The Emar Lexical Texts

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Part 3 - Structural Analysis

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INTRODUCTION TO PART 3

Aim

The aim of Part Three of *The Emar Lexical Texts i*s to give a struc*t*ural analysis of the lexical corpus. This means t*h*at t*h*e following text commen*t*ary will primarily descri*be* formal and organizational r*e*lationsh*i*ps, appearing withi*n* or b*e*tween various lexical compositions, irrespective of content. These relationships will be empirically defined as specific formal and organizational features. By setting up an inventory of empiric data concerning formal and organizational phenomena and by relating them systematically to content, it will be possible to expose the underlying structural properties of the various compositions and to compare their occurrence throughout the curriculum. In Part 4 (Theoretical Interpretation) of *The Emar Lexical Texts*, some of these structural properties will be used to interpret aspects of Mesopotamian 'science' in terms of selected anthropological theories on classification. On the one hand the *content* of the text corpus under investigation may be expected to have been affected, to some degree, by specific developments resulting from the specific historical and cultural setting of the Emar school. On the other hand the *structure* of that text corpus, used in the scribal school as a carrier of the traditional Mesopotamian 'science of writing'[1], may be assumed to reflect the particularities of that underlying *k*now*le*dge system[2] and thus as largely context-*in*d*e*pendent. This assumption stems from the remarkable continuity of the Mesopotamian lexical compositions, despite shifts and transformations in their content. Thus, the traditional Mesopotamian knowledge system can be interpreted as a relatively *static structure* within which a relatively *dynamic agency*, viz. the historic institution of the Emar school, is operating[3]. In the interaction of structure and agency, the schooling of scribal apprentices may be considered as a *pragmatic interpretation* (viz. scribal *e*ducation) of a *normative model* (viz. cune*i*form 'science'). *T*he text witnesses for the E*m*ar school may be assumed to reflect the interaction of both. The *pragmatic*, or historically particular, aspect of the Emar text corp*u*s has alr*e*ady been the subject of a number of earlier publications and t*h*is study will focus on its *normative*, or mod*e*l, aspect. Altho*u*gh a number of specific Syria*n* particularities will occasionally be mentione*d* in v*ar*ious remarks (as well as in a series of related pu*b*lications[4]), for th*e* ult*i*mat*e* purpose of this study, viz. understanding of Mesopotamian 'science', the Late Bronze Syrian context is essentially incidental. The research focus will be primarily on the (underlying) structural prop*e*rties of t*h*e lexic*a*l compositions found in Emar. *B*ecause all of *t*hese compositions have a long history and because they consistently rec*u*r in educatio*n*al contexts this focus shoul*d* allow insig*h*t into the cl*a*ssification system[5] they sought to impart to apprentice scri*be*, viz. the Mesopotamian

[1] The term is derived from N.C. Veldhuis, *Elementary Education at Nippur : the Lists of Trees and Wooden Objects* (Groningen 1997) 139-40.

[2] The term 'knowledge system' is here used as referring to a socially constructed and culturally unique discourse. A general introduction and references regarding the cultural anthropological debate about knowledge systems may be found in T.H. Eriksen, *Small Places, Large Issues. An Introduction to Social and Cultural Anthropology* (London and Sterling 2001) 211ff. .

[3] A general introduction and references regarding the concepts of structure and agency may be found in T.H. Eriksen, *Small Places, Large Issues. An Introduction to Social and Cultural Anthropology* (London and Sterling 2001) 86-7 and T.H. Eriksen and F.S. Nielsen, *A History of Anthropology* (London and Sterling 2001) 128-31.

[4] M. Gantzert, 'Syrian Lexical Texts 1-3', *UF* 38 (forthcoming).

[5] The term classification is here used in its anthropological sense, viz. as relating to socially pre-established categories within a given, always uniquely socially-embedded, knowledge system. Cf. Eriksen, *Small Places, Large issues*, 233ff. .

'science of writing'[6]. The p*r*imary task *o*f thi*s s*tructural analysis is to give a *synchronic description* rath*e*r tha*n* a diachronic comparison because i*t* is not the development but the continuum in Mesopotamian 'science' that is its focus. However, as it may be felt that the hist*o*rical dimen*s*ion should no*t* be wholly i*g*nor*e*d even in a theoretical-structural study of this kind, an excursus has been added to discuss some historical developments in the lexical tradition in the light of the Late Bronze Syrian text witnesses.

Organization

The structural properties of the texts under consideration will be investigated in two steps. The *f*irst step will be to investigate each series in the lexical corp*u*s separately i*n* a *series analysis* (chapters 1-10). Each attest*e**d* s*e*ries (except Tu-ta-ti, which is *n*ot properly represented in Emar) will be described in a separate chapter and all chapters are structured in a fairly standardized manner.

In case the status of a given series in the curriculum is problematic (as is the case in a few of the advanced series) this will be discussed in some introductory remarks to the chapter in question. Next, the first paragraph (*Text corpus*) will briefly describe the inventory and typology of the attested text material[7]. The second paragraph (*Formal features*) will investigate the texts according to certain form-related criteria. The third paragraph (*Vertical organization of content*) will treat the structural presentation of content through considering certain organizational criteria. The formal and organizational criteria selected for use in these second and third paragraphs will be explained in more detail later on in this introduction. In case the findings of the earlier paragraphs warrant a more detailed investigation, a fourth paragraph will be added regarding the relevant series' curricular structure or position. All chapters of the series analysis conclude with a summary of their findings.

After the investigation of each separate series, the second step will be to compare them and provide a synthetic discussion of the lexical corpus as a whole in a *curricular analysis* (chapters 11-14). Such a comparative and synthetic approach is justified in view of the fact that the corpus is found in a coherent archival context that reflects the operation of the school over a limited period of time. In other words, all texts in that corpus may be assumed to have had a *simultaneous* relevance in the school. This does not imply that all texts were simultaneously used as exercise material or equally covered by all apprentice scribes. In fact, it is conceivable that some texts had the status of reference material instead of that of exercise material. The fact, however, that all texts occur in the same coherent and chronologically narrow archival context suggest that they were at least *known* simultaneously. This means that together they represent a *coherent body of lexical knowledge*, even if not every text was used in the same manner.

The curricular analysis will start with a chapter providing a comparative analysis of the formal and organizational features found in the various series (Chapter 11 - *Formal and organizational comparison*). This chapter will also address the issue of curricular sequence,

[6] The diachronic continuity in methodology visible in the lexical compositions from the OB to the NB periods is also observed by A. Cavigneaux, *Die sumerisch-akkadischen Zeichenlisten: Überlieferungsprobleme* (München 1975) 1.

[7] The status of Type I tablets as exercise texts has been called into question by N.C.Veldhuis (dissertation referee report). Based on the presently available evidence, however, this doubt seems unwarranted. Apart from various content-related arguments (e.g. typical *Hörfehler* made in the course of dictation), the most important clue to the status of the Type I tablets is found in their colophons, which explicitly show the writers to be 'junior scribes' and 'pupils'.

both from a formal-organizational and from a didactic-functional perspective. Next, Chapter 12 (*General scribal conventions*) will discuss a few generalized formal properties, i.e. formal features that are found throughout the lexical curriculum as a whole. Chapter 13 (*Scribal redaction notes*) will be dedicated to the redactional features of the lexical corpus, including the colophons. The fourteenth chapter (*Diachronic context*) is actually an excursus that has been added to give a historical perspective to the findings of the preceding chapters. Finally, the main results of the structural analysis are summarized in a short listing of conclusions.

Formal and organizational features

The formal and organizational criteria investigated in this study are derived solely from *explicit*, empiric data but will serve to expose an *implicit*, underlying organizational structure. The implicit nature of the organizational structure may be assumed from the historical context of the lexical texts. The lists obviously aim at transmitting an ancient tradition (there is a remarkable continuity in form and content and in Emar no new compositions are found) but at the same time, not a single explicit explanation of the organizational system behind the lexical lists has been found. This suggests that the systematic aspect of the lexical lists was not the subject of an explicit discourse and that the lists were the object of *deferential reproduction* (i.e. reproduction in deference to the scribal tradition) rather than analytical production. It is therefore the task of modern scholarship to find explicit *criteria* to expose the implicit *structures* of ancient scholarship. In the following analysis these criteria are sought in the various formal and organizational features found in the texts. The same sets of features will be consistently investigated for all series in order to make the subsequent structural comparison between the various series meaningful. The selected features may be classified as referring primarily to either form or organization and will be discussed below.

Formal features

There are two sets of *formal features*: *distinctive features*, which distinguish between series or various versions of a series, and *non-distinctive features*, which do not distinguish series or versions from each other but are generally found in the lexical corpus as a whole.

The *distinctive features* will be investigated in two steps: first for each series separately (paragraph 2 of chapters 1-10) and then across all series combined (Chapter 11).

1. vertical ruling (primarily related to horizontal organization)
2. entry element inventory (related to horizontal organization) - the various entry elements are identified according to the Civil-code specified in Table 1 below
3. horizontal ruling (related to vertical organization)
4. tablet division (related to vertical organization)

The *non-distinctive features* will be analyzed as reflecting *general scribal conventions* with validity throughout the whole lexical corpus (Chapter 12).

