

4 Unorthographic Writings

A number of Sumerian texts from the Western periphery contain unorthographic writings. The study of such writings is an important tool for understanding the transmission of the knowledge of Sumerian in the Western periphery. Transmission of knowledge here does not refer to the transmission of single compositions, which will be the subject of the following chapters, but rather to how Sumerian texts discovered in the Western periphery were written, specifically the orthographic conventions adopted by scribes to copy Sumerian texts. Since Sumerian was essential in teaching the cuneiform script, such a study has implications for the transmission of the cuneiform syllabary, although this issue is not addressed in the present work.

Unorthographic writings represent a modification of the conventional writing system consisting in the substitution of logograms with phonograms. This often leads to phonetic and graphic alterations of the standard orthography. Unorthographic writings are already attested in the third millennium, in the Early Dynastic Period.⁹¹⁴ The second half of the third millennium witnesses a tendency towards unorthographic spellings,⁹¹⁵ perhaps as a result of the so-called Šulgi orthographic reform. Phonetic writings are found in the Ur III administrative texts from Nippur⁹¹⁶ and Garšana,⁹¹⁷ in the Gudea inscriptions⁹¹⁸ and in the Ur III literary texts from Nippur.⁹¹⁹ Nevertheless none of these texts were written in exclusively phonetic orthography. The earliest examples of sources completely written in phonetic orthography are the literary texts from Girsu – mainly Emesal liturgies – that can be dated to the Early Isin Period.⁹²⁰ During the Old Babylonian period orthography underwent a process of standardization towards a logographic system, evident in the literary texts from Nippur.⁹²¹ In this corpus phonetic spellings appear only sporadically.⁹²² On the contrary, unorthographic writings were largely adopted in Northern Babylonia and the Diyala region in cities such as Sippar, Tell Hadad-Meturan, Kiš and Tell Harmal-Šaduppum. Northern Babylonian sources, approximately dated to the Late Old Babylonian period, have provided us with the largest corpus of literary texts exclusively or largely written in phonetic orthography. Northern Babylonian texts are mainly Emesal liturgies, incantations, and some literary compositions. This corpus seems to manifest to a greater extent some of the alterations of the conventional orthography that are already documented in the Ur III and Isin Period.⁹²³ In the Middle Babylonian period phonetically written Sumerian texts are mostly documented outside Mesopotamia, especially in Syria and Anatolia in incantations and literary compositions.

Phonetic orthography served different functions depending on the type of text. In ‘practical’ texts, like incantations and Emesal liturgies which were performed in exorcisms and cultic ceremonies, phonetic writings were presumably intended to ensure the correct pronunciation of words. In literary texts unorthographic writings were possibly used for teaching the basics of the cuneiform syllabary. In the Ur III administrative texts phonetic writings were part of a process of simplifying the writing system.

914 Civil 1984a.

915 Sjöberg 1975b, 166, Thomsen 1984, 281.

916 Wilcke 2000.

917 Sallaberger 2011.

918 Falkenstein 1949, 23-34.

919 Rubio 2000.

920 Krecher 1966a, 19-22; an Ur III date is not precluded, see Tinney 2011, 580.

921 Rubio 2000, 215-219.

922 Only one unorthographic text from Nippur is listed in Krecher 1966a, 27; for other examples see § 4.5.

923 See Krecher 1966a, 21.

The main goal of this study is to illustrate the relation between the unorthographic writings attested in the Late Bronze Age Syro-Anatolian texts and those from the Old Babylonian documentation, in order to determine whether the former are a local development or the product of a scribal tradition rooted in Mesopotamia. The core of this comparison will be the analysis of the alterations found in the two sets of data and their deviation from standard orthography. As for standard orthography, sign readings based on the Nippur documentations will be used. These are provided by Catherine Mittermayer and Pascal Attinger in aBZL = Mittermayer (2006), improved in Attinger (2007).⁹²⁴ Within the corpus of OB unorthographic texts from Northern Babylonia only a selection of sources completely written in phonetic orthography will be used; texts containing only a limited number of phonetic writings, such as some literary compositions from Meturan, will not be taken into account because it is nearly impossible to ascertain whether these writings are intentional or the result of scribal mistakes. Even though, as mentioned above, phonetic writings served different uses in texts of different types, unorthographic spellings from the Western periphery texts and from the Old Babylonian corpus will be collected from different types of texts and classified. This choice is compelled by the lack of sufficient examples of alterations in each text type from the Old Babylonian corpus for comparison with those drawn from the same text type from the Western periphery. Otherwise the Emesal liturgies, which represent the majority of the Old Babylonian unorthographic texts, would be excluded because this genre is unattested in the Western periphery.⁹²⁵ Moreover, at this level the analysis is focused on the knowledge of Sumerian orthography in the Western periphery and not on texts. Unorthographic writings will be analyzed according to the alterations they display, which can be grouped in two main categories: graphic alterations and phonetic alterations.⁹²⁶ For each type of alteration occurrences in manuscripts from Syria and Anatolia will be classified according to two criteria: provenance (Ḫattuša, Emar and Ugarit) and script. In this context the Babylonian tablets discovered at Ḫattuša and Ugarit containing texts completely written in phonetic orthography – CTH 800, AuOr23: 25 – are not only analyzed as peripheral documentation but also as a reflection of an original Babylonian tradition.

Texts containing phonetic writings can be sorted into three different categories:

1) Texts completely written in phonetic orthography. These texts are limited to incantations⁹²⁷ and are mainly written on Babylonian script tablets. The group of monolingual unorthographic incantations from Ḫattuša CTH 800⁹²⁸ represents the vast majority of the Babylonian script tablets. Only a single Babylonian script tablet from Ugarit contains incantations completely written in phonetic orthography. However, this tablet also includes an incantation in standard orthography (AuOrS 23 25, 34-52). Only a very limited number of tablets drafted by local scribes contain incantations completely written in phonetic orthography.⁹²⁹

924 In a few cases phonetic writings provide evidence for different readings; these are exclusively based on Babylonian script tablets: alam (KUB 30 1, I, 8, IV, 12) VS alan (aBZL); gidim (KBo 36 15, Rev. 2) VS kitim (aBZL); gubu₂ (KUB 30 1, IV, 6) VS gabu₂ (aBZL); ḡešimmar (KUB 30 1, IV, 17) VS ḡešnimbar (aBZL); inim (KUB 37 109, 11) VS enim (aBZL); nita (KUB 30 1, I, 12) VS ninta (aBZL); šinig (KUB 30 1, IV, 16; IV, 24) VS šeneg (aBZL). In these cases Nippur readings are regarded as local developments that were not universally adopted.

925 Only alterations that are not attributable to typical Emesal phonetic changes are taken into consideration, see Krecher 1967, Thomsen 1984, 285-294.

926 A preliminary survey of phonetic writings has been presented in Viano 2015.

927 The unidentified script fragment KUB 37 41 is not taken into consideration because no unorthographic writing can be confidently read, see § 5.4.1.

928 For the sake of simplicity the fragment KBo 36 19 is here considered under CTH 800 although listed as CTH 812, because it probably belongs to the same group of incantations, see § 5.1.2.

929 The nature of KUB 4 26 (+) HT 13 (+) KUB 37 112 is unclear, but it is listed under incantations because the tablet also contains an Akkadian *šuilla*, see § 5.3.7. Because the three fragments do not physically join, phonetic writings are listed as if they come from separate sources.

Babylonian Script Tablets

Ḫattuša

Source - CTH 800	Language
KUB 30 1	PhS
KUB 37 109	PhS
KUB 30 2	PhS
KUB 30 3	PhS
KUB 30 4	PhS
KBo 36 13	PhS
KBo 36 15	PhS
KBo 36 16	PhS
KBo 36 19	PhS
KBo 40 103	PhS
KUB 37 108 + KUB 37 110	PhS

Ugarit

Source	Language
AuOrS 23 25, 1-2, 12-14, 22-24	PhS

Local Script Tablets

Ḫattuša

Source	Language
KUB 4 26B (+) HT 13 (+) KUB 37 112	PhS

Emar

Source	Script	Language
E 734	SH	PhS
Tsukimoto Incantation	SH	PhS

Ugarit

Source	Language
AuOrS 23 21, 67-70, 79-96	PhS

2) Phonetic versions added in a parallel column to texts written in standard orthography. This category includes only bilingual literary texts inscribed on local script tablets from all three sites:

Source	Composition
Ḫattuša	
CTH 314	The Hymn to Iškur Adad
CTH 315	The Message of Lu-diġira to his Mother
KUB 57 126	Edubba E
Emar	
E 767	The Ballad of Early Rulers
E 768 - E 769 - E 770	The Fowler
E 776	Unidentified
TBR 101	The Letter of Sîn-iddinam to Utu
Ugarit	
RS 17.10	The Letter of Lugal-ibila to Lugal-nesaġ
RS 23.34+	The Ballad of Early Rulers
RS 79.25	A Prayer for a King
RS 86.2210	The Fox and the Hyena

3) Standard orthography texts occasionally presenting some phonetic writings. These texts include incantations and literary compositions. The Assyro-Mitannian texts are limited to bilingual incantations in standard orthography.

Babylonian Script Tablets

Ugarit		
Source	Composition	Language
RS 25.130	The Ballad of Early Rulers Proverbs from Ugarit	S A
AuOrS 23 25, 34-52	Incantations	S
AuOrS 23 27	Incantation	S
AuOrS 23 59	Unidentified	S

Assyro-Mitannian Tablets

Source	Language
CTH 794	SA
KBo 36 11+	SA
KUB 37 102	SA

Local Script Tablets

Ḫattuša			
Source	Composition	Language	
KUB 4 7	Nergal D	S (A)	
KUB 4 39	The Letter of Lugal-ibila to Lugal Nesaĝ	S A	
KUB 4 24	Incantation	S A	
KUB 34 4	Incantation	S A	
KUB 37 111	Incantation	S A	

Emar			
Source	Composition	Script	Language
E 771+	Enlil and Namzitarra	SH	S A
E 775	A Prayer for a King	S	S A
E 729	Incantation	SH	S
E 733	Incantation	SH	S
E 740	Incantation	SH	S
E 743	Incantation	SH	S
E 751	Incantation	SH	S

Ugarit		
Source	Composition	Language
AuOrS 23 13	Incantation	S
AuOrS 23 21	Incantation	S

Here follows the list of OB unorthographic texts under consideration:

Provenance	Museum Number	Composition	Hand-copy	Edition	Language
Kiš	Ashm 1930-362	Song(s) to Šulpae and Aruru	OECT 5 10	Black (2005), 56-61	S
Meturan	H 139	Farmer's Instructions	AuOr 9, 44-45	Cavigneaux (1991)	S
Meturan	H 178	Farmer's Instructions	AuOr 9, 44-45	Cavigneaux (1991)	S
Meturan	H 110	Farmer's Instructions	AuOr 9, 46	Cavigneaux (1991)	S
Meturan	H 97	Collection of Incantations	ZA 83, Pls. I-III	I-II: Cavigneaux, Al-Rawi (1993b) III: Cavigneaux, Al-Rawi (1995a) IV-VI: Cavigneaux, Al-Rawi (1995b)	S
Meturan	H 179 + H 188 (+) H 186 (+) H 187 (+ fragments without number)	Collection of Incantations	ZA 83, Pls. IV-V	See H 97	S
Meturan	H 74	Incantation	Hand-copy: ZA 92, 22 fig. 3 Photo: ZA 92, 23, Pl. III	Cavigneaux, Al-Rawi (2002)	S

Provenance	Museum Number	Composition	Hand-copy	Edition	Language
Meturan	H 103	Incantation	Hand-copy: ZA 92, 18, 20, fig. 1-2 Photo: ZA 92, 19,21, Pl. I-II	Cavigneaux, Al-Rawi (2002)	S
Meturan	H 77	Hemerology	Iraq 55, 101	Cavigneaux, Al-Rawi (1993a), 100-104	S A
Meturan	H 83	Hemerology	Iraq 55, 98	Cavigneaux, Al-Rawi (1993a), 97-100	S A
Sippar	VAT 608 + VAT 1345	Nanna M	VS 2 1	Sjöberg (1982), 74-75 Sjöberg (1960), 90-96	S
Sippar	VAT 613 + VAT 1335 + VAT 1349	Nanna N	VS 2 4	Sjöberg (1960), 97-101	
Sippar (?)	MMUM 35516 + Völkerkundemuseum Vienna No. 25363	Dumuzi-Inana Text	Manchester Memoirs 48 Pl. 1-7 NABU 1990-20	Alster (1992)	S
Sippar	CBS 112	Balaĝ (No. 15) zi-bu-u ₃ zi-bu-u ₃	PBS 10/2 13	Löhnert (2009), 439-445 Cohen (1988), 287-290 Bergmann (1964), 13-43	S
Sippar	VAT 1372	Balaĝ ¹	VS 2 75	Bergmann (1965), 31-33 Sjöberg (1960), 102-103	S
Sippar	VAT 1419	Balaĝ	VS 2 94 ²	Krecher (1966a)	S
Sippar	CBS 35	Eršaḫunga to Marduk	PBS 10/2 3	Bergmann (1965), 33-42	S
Sippar	BM 78198	Eršaḫunga	CT 44 14	Lambert (1974a), 291-293	S
Sippar	VAT 1320	Eršaḫunga	VS 2 47	Lambert (1974a), 291-293	S
Sippar	VAT 1437	Emesal Lyric	VS 2 48	Bergmann (1964), 1-13	S
Sippar	VAT 604 + VAT 614 + VAT 1350 + VAT 1370	Emesal Lyric	VS 2 3 I, 1-17	Falkenstein (1952-1953)	S
Sippar	S 7/1600 (IM 95317)	Incantation	Obv: Cavigneaux, Al-Rawi (1994), 75 Rev: Cavigneaux, Al-Rawi (1994), 83	Cavigneaux, Al-Rawi (1994), 73-85	S
Susa (?) ³	AO 24146	Dumuzi's Dream	RA 84, 138-139	Alster (2006)	S
Tell Harmal	IM 55403	Instructions of Ur-Ninurta	TIM 9 1 Sumer 11, Pl. XIII No. 9	Alster (2005), 221-240 Alster (1991b)	S
Tell Harmal	IM 53977	Šulgi 54 (Inscription)	TIM 9 35 Sumer 11, Pl. XVI No. 10	RIME 3/2.1.2.38 Gelb, Kienast (1990), 344-347 Kärki (1986), 59-61	S A
Tell Harmal	IM 51545	Inana C ⁴	TIM 9 20 Sumer 13, 69 Pl. I	Sjöberg (1975a) – Ms. C	S A
Tell Harmal	IM 51543	Inana C	TIM 9 21 Sumer 11, Pl. VI No. 4	Sjöberg (1975a) – Ms. O	S A
Tell Harmal	IM 51176	Inana C	TIM 9 24 Sumer 13, 73 Pl. III	Sjöberg (1975a) – Ms. R	S A
Tell Harmal	IM 51529	Inana C	TIM 9 23 Sumer 13, 75 Pl. IV	Sjöberg (1975a) – Ms. Ra	S A
?	CNMA 10051 ⁵	Balaĝ (No. 16) a-ab-ba-ḫu-luḫ-ḫa	JCS 8, 82-83	Kutscher (1975)	S

Provenance	Museum Number	Composition	Hand-copy	Edition	Language
?	VAT 4596	Balaĝ (No. 11 or 42) ¹ uru ₂ ħul-a-ke ₄	VS 10 182	Krecher (1968), 255-259	S
?	AO 3925 (+ ?) Edin. 09-405, 27	Šulpae A	AO 3925: TCL 15 3 Edin. 09-405, 27: BL VI	Falkenstein (1963)	S
?	AO 6316	Ur-namma B	TCL 15 38 ASJ 9, 60	Flückiger-Hawker (1999), 183-203 Sjöberg (1961b)	S
?	BM 79949	Incantation	Finkel (1999b), 245, Fig. 7a	Finkel (1999b), 230	S

1 See Black 1987, 74.

2 BM 78173 = CT 44 15 is a partially unorthographic duplicate of VS 2 94, see Krecher 1966a. This text is probably a *Balaĝ*, Black 1987, 73.

3 See Cavigneaux 2003, 53 n. 1.

4 Further manuscripts are: Ms. Oa: IM 51530 = TIM 9 26 (Sumer 13, 70 Pl. II), which only preserves lines 121-125 with some phonetic Sumerian glosses; IM 51650 = TIM 9 52, which is not included in Sjöberg's edition.

5 For a complete list of unorthographic spellings see Kutscher 1975, 32-43.

6 See Black 1987, 42.

4.1 List of Unorthographic Writings

Here follows a list of the unorthographic writings attested at ʕattuša, Emar and Ugarit with the corresponding reconstructed form in standard orthography. Entries are listed according to the alphabetic order of sources.

4.1.1 ʕattuša

4.1.1.1 Babylonian Script Tablets

Phonetic Writing	Standard Orthography	Source	Line
za-la-ag	zalaĝ (?)	KBo 36 13	L. Col. 2
[a-sa-al-l]u-uĥ-ĥi	^d asal-lu ₂ -ĥi	KBo 36 13	L. Col. 3
-gi-im	-gen ₇ (?)	KBo 36 13	L. Col. 4, 14, 15
[i-ni-k]i-ik-ke	^d en-ki-ke ₄	KBo 36 13	L. Col. 6, 15
gi-bi-il-la	gibil	KBo 36 13	L. Col. 12
lu	lu ₂ (?)	KBo 36 13	L. Col. 12
ur-ma-aĥ	ur-maĥ	KBo 36 13	L. Col. 13
ĥi-en-še ₃ ² -ud-da	?	KBo 36 13	L. Col. 14
u ₃ -uš-šu-bi	uš ₇ -zu-bi	KBo 36 13	R. Col. 3, 11
uš-ra-a-bi	uš ₇ -ri-a-bi	KBo 36 13	R. Col. 4
ni-ĝa ₂ -ak-ka	niĝ ₂ -ak-a	KBo 36 13	R. Col. 5
ĥi-e-en-x	ĥe ₂ -en-x	KBo 36 13	R. Col. 6
ka-ĥu-ul	ka-ĥul	KBo 36 13	R. Col. 7
e-gi-ir-b[a]	egir-ba	KBo 36 13	R. Col. 8
lu-ul-lu-bi	lu ₂ -ulu ₃ / lu ₂ -u ₁₈ -lu	KBo 36 13	R. Col. 9
u ₃ -tu-[ug]	udug	KBo 36 13	R. Col. 10
ba-ar-su	bar-zu	KBo 36 13	R. Col. 12
e-mi-bi	eme-bi	KBo 36 13	R. Col. 13
ni-ka-as-si	?	KBo 36 13	R. Col. 14
gi-il-ga-m[i-(iš)]	^d Gilgameš _{2/3}	KBo 36 13	R. Col. 15

Phonetic Writing	Standard Orthography	Source	Line
[n]a-am-ta-a[r]	nam-tar	KBo 36 13	R. Col. 18
[g]i-ri-bi	ĝiri ₃ -bi	KBo 36 15	Obv. 5
u ₃ -tu-uk-ka	udug-(ga) (?)	KBo 36 15	Obv. 6
gi-di-ma	gidim-(ma)	KBo 36 15	Rev. 2
lu-ul-lu-bi	lu ₂ -ulu ₃ / lu ₂ -u ₁₈ -lu	KBo 36 15	Rev. 2
i-gi	igi	KBo 36 15	Rev. 3
du-mu-	dumu-	KBo 36 15	Rev. 4
-gu	-ĝu ₁₀	KBo 36 15	Rev. 4
˘ki˘-si-ki-il	ki-sikil	KBo 36 15	Rev. 5
ni-ka-la-qa	niĝ ₂ -kala-ga	KBo 36 16	4, 5
i-gi-ĥu-ul	igi-ĥul	KBo 36 19	6
e-si-ra	e-sir ₂ -ra	KBo 36 19	8
a-sa-al-lu-ĥi	˚asal-lu ₂ -ĥi	KBo 40 103	3
i-gi	igi	KBo 40 103	3, 7
du-mu-ĝu ₁₀	dumu-ĝu ₁₀	KBo 40 103	4
gi-in-na	ĝen-na	KBo 40 103	4
[i]n-e ₂ -nu-ru	en ₂ -nu-ru	KUB 30 1	I, 1
ĥa-la-am-ma-ak-ke	ĥalam-ak-e	KUB 30 1	I, 2
ĥu-ul-ĝa ₂ -al	ĥul-ĝal ₂	KUB 30 1	I, 2
u ₃ -ĥu-ul	udug-ĥul (?)	KUB 30 1	I, 2
i-gi	igi	KUB 30 1	I, 2, 20, III, 13
du-mu	dumu	KUB 30 1	I, 2 II, 3
u ₃ -uš-šu	uš ₇ -zu	KUB 30 1	I, 3 II, 17
šu-ta-ta-ak-ke	šu dag-dag-ge	KUB 30 1	I, 3
le-e-la-a	lil ₂ -la ₂	KUB 30 1	I, 4
i-bu-bu	i ₃ -bu ₍₂₎ -bu ₍₂₎	KUB 30 1	I, 4
a-la-al-le-˘de ₅ ˘	a ₂ -la ₂ -e-de ₃	KUB 30 1	I, 5
ki-si-ki-il	ki-sikil	KUB 30 1	I, 5
le	guruš	KUB 30 1	I, 5
šu-da	šu-du ₃ -a	KUB 30 1	I, 5
uš-ra-a	uš ₇ -ri-a	KUB 30 1	I, 5
i-gi-in	i ₃ -ĝen	KUB 30 1	I, 6
im-ma-ab-[zu]	im abzu	KUB 30 1	I, 6
ĥa-ma-an-zi ₂ -ir	ĥamanzir	KUB 30 1	I, 7, 8
mu-un-gi-im	mu-un-dim ₂	KUB 30 1	I, 8
šu ma-an-g[u-ur]	šu ba-an-gur	KUB 30 1	I, 8
a-la-am	alam	KUB 30 1	I, 8, IV, 12 IV, 14
ba-ki-ik-[ki-ir]	ba-an-gir ₁₁ -gir ₁₁	KUB 30 1	I, 9
mu-su-ub-an-ni	munsub-a-ni	KUB 30 1	I, 9
lu	lu ₂	KUB 30 1	I, 9, 16
i-ni˘(IR)-di	i-ni-in-de ₂	KUB 30 1	I, 10
uš	uš ₇	KUB 30 1	I, 10, 11, 12

Phonetic Writing	Standard Orthography	Source	Line
ni-gu-ug-g[u]	niĝ ₂ -gu ₇ -gu ₇	KUB 30 1	I, 11
du-ut-tu	du ₁₁ -du ₁₁	KUB 30 1	I, 11
i-UŠ(-)ta-aq-qa	?	KUB 30 1	I, 12
ḥu-ul	ḥul	KUB 30 1	I, 13
i-ni-im-ĝa ₂ -ar	eme-ĝar	KUB 30 1	I, 13
lu-ul-lu	lu ₂ -ulu ₃ / lu ₂ -u ₁₈ -lu	KUB 30 1	I, 14
n[u-u]n-za-a	nu-un-zu-a	KUB 30 1	I, 14
pa-ap-ḥa-al-la	pap-hal-la	KUB 30 1	I, 14
ba-ni-ib-di-ib-be ₂	ba-ni-ib-dib-be ₂	KUB 30 1	I, 15
ba-an-še	ba-an-ser ₃ (?)	KUB 30 1	I, 16-17
-si-iq-qa	sag ₃ -ga	KUB 30 1	I, 16-17
im-šu-ub	im-šub	KUB 30 1	I, 18
sa-ad-ni-im	sa-ad-nim	KUB 30 1	I, 18
a-ge-ga	a-geg	KUB 30 1	I, 19
i-i	e ₃ (?)	KUB 30 1	I, 19
im-g[u]-g[u-r]a	im-gi/(u?)gurum-(a)	KUB 30 1	I, 19
za- ^r ag [˘] -še	za ₃ -še	KUB 30 1	I, 19
a-sa-al-lu-ḥi	^d asal-lu ₂ -ḥi	KUB 30 1	I, 20-21 II, 3
-si	-si ₃	KUB 30 1	I, 20
g[i-in-na]	ĝen-na	KUB 30 1	I, 21
-gu	-ĝu ₁₀	KUB 30 1	I, 21
si-ki-il-la-a-ta	sikil-la-ta	KUB 30 1	I, 22
gi-su-[ul-ḥi]	gi-sul-ḥi	KUB 30 1	I, 25
sa-šu-uš-[ga-al]	sa-šuš-gal	KUB 30 1	II, 1
a-an-su	an-su ₃	KUB 30 1	II, 2
-gi-im	-gen ₇	KUB 30 1	II, 2, 18
uš-zu	uš ₇ -zu	KUB 30 1	II, 4
gi-iš-šu-ub	ĝeš-šub	KUB 30 1	II, 18
di-iq-q[u]	di-ku ₅	KUB 30 1	II, 19
u ₃ -tu	^d utu	KUB 30 1	II, 19
ka-ar-ga-al	kar-gal	KUB 30 1	II, 20
ni-in-nu-u[r-ta]	^d nin-urta	KUB 30 1	II, 21
[šū]-lu-ba-ak-ke	šu-lu ₂ -ba-ak-ke ₄	KUB 30 1	III, 8
u ₃ -mi-ig-ma	?	KUB 30 1	III, 9
u ₃ -še-em-x-[...]	?	KUB 30 1	III, 10
nu-lu-uḥ-ḥa	nu-luḥ-ḥa	KUB 30 1	III, 10 IV, 24
ga-zi-ḥu-ur-saĝ	gazi-ḥur-saĝ	KUB 30 1	III, 11
ša-ab-ba	ša ₃ -ba	KUB 30 1	III, 12
i-gi-u ₃ -tu-uš-še	igi- ^d utu-še ₃	KUB 30 1	III, 13 IV, 9 IV, 27
di-be ₂ -de	dib-be ₂ -de ₃	KUB 30 1	IV, 5
a-gu-bu-un-ni	a ₂ -gubu ₃ ^{bu} -ni	KUB 30 1	IV, 6
u ₃ -me-ni-sa-ar	u ₃ -me-ni-sar	KUB 30 1	IV, 7

Phonetic Writing	Standard Orthography	Source	Line
u ₃ -me-ni-ĝa ₂ -ar	u ₃ -me-ni-ĝar	KUB 30 1	IV, 8 IV, 9
še-em-li	šem-li	KUB 30 1	IV, 9
ni-ig-na	niĝ ₂ -na	KUB 30 1	IV, 9 IV, 23
di-in-gi-ra-a-na	diĝir-ra-na	KUB 30 1	IV, 10
gi-ri-ĝu ₁₀	ĝiri ₃ -ĝu ₁₀	KUB 30 1	IV, 13
e-si-ir	e-sir ₂	KUB 30 1	IV, 15
ši-in-ni-ig	šinig	KUB 30 1	IV, 16 IV, 24
ge-ši-im-[ma-ar]	ĝešimmar	KUB 30 1	IV, 17
gi-iš-ĥu-[ur]	ĝeš-ĥur	KUB 30 1	IV, 18
ka-ab-bi	ka-bi	KUB 30 1	IV, 19
u ₃ -gu-bi	ugu-bi	KUB 30 1	IV, 20
gi-z[i-la ₂]	gi-izi-la ₂	KUB 30 1	IV, 23
ĥa-aš-ĥu-ur	ĝeš ^{es} ĥašĥur	KUB 30 1	IV, 25
e-ta	a-ta	KUB 30 1	IV, 26
u ₃ -me-ni-šu-ub	u ₃ -me-ni-šub	KUB 30 1	IV, 26
u ₃ -me-ni-na-ag	u ₃ -me-ni-naĝ	KUB 30 1	IV, 27
in-di-id-di	?	KUB 30 2	I, 6
mu-un-ši-ib-gu	mu-un-ši-ib-gu ₇	KUB 30 2	I, 8
ĥa-ab-ru-ud-da	ĥabrud-da	KUB 30 2	I, 10
bi-in-gi-id	bi ₂ -in-kid ₂	KUB 30 2	I, 11
gi-ri	ĝiri ₃	KUB 30 2	I, 12
di-in-gi-re	diĝir-re	KUB 30 2	II, 3
lu-ul-lu	lu ₂ -ulu ₃ / lu ₂ -u ₁₈ -lu	KUB 30 2	II, 4
ki-is-ki-il	ki-sikil	KUB 30 2	II, 5
gu-ru-uš	ĝuruš	KUB 30 2	II, 7
lu-le-e-la	lu ₂ -lil ₂ -la ₂	KUB 30 2	II, 9
mu-un-ši-ib-na-ag	mu-un-ši-ib-naĝ	KUB 30 2	II, 9
ba-tu-uĥ	ba-tuĥ (?)	KUB 30 3	5
šu-tu-ul	šu-duĥ ₃ (?)	KUB 30 3	5
-ga-am	gam	KUB 30 3	6
u ₃ -su-a-na	uzu-a-na	KUB 30 3	7
i-ĝa ₂ -al	i ₃ -ĝal ₂	KUB 30 3	8
i-gi	igi	KUB 30 3	9
i-ni-ki-ir-ra	^d en-ki-ra	KUB 30 3	10
-ĝa ₂ -ar	-ĝar	KUB 30 4	L. Col. 9
u ₃ -mi-ig-m[a]	?	KUB 30 4	L. Col. 11
du-m[u-ĝu ₁₀]	dumu-ĝu ₁₀	KUB 30 4	R. Col. 7
g[i-i]n-na	ĝen-na	KUB 30 4	R. Col. 7
nu-lu-uĥ-ĥa	nu-luĥ-ĥa	KUB 30 4	R. Col. 8
ga-zi-ĥu-ur-s[aĝ]	gazi-ĥur-saĝ	KUB 30 4	R. Col. 9
e	a	KUB 30 4	R. Col. 10
a-šu-g[i-ri ² -a(n) ² -ni]	a ₂ -šu-ĝiri ₃ -a-ni	KUB 30 4	R. Col. 13
i-g[i]	igi	KUB 30 4	R. Col. 14

Phonetic Writing	Standard Orthography	Source	Line
i-gi-ḥu-la	igi-ḥul-(a)	KUB 37 108+110	L. Col. 2
-gu-ub	-gub	KUB 37 108+110	L. Col. 3, 5
ka-ḥu-la	ka-ḥul-(a)	KUB 37 108+110	L. Col. 4
iš-še-e	?	KUB 37 108+110	L. Col. 6
iš-ša-a	?	KUB 37 108+110	L. Col. 8
ka-ḥu-ul	ka-ḥul	KUB 37 108+110	R. Col. 1
su-na-ni	su-a-ni	KUB 37 108+110	R. Col. 2
ni-ḡa ₂ -aq-q[a]	niḡ ₂ -ak	KUB 37 109	2
[uš-r]i-a	uš ₇ -ri-a	KUB 37 109	2
[di-i]m-ma-an-ni	(dumu)-diḡir-ra-ni	KUB 37 109	3
[gi-i]l-ga-mi-iš-še	^d Gilgameš _{2/3}	KUB 37 109	4
iš-še-ba(-)[...]	?	KUB 37 109	4
[a]-sa-al-lu-ḥi	^d asal-lu ₂ -ḥi	KUB 37 109	6
[lu-u]l-lu	lu ₂ -ulu ₃ / lu ₂ -u ₁₈ -lu	KUB 37 109	7
du-mu	dumu	KUB 37 109	7, 12
di-i[n-gi-ir-ra-ni]	diḡir-ra-ni	KUB 37 109	7, 9
ḥe ₂ -em-d[u [?]]	?	KUB 37 109	8
[si-l]i-ma-an-ni	silim-ma-ni	KUB 37 109	9
i-ni-im	inim	KUB 37 109	11

4.1.1.2 Assyro-Mitannian Tablets

Phonetic Writing	Standard Orthography	Source	Line
ab-ba-si-il-le	a-ba-si-il-le	CTH 794	Obv. 1, 2, 3
-dal	-dar	CTH 794	Obv. 3
inim ^l -gal	inim-ḡar	CTH 794	Obv. 20
mu-un-ni	mu-un-ne	CTH 794	Rev. 3
nam-me-en	nam-en	CTH 794	Rev. 8
kiḡ ₂ ^l -b[u]-ru-ta	kiḡ ₂ -bur ₂ -ru-da	KBo 36 11+	Obv. 20
zi-ki-[ḡal ₂]	zi-ša ₃ -ḡal ₂	KBo 36 11+	Obv. 21
[šu-t]a-ga	šu-ta ₃ -ga	KBo 36 11+	Obv. 22
(-)gi-gi	(-)gi ₄ -gi ₄	KBo 36 11+	Obv. 24, 35
nam-ri-ma	nam-erim ₂	KBo 36 11+	Obv. 25, 30
(-)dub-dub-be ₂	(-)tub ₂ -tub ₂ -be ₂	KBo 36 11+	Obv. 26, 27, 36
dadag	da-da	KBo 36 11+	Obv. 29
za-za	za ₃	KBo 36 11+	Obv. 28
za ₃ -si ₁₁	za ₃ -še ₃	KBo 36 11+	Obv. 31
su-gu ₂	su-gu ₇ (?)	KBo 36 11+	Obv. 33
sa-a	sa	KBo 36 11+	Obv. 36
saḡ-še	za ₃ -še ₃	KBo 36 11+	Obv. 37
a ₂ -šu-šu	a ₂ -su ₃ -su ₃	KBo 36 11+	Obv. 39
ka-an-s[i-il]	ga-an-si-il	KBo 36 11+ (KUB 37 100a)	Rev. 22
teḡ ₃ -ge-ta-a [?] -[ni [?]]	teḡ ₃ -ḡe ₂₆ -da-ni	KBo 36 11+ (KUB 37 100a)	Rev. 28
ta-na-ta	da-ni-ta (?)	KBo 36 11+ (KUB 37 100a)	Rev. 32, 33
uš-bi	uš ₂ -bi	KBo 36 11+ (KUB 37 100a)	Rev. 39

Phonetic Writing	Standard Orthography	Source	Line
e ₂	a	KBo 36 11+ (KUB 37 100a)	Rev. 40
za-lim	ulutim ₂ /uktim (SIG ₇ .ALAM)	KBo 36 11+ (KUB 37 100a)	Rev. 41
u-gug ₂	udug	KBo 36 11+ (KUB 37 100a)	Rev. 44-45
šu-nam-tar-<ra>-ga-a-ni	šu-nam-tar-ra-ka-ni	KBo 36 11+ (KUB 37 100a)	Rev. 20
^d dim ₃ -ma-me ²	^d dim ₃ -me-lagab	KUB 37 102	L. Col. 4
-ĝar-ra	-kar-ra	KUB 37 102	L. Col. 5

