Nk.-Oll. The evidence for an i-form for 'three' appears in Tu., pre-Kol.-Nk., Kui, and Br.; this is not as wide a spread as for 'one,' but it is sufficiently good evidence for a reconstruction PDr. *mūnr-i and should be so interpreted, unless we wish to find analogy jumping from 'one' to 'three,' presumably in several languages independently—a most implausible assumption. The probability then is that from the reflexes of PDr. *onri and *mūnr-i, the i-suffix spread variously in different languages, to 'two' in pre-Kol.-Nk.-Oll. and to 'four' in Kol.-Nk. (Oll. evidence is lacking).

Kui as reported by Letchmajee and Friend-Pereira has the i-suffix in the series 'three' to 'seven.' In 'four' to 'seven' it is extended to -gi, which undoubtedly derives from 'four' nālgi; cf. Ta. nālku, nāṅku, Ma. nāṅku, Ko. na•ng, To. no•ng, Ka. nāl(u)ku, Te. nālugu, Pa. nālu(k), Konḍa nālgi, Kur. nākh, all meaning 'four things.' The remaining Kui items are 'five things' siṅgi (for the nasal, cf. Ta. aintu, adj. ai/aim-, Ma. aṅcu, adj. ai/am-, Te. ayidu, ēnu, adj. ē/ē, Pa. cēḍu (k), adj. cem-), 'six things' sajgi, 'seven things' odgi, oḍgi.

Brahui, which provides important evidence for the reconstruction of the i-suffix, does not have it analogously in 'two'; since it has no Dr. numerals above 'three,' we can say no more.

The s preceding the i-suffix in 'one' and 'three' may conceal important matters for PDr. Unfortunately, we cannot be sure what the Br. reflexes of PDr. *r and *nr are. Leaving aside these numerals, there is for *nr not a certain example; the only possible one seems to be Br. ainō, annō 'today' beside the reconstructed stems *in- and *inr- which the other languages look toward, and this is not very enlightening. For *r there are nine possible examples so far identified. In six examples *r is represented by rr or r, in one by ṛ, in one by s, and in another possibly by s. Are we to decide that s in asiṭ and musiṭ represents the *nr that must certainly be reconstructed otherwise in the PDr. forms? This seems the simplest course. Otherwise, to posit that it represents *r causes difficulties in the interpretation of both words. There is no other evidence for PDr. *mūr-, since Ka. mūru is probably

rightly taken as showing the typical Ka. simplification of *nr > r, parallel to *mp > v, *nt > d, etc. A posited *or- for asiṭ would be tempting as showing the original form posited for 'one' in §7, and as providing an indication that Brahui very early split off from the Dr. stock. We must however resist the temptation. The simpler reconstruction already given is less exciting, but certainly methodologically sounder.

An explanation of the initial vowel in asiṭ 'one' is not at hand. Close examination of the vowel correspondences for Br. must be undertaken at another time.

§10. One more example adds nothing of importance but should be mentioned to make the picture complete. The words for 'five' and 'six' in most of the languages show no similarity. However, reconstruction must take account in both of initial *c- which is lost in all the southern languages and retained only in the few languages of Central India that retain the Dravidian numerals so far along in the sequence. The forms for 'five' are: Kol. (SR) segur (? e or ē) 'five persons; Pa. cēvir 'five men'; Go. (Tr.) saiyung 'five,' saik 'five each,' (W) sāiyúṅg 'five,' (Pat.) hayyung id., (L) heūṅg, heūn id.; Kui (Letchmajee) siṅgi 'five,' (Friend-Pereira, Gūmsar dialect) siṅg id., siṅgi 'five things.' The forms for 'six' are: Go. (Tr.) sārung 'six,' sār̥k 'six each,' (W) sārúṅg 'six,' (Pat.) harung id., (L) hārūṅg id.; Kui (Letchmajee) sajgi 'six,' (Friend-Pereira, Gūmsar dialect) saj id., sajgi 'six things' (the Kolami forms without s- are undoubtedly influenced by Telugu). There is no evidence to show that either 'five' or 'six' has been influenced by the other in its initial, but such influence would not be unthinkable, and the situation should be mentioned.