1. right position shift
2. separation marker
3. virtual determinative sequences

Table 1. Elements of the lexical lemma according to the Civil-code

Element number	Description	Graphic rendering	Relevant parts of the edition
0	line marker	¶	1
1	gloss: syllabic rendering of (one of the) Sumerian phonetic values of the logogram	gloss	1 and 2
2	logogram: Sumerian word sign	LOGOGRAM/ LOGOGRAM	1 and 2
3	sign name of the logogram	sign name	1
4	Akkadian equivalent (Akkadian translation or interpretation of the logogram)	*Akkadian equivalent*	1 and 2
5/6	equivalent(s) in other language(s)	n/a	n/a

Organizational features

The *organizational features* are listed in Table 2 below according to their organizational levels, i.e. according to their vertical range in the text covered. The shortest vertical range is that of a single entry (level 1) - on this level only *intra-entry* organization is found (i.e. organization between various elements of the entry), which is here referred to as *horizontal organization*[8]. In this horizontal organization the relation between the logogram and Akkadian equivalent - the two core entry elements - may be developed in a variety of different ways, here referred to as *realization types*. The other, longer vertical ranges are relevant to *inter-entry* relational structure, which is here referred to as *vertical organization*[9]. The vertical organizational features show various possible *association types* - these are listed in the last column. There are four possible association types:

a. Graphic association: association of consecutive entries according to the graphic form of one or more of their signs.
b. Phonetic association: association of consecutive entries according to their phonetic form
c. Semantic association: association of consecutive entries according to their meaning.
d. Traditional-conventional association: traditionally transmitted entry sequences that are not recognizably associated according to the earlier listed principles[10], i.e. association based on convention.

[8] In Cavigneaux' classification scheme this would be his category A, viz. *Listeneinträge einzeln betrachtet* (Cavigneaux, *Zeichenlisten*, 29).
[9] In Cavigneaux' classification scheme this would be his category B, viz. *Listeneinträge als Teil eines Ganzen* (Cavigneaux, *Zeichenlisten*, 29).
[10] Cf. Cavigneaux, *Zeichenlisten*, 2.

Table 2. Hierarchy of organizational features

Organization level	Vertical range	Organizational features	Association types
1	single entry	*horizontal organization*	n/a
2	related consecutive entries	*key-sign*	graphic or phonetic
		key-word / *sub-entry*	semantic
3	all entries on a tablet	*text division*	semantic or traditional-conventional
4	all entries in a composition	*series*	(graphic-)semantic or traditional-conventional

Level 1. On the level of the single entry, *horizontal organization* refers to the relation between the various elements in a given entry. The link between these elements is primarily *identification* and not *association*, i.e. the entry adds elements 1, 3 and 4 in order to identify the central element 2 (in Emar the status of element 0 as an entry element is doubtful - cf. 2.1.2.1.). In case of element 4 (the Akkadian equivalent), however, its identificative relation to element 2 (the logogram) often involves associative processes: the relation between these two elements can be realized in various ways, which are referred to as *realization types*. The most basic of these is the one-to-one translation of element 2 by element 4, which involves non-associative identification. The other realization types will be discussed in the course of the series analysis as they appear in the various series. Horizontal organization is closely linked to the horizontal formal features - in the series analysis it will therefore be discussed in the paragraph dealing with formal features (i.e. in paragraph 2 of chapters 1-10). In the curricular analysis an inventory of realization types and an analysis of their distribution throughout the curriculum (11.2.1.) are provided.

Level 2. On the level of related consecutive entries, certain signs may be shared throughout a shorter or longer series of successive entries. The term *key-sign*[11] refers to those signs that are shared between consecutive entries primarily through *graphic association*. Sometimes a specific shared graphic form results in a shared phoneme (e.g. in Izi-compounds) and sometimes it does not (e.g. in Diri-compounds). Whenever key-signs also have word status, i.e. whenever they are also shared between consecutive entries through *semantic association*, they will be referred to as *key-words*.

Level 3. On the level of the combined entries found on a single tablet, *text division* refers to an organizational unit that may be defined as a specific section of text that is consistently selected for presentation on a separate tablet. In some series such a section of text shows *semantic association* between the entries it brings together. In others the consistent selection of a given text section for presentation on a single tablet is not related to any recognizable graphic, phonetic or semantic association between the entries - in such cases text selection is empirically related to a *traditional-conventional association* of its entries. Such traditional-conventional association is properly the subject of diachronic research: it finds its origin in a remote past and its original formation falls outside the scope of this study. In a synchronic study such as this one only marginal comments can be made on the entry inventories and sequences resulting from traditional-conventional association. Such marginal commentary will rely on analysis of internal variations within the text corpus and of external deviations in

[11] Terminology related to that used in A. Cavigneaux, 'Lexikalische Listen', *RlA* 6: Klagesang-Libanon (Berlin and New York 1980-3) 632-3 (i.e. his *signe-clé*).

parallel texts. These variations and deviations may expose aspects of the compositional process, including the selective criteria of the vertical organization. In many cases, however, they are in short supply.

Level 4. On the level of the combined entries found for a given lexical composition, *series* refers to that composition as a whole. The various series are diachronically defined, viz. as traditional compendiums with specific content and function. They are identified by conventional assyriological terminology[12]. Series may have content that is associated either *semantically* or *traditionally-conventionally*, in a manner similar to that found for text division. Sometimes such semantic association involves simultaneous graphic association (graphic-semantic association, also known as 'acrographic' association, found in SagB and Nigga) but mostly it does not. For several compositions the organizational features of series and division actually coincide because they comprise one tablet only. It should be noted that a series may have multiple versions.

Didactic functionality and curricular structure

Earlier four possible associative principles were listed, viz. graphic, phonetic, semantic and traditional-conventional association. Separately or in combination, the first three of these do not only describe the organization of the lexical compositions but they are also didactically functional in as far they provide different analytical approaches to the writing system. In contrast, the fourth principle lacks such an *intrinsic* didactic functionality. In synchronic terms, i.e. irrespective of its origins, traditional-conventional association has no other didactic function than that of providing a presentational device through which content is transmitted to the apprentice scribe.

It will be seen that each series and each version of each series may be considered as a distinct formal-organizational unit (cf. 11.0.) and that the formal and organizational features of each of these units can be related to their respective didactic functionality in the wider curricular context (cf. 11.3.). However, given the preponderance of traditional-conventional association on organizational levels 3 and 4 (cf. 11.2.1.), it is clear that for many series intrinsic didactic functionality is only found on organizationals levels 1 and 2. In other words, the *intrinsic* didactic functionality of many series relies on intra-entry and short-range inter-entry relations rather than any overall classificatory concepts. In the composition of the Emar lexical series traditionally transmitted conventions clearly outweight functional classificatory considerations. The relation between didactic functionality and traditional-conventional composition will be the subject of a synchronic analysis (11.4.) as well as a diachronic excursus (Chapter 14).

[12] Cf. Cavigneaux, 'Lexikalische Listen'.

The Emar curriculum as structurally and functionally representative of the lexical tradition

By a *diachronic* definition of their texts (i.e. by defining them in terms of traditionally transmitted models) the ancient scribes established *synchronically* normative conventions. These conventions are explicit only with regard to *content* but may also be assumed to contain implicit *structures*. This assumption may be made on basis of the fact that if content would not have been transmitted within a stable organizational structure, over time it would have become unrecognizable - this is generally *not* the case when the Emar texts are compared to their OB forerunners (it *is* the case for the diachronic development of some advanced series *after* the period under investigation). The core traditional-conventional content of the various lexical series finds its origin in a remote past and the original formation of this core falls outside the scope of this study. However, the fact that their traditional-conventional core content often remained virtually unaltered across a long span of centuries indicates that the lexical lists remained *structured* in the same manner. Furthermore, the fact that these lists also remain in use in educational contexts implies that they remained *functional* in the same manner too. In view of the structural and functional continuum represented by the lexical lists, it may be assumed that the Emar lexical corpus is largely representative of the knowledge system underlying it - a system that was perpetuated by scribes throughout the whole of the post-Ur III period. It is the purpose of this structural analysis to describe some of the overall structural parameters of this knowledge system, i.e. of the Mesopotamian 'science' it represents. Thus, the description of a single archive found in a small school located in a peripheral region may aim at a larger scientific relevance than suggested by its immediate context.

SERIES ANALYSIS

CHAPTER 1 - SYLLABLE ALPHABET A VOCABULARY[13]

1.1. Text corpus – tablet inventory and typology

The attested Svo material consists of two Type I tablets (T1-2) and three fragments. Both T1 and T2 had two columns on each side of the tablet. Most fragments are very small and probably part of T1 or 2, though lacking in direct joins (fragments C and D may be part of T2 but there are no physical joins). Fragment E is incompatible with T1-2, which means that another tablet must have existed. Fragment E, which forms the top right-hand corner of a tablet, is not only incompatible with the other texts, but also deviates from the other texts in the horizontal organization of its entries (cf. von Soden, *NABU* 1989 1/8).

1.2. Formal features

1.2.1. Horizontal organization

Vertical ruling

Vertical ruling serves to provide the lay-out of the text with columns and sub-columns. In both tablets each column has two sub-columns, creating two slots for horizontal organization. In the Svo exercise the first slot contains the logogram and the second the Akkadian equivalent.