4.1.1.3 Hittite Script Tablets

4.1.1.3.1 Literary Texts

Phonetic Writing	Standard Orthography	Source	Line
ma-aš-am-ši	maš-anše	CTH 314 - KUB 45	II, 7
niĝ ₂ -ur ₂ -lim ₃ -ma	niĝ ₂ -ur ₂ -limmu ₂	CTH 314 - KUB 45	II, 7
ki-ki	gi ₄ -gi ₄	CTH 314 - KUB 45	II, 8
ti-la-a-bi-iš-ši	ti-la-bi-še ₃	CTH 314 - KUB 45	II, 8
lu-na-me	lu ₂ -na-me	CTH 314 - KUB 45	II, 9
in-pa-a-da	in-pa ₃ -da	CTH 314 - KUB 45	II, 10
du-uš-ka-ra	tuš-ĝar-ra	CTH 314 - KUB 45	II, 11
giri ₁₇ -za-al	giri ₁₇ -zal	CTH 314 - KUB 45	II, 12
iš-gur	^d iškur	CTH 314 - KUB 45	II, 12
ĥe-in-gal	ĥe ₂ -ĝal ₂	CTH 314 - KUB 45	II, 13
me-ta-ši-im-ši-im	mu-ta-šeĝ ₃ -šeĝ ₃	CTH 314 - KUB 45	II, 14
ka-la-ma	kalam-ma	CTH 314 - KUB 45	II, 15
ni-ig-g[e-(na-ni)-iš-ši]	niĝen-(na-ni)-še ₃	CTH 314 - KUB 45	II, 16
i-te-[en-na]	edin-na	CTH 314 - KUB 45	II, 18
a-ia	aia	CTH 314 - KUB 46	Obv. II, 1
iš-gur	^d iškur	CTH 314 - KUB 46	Obv. II, 1, 6
a-ni	diĝir-re-ne	CTH 314 - KUB 46	Obv. II, 4
ni-gal-a-ni	ni ₂ -gal-a-ni	CTH 314 - KUB 46	Obv. II, 4
nu-kal	abgal (NUN.ME)	CTH 314 - KUB 46	Obv. II, 4
ri-ib-x-ba	kala-ga	CTH 314 - KUB 46	Obv. II, 5
ga-lam-ma	kalam-ma	CTH 314 - KUB 46	Obv. II, 6
ku-gal	gu ₂ -gal	CTH 314 - KUB 46	Obv. II, 6
lu-gal	lugal	CTH 314 - KUB 46	Obv. II, 6
it-ta	i ₇ -da	CTH 314 - KUB 46	Obv. II, 7
[ga ²]-mu-ra-an-šu	ga-mu-ra-ab-šum ₂	CTH 315 - KUB 42	2
im-u-a-ab-ba ¹	im-a u ₄ a ₂ -ba	CTH 315 - KUB 42	3
[š]a-ag-ga-ak-ke	saĝ-ĝa ₂ -ke ₄	CTH 315 - KUB 42	4
zar-tab-ba	ĤE(sar ₂)-NUN(daba _x)	CTH 315 - KUB 42	5
ša-a	diri (SI.A)	CTH 315 - KUB 42	8
[za-l]a-qa	zalog-ga	CTH 315 - AuOrS 23 50	II, 28
a-ni-ma-za-an-qa-ak-ke	a-numun-saĝ-ĝa ₂ -ke ₄	CTH 315 - AuOrS 23 50	II, 33
e-m[u x x]	im-a u ₄ a ₂ -ba	CTH 315 - AuOrS 23 50	II, 33

Phonetic Writing	Standard Orthography	Source	Line
am-ma-an-ku	ama-ĝu ₁₀	CTH 315 - AuOrS 23 50	II, 33 II, 41 II, 48
e-bu-ur	buru ₁₄	CTH 315 - AuOrS 23 50	II, 34
še-ag-na	še-gu-nu	CTH 315 - AuOrS 23 50	II, 34
za-ar-tap-pa	ĤE(sar ₂)-NUN(daba _x)	CTH 315 - AuOrS 23 50	II, 34
ki-ri	kiri ₆	CTH 315 - AuOrS 23 50	II, 35
la-li-(me-a)	la-la	CTH 315 - AuOrS 23 50	II, 35
a-ši-la	asila	CTH 315 - AuOrS 23 50	II, 35 II, 41
ša-a	diri (SI.A)	CTH 315 - AuOrS 23 50	II, 35 II, 41
a-šu-uĥ	ēš ^ē u ₃ -suĥ ₅	CTH 315 - AuOrS 23 50	II, 36
ši-da-a	a-de ₂ -a	CTH 315 - AuOrS 23 50	II, 36
ši-da-q-q-a	šu ta ₃ -ga	CTH 315 - AuOrS 23 50	II, 36
pa-ra-za-an-kar	para ₁₀ -za ₃ -ĝar	CTH 315 - AuOrS 23 50	II, 37
ku-ru-um	gurun	CTH 315 - AuOrS 23 50	II, 37
mu-ut-ĥu	niĝ ₂ -tu-ĥu-um	CTH 315 - AuOrS 23 50	II, 37
za-an-ku	za ₃ -mu	CTH 315 - AuOrS 23 50	II, 37
[m]a-[š]a-ra	mu ₂ -sar-ra	CTH 315 - AuOrS 23 50	II, 38
pa-a	pa ₅	CTH 315 - AuOrS 23 50	II, 38
ti ² -a	tum ₂ -a	CTH 315 - AuOrS 23 50	II, 38
šen	saĝ	CTH 315 - AuOrS 23 50	I, 39
ku-[u]k-ku	ku ₇ -ku ₇	CTH 315 - AuOrS 23 50	II, 39
ša ₃ -an-ki-ki-ne ₂	saĝ kiĝ ₂ -kiĝ ₂ -e	CTH 315 - AuOrS 23 50	II, 39
te-el-mu-na	delmun-na	CTH 315 - AuOrS 23 50	II, 39
[z]u-lum-	zu ₂ -lum-	CTH 315 - AuOrS 23 50	II, 39
lam-ma-qa-ma	4-kam	CTH 315 - AuOrS 23 50	II, 40
na-aš-ke-ma-am-ma-an-ku	ĝešgem-ama-ĝu ₁₀	CTH 315 - AuOrS 23 50	II, 40 II, 47
i-ši-en	izim	CTH 315 - AuOrS 23 50	II, 41
š[a-aš ² -gur]-ra	siškur-re	CTH 315 - AuOrS 23 50	II, 41
-a-ki-i-du	-a ₂ -ki-tu ₍₄₎	CTH 315 - AuOrS 23 50	II, 42
ĥu-us ₂ -sa-a	ĥuš-a	CTH 315 - AuOrS 23 50	II, 42
i-ki-	igi	CTH 315 - AuOrS 23 50	II, 42
ša ¹ -aš-gu[r]	siškur	CTH 315 - AuOrS 23 50	II, 42
du-um-mi-me	dumu-munus	CTH 315 - AuOrS 23 50	II, 43
ĥe ₂ -in-[gal-la]	ĥe ₂ -ĝal ₂	CTH 315 - AuOrS 23 50	II, 43
-ĥu-la	-ĥul ₂ -la	CTH 315 - AuOrS 23 50	II, 43
lu-gal	lugal	CTH 315 - AuOrS 23 50	II, 43
NI-in-NI-bu	?	CTH 315 - AuOrS 23 50	II, 43
ša-	ša ₃ -	CTH 315 - AuOrS 23 50	II, 43
ĥu-ul-ĥ[u]-la	ĥul ₂ -ĥul ₂ -la ₂	CTH 315 - AuOrS 23 50	II, 44
ki-e-ne ₂ -en-ti	ešemen (KI.E.NE.DI)	CTH 315 - AuOrS 23 50	II, 44
ki-en-te-me-en	ki-aĝ ₂ ša ₃ -ki-aĝ ₂	CTH 315 - AuOrS 23 50	II, 45
nu-ki-ki-it-ti	nu-gĭ ₄ -gĭ ₄ -da	CTH 315 - AuOrS 23 50	II, 45

Phonetic Writing	Standard Orthography	Source	Line
am-ma-ni-še	ama-ni-še ₃	CTH 315 - AuOrS 23 50	II, 46
i-ni-im-[du]-u	inim-DU-a ²	CTH 315 - AuOrS 23 50	II, 46
ku-u-ra	gur-ra-(am ₃)	CTH 315 - AuOrS 23 50	II, 46
lu-na-am-ra	lu ₂ -nam-ra	CTH 315 - AuOrS 23 50	II, 46
e-e-qa-ma	5-kam-ma	CTH 315 - AuOrS 23 50	II, 47
qa-mu-ra-an-šum ₂	ga-mu-ra-ab-šum ₂	CTH 315 - AuOrS 23 50	II, 47
ni ₃ -h _u š	ni ₂ -h _u š	KUB 4 7	1, 3
u ₃ -du ₂ -ud-ta	u ₃ -du ₂ -ud-da	KUB 4 7	4
^d nun-dim ₂ -mud	^d nu-dim ₂ -mud	KUB 4 7	9
me ₅ -lim ₄ -maḥ	me-lim ₄ -maḥ	KUB 4 7	11
mul ^l -mul ^l (-) ^E -NE	mul-ma-al-(?)	KUB 4 7	11
h _e ₂ -za-a(-)za-a-e-me-en	h _e ₂ -(?)-za za-e-me-en	KUB 4 7	12
ša ₃ -dub-pa	ša ₃ -dub-ba	KUB 4 39	11
kut-ta	gu ₇ -da (?)	KUB 57 126	Obv. I, 2
[saḡ]-ki-kut-ta	saḡ-ki-gud-da	KUB 57 126	Obv. I, 3
a-uš	i ₃ -(e)-zu	KUB 57 126	Obv. I, 3
ad-	i ₇ -(d)	KUB 57 126	Obv. I, 8
ga-na	gana ₂	KUB 57 126	Obv. II, 2, 4
uš-kar	u ₄ -šakar	KUB 57 126	Obv. II, 2
ša-an-ki-ku-ut-ta	saḡ-ki-gud-da	KUB 57 126	Obv. II, 3
pa-a-na	pana	KUB 57 126	Obv. II, 4
ša-an-ku-uš-ši	saḡ-mu-še ₃	KUB 57 126	Obv. II, 5
mu-un-ta	gi-un-ta	KUB 57 126	Obv. II, 6
e-du[r...]	e ₂ -du ₃ -a	KUB 57 126	Obv. II, 8
ša-an	saḡ	KUB 57 126	Rev. II, 7

1 See Nougayrol 1968, 317: 32.

2 The Old Babylonian manuscripts have inim-DU-(a).

4.1.1.3.2 Incantations

Phonetic Writing	Standard Orthography	Source	Line
lu-u-gal	lugal	HT 13 ¹	4, 5, 9, 10, 14
ab-zu	abzu	HT 13	5
nu-un-[gal-e-ne]	^d nun-gal-e-ne	KUB 4 24	Rev. 8
li-u[h-a]	lu ₂ -ug ₇ -a (?)	KUB 4 24	Rev. 10
[tu-(du)]-a-ga-a-ni	tu ₆ -du ₁₁ -ga-a-ni	KUB 4 24	Rev. 10
lu-u-gal	lugal	KUB 4 26B	1, 4, 8, 9
ke-eš-tu-u ₄ -ku	ḡeštug _{2/3}	KUB 4 26B	3
ti-in-qa-ri-ni	diḡir-ra-ni	KUB 4 26B	7
ti-en-kar	diḡir	KUB 4 26B	10, 11
ki-iš-tu-ug	ḡeštug _{2/3}	KUB 4 26B	13
ul-la-al	?	KUB 4 26B	14
u-me-ni-en-zu	u ₃ -me-ni-en-zu	KUB 34 4	4
te-li	til	KUB 37 111	Obv. R. Col. 3
zi-iG-pa	saḡ-ba	KUB 37 111	Obv. R. Col. 5, 7
pax(GAM)-ta	pa ₃ -da	KUB 37 111	Obv. R. Col. 5

Phonetic Writing	Standard Orthography	Source	Line
ḥu-u-la-a ²	?	KUB 37 111	Obv. R. Col. 7
bi-id-da ₂	bi- <su ₍₃₎ -su ₍₃₎ >-da-ta	KUB 37 111	Obv. R. Col. 9
i ₇ -ti	i ₇ -da	KUB 37 111	Obv. R. Col. 9
ba-su ₂ -šu-ud-ta	ba-su(3)-su(3)-da-ta	KUB 37 111	Obv. R. Col. 10
ab-ba-a	ab-ba	KUB 37 111	Obv. R. Col. 12
u ₂ -za-ag-ga	a su ₃ -ga	KUB 37 111	Obv. R. Col. 12
[na]-an-gub-ba	na-an-gub-be-(en)	KUB 37 111	Rev. R. Col. 3
na-an-tu-uš-ta-a	na-an-tuš-de ₃ -(en)	KUB 37 111	Rev. R. Col. 3
nam-ba-ki-ki-ti	nam-ba-gi ₄ -gi ₄ -de ₃ -(en)	KUB 37 111	Rev. R. Col. 4
nam-ba-še-šu-še-šu-de ₃	nam-ba-šu ₂ -šu ₂ -de ₃ -(en)	KUB 37 111	Rev. R. Col. 4
e ^l -ri-ba	i-ri-pa ₃	KUB 37 111	Rev. R. Col. 6
IZI	zi	KUB 37 111	Rev. R. Col. 6
e-ri-ib-ba	i-ri-pa ₃	KUB 37 111	Rev. R. Col. 8, 10
za-aG-pa	saĝ-ba	KUB 37 111	Rev. R. Col. 14
lu-gal	lugal	KUB 37 112	3
lu-u ₂ -gal	lugal	KUB 37 112	3

1 HT 13 (+) KUB 4 26B (+) KUB 37 112 contain other unorthographic writings but word boundaries cannot be clearly identified.
2 See § 5.3.10.

4.1.2 Emar

4.1.2.1 Syrian and Syro-Hittite Script Tablets

4.1.2.1.1 Literary Texts

Phonetic Writing	Standard Orthography	Source	Line
en ^l -ki-ik-ke	^d enki-ke ₄	E 767	II, 1
ki-iš-ḥur-ḥu-r[e]	ĝeš-ḥur-ḥur-re	E 767	II, 1
sur-šu-r[e]	sur-sur-re	E 767	II, 2
te-em-ma	dima	E 767	II, 2
ti-gi-re-e-ni	diĝir-re-e-ne	E 767	II, 2
i ₃ -ig-gal-[a]	i ₃ -ĝal ₂ -la	E 767	II, 3
i-gi-du-ud-du ₅	igi-du-ta	E 767	II, 3
i-nim	inim	E 767	II, 3
u-du	u ₄ -da	E 767	II, 3
-igi-du-a-ni	-igi-du-ka-ni	E 767	I, 4
-i-gi-du-ga-an-ni	-igi-du-ka-ni	E 767	II, 4
ki-iš	ĝeš	E 767	II, 4, 13
lu-	lu ₂ -	E 767	II, 4
me-na-a	me-na-am ₃	E 767	II, 4
-tu-ka-a	-tuku-a	E 767	II, 4
[dir]i(g)-ia-na-an-ni	diri-ge-ne-ne (?)	E 767	II, 5
lu-gal	lugal	E 767	II, 5, 17
e-da-ra-ga- [˘] an-ni [˘]	e ₂ -da-ri ₂ -ke ₄ -ne-ne	E 767	II, 6
-e-ne	-ne-ne	E 767	I, 6
[e-u]r-ra-k[e]- [˘] e [˘] -en	e ₂ -ur ₃ -ra-ke ₄ -e-ne	E 767	II, 6
[˘] e ₂ [˘] -da-ri ₂ -ke-e-ne	e ₂ -da-ri ₂ -ne-ne	E 767	I, 6

Phonetic Writing	Standard Orthography	Source	Line
-ki-im	-gen ₇	E 767	II, 7
ša-ud-ta-	su ₃ -ud-da-	E 767	II, 7
me-na	na-me	E 767	I, 8
nu-un-zu-wa-a	nu-un-zu-a	E 767	II, 8
ni-ik-k[e]	niĝen	E 767	II, 9
da-ri-iš	da-ri ₂ -eš ₂	E 767	II, 10
nam-lu-x [...]	nam-lu ₂ -u ₁₈ -lu	E 767	II, 10
[x-(x)-d]a-e-de ₃	bi ₂ -in-da-e ₁₁ -de ₃	E 767	I, 12
nam-ka-lag	nam-kala-ga	E 767	II, 15a
e-ne-e-še-ta	i ₃ -ne-eš ₂	E 767	I, 17a
-e [˘] ni-e [˘] ni	-e-ne	E 767	II, 17
e-ni-e-š[e]-ta	i ₃ -ne-eš ₂	E 767	I, 17a
u ₄ -saĝ ⁱ -ga-ta	u ₄ -saĝ-ĝa ₂ -ta	E 767	II, 17
-men ₅	-me-en	E 767	I, 18
nu-da-da-am-m[e-en]	nu-du ₂ -du ₂ -me-en	E 767	II, 18
-peš-ša-	-peš ₄ -a	E 767	II, 18
me-d[a-ri]	me-diri	E 767	II, 19a
na-ma-uš-ša	nam-uš ₂ -(a)	E 767	II, 19a
u-ga	ugu	E 767	II, 19a
za-la-aq-qa	zalag-ga	E 767	II, 19
ku-ru-uš	ĝuruš	E 767	II, 20
šu-zi-gir-še	?	E 767	II, 20
ti-kar-	diĝir-	E 767	II, 20
lu-ul-bi	li ^{ib} LUL	E 767	I, II, 21, 22
mu-un-na-ak-ke	mu-un-na-ak-e	E 767	II, 21
ša-ra	šar-ra	E 767	I, II, 21
zi-ki-ib-ta	? ¹	E 767	I, II, 21
ša	ša ₃	E 767	II, 22
-ĥu-la-al	-ĥul ₂ -la ₂	E 767	II, 22
u ₂	u ₄	E 767	II, 22
u ₃ -šar-šar	šar ₂ ×u=3600×10	E 767	II, 22
u ₃ -ser ₃ -ser ₃	šar ₂ ×u=3600×10	E 767	I, 22
za-[-...]- [˘] il ₂ [˘]	(niĝ ₂)-saĝ-ki-il ₂ -la	E 767	I, 22
za-an-ki-el-la	(niĝ ₂)-saĝ-ki-il ₂ -la	E 767	II, 22
lu-u ₂ -tur-ra-bi	lu ₂ -tur-ra-bi	E 767	I, II, 23
[˘] i ₃ [˘] -in-gen ₇ ¹⁷	e-ne-gen ₇	E 767	I, 23
i ₃ -in-ke	e-ne-gen ₇	E 767	II, 23
[˘] e [˘] -[e]n-ni	e-ne	E 767	II, 24
ge-na	ĝen-na	E 767	II, 24
ki-iš-ĥu-ur	ĝeš-ĥur	E 767	II, 24
[nam]- [˘] lu-ul-lu [˘]	nam-lu ₂ -u ₁₈ -lu	E 767	II, 24
u ₂ -za-an-du	usandu (ĤU.DU ₃)	E 768A	II, 1
ib-ta-na ₂	ib ₂ -ta-na ₂	E 768A	I, 2
ib-ta-na	ib ₂ -ta-na ₂	E 768A	II, 2
in-ta-ba-an-ki	im-ma-(ta [˘])-an-ĝi ₄	E 768A	I, 3

Phonetic Writing	Standard Orthography	Source	Line
u-du	^d utu	E 768A	II, 3, 4
i-zi-...]	izim	E 768A	II, 4
za-la-aq-qa	zalag	E 768A	II, 4
ib-dib-ba	ib ₂ -dib-ba	E 768A	I, 5
ib-te-...]	ib ₂ -dib-ba	E 768A	II, 5
mu-š[i-in-x-]-a	mušen-ḫi-a ²	E 768A	II, 5
[du]-mu-ḡu ₁₀	dumu-ḡu ₁₀	E 768A	II, 6
ib-...]	ib-...]	E 768A	I, II, 6
buru ₃ -mušen-e-ne	buru ₄ ^{mušen} -e-ne	E 768A	I, 7
bu-ru-e-en-ni	buru ₄ ^(mušen) -e-ne	E 768A	II, 7
buru ₃ -mušen-...]	buru ₄ ^{mušen}	E 769	7
mi-en-na-a	me-en-am ₃	E 770	3
duq-qa-gen ₇	du ₁₁ -ga-gen ₇	E 770	8
ḫe-ib-[tar-re]	ḫe ₂ -ib ₂ -tar-re	E 771+	11
ḫe-a	ḫe ₂ -a	E 771+	24
ki-u ₄ -ta-ta	ki-u ₄ -da-ta	E 771+	25
e'-na	en-na	E 771+	26
i ₃ -in-eš ₂	i-ne-eš ₂	E 771+	26
til ₃ -la-e-ni	til ₃ -la-ni	E 771+	26
ub-be ₂	ul ₄ -le	E 771+	28
mu-tal ₂	mu-zal	E 773	3
ḫe-mu ₂ -me-en-na-an-da	?	E 775	2
ḫe ₂ -ne-tar-re	ḫe ₂ -ni-tar-re	E 775	3
nu-bal(a)-ta	nu-bala-e-da	E 775	3
an-na	an-e	E 775	8
ne-ne	?	E 775	10
gi-dub-ba-a	gi-dub-ba	E 775	11
edin-na	edin-e	E 775	16
a-na	a-an	E 775	19
ga-a-ni-šur-ra-ke ₄	ga-ni-šur-ra ak (?)	E 775	19
gu-la-kam ₂	gu-la-am ₃	E 775	20
mu-un-DU-a-DU	?	E 775	22
tum-	tum ₂	E 775	22
ḡa ₂ -ra	ḡar-ra	E 775	23
ti-la-ši	til ₃ -la-še ₃	E 775	23
ni-ta-aḫ-aq-qa-...]	nita(ḫ)-kala-ga	E 776	3
kala-ke	kala-ge	E 776	4
mu-un-ke-ne ₂ -e	mu-un-ge-ne ₂	E 776	4
ni-in-gur	niḡ ₂ -gur ₁₁	TBR 101	Obv. 2
ši-ma-aš-ki	šimaški (LU ₂ .SU.(A))	TBR 101	Obv. 3
t[i-(in)-gi-ir]	diḡir	TBR 101	Obv. 3
nu-ke-eg	nu-geg	TBR 101	Obv. 4
e-ri-ma-a-ni	erin ₂ -a-ni	TBR 101	Obv. 5
nu-un-ku-a-ni	numun-a-ni	TBR 101	Obv. 6
al-du-uš	al-tuš	TBR 101	Obv. 8

Phonetic Writing	Standard Orthography	Source	Line
du-uk-ta	taka ₄ -(a-bi)	TBR 101	Rev. 4
tu-ku-ut-t[a]	taka ₄ -(a-bi)	TBR 101	Rev. 5

1 See Alster 2005, 318: 21.

2 This reading is adopted because it is attested in the standard orthography version, but it is obviously incorrect in Sumerian, see § 6.2.3.

4.1.2.1.2 Incantations

Phonetic Writing	Standard Orthography	Source	Line
-e ₃ -de ₃	-e-de ₃	E 729	1, 2
mu _x -mu _x	mu ₇ -mu ₇	E 729	3
ħa-a	ħe ₂ -a	E 729	5
in-na-an-ga	en-nu-uĝ ₃	E 729	5
ħe ₂ -en-da ₃ -su ₂ -ge-eš	ħe ₂ -en-ta-su ₈ -su ₈ -ge-eš	E 729	6
nin-<a>-gub-ba	nin-a-gub ₂ -ba	E 729	8
e-re-a	eri/iri-a	E 729	11
e-re-e-du-ga-	eridu-ga	E 729	12
tiĝ ₄ -ke-ta-mu-ni	teĝ ₃ /tiĝ ₄ -ĝe ₂₆ -da-mu-ne	E 729	14
ʾzuʾ-zu-ta-ni	zu-mu-da-ne (?)	E 729	14
-e-ri-du-ga	eridu-ga	E 729	15
šū-bu-da ₃ -mu-ni	šub-bu-da-mu-ne	E 729	15
[kuʾ di-m]u-ni	gu ₃ di-mu-ne	E 729	16
ra-ra-ta-mu-ʾniʾ	ra-ra-da-mu-ne	E 729	16
mu-un-niĝ[en]-ʾnaʾ-aš ₂	mu-un-niĝen ₍₂₎ -niĝen ₍₂₎ -ne-eš	E 729	24
baʾ-anʾ-du-gaz	ba-an-da-gaz	E 729	26
mu-un-zi-ge-eš	mu-un-sag ₃ -ge-eš	E 729	26
ʾšu-gegʾ	zu ₂ -geg	E 729	41
mu-gib (Emesal)	mu-gib ₃	E 733	8
mu-nu-še	?	E 733	14
ti-el-la-ga-an-ni	til-la-ke ₄ -e-ne	E 734	2
ki-da-an-ni	gid ₂ -da-ni	E 734	3
za-aš	za ₃ -še ₃	E 734	3
da-ra	da-ri ₂ -a (?)	E 734	4
it-ti	iti (?)	E 734	4
nu-mu-un-du-we	nu-mu-un-du ₍₈₎ -e	E 734	5
nu-mu-un-pa-ap-li-ia	nu-mu-un-bala-bala-e-(da)	E 734	6
uš-	uš ₇ -	E 734	7
du-u-ga	du ₁₀ -ga	E 734	8
nu-mu-un-ba-da-en-ze ₂ -en	nu-mu-un-pa ₃ -de ₃ -en-ze ₂ -en	E 734	10
nu-gib	nu-geg / mu-gib ₃	E 740	2
ħe ₂ -en-da-gub	ħe ₂ -en-ta-gub	E 743	3
gan-me-ta	gan-me-da	E 751	5
ša ₂ -gu	?	Tsukimoto	25
pa-da-dal	ba-da-dal	Tsukimoto	37
i-ki-du (2)	igi-ĝu ₁₀	Tsukimoto	37
ba-da-an-za-aħ	ba-da-(an)-zaħ ₂	Tsukimoto	37

Phonetic Writing	Standard Orthography	Source	Line
me-te	me-še ₃ (?)	Tsukimoto	37
an-nu	an	Tsukimoto	38
u ₂ -min	imin	Tsukimoto	38
u ₂ -me-en (2)	imin	Tsukimoto	38
bar-da	bar-ta	Tsukimoto	38
i-ki	igi	Tsukimoto	38
-gu-ub	-gub	Tsukimoto	40

4.1.3 Ugarit⁹³⁰

4.1.3.1 Babylonian Script Tablets

4.1.3.1.1 Literary Texts

Phonetic Writing	Standard Orthography	Source	Line
ʾi ₃ ʾ-ti ₂ -eš	i-ti(l) ₃ -eš	RS 25.130	3
nu-peš ₄ -peš ₄ -e-ne	nu-peš ₄ -peš ₄ -me-eš	RS 25.130	5
šu-kur ₂	šu-kar ₂	RS 25.130	30
-kur-	-ukur ₃ -	RS 25.130	36

4.1.3.1.2 Incantations

Phonetic Writing	Standard Orthography	Source	Line
dar-da-rak-ku	dar-dar-ra-ĝu ₁₀	AuOrS 23 25	12
u ₂ -sun ₂ -na-pi	usan-bi	AuOrS 23 25	12
si-ga-ab	sag ₃ -ga-ab (?)	AuOrS 23 25	13
si-li-ib	?	AuOrS 23 25	13
ap-pap-ma-aš ₂	pap-meš	AuOrS 23 25	14
ḫe ₂ -kul-la	ḫe ₂ -gul-la	AuOrS 23 25	14
ḫa-za-ar-na-aš ₂	?	AuOrS 23 25	22, 23, 24
im-te-mu	im-te-mu ₄ (?)	AuOrS 23 25	36
im-te-ta	im-te-ta ₃	AuOrS 23 25	36
kal-la	gurus	AuOrS 23 25	37
nu-i ₃ -zu	nu-e-zu	AuOrS 23 25	43-44
-ke	-ke ₄	AuOrS 23 25	51
-ku	-ke ₄	AuOrS 23 25	52
^d u ₂ -u ₂ -u ₄ -du	^d utu	AuOrS 23 27	7
a-ga	aĝ ₂ -a	AuOrS 23 27	14
e ₂ -ḫal-la-ak-e	e ₂ -ḫal-la-ke ₄	AuOrS 23 59	3

⁹³⁰ As far as AuOrS 23 21 is concerned, only phonetic writings from Sumerian (§§ 6, 8) and partially written Sumerian incantations (§§ 1, 3) are listed in the table, see § 7.3.7.

4.1.3.2 Ugarit Script Tablets

4.1.3.2.1 Literary Texts

Phonetic Writing	Standard Orthography	Source	Line
-še	-še ₃	RS 17.10	Obv. 4
-du-uš-ša ₂ -a	-tuš-a	RS 17.10	Obv. 5
[ki?]-in [˘] -nim-kalam-kalam-ab-bi	ki niĝ ₂ -galam-galam-ma-bi	RS 17.10	Obv. 7
-ba-ba-ta	-pa ₃ -pa ₃ -da	RS 17.10	Obv. 8
ni-ik-ki	niĝ ₂	RS 17.10	Obv. 9
-bi-i-di	-bi-da	RS 17.10	Obv. 10
mu-un-za-am-za-a	mu-un-na-an-šen-šen	RS 17.10	Obv. 10
[d]al-dal-bi	dul-dul-bi	RS 17.10	Obv. 11
de-en-ni-ig	dinig	RS 17.10	Obv. 12
ka-<aš>-al-ĥi-a	gi-šul-ĥi-a	RS 17.10	Obv. 12
ri-iq-qa	riĝ ₇ -ga	RS 17.10	Obv. 13
na-aš-ki	ĝeš-gi	RS 17.10	Obv. 14
na-aš-bi-<ša>-a	ĝeš-peš-a	RS 17.10	Obv. 14
[igi-zu-u]n-na-an-ti-ki-aš	igi-zu na-ba-an-tiĝ ₄ -ĝa ₂ -(aš)	RS 17.10	Obv. 16
-ki-	-gi ₄ -	RS 17.10	Obv. 16
nu-uz-za-a	nu-zu-a	RS 17.10	Obv. 17
nam-dub-sar-re-eš-še	nam-dub-sar-ra-še ₃	RS 17.10	Obv. 18
šu bur-ra	šu bur ₂ -ra	RS 17.10	Rev. 1
at-ta-an-ni	ad-da-ni	RS 17.10	Rev. 2
gu-ru-uš [˘]	ĝuruš	RS 23.34+	A, 4
ga-la[...]	ga-ra-an-zu	RS 23.34+	A, 5
a-li-im	isiš ₂ (A.IGI)	RS 23.34+	A, 6
ša-ra	šar-ra	RS 23.34+	A, 6
zi-k[i-ib]-ti	?	RS 23.34+	A, 6
lu-ul-bi	?	RS 23.34+	A, 7
ĥu-ul-la	ĥul ₂ -la	RS 23.34+	A, 8
saĝ-ki-il-la	niĝ ₂ -saĝ-il ₂ -la	RS 23.34+	A, 8
ĥe-in-du	ĥe ₂ -en-du	RS 23.34+	A, 9
u ₂ -	u ₄ -	RS 23.34+	A, 9
mi-nim-ru [?]	mi-ni-diri	RS 23.34+	A, 11
i ₃ -[i]g-gu	e-ne-gen ₇	RS 23.34+	A, 12
en-na	e-ne	RS 23.34+	A, 14
nam-u ₁₈ -lu- [˘] lu [˘]	nam-lu ₂ -u ₁₈ -lu	RS 23.34+	A, 14
ki-i[n-na]	ĝen-na	RS 23.34+	A, 15
te-[em...]	dima	RS 23.34+	B 3
u ₂ -tu	u ₄ -da	RS 23.34+	B, 5
[˘] lu [˘]	lu ₂	RS 23.34+	B, 6
me-e-tum	me-na	RS 23.34+	B, 6
ki-iš	ĝeš	RS 23.34+	B, 7
luĥ-ba-an[...]	la-ba-an[...]	RS 23.34+	B, 7
lu-gal	lugal	RS 23.34+	B, 8

Phonetic Writing	Standard Orthography	Source	Line
-ni-in-ni	-(e)-ne-ne	RS 23.34+	B, 8
e-ur-ra-ga- [˘] an-ni [˘]	e ₂ -ur ₃ -ra-ke ₄ -ne-ne	RS 23.34+	B, 10
[a]n-š _u ₂ -u ₄ -ta- [˘] ke [˘] -[...]	an-su ₃ -u ₄ -da-gen ₇	RS 23.34+	B, 11
u ₄ -ta	u ₄ -da	RS 23.34+	B, 12
lu-ga-la-gu	lugal-ĝu ₁₀	RS 79.25	1
ti-il-la	til ₃ -la	RS 79.25	1
-gi-id-du ₅	-gid ₂ -da	RS 79.25	2
u ₂ -mu	u ₄ -	RS 79.25	2
ĥa-a	ĥe ₂ -a	RS 79.25	2, 3
-aĥ-bi-lu	-gibil	RS 79.25	3
u ₂ -mi-za-	mu-mu-za	RS 79.25	3
il-li-il	^d en-lil ₂	RS 79.25	4
šu nam-ba-le-e	šu nam-bal-le-de ₃	RS 79.25	4
(šu-)nam-tar-ta-re-e-ni	nam-tar-re-de ₃	RS 79.25	5
ka-du-gi-ni	ka-du ₁₀ -ga-ni	RS 79.25	6
mu-li-li	^d mu-ul-lil ₂	RS 79.25	6
šu-da-ia-ku	šudu ₃ -ak	RS 79.25	6
kala-ma	kalam-ma	RS 79.25	7
šu-da-ia-ak	šudu ₃ -ak	RS 79.25	7
ti-ga-ar	diĝir	RS 79.25	7
a-ru-ri	^d a-ru-ru	RS 79.25	8
-du-ud-du ₅	-du ₈ -du ₈	RS 79.25	8
e-re-eš	ereš	RS 79.25	8, 25
ma-aĥ	maĥ	RS 79.25	8, 25
[a-š]a-lu-uĥ-ĥe ₂	^d asal-lu ₂ -ĥi	RS 79.25	10
e-kur	e ₂ -kur	RS 79.25	10
a-ša-a-li	^d asal	RS 79.25	12
ma-an-a-gal-ta-qa-a	ĝal ₂ mu-un-taka ₄ -a	RS 79.25	12-13
ab-zu-ke	abzu-ke ₄	RS 79.25	14
in-ki	^d en-ki	RS 79.25	14
lu-gal	lugal	RS 79.25	14, 21, 44
gi-il-tun ₃	ĝeštug _{2/3} (?)	RS 79.25	15
-du ₅	-du ₁₀	RS 79.25	15
la-le-e	la-la	RS 79.25	16
a-nu-	^d an	RS 79.25	17
-ga-al	-gal	RS 79.25	17
-zu	-si	RS 79.25	17
la-li-a-ni	la-la-a-ni	RS 79.25	18
ta-a-bi	du ₃ -a-bi	RS 79.25	18
-kur-ku-ra-ak-ka	-kur-kur-ra-ke ₄	RS 79.25	19
su-pa-	sipa-	RS 79.25	19
u ₂ -du	^d utu	RS 79.25	19
ĥe-za-la-qa	ĥe-zalag ₂ -ge	RS 79.25	20
u ₄ -za-la-qa-ka	u ₄ -zalag ₂ -(ga)-gen ₇	RS 79.25	20
[a-k]a	^d ak	RS 79.25	21

