

# Elamite and Dravidian: Further Evidence of Relationship

by David McAlpin

RECENT WORK with primarily lexical data (McAlpin 1974) has shown that Elamite, a major language of ancient West Asia, is cognate with the Dravidian language family of South Asia. This work was based on the Achaemenid Elamite (AE) glossary of Hallock (1969). When all personal names and obvious loanwords had been excluded, there remained 270 lexical items that could be assumed to be Elamite. A large proportion of these were verb stems, and some had very vague meanings like 'a kind of tool' or 'a kind of fruit.' Of this total, 25% were shown to have good cognates with items in the *Dravidian Etymological Dictionary* of Burrow and Emeneau (1960, 1968). The phonological correspondences based on these etyma are given in table 1; these phonological statements hold for the root portion (generally at least two syllables) of the lexical pairs with only a handful of exceptions, many of which seem to be isolated special cases. Another 12% were found to have much more doubtful connections with Dravidian or to be obviously internally derived; for example, AE *nāmana* 'daytime' is derived from AE *nan* 'day', which itself is cognate with Dravidian *nāḷ* 'day'. Items with no clear cognates with Dravidian accounted for 50% of the total, and the remaining 13% were so uncertain, in form or meaning, as to be virtually unusable. There seem to be no loanwords in this corpus between AE and Proto-Dravidian (PDr), with the notable exception of AE *kutira* 'bearer', appearing in PDr as *kutiray* 'horse'.<sup>1</sup> Near perfect phonological correspondence in word roots, with a good semantic fit, for 25% of an arbitrary small sample vocabulary is sufficient proof in itself that these languages are cognate. Here I shall present the correspondences in verbal morphologies that support this relationship.

Elamite is attested in several different versions, the most important of which are Achaemenid Elamite (AE) and

<sup>1</sup> If cognate, the Dravidian form \**kutiyan* would be expected. The *-ray* ending is not explainable internally in Dravidian. However, the verb stems, AE and PDr *kuti-*, are cognate.

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Middle Elamite (ME). (For an excellent summary of Elamite studies, see Reiner 1969.) Achaemenid Elamite was the language of bureaucracy in the Achaemenid Persian Empire. It is represented by a quite extensive corpus, of which large portions are bilingual in Old Persian (OP) or Akkadian. This is by far the best-known version, but it is heavily influenced by OP vocabulary and often is a calque on OP syntax. Middle Elamite, which is at least 600 years older, comes from the records of the Elamite Kingdom at Susa. Most of the texts are monolingual, but some are "parallel" with Akkadian. Where similar to AE or where a construction is well attested, ME is fairly well understood, but otherwise speculation is common. It does seem, however, that regional dialect differences in addition to time stand between the two versions. Except where noted, this paper is primarily concerned with Achaemenid Elamite.

The Dravidian language family is divided into three branches, labeled North, Central, and South. After a substantial amount of careful work, it is fairly clear that the historical relationships of the Dravidian languages are well represented by their present locations (see Krishnamurti 1969 for background and bibliography; also Emeneau 1967 and Zvelebil 1972 on South Dravidian). The South Dravidian (SDr) languages form a compact and continuous block in southern India; to the north of them are the Central Dravidian (CDr) languages, while the North Dravidian (NDR) languages are scattered on the edges of the Indo-Gangetic plain. Tamil, a SDr language, has the oldest recorded literature, going back to about 200 B.C., and Brahui on the borders of Afghanistan is the most outlying (and divergent) member of the family.

Dravidian and Elamite have a number of morphological correspondences in nouns and pronouns.<sup>2</sup> However, the best and clearest correspondences are found in their verbal morphologies. The similarities are striking in both their extent and their detail and indicate that these two families are closely related. Both Elamite and Dravidian have a general verbal structure of verb stem + tense marker + personal ending. Both have only two basic positive tenses, which can be labeled "past" and "nonpast," although this is a gross simplification of the actual semantics. The nonpasts have the clearer correspondences. A selection of Dravidian nonpasts, a tentative Proto-Dravidian recon-

<sup>2</sup> The similarities include very similar second-person pronouns, identical derivatives for abstract nouns, and parallel case endings. See McAlpin (1974) and Djakonov (1967:107-12) for examples and discussion; Diakonov only lacked sufficient lexical data to make a convincing case of his own that Elamite and Dravidian are cognate. These similarities have been noticed by several earlier scholars, including Bork (1925) and Caldwell (1956 [1875]).

TABLE 1

RECONSTRUCTED PROTO-ELAMO-DRAVIDIAN PHONEMES WITH THEIR  
ACHAEMENID ELAMITE AND PROTO-DRAVIDIAN CORRESPONDENCES<sup>a</sup>

1. \*X > Ø; X / #\_{t,n}a<sup>b</sup>  
(where X = {i,e,u})
2. \*w  $\begin{bmatrix} i \\ e \end{bmatrix}$  > Ø; v  $\begin{bmatrix} i \\ e \end{bmatrix}$  / #\_lV
3. \*a > a; a
4. \*i > i; i
5. \*u > u; u
6. \*o > u; o
7. \*e > e, i; e
8. \*w > ú; v
9. \*y > y; y<sup>c</sup>
10. \*k >  $\begin{cases} k; k / \# \_ \_ V, V \_ \_ \# \\ h, Ø; k, Ø \end{cases}$
11. \*kk > kk; kk
12. \*šk > šk; kk
13. \*ŋk > k; ŋk
14. \*ŋkk > kk; \*ŋkk
15. \*t >  $\begin{cases} t; Ø / \# \_ \_ V, V \_ \_ \# \\ t; t / \# \_ \_ V \\ t; t, t \end{cases}$
16. \*tt > t(t); tt
17. \*rt > rt; t
18. \*p >  $\begin{cases} p; p / \# \_ \_ V \\ p; v / V \_ \_ V \end{cases}$
19. \*mp > p(p); mp
20. \*š >  $\begin{cases} š; t / \# \_ \_ V\{ř, l\}V \\ š; y / V \_ \_ V, V \_ \_ \# \\ š; Ø \end{cases}$
21. \*c >  $\begin{cases} c; c / \# \_ \_ \{i,e\} (c = AE z) \\ s; c / \# \_ \_ \{a,o\} \end{cases}$
22. \*cc > cc; cc(cc = AE zz)
23. \*ñc > ns; ñc
24. \*ř > r; ř / # (C)V\_ \_ V, #V\_ \_ C
25. \*ř > rr; r / #CV\_ \_ V
26. \*n >  $\begin{cases} n; n / \# \_ \_ V \\ n; n / ř (?) \end{cases}$
27. \*nm > nn; n(n)
28. \*rm > rn; n
29. \*l >  $\begin{cases} l; l, l / V \_ \_ V \\ n; l / V \_ \_ \# \end{cases}$
30. \*ll > ll; l(l)
31. \*l' > l'; l' (l' = AE el)
32. \*m > m<sup>d</sup>; m
33. \*mm > mm(?); mm
34. \*v > m<sup>d</sup>; v
35. \*n+ř > nr; n+ř
36. \*n+k > nk; n+k

<sup>a</sup> AE transcription is according to Hallock (1969), except as noted; PDr transcription is according to Burrow and Emeneau (1960), except that ŋ replaces ñ.

<sup>b</sup> Read "Proto-Elamo-Dravidian etymon X (that is, i, e, u) has reflex Ø (that is, nothing) in Elamite and X in Dravidian when it occurs in the PED environment initially and before {t, n}a." The key is as follows: \* Proto-Elamo-Dravidian, > Elamite, ; Dravidian, / Proto-Elamo-Dravidian environment, # space (with #\_ \_ meaning initially and #\_ # finally), V vowel, and C consonant.

<sup>c</sup> The phoneme y does not occur in the corpus. It is included here because AE has y only as #ya, while in PDr the relatively rare initial y occurs only before a or ā. The patterning is close enough to include it provisionally in the PED list.