Entry element inventory

The juxtaposition of a logogram and an Akkadian equivalent is the essential feature of the horizontal structure in Svo, even if the frequent absence of the first is an obvious characteristic of the tablet lay-out. The logograms are consistently provided only once, even though they are frequently followed by multiple Akkadian equivalents, resulting in long stretches of empty space in the first sub-columns. The only other texts which share this feature of the Svo texts are those of the two advanced series Nigga and Diri, i.e. it occurs only at the presumed start and end of the lexical curriculum. A possible reason for the omission of the logogram (and its implied 'virtual presence') is that repetition was felt to be unnecessary when the value to be read was the same for all equivalents. In the similarly organized Nigga and Diri series the multiple Akkadian equivalents also always apply to a *single*, specific and unequivocal reading of the logograms. From this perspective, the situation in Svo is the logical inverse of that in SaV, which is the only other series in which logograms are systematically provided with *multiple* Akkadian equivalents. SaV *always* repeats the logograms because in SaV the logogram frequently has multiple readings. Such multiple readings of the same logogram are often explicitly indicated by the glosses provided in SaV - it should be noted that no glosses are found in Svo. In view of the comparison with these other series, the use of 'virtual logograms' in Svo may be considered as functional, reflecting a

[13] The status of Svo as a school text has been called into question by N.C.Veldhuis (dissertation referee report). Based on the presently available evidence, however, two arguments may be found to indicate that Svo formed an integral part of the school curriculum: (1) Svo shows formal, organizational and content structures similar to those of the other lexical texts, and (2) Svo T1 has a colophon in which the writer identifies himself as a (junior) student (Ì.ZU.TUR.TUR – colophon 1, p.144).

primary focus on the detailed analysis of single-reading sign combinations, an analysis provided by giving them multiple Akkadian equivalents.

Element 2 – the logogram (status, definition)

In terms of structural hierarchy the essential element of the horizontal organization is obviously element 2, because it is the focus of multiple Akkadian equivalents. The sign combinations found in the element 2 position occupy the slot occupied by the logogram in other series. However, the nature of these sign combinations in Sal/Svo in general has puzzled modern scholars, due to several factors: (1) the perceived lack of actual logographic content of the 'logograms', (2) their problematic relation to the Akkadian equivalents[14] and (3) the combination of the 'logograms' of Svo with the Creation Myth[15]. These issues mostly relate to the historical origins and development of the Sal/Svo text as well as to the relation between the lexical and literary genres - topics that this study is not concerned with. However, in order to compare the function and aim of Svo in relation to the other lexical series it is important to determine the status (logographic or otherwise) of the sign combinations that are found in the slot occupied by logograms in the other series. Also, in this study, necessarily focussed on structure rather than content, it should be established *how* (as opposed to *why*) these sign combinations are related to the Akkadian equivalents. The first two of the three issues listed above will be considered within narrow methodological limits: the question of logographic status will be treated as a question of definition and the question of logogram relation to the Akkadian equivalent as a question of classification. The third issue, concerning the Creation Myth, does not arise in the Emar material. The issue of logographic status, relevant to element 2, will be treated in this paragraph and the issue of the relation to the Akkadian equivalents, relevant to element 4, will be treated in the next paragraph.

With regard to the status of the Svo sign combinations as 'logograms' it should be noted that the question of logographic status arises due to two factors: (1) the relative lack of non-lexical attestations and (2) the didactic context of Svo, i.e. the attested early position of the Svo series in the curriculum[16].

(1) Concerning the relative lack of non-lexical attestations, the most important restriction on the interpretation of the Svo 'logograms' is that, outside SaL/Svo, they can, if at all, mostly be identified only as (parts of) archaic, mostly Sumerian-read, PNs[17]. However, this identification neither applies to all sign combinations[18] nor does it self-evidently explain the relation of the assumed PN elements to the Akkadian equivalents[19] (or to the Creation Myth). It should also be noted that from their presentational form it is not clear whether the Svo 'logograms' actually refer to PNs: the *Personennamenkeil* (DIŠ-marker), which is consistently found as determinative before PNs in other lexical series (e.g. in Ugarit Tu-ta-ti[20] and Emar SaV Appendix 1) is lacking in Svo. To this observation may be added that, on

[14] Cf. the discussion offered by B. Landsberger, 'Die angebliche babylonische Notenschrift', *AfO* Beiheft 1 (1933): Aus fünf Jahrtausenden morgenländischer Kultur. Festschrift Max Freiherrn von Oppenheim zum 70. Geburtstage gewidmet von Freunden und Mitarbeitern, 170-8.
[15] G. Farber, 'Kleiner Leitfaden zum Silbenvokabular A' in: B. Böck (ed.), *Munuscula Mesopotamica. Festschrift für Johannes Renger* (Münster 1999) 120-1.
[16] Ibidem, 118-9.
[17] M. Çiğ and H. Kizilyay, *Zwei altbabylonische Schulbücher aus Nippur* (Ankara 1959) 101ff.
[18] Ibidem, 102.
[19] Farber, 'Leitfaden', 119.
[20] J. Nougayrol, '"Vocalisés" et "syllables en liberté" en Ugarit' in: H.G. Güterbock and Th. Jacobsen (eds.), *Studies in Honor of Benno Landsberger on his Seventy-Fifth Birthday: April 21st, 1965*. AS 16 (1965) 30.

occasion, Svo sign combinations are, in fact, read as nouns with non-human referents rather than as self-evident PNs (e.g. in 001.06 ME-ME is a proper Sumerian word, correctly translated by Akkadian *parṣū mādūtu* 'rites, plural', as is, in 009.02, MAŠ-GAG=MAŠ.DÀ, correctly translated by *ṣabītu* 'gazelle'). Many other sign combinations may potentially be read as nouns without necessarily implying reference to any PN. This also holds true if a given Akkadian equivalent do not match such nominal readings (e.g. 014 U-BAR is a proper Sumerian word meaning 'foreigner' - cf. the semantically related interpretation 014.02 *kiššat māti* 'all countries' and 039 NI-ZU=Ì.ZU is a word used in colophons as the title for a student scribe - cf. the professionally related interpretations 041.01-2 *barû*, *mūdî* Ì.MEŠ 'diviner', 'expert of oils'). Whether or not, in the context of Svo, such nouns reflect onomastic elements, is actually immaterial to the more important conclusion to be drawn from this evidence: viz. that many of the Svo sign combinations actually *may* be read as logograms. Effectively, all Svo sign combinations, whether or not they *are* interpretable as logograms by modern scholars, were, through frequent juxtaposition with Akkadian equivalents, empirically *considered* interpretable as such by the ancient scribes. This means that, in empiric terms, the Svo sign combinations *function* as logograms and should be defined as such in the analysis of the horizontal organization.

(2) Concerning the early curricular position of Svo, it should be noted that Svo has been identified as an exercise that was positioned in the curriculum immediately after the most basic formal exercise found, the Tu-ta-ti exercise. Only one extract with content related to the Tu-ta-ti exercise has been found in the Emar school archives but this, of course, does not necessarily imply that it was not widely practiced as it may have been considered too basic for inclusion in the school archive. However, the Tu-ta-ti exercise is widely found to be followed by Svo in scribal schools elsewhere (e.g. in near-synchronous Ugarit). Tu-ta-ti exclusively taught phonetic spelling using a basic phonetic sign inventory and did so by listing signs according to sounds patterns. Because Svo followed Tu-ta-ti in the curriculum and both exercises teach basic signs in patterned sequences, it should be investigated whether Svo pursued the same didactic object as Tu-ta-ti, viz. phonetic spelling with a basic sign inventory. An indication that, at least in Ugarit, there is a relation between the two series with respect to content is provided by the fact that in the Ugarit curriculum Tu-ta-ti was expanded with phonetically spelled PNs[21]. This may indicate a continuity of content with the next exercise, Svo, because in Svo many sign combinations are non-lexically attested as PNs or variants of PNs. However, the difference between the PNs of the expanded Ugarit Tu-ta-ti exercise, and those of Svo, is that the first are given almost exclusively in Akkadian phonetic spelling and that the latter hardly ever permit an Akkadian reading. It would seem, then, that in Ugarit Svo was linked to Tu-ta-ti in content material (PNs) but not in didactic object: Tu-ta-ti focussed on *Akkadian* phonetic spellings, including those used in Akkadian PNs, while Svo focussed on *Sumerian* readings, viz. on the reading of words that are Sumerian. In this respect it is immaterial whether or not these words were originally a list of PNs. The early position of Svo in the curriculum shows that there was an early curricular emphasis on mastering the Sumerian language, which, in its written form, appears as the primary object of scribal education. After only one exercise with basic inventory of phonetic values in Tu-ta-ti, enabling the student to phonetically write Akkadian words, the next exercise, Svo, immediately confronted the student with the Sumerian language. As discussed in the previous paragraph, the fact that the sign combinations found in the element 2 slot in Svo are described by Akkadian equivalents (implying that these combinations were learnt in the same way that logograms were learnt in later series) and the fact that many of these sign combinations

[21] Ibidem, 30-1.

represent actual Sumerian words, lead to the conclusion that, empirically, they must be considered as logograms. This in turn means that, unlike Tu-ta-ti, Svo had the Sumerian language as its object. With respect to didactic method, however, Svo is actually a quite suitable continuation of Tu-ta-ti. This is due to the fact that it shares two important features with Tu-ta-ti: viz. both cover *basic signs* (i.e. frequently occurring signs) and both teach these signs in *patterned sequences*. Tu-ta-ti has patterned sequences that simultaneously repeat and contrast sound, giving the same consonant with various vowels (e.g. UM-AM-IM; UN-AN-IN_4[22]). Svo has patterned sequences that simultaneously repeat and contrast signs, giving one recurring sign in different combinations with other recurring signs (e.g. 017-26 IGI-BAR; BAR-IGI; IGI-IGI; IGI-IGI-IGI; A-IGI, A-IGI-IGI; ME-A; ME-NI; AŠ-NI; AŠ-UR).