Phonetic Writing	Standard Orthography	Source	Line
-gi-du-ba-a	-gi-dub-ba	RS 79.25	21
-gi-da	-gid ₂ -da	RS 79.25	22
ta-r[i]	tar	RS 79.25	22
a-[kala-zu]	a ₂ -kala-zu	RS 79.25	23
ni-nu-ur-ta	^d nin-urta	RS 79.25	23
ka-la-qa-e-ni	kala-ge-de ₃	RS 79.25	24
[i ² -n]a-na	^d inana	RS 79.25	25
ḫu-uš	ḫuš	RS 79.25	26
su-lu-um	su-lim	RS 79.25	26
gi-in-ni-in-mi-ni	ḡe ₆ ni ₂ me-lim ₄	RS 79.25	27
a-te-na	edin-e	RS 79.25	28
ni ₂ -te-na	ni ₂ -te-a-ni	RS 79.25	28
-ki-im	gen ₇	RS 79.25	29
a-ia-i-du	a-i ₇ -da	RS 79.25	29, 30
za-e-me-in	za-e-me-en	RS 79.25	31
du-ga	du ₁₁ -ga	RS 79.25	32
i	i ₇	RS 79.25	32
ḫe-gal	ḫe ₂ -ḡal ₂	RS 79.25	34, 44
-ḫu-la	-ḫul ₂ -la	RS 79.25	35
ša-	ša ₃ -	RS 79.25	35
ku-ug-bi	gu ₂ -un-bi	RS 79.25	36
i-da-me-en	i ₇ -da-me-en	RS 79.25	37
u ₂ -na-me-e	mu nam-mu	RS 79.25	39
i-da-[na-mi-da]	iti nam-iti	RS 79.25	40
u ₂ -da-gi	u ₄ -da-kam	RS 79.25	40
ki-il-za	gil-sa	RS 79.25	41
u ₂ -du-ra-am-me	u ₄ -da-ra-am	RS 79.25	42
ḫe ₂ -ga-al	ḫe ₂ -ḡal ₂	RS 79.25	43
iz-kur	^d iškur	RS 79.25	44
nu-dim-ma	nu-dim ₂ -ma	RS 86.2210	I, § 1
ki-	gi-	RS 86.2210	I, § 3
gi-ku-du- [...]	^g ge ₂ -ma ₂ -šū ₂ -a (?)	RS 86.2210	II, § 3
ni-ge-na	niḡen-na	RS 86.2210	II, § 3
si-si-id-[da]	zi-zi-da	RS 86.2210	II, § 3
du-ma	tum ₂ -ma	RS 86.2210	II, § 4
dur	dur ₂	RS 86.2210	I, § 4
ga-pa-a	gab-a	RS 86.2210	II, § 5
kar-kar	gir ₅ -gir ₅	RS 86.2210	II, § 5
ma-aš-rab-ba	maš-tab	RS 86.2210	II, § 5
pa-a-tar	ba-tar	RS 86.2210	I, § 5
pa-ta	ba-tar	RS 86.2210	II, § 5
ur-ku-ul-la	ur-gu-la	RS 86.2210	II, § 6
ba-an-gu	ba-an-ku ₄	RS 86.2210	II, § 7
gu-gu-ut-ta	ku ₅ -ku ₅ -de ₃	RS 86.2210	II, § 7
gi-ri	giri ₁₇	RS 86.2210	II, §§ 7-8

Phonetic Writing	Standard Orthography	Source	Line
ḥa-am-bu-ru-ud-da-ni-iš	ḥabrud-da-ne ₂ -eš ₂	RS 86.2210	II, § 7
ku-ku-ut-ta	ku ₅ -ku ₅ -de ₃	RS 86.2210	I, § 7
zi-an-ni	zi-a-ni	RS 86.2210	I, II, § 7
-da	-du ₈	RS 86.2210	I, § 8
ga ^(a)	ka ₅ ^a	RS 86.2210	II § 8, 9
i-ki	igi	RS 86.2210	II, § 8
-ge-en-na	-ĝen-na	RS 86.2210	II, § 9
u ₂ -gu-uš-še	ugu-še ₃	RS 86.2210	II, § 9
[da]m-lugal-ke ₄	dam-lugal-la-ke ₄	RS 86.2210	I, § 10
da-am	dam	RS 86.2210	II, § 10
lu-gal-la-[ke]	lugal	RS 86.2210	II, § 10
u ₂ -du-ud-[da]	u ₃ -du ₂ -ud-da	RS 86.2210	II, § 10
al-la-al	al-lal ₂	RS 86.2210	I, § 11
e-	e ₂ -	RS 86.2210	II, § 11

4.1.3.2.2 Incantations

Phonetic Writing	Standard Orthography	Source	Line
e-ni-nu-ru ₃	en ₂ -e ₂ -nu-ru	AuOrS 23 13	1
nu-tu ₄ -ga	nu-du ₁₁ -ga	AuOrS 23 13	2
i-na-ka-re	i ₃ -na-kar-e	AuOrS 23 13	3, 4
ka-la	kala(g)	AuOrS 23 13	5
si-il-lal-i-kat-ta	asila-ka-ta	AuOrS 23 21	6
i-ri-du-ka-ak-ke	eridu-ka-ke ₄	AuOrS 23 21	7
niĝ ₂ -nu-saĝ-ga	niĝ ₂ -nu-sa ₆ -ga	AuOrS 23 21	7
ta-mu-zi-ig	dumu-zi(g)	AuOrS 23 21	7
-aš	-še ₃	AuOrS 23 21	8
ki-ik-ki	ĝi ₄ -ĝi ₄	AuOrS 23 21	8
niĝ ₂ -nu-ti-il-la-ag-ga	niĝ ₂ -nu-til ₃ -la-ka	AuOrS 23 21	8
šu nu-tu-ga-ga	šu nu-du ₁₀ -ga-ka	AuOrS 23 21	8
zi-nam-nu-na-ku-ru-na	?	AuOrS 23 21	46
it-te-ta-ni-eš	i ₃ -te-da-ni-eš ₂	AuOrS 23 21	47
du-mu	dumu	AuOrS 23 21	54
e-ri-du-ga	eridu-ga	AuOrS 23 21	54
lu-ul-lu-ra-da-ke	lu ₂ -u ₁₈ -lu-ra ₂ -da-ke ₄ ¹	AuOrS 23 21	55
si-la-a-e	sil-a-e	AuOrS 23 21	55
ba ^l -ri-an-teĝ ₃	bara-an-teĝ ₃ -(ĝe ₂₆)	AuOrS 23 21	67
ḥa-an-da-bu-re	ḥa-an-da-bur ₂ -re	AuOrS 23 21	67
ḥa-an-du-bu-ra	ḥa-an-da-bur ₂ -ra	AuOrS 23 21	67
bur-bur-ni-ik-ke	bar-bar-e-ne-ke ₄	AuOrS 23 21	68
pi-in-du	bi ₂ -in-du ₈	AuOrS 23 21	68
ab-su-ke	abzu-ke ₄	AuOrS 23 21	69
[en-ki]-ik-ke	^d enki-ke ₄	AuOrS 23 21	69
lu-gal	lugal	AuOrS 23 21	69
mu-um-mu-ke	mu ₄ -mu ₄ -(ke ₄)	AuOrS 23 21	69
ni-ig-gi-ri-ma-re-eš	niĝ ₂ -ĝir ₂ -ĝar-eš ₂	AuOrS 23 21	69

Phonetic Writing	Standard Orthography	Source	Line
a-še-in-zu	uš ₇ -nu-zu (?)	AuOrS 23 21	70
[a-sa-ki-i]k-ku	a ₂ -sag ₃ -ge	AuOrS 23 21	70
ħa-an-da-bur-re	ħa-an-da-bur ₂ -re	AuOrS 23 21	70
ħe ₂ -RU	ħe ₂ -pa ₃ (IGI.RU)	AuOrS 23 21	70
ki-ia	ki-a	AuOrS 23 21	70, 97
aš-gar ₃	aš-ġar	AuOrS 23 21	79
<gu>-u ₂ -ru-ud-ta	gurud-da	AuOrS 23 21	79
ne-zu	nu-zu	AuOrS 23 21	79
saġ-ke-dab	saġ-geg-dab	AuOrS 23 21	79
lu-u ₂ -	lu ₂ -	AuOrS 23 21	80
lu-u ₂ -	nu-	AuOrS 23 21	80
lu-ug-gen ₇	lu ₂ -u ₁₈ -lu-gen ₇	AuOrS 23 21	80
mu-un-du-du	mu-un-du ₆ -du ₆	AuOrS 23 21	80
ti-kar	diġir	AuOrS 23 21	80
-tu-ku-ra	-tuku-ra	AuOrS 23 21	80
a-lim	alam	AuOrS 23 21	81
ku ¹ -u ₂ -ba-ni	gub-ba-ni	AuOrS 23 21	81
mu-ut-ta-ša-a	mud-da-še ₃	AuOrS 23 21	81
nu-k[e-eš-da]	nu-keš ₂ -da	AuOrS 23 21	81
si-la-si-si-an-	sil-a-si-sa ₂	AuOrS 23 21	81
mu-saġ-ġa ₂	muš-a-ġa ₂	AuOrS 23 21	82
mu-saġ-ke	muš-a-gen ₇	AuOrS 23 21	82
a-ia-an-ni-gi-re-a-ab-ba-saġ ₁₀ -ga	aia-ni ^d enki-ra e ₂ -a ba-ši-ku ₄ -a	AuOrS 23 21	83
i-gi	igi	AuOrS 23 21	83
ku mu-n[a-de]	gu ₂ mu-na-de ₂	AuOrS 23 21	83
muš-šu	mu-šum ₂	AuOrS 23 21	83
a-ia-ku	aia-ġu ₁₀	AuOrS 23 21	84
a-ra-me-ek-mu-aš-šu	a-ra ₂ -min-kam ₂ -aš	AuOrS 23 21	84
-gi-gi	-gi ₄ -gi ₄	AuOrS 23 21	85
in-ki	^d enki	AuOrS 23 21	85, 87
a-na-a	a-na-am ₃	AuOrS 23 21	86
an	ana	AuOrS 23 21	86
ga-ra-bi-ta-aħ-ħe	ga-ra-ab-taħ-e	AuOrS 23 21	86
na-i-zu	na-e-zu	AuOrS 23 21	86
tu-mu-ga	dumu-ġu ₁₀	AuOrS 23 21	86
za	za-e	AuOrS 23 21	86
ka	ġa ₂ -e	AuOrS 23 21	87
ni-ga-e-za-i	niġ ₂ -ġa ₂ -e i ₃ -zu-(a-ġu ₁₀)	AuOrS 23 21	87
li-UR-ma	?	AuOrS 23 21	90
u ₂ -me-na-si ₁₂ -si ₁₂	u ₃ -me-ni-si ₁₂ -si ₁₂	AuOrS 23 21	91
giz-za-na	i ₃ -ġeš-ta (?)	AuOrS 23 21	92
u ₂ -me-na-ħe ₂ -ħe ₂	u ₃ -me-ni-ħi-ħi	AuOrS 23 21	92
saġ-ġa ₂ -gu ₂ -bi	saġ-ki-a ₂ -gub-bi	AuOrS 23 21	93
ti-iš-bur	?	AuOrS 23 21	93

Phonetic Writing	Standard Orthography	Source	Line
šu-un-ni	šu-ni	AuOrS 23 21	94
sa-si-qa	za ₃ -sag ₁₀ -ga	AuOrS 23 21	95
za-al-za-al-li-bi	zal-zal-a-bi	AuOrS 23 21	95

1 Cf. Arnaud 2007, 85: 55.

4.2 Graphic Alterations

Graphic alterations are here defined as modifications of the Sumerian standard orthography which do not produce phonetic shifts.

4.2.1 Homophony

Under homophony are listed words spelled out with signs that are homophones of logograms used in standard orthography. Sign values added over time through the extension of the cuneiform system to different languages, primarily Akkadian, will not be considered as homophones.⁹³¹ Examples from Old Babylonian texts are not given here as homophony is by far the most prevalent alteration and is common to all sources.⁹³²

Ḫattuša

Babylonian Tablets

- **a** ~ a₂ in a-šu-g[i-ri²-a(n)²-ni] ~ a₂-šu-ḡiri₃-a-ni – KUB 30 4, R. Col. 13
- **i**- ~ i₃- in i-bu-bu ~ i₃-bu₍₂₎-bu₍₂₎ – KUB 30 1, I, 4
- **lu** ~ lu₂ – KUB 30 1, I, 9, 16
- **lu** ~ lu₂ – KBo 36 13, L. Col. 12
- **lu-** ~ lu₂- in lu-ul-lu-bi ~ lu₂-ulu₃ / lu₂-u₁₈-lu – KBo 36 13, R. Col. 9
- **lu-** ~ lu₂- in lu-ul-lu-bi ~ lu₂-ulu₃ / lu₂-u₁₈-lu – KBo 36 15 Rev. 2
- **lu-** ~ lu₂- in lu-ul-lu ~ lu₂-ulu₃ / lu₂-u₁₈-lu – KUB 30 1, I, 14
- **lu-** ~ lu₂- in lu-ul-lu ~ lu₂-ulu₃ / lu₂-u₁₈-lu – KUB 30 2, II, 4
- mu-un-ši-ib-**gu** ~ mu-un-ši-ib-gu₇ – KUB 30 2, I, 8
- **-si** ~ -si₃ – KUB 30 1, I, 20
- **-su** ~ su₃ in a-an-su ~ an-su₃⁹³³ – KUB 30 1, II, 2
- **uš** ~ uš₇ – KUB 30 1, I, 10, 11, 12
- **uš-** ~ uš₇- in uš-ra-a ~ uš₇-ri-a – KUB 30 1, I, 5
- **uš-** ~ uš₇- in uš-ra-a-bi ~ uš₇-ri-a-bi – KBo 36 13, R. Col. 4
- **uš-zu** ~ uš₇-zu – KUB 30 1, II, 4

Assyro-Mitannian Tablets

- (-)**gi-gi** ~ (-)gi₄-gi₄ – KBo 36 11+ Obv. 24, 35
- su-**gu**₂ ~ su-gu₇ (?) – KBo 36 11+ Obv. 33
- [šu-**t**]a-ga ~ šu-ta₃-ga – KBo 36 11+ Obv. 22
- **uš-bi** ~ uš₂-bi – KBo 36 11+ Rev. 39

931 For instance the sign NE will not be considered a homophone of ni with value ni₅, but it can be considered a homophone of bi as the reading bi₂ is not a secondary value.

932 See Krecher 1966a, 43.

933 For this word see Geller 1989, 203: 44.

Hittite Script Tablets

- **-ke** ~ -ke₄ *in* a-ni-ma-za-an-qa-ak-ke - CTH 315 - AuOrS 23 50, II, 33
- **lu-na-me** ~ lu₂-na-me - CTH 314 - KUB 4 5, II, 9
- **lu-** ~ lu₂ *in* lu-na-am-ra ~ lu₂-nam-ra - CTH 315 - AuOrS 23 50, II, 46
- **lu-** ~ lu₂- *in* lu-gal ~ lugal - KUB 37 112, 3
- **lu-** ~ lu₂- *in* lu-u₂-gal ~ lugal - KUB 37 112, 3
- **me**₅-lim₄-maḥ ~ me-lam₄-maḥ - KUB 4 7, 11
- **ni-gal-a-ni** ~ ni₂-gal-a-ni - CTH 314 - KUB 4 6 Obv. II, 4
- **ša-** ~ ša₃- - CTH 315 - AuOrS 23 50, II, 43
- **u** ~ u₄ *in* im-u-a-ab-ba ~ im-a u₄ a₂-ba - CTH 315 - KUB 4 2, 3
- **u-me-ni-en-zu** ~ u₃-me-ni-en-zu - KUB 34 4, 4
- **[z]u-lum-** ~ zu₂-lum- - CTH 315 - AuOrS 23 50, II, 39

Emar

- **buru**₃-mušen-[...] ~ buru₄^{mušen} - E 769, 7
- **buru**₃-mušen-e-ne ~ buru₄^{mušen}-e-ne - E 768A, I, 7
- **-da**₃- ~ -da- *in* šu-bu-da₃-mu-ni ~ šub-bu-da-mu-ne - E 729, 15
- **du-** ~ du₁₀- *in* du-u-ga ~ du₁₀-ga - E 734, 8
- **-e**₃-de₃ ~ -e-de₃ - E 729, 1, 2
- [x(x)-d]a-e-de₃ ~ [bi₂-in-da]-e[₁₁-de₃] - E 767, I, 12⁹³⁴
- **-gur** *in* ni-in-gur ~ niĝ₂-gur₁₁ - TBR 101 Obv. 2
- **ḥe**-a ~ ḥe₂-a - E 771+, 24
- **ḥe-ib**-[tar-re] ~ ḥe₂-ib₍₂₎-tar-re - E 771+, 11
- **ib-** ~ ib₂- *in* ib-ta-na₂ / ib-ta-na - E 768A, I, II, 2
- **ib-** ~ ib₂- *in* ib-dib-ba - E 768A, I, 5
- **ib-** ~ ib₂- *in* ib-te-[...] ~ ib₂-dib-ba - E 768A, II, 5
- **ib-** ~ ib₂- *in* ib-[...] - E 768A, II, 6
- **lu-** ~ lu₂- - E 767, II, 4
- **-lu-** ~ -lu₂- *in* nam-lu-x [...] ~ nam-lu₂-u₁₈-lu - E 767, II, 10
- **-lu-** ~ -lu₂- *in* [nam]-lu-ul-lu' ~ nam-lu₂-u₁₈-lu - E 767, II, 24
- mu-**gib** (Ēmesal) ~ mu-gib₃ - E 733, 8
- **mu**_x-**mu**_x ~ mu₇-mu₇ - E 729, 3
- **-na** ~ -na₂ *in* ib-ta-na ~ ib₂-ta-na₂ - E 768A, II, 2
- nin-<a>**gub**-ba ~ nin-a-gub₂-ba - E 729, 8
- **-peš**-ša- ~ -peš₄-a- - E 767, II, 18
- **-su**₂- ~ -su₈- *in* ḥe₂-en-da₃-su₂-ge-eš ~ ḥe₂-en-ta-su₈-su₈-ge-eš - E 729, 6⁹³⁵
- **ša-** ~ ša₃- - E 767, II, 22
- **tum-** ~ tum₂- - E 775, 22
- **u**₂ ~ u₄ - E 767, II, 22
- **-uš**- ~ -uš₂- *in* na-ma-uš-ša ~ nam-uš₂-(a) - E 767, II, 19a
- **uš-** ~ uš₇- - E 734, 7

934 Note that standard orthography and phonetic Sumerian are inverted, see § 6.2.1.

935 The sign su₂ (ZU) for su₈ is listed here and not under the shifts s > z because in the Old Babylonian syllabary ZU is the sign used for /su/, although this use is limited to Akkadian texts.

Ugarit

Babylonian Tablets

- **-ke** ~ -ke₄ - AuOrS 23 25, 51
- im-te-**mu** ~ im-te-mu₄ - AuOrS 23 25, 36
- im-te-**ta** ~ im-te-ta₃ - AuOrS 23 25, 36
- 'i₃'-ti₂-eš ~ i-ti(l)₃-eš - RS 25.130, 3⁹³⁶

Ugarit Script Tablets

- **a**-[kala-zu] ~ a₂-kala-zu - RS 79.25, 23
- **-bur-** ~ -bur₂- in ḥa-an-da-bur-re - AuOrS 23 21, 70
- **-du** ~ -du₈ in pi-in-du - AuOrS 23 21, 68
- **-du₅** ~ du₁₀ (?) - RS 79.25, 15
- **-du-du** ~ du₆-du₆ in mu-un-du-du - AuOrS 23 21, 80
- **du-ga** ~ du₁₁-ga - RS 79.25, 32
- **dur** ~ dur₂ - RS 86.2210, I, § 4
- **e-** ~ e₂- - RS 86.2210, II, § 11
- **e-kur** ~ e₂-kur - RS 79.25, 10
- **-gi-gi** ~ -gi₄-gi₄ - AuOrS 23 21, 85
- **ḥe-** ~ ḥe₂- in ḥe-gal - RS 79.25, 34, 44
- **i** ~ i₇ - RS 79.25, 32
- **i-da-me-en** ~ i₇-da-me-en - RS 79.25, 37
- **i-** ~ i₃- in i-na-ka-re ~ i₃-na-kar-e - AuOrS 23 13, 3, 4
- **-ke** ~ -ke₄ in [en-ki]-ik-ke - AuOrS 23 21, 69
- **-ke** ~ -ke₄ in ab-su-ke - AuOrS 23 21, 69
- **-ke** ~ -ke₄ in mu-um-mu-ke - AuOrS 23 21, 69
- **-ke** ~ -ke₄ in lu-ul-lu-ra-da-ke ~ lu₂-u₁₈-lu-ra₂-da-ke₄ - AuOrS 23 21, 55
- **-ke** ~ -ke₄ in ab-zu-ke ~ abzu-ke₄ - RS 79.25, 14
- **ku-ku-** ~ ku₅-ku₅- in ku-ku-ut-ta ~ ku₅-ku₅-de₃ - RS 86.2210, I, § 7
- **'lu'** ~ lu₂ - RS 23.34+ B, 6
- **lu** ~ lu₂ in lu-ul-lu-ra-da-ke ~ lu₂-u₁₈-lu-ra₂-da-ke₄ - AuOrS 23 21, 55
- **lu** ~ lu₂ in lu-ug-gen₇ ~ lu₂-(u₁₈-lu)-gen₇ - AuOrS 23 21, 80
- nu-**dim**-ma ~ nu-dim₂-ma - RS 86.2210, I, § 1
- **-ra-** ~ ra₂ (?) in lu-ul-lu-ra-da-ke ~ lu₂-u₁₈-lu-ra₂-da-ke₄ - AuOrS 23 21, 55
- **ša-** ~ ša₃- - RS 79.25, 35
- **-še** ~ -še₃ - RS 17.10 Obv. 4
- šu **bur-ra** ~ šu bur₂-ra - RS 17.10 Rev. 1
- **u₂-** ~ u₄- - RS 23.34+ A, 9
- **u₂-** ~ u₄- in u₂-da-gi ~ u₄-da-kam - RS 79.25, 40
- **u₂-** ~ u₄- in u₂-du-ra-am-me ~ u₄-da-ra-am - RS 79.25, 42
- **u₂-** ~ u₃- in u₂-me-na-si₁₂-si₁₂ ~ u₃-me-ni-si₁₂-si₁₂ - AuOrS 23 21, 91
- **u₂-** ~ u₃- in u₂-me-na-he₂-he₂ ~ u₃-me-ni-ḥi-ḥi - AuOrS 23 21, 92
- **u₂-du-ud**-[da] ~ u₃-du₂-ud-da - RS 86.2210 II, § 10

936 Cf. OBGT 653-655: me-a an-se₁₂-eš = a-li₂ šu-nu; me-a an-til₃-eš = a-li₂ šu-nu; me-a i₃-til₃-eš = a-li₂ šu-nu.

4.2.2 Syllabification of Logograms

Syllabification of logograms is the substitution of a logogram with two or more phonograms usually according to the pattern CvC > Cv-vC. As with homophony no examples from Old Babylonian texts are provided. Words containing the phoneme /ĝ/ when it is rendered by /ng/ are listed both here and under *ĝ* > *ng*. Cases of *scriptio plena* may be also listed here.

Hattuša

Babylonian Tablets

- a-ge-ga ~ a-geg-ga - KUB 30 1, I, 19
- a-gu-bu- ~ a₂-gubu₃^{bu.937} in a-gu-bu-un-ni - KUB 30 1, IV, 6
- a-la-am ~ alam⁹³⁸ - KUB 30 1, I, 8; IV, 12
- a-sa-al-lu-ĥi ~ ^dasal-lu₂-ĥi - KBo 40 103, 3
- a-sa-al-lu-ĥi ~ ^dasal-lu₂-ĥi - KUB 30 1, I, 20-21; II, 3
- a-sa-al-lu-ĥi ~ ^dasal-lu₂-ĥi - KUB 37 109, 6
- ba-ni-ib-di-ib-be₂ ~ ba-ni-ib-dib-be₂ - KUB 30 1, I, 15
- ba-tu-uĥ ~ ba-tuĥ (?) - KUB 30 3, 5
- di-be₂-de ~ dib-be₂-de₃ - KUB 30 1, IV, 5
- di-in-gi-ra-a-na ~ diĝir-ra-na - KUB 30 1, IV, 10
- di-in-gi-re ~ diĝir-re - KUB 30 2, II, 3
- di-i[n-gi-ir-ra-ni] ~ diĝir-ra-ni - KUB 37 109, 7, 9
- du-mu- ~ dumu- - KBo 36 15 Rev. 4
- du-mu ~ dumu - KUB 30 1, I, 2, II, 3
- du-mu- ~ dumu - KUB 30 4, 7
- du-mu ~ dumu - KUB 37 109, 7, 12
- du-mu-ĝu₁₀ ~ dumu-ĝu₁₀ - KBo 40 103, 4
- e-gi-ir-b[a] ~ egir-ba - KBo 36 13, R. Col. 8
- e-si-ir ~ e-sir₂ - KUB 30 1, IV, 15
- e-si-ra ~ e-sir₂-ra - KBo 36 19, 8
- -ga-am ~ gam - KUB 30 3, 6
- -ĝa₂-ar ~ -ĝar - KUB 30 4, L. Col. 9
- ga-zi-ĥu-ur-s[aĝ] ~ gazi-ĥur-saĝ - KUB 30 4, R. Col. 9
- ga-zi-ĥu-ur-saĝ ~ gazi-ĥur-saĝ - KUB 30 1, III, 11
- gi-di-ma ~ gidim-(ma)⁹³⁹ - KBo 36 15 Rev. 2
- gi-il-ga-m[i-iš] ~ ^dGilgameš_{2/3} - KBo 36 13, R. Col. 15
- [gi-il]-ga-mi-iš-(še) ~ ^dGilgameš_{2/3} - KUB 37 109, 4
- gi-su-[ul-ĥi] ~ gi-sul-ĥi - KUB 30 1, I, 25
- -gu-ub ~ -gub - KUB 37 108+110, L. Col. 3, 5
- ĥa-ab-ru-ud-da ~ ĥabrud-da - KUB 30 2, I, 10
- ĥa-aš-ĥu-ur ~ ^{ĝeš}ĥašĥur - KUB 30 1, IV, 25
- ĥa-la-am- ~ ĥalam- in ĥa-la-am-ma-ak-ke ~ ĥalam-ak-e - KUB 30 1, I, 2
- ĥa-ma-an-zi₂-ir ~ ĥamanzir - KUB 30 1, I, 7, 8
- ĥu-ul-ĝa₂-al ~ ĥul-ĝal₂ - KUB 30 1, I, 2
- ĥu-ul ~ ĥul - KUB 30 1, I, 13
- i-gi ~ igi - KBo 36 15 Rev. 3
- i-gi ~ igi - KBo 40 103, 3, 7
- i-gi ~ igi - KUB 30 1, I, 2, 20, III, 13

937 aBZL: gabu₂.

938 aBZL: alan.

939 aBZL: kitim.

- i-gi ~ igi - KUB 30 3, 9
- i-g[i] ~ igi - KUB 30 4, R. Col. 14
- i-gi-ḥu-ul ~ igi-ḥul - KBo 36 19, 6
- i-gi-ḥu-la⁹⁴⁰ ~ igi-ḥul-(a) - KUB 37 108+110, L. Col. 2
- i-ḡa₂-al ~ i₃-ḡal₂ - KUB 30 3, 8
- im-šū-ub ~ im-šub - KUB 30 1, I, 18
- i-ni-im ~ inim⁹⁴¹ - KUB 37 109, 11
- ka-ar-ga-al ~ kar-gal - KUB 30 1, II, 20
- ka-ḥu-ul ~ ka-ḥul - KBo 36 13, R. Col. 7
- ka-ḥu-ul ~ ka-ḥul - KUB 37 108+110, R. Col. 1
- ka-ḥu-la ~ ka-ḥul-a - KUB 37 108+110, L. Col. 4
- 'ki'-si-ki-il ~ ki-sikil - KBo 36 15 Rev. 5
- ki-si-ki-il ~ ki-sikil - KUB 30 1, I, 5
- [n]a-am-ta-a[r] ~ nam-tar - KBo 36 13, R. Col. 18
- ni-in-nu-u[r-ta] ~ ^dnin-urta - KUB 30 1, II, 21
- nu-lu-uḥ-ḥa ~ nu-luḥ-ḥa - KUB 30 1, III, 10; IV, 24
- nu-lu-uḥ-ḥa ~ nu-luḥ-ḥa - KUB 30 4, R. Col. 8
- pa-ap-ḥa-al-la ~ pap-hal-la - KUB 30 1, I, 14
- pa-ra- ~ para₁₀ - in pa-ra-za-an-kar ~ para₁₀-za₃-ḡar - CTH 315 - AuOrS 23 50, II, 37
- si-ki-il- ~ sikil- in si-ki-il-la-a-ta ~ sikil-la-ta - KUB 30 1, I, 22
- sa-ad-ni-im ~ sa-ad-nim - KUB 30 1, I, 18
- sa-šū-uš-[ga-al] ~ ^{ḡeš}sa-šuš-gal - KUB 30 1, II, 1
- še-em-li ~ šem-li - KUB 30 1, IV, 9
- [šū]-lu-ba-ak-ke ~ šu-lu₂-ba-ak-ke₄ - KUB 30 1, III, 8
- šu ma-an-g[u-ur] ~ šu ba-an-gur - KUB 30 1, I, 8⁹⁴²
- -šū-ub ~ -šub in gi-iš-šū-ub ~ ḡeš-šub - KUB 30 1, II, 18
- u₃-gu-bi ~ ugu-bi - KUB 30 1, IV, 20
- u₃-me-ni-ḡa₂-ar ~ u₃-me-ni-ḡar - KUB 30 1, IV, 8, 9
- u₃-me-ni-sa-ar ~ u₃-me-ni-sar - KUB 30 1, IV, 7
- u₃-me-ni-šū-ub ~ u₃-me-ni-šub - KUB 30 1, IV, 26
- u₃-tu ~ ^dutu - KUB 30 1, II, 19
- ur-ma-aḥ ~ ur-maḥ - KBo 36 13, L. Col. 13
- za-^rag'-še ~ za₃-še - KUB 30 1, I, 19⁹⁴³
- za-la-ag ~ zalag (?) - KBo 36 13, L. Col. 2

Hittite Script Tablets

- a-ia ~ aia - CTH 314 - KUB 4 6 Obv. II, 1
- ab-zu ~ abzu - HT 13, 5
- ga-na ~ gana₂ - KUB 57 126 Obv. II, 2, 4
- giri₁₇-za-al ~ giri₁₇-zal - CTH 314 - KUB 4 5, II, 12
- -ḥu-la ~ -ḥul₂-la - CTH 315 - AuOrS 23 50, II, 43
- ḥu-ul-h[u]-la ~ ḥul₂-ḥul₂-la₂ - CTH 315 - AuOrS 23 50, II, 44
- i-ni-im- ~ inim- in i-ni-im-[du]-u - CTH 315 - AuOrS 23 50, II, 46
- ka-la-ma ~ kalam-ma - CTH 314 - KUB 4 5, II, 15
- ki-ri ~ kiri₆ - CTH 315 - AuOrS 23 50, II, 35
- lu-gal ~ lugal - CTH 315 - AuOrS 23 50, II, 43

940 Due to the fragmentary nature of the tablet, it is not possible to establish whether -a was a wrong nominalization or whether it indicated the ergative with shift e > a.

941 aBZL: enim.