<sup>d</sup> AE m is ambiguous between [m] and [v].

struction, and the Elamite nonpasts are given in table 2.

As with all aspects of the Elamite verb, the morphology of the nonpast is relatively straightforward. It consists of the verb stem plus -n- followed by one of the two sets of personal endings.<sup>3</sup> There is little difference in the

<sup>3</sup> In this presentation I follow Hallock (1959), who calls the nonpast "Conjugation III." Hallock's description of the AE verb is not linguistically sophisticated, and his terminology is confusing. Nevertheless, he probably has the greatest familiarity with the

morphology between AE and ME. Transitivity contrasts are not made in this tense.

Only recently has serious attention been turned to the morphological problems in historical Dravidian (see Krishnamurti 1969). Therefore, in spite of the age of comparative Dravidian as a field, comparative Dravidian morphology is still in its initial stages. Subrahmanyam's (1971) excellent recent work gives six different morphological markers for the nonpast in Proto-Dravidian. These include -pp-α-v- (α means "morphologically alternates with"), which is largely restricted to SDr; -kk-α-k-, -tt-α-t-, and -um, which occur throughout Dravidian; -n-, which is normal for some CDr languages; and -o-, which is restricted to NDr. There is little explanation of this distribution.

In Old Tamil there is a group of nonpast forms which do not have the normal personal endings and which have traditionally been discussed as a miscellaneous collection of archaic and defective futures (see Subrahmanyam 1971: 189-227; Ramaswami Aiyer 1938:763-65, 767-69). Except for the first person plural, which had two forms, all these futures were "defective" in different persons and numbers. Only under the stimulus of studies of Achaemenid Elamite did it become apparent that these forms, along with a few others (such as -um), formed one conjugation. In retrospect, this seems obvious, since these endings match forms present in CDr and NDr. Four of the more conservative CDr languages and Kurux for NDr are given in table 2; note particularly the forms of very conservative Konda. These forms were archaic or poetic in Old Tamil and certainly coexisted with forms that were or came to be the future tense. The future forms given for Literary Tamil are examples of the future forms found elsewhere in SDr. By the time of the earliest commentators, all clear knowledge of these old nonpast forms had been lost.

When these archaic Tamil forms are compared with those from CDr and NDr, a new set of endings appears for the Proto-Dravidian nonpast. When these endings are compared with those for the Elamite nonpast, there is a one-for-one match in the surviving endings. The correspondences are so close (even with the Old Tamil forms) that comment is largely superfluous. Elamite and Dravidian are not only cognate, but must be closely cognate for such a set of correspondences to occur.

With this reorganisation, the number of PDr constructions involved with the nonpast drops from six to two. Of these two, the one in -pp- is probably a subsidiary verbal of intent which was later generalised in SDr. It retains much of its original use in some CDr languages.<sup>4</sup> From the single basic nonpast system in PDr, most of the other nonpast forms in modern Dravidian languages are readily derived by a combination of cluster simplification and morpheme reanalysis. For some, the change is primarily phonological, as in Old Tamil's loss of -m- before stops and the NDr reduction of \*-um- to -o- for the future.<sup>5</sup> Some, such as Konda, have retained the old system almost intact, with changes only in some of the personal endings.<sup>6</sup>

AE texts, and his description of the actual usages is excellent. For alternative analyses of the Elamite verb, see Labat (1951), Reiner (1969), and Paper (1955).

<sup>4</sup> These subsidiary verbals include the simultative suffix of Konda in -pu/-bu and the permissive in Kuvī with -p-/(m)b- (Subrahmanyam 1971:274, 283, 305-6).

<sup>5</sup> This loss is possibly an indirect result of the loss of nasals in nasal-obstruent-obstruent cluster groups (i.e., NCC to CC) in SDr. While directly occurring only in strong verbs (i.e., verbs with CC clusters), it could readily have influenced the entire paradigm (see Kumaraswami Raja 1969).

<sup>6</sup> There seem to have been at least two sets of personal endings in PDr. The set given in table 2 is largely verbal (also participial nouns?). The other set is closely patterned after the personal

For most CDr forms (and the NDr present), there was a complex change, with the adding of new personal endings based on the pronouns allowing the initial consonant of the old personal ending to be interpreted as part of the tense marker (note Kui in table 2). This was often followed by a tendency to generalise (partially or wholly) one of these consonants as the tense marker (note *-k-* for Gondi and *-t-* for Naiki). This reanalysis was accompanied in many cases by pure phonological loss. The outline is clear even if many of the details remain to be worked out.

The other basic tense, labeled the past, also shows deep-lying correspondences of a significant nature. Typical of the past tense for both languages is a set of intransi-

obstruant final stems, and *-nt-α-tt-* for the sonorant final stems.<sup>9</sup> Kannada and CDr tend to the sole use of *-(i)t/d-* as the past-tense marker. Kurux and Malto (NDr) use a double marker with *-č-* (or *-j-*)  $\alpha$   $\emptyset$  in the first slot and *-k-α-y-α*  $\emptyset$  in the second. Significantly, Kurux and Malto show an alternation of the verb stem for a few verbs without the *-č-* which strongly resembles SDr and CDr past-tense markers; Kurux, *on-* 'drink', *on-d-k-an* 'I drank'; Literary Tamil, *uṇ-* 'eat, drink', *uṇ-ṭ-ēn* 'I ate'; Naiki, *un-* 'drink', *un-d-an* 'I drank'. Also, *-č-* is found in some CDr and SDr verbal forms, particularly the past verbal participle

TABLE 2  
SELECTED NONPAST PARADIGMS (TENSE MARKER AND PERSONAL ENDINGS)

PERSON, NUMBER, GENDER <sup>a</sup>	SOUTH DRAVIDIAN		CENTRAL DRAVIDIAN			NORTH DRAVIDIAN		PROTO- DRAVIDIAN	ELAMITE		
	OLD TAMIL NONPAST	LITERARY TAMIL FUTURE	KONDA NONPAST	KUI FUTURE	GONDI FUTURE	NAIKI FUTURE- PRESENT	KURUX FUTURE	KURUX (FEMALE) <sup>c</sup> PRESENT	NONPAST	AE "NON- PAST" <sup>h</sup>	ME "NON- PAST" <sup>i</sup>
1s	<i>-θ-ku</i>	<i>-pp-ēn</i>	<i>-n-a</i>	<i>-θ-i</i>	<i>-k-ā</i>	<i>-t-an</i>	<i>-o-n</i>	<i>-θ-en</i>	<i>-N-kə<sup>f</sup></i>	<i>-n-kə</i>	<i>-n-k</i>
1p <sub>ex</sub>	<i>-θ-kum<sup>b</sup></i>	<i>-pp-ōm</i>	<i>-n-ap</i>	<i>-n-amu</i>	<i>-k-ōm</i>	<i>-t-am</i>	<i>-o-m</i>	<i>-θ-em</i>	<i>-N-kum</i>	<i>-n-un</i>	
1p <sub>in</sub>	<i>-θ-tum<sup>b</sup></i>		<i>-n-aṭ</i>	<i>-n-asu</i>	<i>-k-aṭ</i>		<i>-o-t</i>	<i>-d-at</i>	<i>-N-(k/i) aṭ<sup>g</sup></i>		
2s	<i>-θ-ti</i>	<i>-pp-āy</i>	<i>-n-i (d)</i>	<i>-d-i</i>	<i>-k-i</i>	<i>-t-i</i>	<i>-o-y</i>	<i>-d-i</i>	<i>-N-ti</i>	<i>-n-ti</i>	<i>-n-t</i>
2p	<i>-θ-tir</i>	<i>-pp-ir</i>	<i>-n-ider</i>	<i>-d-eru</i>	<i>-k-iṭ</i>	<i>-t-ir</i>	<i>-o-r</i>	<i>-d-ay</i>	<i>-N-tir</i>	<i>(-n-ti ?)</i>	
3sm	<i>-m-aṇ</i>	<i>-pp-āṇ</i>	<i>-n-an</i>	<i>-n-an</i>	<i>-ān-ūr</i>	<i>-t-en</i>	<i>-o-s</i>	—	<i>-N-aṇr</i>	<i>-n-ra</i>	<i>-n-r</i>
3sn	<i>-um</i>	<i>-(kk) um</i>	<i>-n-ad</i>	<i>-n-e</i>	<i>-ār</i>	<i>-t-un<sup>c</sup></i>	<i>-o</i>	<i>-θ-i</i>	<i>-N-(atə)</i>		<i>-n</i>
3p <sub>mf</sub>	<i>-m-ar</i>	<i>-pp-ār</i>	<i>-n-ar</i>	<i>-n-eru</i>	<i>-ān-ir</i>	<i>-t-er</i>	<i>-o-r</i>	<i>-n-ay</i>	<i>-N-ar</i>	<i>-m-pə</i>	
3p <sub>n</sub>	<i>-θ-pa</i>	<i>-pp-ana</i>	<i>-n-e</i>	<i>-n-u</i>	<i>-ān-uṭ</i>	<i>-t-e<sup>d</sup></i>	<i>-o</i>	<i>-θ-i</i>	<i>-N-pa/av</i>		<i>-n-p</i>