Element 4 – the Akkadian equivalent

In the previous paragraph it was established that the sign combinations occurring in the element 2 slot in Svo empirically functioned as logograms - the mere occurrence of Akkadian equivalents suggested as much. However, individual relations between logogram content and Akkadian equivalent content throughout Svo can rarely be interpreted in terms of a straightforward translation. To investigate these relations it is important to first separate those relations which can be explained in terms of obvious associative mechanisms from those that cannot. Regarding the former group, the horizontal relations of the Akkadian interpretation to the logogram may be classified according to specific realization types:

1. Realization through a straight, one-on-one, translation of the logogram is not often found but it does occur. Examples: 001.06 ME-ME *parṣū mādūtu* ‘great rites’; 009.02 MAŠ-GAG=MAŠ.DÀ *ṣabītu* ‘gazelle’ and 016.02 LAL-LAL *tamṭītu* ‘shortage’.

2. Realization may occur through a translation of only one element of a multi-element logogram, resulting in a *pars-pro-toto* rendering of its meaning. Examples: 011.01 SI-GAG, where *qannu* ‘border; hem’ translates only the SI part of the logogram; 016.03 LÁ-LÁ, where *kurussu* ‘belt’ translates only one single LÁ sign and 038.04-5 ME-PI-ZU, where *lamādu* ‘to know’ translates only the ZU sign and *hasīsu* ‘ear; wisdom’ only the PI=ĜEŠTUG sign.

3. Realization may occur through a translation that applies to a logogram that is different than the one actually found, but with which there is a graphic relation. Example: in 080.01 the translation *ili bīti* ‘god of the house’ would be appropriate to AN-É=DIĜIR É, but is given for graphically related AN-GÁ - note that in this example the signs É and GÁ also have a shared semantic field ‘house’.

4. Realization may be through a translation that applies to a logogram that is different than the one actually found, but with which it shares a phonetic value. Example: in 006.01 the translation *šuqallulu* ‘to hang’ would actually be appropriate to LÁ-LÁ, but is given for phonetically related LU-LU.

5. Realization may be through a semantic association with the logogram. Example: in 039.01-2 NI-ZU=Ì.ZU is interpreted as *barû* ‘diviner’ and *mūdi šamnī* ‘expert of oils’: these are titles that refer to the professional association of scribe and diviner in the Emar school: the title Ì.ZU ‘junior scribe’ is frequently found in the colophons.

[22] Ibidem, 30.

6. The realization of the Akkadian interpretation may be based on an *Akkadian*, phonetic reading of the Sumerian logogram, in effect associating the logogram with an Akkadian word by reading it as an Akkadian phonetic sign. Example: in 015.02-5 the logogram BAR-BAR seems to trigger the interpretations *barû*, *barāru*, *itabruru* and *šutabruru* on the basis of no other association than through such a phonetic reading. It should be noted that on the few occasions that the logogram actually may be read as a 'real', i.e. conventionally written, Akkadian text, such a reading is mostly not obviously reflected in the Akkadian interpretation (e.g. 055.01 BAD-NI=*be-lí* is interpreted as *kal-ṣu* (?); 056.01 BAD-NI-HI=*be-lí*-DÙG as *gu$_5$-šu-ú* (?) and 091.01 AN-BA-NI=DIĜIR-*ba-ni* as ^{D}INANNA MUL).

In some cases a combination of more than one of the above listed realization types may be found - e.g.: the interpretation *ašarēdu* 'foremost' for MAŠ in 007.03 combines a *pars-pro-toto* reading (realization type 2) with a phonetic association (realization type 4) because the correct Sumerian form for the phonetic element /maš/ in this case would be MÁŠ and the correct complete Sumerian word would be MÁŠ.SAĜ.

Of course, the above realization types explain only a part of the many Akkadian interpretations of logograms in Svo, but, before looking at the other, unexplained associations, it is important to draw a conclusion from the preceding analysis: there is a variety of strategies to realize the Akkadian interpretation and there is no single guiding principle. It should also be noted that the same strategies may be found in certain other lexical series. As a matter of fact, by applying a multiple strategies Svo closely resembles an exercise that occurs next in the curriculum, viz. the SaV exercise. The multiple strategy approach sets aside both series from the thematic series: in the thematic series the relation between logogram and Akkadian interpretation tends to be *descriptive* rather than *analytical*. In the thematic series the role of the Akkadian interpretation tends to be limited to that of an auxiliary element: it is functionally restricted to the definition of meaning. In contrast, in Svo and SaV the Akkadian interpretation functions as an analytical tool: the Akkadian element is generally employed to investigate multiple aspects of the logogram and to explore its potential associations. While in Svo there remain many unexplained relations between logograms and Akkadian translations, in SaV the multiple-strategy analytical methodology shows itself in a very pronounced fashion: in the latter series *all* horizontal relations may be explained through multiple, interrelated association strategies. Further discussion of the analytical methodology will be given in the chapter dealing with SaV. What is obvious meanwhile, however, is that, in didactic terms, the teaching of investigative and associative skills for the interpretation of logograms is an aim common to both Svo and SaV, both of which are series that occur early in the curriculum.

With regard to those relations between logogram and Akkadian interpretation that remain unexplained in terms of obvious associative mechanisms, it may be expedient to resort to a descriptive rather than analytical approach. Before proceeding to such a description it should be noted that the lack of obvious explanation may be caused by the choice of research methodology rather than by particularities of the text. Because, if no obvious associative mechanism can be found, this implies either that there is no associative mechanism guiding these relations or that there exist such a mechanism, but it is not understood. It may be assumed that the first possibility is unlikely due to the fact that the unexplained relations covered by Svo text are not a random, isolated phenomenon in Emar alone, but rather a uniformly normative phenomenon in the LBA Periphery and beyond[23]. If it is not the

[23] Farber, 'Leitfaden', 126-8.

associative mechanism that is lacking, but rather modern understanding of it, than this lack could be explained by the limitations imposed by a synchronic approach. Indeed, the Svo text as found in Late Bronze Emar may be considered the result of a undoubtedly prolonged historical process. Therefore it may be that what remains unexplained in a synchronic investigation could be explained by a diachronic investigation (including further research into the link with the Creation Myth). It remains an open question as to what extend the ancient scholars were explicitly aware of such a now-lost associative mechanism. It should be born in mind what remains unclear in terms of present-day research may, in fact, have been perfectly clear for the ancient scholars, who had access to the oral tradition.

Proceeding to the description of the unexplained associations, it should be noted that in Emar, counting all entries including repetitions, there are in total 160 Akkadian interpretations preserved. Of these 62 may be explained in terms of the realization types given earlier. For 16 of the remaining 98 unexplained entries, the correct word has not been reconstructed (e.g. for 007.04 *gur-ru* and 012.03 *ki-i-la* the precise meanings are not known), which leaves unexplained 82 entries to be described. The most obvious method of their description is by a classification in terms of semantic field, as given in Table 3 below.

Table 3. Semantic classification of unexplained Akkadian equivalents in Svo

1. DNs: (e.g. 001.07 ^{D}GU.LA; 002.02 ^{D}NISABA; 003.02 ^{D}NÈ.ERI$_{11}$.GAL)	27
2. Professions: (e.g. 031.02 ^{LÚ}USANDU 'bird-catcher'; 052.01 *mākisu* 'tax collector'; 092.01 *šarru* 'king')	20
3. Other human qualifications: (e.g. 001.03 *sarru* 'liar'; 063.01 *mukinnu* 'witness'; 065.01 *muškēnu* 'bondsman')	10
4. Other categories (including various nouns, adjectives and verbs): (e.g. 008.02 *nūru* 'light'; 011.03 *ubbubu* 'cleansed'; 062.01 *arāru* 'to curse')	25

Without venturing into unsubstantiated speculations regarding the use of these categories in the case of individual logograms, commentary to the above findings will be limited to a few general observations. With regard to category 1, the DNs, it is obvious that DNs are frequently used as elements in the Mesopotamian onomasticon. The frequent use of this category in Svo strengthens the argument that the Svo logograms derive from (archaic) PNs. However, any attempt at a systematic combined reading of the attested DNs (i.e. the Akkadian element) with their equivalent logograms will not systematically yield readable PNs. With regard to categories 2 and 3, it seems unlikely that the professional titles and other human qualifications should themselves be read as PN elements (the Mesopotamian onomasticon generally includes few such elements)[24], but the fact should be noted that categories 2 and 3 have one common feature with category 1: all three categories have a human referent. Only the small group of various entries in category 4 does not have a strictly human referent, even in these cases, however, a human referent cannot be excluded. On balance therefore, Svo

[24] It could be suggested that, if the Svo 'logograms' were indeed originally PNs, then the professions and other qualifications may originally have referred to actual individuals. The ED 'Names and Profession Lists' (also known in Ebla) are known to give entries in a similar format. In theory, the Sal/Svo list may represent late version of an unknown pre-OB precursor, in which, at the formative stage, associations between professions and PNs was made with reference to actual individuals who united a given profession or quality with a given PN. Again in theory, such a list may have become part of the school curriculum, in effect 'freezing' specific profession-PN associations that became utterly irrelevant outside the original context. Due to the limited scope of this study and due to the lack of relevant *Vorlagen*, no certain conclusions regarding such a scenario are possible at this point. An alternative interpretation of the content of Sal/Svo is given in paragraph 14.1. of Part 3.

shows a preponderance of a human referent in the Akkadian equivalents. This in turn suggests that the content of the Svo logograms which these Akkadian equivalents refer to (as far as such content may be established), relates to the sphere of human qualities. Thus, the idea that Svo originally served to analyse (archaic) PNs may be compatible with the preceding statistical analysis.