942 This writing is listed here because the sign BA is miswritten as MA, see § 5.1.1.

943 This entry is listed here because the spelling za-ag derives from the *Auslaut* g in za₃.g.

- lu-na-am-ra ~ lu₂-nam-ra - CTH 315 - AuOrS 23 50, II, 46
- nu-un-[gal-e-ne] ~ ^dnun-gal-e-ne - KUB 4 24 Rev. 8

Emar

- [du]-mu-ĝu₁₀ ~ dumu-ĝu₁₀ - E 768A, II, 6
- -e-ri-du-ga ~ eridu-ga - E 729, 15
- ĝa₂-ra ~ ĝar-ra - E 775, 23
- -gu-ub ~ -gub - Tsukimoto, 40
- -ḫu-r[e] ~ -ḫur-re *in* ki-iš-ḫur-ḫu-r[e] - E 767, II, 1
- ḫu-ur ~ ḫur *in* ki-iš-ḫu-ur ~ ĝeš-ḫur - E 767, II, 24
- i-gi ~ igi *in* i-gi-du-ud-du₅ - E 767, II, 3
- i-nim ~ inim - E 767, II, 3
- i-zi[...] ~ izim - E 768A, II, 4
- lu-gal ~ lugal - E 767, II, 5, 17
- nam-ka-lag-[x] ~ nam-kala-ga - E 767, II, 15a
- ša-ra ~ šar-ra - E 767, I, II, 21
- ši-ma-aš-ki ~ šimaški (LU₂.SU.(A)) - TBR 101 Obv. 3
- šu-bu- ~ šub-bu- *in* šu-bu-da₃-mu-ni - E 729, 15
- -za-aḫ ~ zaḫ₂ *in* ba-da-an-za-aḫ ~ ba-da-(an)-zaḫ₂ - Tsukimoto, 37

Ugarit

Ugarit Script Tablets

- a-ia- ~ aia- *in* a-ia-an-ni-gi-re-a-ab-ba-sag₁₀-ga - AuOrS 23 21, 83
- ab-zu- ~ abzu- - RS 79.25, 14
- al-la-al ~ al-lal₂ - RS 86.2210, I, § 11
- -ba-le- ~ -bal-le- *in* šu nam-ba-le-e ~ šu nam-bal-le-de₃ - RS 79.25, 4
- -bu-ra ~ -bur₂-ra *in* ḫa-an-du-bu-ra ~ ḫa-an-da-bur₂-ra - AuOrS 23 21, 67
- da-am ~ dam - RS 86.2210, II, § 10
- du-mu ~ dumu - AuOrS 23 21, 54
- e-re-eš ~ ereš - RS 79.25, 8, 25
- e-ri-du-ga ~ eridu-ga - AuOrS 23 21, 54
- -ga-al ~ gal - RS 79.25, 17
- -gi-da ~ -gid₂-da - RS 79.25, 22
- gi-ri ~ giri₁₇ - RS 86.2210 II, § 7-8
- ḫa-an-da-bu-re ~ ḫa-an-da-bur₂-re - AuOrS 23 21, 67
- -ḫu-la ~ -ḫul₂-la - RS 79.25, 35
- ḫu-ul-la ~ ḫul₂-la - RS 23.34+ A, 8
- ḫu-uš ~ ḫuš - RS 79.25, 26
- i-gi ~ igi - AuOrS 23 21, 83
- i-na-ka-re ~ i₃-na-kar-e - AuOrS 23 13, 3, 4
- [i[?]-n]a-na ~ ^dinana - RS 79.25, 25
- ka-la ~ kala(g) - AuOrS 23 13, 5
- kala-ma ~ kalam-ma - RS 79.25, 7
- lu-gal ~ lugal - AuOrS 23 21, 69
- lu-gal ~ lugal - RS 23.34+ B, 8
- lu-gal ~ lugal - RS 79.25, 14, 21, 44
- lu-gal-la-[ke] ~ lugal - RS 86.2210, II, § 10
- lu-u₂- ~ lu₂ - AuOrS 23 21, 80
- ma-aḫ ~ maḫ - RS 79.25, 8, 25
- ni-nu-ur-ta ~ ^dnin-urta - RS 79.25, 23

- nu-k[e-eš-da] ~ nu-keš₂-da - AuOrS 23 21, 81
- ša-ra ~ šar-ra - RS 23.34+ A, 6
- -ta-aḥ- ~ -taḥ- *in* ga-ra-bi-ta-aḥ-ḥe ~ ga-ra-bi-taḥ-e - AuOrS 23 21, 86
- ti-il-la ~ til₃-la - RS 79.25, 1
- -tu-ku-ra ~ -tuku-ra - AuOrS 23 21, 80
- u₂-gu- ~ ugu- *in* u₂-gu-uš-še - RS 86.2210, II, § 9
- za-al ~ zal *in* za-al-za-al-li-bi ~ zal-zal-a-bi - AuOrS 23 21, 95

As expected, the majority of attestations occur in the Babylonian script tablets from Ḫattuša because they represent the Babylonian tradition. Syllabification is the most common way of rendering logograms with at least three phonemes in the Old Babylonian texts. Consequently, the Babylonian tablets show a low degree of phonetic alteration. In standard orthography, when a closed syllable logogram is followed by a vowel, a morphographemic writing, (C)vC₁-C₁v, is often used; the following syllable repeats the final consonant of the preceding word without any phonetic value.⁹⁴⁴ In all three corpora when logograms are spelled syllabically several cases of morphophonemic writing occur: loss of the additional consonant produces the sequence Cv-Cv.⁹⁴⁵

Ḫattuša

Babylonian Tablets

- a-ge-ga ~ a₂-geg-ga - KUB 30 1, I, 19
- di-be₂-de ~ dib-be₂-de₃ - KUB 30 1, IV, 5
- di-in-gi-ra-a-na ~ diḡir-ra-na - KUB 30 1, IV, 10
- di-in-gi-re ~ diḡir-re - KUB 30 2, II, 3

Hittite Script Tablets

- -ḫu-la ~ -ḫul₂-la - CTH 315 - AuOrS 23 50, II, 43
- ka-la-ma ~ kalam-ma - CTH 314 - KUB 4 5, II, 15

Emar

- ḡa₂-ra ~ ḡar-ra - E 775, 23
- -ḫu-r[e] ~ -ḫur-re *in* ki-iš-ḫur-ḫu-r[e] - E 767, II, 1
- ša-ra ~ šar-ra - E 767, I, II, 21
- šu-bu- ~ šub-bu- *in* šu-bu-ta-mu-ni - E 729, 15

Ugarit

Ugarit Script Tablets

- -ba-le- ~ -bal-le- *in* šu nam-ba-le-e ~ šu nam-bal-le-de₃ - RS 79.25, 4
- -gi-da ~ -gid₂-da - RS 79.25, 22
- ḫa-an-da-bu-re ~ ḫa-an-da-bur₂-re - AuOrS 23 21, 67
- -ḫu-la ~ -ḫul₂-la - RS 79.25, 35
- kala-ma ~ kalam-ma - RS 79.25, 7
- ša-ra ~ šar-ra - RS 23.34+ A, 6

944 Jagersma 2010, 27.

945 This list is based on § 4.2.2.

The Babylonian tablets from Ḫattuša (CTH 800) show several cases of morphographemic writing:⁹⁴⁶

- ba-ni-ib-di-ib-be₂ ~ ba-ni-ib-dib-be₂ - KUB 30 1, I, 15
- ḫa-ab-ru-ud-da ~ ḫabrud-da - KUB 30 2, I, 10
- nu-lu-uḫ-ḫa ~ nu-luḫ-ḫa - KUB 30 1, III, 10; IV, 24
- nu-lu-uḫ-ḫa ~ nu-luḫ-ḫa - KUB 30 4, R. Col. 8
- pa-ap-ḫa-al-la ~ pap-hal-la - KUB 30 1, I, 14
- si-ki-il-la-a-ta ~ sikil-la-ta - KUB 30 1, I, 22

The presence of morphographemic writings reveals the tendency of the Babylonian tablets CTH 800 to preserve the original spelling of words. Outside of CTH 800, morphographemic writings are attested in only two tablets from Ugarit: ḫu-ul-la ~ ḫul₂-la (RS 23.34+ A, 8); ti-il-la ~ til₃-la (RS 79.25, 1). The presence of morphographemic and morphophonemic writings in CTH 800 echoes the Old Babylonian documentation where both realizations are attested even though morphophonemic writings possibly occur to a larger extent: the sequence Cv-Cv seems more common than Cv-vC in the OB texts.⁹⁴⁷

At Ḫattuša and Ugarit doubled consonants are preserved in few cases when they have a semantic value: [a]-sa-al-lu-ḫi ~ ^dasal-lu₂-ḫi (KBo 40 103, 3; KUB 30 1, I, 20-21, II, 3; KUB 37 109, 6), me₅-lim₄-maḫ ~ me-lim₄-maḫ (KUB 4 7, 11),⁹⁴⁸ al-la-al ~ al-lal₂ (RS 86.2210, I, § 11).

4.2.3 CvC-signs for Cv-C(v) – Cv-vC

Ḫattuša

Hittite Script Tablets

- **kut**-ta ~ gu₇-da (?) - KUB 57 126 Obv. I, 2⁹⁴⁹

Emar

- **-men**₅ ~ -me-en - E 767, I, 18

Ugarit

Babylonian Tablets

- dar-da-**rak**-ku ~ dar-dar-ra-ḡu₁₀ - AuOrS 23 25, 12

Ugarit Script Tablets

- **-sag**₁₀- ~ -ši-k(u₄)- in a-ia-an-ni-gi-re-a-ab-ba-sag₁₀-ga ~ aia-ni ^denki-ra e₂-a ba-ši-ku₄-a - AuOrS 23 21, 83

⁹⁴⁶ The reader should note that spellings like C₁v-vC₂-C₂v for standard Sumerian (C₁)vC₂-C₂v are not here considered as bindings.

⁹⁴⁷ See for instance the lists of phonetic writings in Falkenstein 1952-1953, 65-67, Sjöberg 1961b, 10-11, Alster 1992, 35-42.

⁹⁴⁸ See § 4.2.1.

⁹⁴⁹ kut is chosen instead of kud because of the following -ta.

Old Babylonian

- -geg ~ -gi₄-gi₄ - H 97 I, 27, 35; IV, 21
- ħe₂-si₂₂-gen₇ ~ ħe₂-si₂₂-ge-en - VS 10 182, 1-2
- -men₃ ~ -me-en - MMUM 35516+, *passim*⁹⁵⁰

The use of CvC signs for the sequence Cv-C(v) or Cv-vC is very limited. Occurrences from Ugarit are probably to be considered as bindings, as a reflection of an extensive use of phonetic writings.⁹⁵¹ This spelling is rarely attested also in the Old Babylonian period.

4.2.4 Additional Vowels

Additional vowels are here considered cases of paragoge, anaptyxis and prosthesis occurring in some words without any lexical or morphological explanation.

Additional *a*

Ḫattuša

Assyro-Mitannian Tablets

- nam-ri-ma ~ nam-erim₂ - KBo 36 11+ Obv. 25, 30

Hittite Script Tablets

- [tu-(du)]-a-ga-a-ni ~ tu₆-du₁₁-ga-a-ni - KUB 4 24 Rev. 10

Emar

- in-na-an-ga ~ en-nu-uġ₃ - E 729, 5
- na-ma-uš-ša ~ nam-uš₂-(a) - E 767, II, 19a

Ugarit

Babylonian Tablets

- ap-pap-ma-aš₂ ~ pap-meš - AuOrS 23 25, 14
- u₂-sun₂-na-pi ~ usan₃-bi - AuOrS 23 25, 12

Ugarit Script Tablets

- a-ia-i-du ~ a-i₇-da - RS 79.25 29, 30⁹⁵²
- lu-ga-la-gu ~ lugal-ġu₁₀ - RS 79.25, 1

950 See Alster 1992, 39.

951 CvC signs are used in Akkadian translations of some texts such as E 775.

952 This spelling probably results from metathesis of the binding writing **a-a-i-i-du.

Old Babylonian

- bu-lu-**ḫa** ~ bu-lu-uh₂ - AO 24146 Obv. 17 (17) (Susa)
- ki-su-**ba** ~ ki-su-ub - TIM 9 1, 67

Additional e

Ḫattuša

Hittite Script Tablets

- **e**-bu-ur ~ buru₁₄ - CTH 315 - AuOrS 23 50, II, 34

Emar

- til₃-la-**e**-ni ~ til₃-la-ni (?) - E 771+, 26

Ugarit

Ugarit Script Tablets

- [a-k]**a** ~ ^dak - RS 79.25, 21
- a-š**e**-in-zu ~ uš₇-nu-zu (?) - AuOrS 23 21, 70⁹⁵³
- u₂-du-ra-am-**me** ~ u₄-da-ra-am - RS 79.25, 42

Old Babylonian

- e-**re** ~ ir₂ - AO 24146 Obv. 1-2 (1-2) (Susa)
- gu₂-**e**-da ~ gud-da - TIM 9 1, 57⁹⁵⁴
- mi-ri-**e**- ~ ḡiri₃- - TCL 15 38 Obv. 4-6 (55, 57)

Additional i

Ḫattuša

Babylonian Tablets

- i-**ni**-ki-ir-ra ~ ^den-ki-ra - KUB 30 3, 10

953 This entry is listed both here and under additional *i*.

954 Cf. Alster 2005, 238; I consider -da here as part of the word and -e- as an additional vowel although Alster transliterates gu₂-e da.

Ugarit

Ugarit Script Tablets

- a-ša-a-li ~ ^dasal - RS 79.25, 12
- a-še-in-zu ~ uš₇-nu-zu (?) - AuOrS 23 21, 70⁹⁵⁵
- ga-ra-bi-ta-aḥ-ḥe ~ ga-ra-ab-taḥ-e - AuOrS 23 21, 86⁹⁵⁶
- ni-ig-gi-ri-ma-re-eš ~ niġ₂-ġir₂-ġar-eš₂ - AuOrS 23 21, 69
- ni-ik-ki ~ niġ₂ - RS 17.10 Obv. 6
- si-il-lal-i-kat-ta ~ asila-ka-ta - AuOrS 23 21, 6
- si-la-si-si-an- ~ sila-si-sa₂ - AuOrS 23 21, 81
- šu-da-ia-ak ~ šudu₃-ak - RS 79.25, 7⁹⁵⁷
- šu-da-ia-ku ~ šudu₃-ak - RS 79.25, 6
- ta-r[i] ~ tar - RS 79.25, 22

Old Babylonian

- a-ia-aš-tub₂ ~ a-aštub - TIM 9 1, 58⁹⁵⁸
- za-pa-ri ~ zabar - BM 79949, 3

Additional u

Ḫattuša

Hittite Script Tablets

- ke-eš-tu-u₄-ku ~ ġeštug_{12/13} - KUB 4 26B, 3

Ugarit

Ugarit Script Tablets

- -aḥ-bi-lu ~ -gibil - RS 79.25, 3
- a-nu ~ ^dan - RS 79.25, 17⁹⁵⁹
- a-ra-me-ek-mu-aš-š^u ~ a-ra₂-min-kam₂-aš - AuOrS 23 21, 84
- šu-da-ia-ku ~ šudu₃-ak - RS 79.25, 6

Old Babylonian

- a-du-bu ~ adabu^{ki} (UD.NUN.KI) - OECT 5 10 Rev. 9

955 This entry is listed both here and under additional *e*.

956 -bi- is probably to be construed as an error for OO.

957 Here and in the following entry the additional *i* is perhaps a way of rendering a semivowel.

958 This perhaps represents a further example of rendering the semivowel.

959 The addition of /u/ is probably due to the Akkadian *Anu*.

Occurrences of additional vowels are quite limited – only 29 examples.

Corpus	a	e	i	u	Total
Ḫattuša: Babylonian Script	0	0	1	0	1
Ḫattuša: Ass-Mit. Script	1	0	0	0	1
Ḫattuša: Hittite Script	1	1	0	1	3
Total Ḫattuša	2	1	1	1	5
Emar	2	1	0	0	3
Ugarit: Babylonian Script	2	0	0	0	2
Ugarit: Ugarit Script	2	3	10	4	19
Total Ugarit	4	3	10	4	21
Total	8	5	11	5	29

The distribution of entries shows that the vast majority of occurrences stem from Ugarit. With only two exceptions documented in a Babylonian script tablet which contains several errors and anomalies,⁹⁶⁰ all the occurrences from Ugarit are attested in tablets drafted by local scribes. Half of them (11) derive from a single text, the unorthographic version of *A Prayer for a King*, RS 79.25. Seven entries are attested in the collection of incantations RS 17.155 = AuOrS 23 21. It is unknown why this alteration is concentrated at Ugarit: perhaps the scribes there were less able than their peers elsewhere, but the practice of copying under dictation cannot be ruled out. Conversely, in the Babylonian tablets from Ḫattuša, which provide the largest number of phonetic writings from the Hittite capital, only one case of an additional vowel is documented. The scant attestation of additional vowels in the Babylonian script tablets echoes the OB texts in which this anomaly is rarely documented.

Occasionally, additional vowels result from using open syllables, Cv, to spell out closed syllable words like CvC or polysyllables like CvCvC: na-ma-uš-ša ~ nam-uš₂-(a) (Emar), lu-ga-la-gu ~ lugal-ġu₁₀, ta-r[i] ~ tar (Ugarit). As a consequence the final vowel of the Cv syllables has no phonological or lexical value.⁹⁶¹ Cv syllables are not only used in CvC words but also in word clusters with an initial vowel: i-ni-ki-ir-ra ~ ^den-ki-ra (Ḫattuša), a-še-in-zu ~ uš₇-nu-zu, a-ša-a-li ~ ^dasal (Ugarit). Another manifestation of additional vowels, apparently limited to Ugarit but found in both Babylonian and local tablets, consists in the addition of a syllable whose consonant is already spelled out in the preceding or following sign; no explanation can be advanced for this writing: ap-pap-ma-aš₂ ~ pap-meš, u₂-sun₂-na-pi ~ usan₃-bi, u₂-du-ra-am-me ~ u₄-da-ra-am, ni-ik-ki ~ niġ₂. It is worth noting that additional vowels occur between lexemes and never within words.

One writing, e-bu-ur for buru₁₄ (CTH 315 – AuOrS 23 50, II, 34), probably renders *ebûru*, the Akkadian correspondence for the Sumerogram buru₁₄.

960 AuOrS 23 25, see § 7.1.3.

961 Representation of closed syllable words was problematic since the beginning of cuneiform culture, Jagersma 2010, 19-23.

4.2.5 Scriptio Plena

Hattuša*Initial Position*

Babylonian Tablets

- **a-an-su** ~ an-su₃ - KUB 30 1, II, 2

Middle Position

Babylonian Tablets

- di-in-gi-ra-**a-na** ~ diġir-ra-na - KUB 30 1, IV, 10
- ħe-**e-en-x** ~ ħe₂-en-x - KBo 36 13, R. Col. 6
- le-**e-la-a** ~ lil₂-la₂ - KUB 30 1, I, 4
- lu-le-**e-la** ~ lu₂-lil₂-la₂ - KUB 30 2, II, 9
- si-ki-il-la-**a-ta** ~ sikil-la-ta - KUB 30 1, I, 22

Hittite Script Tablets

- -a-ki-**i-du** ~ -a₂-ki-tum - CTH 315 - AuOrS 23 50, II, 42
- ħe₂-za-a(-)za-**a-e-me-en** ~ ħe₂-(?)-za za-e-me-en - KUB 4 7, 12
- in-pa-**a-da** ~ in-pa₃-da - CTH 314 - KUB 4 5, II, 10
- ku-**u-ra** ~ gur-ra-(am₃) - CTH 315 - AuOrS 23 50, II, 46
- lu-**u-gal** ~ lugal - HT 13, 4, 5, 9, 10, 14
- lu-**u-gal** ~ lugal - KUB 4 26B, 1, 4, 8, 9
- pa-**a-na** ~ pana - KUB 57 126 Obv. II, 4

Final Position

Babylonian Tablets

- i-**i** ~ e₃ (?) - KUB 30 1, I, 19
- le-e-la-**a** ~ lil₂-la₂ - KUB 30 1, I, 4

Assyro-Mitannian Tablets

- sa-**a** ~ sa - KBo 36 11+ Obv. 36

Hittite Script Tablets

- ħe₂-za-**a(-)za-a-e-me-en** ~ ħe₂-(?)-za za-e-me-en - KUB 4 7, 12
- ti-la-**a-bi-iš-ši** ~ til-la-bi-še₃ - CTH 314 - KUB 4 5, II, 8⁹⁶²
- pa-**a** ~ pa₅ - CTH 315 - AuOrS 23 50, II, 38⁹⁶³

962 This entry is considered as a *scriptio plena* in final position because -a- occurs at the end of the word.

963 This entry is not listed under 'Homophony' because the whole sequence pa-a is considered to be a writing for pa₅.

Emar*Middle Position*

- du-**u**-ga ~ du₁₀-ga - E 734, 8
- e-ne-**e**-še-ta ~ i₃-ne-eš₂ - E 767, I, 17a
- e-re-**e**-du-ga ~ eridu-ga - E 729, 12
- [e-u]r-ra-k[e]´**e**´-en ~ e₂-ur₃-ra-ke₄-e-ne - E 767, II, 6
- ´e₂´-da-ri₂-ke-**e**-ne ~ e₂-da-ri₂-ke₄-ne-(ne) - E 767, I, 6

Final Position

- ga-**a**-ni-šur-ra-ke₄ ~ ga-ni-šur-ra ak (?) - E 775, 19⁹⁶⁴
- gi-dub-ba-**a** ~ gi-dub-ba - E 775, 11
- lu-**u**₂-tur-ra-bi ~ lu₂-tur-ra-bi - E 767 I, II, 23
- mu-un-ke-ne₂-**e** ~ mu-un-ge-ne₂ - E 776, 4

Ugarit*Initial Position*

Babylonian Tablets

- ^du₂-u₂-u₄-du ~ ^dutu - AuOrS 23 27, 7

Middle Position

Ugarit Script Tablets

- a-ša-**a**-li ~ ^dasal - RS 79.25, 12
- -bi-**i**-di ~ bi-da - RS 17.10 Obv. 10
- ku^l-**u**₂-ba-ni ~ gub-ba-ni - AuOrS 23 21, 81
- (šu-)nam-tar-ta-re-**e**-ni ~ nam-tar-re-de₃ - RS 79.25, 5

Final Position

Ugarit Script Tablets

- -du-uš-ša₂-**a** ~ -tuš-a - RS 17.10 Obv. 5
- -gi-du-ba-**a** ~ -gi-dub-ba - RS 79.25, 21
- la-le-**e** ~ la-la - RS 79.25, 16
- lu-**u**₂-gal ~ lugal - KUB 37 112, 3
- mu-ut-ta-ša-**a** ~ mud-da-še₃ - AuOrS 23 21, 81
- pa-**a**-tar ~ ba-tar - RS 86.2210, I, § 5
- si-la-**a**-e ~ sila-e - AuOrS 23 21, 55
- u₂-na-me-**e** ~ mu nam-mu - RS 79.25, 39

Old Babylonian

- **a**-aš₂-pa-la-ba-ke ~ aš-bala-ba-ke₄-eš - TIM 9 35, 16

⁹⁶⁴ This writing is listed here as the *scriptio plena* occurs at the end of the morpheme ga-.

- na-ab-be₂-e ~ na-an-na-ab-be₂ - H 178 Obv. 9 (37)
- [t]u-u₃-tu ~ du_{3/8}-du_{3/8} - H 97 II, 2

4.2.6 Additional Consonants

Hattuša

Babylonian Tablets

- su-na-ni ~ su-a-ni - KUB 37 108+110, R. Col. 2

Assyro-Mitannian Tablets

- dadag ~ da-da - KBo 36 11+ Obv. 29⁹⁶⁵

Hittite Script Tablets

- e-du[r ...] ~ e₂-du₃-a - KUB 57 126 Obv. II, 8
- ^dnun-dim₂-mud^l ~ ^dnu-dim₂-mud - KUB 4 7, 9

Emar

- gu-la-kam₂ ~ gu-la-am₃ - E 775, 20
- nu-mu-un-du-we ~ nu-mu-un-du(₈[?])-e - E 734, 5
- nu-un-zu-wa-a ~ nu-un-zu-a - E 767, II, 8
- -ḥu-la-al ~ -ḥul₂-la₂ - E 767, II, 22⁹⁶⁶

Ugarit

Ugarit Script Tablets

- ḥa-am-bu-ru-ud-da-ne₂-iš ~ ḥabrud-da-ne₂-eš₂ - RS 86.2210, II, § 7
- luḥ-ba-an-[...] ~ la-ba-an-[...] - RS 23.34+ B, 7
- si-la-si-si-an- ~ sila-si-sa₂ - AuOrS 23 21, 81

Old Babylonian

- ba-ne-gu-UL ~ ba-ni-ib-ku₂ - CT 44 14, 6
- nu-un-ku ~ nu-ku₅ - H 77, 30

Only a few occurrences of additional consonants are attested in the three corpora, and no common explanation can be suggested. This alteration is rare in the OB texts as well.

Some occurrences are perhaps due to pronunciation: nu-mu-un-du-we ~ nu-mu-un-du(₈[?])-e, nu-un-zu-wa-a ~ nu-un-zu-a, ša-ḥu-la-al ~ ša₃-ḥul₂-la₂ (Emar).

965 Because of the phonetic similarity da-da is misunderstood as dadag (UD.UD).

966 The additional /l/ is influenced by the reading lal of la₂.

4.2.7 Analytic Writings

Ḫattuša

Assyro-Mitannian Tablets

- dur₁₁-ra-a-ni-ta ~ dur₁₁-ra-ni-da - KBo 36 11+ Rev. 28
- igi-a-ni-še₃ ~ igi-ni-še₃ - KBo 36 11+ Rev. 10
- šu-nam-tar²-<ra>-ga-a-ni ~ šu-nam-tar-ra-ka-ni - KBo 36 11+ Rev. 20

4.2.8 Bindings⁹⁶⁷

Ḫattuša

Babylonian Tablets

- a-la-**al-le**-²de₅ ~ a₂-la₂-e-de₃ - KUB 30 1, I, 5
- a-gu-bu-**un**-ni ~ a₂-gubu₃^{bu}-ni - KUB 30 1, IV, 6
- [a-sa-al-l]u-**uh**-ḫi ~ ^dasal-lu₂-ḫi - KBo 36 13, L. Col. 3
- gi-bi-il-**la** ~ gibil-a - KBo 36 13, L. Col. 12
- ḫa-la-am-**ma**-ak-**ke** ~ ḫalam-ak-e - KUB 30 1, I, 2
- i-gi-u₃-tu-**uš**-še ~ igi-^dutu-še₃ - KUB 30 1, III, 13; IV, 9, 27
- im-**ma**-ab-[zu] ~ im abzu - KUB 30 1, I, 6
- [i-ni-k]i-**ik**-ke⁹⁶⁸ ~ ^den-ki-ke₄ - KBo 36 13, L. Col. 6, 15
- i-ni-ki-**ir**-ra ~ ^den-ki-ra - KUB 30 3, 10
- i-nita(UŠ)-ta-**aq**-qa ~ i₃-ni-ta₃-ta₃-ga⁹⁶⁹ - KUB 30 1, I, 12
- ka-**ab**-bi ~ ka-bi - KUB 30 1, IV, 19
- lu-**ul**-lu ~ lu₂-ulu₃ / lu₂-u₁₈-lu - KUB 30 1, I, 14
- lu-**ul**-lu ~ lu₂-ulu₃ / lu₂-u₁₈-lu - KUB 30 2, II, 4
- [lu-**u**]l-lu ~ lu₂-ulu₃ / lu₂-u₁₈-lu - KUB 37 109, 7
- lu-**ul**-lu-bi ~ lu₂-ulu₃ / lu₂-u₁₈-lu - KBo 36 13, R. Col. 9
- lu-**ul**-lu-bi ~ lu₂-ulu₃ / lu₂-u₁₈-lu - KBo 36 15 Rev. 2
- mu-su-ub-**an**-ni ~ munsub-a-ni - KUB 30 1, I, 9
- ni-ḡa₂-ak-**ka** ~ niḡ₂-ak-a - KBo 36 13, R. Col. 5
- ni-gu-**ug**-g[u] ~ niḡ₂-gu₇-gu₇ - KUB 30 1, I, 11
- saḡ-**an**-na ~ saḡ-ḡa₂-na - KBo 36 12, 4
- [si-l]i-ma-**an**-ni ~ silim-ma-ni - KUB 37 109, 9
- ša-**ab**-ba ~ ša₃-ba - KUB 30 1, III, 12
- ši-**in**-ni-ig ~ šinig⁹⁷⁰ - KUB 30 1, IV, 16, 24
- uš-du-**ut**-tu ~ uš₁₁ du₁₁-du₁₁ - KUB 30 1, I, 11

Assyro-Mitannian Tablets

- **ab**-ba-si-il-le ~ a-ba-si-il-le - CTH 794 Obv. 1, 3, 5

967 Note that under bindings are listed entries that include phonetic alterations.

968 This entry is only listed under bindings because the initial part of the word is restored.

969 aBZL: ninta.

970 aBZL: šeneg.

Hittite Script Tablets

- -**ab**-ba ~ a₂-ba *in* im-u-a-ab-ba ~ im-a u₄ a₂-ba - CTH 315 - KUB 4 2, 3
- am-**ma**-ni-še ~ ama-ni-še₃ - CTH 315 - AuOrS 23 50, II, 46
- a-ni-ma-za-an-qa-**ak**-ke ~ a-numun-saĝ-ĝa₂-ke₄ - CTH 315 - AuOrS 23 50, II, 33
- ba-su₂-šu-**ut**-ta ~ ba-su₍₃₎-su₍₃₎-da (?) - KUB 37 111 Obv. R. Col. 10
- e-ri-**ib**-ba ~ i-ri-pa₃ - KUB 37 111 Rev. R. Col. 8, 10
- ĥu-us₂-**sa**-a ~ ĥuš-a - CTH 315 - AuOrS 23 50, II, 42
- ku-[**u**]k-ku ~ ku₇-ku₇ - CTH 315 - AuOrS 23 50, II, 39
- nam-**me**-en ~ nam-en - CTH 794 Rev. 8
- na-aš-ke-**ma**-am-**ma**-an-ku ~ ĝešgem-ama-ĝu₁₀ - CTH 315 - AuOrS 23 50, II, 40, 47
- ni-**ig**-g[e-(na-ni)-iš-ši] ~ niĝen-(na-ni)-še₃ - CTH 314 - KUB 4 5, II, 16
- nu-ki-ki-**it**-ti ~ nu-gi₄-gi₄-da - CTH 315 - AuOrS 23 50, II, 45
- [š]a-ag-ga-**ak**-ke ~ saĝ-ĝa₂-ke₄ - CTH 315 - KUB 4 2, 4
- ša-an-ku-**uš**-ši ~ saĝ-mu-še₃ - KUB 57 126 Obv. II, 5
- ti-la-a-bi-**iš**-ši ~ til-la-bi-še₃ - CTH 314 - KUB 4 5, II, 8
- u₂-za-**ag**-ga ~ ad su₃-ga - KUB 37 111 Obv. R. Col. 12

Emar

- bu-ru-e-**en**-ni ~ buru₄^(mušen)-e-ne - E 768A, II, 7
- [dir]i(g)-**ia**-na-**an**-ni ~ diri-ge-ne-ne - E 767, II, 5
- e-da-ra-ga-**an**-ni ~ e₂-da-ri₂-ke₄-ne(ne) - E 767, II, 6
- e-**[e]**n-ni ~ e-ne - E 767, II, 24
- edin-**na** ~ edin-e - E 775, 16
- en¹²-ki-**ik**-ke ~ enki-ke₄ - E 767, II, 1
- e-ri-**ma**-a-ni ~ erin₂-a-ni - TBR 101 Obv. 5
- i₃-**ig**-gal-l[a] ~ i₃-ĝal₂-la - E 767, II, 3
- -i-gi-du-ga-**an**-ni ~ -igi-du-ka-ni - E 767, II, 4
- i-gi-du-**ud**-du₅ ~ igi-du-ta - E 767, II, 3
- it-**ti** ~ iti (?) - E 734, 4
- ki-da-**an**-ni ~ gid₂-da-ni - E 734, 3
- mi-en-**na**-a ~ me-en-am₃ - E 770, 3
- mu-un-na-ak-**ke** ~ mu-un-na-ak-e - E 767, II, 21
- [nam]-¹lu-ul-lu ~ nam-lu₂-u₁₈-lu - E 767, II, 24
- na-ma-uš-**ša** ~ nam-uš₂-(a) - E 767, II, 19a
- ni-ta-aḥ-**aq**-qa[...] ~ nita-kala-ga - E 776, 3
- -peš-**ša** ~ -peš₄-a - E 767, II, 18
- te-**em**-ma ~ dima - E 767, II, 2
- ti-**el**-la-ga-an-ni ~ til-la-ke₄-e-ne - E 734, 2
- za-an-ki-**el**-la ~ (niĝ₂)-saĝ-ki-il₂ - E 767, II, 22

Ugarit

Babylonian Tablets

- ^du₂-**u**₂-u₄-du ~ ^dutu - AuOrS 23 27, 7

Ugarit Script Tablets

- [a-š]a-lu-**uh**-ḥe₂ ~ ^dasal-lu₂-ḥi - RS 79.25, 10
- at-ta-**an**-ni ~ ad-da-ni - RS 17.10 Rev. 2
- bur-bur-ni-**ik**-ke ~ bar-bar-e-ne-ke₄ - AuOrS 23 21, 68

- de-**en**-ni-ig ~ dinig - RS 17.10 Obv. 12
- -du-**ud**-du₅ ~ -du₈-du₈ - RS 79.25, 8
- -du-uš-**ša**₂-a ~ -tuš-a - RS 17.10 Obv. 5
- e₂-hal-la-**ak**-e ~ e₂-ḥal-la-ke₄ - AuOrS 23 59, 3
- [en-ki]-**ik**-ke ~ ^denki-ke₄ - AuOrS 23 21, 69
- **en**-na ~ e-ne - RS 23.34+ A, 14
- e-ur-ra-ga-**an**-ni' ~ e₂-ur₃-ra-ke₄-ne-ne - RS 23.34+ B, 10
- ga-ra-bi-ta-**aḥ**-**he** ~ ga-ra-ab-taḥ-e - AuOrS 23 21, 86
- gi-**in**-ni-**in**-mi-ni ~ ḡe₆ ni₂-me-lim₄ - RS 79.25, 27
- i-ri-du-ka-**ak**-ke ~ eridu-ka-ke₄ - AuOrS 23 21, 7
- [igi-zu-**u**]**n**-na-an-ti-ki-aš ~ igi-zu na-ba-an-tiḡ₄-ḡa₂-(aš) - RS 17.10 Obv. 16
- **it**-te-ta-ni-eš ~ i₃-te-da-ni-eš₂ - AuOrS 23 21, 47
- ki-**ia** ~ ki-a - AuOrS 23 21, 70, 97
- ki-**ik**-ki ~ gi₄-gi₄ - AuOrS 23 21, 8
- [ki?]-**in**'-nim-kalam-kalam-**ab**-bi ~ ki niḡ₂-galam-galam-ma-bi - RS 17.10 Obv. 7
- -kur-ku-ra-**ak**-ka ~ -kur-kur-ra-ke₄ - RS 79.25 19
- lu-**ug**-gen₇ ~ lu₂-(u₁₈-lu)-gen₇ - AuOrS 23 21, 80
- lu-**ul**-lu-ra-da-ke ~ lu₂-u₁₈-lu-ra₂-da-ke₄ - AuOrS 23 21, 55
- mu-**saḡ**-ḡa₂ ~ muš-a-ḡa₂ - AuOrS 23 21, 82
- mu-**saḡ**-ke ~ muš-a-gen₇ - AuOrS 23 21, 82
- mu-**um**-mu-ke ~ mu₄-mu₄-(ke₄) - AuOrS 23 21, 69
- nam-dub-sar-re-**eš**-še ~ nam-dub-sar-ra-še₃ - RS 17.10 Obv. 18
- i₃-[**il**]**g**-gu ~ e-ne-gen₇ - RS 23.34+ B, 12
- niḡ₂-nu-ti-**il**-la-**ag**-ga ~ niḡ₂-nu-til₃-la-ka - AuOrS 23 21, 8
- ni-**ik**-ki ~ niḡ₂ - RS 17.10 Obv. 9
- -ni-**in**-ni ~ -(e)-ne-ne - RS 23.34+ B, 8
- nu-**uz**-za-a ~ nu-zu-a - RS 17.10 Obv. 17
- saḡ-**ki**-il-la ~ (niḡ₂)-saḡ-il₂-la - RS 23.34+ B, 8
- si-**il**-lal-i-**kat**-ta ~ asila-ka-ta - AuOrS 23 21, 6
- si-si-**id**-[da] ~ zi-zi-da - RS 86.2210, II, § 3
- šu-da-**ia**-ak ~ šudu₃-ak - RS 79.25, 7
- šu-**un**-ni ~ šu-ni - AuOrS 23 21, 94
- ur-ku-**ul**-la ~ ur-gu-la - RS 86.2210, II, § 13
- zi-**an**-ni ~ zi-a-ni - RS 86.2210, I, II, § 7

Old Babylonian

- a-ia-**an**-ne ~ aia-ni - H 97 III, 24; V, 14
- ba-ra-**an**-na ~ bar-ra-na - H 97 III, 19-20
- ^den-lil₂-a-**ak**-ka ~ ^den-lil₂-la₂-ka - TCL 15 38 Obv. Rev. 1 (69)
- gu-za-**an**-ni-a ~ ḡešgu-za-ni-(a) - H 97 VI, 51
- ḥa-la-mi-**it**-te ~ ḥa-lam-e-de₃ - TIM 9 1, 9
- ka-**ap**-pa ~ ka-ba - H 97 III, 45
- mi-**it**-te-en₃-bi ~ ni₂-te-ḡa₂-bi - TIM 9 1, 66
- na-ḡa₂-ra-**ak**-kam ~ nagar-ra-kam - H 97 III, 44
- nam-**mu**-zu ~ nam-a-zu - PBS 10/2 13 Rev. 5
- niḡ₂-**ḡa**₂-ka-ne ~ niḡ₂-ak-a-ni - H 97 III, 39
- ni-in-**ni**-im-ma ~ ^dnin-imma₃-ke₄ - PBS 10/2 13 Obv. 8
- ti-pa-ra-**ak**-kam ~ tibira-kam - H 97 III, 43

Bindings are well attested in all corpora as well as in the OB texts. However, this alteration occurs more frequently at Ugarit, especially (15 entries) in the collection of incantations AuOrS 23 21.

