the Mittani Letter makes full use of the given oppositions (te/ti, še/ši, me/mi, en/in, el/il). Long vowels are rendered by plene-spelling (e.g., še-e-, ta-a-). The two vowel signs u and u are strictly distinguished in the Mittani Letter and in some texts from Hattuša, indicating a phonemic distinction of l0 versus l1.

The syllabary of the Mittani Letter does not distinguish (at least in some cases) between voiced and voiceless stops, but utilizes one Akkadian sign out of a pair -pa, not ba; ta, not da; du, not tu; and so forth. In two instances, the script of the Mittani Letter redefines a pair of Akkadian signs: gi and ki encode a difference no longer in consonantal voicing, but in vowel quality -gi is used for /Ke/ and ki for /Ki/. Correspondingly, gu represents /Ku/ and ku /Ko/.

The sign *wa* can be used for a labiodental fricative plus any vowel; in texts from Hattuša a small vowel sign is added in order to facilitate the correct reading.

Going a step beyond Akkadian practice, Hurrian scribes repeated a vowel sign in word-initial position before a single consonant in order to represent a long vowel: for example, *u-u-mi-i-ni* for $\bar{o}m\bar{t}ni$.

2.2 Alphabetic cuneiform

Some of the texts from Ugarit are written in the Ugaritic cuneiform consonantal (so-called alphabetic) script, presumably by Ugaritic-speaking scribes. These yield important evidence for the phonology and phonetics of Hurrian, as the consonantal script encodes differences in consonants which are obscured by the syllabic script.

3. PHONOLOGY

3.1 Consonants

Since Hurrian was written with scripts which were designed for other languages, it is difficult – to a degree even impossible – to establish the phonemic inventory of Hurrian. In writing Hurrian words and names, non-Hurrian scribes in Babylonia and Ugarit distinguish between voiced and voiceless consonants in keeping with their own native phonologies. However, the distribution of voiced and voiceless consonants in Hurrian follows a strictly positional pattern – in other words, is allophonic. Obstruents are always perceived as voiceless (i) in word-initial position; (ii) in intervocalic position when long (doubled); and (iii) in contact with another consonant except the sonorants /m/, /n/, /l/, and /r/. Conversely, obstruents are voiced in all other positions: (i) when word-final; (ii) in intervocalic position when short (single); and (iii) in contact with /m/, /n/, /l/, and /r/. The resulting consonantal inventory would then appear to be as follows, with capital letters used noncommittally ("archiphonemically") to transcribe the obstruents displaying allophonic voicing:

(1) Hurrian consonantal phonemes

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The affricate /ts/ (transcribed as c) is uncertain. Though voicing is not phonemic, it is by convention (following E. A. Speiser and I. M. Diakonoff) marked in (bound) transcriptions in order to facilitate research on loanwords into and from Hurrian (p:b, t:d, k:g, f:v, s:z, s:z, b:g). Note that also according to convention, the so-called broad transcription (transliteration) of syllabic cuneiform uses single bars (-) to separate syllabic symbols, whereas the morphemic transcription uses double bars (=).

3.1.1 Obstruents

Since the inventory of (1) is certainly too small, we have to assume that there were two or more sets of obstruents with different phonemic manners of articulation which remain unknown.

The fricative /F/ appears to be a labiodental, as the Mittani Letter distinguishes /F/ and bilabial /w/, the first one written with the sign wa, the second one with u. The phonetic realization of /S/ and /Š/ is unknown; the latter is rendered as an interdental fricative – [v] or [v], depending on position – by Ugaritic scribes.

The texts from Hattuša often replace /P/ by a fricative, apparently in all positions. Whether this fricative is identical with the /F/ of the Mittani Letter or different (bilabial) is unknown.

3.1.2 Sonorants

The bilabial glide /w/ appears in word-internal and final position; in word-initial position it seems to be restricted to loanwords and foreign names. There is also a glide /y/ which, however, is rendered as i, \bar{i} in modern transcription, as the writing system in many cases is ambiguous.

3.2 Vowels

The Mittani Letter distinguishes five phonemic vowels -/a/, /e/, /i/, /o/, /u/ — with two quantities each. Only the Mittani Letter carefully marks vowel length. The texts from Hattuša show an instability of the opposition /e/: /i/.

The existence of diphthongs is uncertain. At least some sequences of vowels (e.g., the suffix -ae, see §4.4.9, instrumental) can be shown as bisyllabic, and may be even divided by a glottal stop.

3.3 Phonotaxis

The practice of syllabic cuneiform orthography prohibits the unambiguous representation of biconsonantal clusters in word-initial or final position, and of triconsonantal clusters in word-internal position. There are no hints that such clusters actually exist in Hurrian; moreover, the appearance of anaptyctic vowels suggests that in this respect the script conforms to the language.

The liquids /l/ and /r/ do not appear in word-initial position.

In the language of the Mittani Letter, strict constraints govern final position: vowels or /n/ occur in most cases; the consonants /Š/, /w/, and /F/ or /P/ are limited to one suffix each. In Old Hurrian – especially in the case of divine and place names – /T/, /K/, / $\frac{1}{4}$ /, /l/, /m/, and /r/ also appear in final position.