1.2.2. Vertical organization

Horizontal ruling

In the Svo material horizontal ruling is used intermittently[25] and linked to the occurrence of logograms: it occurs only when a new logogram is given. Because each new logogram is only given once, irrespective of the number of Akkadian equivalents following it (a virtual logogram is apparently assumed for all but the first entry), horizontal ruling is an important instrument of vertical organization. It alone gives a formally explicit indication of the textual organization of the Svo text. This is quite unlike the situation in the other early lexical series, in which repeated logograms are always written out and in which horizontal ruling is therefore primarily an auxiliary compositional device. In fact, the situation in Svo regarding lay-out is reminiscent of that found in the later advanced lexical series (Nigga and Diri - cf. Organizational Table 4 in Part 1).

1.3. Vertical organization of content

Analytical approach

Both within the Emar corpus and in parallel attestations from other places and periods the Svo logograms show a very rigid inventory and sequence. Due to the problematic status of its logograms and the lack of variants the Svo text may be said to show a synchronically impenetrable traditionally-conventionally associated structure. As stated in the introduction, this study does not aim at a diachronic analysis of the content of the lexical series found in Emar. Therefore, generally it will not be attempted to analyse entry inventories and sequences that show traditional-conventional (i.e. text-historically determined) associations, such as found in Svo. Instead of an organizational analysis, however, a *structural description* of the Svo logograms may be given by applying the *key-sign* criterion. It should be noted that this description ignores the Akkadian equivalents[26] because key-signs are a feature particular to logograms and in Svo the relation between its 'logograms' and Akkadian equivalents is partially unclear. In any case, as the logogram is the core entry element in all other series and may be assumed to have the same status in Svo the proposed description will provide information relevant to the organization of that series. The main motivation for giving a structural description of the Svo 'logograms' is that this series shows many obvious key-sign sequences and that it is the task of this study to describe this feature for all of the series, even if the resulting description will not suffice to explain the entire organization of a given series. An additional reason is that data regarding the content organization of Svo are needed in order to allow for a meaningful comparison of all series in the curricular analysis. It should be emphasized that the following description of the Svo 'logograms' is only a partial description

[25] It should be noted that in T1 Arnaud's autographs show the horizontal ruling only in the logogram sub-column (the lines do not appear to extend into the Akkadian slot of the entry) - this does not change the fact that this ruling is *intermittent*.

[26] It should be noted that, unlike the overall logogram sequence in Svo, the secondary Akkadian sequences grouped under individual logograms show considerable deviations from those in the Ugarit version.

of its surface organization (viz. of the formal relations between entries) and that it does not explain its original concept (for a suggestion cf. 14.1.).

Patterned sequences - typology

Two types of patterns are found to recur in the vertical organization of the Svo logogram sequence. First, there are *key-sign sequences*. If a key-sign is defined as the single sign that recurs over the largest stretch of consecutive multi-element signs combinations, than there are about thirty sequences with such key-signs (note that some key-signs occur in more than place). Second, various strategies guiding the horizontal positioning of logogram elements are repeated throughout many consecutive entry-clusters, resulting in various *positionally patterned sequences*. Together, these two pattern types may be used to describe the whole text (cf. Table 4), even if these patterns do not everywhere overlap and do not explain all linkages between all sequences.

Regarding the key-sign sequences, it may be said their coverage of the text is almost complete. Occasionally they overlap (e.g. in 017-8 IGI-BAR and BAR-IGI the BAR key-sign, covering 014-8, and the IGI key-sign, covering 017-22 overlap) or have a graphic association (e.g. in 005-6 KU and LU), explaining the links between individual key-sign sequences, but frequently these links remain elusive.

Regarding the positionally patterned sequences, three distinct strategies of the positioning of key-sign vis-à-vis non-key-sign elements may be distinguished (there is a possible fourth patterning strategy but it is of doubtful status). *Reduplication* (1) is a strategy by which consecutive entries are linked by repetition of one element in each entry, irrespective of content. In most cases this element is the key-sign (e.g. the 001-6 reduplication sequence links five key-signs). *Reverse positioning* (2) is a strategy by which two consecutive entries are linked by a shared two-element content (of two equal or graphically related elements) and through a two-way presentational order of the elements involved (e.g. 031-2 A-PAP/PAP-A)[27]. *Extension* (3) is a strategy by which one or more elements in the entry take on an auxiliary role with respect to another element - this auxiliary role may be that of determinative (e.g. in 081 AN-KAL should be read ^{D}LÀMA), phonetic complement (e.g. in 082 and 084 -MA and -GA indicate that UD- should be read TAM respectively ZALAG) or declination suffix (e.g. in 074-6 –TA refers to the Sumerian ablative case: TÚL.TA, SILA.TA[28] and É.TA may be translated respectively as 'from the well', 'from the street' and 'from the house'). It should be noted that a possible fourth positioning strategy may be discerned in the *paradigmatic patterns* (4) found in entry pairs 009-10, 011-2, 025-6, 027-8 and 098-9. In these entry pairs the basic sign(-combination) remains the same and a recurring two-element paradigmatic set is added to it. The first paradigmatic set (p1) is GAG/NI, which is added to 009-10 and 011-2, and the second set (p2) is NI/UR, which is added to 025-6, 027-8 and 098-9 (for the latter also note the enigmatic entry 054 NI-UR-BA). It should be noted that the NI and UR entries of p2 are consistently linked to the masculine and feminine gender respectively: 025, 027 and 098 (-NI) are all entries referring to the masculine gender, while 026, 028 and 099 (-UR) all refer to the feminine gender[29]. Even if the content of these paradigmatic sets is not necessarily semantically distinctive the patterns they create are unmistakable. It should be noted that, unlike the key-sign sequences, which cover almost the whole text, all the types of positional

[27] For a commentary on the reverse writing in Svo cf. P.A. Beaulieu, 'An Excerpt from a Menology with Reverse Writing', *ASJ* 17 (1995) 1-14.
[28] Cf. Hh EST 2001 and 2003-4.
[29] Cf. Nougayrol, '"Vocalisés"', p.35 n.56.

sequences together only cover about half of the Svo text: for many entry sequence no common positional strategy may be detected. This means that positional strategy was apparently of secondary importance in the organization of Svo.

Table 4. Svo patterned sequences

EST	Logograms *italics* – graphic association ruling – sequential discontinuation (i.e. simultaneous absence of key-sign and positional sequence)	Key-sign sequences	Positionally patterned sequences red reduplication rev reverse position pairs ext extension as: - dt - determinative - pc - phon. complement - cx - case suffix - px - pronominal suffix p1-2 - paradigm. pattern
001	ME-ME	-	red
002	PAP-PAP	-	red
003	A-A	A	red
004	A-A-A	A	red
005	*KU*-KU	-	red
006	*LU*-LU	-	red
007	MAŠ	MAŠ	-
008	MAŠ-MAŠ	MAŠ	red
009	MAŠ-*GAG*	MAŠ	p1 (gag)
010	MAŠ-*NI*	MAŠ	p1 (ni)
011	SI-*GAG*	SI	p1 (gag)
012	SI-*NI*	SI	p1 (ni)
013	SI-A	SI	-
014	U-BAR	BAR	-
015	*BAR*-BAR	BAR	red
016	*LÁ*-LÁ	-	red
017	IGI-BAR	BAR/IGI	rev
018	BAR-IGI	BAR/IGI	rev
019	IGI-IGI	IGI	red
020	IGI-IGI-IGI	IGI	red
021	A-IGI	IGI	-
022	A-IGI-IGI	A/IGI	red
023	ME-A	A/ME	-
024	ME-NI	ME/NI	-
025	AŠ-NI	NI/AŠ	p2 (ni)
026	AŠ-UR	AŠ	p2 (ur)
027	NUN-NI	NUN	p2 (ni)
028	NUN-UR	NUN	p2 (ur)
029	A-*KU*	A	rev
030	*LAGAB*-A	A	rev
031	A-PAP	A	rev
032	PAP-A	A	rev
033	A-AN	A	rev