4.2.9 Sandhi

Ugarit

Ugarit Script Tablets

- a-ia-an-ni-gi-re-a-ab-ba-sag₁₀-ga ~ aia-ni ^denki-ra E₂-a ba-ši-ku₄-a - AuOrS 23 21, 83
- u₂-mi-za-aḫ-bi-lu ~ mu-mu-za gibil - RS 79.25, 3
- ni-ga-e-za-i ~ niġ₂-ġa₂-e i₃-zu-(a-ġu₁₀) - AuOrS 23 21, 86

Old Babylonian

- a-na-ra-ab-taḫ-ḫe ~ a-na a-ra-ab-taḫ-(ḫ)e - H 97 I, 36⁹⁷¹
- a-sa-gaba-ni ~ a-sag₃-ga ba-ni - VS 2 94, 63
- bu-lu-ka-ki ~ buluġ-an-ki - VS 2 48, 10
- i-ni-in-ki ~ en ^denki - H 103 II, 12
- ġuruš-ša-am-du ~ ġuruš ga-am₃-du₁₁ - VS 2 94, 62
- la-la-mi-du ~ lil₂ am₃-mi-in-su-ub - TCL 15 38 Obv. 7, 9 (59, 61)
- na-mi-mu-sa ~ na-aġ₂ im-ma-us₂-sa - VS 2 94, 60
- pa-ša-ka ~ pa₅ a-ša₃-ga - H 77, 6
- šu-bi-ri-te ~ šu u₃-ba-e-re-ti - H 97 V, 19
- u₂-šu-um-ra-de₂ ~ uš₂ um-ra-de₂ - H 97 V, 29

Sandhi-writings are rarely attested and are only known from the documentation of Ugarit. Occurrences are documented on two tablets only, the phonetic version of *A Prayer for a King*, RS 79.25, and the collection of incantations AuOrS 23 21. *Sandhi*-writings are very common at Ugarit in the Akkadian texts.⁹⁷²

4.2.10 Short Writings

Short writings are cases of the omission of either consonants or vowels caused by the phonetic orthography.

Ḥattuša

Babylonian Tablets

- ba-ki-ik-[(ki)-ir] ~ ba-an-ġir₁₁-ġir₁₁ - KUB 30 1, I, 9
- ba-an-še ~ ba-an-ser₃ (?) - KUB 30 1, I, 16-17
- im-g[u]-g[u-r]a ~ im-ġi/(u?)ġurum - KUB 30 1, I, 19
- i-niⁱ(IR)-di ~ i-ni-in-de₂ - KUB 30 1, I, 10
- mu-su-ub-an-ni ~ munsub-a-ni - KUB 30 1, I, 9
- ni-gu-ug-g[u] ~ niġ₂-gu₇-gu₇ - KUB 30 1, I, 11
- šu-da ~ šu-du₃-a - KUB 30 1, I, 5
- šu-ta-ta-ak-ke ~ šu dag-dag-ge - KUB 30 1, I, 3
- u₃-ḫu-ul ~ udug-ḫul (?) - KUB 30 1, I, 2⁹⁷³

971 For other *sandhi*-writings in the same verbal form see H 97 I, 37; III, 27, 28; IV, 22, 23.

972 Kämmerer 1998, 123-124.

973 This abbreviation is similar to a ~ ama, VS 2 94, 44, and u₃-un ~ u₃-mu-un, PBS 10/2 3 Obv. 3.

Assyro-Mitannian Tablets

- nam-ri-ma ~ nam-erim₂ - KBo 36 11+ Obv. 25, 30

Hittite Script Tablets

- a-ni-ma-za-an-qa-ak-ke ~ a-numun-saĝ-ĝa₂-ke₄ - CTH 315 - AuOrS 23 50, II, 33
- ba-su₂-šu-ud-ta ~ ba-su₍₃₎-su₍₃₎-da-ta - KUB 37 111 Obv. R. Col. 10
- ša₃-an-ki-ki-ne₂ ~ saĝ kiĝ₂-kiĝ₂-e - CTH 315 - AuOrS 23 50, II, 39
- uš-kar ~ u₄-šakar - KUB 57 126 Obv. II, 2

Emar

- nu-bala-ta ~ nu-bala-e-da - E 775, 3
- da-ra ~ da-ri₂-a (?) - E 734, 4
- du-uk-ta ~ taka₄-(a-bi) - TBR 101 Rev. 4
- e¹-na ~ en-na - E 771+, 26
- -e-ne ~ -ne-ne - E 767, I, 6
- -igi-du-a-ni ~ -igi-du-ka-ni - E 767, I, 4
- i₃-in-ke ~ e-ne-gen₇ - E 767, II, 23
- me-na-a ~ me-na-am₃ - E 767, II, 4
- mi-en-na-a ~ me-en-am₃ - E 770, 3
- ni-ik-k[e] ~ niĝen - E 767, II, 9
- nu-mu-un-pa-ap-li-ia ~ nu-mu-un-bala-bala-e-(da) - E 734, 6⁹⁷⁴

Ugarit

Babylonian Tablets

- -kur- ~ -ukur₃- - RS 25.130, 36

Ugarit Script Tablets

- a-ia-an-ni-gi-re-a-ab-ba-saĝ₁₀-ga ~ aia-ni ^denki-ra e₂-a ba-ši-ku₄-a - AuOrS 23 21, 83
- -aḥ-bi-lu ~ gibil - RS 79.25, 3
- an ~ ana - AuOrS 23 21, 86
- a-na-a ~ a-na-am₃ - AuOrS 23 21, 86
- a-ra-me-ek-mu-aš-šu ~ a-ra₂-min-kam₂-aš - AuOrS 23 21, 84
- a-še-in-zu ~ uš₇-nu-zu (?) - AuOrS 23 21, 70
- [da]m-lugal-ke₄ ~ dam-lugal-la-ke₄ - RS 86.2210, I, § 10
- e-ur-ra-ga-^ran-ni^r ~ e₂-ur₃-ra-ke₄-ne-ne - RS 23.34+ B, 10⁹⁷⁵
- mu-saĝ-ke ~ muš-a-gen₇ - AuOrS 23 21, 82
- muš-šu ~ mu-šum₂ - AuOrS 23 21, 83
- mu-un-za-am-za-a ~ mu-un-na-an-šen-šen - RS 17.10 Obv. 10
- ni₂-te-na ~ ni₂-te-a-ni - RS 79.25, 28
- pa-ta ~ ba-tar - RS 86.2210, II, § 5
- saĝ-ĝa₂-gu₂-bi ~ saĝ-ki-a₂-gub-bi - AuOrS 23 21, 93
- saĝ-ke-dab ~ saĝ-geĝ-dab - AuOrS 23 21, 79

974 Final (i)a is here regarded as resulting from metathesis of (bal)a-e, therefore this entry is not listed under additional vowels.

975 Alternately, this could be treated as an omission of the last -ne.

- si-il-lal-i-kat-ta ~ **asila-ka-ta** - AuOrS 23 21, 6⁹⁷⁶
- u₂-da-gi ~ u₄-da-kam - RS 79.25, 40
- u₂-mi-za- ~ **mu-mu-za** - RS 79.25, 3
- u₂-na-me-e ~ **mu nam-mu** - RS 79.25, 39
- za ~ za-**e** - AuOrS 23 21, 86

Old Babylonian

- a ~ **ama** - VS 2 94, 44
- a-aš₂-pa-la-ba-ke ~ aš-bala-ba-ke₄-eš - TIM 9 35, 16
- a-mu ~ **am₃-mu** - VS 2 94, 5
- be₂- ~ **ba-e-** - AO 24146 Rev. 9 (53) (Susa)
- bu-lu-ka-ki ~ bulug-**an-ki** - VS 2 48, 10
- di-te-be₂-me-eš ~ **dib-dib-be₂-me-eš** - H 97 I, 4
- du ~ tu**g₂** - CNMA 10051 II, 5 (103)
- du-ra-ki ~ dur-**an-ki** - VS 2 48, 9
- e²-ta-še ~ e₂-**a-tu₅-a-še₃** - H 83A Obv. 6
- gi-bi- ~ **gibil-** - H 97 I 60
- gu-ku-bu-me-eš ~ **gub-gub-bu-me-eš** - H 97 I, 4
- gu-ru ~ **ġuruš** - PBS 10/2 3, 6
- ħe₂-em-ši-ħu-ħu-ul ~ -ħu**l₂-ħul₂** - PBS 10/2 3 Rev. 5
- i-ri- ~ er**im₂** - TCL 15 38 Obv. 10, 12 (63, 65)
- -ke ~ -**gen₇** - PBS 10/2 3 Rev. 9
- ki-ib-la ~ ki-**bala** - TCL 15 38 Obv. 10 (62)
- ki-gi ~ ki-**geg** - H 97 III, 17
- ki-is₃-ki-ra ~ ki-**sikil-ra** - H 97 III 5
- ku-ur-ku ~ kur-**kur** - PBS 10/2 13, 2
- ma-aš-gi-ki-ga ~ maš**kim-gi₆-ga** - PBS 10/2 13 Rev. 6
- mi-li ~ me-**lim₄** - VS 2 4, 7
- mu-na-an-šu ~ mu-na-an-š**um₂** - TCL 15 38 Obv. 4, 5 (54-55)
- na- ~ **nam-** - TCL 15 38 Obv. 7, 9, 13 (59, 61, 66)
- na-mu ~ **nam-mu** - VS 2 94, 63
- -su-su-ub ~ -š**ub-šub** - H 97 I, 39-40
- ša ak-šu ~ ša₃ **kuš₂-u₃** - TIM 9 1, 7
- tu ~ tu**g₂** - H 77, 30
- u₃-un ~ u₃-**mu-un** - PBS 10/2 3 Obv. 3

Most of the short writings involving consonants are concentrated at the end of words. This is possibly an extension of the well-known loss of final consonants in certain Sumerian words. Frequent is the loss of final /m/ - im-g[u]g[u-r]a ~ im-gi/(u³)gur**um** (Ĥattuša), me-na-a ~ me-na-**am₃** (Emar), a-na-a ~ a-na-**am₃**, muš-šu ~ mu-**sum**, u₂-da-gi ~ u₄-da-kam (Ugarit) - and /n/ - i₃-in-ke ~ e-ne-**gen₇** (Emar), mu-saġ-ke ~ muš-a-**gen₇**, mu-un-za-am-za-a ~ mu-un-na-an-š**en-šen**, (Ugarit). Under the influence of the loss of Akkadian mimation, the 3sg. form of the Sumerian copula /am/ was occasionally shortened to /a/ from the Old Babylonian period onwards.⁹⁷⁷ In the Old Babylonian unorthographic texts the loss of the final consonant extended to other cases as well; for instance the spelling of -gen₇ as -ki was rather frequent.⁹⁷⁸ Loss of consonants other than /m/ and /n/, mainly in final position, is also well attested.⁹⁷⁹ Two consecutive consonants, especially geminated consonants, were frequently reduced to one in the

976 For phonetic writings with apheresis of *a* from the OB period see Attinger 1993, 444.

977 Black, Zólyomi 2007, 22.

978 For spellings of gen₇, see Bergmann 1965, 39 n. 6.

979 Krecher 1966a, 47-48.

Old Babylonian unorthographic texts.⁹⁸⁰ This phenomenon is also attested in the Syro-Anatolian documentation: e¹-na ~ en-na (Emar) and saĝ-ke-dab ~ saĝ-geĝ-dab (Ugarit). Loss of the final consonant in the first form of a reduplicated verbal base, ba-ki-ik-[(ki)-ir] ~ ba-an-gir₁₁-gir₁₁, šu-ta-ta-ak-ke ~ šu dag-dag-ge (Ḫattuša), ša₃-an-ki-ki-ne₂ ~ saĝ kiĝ₂-kiĝ₂-e (Ugarit), is perhaps connected with pronunciation which tends to reduce the sequence C₁v₁C₂-C₁v₁C₂ to C₁v₁-C₁v₁C₂. Partial reduplication⁹⁸¹ is also attested in the OB texts.⁹⁸² It cannot be excluded that the elevated number of occurrences in the local tablets from Ugarit, notably in the collection of incantations AuOrS 23 21, is due to dictation.

Loss of vowels mostly occurs in sequences of vowels of which only one is retained.

The omission of the 1/2 sg. personal suffix -en in verbal forms is independent from phonetic orthography because it is a late development that would become very common in the first-millennium documentation. Examples are: [na]-an-gub-ba ~ na-an-gub-be-en (KUB 37 111 Rev. R. Col. 3); na-an-tu-uš-ta-a ~ na-an-tuš-de₃-en (KUB 37 111 Rev. R. Col. 3); nam-ba-ki-ki-ti ~ nam-ba-gi₄-gi₄-de₃-en (KUB 37 111 Rev. R. Col. 4); nam-ba-še-šu-še-šu-de₃ ~ nam-ba-šu₂-šu₂-de₃-en (KUB 37 111 Rev. R. Col. 4).

4.3 Phonetic Alterations

This section is dedicated to the analysis of phonetic alterations resulting from unorthographic writings. Here phonetic alterations are not understood as phonetic changes similar to those produced in spoken languages, but as changes in the use of the syllabary. For example, when the sign KI is used to write gi₄, it is read here as ki rather than gi₅ because the purpose of the analysis is to show that a sign with an original voiceless consonant was used to write a logogram with a voiced sound. Therefore the shift *g* > *k* is evaluated only in terms of the syllabary, without regard to the actual pronunciation of the sign KI, whether /ki/ or /gi/. As a consequence, only Cv signs are taken into account because the cuneiform script does not distinguish voiced, voiceless and emphatic consonants for vC and CvC signs except when they are followed by a Cv sign.

Phonetic alterations may affect both consonants and vowels. Consonants are listed first according to manner of articulation and secondarily according to place of articulation, with the exception of sibilants which are grouped together.

4.3.1 Consonants

4.3.1.1 Stops

4.3.1.1.1 Dentals

d > *t*

Ḫattuša

Babylonian Tablets

- šu-ta-ta-ak-ke ~ šu dag-dag-ge - KUB 30 1, I, 3
- šu-tu-ul ~ šu-dul₃ (?) - KUB 30 3, 5
- u₃-tu-[ug[?]] ~ udug - KBo 36 13, R. Col. 10
- u₃-tu-uk-ka ~ udug (?) - KBo 36 15 Obv. 6
- uš-du-ut-tu ~ uš₁₁ du₁₁-du₁₁ - KUB 30 1, I, 11

⁹⁸⁰ Krecher 1966a, 45-49, especially examples on 47-48 and Kutscher 1975, 36-37.

⁹⁸¹ For partial reduplication see Edzard 2003, 80-81, see also Bergmann 1965, 39.

⁹⁸² See PBS 10/2 3, Rev. 5, H 97 I, 4, H 97 I, 39-40 among the examples quoted above.

Assyro-Mitannian Tablets

- kiĝ₂¹-b[u]-ru-ta ~ kiĝ₂-bur₂-ru-da - KBo 36 11+ Obv.20
- ta-na-ta ~ da-ni-ta - KBo 36 11+ Rev. 32, 33
- teĝ₃-ge-ta-a²-[ni?]⁹⁸³ ~ teĝ₃-ĝe₂₆-da-ni - KBo 36 11+ Rev. 28

Hittite Script Tablets

- it-ta ~ i₇-da - CTH 314 - KUB 4 6 Obv. II, 7
- i-te-[en-na] ~ edin-na - CTH 314 - KUB 4 5, II, 18
- i₇-ti ~ i₇-da - KUB 37 111 Obv. II, 9
- kut-ta ~ gu₇-da - KUB 57 126 Obv. I, 2
- na-an-tu-uš-ta-a ~ na-an-tuš-de₃-en - KUB 37 111 Rev. R. Col. 3
- nam-ba-ki-ki-ti ~ nam-ba-gi₄-gi₄-de₃-en - KUB 37 111 Rev. R. Col. 4
- nu-ki-ki-it-ti ~ nu-gi₄-gi₄-da - CTH 315 - AuOrS 23 50, II, 45
- pa₃(GAM)-ta ~ pa₃-da - KUB 37 111 Obv. R. Col. 5
- [saĝ]-ki-kut-ta ~ saĝ-ki-gud-da - KUB 57 126 Obv. I, 3
- ša-an-ki-ku-ut-ta ~ saĝ-ki-gud-da - KUB 57 126 Obv. II, 3
- te-el-mu-na ~ delmun-na - CTH 315 - AuOrS 23 50, II, 39
- ti-en-kar ~ diĝir - KUB 4 26B, 10, 11
- ti-in-qa-ri-ni ~ diĝir-ra-ni - KUB 4 26B, 7
- u₃-du₂-ud-ta ~ u₃-du₂-ud-da - KUB 4 7, 4

Emar

- gan-me-ta ~ gan-me-da - E 751, 5
- ib-te-[...] ~ ib₂-dib-ba - E 768A, II, 5
- ki-u₄-ta-ta ~ ki-u₄-da-ta - E 771+, 25
- nu-bala-ta ~ nu-bala-e-da - E 775, 3
- ra-ra-ta-mu-ⁿⁱ ~ ra-ra-da-mu-ne - E 729, 16
- ša-ud-ta- ~ su₃-ud-da- - E 767, II, 7
- šu-bu-ta-mu-ni ~ šub-bu-da-mu-ne - E 729, 15
- te-em-ma ~ dima - E 767, II, 2
- ti-gi-re-e-ni ~ diĝir-re-e-ne - E 767, II, 2
- t[i-(in)-gi-ir] ~ diĝir - TBR 101 Obv. 3
- ti-kar- ~ diĝir- - E 767, II, 20
- tiĝ₄-ke-ta-mu-ni ~ teĝ₃/tiĝ₄-ĝe₂₆-da-mu-ne - E 729, 14
- ^{zu}-zu-ta-ni ~ zu-mu-da-ne (?) - E 729, 14

Ugarit

Ugarit Script Tablets

- [a]n-šū₂¹-u₄-ta-^{ke}-[...] ~ an-su₃-u₄-da-gen₇ - RS 23.34+ B, 11
- a-te-na ~ edin - RS 79.25, 28
- at-ta-an-ni ~ ad-da-ni - RS 17.10 Rev. 2
- -ba-ba-ta ~ -pa₃-pa₃-da - RS 17.10 Obv. 8
- <gu>-u₂-ru-ud-ta ~ gurud-da - AuOrS 23 21, 79

983 This word is only listed here and not also under *scriptio plena* because -a- is uncertain.

- it-te-ta-ni-eš ~ i₃-te-da-ni-eš₂ - AuOrS 23 21, 47
- ku-ku-ut-ta ~ ku₅-ku₅-de₃ - RS 86.2210, I, § 7
- mu-ut-ta-ša-a ~ mud-da-še₃ - AuOrS 23 21, 81
- nu-tu₄-ga ~ nu-du₁₁-ga - AuOrS 23 13, 2
- šu nu-tu-ga-ga ~ šu nu-du₁₀-ga-ka - AuOrS 23 21, 8
- ta-a-bi ~ du₃-a-bi - RS 79.25, 18
- ta-mu-zi-ig ~ dumu-zi(g) - AuOrS 23 21, 7
- te-[em ...] ~ dima - RS 23.34+ B, 3
- ti-ga-ar ~ diġir - RS 79.25, 7
- ti-kar ~ diġir - AuOrS 23 21, 80
- tu-mu-ga ~ dumu-ġu₁₀ - AuOrS 23 21, 86
- u₂-tu ~ u₄-da - RS 23.34+ B, 5
- u₄-ta ~ u₄-da - RS 23.34+ B, 12

Old Babylonian

- -aš-ta-am ~ eš₂-dam - H 97 I, 47
- -di-tu ~ -du₁₁-du₁₁ - VS 2 3, I *passim*
- ħa-la-mi-it-te ~ ħa-lam-e-de₃ - TIM 9 1, 9
- ta-al-[la] ~ dalla - TCL 15 3 + BL VI, 66
- ^{ġeš}ta-m-zu ~ ^{ġeš}dam-zu - H 178 Obv. 15 (44)
- -te ~ de₃ - TIM 9 1, *passim*
- [t]u-u₃-tu ~ du_{3/8}-du_{3/8} - H 179+ II, 2
- za-te-eb-kur-kur-ra ~ za₃-dib-kur-kur-ra - TIM 9 20, 2
- zi-zi-ta ~ zi-zi-(i)-da - H 178 Obv. 11 (39)

t > d

Ḫattuša

Assyro-Mitannian

- (-)dub-dub-be₂ ~ (-)tub₂-tub₂-be₂ - KBo 36 11+ Obv. 26, 27, 36

Hittite Script Tablets

- -a-ki-i-du ~ -a₂-ki-tum⁹⁸⁴ - CTH 315 - AuOrS 23 50, II, 42
- du-uš-ka-ra ~ tuš-ġar-ra - CTH 314 - KUB 4 5, II, 11
- ši-da-qa-qa ~ šu-ta₃-ga - CTH 315 - AuOrS 23 50, II, 36

Emar

- al-du-uš ~ al-tuš - TBR 101 Obv. 8
- bar-da ~ bar-ta - Tsukimoto, 38
- du-uk-ta ~ taka₄-(a-bi) - TBR 101 Rev. 4
- ħe₂-en-da-gub ~ ħe₂-en-ta-gub - E 743, 3
- ħe₂-en-da₃-su₂-ge-eš ~ ħe₂-en-ta-su₈-su₈-ge-eš - E 729, 6

984 This word is not listed among short-writings as spellings without -m are known: a₂-ki-ti, a₂-ki-te.

- i-gi-du-**ud-du**₅ ~ igi-du-ta - E 767, II, 3
- u-**du** ~ ^dutu - E 768A, II, 3, 4

Ugarit

Babylonian Tablets

- ^du₂-u₂-u₄-**du** ~ ^dutu - AuOrS 23 27, 7

Ugarit Script Tablets

- **du**-ma ~ tum₂-ma - RS 86.2210, II, § 4
- -**du**-uš-ša₂-a ~ -tuš-a - RS 17.10 Obv. 5
- i-**da**-[na-mi-da] ~ iti nam-iti - RS 79.25 40
- u₂-**du** ~ ^dutu - RS 79.25, 19

Old Babylonian

- **de** ~ te - AO 24146 Rev. 27 (69) (Susa)
- **di**-la ~ ti-le - MMUM 35516+, 11, 13
- **du** ~ tug₂ - CNMA 10051 II, 5 (103)
- eri-du₈-**da** ~ eridu-ta - H 97 III, 15
- kuš-**da** ~ kuš-ta - H 97 VI, 20
- (^{ḡeš})niḡ₂-gul-**da** ~ ^{ḡeš}niḡ₂-gul-ta - H 178 Obv. 5, 6 (33, 34)

4.3.1.1.2 Velars

g > k

Ḫattuša

Babylonian Tablets

- ba-**ki-ik**-[ki-ir] - ba-an-gir₁₁-gir₁₁ - KUB 30 1, I, 9
- šu-ta-ta-**ak-ke** ~ šu dag-dag-ge - KUB 30 1, I, 3
- u₃-tu-**uk-ka** ~ udug (?) - KBo 36 15 Obv. 6

Hittite Script Tablets

- i-**ki**- ~ igi - CTH 315 - AuOrS 23 50, II, 42
- ke-eš-tu-u₄-**ku** ~ ḡeštug_{2/3} - KUB 4 26B 3⁹⁸⁵
- **ki-ki** ~ gi₄-gi₄ - CTH 314 - KUB 4 5, II, 8
- **ku-gal** ~ gu₂-gal - CTH 314 - KUB 4 6 Obv. II, 6
- **ku-ru-um** ~ gurun - CTH 315 - AuOrS 23 50, II, 37
- **ku-u-ra** ~ gur-ra-(am₃) - CTH 315 - AuOrS 23 50, II, 46
- **kut-ta** ~ gu₇-da (?) - KUB 57 126 Obv. I, 2
- na-aš-**ke**-ma-am-ma-an-ku ~ ḡešgem-ama-ḡu₁₀ - CTH 315 - AuOrS 23 50, II, 40, 47

985 /d/ in the reading ud of the sign UD possibly voices /k/.

- nam-ba-**ki-ki**-ti ~ nam-ba-gi₄-gi₄-de₃-en - KUB 37 111 Rev. R. Col. 4
- nu-**ki-ki**-it-ti ~ nu-gi₄-gi₄-da - CTH 315 - AuOrS 23 50, II, 45
- [saĝ]-ki-**ku**-ta ~ saĝ-ki-gud-da - KUB 57 126 Obv. I, 3
- ša-an-ki-**ku**-ut-ta ~ saĝ-ki-gud-da - KUB 57 126 Obv. II, 3

Emar

- i-**ki** ~ igi - Tsukimoto, 38
- i-**ki**-du (2) ~ igi-ĝu₁₀ - Tsukimoto, 37
- i₃-in-**ke** ~ e-ne-gen₇ - E 767, II, 23
- in-ta-ba-an-**ki** ~ im-ma-(ta[?])-an-gi₄ - E 768A, I, 3
- kala-**ke** ~ kala-ge - E 776, 4
- **ki**-da-an-ni ~ gid₂-da-ni - E 734, 3
- -**ki**-im ~ -gen₇ - E 767, II, 7
- mu-un-**ke**-ne₂-e ~ mu-un-ge-ne₂ - E 776, 4
- nu-**ke**-eg ~ nu-geg - TBR 101 Obv. 4

Ugarit

Babylonian Tablets

- he₂-**ku**-la ~ ĥe₂-gul-la - AuOrS 23 25, 14

Ugarit Script Tablets

- he₂-**ku**-la ~ ĥe₂-gul-la - AuOrS 23 25, 14

Ugarit Script Tablets

- [a]n-š_u¹-u₄-ta-**ke**-[...] ~ an-su₃-u₄-da-gen₇ - RS 23.34+ B, 11
- [a-sa-ki-i]**k-ku** ~ asag-ge - AuOrS 23 21, 70
- i-**ki** ~ igi - RS 86.2210, II, § 8
- **ka**-<aš>-al-ĥi-a ~ gi-šul-ĥi-a - RS 17.10 Obv. 12
- **kar-ku** ~ gir₅-gir₅ - RS 86.2210, II, § 5
- **ki**- ~ gi- - RS 86.2210, I, § 3
- -**ki**- ~ -gi₄- - RS 17.10 Obv. 16
- **ki-ik-ki** ~ gi₄-gi₄ - AuOrS 23 21, 8
- **ki-il-za** ~ gil-sa - RS 79.25, 41
- -**ki**-im ~ gen₇ - RS 79.25, 29
- [ki[?]]-in¹-nim-**kalam-kalam**-ab-bi ~ ki niĝ₂-galam-galam-ma-bi - RS 17.10 Obv. 7
- **ku** mu-n[a-de] ~ gu₂ mu-na-de₂ - AuOrS 23 21, 83
- **ku**¹-u₂-ba-ni ~ gub-ba-ni - AuOrS 23 21, 81
- **ku**-ug-bi ~ gu₂-un-bi - RS 79.25, 36
- mu-saĝ-**ke** ~ muš-a-gen₇ - AuOrS 23 21, 82⁹⁸⁶
- na-aš-**ki** ~ ĝeš-gi - RS 17.10 Obv. 14
- saĝ-**ke**-dab ~ saĝ-geg-dab - AuOrS 23 21, 79
- ur-**ku**-ul-la ~ ur-gu-la - RS 86.2210, II, § 6

986 Perhaps /ĝ/ voices /k/.

Old Babylonian

- a-ša₃-**ki**-nam ~ a-ša₃-gen₇-nam - TIM 9 1, 49
- bu-lu-**ka**-ki ~ bulug-an-ki - VS 2 48, 10
- -du-**ka** ~ du₁₁-ga - CNMA 10051 I, 4-5 (32-33)
- e-da-**ka** ~ a-du₁₁-ga -TIM 9 1, 60
- geg-**ki** ~ geg-gi - H 97 V, 12
- ka-la-**ak-ka** ~ kala-ga - TIM 9 35, 3
- -**ke**₄ ~ gen₇ - H 97 II, 8
- -**ke** ~ -gen₇ - PBS 10/2 3 Rev. 9
- -**ke** ~ -gen₇ - VS 2 94, 13
- -**ke**-en ~ -gen₇ - H 103 IV, 24
- -**ki**-in ~ -gen₇ - PBS 10/2 3 Rev. 6
- -**ki**-in ~ -gen₇ - H 103 IV, 14, 21
- ki-ni-**ki** ~ ki-en-gi - TIM 9 35, 3
- **ki**-ri ~ giri₁₆ - AO 24146 Obv. 7 (7) (Susa)
- ma-aš₂-gi-**ki**-ga ~ mašgim-gi₆-ga - PBS 10/2 13 Rev. 4
- mi-ni-in-u₃-**ku**₂-ge ~ mi-ni-in-ug₅-ug₅-ge - H 97 I, 16
- ša₃-**ak-ke** ~ sağ₃-ge - AO 24146 Obv. 28 (28) Rev. 2-3 (46-47) (Susa)
- u₃-nu-**ka** ~ unu^{ki}-ga - VS 2 48, 6
- zi-**ka** ~ saga₁₁ - TCL 15 38 Obv. 4, 6 (55-57)
- zi-**ku** ~ zi₃-gu₂ - H 97 IV, 35

g > q

Ḫattuša

Babylonian Tablets

- i-nita(UŠ)-ta-a**q-qa** ~ i₃-ni-ta₃-ta₃-ga - KUB 30 1, I, 12⁹⁸⁷
- ni-ka-la-**qa** ~ niġ₂-kala-ga - KBo 36 16, 4, 5
- -si-**iq-qa** ~ sağ₃-ga - KUB 30 1, I, 16-17

Hittite Script Tablets

- **qa**-mu-ra-an-šum₂ ~ ga-mu-ra-ab-šum₂ - CTH 315 - AuOrS 23 50, II, 47
- ši-da**q-qa** ~ šu-ta₃-ga - CTH 315 - AuOrS 23 50, II, 36⁹⁸⁸
- za-la-**qa** ~ zalag-ga - CTH 315 - AuOrS 23 50, II, 28

Emar

- du**q-qa**-gen₇ ~ du₁₁-ga-gen₇ - E 770, 8
- za-la-a**q-qa** ~ zalag-ga - E 767, II, 19
- za-la-a**q-qa** ~ zalag-ga - E 768A, II, 4

987 aBZL: ninta. Doubling of /q/ is perhaps an attempt at rendering the voiced consonant /g/ through the emphatic /q/.

988 Cf. preceding footnote.

Ugarit

Ugarit Script Tablets

- ḥe-za-la-**qa** ~ ḥe-zalag₍₂₎-ge - RS 79.25, 20
- ka-la-**qa**-e-ni ~ kala-ge-de₃ - RS 79.25, 24
- ri-i**q-qa** ~ rig₇-ga - RS 17.10 Obv. 13
- sa-si-**qa** ~ za₃-sag₁₀-ga - AuOrS 23 21, 95
- u₄-za-la-**qa**- ~ u₄-zalag₍₂₎-ga- - RS 79.25, 20

Old Babylonian

- du-**qa** ~ dug-a (?) - H 97 IV, 27
- du-**qa**-zu ~ du₁₁-ga-zu - H 103 IV, 13
- -**qa**- ~ -ka- - AO 24146 Obv. 4 (4) (Susa)
- ne-**qa**-al ~ ni₂-gal - TIM 9 24, 10 (161)
- **qa**-na ~ gana₂ - H 74, 17
- **qa**-na ~ gana₂ - H 103 I, 17
- -si-**qa** ~ sag₃-ga - H 97 IV, 15
- su-**qa**-al ~ sugal₇ - H 103 II, 5
- ta-**qa** ~ ta₃-ga - H 97 IV, 14

*g > ḥ***Ḫattuša**

Hittite Script Tablets

- li-a[**ḥ**-a] ~ lu₂-ug₇-a[?] - KUB 4 24 Rev. 10

Ugarit

Ugarit Script Tablets

- -a**ḥ**-bi-lu ~ gibil - RS 79.25, 3⁹⁸⁹

*g > ḡ***Ḫattuša**

Assyro-Mitannian Tablets

- sa**ḡ**-še ~ za₃.(g)-še₃ - KBo 36 11+ Obv. 37⁹⁹⁰

989 The shift *g > ḥ* here is hypothetical; see Arnaud 1982a, 213, who regards -aḥ-bi-lu as ḥe₂-gibil.

990 This entry is listed here on account of the *Auslaut* *g* in za₃.*g* even though it was not actually pronounced; the Sumerian reading saḡ is here adopted although the sign SAḠ can be read as saḡ in Akkadian.

