bilingual at Karatepe in 1947, published in stages by Helmut Bossert, promised to revolutionize study of the hieroglyphs, but it was not until the mid-seventies that David Hawkins, Anna Morpurgo Davies, and Günter Neumann, building on work of Bossert, could demonstrate that the phonetic readings of a number of basic signs required radical revision. The major reassessment demanded by these changes confirmed the early claim of Meriggi that the language of the hieroglyphs is a form of Luvian, and indeed one very closely related to CLuvian.

The multiple ambiguities of the HLuvian syllabary mean that analysis of Luvian phonology is based primarily on CLuvian data. In compensation, the much more varied content of the HLuvian texts tends to give a broader picture of Luvian morphology.

3. PHONOLOGY

3.1 Consonants

The Luvian phonemic inventory consists of at least the following consonants:

(1) Luwian consonantal phonemes

p	t		k	
b	d		g	
	ts			
	s			ħ
				ʕ
m	n			
	l	r		
w		y		

The absence of positive evidence for a unitary labiovelar /k^{w}/ as in Hittite may be accidental, and words like *ku-i-* "who, which" from *$k^{w}i$- may still contain /k^{w}/. It is certain that there is no corresponding voiced stop, because inherited *g^{w} merges with *w: recall /wawī-/ "cow" from *$g^{w}ow$- above. As already noted, the orthography of stops in CLuvian follows the same principles as in Hittite (intervocalic contrast of simple vs. geminate; see Ch. 2, §3.1), although the specific distribution diverges due to different prehistoric changes. Interpretation of this orthography remains controversial. HLuvian obviously can render no assistance, but the restriction of rhotacism (see below) to the voiced dental stop confirms that some kind of phonemic contrast remained between inherited voiceless and voiced stops, whatever its precise synchronic realization.

The sound conventionally transliterated *z* represents sequences of /t/ + /s/, as well as the result of prehistoric assibilation of *t before *y and Proto-Indo-European palatal *$\hat{k}$ (for the last see Melchert 1987 and 1989). While there is no reason to assume more than one synchronic phoneme, it is quite possible that /ts/ includes a palatal or palatalized allophone. Despite the hesitation of Melchert (1994a:274), there is good reason to suspect that graphic *z* also in some cases represents a voiced dental fricative /z/ (cf. the same possibility for Lycian *z*). The transliteration of the voiceless coronal sibilant as *š* in CLuvian is merely conventional, as in Hittite, and there is no reason to suppose that the sound is anything other than a dental-alveolar /s/. As in the case of Hittite and Palaic, the characterization of the sounds spelled -*ḫḫ*- and -*ḫ*- in CLuvian as pharyngeals is by no means assured, and velar fricatives /x/ and /γ/ are quite viable alternatives.

3.1.1 Diachronic variation

Two diachronic developments affecting Luvian consonants are worthy of mention. The first is *Čop's Law*, by which a prehistoric sequence $^{*}\check{e}.C_1$ becomes Luvian $aC_1.C_1$: for example, $^{*}n\check{e}\,b(^{h})es-$ > CLuvian *tappaš-* "heaven"; $^{*}n\check{e}lid-$ > CLuvian *mallit-* "honey" (see Čop 1970 and Melchert 1994b:305 for further details). The second is *rhotacism*, a sporadic change by which *d*, *l*, and rarely *n* become *r* in HLuvian: for example, HLuvian /īri/ beside /īdi/ "goes," /wara-/ beside /wala-/ "die" (see Morpurgo Davies 1982–1983 for details).

3.2 Vowels

Luvian has only three vowels, /a/, /i/, and /u/, in contrasting short and long varieties. While there are some underlying long vowels, most phonetic length is due to synchronic rules which lengthen underlying short vowels under the accent: contrast sentence-initial conjunction *pā* < /pá/ versus enclitic *-pa* < /-pa/, or adverb *ānnan* "under" < /ánnan/ versus *annān pātanza* "under the feet" < /annán/ with accent shift in a prepositional phrase (see Melchert 1994a:247 for further discussion). There are clearly falling diphthongs /a:y/ and /a:w/. Corresponding short /ay/ and /aw/ are likely, but difficult to prove.

Certain facts about the placement of the accent may be inferred from the prehistoric and synchronic rules cited in the preceding two paragraphs, but the evidence is limited, and the risk of circularity of argument is high.

3.3 Synchronic variation

In addition to the vowel-lengthening rules referred to above, synchronic rules include the loss of word-final /-d/ in certain noun paradigms and the insertion of /-s/ between dental stops (*aztūwari* "you (pl.) eat" < /ad-tuwari/), the latter rule inherited from Proto-Indo-European.

3.4 Phonotaxis

Phonotactic restrictions apply chiefly to initial and final consonants. Only /s/, /l/, /r/, and /n/ appear word-finally, with /-(n)ts/ the only final cluster. All consonants appear regularly word-initially except /r/, for which HLuvian shows a single example. For the possibility that only voiceless obstruents appear word-initially see Melchert 1994a:18ff. The very limited evidence regarding consonant clusters is summarized by Melchert 1994a:248ff. Vowels occur freely in all positions. There are no assured cases of hiatus.

4. MORPHOLOGY

4.1 Nominal morphology

Luvian is a typical older Indo-European language with a well-developed, almost exclusively suffixing derivational and inflectional morphology. The noun inflects for two numbers, singular and plural. Some animate nouns have a collective beside a count plural: *dušduma* "(set of) vouchers" beside unattested **dušduminzi* "vouchers" to *dušduma/i-*. Reference to more than one collective set requires a special "individualizing" suffix *-ant-*: for example, /tawa/ (collective plural) "eyes" (of one person), but /tawanta/ "sets of eyes." There are