034	AN-A	A	rev
035	KUR-BA	KUR	-
036	KUR-U-TA	KUR	-
037	ME-ZU	ZU	-
038	ME-PI-ZU	ZU	-
039	NI-ZU	ZU	-
040	A-ZU	ZU	-
041	ZU-*ZU*	ZU	red
042	NI-*BA*	BA	-
043	NI-BA-BA	BA	red
044	A-BA	BA	-
045	A-BA-BA	BA	red
046	BA-BA	BA	red
047	BA-BA-A	BA	red+pc (BA.A)
048	BA-ZA	BA	-
049	BA-ZA-ZA	BA	red
050	NI-A	NI	rev
051	A-NI	NI	rev
052	TAB-NI	NI	ext - px (.NI)
053	KASKAL-NI	NI	ext - px (.NI)
054	NI-UR-BA	NI	p2 (ni-ur)
055	BAD-NI	NI/BAD	-
056	BAD-NI-HI	NI/BAD	-
057	GIŠ-*BAD*	BAD	-
058	*NU*-NU	NU	red
059	A-NU	NU	-
060	SAG-TAR	SAG	-
061	SAG-TAR-DA-A	SAG	ext - pc (KUD.DA.A)
062	SAG-AN	SAG	-
063	SAG-AN-TUK	SAG	-
064	SAG-KUR	SAG	-
065	SAG-KUR-TA	SAG	ext - cx (KUR.TA)
066	TAR-DA	TAR	ext - pc (KUD.DA)
067	TAR-DA-A	TAR	ext - pc (KUD.DA.A)
068	GABA-GABA	GABA	red
069	GABA-GABA-A	GABA	red+ext - pc (GABA.A)
070	NIN-GABA	GABA/NIN	-
071	NIN-EZEN	NIN	-
072	NIN-SUKKAL	NIN	-
073	NIN-SUKKAL-AN-KA	NIN	-
074	TÚL-TA	TA	ext - cx (TÚL.TA)
075	TAR-TA	TA	ext - cx (SILA.TA)
076	É-TA	TA/É	ext - cx (É.TA)
077	É-TAR-DA	É	ext - pc (KUD.DA)
078	AN-DÙL	AN	-
079	AN-AN-DÙL	AN	red
080	AN-*GÁ*	AN	-
081	AN-*KAL*	AN	ext - dt (^{D}LÀMA)
082	UD-MA	UD	ext - pc (TAM.MA)
083	UD-UD-MA	UD	red+ext - pc (TAM.MA)

084	UD-GA	UD	ext - pc (ZALAG.GA)
085	UD-UD-GA	UD	red+ext - pc (ZALAG.GA)
086	AN-GÀR	AN	rev
087	GÀR-AN	AN	rev
088	AN-*ÁŠ*	AN	rev
089	*KU*-AN	AN	rev
090	AN-BA	AN	-
091	AN-BA-NI	AN	-
092	AN-NI	AN	-
093	AN-NI-ZU	AN	-
094	HI-GA	HI	ext - pc (DÙG.GA)
095	HI-HI-GA	HI	red+ext - pc (DÙG.GA)
096	ME-HI	HI	-
097	ME-HI-GA	HI	ext - pc (DÙG.GA)
098	IGI-BA-NI	IGI	p2 (ni)
099	IGI-BA-UR	IGI	p2 (ur)
100	HU-HU	HU	red
101	HU-BA	HU	-
102	HU-UR	HU	-
103	HU-RU	HU	-
104	AN-Ú	Ú	-
105	Ú-A	Ú	-
106	Ú-TA	Ú	-
107	PA-PA	PA	red
108	PA-GÁ	PA	ext - pc (LÚĜ.ĜÁ)
109	PA-PA-GÁ	PA	red+ ext - pc (LÚĜ.ĜÁ)
110	A-A-UR	UR	-
111	AN-UR	UR	-
112	NI-NI / NI-HI-GA	NI	red / ext - pc (DÙG.GA)
113	NI-NI-A	NI	red
114	NI-NI-NI	NI	red
115	NI-NI-NI-A	NI	red
116	AB-BA	AB-BA	-
117	AB-BA-MU	AB-BA	ext - px (.MU)
118	AB-BA-NI	AB-BA	ext - px (.NI)
119	AB-BA-A	AB-BA	ext - pc (BA.A)
120	AB-BA-IRI	AB-BA	-
121	IGI-SU_4	SU_4	-
122	SU_4	SU_4	-

The two sequence patterns partially overlap and show a partial complementary use in the vertical organization of content. Where the transition of one key-sign sequence to the next cannot be explained in terms of overlapping key-signs or graphic association, sometimes the transition may be explained in terms of a continuum in positional strategy (e.g. the transition from the key-sign sequence A in 003-4 to the key-sign sequence KU/LU in 005-6 is explained through the positional sequence 001-6, based on reduplication). Vice-versa, with the secondary role of positional strategy, key-sign strategy is found to frequently explain the coherence of sequences when positional strategy is absent (e.g. for the entry sequence 070-4 a positional strategy is lacking, but the sequence is explainable in terms of key-sign strategy through the overlapping key-words GABA and NIN). Even so, after combining the two types of sequence patterns, about twenty key-sign transitions remain elusive (indicated in Table 4 by rulings in the logogram section). This implies that some additional principle(s) must have played a role in determining the organizational structure of the text. In this respect it should be noted that some key-signs are found in more than one sequence (e.g. A occurs in 003-4 as well as in 029-34 and NI occurs in 050-6 as well as in 112-5), confirming that the traditional-conventional sequence of Svo involved not just patterned repetitions *within* clusters of entries with common key-signs but also *between* such clusters. In other words, there are patterns in the recurrence of key-signs throughout the text. In the Svo text techniques of what may be termed 'variations on a theme' were thus activated on more than one level. In view of the observed reduced semantic content and in view of Svo's early curricular position, it may be suggested that exercising with patterned sequences, through variation techniques, was considered more important than any semantic coherence in the resulting complete text. In the next paragraph this will be investigated by analyzing the patterned sequences in terms of curricular functionality.

Patterned sequences – curricular functionality

In terms of *key-sign sequences*, Svo may be said to be both too complicated and too easy as an early exercise. On the one hand it is too complicated because, theoretically, patterns around a given key-sign are primarily aimed at exploring the potential contexts of the key-sign in question, which requires analysis in terms of compounding techniques that are only perfected in the later stages of the lexical curriculum, viz. in the advanced series. Such an approach would not only be premature in terms of method, but also in terms of content because the actual (logographic) values of the signs used were not yet taught to the beginning student. Only in one of the following exercises, SaV, is the student systematically instructed with regard to sign values - in fact, almost all signs covered by Svo are extensively revisited in SaV. On the other hand, Svo is too easy an exercise because it does not systematically link Sumerian logograms to Akkadian vocabulary. Among the Sumerian entries many are 'empty' of (directly relevant) logographic meaning. Also no consistent relation is established between the Sumerian and Akkadian entries: the repetition of key-signs in consecutive sequences provides writing practice rather than instruction in the properties of these signs. However, this combination of a simultaneous surplus and shortage in complexity only refers to the *content* of Svo. The main use of Svo, in terms of key-sign sequences, seems to have been in its function as an exercise in key-sign *form and potentiality*. The student was introduced to the way key-signs can be used in the vertical structure of the lexical list by learning what kinds of combinations with a given key-sign are possible and how they may be presented in a word lists. He was also taught how vertical structure interrelates with horizontal structure by recognizing the ways in which these different combinations can affect the Akkadian equivalents.

In terms of *positionally patterned sequences*, Svo teaches many techniques that are relevant for writing Sumerian. The repetition of positioning strategies in multiple entry sequences shows that Svo was used with the explicit goal of teaching the writing and composition of Sumerian words and phrases. The strategies distinguished earlier, will now be discussed and provided with examples.

Regarding sign *reduplication* (1) it should be noted that in Sumerian writing reduplication codes aspects of nominal declination and verbal conjugation and that Svo often gives explicit information in this regard in the Akkadian translations (e.g. in 005.06 ME-ME is given the appropriate plural nominal form *parṣū* (*mādūtu*) '(great) rites' and in 005.02 KU-KU is given the appropriate Ntn Inf form *itaddû*). Even in those cases where Svo matches reduplicated logograms with inappropriate Akkadian *conten*t, it often still manages to do so in the appropriate *form* (e.g. in 015.03-5 BAR-BAR is wrongly translated with the verb *barāru*[30] 'to sparkle', for which the correct logogram is UR_4, but this verb is still given in forms that are appropriate to the reduplication and in 016.01 LÁ-LÁ[31] is wrongly translated with the noun *ukû* 'shuttle' but the fact that this noun is rendered with a reduplicated sign is an appropriate formal reference - the correct logogram is BAR.BAR).

Unlike reduplication, *reverse positioning* of signs (2) does not seem to teach a strategy used in the composition of Sumerian words or phrases. However, it is a fact that there are various attestations of reverse writing in cuneiform documents[32]. Alternative directions of writing, common in archaic texts, are also occasionally found in later periods (and do not necessarily imply cryptography)[33]. It is therefore conceivable that the reverse positing of signs was practiced in Svo not because it was relevant to Sumerian composition, but because it was relevant to cuneiform writing generally, viz. because it served to make the student aware of the existence of alternative writing directions. One indication that this may indeed have been the case is the fact that for a number of reverse positioned pairs the Akkadian equivalents cover the same semantic field, implying that both sign orders were to be interpreted with reference to the same reading (e.g. for both entries 033-4 A-AN/AN-A the Akkadian equivalent DIĜIR.MEŠ is given[34] and for both entries 086-7 AN-GÀR/GÀR-AN the Akkadian equivalents, respectively *mūtu* 'death' and *mutānu* 'plague', share the same etymology and semantic sphere).