Ugarit

Ugarit Script Tablets

- niĝ₂-nu-saĝ-ga ~ niĝ₂-nu-sa₆-ga - AuOrS 23 21, 7

Old Babylonian

- a-ĝa₂-ar ~ a-gar₃ - H 97 I, 31

*k > g***Ḫattuša**

Babylonian Tablets

- bi-in-ĝi-id ~ bi₂-in-kid₂ - KUB 30 2, I, 11

Assyro-Mitannian Tablets

- šu-nam-tar-<ra>-ĝa-a-ni ~ šu-nam-tar-ra-ka-ni - KBo 36 11+ Obv. 46 Rev. 20

Hittite Script Tablets

- ĝa-lam-ma ~ kalam-ma - CTH 314 - KUB 4 6 Obv. II, 6
- iš-ĝur ~ ^diškur - CTH 314 - KUB 4 5, II, 12
- iš-ĝur ~ ^diškur - CTH 314 - KUB 4 6 Obv. II, 1, 6
- ša¹-aš-ĝu[r] ~ siškur - CTH 315 - AuOrS 23 50, II, 42

Emar

- e-da-ra-ĝa-^ran-ni^r ~ e₂-da-ri₂-ke₄-ne-(ne) - E 767, II, 6
- -i-ĝi-du-ĝa-an-ni ~ -i-ĝi-du-ka-ni - E 767 II, 4
- ti-el-la-ĝa-an-ni ~ til-la-ke₄-e-ne - E 734, 2

Ugarit

Ugarit Script Tablets

- a-ia-an-ni-ĝi-re-a-ab-ba-saĝ₁₀-ĝa ~ aia-ni ^denki-ra e₂-a ba-ši-ku₄-a - AuOrS 23 21, 83
- ba-an-ĝu ~ ba-an-ku₄ - RS 86.2210 II, § 7
- e-ur-ra-ĝa-^ran-ni^r ~ e₂-ur₃-ra-ke₄-ne-ne - RS 23.34+ B, 10
- ĝa^(a) ~ ka₅^a- - RS 86.2210 II, 8, 9
- ĝu-ĝu-ut-ta ~ ku₅-ku₅-de₃ - RS 86.2210 II, § 7
- niĝ₂-nu-ti-il-la-aĝ-ga ~ niĝ₂-nu-til₃-la-ka - AuOrS 23 21, 8
- šu nu-tu-ga-ĝa ~ šu nu-du₁₀-ga-ka - AuOrS 23 21, 8
- u₂-da-ĝi ~ ud-da-kam - RS 79.25, 40

Old Babylonian

- lu₂-**g**u-ur ~ lu₂-kur₂ - TIM 9 35, 17

k > q

Hattuša

Babylonian Tablets

- di-i**q**-**q**[u] ~ di-ku₅ - KUB 30 1, II, 19
- ni-ĝa₂-a**q**-**q**[a] ~ niĝ₂-ak-(a) - KUB 37 109, 2

Hittite Script Tablets

- e-e-**q**a-ma ~ 5-kam-ma - CTH 315 - AuOrS 23 50, II, 47
- lam-ma-**q**a-ma ~ 4-kam - CTH 315 - AuOrS 23 50, II, 40

Emar

- ni-ta-aḥ-a**q**-**q**a[...] ~ nita-kala - E 776, 3

Ugarit

Ugarit Script Tablets

- ma-an-a-gal-ta-**q**a-a ~ ĝal₂ mu-un-taka₄-a - RS 79.25, 12-13

Old Babylonian

- -**q**a ~ -ka - AO 24146 Obv. 7 (7) (Susa)

k > ĝ

Hattuša*Assyro-Mitannian*

- -ĝar-ra ~ kar-ra - KUB 37 102, L. Col. 5

Ugarit

Ugarit Script Tablets

- saĝ-ĝa₂-gu₂-bi ~ saĝ-ki-a₂-gub-bi - AuOrS 23 21, 93

4.3.1.1.3 Bilabials

*b > p***Hattuša**

Hittite Script Tablets

- ša₃-dub-**pa** ~ ša₃-dub-ba - KUB 4 39, 11
- za-aG-**pa** ~ saĝ-ba - KUB 37 111 Rev. R. Col. 14
- zi-iG-**pa** ~ saĝ-ba - KUB 37 111 Obv. R. Col. 5, 7

Emar

- nu-mu-un-**pa-ap**-li-ia ~ nu-mu-un-bala-bala-e-(da) - E 734, 6
- **pa**-da-dal ~ ba-da-dal - Tsukimoto, 37

Ugarit

Ugarit Script Tablets

- ga-**pa**-a ~ gab-a - RS 86.2210, II, § 5
- **pa**-a-tar ~ ba-tar - RS 86.2210, I, § 5
- **pa**-ta ~ ba-tar - RS 86.2210, II, § 5
- **pi**-in-du ~ bi₂-in-du₈ - AuOrS 23 21, 68

Old Babylonian

- a-aš₂-**pa**-la-ba-ke ~ aš-bala-ba-ke₄-eš - TIM 9 35, 16
- a-**pa**-ar ~ abbar - VS 2 94, 61
- **ap**-si-im ~ ab-sin₂ - PBS 10/2 13 Rev. 13
- aš₂-**pa**-la ~ aš₂-bala - H 97 IV, 4
- ba-**ap**-**pa**-ar ~ babbar₂ - H 103 I, 19
- ba-**ap**-**pa**-ar ~ babbar₂ - H 74, 19
- ḥa-**pa**-ra-e ~ ḥa-ba-ra-e₃ - H 97 I, 48
- **pi**-za-za ~ bi₂-za-za - AO 24146 Obv. 8 (8) (Susa)
- ša₃-**pa** ~ ša₃-ba - CNMA 10051 II, 7 (108)
- šu ku-un-di-**ip**-**pa** ~ šu kiĝ₂-dab₅-ba - TIM 9 1, 67
- za-**pa**-ri ~ zabar - BM 79949, 3

*p > b***Hattuša**

Hittite Script Tablets

- e¹-ri-**ba** ~ i-ri-pa₃ - KUB 37 111 Rev. R. Col. 6
- e-ri-**ib**-**ba** ~ i-ri-pa₃ - KUB 37 111 Rev. R. Col. 8, 10

Emar

- nu-mu-un-ba-da-en-ze₂-en ~ nu-mu-un-pad₃-de₃-en-ze₂-en - E 734, 10

Ugarit

Ugarit Script Tablets

- -ba-ba-ta ~ -pa₃-pa₃-da - RS 17.10 Obv. 8

Old Babylonian

- bi-eš₃-te ~ peš₁₀-ta - H 97 V, 20
- bi-iš ~ peš₂ - H 103 I, 24
- bi₂-ri-ne[?] ~ piriĝ - VS 2 1, 8

Among stops, phonetic alterations mostly affect dentals and velars. Stops usually shift at the same place of articulation: the most frequent alteration is the voiced > voiceless shift, whereas the opposite shift, voiceless > voiced, is less common.

Corpus	d > t	t > d	g > k	g > q	g > ħ	g > ĝ	k > g	k > q	k > ĝ	b > p	p > b	Total
Ḫattuša: Babylonian Script	5	0	3	3	0	0	1	2	0	0	0	14
Ḫattuša: Ass-Mit Script	3	1	0	0	0	1	1	0	1	0	0	7
Ḫattuša: Hittite Script	14	3	12	3	1	0	4	2	0	3	2	44
Total Ḫattuša	22	4	15	6	1	1	6	4	1	3	2	65
Emar	13	7	9	3	0	0	3	1	0	2	1	39
Ugarit: Babylonian Script	0	1	1	0	0	0	0	0	0	0	0	2
Ugarit: Ugarit Script	18	4	18	5	1	1	8	1	1	4	1	62
Total Ugarit	18	5	19	5	1	1	8	1	1	4	1	64

The Old Babylonian documentation displays a similar picture but with some remarkable differences. Renderings of dentals do not differ in terms of quality or quantity between the Old Babylonian and the Syro-Anatolian corpora. Conversely, velar stops are affected more frequently by the voiceless > voiced shift in the Syro-Anatolian documentation than in the OB tablets, where this shift was rarely attested. However, in the Western periphery the *k > g* shift appears almost exclusively in the tablets drafted by local scribes; the Babylonian script tablets present just one occurrence of this shift, namely in a manuscript from Ḫattuša. More generally, the majority of phonetic alterations concerning stops are concentrated in local tablets whereas the Babylonian script tablets tend to respect the original spelling of words by limiting phonetic shifts. Indeed, the shift *t > d* occurs only twice in the Babylonian tablets from the Western archives. Remarkably, most of the phonetic alterations affecting stops in the documentation of Ḫattuša derive from tablets written by Hittite scribes despite the fact that the Babylonian tablets CTH 800 provide the largest number of examples of phonetic writings from the Hittite capital.⁹⁹¹ It is clear that local scribes adopted to a larger extent the modifications of the conventional writing system that can be found in the Old Babylonian unorthographic texts.

Alterations of dentals in logograms, including CvC signs and polysyllabic logograms, are more frequent at Ugarit than at Ḫattuša and Emar. A large number of entries from Ḫattuša consist in the substitution of the sign DA with TA.

Bilabial stops are seldom affected by alterations; most of them consist in the shift *b > p*, whereas the opposite is very rare in the Syro-Anatolian documentation as well as in the Old Babylonian period.

⁹⁹¹ See § 4.1.1. The list of CTH 800 tablets is provided in the introduction to this chapter and in § 3.1.

The Syro-Anatolian sources display alterations of stops I was not able to trace back to the Old Babylonian corpus, namely $g > h$ and $k > \hat{g}$. These two shifts – three entries overall – are only attested at Ḫattuša and Ugarit and do not occur in the Babylonian script tablets. The shift $g > h$ is found in two local manuscripts from Ḫattuša and Ugarit in unclear contexts whereas the shift $k > \hat{g}$ is only attested in an Assyro-Mitannian tablet. Although there is no conclusive evidence, it is possible that these shifts were produced independently by local scribes. The closely related shift $g > \hat{g}$ is conversely known from an OB tablet. All these alterations, however, emerge very infrequently.

No significant difference in the use of emphatic consonants for either voiced or voiceless velar stops can be observed among the Syro-Anatolian corpora and between these and the OB sources. The shift $g > q$ is more frequent than the shift $k > q$. With the exception of di-iq-q[u] ~ di-ku₅ in the Babylonian script tablet KUB 30 1, II, 19, the representation of the emphatic velar is limited to the sign qa in the Syro-Anatolian and OB sources.

Alterations may affect both Cv and CvC signs (e.g., ša-an-ki-ku-ut-ta ~ saġ-ki-gud-da, Ḫattuša) and both phonograms and logograms.

Stops are not rendered consistently within a single manuscript; moreover, a single manuscript may contain unorthographic writings with or without phonetic alterations.⁹⁹² However, the complementary distribution of different phonetic renderings of the same logogram is rare within a single manuscript; two examples derive from the same tablet, AuOrS 23 21: -gi-gi (l. 85) and -ki-ik-ki (l. 8) for -gi₄-gi₄ and tu-mu (l. 86) and du-mu (l. 54) for dumu.

4.3.1.2 Nasals

4.3.1.2.1 Labials and Dentals

n > m

Ḫattuša

Babylonian Tablets

- -gi-**im** ~ -gen₇ (?) - KBo 36 13, L. Col. 4, 14, 15
- -gi-**im** ~ -gen₇ - KUB 30 1, II, 2, 18

Hittite Script Tablets

- ku-ru-**um** ~ gurun - CTH 315 - AuOrS 23 50, II, 37
- ma-aš-**am**-ši ~ maš-anše - CTH 314 - KUB 4 5, II, 7

Emar

- e-ri-**ma**-a-ni ~ erin₂-a-ni - TBR 101 Obv. 5
- -ki-**im** ~ -gen₇ - E 767, II, 7

⁹⁹² For instance *d* is rendered differently in KUB 30 1, I, 15, ba-ni-ib-di-ib-be₂ ~ ba-ni-ib-dib-be₂ and in I, 3, šu-ta-ta-ak-ke ~ šu dag-dag-ge.

Ugarit

Ugarit Script Tablets

- -ki-**im** ~ gen₇ - RS 79.25, 29
- mu-un-za-**am**-za-a ~ mu-un-na-an-šen-šen - RS 17.10 Obv. 10

Old Babylonian

- ap-si-**im** ~ ab-sin₂ - PBS 10/2 13 Rev. 13
- **em**-si- ~ ensi- - VS 2 94, 64
- **mi**-it-te-en₃-bi ~ ni₂-te-ĝa₂-bi - TIM 9 1, 66

$m > n$

Ḫattuša

Hittite Script Tablets

- i-ši-**en** ~ izim - CTH 315 - AuOrS 23 50, II, 41

Old Babylonian

- **an**-tu-be₂ ~ am₃-tu₁₁-be₂ - TCL 15 38 Obv. 4 (55)
- šu-ni-**in**-ta ~ šu-nim-ta - TIM 9 1, 59
- **an**- ~ am₃- - CNMA 10051 I, 2, 3, 5 (29, 31, 33)
- na-ab-tu-**un** ~ na-ab-tum₃ - H 77, 6
- [u₃-r]i-**na** ~ uri₅^{ki}-ma - VS 2 48, 11
- **en**-du-du-e ~ im-du₃-du₃-e - VS 2 94, 49

4.3.1.2.2 Velars

$\hat{g} > g$

Ḫattuša

Babylonian Tablets

- **ge**-ši-im-[ma-ar] ~ ĝešimmar⁹⁹³ - KUB 30 1, IV, 17
- **gi**-in-na ~ ĝen-na - KBo 40 103, 4
- **g**[i-in-na] ~ ĝen-na - KUB 30 1, I, 21
- **g**[i-i]n-na ~ ĝen-na - KUB 30 4, R. Col. 7
- **gi**-iš-šu-ub ~ ĝeš-šub - KUB 30 1, II, 18
- **gi**-iš-ḫu-[ur] ~ ĝeš-ḫur - KUB 30 1, IV, 18
- **gi**-ri ~ ĝiri₃ - KUB 30 2, I, 12

993 aBZL: ĝešnimbar.

- **g**[i-ri²] ~ ġiri₃ in a-šu-g[i-ri²-a(n)²-ni] ~ a₂-šu-ġiri₃-a-ni - KUB 30 4, R. Col. 13
- [**g**]i-ri-bi ~ ġiri₃-bi - KBo 36 15 Obv. 5
- **g**i-ri-ġu₁₀ ~ ġiri₃-ġu₁₀ - KUB 30 1, IV, 13
- -**g**u ~ -ġu₁₀ - KUB 30 1, I, 21
- -**g**u ~ -ġu₁₀ - KBo 36 15 Rev. 4
- **g**u-ru-uš ~ ġuruš - KUB 30 2, II, 7
- i-**g**i-in ~ i₃-ġen - KUB 30 1, I, 6
- mu-un-ši-ib-na-**ag** ~ mu-un-ši-ib-naġ - KUB 30 2, II, 9
- ni-**g**u-ug-g[u] ~ niġ₂-gu₇-gu₇ - KUB 30 1, I, 11
- ni-**ig**-na ~ niġ₂-na - KUB 30 1, IV, 9, 23
- u₃-me-ni-na-**ag** ~ u₃-me-ni-naġ - KUB 30 1, IV, 27

Assyro-Mitannian Tablets

- inim¹-**gal** ~ inim-ġar - CTH 794 Obv. 20
- teġ₃-**ge**-ta-a²-[ni²] ~ teġ₃-ġe₂₆-da-ni - KBo 36 11+ Rev. 28

Hittite Script Tablets

- ħe-in-**gal** ~ ħe₂-ġal₂ - CTH 314 - KUB 4 5, II, 13
- ni-**ig-g**[e-(na-ni)-iš-ši] ~ niġen-(na-ni)-še₃ - CTH 314 - KUB 4 5, II, 16
- [š]a-**ag-g**a-ak-ke ~ saġ-ġa₂-ke₄ - CTH 315 - KUB 4 2, 4

Emar

- **ge**-na ~ ġen-na - E 767, II, 24
- i₃-**ig-gal**-l[a] ~ i₃-ġal₂-la - E 767, II, 3
- ti-**gi**-re-e-ni ~ diġir-re-e-ne - E 767, II, 2
- u₄-saġ¹-**ga**-ta ~ u₄-saġ-ġa₂-ta - E 767, II, 17

Ugarit

Babylonian Tablets

- a-**ga** ~ aġ₂-a - AuOrS 23 27, 14

Ugarit Script Tablets

- aš-**gar**₃ ~ aš-ġar - AuOrS 23 21, 79
- -**ge**-en-na ~ -ġen-na - RS 86.2210, II, § 9
- **gi**-il-tun₃ ~ ġeštug_{7/23} (?) - RS 79.25, 15
- **gi**-in-ni-in-mi-ni ~ ġe₆ ni₂-me-lim₄ - RS 79.25, 27
- **gu**-ru-uš ~ ġuruš - RS 23.34+ A, 4
- ħe-**gal** ~ ħe₂-ġal₂ - RS 79.25, 34, 44
- ħe₂-**ga**-al ~ ħe₂-ġal₂ - RS 79.25, 43
- lu-**ga**-la-**gu** ~ luġal-ġu₁₀ - RS 79.25, 1
- ni-**ga** ~ niġ₂-ġa₂ in ni-ga-e-za-i - AuOrS 23 21, 87
- ni-**ge**-na ~ niġen-na - RS 86.2210, II, § 3
- ni-**ig-gi**-ri-ma-re-eš ~ niġ₂-ġir₂-ġar-eš₂ - AuOrS 23 21, 69⁹⁹⁴
- ti-**ga**-ar ~ diġir - RS 79.25, 7

994 For niġ-ġir₂ as an alternative writing of nim-ġir₂ see Sjöberg 1976, 422.

- tu-mu-**ga** ~ dumu-ĝu₁₀ - AuOrS 23 21, 86

Old Babylonian

- **ge**₁₇- ~ ĝe₆- - TIM 9 1, 2
- -**gu**-ra ~ ĝu₁₀ - VS 2 94, 23
- sa-**gi**-^riš^r ~ saĝ-e-eš - TCL 15 38 Rev. 1 (69)
- -sa-**gi**-ki-ga ~ -saĝ-gegge-ga - CNMA 10051 II, 4 (102)⁹⁹⁵

ĝ > k

Ḫattuša

Babylonian Tablets

- ni-**ka**-la-qa ~ niĝ₂-kala-ga - KBo 36 16, 4, 5⁹⁹⁶

Hittite Script Tablets

- du-uš-**ka**-ra ~ tuš-ĝar-ra - CTH 314 - KUB 4 5, II, 11
- **ke**-eš-tu-u₄-ku ~ ĝeštug_{12/13} - KUB 4 26B, 3
- **ki**-i[n-na] ~ ĝen-na - RS 23.34+ A, 15
- **ki**-iš-tu-ug ~ ĝeštug_{12/13} - KUB 4 26B, 13

Emar

- **ka** ~ ĝa₂-e - AuOrS 23 21, 87
- **ki**-iš ~ ĝeš - E 767 II, 4, 13,
- **ki**-iš-ḫur-ḫu-r[e] ~ ĝeš-ḫur-ḫur-re - E 767, II, 1
- **ki**-iš-ḫu-ur ~ ĝeš-ḫur - E 767, II, 24
- **ku**-ru-uš ~ ĝuruš - E 767, II, 20
- ni-**ik**-**k**[e] ~ niĝen - E 767, II, 9
- tiĝ₄-**ke**-ta-mu-ni ~ teĝ₃/tiĝ₄-ĝe₂₆-da-mu-ne - E 729, 14
- ti-**kar**- ~ diĝir- - E 767, II, 20

Ugarit

Babylonian Tablets

- dar-da-rak-**ku** ~ dar-dar-ra-ĝu₁₀ - AuOrS 23 25, 12

Ugarit Script Tablets

- a-ia-**ku** ~ aia-ĝu₁₀ - AuOrS 23 21, 84
- [igi-zu-u]n-na-an-ti-**ki**-aš ~ igi-zu na-ba-an-tiĝ₄-ĝa₂-(aš) - RS 17.10 Obv. 16

⁹⁹⁵ Attinger's reading of ĜE₆ as gegge (ZA 88, 184) is based on this text; I wonder if a reading ĝegge rather than gegge is more appropriate. Whatever the reading of ĜE₆ was, it seems that /ĝg/ or /ĝĝ/ was reduced to /g/.

⁹⁹⁶ This entry is listed here as I regard it as resulting from the merging of /ĝk/ into /k/ instead of a simple loss of the final ĝ.

- **ki-iš** ~ **ĝeš** - RS 23.34+ B, 7
- **ni-ik-ki** ~ **niĝ₂** - RS 17.10 Obv. 9
- **ti-**kar**** - **diĝir** - AuOrS 23 21, 80

Old Babylonian

- **ku-ru-ša** ~ **ĝuruš-a** - PBS 10/2 13 Obv. 9

$\hat{g} > m/n$

Ḫattuša

Babylonian Tablets

- **[di-i]m-ma-an-ni** ~ (dumu)-**diĝir-ra-ni** - KUB 37 109, 3

Hittite Script Tablets

- **me-ta-ši-im-ši-im** ~ **mu-ta-šeĝ₃-šeĝ₃** - CTH 314 - KUB 4 5, II, 14
- **na-aš-ke-ma-am-ma-an-ku** ~ **ĝešgem-ama-ĝu₁₀** - CTH 315 - AuOrS 23 50, II, 40, 47 II
- **ša-an** ~ **saĝ** *in* **ša-an-ki-ku-ut-ta** ~ **saĝ-ki-kud-da** - KUB 57 126 Obv. II, 3
- **ša-an** ~ **saĝ** *in* **ša-an-ku-uš-ši** ~ **saĝ-mu-še₃** - KUB 57 126 Obv. II, 5
- **ša-an** ~ **saĝ** - KUB 57 126 Rev. II, 7
- **ša₃-an-ki-ki-ne₂** ~ **saĝ kiĝ₂-kiĝ₂-e** - CTH 315 - AuOrS 23 50, II, 39
- **šen** ~ **saĝ** - CTH 315 - AuOrS 23 50, I, 39

Emar

- **ni-in-gur** ~ **niĝ₂-gur₁₁** - TBR 101 Obv. 2

Ugarit

Ugarit Script Tablets

- **[ki?]-in'-nim-kalam-kalam-ab-bi** ~ **ki niĝ₂-galam-galam-ma-bi** - RS 17.10 Obv. 7
- **na-aš-bi-<ša>-a** ~ **ĝeš-peš-a** - RS 17.10 Obv. 14
- **na-aš-ki** ~ **ĝeš-gi** - RS 17.10 Obv. 14
- **ni-ig-gi-ri-ma-re-eš** ~ **niĝ₂-ĝiri₃-ĝar-eš₂** - AuOrS 23 21, 69

Old Babylonian

- **ne-in-ge-ga** ~ **niĝ₂-geg-ga** - TIM 9 24, 5 (160)
- **ne-in-kur** ~ **niĝ₂-kur₂** - TIM 9, 24, 1 (159)
- **ne-mu-li-mu** ~ **niĝ₂-ur₂-limmu₂** - TCL 15 3 + BL VI, 35
- **ni-im-** ~ **niĝ₂** - TIM 9 35, 7, 9⁹⁹⁷
- **ni-iš** ~ **ĝeš** - H 74, 17

997 For a possible reading /iĝ/ of IM in an Emesal context see Krecher 1967, 103.

- **ni-iš** ~ **ĝeš** - H 103 I, 17
- **si-im** ~ **saĝ** - TCL 15 38 Obv. 3 (53)
- **-teĝ₃-na** ~ **teĝ₃-ĝa₂** (?) - H 97 VI, 45-46

ĝ > **ng/nk/nq**

Ḫattuša

Babylonian Tablets

- **di-in-gi-ra-a-na** ~ **diĝir-ra-na** - KUB 30 1, IV, 10
- **di-in-gi-re** ~ **diĝir-re** - KUB 30 2, II, 3
- **di-i[n-gi-(ir)-ra-ni]** ~ **diĝir-ra-ni** - KUB 37 109, 7, 9

Hittite Script Tablets

- **am-ma-an-ku** ~ **ama-ĝu₁₀** - CTH 315 - AuOrS 23 50, II, 33, 41 II, 48 II
- **a-ni-ma-za-an-qa-ak-ke** ~ **a-numun-saĝ-ĝa₂-ke₄** - CTH 315 - AuOrS 23 50, II, 33
- **pa-ra-za-an-kar** ~ **para₁₀-za₃-ĝar** - CTH 315 - AuOrS 23 50, II, 37
- **ḫe₂-in-[gal-la]** ~ **ḫe₂-ĝal₂** - CTH 315 - AuOrS 23 50, 43
- **na-aš-ke-ma-am-ma-an-ku** ~ **ĝešgem-ama-ĝu₁₀** - CTH 315 - AuOrS 23 50, II, 40, 47 II
- **ti-en-kar** ~ **diĝir** - KUB 4 26B, 10, 11
- **ti-in-qa-ri-ni** ~ **diĝir-ra-ni** - KUB 4 26B, 7

Emar

- **in-na-an-ga** ~ **en-nu-uĝ₃** - E 729, 5

The following table provides the number of examples of each alteration:

Corpus	n > m	m > n	ĝ > g	ĝ > k	ĝ > m/n	ĝ > ng/nk/nq	Total
Ḫattuša: Babylonian Script	2	0	18	1	1	3	25
Ḫattuša: Ass-Mit Script	0	0	2	0	0	0	2
Ḫattuša: Hittite Script	2	1	3	4	7	7	24
Total Ḫattuša	4	1	23	5	8	10	51
Emar	2	0	4	8	1	1	16
Ugarit: Babylonian Script	0	0	1	1	0	0	2
Ugarit: Ugarit Script	2	0	13	5	4	0	24
Total Ugarit	2	0	14	6	4	0	26

Labial and dental nasals are affected by alterations to a small extent and those alterations are limited to exchanging one for the other. The shift $n > m$ is far more frequent than the opposite, which occurs only once in a Hittite script tablet.

Alterations affecting the velar nasal \hat{g} are the most frequent. The sound \hat{g} is usually retained in the OB unorthographic texts as evidenced by the scant attestation of shifts. This tendency is underscored by the use of \hat{G} -signs such as $\hat{G}A_2$ and $A\hat{G}_2$ to spell syllabically words containing the nasal \hat{g} . For the sequence $\hat{g}+i/e$ the sign $MI = \hat{g}i_6$ can be employed:

di-ĝi₆-ir ~ diĝir - H 83A Rev. 3
 ĝi₆-ri-e ~ ĝiri₃ - TCL 15 38 Obv. 4-6 (55, 57)
 ĝi₆-iš ~ ĝeš - H 103 III, 13

Moreover the OB unorthographic texts adopted N-signs that include readings with \hat{g} . The sign UN has a very common reading uĝ₃ with the meaning 'people' that is also used for its phonetic value, as for instance in šu ku-uĝ₃-di-ip-pa ~ šu kiĝ₂-dab₅-ba (TIM 9 1, 67). Emesal but also main dialect OB unorthographic texts occasionally employ the sign NE for /ĝe/⁹⁹⁸ with the reading ĝe₉.⁹⁹⁹ main dialect: di-ĝe₉-er ~ diĝir (TCL 15 3 + BL VI, 4, 5); Emesal: ĥu-ur₂-sa₂-ĝe₉ ~ ĥur-saĝ-e (VS 2 75 Rev. 5). It is unclear if the sign AN in the context of Emesal has the value /aĝ/, as for instance in sa-an ~ saĝ (CNMA 10051 II, 5, 9 - 103, 115).¹⁰⁰⁰ When alterations occur in the OB unorthographic texts, it seems that \hat{g} most frequently shifts towards another nasal, either *m* or *n*. This raises the question of whether the Emesal register, where \hat{g} regularly shifts to *m/n*,¹⁰⁰¹ influenced the main dialect.¹⁰⁰²

On the contrary, texts from the Western periphery display a wider range of alterations in terms of quality and quantity. Data show that Babylonian and local tablets present a comparable quantity of alterations of \hat{g} : 23 in the Babylonian tablets from Ḫattuša (two additional occurrences from the Babylonian tablets from Ugarit may be counted here), 21 in the Hittite script tablets,¹⁰⁰³ 14 in the Emar sources, 21 in the local tablets from Ugarit. It is therefore evident that awareness of the sound [ŋ] was either inaccurate or entirely lost in the Late Bronze Age. Most commonly \hat{g} is replaced by *g*, in particular in the Babylonian tablets from Ḫattuša and in the Ugarit script tablets. The opposite shift $\hat{g} > k$ is less frequent, but it is predominantly attested in the local tablets whereas only two occurrences derive from the Babylonian script tablets.¹⁰⁰⁴ Perhaps this reflects the tendency of the OB unorthographic texts, where the $\hat{g} > k$ shift is almost unknown. The writing of \hat{g} with *ng* which is mainly attested in the Babylonian tablets from Ḫattuša - neither $\hat{g} > nk$ nor $\hat{g} > nq$ is documented in this group of tablets - is likely an attempt to render the voiced sound of [ŋ]. The shift $\hat{g} > m/n$ is mostly documented in the local tablets from Ḫattuša and Ugarit, but its occurrences find an interesting parallel in the OB documentation. As seen above the use of AN for an original sound [aŋ] which is found in two tablets from Ḫattuša is documented in the OB Emesal texts. The sign šen, attested in one of the Hittite script manuscripts of *The Message of Lu-diĝira to his Mother* (AuOrS 23 50, I, 39), regularly corresponds to saĝ in the Emesal register.¹⁰⁰⁵ It is worth noting that this writing occurs in the standard orthography version of the text. Since it is improbable that Hittite scribes had any knowledge of Emesal, this raises the question of whether these writings are local developments or whether some Emesal correspondences were embedded in main dialect lexical lists transmitted to the Western periphery that eventually served as references for the local scribes. The latter hypothesis is obviously tied to the aforementioned question about Emesal influences on the main dialect in the OB documentation. To conclude, the consonant \hat{g} although mostly rendered through voiced consonants was no longer perceived in the post-Old Babylonian period.

998 See Falkenstein 1963, 45, Krecher 1967, 99-101.

999 aBZL No. 116.

1000 Krecher 1967, 93-94, 100.

1001 See Krecher 1967, 103-106, Thomsen 1984, 287.

1002 The examples of alterations of \hat{g} quoted above are only drawn from OB main dialect texts.

1003 Two additional alterations of \hat{g} in Hittite script tablets are za-aG-pa ~ saĝ-ba (KUB 37 111 Rev. R. Col. 14) and zi-iG-pa ~ saĝ-ba (KUB 37 111 Obv. R. Col. 5, 7); these entries cannot be sorted according to the type of alteration because the cuneiform script does not distinguish the quality of consonants in close syllables.

1004 One each from Ḫattuša and Ugarit.

1005 Emesal Vocabulary I, 25, II, 181 (MSL 4), see also MSL 5, 195 and Krecher 1967, 102.

4.3.1.3 Trills and Laterals

 $r > l$ **Hattuša**

Assyro-Mitannian Tablets

- -da**l** ~ -dar – CTH 794 Obv. 3
- inim^l-ga**l** ~ inim-ĝar – CTH 794 Obv. 20

Ugarit

Ugarit Script Tablets

- ga-la[...] ~ ga-ra-an-zu – RS 23.34+ A, 5

Old Babylonian

- ħi-za-a**l** ~ ħi-is^{sar} – TCL 15 3 + BL VI, 34

 $l > r$ **Old Babylonian**

- ħu-ur-ĝa₂-la ~ ħul-ĝal₂-la – TCL 15 38 Obv. 7, 8 (58, 60)
- u₂-ru-ne₂ ~ u₁₈-lu-ne₂ – TCL 15 38 Obv. 10-11 (63, 65)

The only alteration affecting trills and laterals attested in the Syro-Anatolian texts is the shift $r > l$. The opposite shift is not documented but was already known in the Old Babylonian period as the above examples show.

4.3.1.4 Sibilants

 $s > š$ **Hattuša**

Babylonian Tablets

- ba-an-še ~ ba-an-ser₃ (?) – KUB 30 1, I, 16-17

Assyro-Mitannian Tablets

- a₂-šu-šu ~ a₂ su₃-su₃ – KBo 36 11+ Obv. 39

Hittite Script Tablets

- a-ši-la ~ asila - CTH 315 - AuOrS 23 50, II, 35, 41
- a-šu-uh ~ ^{ġeš}u₃-su¹⁰⁰⁶h₅ - CTH 315 - AuOrS 23 50, II, 36
- ba-su₂-šu-ud-ta ~ ba-su₍₃₎-su₍₃₎-da (?) - KUB 37 111 Obv. R. Col. 10
- [m]a-[š]a-ra ~ mu₂-sar-ra - CTH 315 - AuOrS 23 50, II, 38
- [š]a-ag-ga-ak-ki ~ saġ-ġa₂-ke₄ - CTH 315 - KUB 4 2, 4
- ša-an ~ saġ - KUB 57 126 Rev. II, 7
- ša-an-ki-ku-ut-ta ~ saġ-ki-gud-da - KUB 57 126 Obv. II, 3
- ša-an-ku-uš-ši ~ saġ-mu-še₃ - KUB 57 126 Obv. II, 5
- ša¹-aš-gu[r] ~ siškur - CTH 315 - AuOrS 23 50, II, 42
- ša₃-an-ki-ki-ne₂ ~ saġ kiġ₂-kiġ₂-e - CTH 315 - AuOrS 23 50, II, 39
- šen ~ saġ - CTH 315 - AuOrS 23 50, I, 39

Emar

- sur-šu-r[e] ~ sur-sur-re - E 767, II, 2
- ša-ud-ta- ~ su₃-ud-da- - E 767, II, 7

Ugarit

Ugarit Script Tablets

- [a]n-š₂¹-u₄-ta-¹ke¹-[...] ~ an-su₃-u₄-da-gen₇ - RS 23.34+ B, 11
- a-ša-a-li ~ ^dasal - RS 79.25, 12
- [a-š]a-lu-uh-he₂ ~ ^dasal-lu₂-ġi - RS 79.25, 10

Old Babylonian

- ša₃-ak-ke ~ saġ₃-ge - AO 24146 Obv. 28 (28); Rev. 1-2 (46-47) (Susa)
- ša₃-ġa-ra ~ saġar - AO 24146 Rev. 24 (66) (Susa)
- -ši ~ -si - AO 24146 Obv. 1 (1) (Susa)
- šu-u[d] ~ su₃-ud - VS 2 3, I, 17¹⁰⁰⁷

1006 According to D. Schwemer (personal communication) this reading may render the pronunciation more accurately than the usual transliteration.