§11. Comparative study of the Dravidian numerals also lends invaluable support to the view that numerating morphemes must be regarded as 'cultural' items of the vocabulary rather than as 'universal and non-cultural,' and consequently that caution must be exercised in using them in comparative studies lest borrowed items be treated as part of the native stock of the language. It would hardly be necessary to stress this point if it were not for the fact that traditional Indo-European studies for one reason or another had hardly needed to take precautions in this matter, and that in consequence glotto-chronological studies in most recent times have fallen into the pitfall of regarding as many as twelve numerals as a legitimate part of a list called a 'fundamental vocabulary' in which the terms were 'relatively

stable items' characterized as 'universal and non-cultural' and not 'too closely correlated with fluctuations in the cultural situation to serve as an index of the passage of time,'¹⁰ That the numerals have been relatively stable in the Indo-European languages is clear, even though we should be warned that this is not necessarily a universal characteristic by such examples as the English ordinal *second* which is a borrowing from Latin through Old French. Borrowings of numerals had been recognized also in Finno-ugric, where the Indo-European source of words for 'hundred' had been easily recognized. Japanese also was known to have borrowed from Chinese all the numerals but 'four' for counting many sorts of objects. Vietnamese also has borrowed from Chinese, though to a lesser extent. Examples of this sort could be added to. In fact, if it had not been for the counter Indo-European situation from which most linguistic scholars started, it might well have been recognized that numeral borrowing is a more normal situation than not, that the social situations involved needed searching study, and that the Indo-European situation needed explanation, in terms no doubt of the specific social situations involved there.

§12. With these general remarks as a preface, the situation in the Dravidian languages may be stated in short form. The South Dravidian languages including Telugu allow PDr. numeral morphemes to be reconstructed for a decimal system with basic simplex morphemes for 'one' to 'eight,' 'ten,' and 'hundred.' 'Nine' is formed subtractively from 'ten.' The basic morpheme for 'thousand' is borrowed from Indo-Aryan, and similarly for all morphemes of higher orders than that. When we move to the Dravidian languages of Central and North India, only the Dr. numerals 'one' and 'two' occur in all of them. Loss and replacement by Indo-Aryan forms occur as follows: 'three' and everything higher in Malto, Kuwi, and Winfield's Kui; 'four' and everything higher in Brahui (replacement here is by Iranian forms); 'five' and everything higher in Kurukh; 'six' and everything higher in Kolami as spoken in the Wardha district as recorded by myself; 'seven' and everything higher in Parji; 'eight' and everything higher in the other Kui dialects as described by Letchmajee and Friend-Pereira; 'hundred' in the Kolami recorded in Adilabad. For some of the languages, Naiki, Ollari, Poya, and Konḍa, evidence is lacking, and they have been omitted completely from the statement. As I

10. Morris Swadesh, *Proceedings of the American Philosophical Society*, vol. 96, pp. 452-63 (1952); *International Journal of American Linguistics*, vol. 21, pp. 121-37 (1955). A critique by Harry Hoijer, *Language*, vol. 32, pp. 49-60 (1956).

have shown elsewhere,¹¹ in some of these languages there has been borrowing from Indo-Aryan not merely of numeral morphemes but also of the syntactic and morphological numerating constructions with classifier morphemes—a phenomenon that is instructive in illustrating the process of borrowing as concentrated in larger units than that of the morpheme itself.

§13. Closer study such as I have made of one of these languages, viz. Kolami,¹² makes it necessary to recognize that numeral borrowing has taken place into Kolami both from Indo-Aryan and from another of the Dravidian languages, Telugu. The Kolami forms from 'six' to 'ten' that were recorded in Adilabad by Setumadhava Rao on the one hand and Burrow and Bhattacharya on the other, are borrowings from Telugu. The linguistic situation is that Kolami is a language independent of Telugu but with many borrowings from it, identified as such by various sure criteria. 'Six,' āṛ, has initial s- in Go. and Kui (Letchmajee) (§10) and should have it in Kol. also; this then is a borrowing, and Te. has been otherwise established as the source for borrowings of Dr. material with non-Kolami characteristics. 'Seven,' (SR) eḍ, -(Kin.) ēṛ, has the phoneme ḍ, which is the Te. representative of PDr. *ḡ; Kol. would be expected to have r.¹³ 'Eight,' enum(i)di, has so many features identical with those of Te. enimidi as opposed to those of PDr. *eṭṭu, *eṇ-, that the borrowing is especially obvious. 'Nine,' tomdī, has the initial morpheme tom- that is otherwise found only in Te. in the word for 'nine' tommidi; it is otherwise found (basically as *toṇ-) in 'ninety,' '900,' and in Ta. toṇṭu 'nine'; the Go. forms for 'nine' given by Patwardhan (tomidi) and Lind (tumīdi) are also borrowings from Te. (cf. Patwardhan's tombai 'ninety' and Te. tombadi, colloquial tombhai).¹⁴ 'Ten,' padī, has this form with suffix -i otherwise only in Te.