<sup>a</sup> Abbreviations are as follows: 1, first person; 2, second person; 3, third person; s, singular; p, plural; ex, exclusive; in, inclusive; m, masculine; f, feminine; n, neuter, nonmasculine.

<sup>b</sup> Ambiguous as to which form is inclusive and which exclusive.

<sup>c</sup> Also *-len*.

<sup>d</sup> Also *-le*.

<sup>e</sup> Kurux has separate forms in some tenses for male and female speech.

<sup>f</sup> N = (u) m/n.

<sup>g</sup> Compare the first person plural ending in the Elamite past (see table 3).

<sup>h</sup> Hallock's (1959) Conjugation III.

<sup>i</sup> Reiner's (1969) "active participle"; any final vowels are not indicated in her transcription.

tive/transitive contrasts indicated by a change in conjugation class.<sup>7</sup> Furthermore, these conjugation classes need not extend to the nonpasts.

Following the analysis of Hallock (1959), AE clearly shows a contrast between transitive (and unmarked) pasts and intransitive pasts (Hallock's conjugations I and II). This contrast is not maintained in the nonpast. The Elamite past forms are given in table 3. Note that the AE forms have decayed considerably and that the ME forms are more basic. The marker *-ut* seems to have been an additional marker of the first person added to the regular ending; it is probably present in the Conjugation II ending *-ket*.<sup>8</sup> Note that the conjugation contrast is clearest in the third-person forms.

Unfortunately, there is no clear overview of the Dravidian past-tense formation. The Tamil-Kodagu group in SDr shows an elaborate and consistent alternation with *-t-* for a small group of (C)  $\check{V}C-$  stems, *-i(n)-* for the remaining

pronouns and is largely nominal; it has tended to replace the former throughout Dravidian and can certainly be reconstructed for PDr.

<sup>7</sup> In Dravidian, it is not clear whether the causative (i.e., transitive) markers led to the verb classes or vice versa. In Kannada and CDr languages without a contrast in verb class, causative endings are used instead, although often with remnants of older causative markers.

<sup>8</sup> Compare the *-ut* first person singular ending in Brahui (table 3). Also note the first person plural exclusive ending in *\*-aṭ* in PDr.

(Subrahmanyam 1971:221-24). Thus, the first-slot markers (*-č-* and the stem alternations) seem to be parallel with the past-tense markers found elsewhere in Dravidian. The second-slot marker (*-k-*, *-y-*,  $\emptyset$ , of which *-k-* is also used by a small group of verbs in Brahui) is not found outside NDr and seems to be different. This is significant because the only correspondences in the past-tense markers between Elamite and Dravidian involve these second-slot markers.

Of the NDr languages, Kurux (also called Kuḍux, Kurukḥ, and Oraon) has the best description. According to Hahn (1911), Kurux has four verb classes, which are present only in the past.<sup>10</sup> His classes 3 and 4 use the first-slot markers *-č-* and *-j-* along with the second-slot markers *-k-*  $\alpha$   $\emptyset$  to indicate the past. Of more interest are his classes 1 and 2, which have only the second-slot

<sup>9</sup> See Emeneau (1967) for a detailed description. This very strong SDr pattern has tended to be overly influential in historical Dravidian. There are some indications that this pattern was in part created in SDr and does not necessarily reflect the situation in PDr (see Subrahmanyam 1971:68-74).

<sup>10</sup> In spite of its age and old-fashioned format, Hahn's grammar has been most useful in this work. Although basically a better approach, Shankara Bhat (1970) does not provide the same evidence on the *-y-* past markers, either because of a difference in format and style of approach or because of a difference in dialect. This short work does not provide enough examples to check this point. A shortcoming of Shankara Bhat's article is the use of a single informant (male) for a language with marked differences in the verbal morphologies in male and female speech, without any caveat to the reader.

TABLE 3  
ELAMITE "PASTS" COMPARED WITH NORTH DRAVIDIAN PASTS

PERSON, NUMBER, GENDER <sup>a</sup>	AE <sup>b</sup>	ME <sup>c</sup>	AE <sup>b</sup>	ME <sup>c</sup>	KURUX (MALE)			BRAHUI
	TRANSITIVE CLASS I		INTRANSITIVE CLASS II		INTRANSITIVE CLASS I	TRANSITIVE CLASS 2	— CLASS 3/4 <sup>d</sup>	— g-PAST
1s	-∅	-h	-ket	-k-ka	-k-an	-k-an	-čk-an	-g-ut
1pex	}	}	}	}	-k-am	-k-am	-čk-am	}
1pin					-h-ut	-hu	-p-wut	
2s	-ta (?)	-ti (?)	-k-ta	-k-ti	-k-ay	-k-ay	-čk-ay	-g-us
2p	?	-ht ?	?	?	-k-ar	-k-ar	-čk-ar	-g-ure
3s (n)	}	}	}	}	-∅-a <sup>e</sup>	-y-a <sup>e</sup>	-č-a <sup>e</sup>	}
3s (m)					-š	-š	-k-ra	
3p	-š	-hši	-p	-k-pi	-∅-ar	-y-ar	-č-ar	-g-ur

<sup>a</sup> Abbreviations as in table 2.

<sup>b</sup> After Hallock (1959) with updating.

<sup>c</sup> After Labat (1951). The quality and existence of final vowels are uncertain. See also Reiner (1969).

<sup>d</sup> Class 4 has j instead of č.

<sup>e</sup> Actually a nonmale form; likely to be on a reduced stem.

markers. Class 1 uses *-k-* for the first and second persons and *∅* for the third person, while Class 2 uses *-k-* in the first two persons and *-y-* in the third (see table 3).

Dravidian languages commonly have a strong contrast between different degrees of causation in the forms of the verb.<sup>11</sup> In SDR and CDr this is realised only by increasing the degree of causation; i.e., an inherently intransitive verb becomes transitive while an inherently transitive verb becomes "causative" by the same process. Unlike the rest of the Dravidian languages, Kurux and Malto have an additional process of forming intransitives. In Kurux, from a basic transitive stem (*es<sup>?</sup>* 'break') both an intransitive (*es<sup>r?</sup>* 'be broken') and a causative (*estā<sup>?</sup>a-* 'have someone break') may be derived. The marked intransitives in *-r<sup>?</sup>* are always in Class 1.<sup>12</sup> When these NDr forms are compared with the Elamite past forms, several possible parallels develop. The Elamite transitive forms (Conjugation I) have the third-person marker *-š* and a class marker (at least for the plural) of *-h-*. Using the correspondences in Rules 10 and 20 in table 1, these Elamite forms fit with the Kurux transitives in Class 2 which have *-y-* in the third-person forms and *-k-* elsewhere. Unfortunately, the reflexes of Proto-Elamo-Dravidian (PED) *\*-k-* are among the most unpredictable. In both Elamite and Dravidian *\*-k-* is likely to disappear or weaken. Similarly, the Elamite intransitive forms (Conjugation II) which have *-k-* as the class marker and no special third-person forms seem to correspond to Kurux's Class 1, which is used with intransitive stems. It is still not certain exactly what this Elamite *-k-* corresponds to in Dravidian.<sup>13</sup> The Brahui forms give evidence of the use of *-g-* (< PED *\*k*) as a tense marker in all persons.