For sign *extension* (3), there is clear evidence that it served to teach Sumerian word and phrase composition (relevant examples were given previously). In this respect the Svo list introduced vital techniques to the beginning student: determinatives, phonetic complements and affixation are some of the basic ingredients needed for the composition of Sumerian words and phrases.

[30] Note the phonetic match BAR-BAR = *barāru*.
[31] Note that LÁ is graphically close to BAR and that 016 LÁ-LÁ shows up as an interpolation in the key-sign sequence with BAR, covering the other entries 014-18.
[32] Beaulieu, 'Reverse Writing' - the Sal and Svo material is referred to on pp. 7-9.
[33] Beaulieu, 'Reverse Writing', 3.
[34] Also note that the equivalent *zanān šamê* 'heavenly rain' is given for 034(.01) AN-A instead of the correct equivalent, which is the reverse written A-AN(ŠÈĜ): this indicates that AN-A was supposed to be read as referring to A-AN.

1.4. Curricular position

In the analysis of horizontal organization, it was found that, with respect to its method of presenting logograms, Svo was a quite suitable continuation of Tu-ta-ti (both exercises covered basic signs and both taught these signs in patterned sequences). Also, the teaching of various investigative and associative skills for the interpretation of logograms, through exploration of various horizontal associative mechanisms, was found to be an approach common to both Svo and SaV - series that both occur early in the curriculum. In short: the horizontal realizations of logogram content and inter-element association show the curricular functionality of Svo as an introductory exercise.

In the analysis of vertical organization the use of horizontal ruling in Svo was found to deviate from that in other early lists. From a didactic standpoint, it may not have been a coincidence that the lay-out of Svo, the earliest list in Emar, closely resembles that of the most advanced lists, viz. Nigga and Diri. The fact that the student's earliest lexical list was given in the presentational form of the most advanced lists is not surprising because one of the purposes of Svo seems to have been to acquaint him with the lexical list format in general. As long as a general introduction, rather than training in one specific aspect of cuneiform writing, was the aim, the specific format presented by Svo might as well be that of the most advanced lists in the curriculum - in effect, the student was shown what format he was working towards. In the analysis of vertical organization of content several features suggested that, in terms of curricular functionality, Svo offered an exercise that is didactically suited to serve as an introduction to the lexical curriculum in general. On the one hand, key-sign sequences were shown to be implicitly geared to training the student to recognize both the potential function of key-signs and the presentational form of the lexical list in general. The student was effectively introduced to the workings of horizontal and vertical structure in lexical lists, proceeding from the notion that key-signs, and by extension logograms in general, determined their organization. On the other hand, the positional entry sequences were shown to be geared to introduce essential aspects of cuneiform writing and Sumerian word and phrase composition. Again extending the notion of introductory functionality, it should be noted that Svo also introduced aspects of Sumerian word and phrase composition by other means. A fair number of individual logograms in fact implicitly introduce additional compositional techniques, such as Izi-compounding (e.g. 009 MAŠ-GAG = MAŠ.DÀ through 009.02 = *ṣabītu*), Diri-compounding (e.g. 033 A-AN = ÈR through 034.01 = *zanān šamê*) and even sentence construction (e.g. 063 SAG-AN-TUK a phrase similar to the administrative terminology found in Hh 1 - cf. EST 1061-3).

On balance, it may be proposed that in content, form and organization Svo was a suitable didactic tool in the early stage of the lexical curriculum. Methodically it concentrates on familiarizing the student with his material and introducing some of the various analytical skills needed. In terms of knowledge content the goals of Svo seem to have been limited. Through the logograms a limited number of mostly basic signs were drilled without necessarily linking them to a set of relevant Akkadian readings. The amount of Akkadian learnt was also limited: many logograms have only a single Akkadian equivalent (e.g. all logograms from 047 to 057) and many equivalents are repeated for more than one logogram (e.g. the recurrent *barû* and *mūdī* entries in 038-41). The fact that, on balance, the Akkadian equivalents in Svo show a statistic preponderance of divine and human referents, possibly related to an archaic onomastic nature of the composition, which may indicate that its content inventory was semantically coherent. However, the established curricular (viz. introductory) functionality may be considered as a synchronically more relevant feature of the Svo exercise.

Summary

1.1. Material – tablet inventory and typology:

1. The attested material includes two Type I tablets as well as a few fragments, some of which are incompatible with the two reconstructed tablets.

1.2. Formal features:

1. Vertical ruling organizes text lay-out primarily to provide columns and secondarily to provide slots for the various elements found in the horizontal entry.
2. The horizontal organization in terms of the Civil-code is 2-4.
3. The sign-combinations occurring in the element 2-slot have the empiric function of logogram, even if their actual use outside of the context of Svo is sometimes unattested.
4. The logograms in Svo share important didactic features with the entries of Ugarit Tu-ta-ti: both cover only basic signs and both teach signs in patterned sequences.
5. The relation between the logograms and the Akkadian equivalents has only been explained for about 40% of the cases. In these cases it has been found as realized in a number of ways. The realization of that relation as a straightforward translation of the former into the latter is found only quite rarely. The unexplained relations may be classified in semantic categories and then analysed statistically. On balance, most Akkadian equivalents, explained as well as unexplained, may be said to have a human referent (professions, qualities etc.), which is compatible with the thesis that Svo originally referred to (archaic) PNs.
6. In providing multiple realization types in the relation between logograms and Akkadian equivalents, Svo deviates from the advanced series but closely resembles SaV, which also occupies an early place in the curriculum.
7. Horizontal ruling is intermittent and is related to content. It groups Akkadian equivalents according to the logogram they belong to – the logogram itself is not repeated ('virtual logograms'). In this respect, Svo deviates from the other basic sign lists but conforms to the advanced series Nigga and Diri.

1.3. Vertical organization of content:

1. The overall logogram sign sequence in Svo may be described in terms of two types of partially overlapping and complementary patterned sequences: key-sign sequences and positionally patterned sequences. The first type covers almost the whole text. The second type only covers parts of the text and within it three main strategies regarding sign sequencing may be detected: reduplication, reverse positioning and extension.
2. The positionally patterned sequences detected in the overall logogram sequence may be interpreted as functional in terms of the curriculum: the key-sign sequences serve to acquaint the student with the structures and mechanisms occurring in lexical texts in general and the positional sequences teach aspects of writing and composition of Sumerian words and phrases.

1.4. Curricular position:

1. The formal and organizational comparison shows that Svo was a didactic tool that was eminently suitable to the early stage of the lexical curriculum. It is focussed on introducing the student to the lexical list and its methodology generally, rather than on imparting specific or substantive knowledge content.

CHAPTER 2 - THE SYLLABARY A FORMAT SERIES

2.0. The S^a-format series in Emar

The various S^a-format series[35]

In Emar there are three series that are structured around the S^a key-sign inventory: due to their common structure they will here be referred to as the S^a-format series. Two of these are unilingual, viz. Syllabary A (Sa, series 2.2.), which merely gives a one-column listing of the key-signs, often repeated a number of times, and Syllabary A Palaeography (SaP, series 2.3.), which is similar to Sa but adds a second sub-column with (often multiple and varying) palaeographic sign forms. The third series is bilingual Syllabary A Vocabulary (SaV, series 2.1.), which adds other elements (glosses, sign names and Akkadian equivalents) to the Sa entries. In Emar SaV is attested in two versions: a short and a long version. The latter generally has a much larger number of Akkadian equivalents, resulting in a much longer list. This expanded version has only been found for the first part of SaV. In terms of curricular order it seems likely that SaV preceeded Sa because the repetition of key-signs in Sa presupposes knowledge of multiple values, which is taught in SaV: effectively, Sa is an shortened, advanced version of SaV. SaP in turn seems to presuppose familiarity with Sa as it would be didactically appropriate to give palaeographic variant forms only after giving the contemporaneous forms, which are provided by SaV and Sa. As far as possible, the three S^a-format series need to be analysed separately to account for their particular formal and organizational features, which are related to different use within the wider curricular context.

The S^a-appendices[36]

On both the SaP and SaV tablets the respective main exercises are consistently followed by additional exercise material that is only partly attested elsewhere. This additional material is divided in two sections that occur as fixed-position appendices (the term 'appendix' follows the usage of van Soldt, *SAU*, 750-1 for the parallel material in Ugarit). Appendices 1 and 2 are listed as separate lists (2.4. and 2.5. respectively) in the series inventory of this study, but this is solely for convenient reference because they do not actually have equal status as independent series. Because of the value of the Emar material in respect of these appendices (only in Emar are they almost completely preserved) and because study of them has been relatively neglected in the literature to date, two extra paragraphs (2.4. and 2.5.) with a short discussion of their form and content will be added after the analysis of the SaP and SaV texts.

[35] Cf. the comparative analysis of the LBA peripheral material in Gantzert, 'SLT 1' (forthcoming).
[36] Cf. the comparative analysis of the LBA peripheral material in Gantzert, 'SLT 2' (forthcoming).