In the Wardha dialect Marathi numerals have displaced all Dr. forms from 'six' on. 'Five' also is optionally replaced by pa•s from Marathi pāc, pāc. But the optional Dr. equivalent ayd, which is found in Adilabad also, is borrowed from Te. ayidu. This is clear since Pa., Go., and Kui (Letchmajee and Friend-Pereira) have forms with initial s-, which Kol. also should retain,

11. "India as a Linguistic Area," *Language*, vol. 32, pp. 3-16 (1956).

12. *Kolami*, chapter 10.

13. *Kolami*, p. 154, §10.26.

14. It might have been noted in the first half of this paper that apparently in the Gondi described by Patwardhan 'eight' is tenmidi, which is not found elsewhere even in Go. It is Te. enimidi with t- analogically derived from tomdī 'nine' (Te. tommidi).

and which Kol. does retain in the form given by Setumadhava Rao for 'five persons,' *segur* (cf. and contrast the forms given in §10, Pa. *cēvir* 'five men,' Go. *saiyung* 'five,' Kui *siŋgi* 'five things,' and additionally Te. *ayiduguru*, *ēguru*, *ēvuru* 'five persons'); is it possible that Kol. *segur* is a contamination of Te. *ēguru* and a pre-Kol. form close to Pa. *cēvir*?

It is almost beyond doubt that Kol. 'one' to 'four' also have been influenced by the Te. numerals, as I have already pointed out elsewhere.¹⁵ Of the various stems found in the etymological family of the numeral 'one,' **onru*, **oru*, **okk-*, the last occurs in the numeral meaning itself only in Te. and the sub-family Kol.-Nk.-Pa.-Oll.; borrowing from Te. by this sub-family is indicated. The forms *iddar* 'two men,' *muggur* 'three men,' *nalgur* 'four men' in Kol. and Nk. must have been borrowed from Te. *iddaru*, *mugguru*, *naluguru*, since forms of this shape occur only in these languages; contrast Ta. Ma. *iruvar*, Ka. *irvar*, *irbar*, *ibbar*, Koḍ. *ibba*, Tu. *irveru*, Pa. Oll. *irul*, Go. (M) *irū(r)*, Kui *riari*, Kur. *irb*, Malt. *iwr*; Ta. Ma. Ka. *mūvar*, Koḍ. *mu·vē*, Tu. *mūv(v)eru*, *muvveru*, Pa. *mūvir*, Kur. *nubb*; Ta. Ma. Ka. *nālvar*, Koḍ. *na·vē*, Tu. *nālveru*, Pa. *nelvir*, Go. (A) *nalwir*, Kur. *naib*.

§14. Caution then is obviously called for in using comparative data on numerals, Dr. or other, for the two reasons presented in this paper. In particular, a final word to the glotto-chronologists is in order. Their most recent list of fundamental vocabulary items has cut down the twelve numerals of the original list to two, viz. 'one' and 'two,' since 'numerals have to be regarded as cultural.'¹⁶ No reason is given for not regarding 'one' and 'two' as cultural equally with the others. Our examination of the Kolami numerals and their relations with those of Telugu has made it clear that even these two numerals are not immune to borrowing. A warning drawn from such an out-of-the-way source might seem superfluous, since English already provides a warning in the ordinal *second*. The Kolami evidence, however, goes even further since it bears on all the low numerals, as does the Japanese evidence and also that of the Vietnamese, if Maspero was correct in thinking that Vietnamese was basically a Thai language but yet had borrowed all its low numerals from a Mon-Khmer language.¹⁷ The assumption, then, of even 'one' and 'two' as relatively culture-free and stable vocabulary items is unjustified.

15. *Kolami*, pp. 156 f., §10.30.

16. Swadesh, *IJAL*, vol. 21, p. 125.

17. Henri Maspero, *Bulletin de l'Ecole Française d'Extrême-Orient*, vol. 12.1 (1912), pp. 1-127; also in *Les langues du monde* (1952), pp. 581-85. Other historical statements have been made for Vietnamese, but the only one that would invalidate the statement in the text about the numerals would be a posited Mon-khmer origin for the language.