The straightforward morphological evidence for the correspondences in the pasts is admittedly weak.<sup>14</sup> Much

<sup>11</sup> "Causation" is used here for the general process which subsumes intransitive-to-transitive shifts. The derived transitive is only the first causative of an intransitive stem; i.e., 'to cause to be folded' equals 'to fold'. Some Dravidian languages, such as Malayalam, can have up to four degrees of causation expressed morphologically.

<sup>12</sup> Closely related Malto normally has *-gr-* with a variant *-r-* to mark the intransitive. It is still uncertain what the relationship, if any, is between this NDr intransitive *-r-* and the *-r-* used in CDr and SDR to add first- or second-person reference to the verb (see Emeneau 1945).

<sup>13</sup> Possibilities include the *-k-* tense marker in Kurux (or its geminate variation), the *-k-* intransitive marker, as in Malto's *-gr-*, or a combination of the two. Unfortunately, *\*-k-* varies in its reflexes in both Elamite and Dravidian and tends to disappear in many environments.

<sup>14</sup> The correspondences for the pasts are not put forward as primary evidence that Elamite and Dravidian are cognate. There is more than enough evidence for that elsewhere.

more significant are the parallel shifts in verb class corresponding to shifts in transitivity. This type of detail would not be expected if these forms were not closely cognate. In any case, a great deal more attention is going to have to be paid to NDr verb morphology in historical Dravidian.

It should be mentioned that some analyses of Elamite consider the intransitive forms and the nonpast forms to be constructed on verbal nouns.<sup>15</sup> If this is so, it would not be inconsistent with the evidence in Dravidian. In both Dravidian and Elamite the morphological contrast between noun and verb is weak. In both languages nouns may take the same personal endings as verbs and act as predicates. Some Dravidian verbal forms, such as the third person neuter singular in *-atə*, are clearly nominal in origin.

In addition to the normal verbs, AE has a set of forms with the particle *-ma-* inserted between the stem and the personal endings. Its purpose is clear only in the nonpast, where the forms with this *-ma-* have a durative aspect (commonly OP present time) while forms without it have a punctual aspect (commonly OP future time). Dravidian has a verb *man-* 'be, stay, endure' (Burrow and Emeneau 1960, no. 3914) which, significantly, functions as an auxiliary for the present in CDr Koya, Kui, and Kuvi, as opposed to the nonpast without the auxiliary, which functions as the future. Thus, AE and some CDr languages would seem to share their auxiliary systems. However, it is not certain if the systems are cognate or the results of independent innovation. The meaning of the verb would readily lend itself to such a contrast in aspect.

Other nonfinite verbals seem to correspond, but it is sometimes difficult to trace a single form through all the languages involved. Two forms demand special comment. The first is the so-called final form of AE, with *-ta* added to the finite form, which is certainly related to the neuter participial nouns in Dravidian formed by adding *\*-tə* to participles (in Literary Tamil, *cey-t-ēn* 'I did', *cey-t-a* 'done', *cey-t-a-tu* 'that which did'). The Dravidian neuter personal ending in *-atə* comes from this source (cf. Tamil *cey-t-atu* 'it did'). The second is the nonpast relative participle, which in PDr had the form *\*-um/un* (cf. Tamil *ceyy-um*), and the Elamite forms in *-n* used as nonpast participles. This form is equivalent to the nonpast finites without the personal endings and is identical with the neuter singular finite nonpast in both PDr and Elamite.

<sup>15</sup> See Labat (1951) and Reiner (1969). For my purposes, either approach is defensible and adequate. I have used Hallock's approach because he provides the most details of actual usages as opposed to theories of what the forms should mean.

The close correspondences in the nonpast forms, together with the phonological and lexical correspondences already demonstrated, prove beyond any reasonable doubt that Elamite and Dravidian are closely cognate. It is also possible to tentatively place Elamite in its relationship to the Dravidian family. There can be no more than one node, labeled Proto-Elamo-Dravidian, between all of Dravidian on one hand and all of Elamite on the other.<sup>16</sup>

This work is obviously ongoing and tentative in its details. I hope that the insights offered here will stimulate further work. This brief note has attempted to cover only one main point and directly related points; not all possible arguments and details have been included. I invite comments and suggestions.

## Abstract

This paper presents the correspondences in verbal morphologies to support the existing lexical and other morphological evidence (reported elsewhere) that the Dravidian language family is closely cognate with Elamite. It uses primarily Achaemenid Elamite, for which the most detail is available, and in particular the description of the verb given by R. T. Hallock. A great deal of use is made of *Dravidian Verb Morphology* by P. S. Subrahmanyam. For one of the two basic tenses in both Dravidian and Elamite, the nonpast, it is shown that there is an item-for-item correspondence in the verbal morphologies for all surviving forms. This is obvious only after a reinterpretation of Proto-Dravidian verbal morphology. For the other basic tense, it is shown that significant correspondences exist in spite of major changes. Also, parallel shifts in verb classes for an intransitive/transitive contrast are shown to be cognate. Other verbal forms, including the auxiliaries, are discussed.

## Comments

by M. B. EMENEAU

Berkeley, Calif., U.S.A. 12 VIII 74

The author compares Elamite and Dravidian verb morphology. As he says, his conclusions about correspondences are possible only after "a reinterpretation of Proto-Dravidian verbal morphology." It is unfortunate that he was unable to wait a little longer, since at present within Dravidian studies a great deal of work is being undertaken just along these lines. It can be expected that the doctrine about verb morphology that emerges from this intensive study will be in many respects very different from that in Subrahmanyam's work (and, a fortiori, in the older work by L. V. Ramaswami Aiyer). This being so, it is uncertain whether the results of the author's present paper will be as favorable to his general thesis as he hopes.

It is surprising that for the Kurux language there is so much reliance placed on Hahn's grammar when there is a much fuller one available, Grignard (1924). Admittedly, it would not have changed the picture much, but still there is some difference in detail.

It is surprising also that in the first paragraph McAlpin still thinks of the South Dravidian word for "horse," \**kutiray*,

<sup>16</sup> If Proto-Elamo-Dravidian should prove to be an independent family rather than part of a larger grouping, I would suggest *Zagrosian*, after the Zagros Mountains of southern Iran, as a term for the family.

as Proto-Dravidian and even as a loanword from Elamite into Dravidian. Apart from the semantic uncertainty, Burrow's (1972) paper on the primitive Dravidian word for the horse has clearly demonstrated the status of \**kutiray*, as, moreover, not even the oldest Tamil word for "horse." The Elamite-Dravidian etymology involving this word must be abandoned.

by WILLIAM H. JACOBSEN, JR.

Reno, Nev., U.S.A. 4 IX 74

McAlpin's two papers on the putative relationship of Elamite and Dravidian represent a thorough investigation in the face of desperately scanty attestation of the former. One can heartily agree with his hope that additional research will further clarify the situation. Clouston has also recently reminded us (CA 14:494-95), following Dyakonov (1967; see also his 1970 clarification), of the promising nature of this hypothesis; however, he was inaccurate in saying that Elamite died at much the same date as Sumerian: the latter was extinct before the decipherable documents in the former were written, and, interestingly enough, Elamite seems to have survived at least into the early 2d millennium A.D. (similarly McAlpin 1974: 90 n. 4). Clouston also points out that the hypothesis would be strengthened if the language of the Indus script should turn out to be Dravidian; the decipherment efforts of the Finnish team, in spite of ingenious methodology, seem to have foundered on comparative Dravidian data (cf. Burrow 1969). The relevance of the similarities that have been noted between the Proto-Elamite script and the Indus script is unclear.