1007 For an additional attestation see Falkenstein 1952-1953, 63.

S > Z

Ḫattuša

Hittite Script Tablets

- a-ni-ma-za-an-qa-ak-ke ~ a-numun-saĝ-ĝa₂-ke₄ - CTH 315 - AuOrS 23 50, II, 33
- u₂-za-ag-ga ~ a su₃-ga - KUB 37 111 Obv. R. Col. 12
- za-aG-pa ~ saĝ-ba - KUB 37 111 Rev. R. Col. 14
- zi-iG-pa ~ saĝ-ba - KUB 37 111 Obv. R. Col. 5, 7

Emar

- mu-un-zi-ge-eš ~ mu-un-saĝ₃-ge-eš - E 729, 26
- u₂-za-an-du ~ usandu (ḪU.DU₃) - E 768A, II, 1
- za-an-ki-el-la ~ (niĝ₂)-saĝ-ki-il₂-(la) - E 767, II, 22
- za-[...]`il₂` ~ (niĝ₂)-saĝ-ki-il₂-(la) - E 767, I, 22

Ugarit

Ugarit Script Tablets

- ki-il-za ~ gil-sa - RS 79.25, 41
- -zu ~ -si - RS 79.25, 17

Old Babylonian

- [im-ma-a]n-zi ~ im-ma-an-si - H 179+ I, 32
- ku-zi ~ ku₃-si₂₂ - PBS 10/2 13 Obv. 5
- za-za-ge ~ sa₆-sa₆-ge - VS 2 94, 60
- zi-ig ~ si-ig - AO 24146 Obv. 33 (33); Rev. 12 (56) (Susa)
- zi-ka ~ saga₁₁ - TCL 15 38 Obv. 4, 6 (55-57)

š > s

Ḫattuša

Assyro-Mitannian Tablets

- za₃-si₁₁¹⁰⁰⁸ ~ za₃-še₃ - KBo 36 11+ Obv. 31

Hittite Script Tablets

- ḫu-us₂-sa-a ~ ḫuš-a - CTH 315 - AuOrS 23 50, II, 42

1008 A possible reading še_x (ePSD) would allow us to include this example among the cases of homophony, cf. fn. 1020.

Ugarit

Ugarit Script Tablets

- mu-saġ-ġa₂ ~ muš-a-ġa₂ - AuOrS 23 21, 82
- mu-saġ-ke ~ muš-a-gen₇ - AuOrS 23 21, 82

Old Babylonian

- ki su-su-sa-mu ~ ki šuš₂-šuš₂-a-mu - TIM 9 35, 12
- -su-su-ub ~ -šub-šub - H 97 I, 39-40

š > z

Ugarit

Ugarit Script Tablets

- mu-un-za-am-za-a ~ mu-un-na-an-šen-šen - RS 17.10 Obv. 10

š > š

Ḥattuša

Babylonian Tablets

- u₃-uš-šu ~ uš₇-zu - KUB 30 1, I, 3; II, 17
- u₃-uš-šu-bi ~ uš₇-zu-bi - KBo 36 13, R. Col. 3, 11

z > s

Ḥattuša

Babylonian Tablets

- ba-ar-su ~ bar-zu - KBo 36 13, R. Col. 12
- saġ-še ~ za₃-(g)-še₃ - KBo 36 11+ Obv. 37
- u₃-su-a-na ~ uzu-a-na - KUB 30 3, 7

Ugarit

Ugarit Script Tablets

- ab-su-ke ~ abzu-ke₄ - AuOrS 23 21, 69
- sa-si-qa ~ za₃-sag₁₀-ga - AuOrS 23 21 95
- si-si-id-[da] ~ zi-zi-da - RS 86.2210, II, § 3

Old Babylonian

- -su ~ -zu - BM 79949, 3

$z > \check{s}$

Ḫattuša

Hittite Script Tablets

- i-**ši**-en ~ izim - CTH 315 - AuOrS 23 50, II, 41
- a-u**š** ~ i₃-(e)-zu - KUB 57 126 Obv. I, 3

Emar

- 'šu-geg' ~ zu₂-geg - E 729, 41

$z > \check{s}^{1009}$

Ḫattuša

Babylonian Tablets

- u₃-u**š**-**šu** ~ u**š**₇-zu - KUB 30 1, I, 3, II, 17
- u₃-u**š**-**šu**-bi ~ u**š**₇-zu-bi - KBo 36 13, R. Col. 3, 11

Alterations of sibilants can be summarized as follows:

Corpus	s > š	s > z	š > s	š > z	š > ṣ	z > s	z > š	z > ṣ	Total
Ḫattuša: Babylonian Script	1	0	0	0	2	3	0	2	8
Ḫattuša: Ass-Mit Script	1	0	1	0	0	0	0	0	2
Ḫattuša: Hittite Script	11	4	1	0	0	0	2	0	18
Total Ḫattuša	13	4	2	0	2	3	2	2	28
Emar	2	4	0	0	0	0	1	0	7
Ugarit: Babylonian Script	0	0	0	0	0	0	0	0	0
Ugarit: Ugarit Script	3	2	2	1	0	3	0	0	11
Total Ugarit	3	2	2	1	0	3	0	0	11

Sibilants provide fewer examples of alterations compared to other consonants. Not all alterations of sibilants are attested in each corpus; some are in fact limited to a few examples. The largest number of occurrences is provided by the documentation of Ḫattuša, in particular the Hittite script tablets.

Among sibilants the voiceless fricative alveolar *s* is the one most subject to alteration. To a large extent alterations of *s* consist in the shift $s > \check{s}$ that is predominantly attested in the Hittite script tablets. Although this shift was not unknown in the OB documentation there are only a few attestations, mainly from Susa and in Emesal texts, which are not indicative of widespread diffusion. The concentration of

1009 I follow here Falkenstein and Wilhelm's readings, as the most common value of ZUM is *šu* instead of *zu*₃; consequently I read UZ as *uš*. Alternative readings are *u*₃-*uz*-*zu*₃-(bi), *u*₃-*us*-*zu*₃-(bi).

this shift in the Hittite script tablets¹⁰¹⁰ likely depends on the Hittite syllabary which only employs the Šv sign to render Sv.¹⁰¹¹ Indeed, the local tablets from Ugarit, which usually show data comparable with the tablets written by Hittite scribes, contain far fewer attestations of the *s* > *š* shift. The opposite shift, *š* > *s*, is quite infrequent. The shift *s* > *z* is only attested in tablets written by local scribes.

The only certain occurrence of the shift *š* > *z* is in a local tablet from Ugarit, whereas no attestations are known from the Old Babylonian corpus under examination. Another occurrence is perhaps *iZ*-kur ~ ⁴iškur (RS 79.25, 44) but due to the different possible readings of the sign ĜEŠ (iz, is) it has not been listed here. The few occurrences of alterations affecting *š* indicate that this phoneme was usually retained.

There are only a few attestations of alterations of *z*, mainly the shift *z* > *s*. The shift *z* > *š* is very rare and I was not able to find any OB examples.

The emphatic sibilant *ṣ* only appears in two instances in Babylonian script tablets from Ḫattuša to replace *š* and *z*. It is worth noting that the same word is spelled identically in two different tablets: *u*₃-*uṣ*-*ṣu* ~ *u*₇-*zu* (KUB 30 1, I, 3; II, 17); *u*₃-*uṣ*-*ṣu*-*bi* ~ *u*₇-*zu*-*bi* (KBo 36 13, R. Col. 3, 11).

As shown by the few attestations, sibilants were very rarely altered in the OB texts. In the Western periphery sibilants are affected by alterations to a lesser extent than other consonants. However, Syro-Anatolian texts show a wider range of alterations than the OB documentation, likely because the potential of the cuneiform syllabary was more extensively exploited.

4.3.2 Vowels

4.3.2.1 Alterations of a

a > *i* – *e*

Ḫattuša

Babylonian Tablets

- **e** ~ a – KUB 30 4, R. Col. 10
- **e**-ta ~ a-ta – KUB 30 1, IV, 26
- **-si-iq**-qa ~ sag₃-ga – KUB 30 1, I, 16-17¹⁰¹²

Assyro-Mitannian Tablets

- **e**₂ ~ a – KBo 36 11+ Rev. 40

Hittite Script Tablets

- **i**₇-**ti** ~ **i**₇-**da** – KUB 37 111 Obv. R. Col. 9
- **la-li**-(me-a) ~ **la-la** – CTH 315 - AuOrS 23 50, II, 35
- **nu-ki-ki-it-ti** ~ **nu-gi**₄-**gi**₄-**da** – CTH 315 - AuOrS 23 50, II, 45
- **šen** ~ saĝ – CTH 315 - AuOrS 23 50, I, 39
- **te-le** ~ **til-la** – KUB 37 111 Obv. R. Col. 3
- **ti-in-qa-ri-ni** ~ **diĝir-ra-ni** – KUB 4 26B, 7
- **zi-iG**-pa ~ saĝ-ba – KUB 37 111 Obv. R. Col. 5, 7

¹⁰¹⁰ Attestations from the Hittite script tablets account for 61% of the *s* > *š* shifts and about 24% of all the alterations of sibilants.

¹⁰¹¹ Hoffner Jr., Melchert 2008, 38.

¹⁰¹² Probably here sig₃ was intended.

Emar

- mu-un-zi-ge-eš ~ mu-un-sag₃-ge-eš - E 729, 26

Ugarit

Babylonian Tablets

- si-ga-ab ~ sag₃-ga-ab (?) - AuOrS 23 25, 13¹⁰¹³

Ugarit Script Tablets

- a-lim ~ alam - AuOrS 23 21, 81
- ba¹-ri-an-teĝ₃ ~ bara-an-teĝ₃-(ĝe₂₆) - AuOrS 23 21, 67
- ka-du-gi-ni ~ ka-du₁₀-ga-ni - RS 79.25, 6
- la-le-e ~ la-la - RS 79.25, 16¹⁰¹⁴
- la-li-a-ni ~ la-la-a-ni - RS 79.25, 18
- nam-dub-sar-re-eš-še ~ nam-dub-sar-ra-še₃ - RS 17.10 Obv. 18
- sa-si-qa ~ za₃-sag₁₀-ga - AuOrS 23 21, 95¹⁰¹⁵
- u₂-da-gi ~ u₄-da-kam - RS 79.25, 40
- za-al-za-al-li-bi ~ zal-zal-a-bi - AuOrS 23 21, 95

Old Babylonian

- a-ri-ni ~ ar₂-a-ni - TCL 15 38 Obv. 10-11 (63-64)
- bi-eš₃-te ~ peš₁₀-ta - H 97 V, 20
- di-te-ne ~ di-da-ni - H 97 VI, 10
- e ~ a - H 97 III, 10; IV, 32
- e ~ a - PBS 10/2 13 Rev. 10
- e-da-ka ~ a-du₁₁-ga - TIM 9 1, 60
- e-di-ni ~ edin-na - CNMA 10051 I, 7 (44)
- e-mi ~ ama - VS 2 47, 5
- e-ni-im-ku-ku-ti-e ~ i₃-ni-ib₂-ku₄-ku₄-de₃-a - TIM 9 35, 10-11
- ga-ne-ši ~ gana₂-še₃ - VS 2 3, I, 2
- ħa-li ~ ħal-la - H 97 III, 38
- pe e ~ pa e₃ - TCL 15 38 Obv. 13 (67)
- si-im ~ saĝ - TCL 15 38 Obv. 3 (53)
- si-si ~ si-sa₂ - H 110 Rev. 5, 6, 7 (55, 56, 57)
- si-si-te ~ sa₂-sa₂-de₃ - TIM 9 21 Obv. 3 (116)
- ur₂-na-am-<<na-am>>-mi ~ ur-damma - TIM 9 35, 4-6
- zi-ka ~ saga₁₁ - TCL 15 38 Obv. 4, 6 (55-57)

1013 Probably here sig₃ was intended.

1014 The shift *a* > *e* is perhaps influenced by the Akkadian genitive *lalê*.

1015 In the reconstructed standard orthography form the value saga₁₀/sag₁₀-ga is adopted but probably sig₅ was intended in the unorthographic writing.

a > u

Hattuša

Hittite Script Tablets

- i-ni-im-[du]-**u** ~ inim-DU-a - CTH 315 - AuOrS 23 50, II, 46
- mul¹-mul¹(-E-NE ~ mul-ma-al(?) - KUB 4 7, 11
- **u**₂-za-ag-ga ~ a su₃-ga - KUB 37 111 Obv. R. Col. 12

Emar

- ba¹-an¹-**du**-gaz ~ ba-an-da-gaz - E 729, 26
- **du-uk**-ta ~ taka₄-(a-bi) - TBR 101 Rev. 4
- i-gi-du-ud-**du**₅ ~ igi-du-ta - E 767, II, 3
- **tu-ku**-ut-t[a] ~ taka₄-(a-bi) - TBR 101 Rev. 5
- u-**du** ~ u₄-da - E 767, II, 3

Ugarit

Babylonian Tablets

- šu-**kur**₂ ~ šu-kar₂ - RS 25.130, 30
- u₂-**sun**₂-na-pi ~ usan-bi - AuOrS 23 25, 12

Ugarit Script Tablets

- a-ia-i-**du** ~ a-i₇-da - RS 79.25, 29, 30
- **bur-bur**-ni-ik-ke ~ bar-bar-e-ne-ke₄ - AuOrS 23 21, 68
- -gi-id-**du**₅ ~ -gid₂-da - RS 79.25, 2
- ḥa-an-**du**-bu-ra ~ ḥa-an-da-bur₂-ra - AuOrS 23 21, 67
- **luḥ**-ba-an-[...] ~ la-ba-an-[...] - RS 23.34+ B, 7
- u₂-**du**-ra-am-me ~ u₄-da-ra-am - RS 79.25, 42

Old Babylonian

- a-**du**-bu ~ adab^{ki} (UD.NUN.KI) - OECT 5 10 Rev. 9
- nam-mu-**zu** ~ nam-a-zu - PBS 10/2 13 Rev. 5
- su-**zu**? ~ su-za - TIM 9 1, 61¹⁰¹⁶
- **zu**-e ~ za-e - H 97 III, 29

1016 This entry is listed here with caution because the change *a > u* is grammatically conditioned and the dative may simply have been left unmarked by mistake.

4.3.2.2 Alterations of u

*u > a***Hattuša**

Babylonian Tablets

- n[u-u]n-**za**-a ~ nu-un-zu-a - KUB 30 1, I, 14
- im-g[u]-g[u-r]**a** ~ im-gi/(u?)gurum - KUB 30 1, I, 19

Hittite Script Tablets

- a-ni-**ma**-za-an-qa-ak-ke ~ a-numun-saĝ-ĝa₂-ke₄ - CTH 315 - AuOrS 23 50, II, 33
- **a**-šu-uh ~ ĝeš_u₃-suḫ₅ - CTH 315 - AuOrS 23 50, II, 36
- [m]**a**-[š]a-ra ~ mu₂-sar-ra - CTH 315 - AuOrS 23 50, II, 38
- niĝ₂-ur₂-lim₃-**ma** ~ niĝ₂-ur₂-limmu₂ - CTH 314 - KUB 4 5, II, 7
- še-ag-**na** ~ še-gu-nu - CTH 315 - AuOrS 23 50, II, 34
- u₂-**za**-ag-ga ~ a su₃-ga - KUB 37 111 Obv. R. Col. 12

Emar

- in-**na**-an-ga ~ en-nu-uĝ₃ - E 729, 5
- nu-**da**-**da**-am-m[e-en] ~ nu-du₂-du₂-me-en - E 767, II, 18
- š**a**-ud-ta- ~ su₃-ud-da- - E 767, II, 7
- -tu-**ka**-a ~ -tuku-a - E 767, II, 4
- u-**ga** ~ ugu - E 767, II, 19a

Ugarit

Ugarit Script Tablets

- **a**-še-in-zu ~ uš₇-nu-zu (?) - AuOrS 23 21, 70
- -**da** ~ -du₈ - RS 86.2210 I, § 8
- [d]**al**-**dal**-bi ~ dul-dul-bi - RS 17.10 Obv. 11
- ka-<aš>-**al**-ḫi-a ~ gi-šul-ḫi-a - RS 17.10 Obv. 12
- ni-ga-e-**za**-i ~ niĝ₂-ĝa₂-e i₃-zu-(a-ĝu₁₀) - AuOrS 23 21, 86
- nu-uz-**za**-a ~ nu-zu-a - RS 17.10 Obv. 17
- šu-**da**-ia-ak ~ šudu₃-ak - RS 79.25, 7
- šu-**da**-ia-ku ~ šudu₃-ak - RS 79.25, 6
- **ta**-a-bi ~ du₃-a-bi - RS 79.25, 18
- **ta**-mu-zi-ig ~ dumu-zi(g) - AuOrS 23 21, 7
- tu-mu-**ga** ~ dumu-ĝu₁₀ - AuOrS 23 21, 86

Old Babylonian

- **a**-gub-ba ~ ugu-ba - H 178 Obv. 7 (35)
- e-**da**-ka ~ a-du₁₁-ga - TIM 9 1, 60
- **da**-ga-ab ~ du₁₁-ga-ab - H 178 Rev. 4, 6, 7, 9 (64/65, 67/68, 69, 72)
- **da**-ga-ab ~ du₁₁-ga-ab - H 110 Obv. 5; Rev. 13, 15, 16 (27, 64/65, 67/68, 69)

- im-ma-ab-da-a-ta ~ im-ma-ab-du₇-a-ta - H 178 Obv. 10 (38)
- nu-za-a-ni ~ nu-zu-a-ni - H 97 IV, 14¹⁰¹⁷

u > e/i

Hattuša

Hittite Script Tablets

- a-ni-ma-za-an-qa-ak-ke ~ a-numun-saĝ-ĝa₂-ke₄ - CTH 315 - AuOrS 23 50, II, 33
- li-u[*h*-a] ~ lu₂-uĝ₇-a² - KUB 4 24 Rev. 10
- ši-da-q-qa ~ šu-ta₃-ga - CTH 315 - AuOrS 23 50, II, 36

Ugarit

Ugarit Script Tablets

- a-ru-ri ~ ^da-ru-ru - RS 79.25, 8
- ne-zu ~ nu-zu - AuOrS 23 21, 79¹⁰¹⁸
- u₂-mi-za- ~ mu-mu-za - RS 79.25, 3
- u₂-na-me-e ~ mu nam-mu - RS 79.25, 39

Old Babylonian

- ab-si-si ~ (im-ma)-ab-su-su - TIM 9 1, 25
- ba-an-zi ~ ba-an-zu - H 97 III, 17
- -di-tu ~ -du₁₁-du₁₁ - VS 2 3, I *passim*
- en-ne-nu-ri ~ en₂-e₂-nu-ru - S 7/1600 Obv. 1
- mu-ri ~ muru₉ - H 97 I, 22
- mur-r[i] ~ muru₉ - H 179+ I, 22
- ni-iš- ~ nu-uš- - CNMA 10051 I, 6 (41)
- -zi ~ -zu - CNMA 10051 II, 6 (104)

4.3.2.3 Alterations of e

e > i

Hattuša

Babylonian Tablets

- a-ni ~ diĝir-re-ne - CTH 314 - KUB 4 6 Obv. II, 4¹⁰¹⁹
- e-mi-bi ~ eme-bi - KBo 36 13, R. Col. 13

1017 Cf. KUB 30 1, I, 14.

1018 This shift derives from an original form *nu-e-zu.

1019 For this reading see § 4.4.

- -**gi-im** ~ -gen₇ (?) - KBo 36 13, L. Col. 4, 14, 15
- -**gi-im** ~ -gen₇ - KUB 30 1, II, 2, 18
- **gi-in-na** ~ ĝen-na - KBo 40 103, 4
- **g[i-in-na]** ~ ĝen-na - KUB 30 1, I, 21
- **g[i-i]n-na** ~ ĝen-na - KUB 30 4, R. Col. 7
- **gi-iš-ḫu-[ur]** ~ ĝeš-ḫur - KUB 30 1, IV, 18
- **gi-iš-šu-ub** ~ ĝeš-šub - KUB 30 1, II, 18
- **i-gi-in** ~ i₃-ĝen - KUB 30 1, I, 6
- **i-i** ~ e₃ (?) - KUB 30 1, I, 19
- **i-ni-ki-ir-ra** ~ ^den-ki-ra - KUB 30 3, 10
- **[i]n-e₂-nu-ru** ~ en₂-nu-ru - KUB 30 1, I, 1

Assyro-Mitannian Tablets

- za₃-**si**₁₁¹⁰²⁰ ~ za₃-še₃ - KBo 36 11+ Obv. 31

Hittite Script Tablets

- **i-te-[en-na]** ~ edin-na - CTH 314 - KUB 4 5, II, 18
- **ki-iš-tu-ug** ~ ĝeštug_{7/23} - KUB 4 26B, 13
- **ma-aš-am-ši** ~ maš-anše - CTH 314 - KUB 4 5, II, 7
- **me-ta-ši-im-ši-im** ~ mu-ta-šeĝ₃-šeĝ₃ - CTH 314 - KUB 4 5, II, 14
- **mu-un-ni** ~ mu-un-ne - CTH 794 Rev. 3
- **ša-an-ku-uš-ši** ~ saĝ-mu-še₃ - KUB 57 126 Obv. II, 5
- **ti-la-a-bi-iš-ši** ~ til-la-bi-še₃ - CTH 314 - KUB 4 5, II, 8

Emar

- **bu-ru-e-en-ni** ~ buru₄(mušen)-e-ne - E 768A, II, 7¹⁰²¹
- **da-ri-iš** ~ da-ri₂-eš₂ - E 767, II, 10
- **[dir]i(g)-ia-na-an-ni** ~ diri-ge-ne-ne - E 767, II, 5
- **e-da-ra-ga-an-ni** ~ e₂-da-ri₂-ke₄-ne-(ne) - E 767, II, 6
- **e-[e]n-ni** ~ e-ne - E 767, II, 24
- **e-ni-e-š[e]-ta** ~ i₃-ne-eš₂ - E 767, I, 17a
- **in-na-an-ga** ~ en-nu-uĝ₃ - E 729, 5
- **i₃-in-ke** ~ e-ne-gen₇ - E 767, II, 23
- **i₃-in-gen**¹⁰²¹ ~ e-ne-gen₇ - E 767, I, 23
- **-ki-im** ~ -gen₇ - E 767, II, 7
- **ki-iš-ḫur-ḫu-r[e]** ~ ĝeš-ḫur-ḫur-re - E 767, II, 1
- **ki-iš-ḫu-ur** ~ ĝeš-ḫur - E 767, II, 24
- **[ku² di-m]u-ni** ~ gu₃ di-mu-ne - E 729, 16
- **mi-en-na-a** ~ me-en-am₃ - E 770, 3
- **mu-š[i-in-x]-a** ~ mušen-ḫi-a - E 768A, II, 5
- **nu-mu-un-pa-ap-li-ia** ~ nu-mu-un-bala-bala-e-(da) - E 734, 6
- **ra-ra-ta-mu-ni** ~ ra-ra-da-mu-ne - E 729, 16
- **šu-bu-da₃-mu-ni** ~ šub-bu-da-mu-ne - E 729, 15
- **ti-el-la-ga-an-ni** ~ til-la-ke₄-e-ne - E 734, 2
- **ti-gi-re-e-ni** ~ diĝir-re-e-ne - E 767, II, 2
- **tiĝ₄-ke-ta-mu-ni** ~ teĝ₃/tiĝ₄-ĝe₂₆-da-mu-ne - E 729, 14

1020 Other possible readings for the sign SIG are se₁₁ (aBZL, 204) and še_x (ePSD), cf. fn. 1008.

1021 The plural marker -ene is incorrect (see § 6.2.3), but it is kept in the reconstructed standard orthography form because it was intended in the unorthographic writing.

- ti-la-ši ~ til₃-la-še₃ - E 775, 23
- 'zu'-zu-ta-ni ~ zu-mu-da-ne (?) - E 729 14

Ugarit

Ugarit Script Tablets

- bur-bur-ni-ik-ke ~ bar-bar-e-ne-ke₄ - AuOrS 23 21, 68
- e-ni-nu-ru₃ ~ en₂-e₂-nu-ru - AuOrS 23 13, 1
- e-ur-ra-ga-'an-ni' ~ e₂-ur₃-ra-ke₄-ne-ne - RS 23.34+ B, 10
- gi-il-tun₃ ~ ġeštug_{12/3} (?) - RS 79.25, 15
- gi-in-ni-in-mi-ni ~ ġe₆ ni₂-me-lim₄ - RS 79.25, 27
- ħa-am-bu-ru-ud-da-ne₂-iš ~ ħabrud-da-ne₂-eš₂ - RS 86.2210, II, § 7
- ħe-in-du ~ ħe₂-en-du - RS 23.34+ A, 9
- in-ki ~ ^denki - AuOrS 23 21 85, 87
- in-ki ~ ^denki - RS 79.25, 14
- i-ri-du-ka-ak-ke ~ eridu-ka-ke₄ - AuOrS 23 21, 7
- i₃-[i]g-gu ~ e-ne-gen₇ - RS 23.34+ A, 12
- -ki-im ~ gen₇ - RS 79.25 29
- ki-i[n-na] ~ ġen-na - RS 23.34+ A, 15
- ki-iš ~ ġeš - RS 23.34+ B, 7
- na-aš-bi-<ša>-a ~ ġeš-peš-a - RS 17.10 Obv. 14
- na-i-zu ~ na-e-zu - AuOrS 23 21, 86
- -ni-in-ni ~ -(e)-ne-ne - RS 23.34+ B, 8
- nu-i₃-zu ~ nu-e-zu - AuOrS 23 25, 43-44
- za-e-me-in ~ za-e-me-en - RS 79.25, 31

Old Babylonian

- e-ni-im-ku-ku-ti-e ~ i₃-ni-ib₂-ku₄-ku₄-de₃-a - TIM 9 35, 10-11
- ga-ne-ši ~ gana₂-še₃ - VS 2 3, I, 2
- ħa-la-mi-it-te ~ ħa-lam-e-de₃ - TIM 9 1, 9
- i-ni-in-ki ~ en ^denki - H 103 II, 12
- i-ni-ir ~ e-ne-er - TCL 15 38 Obv. 4 (53)
- i-ni-ra ~ e-ne-ra - CNMA 10051 II, 13 (140)
- i-ri ~ erim₂ - TCL 15 38 Obv. 10 (63)
- iš-gar₃ ~ ešgar^(munus)Aš₂.GAR₃) - H 103 I, 18
- -ki-in ~ -gen₇ - H 103 IV, 14, 21
- ki-ši-da ~ keše₂-da - H 97 III, 34¹⁰²²
- -in-si ~ -ensi₂ - PBS 10/2 13 Rev. 11
- sa-gi-'iš' ~ saġ-e-eš - TCL 15 38 Rev. 1 (69)
- ši-in-bar ~ šeg₉-bar - PBS 10/2 13 Rev. 12
- šu mu-un-gi-di ~ šu mu-un-gid₂-e - OECT 5 10 Obv. 2-6
- -ši ~ -še₃ - TCL 15 3 + BL VI, 17
- -ši ~ -še₃ - H 97 II, 6

1022 This entry can also be read ke-ši-da.

e > a

Hattuša

Hittite Script Tablets

- **na-aš-ke-ma-am-ma-an-ku** ~ *ĝešgem-ama-ĝu₁₀* - CTH 315 - AuOrS 23 50, II, 40, 47
- *š[a-aš[?]-gur]-ra* ~ *siškur-re* - CTH 315 - AuOrS 23 50, II, 41
- *ši-da-a* ~ *a-de₂-a* - CTH 315 - AuOrS 23 50, II, 36

Emar

- **an-na** ~ *an-e* - E 775, 8
- *[dir]i(g)-ia-na-an-ni* ~ *diri-ge-ne-ne* (?) - E 767, II, 5
- *e-da-ra-ga-^ˈan-ni* ~ *e₂-da-ri₂-ke₄-ne-(ne)* - E 767, II, 6
- **edin-na** ~ *edin-e* - E 775, 16
- **ḥa-a** ~ *ḥe₂-a* - E 729, 5
- *mu-un-niĝ[en]-^ˈna^ˈ-aš₂* ~ *mu-un-niĝen₍₂₎-niĝen₍₂₎-ne-eš* - E 729, 24
- *ti-el-la-ga-an-ni* ~ *til-la-ke₄-e-ne* - E 734, 2

Ugarit

Babylonian Tablets

- *ap-pap-ma-aš₂* ~ *pap-meš* - AuOrS 23 25, 14

Ugarit Script Tablets

- **a-te-na** ~ *edin-e* - RS 79.25, 28
- *e-ur-ra-ga-^ˈan-ni* ~ *e₂-ur₃-ra-ke₄-ne-ne* - RS 23.34+ B, 10
- **en-na** ~ *e-ne* - RS 23.34+ A, 14
- *gu-gu-ut-ta* ~ *ku₅-ku₅-de₃* - RS 86.2210, II, § 7
- **ḥa-a** ~ *ḥe₂-a* - RS 79.25 2, 3
- *ḥe-za-la-qa* ~ *ḥe-zalag₍₂₎-ge* - RS 79.25, 20
- *ka-la-qa-e-ni* ~ *kala-ge-de₃* - RS 79.25, 24
- *ku-ku-ut-ta* ~ *ku₅-ku₅-de₃* - RS 86.2210, I, § 7
- *-kur-ku-ra-ak-ka* ~ *-kur-kur-ra-ke₄* - RS 79.25, 19
- *mu-ut-ta-ša-a* ~ *mud-da-še₃* - AuOrS 23 21, 81
- **na-aš-bi-<ša>-a** ~ *ĝeš-peš-a* - RS 17.10 Obv. 14
- **na-aš-ki** ~ *ĝeš-gi* - RS 17.10 Obv. 14

Old Babylonian

- **-ka** ~ *ke₄* - TCL 15 38 Obv. 13, 15 (66, 68)
- *mu-un-na-a* ~ *mu-un-e₃-a* - H 97 VI, 20
- *nu-na-am-ni-ra* ~ *^dnu-nam-nir-re* - TCL 15 38 Obv. 4, 5 (54, 56)
- *ni₂-ta-a-ni* ~ *ni₂-te-a-ni* - TIM 9 1, 20, 65

e > u

Ugarit

Babylonian Tablets

- -**ku** ~ -ke₄ - AuOrS 23 25, 52
- gi-**ku**-du-[...] ~ ^{gi}ge₂-ma₂-šu₂-a (?) - RS 86.2210 II, § 3¹⁰²³

Ugarit Script Tablets

- i₃-[i]g-**gu** ~ e-ne-gen₇ - RS 23.34+ A, 12

4.3.2.4 Alterations of i

i > e

Hattuša

Babylonian Tablets

- **le-e**-la-a ~ lil₂-la₂ - KUB 30 1, I, 4
- lu-**le-e**-la ~ lu₂-lil₂-la₂ - KUB 30 2, II, 9

Hittite Script Tablets

- i-**te**-[en-na] ~ edin-na - CTH 314 - KUB 4 5, II, 18
- **e**-m[u x x] ~ im-a u₄ a₂-ba - CTH 315 - AuOrS 23 50, II, 33¹⁰²⁴
- **e**-ri-ib-ba ~ i-ri-pa₃ - KUB 37 111 Rev. R. Col. 8, 10
- **e**ⁱ-ri-ba ~ i-ri-pa₃ - KUB 37 111 Rev. R. Col. 6
- **te**-le ~ til-la - KUB 37 111 Obv. R. Col. 3
- ti-**en**-kar ~ diğir - KUB 4 26B, 10, 11

Emar

- **e**-ne-e-še-ta ~ i₃-ne-eš₂ - E 767, I, 17a
- **e**-ni-e-š[e]-ta ~ i₃-ne-eš₂ - E 767, I, 17a
- e-**re**-a ~ eri/iri-a - E 729, 11
- e-**re-e**-du-ga- ~ eridu-ga- - E 729, 12
- ḫe₂-**ne**-tar-re ~ ḫe₂-ni-tar-re - E 775, 3
- ib-**te**-[...] ~ ib₂-dib-ba - E 768A, II, 5
- **te**-em-ma ~ dima - E 767, II, 2
- u₂-**me-en** (2) ~ imin - Tsukimoto, 38

1023 This entry is listed here with caution because the reading is uncertain, see § 4.4.

1024 See § 5.3.2.

Ugarit

Ugarit Script Tablets

- a-te-na ~ edin-e - RS 79.25, 28
- de-en-ni-ig ~ dinig - RS 17.10 Obv. 12
- te-[em ...] ~ dima - RS 23.34+ B, 3
- u₂-me-na-ḥe₂-ḥe₂ ~ u₃-me-ni-ḥi-ḥi - AuOrS 23 21, 92

Old Babylonian

- a-ia-an-ne ~ a-(i)a-ni - H 97 V, 14
- di-ḡe₃-er ~ diḡir - TCL 15 3 + BL VI, 4, 5
- di-te-ne ~ di-da-ni - H 97 VI, 10
- e-gi ~ igi - TIM 9 23 Obv. 3 (164)
- e-ni-im-ku-ku-ti-e ~ i₃-ni-ib₂-ku₄-ku₄-de₃-a - TIM 9 35, 10-11
- en-b[u-u]r-bu-re ~ im-bur₂-bur₂-re - VS 2 94, 49
- en-du-du-e ~ im-du₃-du₃-e - VS 2 94, 49
- en-nu²-uš ~ ^uin-nu-uš - H 77, 22
- ke₄ ~ ki - H 97 II, 8
- me-ni-ḥul-lu-uš₂ ~ mi-ni-ḥul-lu-uš₂ - H 97 I, 12
- ne-qa-al ~ ni₂-gal - TIM 9 24, 10 (161)
- niḡ₂-ḡa₂-ka-ne ~ niḡ₂-ak-a-ni - H 97 III, 39

*i > a***Ḥattuša**

Babylonian Tablets

- uš-ra-a ~ uš₇-ri-a - KUB 30 1, I, 5
- uš-ra-a-bi ~ uš₇-ri-a-bi - KBo 36 13, R. Col. 4

Assyro-Mitannian Tablets

- ta-na-ta ~ da-ni-ta - KBo 36 11+ Rev. 32, 33

Hittite Script Tablets

- ad- ~ i₇-(d) - KUB 57 126 Obv. I, 8
- a-uš ~ i₃-(e)-zu - KUB 57 126 Obv. I, 3
- ša'-aš-gu[r] ~ siškur - CTH 315 - AuOrS 23 50, II, 42
- š[a-aš²-gur]-ra ~ siškur-re - CTH 315 - AuOrS 23 50, II, 41
- ti-en-kar ~ diḡir - KUB 4 26B, 10, 11

Emar

- e-da-ra-ga-^ran-ni' ~ e₂-da-ri₂-ke₄-ne-(ne) - E 767, II, 6
- me-d[a-ri] ~ me-diri - E 767, II, 19a

Ugarit

Ugarit Script Tablets

- a-ia-an-ni-gi-re-a-ab-ba-sag₁₀-ga ~ aia-ni ^denki-ra e₂-a ba-ši-ku₄-a - AuOrS 23 21, 83¹⁰²⁵
- i-da-[na-mi-da?] ~ iti nam-iti - RS 79.25, 40
- ka-<aš>-al-ḫi-a ~ gi-šul-ḫi-a - RS 17.10 Obv. 12
- kar-kar ~ gir₅-gir₅ - RS 86.2210, II, § 5
- ni₂-te-na ~ ni₂-te-a-ni - RS 79.25, 28
- ti-ga-ar ~ diḡir - RS 79.25, 7
- u₂-me-na-ḫe₂-ḫe₂ ~ u₃-me-ni-ḫi-ḫi - AuOrS 23 21, 92
- u₂-me-na-si₁₂-si₁₂ ~ u₂-me-ni-si₁₂-si₁₂ - AuOrS 23 21, 91

Old Babylonian

- la-ba-na-na-aḡ₂ ~ la-ba-ni-naḡ - CT 44 14, 7
- la-l(a)- ~ lil₂ - TCL 15 38 Obv. 7, 9 (59, 61)
- ur-gar₃? ~ ur-gir₁₅ (?) - BM 79949, 2
- ḡeš ga-a ~ ḡeš gi₄-a - H 110 Obv. 9 (32)

i > *u*¹⁰²⁶

Emar

- u₂-min ~ imin - Tsukimoto, 38
- u₂-me-en (2) ~ imin - Tsukimoto, 38

Ugarit

Ugarit Script Tablets

- su-lu-um ~ su-lim - RS 79.25, 26
- su-pa- ~ sipa- - RS 79.25, 19
- -zu ~ -si - RS 79.25, 17

Old Babylonian

- šu ku-un-di-ip-pa ~ šu kiḡ₂-dab₅-ba - TIM 9 1, 67
- niḡ₂-ku ~ niḡ₂-ki - H 77, 6
- u₂-bi-zu ~ u₃-bi₂-zi₂ - H 139 Obv. 6 (8)

1025 The sign SIG₅ (IG1.ERIM) was perhaps read sig₅ instead of sag₁₀.

1026 im-g[u]-g[u-r]a (KUB 30 1, I, 19) is not listed here on the basis of the reading gigurum/gugurum suggested in § 5.1.1.