These contributions remind us once again of our need for better-developed techniques for evaluating evidence for distant relationships. The criteria of Bender (1969), which I alluded to in a previous comment (CA 12:218-19), are inapplicable, as they presume that most of the items of a 100-word basic list are available for comparison, which is far from being the case in this instance. It is hard to judge whether the items compared are the most frequent or central for their meanings, but none of the lexical sets in McAlpin's first article seem to match according to Bender's "extended criteria," whereas perhaps three of them (13a, b, 'this, that'; 28, 'thou'; 49a, 'say') might meet his "weakened criteria." For the same reason, we could not, if we accept this relationship, estimate the time depth by means of glottochronology. There are perhaps six of those lexical comparisons wherein both items have a meaning found on the lists cited by Hymes in CA 1:6 (in addition to those just mentioned, 1, 'father'; 4, 'mother'; 27, 'day'), but the calculations cannot be adjusted to allow for the fraction of the full list that is available in the Elamite corpus.

As a step towards evaluation criteria, we also need procedures for succinctly characterizing evidence assembled in support of a given postulated relationship. I offer an attempt at summarizing the material in McAlpin's first article by a procedure similar to that used in Jacobsen (1958).

The present article states that 270 AE lexical items were available, and that 25% of them were shown to have good cognates with Dravidian items. This would be about 67 items, but the glossary of the first article lists only 57 comparative sets (two of them pairs of presumably related items). Also, it was stated then that about 300 good AE lexical items were available, which would make the proportion compared lower. More important, however, is the fact that the potential cognate sets were divided into three types: 35 prime correspondences, 13 of a secondary nature, and 9 doubtful ones. The basis for this distinction is not

explained, but clearly it rests primarily on the degree of semantic shift that must be assumed. The author seemingly does not put too much weight on the juxtapositions in the third group, as he does not list all the sound correspondences occurring in them, e.g., *nk:nk* (49b), *nk:kk* (54), *i:e* (52).

A policy of adhering to comparisons showing identical or closely similar sounds has been followed, which results in a set of plausible sound correspondences. The environmentally conditioned differential outcomes are mostly straightforward, such as intervocalic lenition. For cases where the conditioning does not seem convincing (perhaps 15a, 20a), setting up a few more proto-phonemes would still not make the inventory implausibly large.

On the other hand, the semantic plausibility of the comparisons is not always so strong, although certainly if the genetic relationship and the sound correspondences were otherwise established, most of them would be unblinkingly accepted. Plausible sound correspondences by themselves may not be enough to make up for these weaknesses. For example, words for 'father' and 'mother' are included in the prime group, which, as the author himself admits (p. 96 n. 19), are not probatory because of the well-known worldwide similarities. An example of an interesting semantic assumption, but an assumption nonetheless, is the comparison of E 'write' to Dr 'push, push forward, push in' (16). Other semantic shifts, also in the prime group, would relate, for example, E 'a high social class', 'gentlemen' to Dr 'head' (22), and E 'god' to Dr 'believe, trust, long for, confide in' (26). The doubtful group includes comparisons such as E 'king' to Dr 'star, dot' (54).

As a first step in summarizing this evidence, I have attempted to divide the comparative sets into three groups, scored as follows: 3, straightforward and distinctive semantic comparison, with several resemblant phonemes and recurrent sound correspondences; 2, plausible comparison, but with some assumptions, usually of semantic shifts; 1, weak but worth mentioning. Unfortunately I was not able to score any comparisons as 3, although others might well do so for a few items; the nearest to this is probably 27, 'day'. I scored 22 of the sets as 2: in the prime group, 2, 3, 5-8, 12, 14-18, 21, 25, 27, 28, 30, 31, 33; in the secondary group, 36, 40, 41. The other 35 sets were scored 1. In this summary I also included the other comparisons made in the article: words for 'one' (p. 97 n. 21) and seven suffixes mentioned on p. 100. The third-person ending was scored 2, and the rest of these 1; they yield further examples of consonantal sound correspondences.

Giving the sound correspondences in each lexical set this same score (rather than sometimes a lower one, as

in my earlier article), we can obtain a two-figure characterization for each correspondence: the number of times it occurs followed by the total of its scores. These are shown in my table 1, using the arrangement of the present article. Not only the number of occurrences is indicative, but also the ratio between the two figures, which might potentially range between 1,1 and 1,3. It will be seen, for example, that of the 45 separate correspondences recognized, 8 are backed up by only one weak set each, 3 others have only one set each, and 8 more appear only in weak sets (from two to six each).

Some of the correspondences distinguished actually have two members on one or the other side, without any stated conditioning environment. These could be divided into pairs of correspondences with correspondingly lower individual scores, as follows: (7) *e:e* 3,3; *i:e* 2,2; (15c) *t:t* 2,3; *t:t* 2,4; (16) *t:t* 2,2; *tt:tt* 1,1; (27) *nn:n* 1,1; *nn:nn* 1,2; (29a) *l:l* 4,4; *l:l* 2,2; (30) *ll:l* 1,1; *ll:ll* 1,2. The distinction between Dr single and geminate consonants in 27 and 30 is probably not significant, though; such fluctuations turn up in comparisons within Dr itself.

The author has entertained the possibility of loanwords between the two families, which may well have long been geographically contiguous. Besides the one example suggested, Dr 'horse' from AE 'bearer', some other sets seem to be candidates for this type of relationship, as their meanings have to do with economic or governmental affairs: (31) AE 'portion of herd paid to herdsman for his services' : Dr 'engage for hire, put down deposit'; (3) AE 'granary (?)', 'large building (?)' : Dr 'room, chamber, treasury'; (51) AE 'commander, admiral' : Dr 'conquer, overcome, succeed'.

That the relationship of the representatives of the two families being compared cannot be very close is seen from a priori considerations of chronology: Andronov (1963-64) has dated by glottochronology the split of Brahui from other Dr to the early 4th millennium B.C., whereas AE is attested from a circumscribed period around the middle of the 1st millennium B.C.

It is thus not obvious that the primarily lexical evidence of the first article has proven these families to be cognate; correspondingly, it is not obvious that under the conditions of attestation of Elamite, where so few words of a basic type are known, a moderately distant relationship would be provable. It is difficult to allow for the probabilities when the few Elamite items are matched with the 5,462 cognate sets offered by Burrow and Emeneau (1960, 1968).

Perhaps some additional results might be obtained if the author tried weakening his requirements for phonetic similarity while tightening those for semantic closeness.

Another potentially available way of strengthening the weight of certain comparisons would be if either or both families were to be shown to be related to yet others (e.g., Dravidian-Uralic), and the same items entered into these further comparisons (cf. Greenberg 1957:38-39).

Comparisons of paradigmatic sets such as the nonpast endings of table 2 or the nominal case endings presented on p. 100 of the first article are potentially strong evidence for a relationship; we must see whether the interesting reinterpretations stand up under the scrutiny of Dravidian specialists. In the meantime, we must be prepared to admit that some questions are simply not settled in the present state of our available data and methodology.

by F. B. J. KUIPER

Leiden, the Netherlands. 27 VIII 74

Without optimism, no material progress has ever been made. McAlpin is optimistic, but I think he is looking for

TABLE 1  
SCORING OF PROPOSED SOUND CORRESPONDENCES

1. 3,5.	15a. 2,4.	24. 9,14.
2. 3,3.	15b. 3,4.	25. 3,5.
3. 32,50.	15c. 4,7.	26a. 7,9.
4. 14,18.	16. 3,3.	26b. 2,2.
5. 16,20.	17. 2,4.	27. 2,3.
6. 3,3.	18a. 5,6.	28. 2,3.
7. 5,5.	18b. 3,3.	29a. 6,6.
8. 1,2.	19. 1,1.	29b. 1,2.
9. 0,0.	20a. 3,3.	30. 2,3.
10a. 6,7.	20b. 3,6.	31. 3,4.
10b. 1,1.	20c. 5,7.	32. 4,5.
11. 1,1.	21a. 3,4.	33. 1,1.
12. 1,1.	21b. 3,4.	34. 5,7.
13. 1,1.	22. 2,3.	35. 2,3.
14. 1,2.	23. 1,1.	36. 1,1.

a solution in a wrong direction. Rather than entering into the details of the Dravidian verb system, I would like to make some remarks on the general background. I must apologize for the involuntarily apodictic tone of this comment, which is only due to limitations of space.

For typological reasons it is a priori not very likely that Elamite is related to Dravidian. There are certainly some similarities, e.g., no phonemic contrast between voiced and unvoiced plosives, "nominal conjugation"—Elam. *sunkip-ut* 'kings-we (are)': Tamil *makan-ēn* 'the son-I (am)'—, and boundary markers after direct discourse. The basic rule of Dravidian syntax, however, viz., that the *determinans* (attributive adjunct) precedes the *determinatum*, does not apply to Elamite; cf. Elam. *tup-pi hi* 'inscription-this' versus Tamil *i-kkalam* 'this-time', Elam. *taš-šu-íp mā-da-be* 'troop-s Median-s (the Median troops)' is as un-Dravidian as can be. Elamite has subordinate clauses introduced by conjunctions, relative pronouns, and even a special type of conjugation used in relative clauses. The Dravidian equivalent of the latter is an attributive construction such as Tamil *nān vānkiya vītu* 'I-bought house (the house I have bought)'. The verb system of Elamite has a reduplicated class, while its noun inflection has both cases (e.g., the "superessive") and endings (accusative in *-r*, ablative in *-mar*, locative in *-ma*) unknown in Dravidian. The (very few!) "morphological correspondences in nouns and pronouns" are, I am afraid, a mirage: Elamite nouns in *-me* seem to be derivatives from nouns (*sunki-me* 'kingship, kingdom': *sunki* 'king'), while Tamil nouns in *-mai* are almost exclusively derived from attributive stems (despite *irai-mai* 'kingly superiority': *irai* 'king, supreme god!') As for Elam. *nu* 'thou', *nu-mi* 'you', they cannot be connected with Tamil *nī:nīr*, since there is in Dravidian no "variation" *i/u* (McAlpin 1974:97 n.25): for *(n)un-*, *(n)um-* (an innovation of Tamil, not even found in Malayalam) see Zvelebil (1961:67) and Govindankutty (1972:58). None of the items of the comparative word lists (McAlpin 1974) are convincing proof. Some of the phonetic laws based upon them are even intrinsically improbable (*\*turn-*) South Drav. *un-*, Elam. *-nr-*: Drav. *-nr-* (= *-nnt-*!).

When considered against this background, the question is whether the two verbal systems provide the lacking evidence. I cannot see that they do; e.g., the reconstructed Proto-Dravidian non-past *\*-N-kə*, etc., is not supported by the evidence. I do hope McAlpin will not give up his efforts, but Elamite has little chance of providing the solution.

by HERBERT H. PAPER

*Ann Arbor, Mich., U.S.A. 13 VIII 74*

McAlpin's paper was communicated to me when he first wrote it, and I was present when he delivered an oral version of it in midsummer 1973, during the Linguistic Institute at The University of Michigan. I can only repeat now what I said then: that McAlpin has mustered the best and most convincing evidence ever brought forth in confirmation of the hypothesis that Elamite is related to the Dravidian languages. His article in *Language* (1974) provides the lexical comparisons; this CA piece summarizes the sound-correspondences and comparison of specifics in the verb morphologies. I feel that this is very sound evidence and confirms what several scholars had suggested in the past, but never so clearly or with such specific proof. It is to McAlpin's credit that he has marshalled the data systematically.

The case of Elamite as Dravidian is an excellent example of the way in which large new opportunities for research open up as a result of the demonstration of a genetic relationship of languages. Perhaps attention can now be turned more searchingly to examination of nonlinguistic

evidence of contact between the Indian subcontinent and lower Mesopotamia. It will also be interesting to see how the process of picking up clues from Dravidian linguistics—admittedly with difficulty from reconstructed proto-Dravidian—will possibly shed light on some of the many specific conundrums in Elamite.

by ERICA REINER

*Chicago, Ill., U.S.A. 30 VIII 74*

I will confine myself to a couple of points, first, on methodology, then, of detail. The author's claim that Elamite and Dravidian are cognates still remains to be proven. Similarities as few in number as those noted so far for Elamite and Dravidian are common in many pairs of languages, which may or may not be genetically related. Any reader familiar with languages can easily find illustrations for himself. For instance, Semitic, a language that McAlpin does not claim to be cognate with Proto-Elamo-Dravidian, agrees with Elamite in having a second person marker */t/*; it has a past and a nonpast tense; nouns may take the same personal endings as verbs and act as verbs (i.e., serve as predicates); etc.

A methodological deficiency is the comparison of Dravidian forms with Achaemenid Elamite (AE) rather than with Middle Elamite (ME), since AE is not only "at least 600 years" later, but also "heavily influenced by OP vocabulary and often . . . a calque on OP syntax." A further methodological shortcoming is the use of controversial data, such as the AE verb paradigms from Hallock (1959), which are disputed by Reiner (1969). I have shown that there is only one "conjugation" in Elamite (the one that appears in table 3 under "Transitive Class I, ME"). The "nonpast" and the "past Intransitive Class II" (tables 2 and 3) are nominal forms inflecting for categories of a different nature, as is evident from the blanks in the rows for 1p and 2p in ME, i.e., from the lack of non-3p in the paradigm. These blanks also indicate that the so-called Conjugations II and III have no antecedents in the history of Elamite, and indeed McAlpin does not attempt to reconstruct a Proto-Elamite paradigm which would be comparable to his hypothetical Proto-Dravidian. For the verbal paradigm of Elamite which is attested in both ME and AE (table 3, Transitive Class I), and thus could be projected into Proto-Elamite, "the morphological evidence," by the author's own admission, "is weak."

In matters of detail, it needs to be pointed out, first, that the markers *-ut* and *-ket* of the AE paradigm of the past, and the marker *-un* of the nonpast, for which neat Dravidian correspondences are adduced, are based on a wrong segmentation of AE forms (see Reiner 1969:81–82). Secondly, the absence of Proto-Dravidian reconstructed *-k* endings in Elamite cannot be taken lightly, because it is not true for Elamite that "*\*-k* is likely to disappear or weaken."

by ROMAN STOPA

*Kraków, Poland. 25 VIII 74*

Considering the relationship of Elamite and Dravidian from the point of view of monogenesis, one must obviously agree with McAlpin's thesis. I only wish that he had placed the two linguistic groups compared on the structural evolutionary scale—(1) isolating, (2) agglutinative, (3) preflexional, and (4) inflectional. The term "isolating" is in the main covered by the term "primitive," the features of which I have attempted to define elsewhere. Therefore I should like to see if features of the isolating type are found, for

example, in Dravidian. Inklusivum: Exklusivum and grammatical gender can be found in Elamite. It is possible that the scant material of Elamite does not permit statements as to degree of evolution. At any rate, the examination of the two language groups in this respect would strengthen the author's good argumentation. After having supplemented in this way the question of genetic relationship, we may ask if there is any accidental relationship (typological, substratum, by contact) between the two language groups.

As to my monogenetic attitude, I would point to my book *Structure of Bushman and Its Traces in Indo-European* (1972), in which I have tried to show that all languages are cognate because they derive from the same Bushmanoid (i.e., Pygmy, Bushman, and Boskop) source. My views are supported by recent discoveries in the domain of Eurasian linguistics. Dolgopolski (1973), carrying on the comparative-linguistic work of Illicz-Switycz, presents evidence that almost all Asiatic (amongst them Dravidian and probably Elamite) languages belonged in Mesolithic times to the same Boreal language group. My original linguistic unit dates to the Upper Paleolithic and comprises African languages as well. I have compared a Common Australian word list with Bushmanoid words and found striking similarities in 70% of Proto-Australian words.

by FRANÇOIS VALLAT

Paris, France. 30 VIII 74

In his comparison of it with the Dravidian languages, McAlpin uses for Elamite only the literature of the Achaemenid period, almost totally neglecting the Middle Elamite corpus available since the publication of König (1965).