The alteration of vowels can be summarized as follows:

Corpus	a > e/i	a > u	u > a	u > e/i	e > i	e > a	e > u	i > e	i > a	i > u	Total	%
Ḫattuša: Babylonian Script	3	0	2	0	13	0	0	2	2	0	22	10,9
Ḫattuša: Ass-Mit Script	1	0	0	0	1	0	0	0	1	0	3	1,5
Ḫattuša: Hittite Script	7	3	6	3	7	3	0	6	5	0	40	19,9
Total Ḫattuša	11	3	8	3	21	3	0	8	8	0	65	32,3
Emar	1	5	5	0	23	7	0	8	2	2	53	26,4
Ugarit: Babylonian Script	1	2	0	0	0	1	1	0	0	0	5	2,5
Ugarit: Ugarit Script	9	6	11	4	19	12	2	4	8	3	78	38,8
Total Ugarit	10	8	11	4	19	13	3	4	8	3	83	41,3
Subtotal	22	16	24	7	63	23	3	20	18	5		
Total	38 = 18,9%		31 = 15,4%		89 = 44,3%			43 = 21,4%			201	

In the OB sources the most frequent alterations are the shifts $a > e/i$, $e > i$ and $i > e$. The same alterations are also very common in the Syro-Anatolian documentation, but here other shifts that are less well documented in the OB texts such as $a > u$, $u > a$, $e > a$ and $i > a$ occur with a comparable degree of frequency. As the table shows, the largest number of alterations concern the vowel e (44,3%), in particular the shift $e > i$, which is the most documented with 63 entries.

Alterations of a are documented in all three corpora under investigation, with the shift $a > e/i$ being more common than $a > u$. Regardless of the provenance of the manuscripts (i.e. Ḫattuša, Emar or Ugarit), the majority of the attestations derive from tablets written by local scribes. Therefore Babylonian script tablets present a minor degree of alteration of a . At Ḫattuša, $a > u$ is only known from local tablets, but this shift is attested in a Babylonian tablet discovered at Ugarit. In the majority of instances, alterations of a can be regarded as cases of assimilation, either progressive: i_7 -**ti** ~ i_7 -da, nu -**ki**- ki -**it**-**ti** ~ nu - gi_4 - gi_4 -da, te -**le** ~ til -la (Ḫattuša), i - gi - du - ud -**du**₅ ~ igi - du -ta, u -**du** ~ u_4 -da (Emar), $šu$ -**kur**₂ ~ $šu$ - kar ₂, u_2 -**du**- ra - am - me ~ u_4 - da - ra - am , u_2 -**sun**₂- na - pi ~ $usan$ - bi (Ugarit); or regressive: ti - in - qa -**ri**- ni ~ di gir- ra - ni (Ḫattuša), ka - du -**gi**- ni ~ ka - du ₁₀- ga - ni , nam - dub - sar -**re**-**eš**-**še** ~ nam - dub - sar - ra -**še**₃, za - al - za -**li**- bi ~ zal - zal - a - bi , $ḫa$ - an -**du**- bu - ra ~ $ḫa$ - an - da - bur ₂- ra (Ugarit).

The vowel u provides the smallest number of alterations. In all three corpora the shift $u > a$ is far more common than $u > e/i$. Most of the alterations of u occur in tablets drafted by local scribes, notably from Ugarit. It cannot be excluded that, in some instances, the shift $u > a$, when no assimilation occurs, implies a reading /o/ as suggested for some peripheral variants of Akkadian.¹⁰²⁷ This may explain why the shift $u > a$ occurs more frequently in the local tablets from the Western periphery than in the OB texts. Assimilation is attested in several instances such as $[m]a$ -[š]a- ra ~ mu_2 -šar- ra , $n[u-u]n$ -**za**- a ~ nu - un - zu - a (Ḫattuša), $-tu$ -**ka**- a ~ $-tuku$ - a (Emar), igi -**za**- ta ~ igi - zu - ta , nu - uz -**za**- a ~ nu - zu - a (Ugarit).

Alterations affecting e mostly consist in the shift $e > i$. Because it is difficult for modern scholars to accurately distinguish between the phonemes /e/ and /i/ in Sumerian¹⁰²⁸ and because it is possible that a given sign may express both values, perhaps the shift $e > i$ was not perceived. This is particular evident for the sign NI which is frequently used for -ne in the pronominal conjugation and in the plural possessive pronoun in all three corpora. However, the reading ne_2 has not been adopted here because standard orthography Sumerian employs the sign ne in those cases. The fact that the majority of the $e > i$ shifts from Ḫattuša derive from Babylonian script tablets, which usually record few phonetic alterations, strongly supports the hypothesis that the difference between e and i was not perceived. Moreover, broken writings such as mi - en - na - a ~ me - en - am ₃ (Emar), $ḫe$ - in - du ~ $ḫe$ ₂- en - du , za - e - me - in ~ za - e - me - en (Ugarit) seem to indicate a reading e . Several occurrences of the $e > i$ shift in the Emar corpus, which usually provides few examples for the other alterations, may provide further evidence that e and i are allographs. Cases of assimilation are attested: e -**mi**- bi ~ eme - bi (Ḫattuša), **in**- ki ~ ^denki, **i**- ri - du - ka - ak - ke ~ $eridu$ - ka - ke ₄ (Ugarit). Several cases of assimilation, either progressive or regressive, are also attested for the shift $e > a$. The sequence (n)e-ne is

1027 See Seminara 1998, 141-142.

1028 Edzard 2003, 14.

particularly affected by this alteration resulting in (n)a-an-ni: [dir]i(g)-ia-na-an-ni ~ diri-ge-ne-ne-(a), ti-el-la-ga-an-ni ~ ti-la-ke₄-e-ne (Emar), e-ur-ra-ga-an-ni' ~ e₂-ur₃-ra-ke₄-ne-ne (Ugarit). The shift $e > u$ only occurs at Ugarit and I was not able to find any example from the OB documentation.

The vowel *i* provides a smaller number of alterations compared to *e*. They are mostly concentrated in tablets drafted by local scribes. Contrary to $e > i$ which is well documented in the Babylonian script tablets from Ḫattuša, the opposite shift, $i > e$, occurs only twice in this group of manuscripts. The shifts $i > e$ and $i > a$ are documented with approximately the same frequency, contrary to alterations of *e* in which the $e > i$ shift is far more common than $e > a$. The equal proportion between $i > e$ and $i > a$ seems not be reflected in the OB texts on the basis of the occurrences I was able to collect. The attestation of the shift $i > u$ in the OB corpus perhaps suggests that also $e > u$ was documented in the Old Babylonian period.

To sum up, the majority of the alterations of vowels are documented in tablets written by local scribes, notably from the Ugarit documentation which provides the largest number of entries. Texts from Emar are apparently affected by vowel alteration to a large extent because they unusually provide more entries than the local tablets from Ḫattuša. As expected, the Babylonian script tablets show a more conservative nature, containing a small number of alterations of vowels. Only the shift $e > i$ is well known from these tablets, probably because it was not perceived as an alteration. Supporting the connection between the Babylonian script tablets from the Western periphery and the OB unorthographic texts is the fact that attestations in the Syro-Anatolian documentation of those of the aforementioned alterations that are less common in the OB corpus, namely $a > u$, $u > a$, $e > a$ and $i > a$, mostly occur in tablets written by local scribes.

4.4 Other Alterations

This section lists those cases which cannot be classed with any of the former anomalies.¹⁰²⁹ For some of them explanations are given.

Ḫattuša

Babylonian Tablets

- i-ni-im-ġa₂-ar ~ eme-ġar - KUB 30 1, I, 13: see § 5.1.1
- i-UŠ(-)ta-aq-qa - KUB 30 1, I, 12: see § 5.1.1
- ki-is-ki-il ~ ki-sikil - KUB 30 2, II, 5: this writing is common in phonetic texts.¹⁰³⁰
- le ~ guruš - KUB 30 1, I, 5: the sign KAL is misread as E, then written as LE.¹⁰³¹

Assyro-Mitannian Tablets

- ^ddim₃-ma-me[?] ~ ^ddim₃-me-lagab - KUB 37 102, L. Col. 4
- ka-tar-zu ka-an-s[i-il] ~ ka-tar-zu ḫa/ga-an-si-il - KUB 37 100 Rev. 22: see § 5.2.1
- u-gug₂ ~ udug - KBo 36 11+ Rev. 44-45
- za-lim ~ ulutim₂/uktim (SIG₇.ALAM) - KBo 36 11+ Rev. 41: this writing perhaps indicates that the sign was read as sa₇-alam.
- za-za ~ za₃ - KBo 36 11+ Obv. 28: this is a possible case of dittography of the phonetic writing za for za₃.
- zi-ki-[ġal₂] ~ zi-ša₃-ġal₂ - KBo 36 11+ Obv. 21: see § 5.2.1

Hittite Script Tablets

- a-ni ~ diġir-re-ne - CTH 314 - KUB 4 6 Obv. II, 4: it is a misreading of the sequence AN-e-ne, see § 5.3.1.

¹⁰²⁹ Note that some of the entries listed under 'Other Alterations' are listed in other sections when they provide evidence for specific alterations.

¹⁰³⁰ See Civil 2007, 26.

¹⁰³¹ Geller 1989, 201 n. 3.

- a-uš ~ i₃-(e)-zu - KUB 57 126 Obv. I, 3: this entry is also listed here¹⁰³² as it is a possible case of metathesis zu > uš with shift z > š.
- du-um-mi-me ~ dumu-munus - CTH 315 - AuOrS 23 50, II, 43: does this suggest a reading dumu-mi₂?¹⁰³³
- e-e-qa-ma ~ 5-kam-ma - CTH 315 - AuOrS 23 50, II, 47: e-e is a phonetic writing for ia₂ = 5.
- ḥa-la-ba-a-uš ~ ḥa-la-ba - KUB 57 126 Obv. I, 3
- im-u-a-ab-ba ~ im-a u₄ a₂-ba - CTH 315 - KUB 4 2, 3: positions of u ~ u₄ and a are inverted.¹⁰³⁴
- IZI ~ zi - KUB 37 111 Rev. R. Col. 6: see § 5.3.10.
- ki-e-ne₂-en-ti ~ ešemen (KI.E.NE.DI) - CTH 315 - AuOrS 23 50, II, 44: this is a phonetic writing of the sequence KI.E.NE.DI that is usually rendered as ešemen,¹⁰³⁵ but there are indications that perhaps it was not a Diri compound;¹⁰³⁶ note the d > t shift in ti ~ DI; perhaps the presence of /n/ before -ti is a compensation for the shift voiced > voiceless.
- ki-en-te-me-en ~ ki-aĝ₂ ša₃ ki-aĝ₂ - CTH 315 - AuOrS 23 50, II, 45: Arnaud¹⁰³⁷ suggests that te-me-en corresponds to dimma; see § 5.3.2.
- -ku- ~ -mu- in ša-an-ku-uš-ši ~ saĝ-mu-še₃ - KUB 57 126 Obv. II, 5: MU is read as ĝu₁₀ and rendered phonetically as ku.
- mu-un-ta ~ gi-un-ta - KUB 57 126 Obv. I, 6; Obv. II, 6
- mu-ut-ḥu ~ niĝ₂-tu-ḥu-um - CTH 315 - AuOrS 23 50, II, 37: see § 5.3.2.
- nam-ba-še-šu-še-šu-de₃ ~ nam-ba-šu₂-šu₂-de₃-en - KUB 37 111 Rev. R. Col. 4
- NI-in-NI-bu ~ ? - CTH 315 - AuOrS 23 50, II, 43: see § 5.3.2.
- nu-kal ~ abgal - CTH 314 - KUB 4 6 Obv. II, 4: this spelling derives from the writing NUN.ME for abgal; see § 5.3.1.
- ri-ib-x-ba ~ kala-ga - CTH 314 - KUB 4 6 Obv. II, 5: the sign KAL was read rib in the standard orthography text and written ri-ib- in the phonetic version; see § 5.3.1.
- ša-a ~ diri (SI.A) - CTH 315 - KUB 4 2, 8
- ša-a ~ diri (SI.A) - CTH 315 - AuOrS 23 50, II, 35, 41 II
- še-ag-na ~ še-gu-nu - CTH 315 - AuOrS 23 50, II, 34
- ši-da-a ~ a-de₂-a - CTH 315 - AuOrS 23 50, II, 36: see § 5.3.2.
- ti²-a ~ tum₂-a - CTH 315 - AuOrS 23 50, II, 38
- za-an-ku ~ za₃-mu - CTH 315 - AuOrS 23 50, II, 37: MU is misread as ĝu₁₀ and rendered phonetically as ku;¹⁰³⁸ -(a)n- is perhaps an attempt to render the phoneme ĝ.
- za-ar-tap-pa ~ ḤE(sar₂)-NUN(daba_x) - CTH 315 - AuOrS 23 50, II, 34: see § 5.3.2.
- zar-tab-ba ~ ḤE(sar₂)-NUN(daba_x) - CTH 315 - KUB 4 2, 5: see § 5.3.2.

Emar

- a-na ~ a-an - E 775, 19: this is a case of metathesis.
- an-nu ~ an - Tsukimoto, 38: probably -nu is a phonetic complement from Akkadian *Anu*.
- -e-ni-e-ni ~ -e-ne - E 767, II, 17
- -du ~ -ĝu₁₀ in i-ki-du (2) ~ igi-ĝu₁₀ - Tsukimoto, 37
- ga-a-ni-šur-ra-ke₄ ~ ga-ni-šur-ra ak (?) - E 775, 19: see § 6.1.1.
- i₃-in-gen¹⁷ / i₃-in-ke ~ e-ne-gen₇ - E 767, I, II, 23: this writing is here regarded as a case of metathesis -ne- > -in- with shift e > i, but other interpretations are possible.

1032 Cf. § 4.3.1.4, z > š, § 4.3.2.4, i > a.

1033 U. Gabbay's suggestion.

1034 Cf. Nougayrol 1968, 317: 32.

1035 For this word see Gadotti 2010.

1036 Gabbay 2015, 219.

1037 Arnaud 2007, 185: 45.

1038 Arnaud 2007, 184.

- lu-ul-bi ~ ^{li-ib}LUL - E 767 I, II, 21, 22¹⁰³⁹
- me-na ~ na-me - E 767, I, 8: this is a case of metathesis: see § 6.2.1.
- me-te ~ me-še₃ (?) - Tsukimoto, 37
- mu-tal₂ ~ mu-zal - E 773, 3
- nu-gib ~ nu-geg / mu-gib₃ - E 740, 2¹⁰⁴⁰
- nu-un-ku-a-ni ~ numun-a-ni - TBR 101 Obv. 6¹⁰⁴¹
- u₃-ser₃-ser₃ ~ šar₂×u = 3600×10 - E 767, I, 22
- u₃-šar-šar ~ šar₂×u = 3600×10 - E 767, II, 22
- ub-be₂ ~ ul₄-le - E 771+, 28
- za-aš ~ za₃-še₃ - E 734, 3: two explanations can be advanced: (1) the writing results from metathesis with the shift $e > a$; (2) it is a short writing with loss of e . This spelling is influenced by the use of -aš in certain contexts after Ca.

Ugarit

Babylonian Tablets

- KAL-la ~ ġuruš - AuOrS 23 25, 37: see § 7.1.3.

Ugarit Script Tablets

- a-li-im ~ isiš₂ (A.IGI) - RS 23.34+ A, 6: see § 6.2.1.
- a-ra-me-ek-mu-aš-šu ~ a-ra₂-min-kam₂-aš - AuOrS 23 21, 84: this writing has been listed under the heading of short writings¹⁰⁴² but another explanation is possible: -k-m- would result from metathesis with consequent $n > m$ shift; -u- in -mu- would derive from $a > u$ shift; and -š- in -aš- would result from assimilation of -m- to -š- due to the metathesis -aš > -šu with $a > u$ shift. Therefore the unorthographic writing could be reconstructed as ****a-ra-me-em-ka-am-aš**.
- [a-sa-ki-i]k-ku ~ a₂-sag₃-ge - AuOrS 23 21 70: this entry is also listed here¹⁰⁴³ because it is a possible Akkadographically written Sumerogram from *Asakku*.
- -aš in kur-aš ~ kur-še₃ - AuOrS 23 21, 8: -aš, used to indicate the terminative in certain contexts after Ca, is incorrectly used here.
- he₂-RU ~ ħe₂-pa₃ - AuOrS 23 21, 70: the sign IGI of the sequence IGI.RU = pa₃ is omitted.
- gi-in-ni-in-mi-ni ~ ġe₆ ni₂ me-lim₄ - RS 79.25, 27: the sign -lim₄ (NE) is written as -ni.¹⁰⁴⁴
- gi-il-tun₃ ~ ġeštug_{2/3} (?) - RS 79.25, 15: this alteration perhaps reflects the MB Akkadian shift $\acute{s} > l$.
- gi-ku-du[...] ~ ġi^gge₂-ma₂-š_u₂-a (?) - RS 86.2210 II, § 3: ku-du perhaps renders the sign KID = ge₂; this entry is not listed under additional u or under $k > g$ because the reading is uncertain; see § 7.3.6.
- giz-za-na ~ i₃-ġeš-ta - AuOrS 23 21, 92¹⁰⁴⁵
- i₃-[i]g-gu ~ e-ne-gen₇ - RS 23.34+ B, 12: this writing is interpreted as resulting from metathesis ***-ni- > -in-** and consequent assimilation of /n/ to /g/.
- il-li-il ~ ^den-lil₂ - RS 79.25, 4: this writing is based on the Akkadian *Ellil*.
- ka-la-qa-e-ni ~ kala-ge-de₃ - RS 79.25, 24: the sign -de₃ is read NE and written as -ni.
- ku-ug-bi ~ gu₂-un-bi - RS 79.25, 36: the sign UN is misread as uġ₃ and rendered as -ug-.

1039 See Alster 1990, 25.

1040 See Arnaud 1985-1987, Vol. 4, 348.

1041 Cf. Civil 1996: 'One more indication of the intervocalic -n- in NUMUN'.

1042 See 4.2.10

1043 Cf. § 4.3.1.1.2, $g > k$.

1044 See Arnaud 2007, 23.

1045 See Arnaud 2007, 88: 92.

- lu-u₂- ~ nu- - AuOrS 23 21, 80
- ma-aš-rab-ba ~ maš-tab - RS 86.2210, II, § 5
- me-e-tum ~ me-na - RS 23.34+ B, 6
- mi-nim-ru[?] ~ mi-ni-diri - RS 23.34+ A, 11
- mu-li-li ~ ⁴mu-ul-lil₂ - RS 79.25, 6
- nam-u₁₈-lu⁷-lu⁷ ~ nam-lu₂-u₁₈-lu - RS 23.34+ A, 14: this is a case of metathesis.
- (šu-)nam-tar-ta-re-e-ni ~ nam-tar-re-de₃ - RS 79.25, 5: the sign -de₃ is read NE and written as -ni.¹⁰⁴⁶
- u₂-mu ~ u₄- - RS 79.25, 2: this writing is clearly influenced by Akkadian *ūmu*.

4.5 Concluding Remarks

The analysis has shown that phonetic writings from the Syro-Anatolian texts present deviations from the standard Nippur orthography comparable to those found in the Old Babylonian unorthographic texts stemming from Northern Babylonia. Indeed the majority of the alterations attested in the Western periphery can be found in the Old Babylonian unorthographic texts. However, a distinction has to be drawn between Babylonian script tablets and manuscripts drafted by local (i.e. Syrian or Hittite) scribes.

Tablets from Ḫattuša provide the majority of entries for phonetic writings. Within this corpus more than half of the entries are documented in the unorthographic incantations written on Babylonian script tablets (CTH 800). Nevertheless, the tablets providing the largest number of entries as a single group are the manuscripts written by local scribes at Ugarit.

Corpus	Entries	Percentage within the corpus	Overall Percentage
Ḫattuša: Babylonian Script	176	53,3	24,2
Ḫattuša: Ass-Mit Script	26	7,9	3,6
Ḫattuša: Hittite Script	128	38,8	17,6
Total Ḫattuša	330		45,4
Emar	157		21,6
Ugarit: Babylonian Script	20	8,3	2,8
Ugarit: Ugarit Script	220	91,7	30,3
Total Ugarit	240		33,0
Total	727		

Taking a statistical approach one may observe that for syllabification of logograms, which is the most common way of spelling Sumerian words phonetically, the majority of entries derive from the Babylonian tablets from Ḫattuša:

Corpus	Syllabification	Percentage
Ḫattuša: Babylonian Script	72	53,3
Ḫattuša: Ass-Mit Script	0	0,0
Ḫattuša: Hittite Script	12	8,9
Total Ḫattuša	84	62,2
Emar	15	11,1
Ugarit: Babylonian Script	0	0,0
Ugarit: Ugarit Script	36	26,7
Total Ugarit	36	26,7

¹⁰⁴⁶ For the initial šu see § 6.1.1.

Conversely, the majority of entries for effective alterations¹⁰⁴⁷ occur in tablets written by local scribes.

Corpus	Entries	Percentage
Ḫattuša: Babylonian Script	80	13,3
Ḫattuša: Ass-Mit Script	19	3,2
Ḫattuša: Hittite Script	135	22,5
Total Ḫattuša	234	38,9
Emar	133	22,1
Ugarit: Babylonian Script	12	2,0
Ugarit: Ugarit Script	222	36,9
Total Ugarit	234	38,9
Total	601	

Entries of effective alterations occurring in the Babylonian tablets from Ḫattuša reach an overall percentage of only 13,5. Tablets from Emar, which provide fewer phonetic writings than the Babylonian tablets from Ḫattuša, contain more effective alterations. This clearly sets the Babylonian tablets from the Hittite capital apart from the rest of the documentation. The unorthographic incantations CTH 800 present a conservative character similar to the OB texts, showing a minor degree of alteration. As will be argued below,¹⁰⁴⁸ this group of incantations and the OB unorthographic texts are both likely products of Northern Babylonian scribal circles. Babylonian script tablets inscribed with Sumerian texts were found in a very limited number at Ugarit. Moreover, only the tablet AuOrS 23 25 contains incantations entirely written in phonetic orthography. Similarly, the very low degree of alterations shown by the Assyro-Mitannian tablets is due to the fact that these texts were written in standard orthography with only occasional phonetic writings. In contrast, local tablets present a higher degree of alterations. The number of alterations occurring in local tablets is due to the tendency, evidenced in the analysis of single alterations, to use phonetic writings to a larger extent compared to both OB texts and Babylonian script tablets from the Western periphery. The majority of alterations are concentrated in the local tablets from Ugarit (36,9%). This indicates that each word and word cluster from the Ugarit documentation presents more than one variation and consequently it is listed under several different alterations, increasing the number of entries. The reason is not immediately understandable, but the practice of copying from dictation at Ugarit cannot be ruled out. It seems evident that by drawing from the possibilities offered by the cuneiform system local scribes made extensive use of the phonetic orthography conventions. However, unorthographic writings in the Syro-Anatolian texts result from an acquired knowledge that was transmitted to the Western periphery. Indeed in Syria and Anatolia, an environment in which Sumerian was poorly known and utilized for scholarly materials only, the concept of phonetic orthography itself could not have been developed independently of the Babylonian tradition. According to the hypothesis presented here, scribes from Syria and Anatolia were educated in orthographic conventions relying on the Northern Babylonian tradition. This knowledge was likely transmitted to the western regions by means of lexical lists¹⁰⁴⁹ containing phonetic spellings of Sumerian logograms in addition to the standard orthography form and the Akkadian translation.¹⁰⁵⁰ Samples of such lexical lists were found in Syria and Anatolia, such as the

1047 Effective alterations include the following: additional vowels, additional consonants, *sandhi*, short writings and all the phonetic alterations. They do not include *scriptio plena* and bindings.

1048 See § 5.1.1.

1049 On the tradition of lexical lists see Civil 1975, 128, Civil 1989.

1050 RIA 6, 616.

Ḫattuša editions of *Urra*,¹⁰⁵¹ *Kagal*¹⁰⁵² and *Erim-ḫuš*¹⁰⁵³ and the Emar and Ugarit recensions of *Urra*.¹⁰⁵⁴ The alterations noted in the literary and magical texts find parallels in the lexical lists,¹⁰⁵⁵ as in the following examples:

Line	Standard Orthography	Phonetic Orthography	Akkadian
Ḫattuša – Erim-ḫuš - KBo 1 41			
a 5	gī	ki-i	šī-īp-ṭ[<i>u</i> ₄]
a 6	gī-š _u	ki-i-š _u	<i>pu-ru-u[s-su₂-u_{1/2}]</i>
a 7	gī-gī	ki-i-ki	<i>ma-ḫa-a-[ru_{1/3}]</i>
Emar – Urra XIb (canonical XIX) - E 556D = Msk 74149			
Obv. 6	gada šu-šu-ub diḡir-ra	ka-ad šu-šu-ub ti-gi-ra	š _u -š _u -[<i>up</i>] <i>i-li</i>
Obv. 8	gada šu-šu-ub ereš diḡir-ra	ka-ad šu-šu-ub i-ri-iš ti-gi-[ra]	[š _u -š _u]- <i>up i-ti</i>

Perhaps the unorthographic incantations CTH 800 were also used by Hittite scribes as a tool for learning phonetic writings.

As explained in detail in the analysis of single alterations, some phonetic alterations that occur quite rarely in the Old Babylonian documentation are more frequent in the Syro-Anatolian texts. Moreover a few alterations are unattested in the Old Babylonian texts under examination:

Alteration	Tablets	Occurrences	Text Typology
Analytic Writings	Ḫattuša: Ass-Mit Script	3	Standard Sumerian Incantations
g > ḫ	Ḫattuša: Hittite Script	1	Standard Sumerian Incantation
	Ugarit: Ugarit Script	1	Phonetic version of PFK ¹
k > ḡ	Ḫattuša: Ass-Mit Script	1	Standard Sumerian Incantation
	Ugarit: Ugarit Script	1	Phonetic Sumerian Incantation
ḡ > nk/nq	Ḫattuša: Hittite Script	6	Phonetic version of MLM ² Phonetic Sumerian Incantation
š > z	Ugarit: Ugarit Script	1	Phonetic version of LI-LN ³
z > š	Ḫattuša Hittite Script	2	Phonetic version of MLM Standard Sumerian Edubba E
	Emar	1	Standard Sumerian Incantation

1 *A Prayer for a King*, § 6.1.1.

2 *The Message of Lu-diḡira to his Mother*, § 5.3.2.

3 *The Letter of Lugal-ibila to Lugal-nesaḡ*, § 5.3.4.

Texts containing these alterations belong to different typologies and script groups. In the standard Sumerian texts, alterations are likely mistakes. In the case of sibilants these spellings are perhaps local developments. Analytic writings are to be attributed to the copyists as they are usually hyper-corrections due to a theoretical or imprecise knowledge of a language. Further alterations unknown from the OB corpus under examination are attested in Babylonian tablets from the Western periphery ($\hat{g} > k$, $\hat{g} > ng$, $\hat{s} > s$, $z > \check{s}$, $e > u$) and should hence be considered developments internal to the Babylonian tradition.

1051 Scheucher 2012, 488-503.

1052 MSL 13, 148-153, von Weiher 1970, Moran 1974, Wilhelm 1989, Scheucher 2012, 548-567.

1053 Scheucher 2012, 610-655.

1054 For Emar see the list of manuscripts in Scheucher 2012, 449-455 and the edition in Gantzert 2011; for Ugarit see the list of manuscripts in Scheucher 2012, 395-448. An overview of lexical lists from the Western periphery is provided in Viano forthcoming.

1055 For phonetic Sumerian in lexical lists see Scheucher 2012, 214-215.

Consonants are affected by phonetic alterations to a greater extent than vowels. Phonetic alterations of stops are the most frequent within consonants.

Corpus	Consonants				Vowels
	Stops	Nasal	Trills	Sibilants	
Ḫattuša: Babylonian Script	14	25	0	8	22
Ḫattuša: Ass-Mit Script	7	2	2	2	3
Ḫattuša: Hittite Script	44	24	0	18	40
Total Ḫattuša	65	51	2	28	65
Emar	39	16	0	7	53
Ugarit: Babylonian Script	2	2	0	0	5
Ugarit: Ugarit Script	62	24	1	11	78
Total Ugarit	64	26	1	11	83
Subtotal	168	93	3	46	
Total		310			201

It is important to address the function of unorthographic writings in tablets of different text types. As stated above, phonetic orthography in incantations was likely adopted to help the performer. This function was associated with unorthographic Babylonian script incantations from Ḫattuša (CTH 800) and probably with some of the incantations contained in the Babylonian tablet from Ugarit AuOrS 23 25.¹⁰⁵⁶ With few exceptions,¹⁰⁵⁷ phonetic writings in incantations drafted by local scribes have no consistent nature. Incantations in local script tablets are written in standard orthography and only random phonetic writings appear. Therefore it is likely that phonetic writings in local script incantations are the result of copying. The same explanation applies to phonetic writings found in Assyro-Mitannian incantations and literary texts in standard orthography.

The majority of phonetic writings in local script tablets derive from a particular text type: the phonetic versions of standard orthography texts. As mentioned above these are only found in literary texts and are usually added to standard orthography versions on multicolumn tablets. Such a tablet format with, from left to right, standard Sumerian, phonetic Sumerian, Akkadian and, at Ḫattuša, Hittite, is typical of the Western periphery and must be considered a product of the local scribes. Indeed, to my knowledge, only three examples of tablets inscribed with standard and phonetic orthography versions of the same texts stem from Mesopotamia. These are exercise tablets. The OB Nippur manuscript UM 29-15-174 is a bilingual tablet in parallel column format containing the composition *Diatribes against Woman*. The left column is inscribed with the Sumerian version in standard orthography, and underneath each line the phonetic version in small script, while the right column contains the Akkadian translation.¹⁰⁵⁸ CBS 11319+¹⁰⁵⁹ is an OB three-column tablet from Nippur inscribed with phonetic Sumerian in the first column, standard Sumerian in the second and Akkadian in the third. This is apparently the closest parallel to the Western periphery tablets, but it recalls the format of lexical lists with phonetic Sumerian in the first column. Indeed, this tablet is closer to lexical lists than to literary texts because although it contains quotations from different literary texts, most of the entries are not literary. The last example is the MB pillow-shaped tablet MS 2065¹⁰⁶⁰ which contains phonetic Sumerian, standard Sumerian, and Akkadian arranged in three lines from top to bottom. In this case too the phonetic version precedes the standard Sumerian as in lexical lists. Hence, none of these tablets resembles the format of the manuscripts from the Western periphery. The practice of writing standard Sumerian and phonetic orthography versions on the same tablet was scarcely used in Mesopotamia;

1056 See § 7.1.3.

1057 KUB 4 26 (+) HT 13, E 734, *Tsukimoto Incantation*, AuOrS 23 21.

1058 Alster 1991-1992, copy in RA 60, 5-7.

1059 Sjöberg 1993.

1060 § 1.1.7.8.

thus, contrary to Klinger,¹⁰⁶¹ it is unlikely that literary compositions arrived already in this format in the Western periphery. The clearest example is *The Letter of Lugal-ibila to Lugal-nesaĝ*: it is preserved in bilingual format in standard orthography at Ḫattuša (KUB 4 39) but an unorthographic version is known from Ugarit (RS 17.10). It is evident that this text was transmitted to the Western periphery in standard orthography. However, it is possible that phonetic versions were created under the supervision of Mesopotamian teachers. Phonetic versions of standard orthography texts are therefore to be considered as the work of local scribes, produced as part of scribal training.

Phonetic versions of standard orthography literary texts are attested at Ḫattuša, Emar and Ugarit and represent our primary source for unorthographic writings from tablets drafted in local script, as the following table shows:

Source	Composition	Entries	Total	Entries Local Script	%
Ḫattuša					
CTH 314	The Hymn to Iškur Adad	29	95	128	74,2
CTH 315	The Message of Lu-diĝira to his Mother	54			
KUB 57 126	Edubba E	12			
Emar					
E 767	The Ballad of Early Rulers	51	75	157	47,8
E 768 - E 769 - E 770	The Fowler	12			
E 776	Unidentified	3			
TBR 101	The Letter of Sīn-iddinam to Utu	9			
Ugarit					
RS 17.10	The Letter of Lugal-ibila to Lugal-nesaĝ	19	137	222	62,3
RS 23.34+	The Ballad of Early Rulers	26			
RS 79.25	A Prayer for a King	70			
RS 86.2210	The Fox and the Hyena	22			

At Ḫattuša these sources contain 74,2% of the entries from local script tablets; at Emar the percentage is 47,8 while at Ugarit is 62,3. These numbers further evidence the pedagogical nature of the phonetic versions. Moreover the table explains that the elevated number of effective alterations in local script tablets (as seen above) derives from local scribal practices associated with education.

To sum up, it has been argued that the knowledge of phonetic writing in the Western periphery derives from the Northern Babylonian scribal schools. Unorthographic writings display different features and a different degree of agreement with the Old Babylonian tradition depending on the script and provenance of the manuscripts. Babylonian tablets from Ḫattuša, as expected, fall in the Babylonian tradition, whereas the local tablets, notably those from Ugarit, exhibit the strong influence of local scribal practices. Indeed, Syrian and Anatolian scribes developed local scribal habits through an extensive use of conventions learned from the Babylonian tradition.

¹⁰⁶¹ Klinger 2010, 316, 324, cf. Klinger 2012, 90-91.