Now, in the Achaemenid inscriptions, the system of the language suffers from the interference of Old Persian vocabulary and especially Indo-European syntax. The interplay of suffixes (of person and gender) that was characteristic of the language now no longer occurs.

This strange choice leads McAlpin to base his grammatical description on the analysis of Hallock, dating from 1959, referring only incidentally to Reiner's (1969) "The Elamite Language," though it is ten years more recent, and completely ignoring the latest work of Grilhot (1970, 1973).

Thus, the "past"-"nonpast" opposition (tables 2 and 3) is indicated in Elamite by the nominal conjugation of the verb (-k + suffixes of gender for the "past" and -n + suffixes of gender for the "nonpast") rather than by employing the verbal conjugation for the "past" and one of the nominal conjugations for the "nonpast." The verbal conjugation apparently has no temporal aspect.

This comparison draws on Elamite sources from a stage of the language with too many late and foreign features to serve as a valid basis. It is difficult, under these circumstances, to accept a genetic relationship between Elamite and the Dravidian languages.

by ROGER W. WESCOTT

Madison, N.J., U.S.A. 6 VIII 74

McAlpin's thesis is of such importance to phyletic linguists that they will probably regret their lack of access to the presumably abundant lexical material contained in his article in *Language* (McAlpin 1974). Most of us will reluctantly grant that it would be wasteful to duplicate this material in two (roughly) contemporaneous articles. Yet I, for one, would have liked to see him treat, here in CA, a small, self-contained set of lexemes, such as personal pronouns.

To linguistic monogeneticists, of whom I am one, the question about any two languages is not whether they are

related, but only how closely.<sup>1</sup> McAlpin's lexical statistics suggest that the glottochronological time-depth separating written Elamite from written Dravidian is only about two millennia, so that the two were probably no more distant from one another than modern English is from modern Swedish. This conclusion seems consonant with the verb affix correspondences he cites in table 2.

If one accepts recent work by Tyler (1968) and me (Wescott 1974), indicating that Dravidian is cognate with Uralic in the first case and Uralic with Indo-European in the second, it further follows that Elamite is ultimately cognate with Indo-European, at a probable time-depth of ten to fifteen millennia.

At any rate, even a casual inspection of McAlpin's "Zagrosian," or Elamo-Dravidian, morphemes suggests Indo-European parallels—which, from a monogenetic standpoint, are probable cognates. Among these are Proto-Dravidian \**man-* 'to remain' (cf. Proto-Indo-European \**men-* 'to remain') and the North Dravidian intransitive verb suffix -*r-* (cf. the Proto-Indo-European passive verb suffix -*r-*). Even the patterns of consonant alternation show parallels. Examples are Zagrosian *k/θ*, whose Indo-European reflex is preserved in such English word-pairs as *hear* ~ *ear*, and Achaemenid Elamite *m/v*, whose Indo-European equivalent appears in the Sanskrit adjectival suffix -*mant* ~ -*vant*.

Overall, I find McAlpin's work exciting and persuasive, though my wholehearted endorsement of it must await the appearance of larger numbers of cognate base-forms.

## Reply

by DAVID W. MCALPIN

Philadelphia, Pa., U.S.A. 1 x 74

Except for the initial stages, this work on Elamite and Dravidian was done without ready access to a large research library. As a result, there were often references which could not be followed up immediately, and the references themselves were often difficult to obtain. During the writing of the final draft of this paper, when I would normally have carefully rechecked the literature, I was in South India with no resources except my own notes. I agree with all the commentators that I should have consulted the various articles mentioned; in all cases it was simply not possible.

By training I am a Dravidianist and a linguist; very much aware of the horrendous errors that non-Dravidianists have made using Dravidian materials (cf. the Scandinavians and the Indus Valley script), I have tried to be very cautious with Elamite materials. Largely by the accident of discovery, I began with Hallock's work on AE, and only later expanded my sources to ME. This is a defensible approach, but my earlier work is slanted toward AE materials. It soon became clear that there are at least two major schools of thought on Elamite: one, primarily European and working with ME, which accepts the views on verb morphology put forth by Labat (1951), and another, primarily American and working more with AE, which does not accept these views. Reiner and Vallat represent the former, Paper and Hallock the latter. While Hallock's work on the Elamite verb is not well-formed and his terminology rather unfortunate, he gives the forms, their formation, and enough examples of actual verb usage to convey some idea of the AE verb. Till recently I have not found this to be the case in the

<sup>1</sup>The most systematic recent exposition of the monogenetic hypothesis is that of Swadesh (1971).



articles published by representatives of the European school. Since they are usually Assyriologists, and I know nothing of this field, I have not felt comfortable with their descriptions or terminology. In particular, I have found their contrast between “nominal” and “verbal” conjugations a very unconvincing one. That certain forms of the verb probably originated as participial constructions (I strongly suspect that they are correct on this point) does not necessarily mean anything about its function. If the syntax is that of a verb, it is a verb, whatever its origin. Too many verbal forms in Dravidian derive from participial nouns or have a form identical or nearly identical with a participial noun for me to consider such a structure unusual.

After repeated unsuccessful attempts to locate Grillot 1970 during the past 18 months, I recently located a copy. (I still have not located Grillot 1973.) I am impressed with her work and tend to find it convincing. However, Hallock (1973) has reservations on her basic thesis. While working in the European tradition, she tries to assimilate all approaches (including Hallock's). Her analysis of ME Conjugation I (“verbal conjugation”) as indicating primarily a completive aspect to which an explicit past-time mark *-t* may be added possibly provides the missing key to the PDr past.

Vallat is correct in saying that AE syntax is hopeless. However, this does not necessarily hold true for the morphology. While AE verb morphology is late and less clear than ME, it is an internally functional system. The AE materials have the very real advantage that they are in large part bilingual and allow us access to the meaning of Elamite words and the value of writing system. They have great value in comparative work in these two areas. The basic manuscript of Reiner (1969) was submitted in early 1960 and is not substantially later than Hallock's work.

It is fair to say that where Reiner disagrees with Hallock, Hallock disagrees with Reiner (see Hallock 1973 for his views relating to some of the points she raises here). More recent work with ME provides more evidence for Rule 10b: ME *hat(i)* ‘fury; curse’: SDr *\*akatu* ‘wickedness; blame’ (Burrow and Emeneau 1960: no. 5); ME *hal* ‘land, ground, soil’, *halat* ‘mud brick’, AE *hal* ‘town’, *halat* ‘clay’: PDr *\*akal-* ‘to spread, widen’, cf. Tamil *akalam* ‘width, extent, expanse’ (Burrow and Emeneau 1960: no. 9).

Kuiper's very insightful comments suffer from one major flaw: his information on Elamite is based exclusively on AE materials. AE syntax is hopelessly swamped with Old Persian. Such things as “relative pronouns” and “subordinate conjunctions” come from OP; they are not found in ME (cf. Vallat's comment). It is true that Elamite has the modifier following the modified and that Dravidian almost always has the reverse order. However, ME gives a somewhat different view. One of the most striking points of ME syntax is the indication of person/gender on every word in a given clause (see Reiner 1969:99–101). A noun phrase in ME appears to be a string of nouns in apposition. I suspect that this is the origin of this construction. There are exceptions to the modifier-modified ordering in Dravidian. With numerals there is commonly an option of preceding the noun with an attributive form or following it with a nominal form. Also, in general, modifiers as a class are a recent development in Dravidian; the appearance and development of adjectives (as distinct from compound nouns and participles) can be observed historically in Tamil. Thus, both languages have an inheritance of nouns in apposition as a major (if not the only) means of qualifying. Given this, the problem of the ordering of modifier and modified is not nearly as great as it would at first appear.

Dravidian does have a small group of verbs which reduplicate the verb root (e.g., Tamil *pori-* ‘be parched’,

*poruporu-* ‘crumble from too much frying’). These verbs are not productive. However, reduplication of basic verb forms is very common (e.g., Tamil *enni* ‘having thought’, *enni enni* ‘having reflected’; *ketka* ‘to listen’, *ketka ketka* ‘to listen/overhear for a period of time [eavesdrop]’).

The Elamite accusative in *-r* is limited to AE (which seems to have some *-n/-r* confusion); ME has *-n*. The ablative in most Dravidian languages is an obvious construct of late origin; the locatives are only slightly less so. It would be very surprising if PDr and Elamite shared these endings. In Old Tamil, the oldest attested Dravidian language, there is very little difference in basic morphology between nouns and verbs. It is often very difficult to say whether a given root is basically a noun with derived verb or vice versa. In later Tamil, nouns in *-mai* are a regular derivation of verb stems; whether this restriction is true of the earlier language is open to question. Certainly there are a sizable number of noun-derived words in *-mai*, such as *orumai* ‘oneness’ from *oru* ‘one’ and *peṇmai* ‘womanliness’ from *peṇ* ‘female’.

I was mistaken in suggesting a *u* in the PDr forms for the second person pronouns, although this does occur sporadically in the plural forms (cf. Brahui). The true situation is now clear. The vowels *\*i* and *\*u* often fall together in Elamite and usually appear as *u* in ME and as *i* in AE (AE *nu* does not follow this general trend): ME *туру-*, AE *tiri-* ‘speak’: PDr *\*tūru-* ‘slander, cite, praise’ (no. 2793); ME *cukka-*, AE *cikka-* ‘to put in order’: SDr *\*cokacu/cokku* ‘refinement, purity’ (no. 2320); ME *pukti*, AE *pikti* ‘help’: SDr *\*puk-* ‘reach (safety),’ cf. Tamil *pukal* ‘refuge, help’ (no. 3481); ME *hute-* ‘distribute’, AE *iddu-* ‘issue’: NDr *\*itt-* ‘distribute, dole out’ (no. 391). (All numbers refer to entries in Burrow and Emeneau 1960, 1968.) This discovery considerably expanded the number of lexical correspondences. I was too restrictive in the original work with AE. In any case, older ME has *ni* ‘thou’, which should settle this question.

On the question of phonetic probability, PED *\*t* commonly patterns with PED *\*š*, which regularly corresponds to *θ* in PDr. One lexical set supports this confusion: ME *šuhi* ‘animals?’: PDr *\*ū* (no. 626) and *\*tū* (no. 2775) ‘flesh, meat’. The cluster *rn* becoming *ṛ* is the phonetically most expected simplification (cf. Swedish). While there can be no doubt that PDr *\*r* patterns as an alveolar stop and is such in the deep phonology of PDr, there is still much question as to its actual pronunciation, whether as a stop or as a tap or trill. In any case, it undoubtedly has a tendency to become a tap when not geminate. Thus, its correspondence to Elamite *r* after *n* is not that improbable.

As Emeneau implies, Subrahmanyam's book summarizes two generations of work and is an obvious starting point for much-needed new work. Hahn was used because it was available. There is no difference with respect to the problem at hand between Hahn and Grignard. Hahn, being quite old-fashioned, presents the data as paradigms, which makes for quick reference. Burrow's (1972) paper was difficult for me to locate, although from other sources I knew its main point. There can be little doubt that the original PDr word for ‘horse’ has the reflexes Brahui *hullī* and Tamil *ivulī* that he suggests. However, his rejection of *kutiray* is too abrupt. To consider it as a SDr innovation runs into two difficulties. First, the connection between *kuti-* and *kutiray* is not as certain as he implies (cf. Burrow and Emeneau 1960: nos. 1419, 1423). More important, derivations in SDr take a limited number of formatives, which are often predictable; *-ray* is not a formative found elsewhere in SDr, while it is *exactly* what would result if Elamite *-ra* were to be borrowed into SDr (directly or

indirectly). If *kutiray* were a loanword into PDr, it would have to mean 'domesticated/working horse' or the like. If a loanword into SDr alone, it would presumably be through an intermediary. In short, the status of *kutiray* as a loanword is still not settled. For the views of another Dravidianist, see Zvelebil (1974).

Jacobsen's comments and handling of the data are very interesting. The space limitations in McAlpin (1974) did not allow me to explain fully the semantic connections that I saw. Looking back at this now somewhat dated work, I would tend to agree with his evaluations, quibbling only on a few details. Further work with ME has doubled the corpus of lexical pairs. Except for Set 40, which should be deleted, this work has confirmed the earlier connections and often clarified the semantics. A fair number of correspondences would now fit his Group 3.

I have serious reservations about the validity of glottochronology. I violently disagree with the results of Andronov's application of it to Dravidian. Work that has been published since he wrote this article (see Krishnamurti 1969) completely invalidates his conclusions, except for the date of the Tamil-Malayalam split, which we knew anyway. Glottochronology does not work for Dravidian in general for two reasons: (1) All NDr and many CDr languages are swamped with Indo-Aryan (or Iranian) loanwords and structures. A number of them have no monolingual speakers. The fixed rate of replacement in glottochronology does not hold for situations of cultural and linguistic dissolution. (2) The major SDr languages and Telugu from CDr have borrowed among themselves (or more subtly influenced one another) to the degree that it is sometimes impossible to say where a term originated. This is indicated by the fact that Andronov handled Telugu as SDr (a common belief at the time) when it is in fact CDr. Andronov's article has absolutely nothing to say about the dating of the breakup of PDr. This is still very much an open question. While not relecting badly on Andronov as a Dravidianist, this article shows many of the weaknesses of glottochronology.

Jacobsen's methodology is basically sound and undoubtedly useful, but I find it not completely satisfactory because it overlooks two major considerations of historical phonology. First, we are dealing with a phonology—a system, not a collection of random tokens. It means a great deal to me as a phonologist that similar phonemes pattern similarly (for example, Rules 13 and 19, and Rules 17 and 28). While my work is not presented in that format (which is neither compact nor easily scannable), the concepts and conventions of feature phonology very much underlie it. It provides guidelines and rigor which keep it from being a random search with ad hoc conclusions. The further work using ME sources has confirmed the basic validity of this approach. The new lexical data fit the basic phonological pattern with only minor readjustments. Second, the phonological correspondences given in table 1 interlock in the lexical pairs. In the word roots, initial (C)VC(V), this interlocking is rigorous for Groups 1 and 2. For historical phonology, this is basic. It makes the correspondences predictable. To be able to take a new word in one language, apply the correspondences, come up with a form, and then find it in the second language with a proper meaning supplies conviction. To be able to set up a set of phonological correspondences which interlock in lexical sets, these sets being above the random level (which is very low; 10% is quite safe) for the corpus and having some sort of reasonable semantic correspondences, is in itself prima facie evidence that the languages are cognate. If Jacobsen can expand his methods to include a measure of the phonological system, it would be a very powerful tool for working with difficult languages. In any case, it

is a useful technique for handling the data.

Given my views on glottochronology, I am not about to follow Wescott in putting dates on the separation of Elamite and Dravidian. Part of the evidence (the verb morphology) would argue later, other parts (the ordering of modifiers) earlier. I would go so far as to say that the separation of Elamite and Dravidian seems to be of the same order of magnitude as that of English and Swedish. However, any such dating attempts are really premature. It should always be kept in mind that we are working only with Middle Elamite. There are still Old Elamite (a single text) and Proto-Elamite in the background.

I do not accept Tyler (1968) as necessarily proving anything. However, recent work by Marlow (1974) gives considerable data which indicate that Uralic is cognate with Dravidian. cursory checks with her data have indicated the expected Uralic-Elamite connection.

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