2.1. Syllabary A Vocabulary

2.1.1. Text corpus – tablet inventory and typology

The attested SaV material consists of four Type I tablets and a few fragments. The first two tablets (T1-2) originally contained the complete SaV text, written in five columns on each side of the tablet (on both tablets the last part of column X has Appendix 1). The other two tablets (T3-4) originally contained a strongly expanded version of the first part of the SaV text, written in four columns on each side of the tablet. The fact that only about the first quarter S^a key-signs (PST 001-058) fits on these latter two tablets, shows the extend of the expansion. It is remarkable that no further tablets, covering the later S^a key-signs, are attested for the expanded version. There are also no extract tablets. The few fragments, edited separately, likely belong to one of the expanded-version tablets but lack direct joins.

2.1.2. Formal features

2.1.2.1. Horizontal organization

Vertical ruling

Vertical ruling serves to provide the lay-out of the text with columns and sub-columns. In T1, T3 and T4 there are three such sub-columns, creating slots for respectively the gloss (preceded by the line marker), the logogram and the Akkadian equivalent. In T2 there are only two sub-columns: the slot for the gloss is omitted because no glosses are given (the sole exception is discussed in 2.1.2.2) - the line marker immediately precedes the logogram.

Entry element inventory

All five of the regular elements of the lexical lemma may be found in the combined corpus of SaV material, but their distribution is not equal in the different tablets. There are two main discrepancies within the material. First, the short-version tablets (T1-2) lack the sign name element provided by the long-version tablets (T3-4). Second, T2 lacks the gloss element. It should be noted that when (long-version) tablets provide the sign name element, this element always occupies the same slot as the gloss (in other words, the gloss slot of position 2 may either contain a real gloss, such as in T4 III 3'' and 5'', or a real sign name, such as in T4 III 5'-9'). Often the position 2 slot occupies a full horizontal line, preceding the logogram on the next line (e.g. T4 VI 1). In no case is the 'correct', canonical use of position 4 as the sign name slot found in Emar SaV.

Element 0 – the line marker

The only attested Emar series that use the line marker (the DIŠ sign, indicated with a ¶ marker in transcription) is SaV. Line markers are even omitted in the otherwise closely related Sa and SaP texts. All SaV tablets consistently use the line marker throughout the whole lexical text they contain, i.e. including the SaA1 text that follows the regular S^a key-sign entries. The name 'line marker' has been chosen because this marker introduces each single line - it does not indicate a lemma or entry because it also occurs before each single line when one entry is spread over more than one line of the text (e.g. in T4, where the sign name is given in one line and the rest of the entry in a second). The fact that element 0 is not related to individual entries means that, at least in the Emar corpus, it is actually *not an entry element*. The fact,

however, that in SaV only the lines of the lexical text and not those of the colophon are introduced by the line marker indicates that this marker must have been considered functional specifically in the context of the SaV exercise, and only there. The obvious value of these markers is that they allow easy counting of the number of lines[37], but if that was their purpose than it was apparently only felt in respect to SaV and not to many other (including more basic) texts with similar numbers of lines but without line markers. If so, this would imply that the number of lines was somehow especially important with regard to the SaV exercise[38].

Element 1 – the gloss

One of the basic functions of SaV as an educational tool is to teach the polyphonic values of the S^a key-sign inventory, an inventory that covers many of the signs that are most frequently used in cuneiform writing. Mastering the various phonetic realizations of the S^a key-signs was a fundamental step in the early education of apprentice scribes. The means by which knowledge of the various phonetic values was expressed in writing the SaV exercise was the inclusion of pronunciation glosses. The absence of regular glosses in T2 is therefore a-typical and invites closer inspection. The only gloss that this tablet contains is $^{\text{mu-ia}}$ for MU=*e*□*-lu*$_4$, an interpolation theoretically following PST 190 ŠUL, not actually found in T1. If it is assumed that glosses are only given for signs that are new to the scribe at any given stage in their schooling, which is what the curriculum shows (e.g. Hh only gives glosses for signs that were not glossed in earlier series), than it must be assumed that this single gloss $^{\text{mu-ia}}$ has is the only phonetic value not familiar to the student that wrote this text (note that this gloss may interpret MU with its value IA$_5$[39]). In that case T2 was written by an advanced student, who reproduced the SaV exercise without glosses[40].

Concerning the glosses it should be noted that their application of glosses was not a straightforward matter - any discussion of these 'glosses' should be made with a number of caveats in mind. In this regard, a short analysis of the many glosses provided by T1, T3 and T4 allows the following observations:

1. The glosses tend to be given in a spelling that seems to partly deviate from the reconstructed phonetic values of modern Assyriology (e.g. 048.03 $^{\textbf{ti}\text{-kar}}$ for AN=**D**IĜIR, 076.02 $^{\text{šu-}\textbf{te}}$ for ŠID=ŠU**DU**M, 156.01 $^{\textbf{bi}\text{-ru}}$ for DAG=**PÀ**R). Two factors that may contribute to such discrepancies are actual (hearing) 'mistakes' by the student and dialectically determined conventions regarding the graphic rendering of phonemes. However, the possibility should not be excluded that some spellings may reflect a glimpse into a now lost oral tradition in which, in the circles of the learned, at least some Sumerian phonetic particularities were preserved that are not otherwise seen in writing[41]. One case in which a seeming inconsistency certainly reflects such an oral tradition is the double gloss 038.02/03 $^{\textbf{k}\text{e-eš}}$ / $^{\textbf{n}\text{é-eš}}$ for GIŠ=**Ĝ**IŠ (reflecting the /ĝ/ phoneme).

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[37] Civil, M., 'Ancient Mesopotamian Lexicography' in: J.M. Sasson (ed.), *Civilizations of the Ancient Near East* IV (New York 1995), 2308.

[38] Perhaps a particular need was felt to quantify the amount of knowledge mastered by pupils - given the limited number of S^a key-signs, SaV does indeed offer an opportunity for the objective 'measuring' of knowledge, viz. by counting the number of phonetic and semantic associations recalled.

[39] Suggestion by Prof. van Soldt (personal communication).

[40] A similar omission of the gloss by more experienced students is noted for (non-Nippurian) PEa texts (MSL 14, 4). Parenthetically, it may be noted that SaV T2 has a uniquely worded colophon which could be interpreted as specifying the day it was written. It is attractive to speculate that *šakānu* is to be read contextually as 'to submit', viz. in terms of an 'examination' (note, however, that some of the colophon text is broken).

[41] Cf. M. Civil, 'The Sumerian Writing System: Some Problems', *OrNS* 42 (1973) 29-30.

2. The glosses mostly do not give a complete rendering of the Sumerian words behind the logograms. Many glosses give the abbreviated form of the full phonetic form of the key-sign they precede (e.g. 005.09 ^{ki} for HAR=KÍN, 016.02/04 ^{šu} for RU=ŠUB, 033.02 ^{te} for GIM=DÍM). Conversely, some glosses offer a longer phonetic form than seems to be called for (e.g. 011.04 $^{ti\text{-}gil}$ for NI=DIG, 141.04 $^{ni\text{-}in\text{-}ni}$ for NÍG=NIĜ, 205.02 $^{i\text{-}še}$ for ŠÈ=ÉŠ). These systematic deviations seem to indicate that the function of the gloss was to serve as an indication of phonetic content rather than as a complete phonetic rendering of Sumerian vocabulary. The abbreviations may have been intended as mere reminders and the enlarged forms may be conventional terms to describe signs rather than phonetic values.

3. Some glosses are not appropriate to the specific entry they occur in, i.e. the phonetic value they suggest does not match the Akkadian equivalent (e.g. 014.02 $^{tu\text{-}uš}$ for KU=ŠÈ=*ana*, 045.13 ^{mah} for IGI=IGI<.DU>=*ašarēdu*, 046.04 ^{šar} for HI=HI<.HI>=*berqu*). These mismatches are likely to indicate student mistakes but show interesting insights into the associative context in which they occurred. In 014.02 $^{tu\text{-}uš}$ is one of the values of KU(TUŠ) but it is not placed in the correct line, as is the case for ^{šar} in 046.04, which is one of the values of HI(ŠÁR). These mistakes may imply that at this point the student concentrated more on the phonetic inventory than on meaning. It is conceivable that the audible, phonetic aspect, which the student got right, had (initial) priority over the semantic aspect, which he got wrong. In 045.13 ^{mah} for IGI seems to reflect some kind of Akkadian interference by referring to IGI=*mahāru* (< IGI=*mahru*) in 045.12, the preceding entry in T4. The fact that ^{mah}, a non-existent value for IGI, is added as a gloss may reflect the use of a gloss as a didactic tool to assist in the assignment of Akkadian equivalents.

4. The long-version tablets seem to have two types of glosses. Apart from regular, phonetic-descriptive gloss there seems to be a second type of gloss with what could be described as doubled analytical content. Of this apparent second type there are two series attested, one in T3 (VIII' 16'-18') and another in T4 III 5'-9'. The first series provides the key-sign DU with three glosses: $^{ša\text{-}ra}$, $^{ki\text{-}in\text{-}na\text{-}ra}$ and $^{ku\text{-}up\text{-}pa\text{-}ra}$. The most obvious interpretation of these glosses would be DU=ŠA$_4$/RÁ, DU=GIN/RÁ and DU=GUB/RÁ respectively, giving three different, individual readings of DU in combination with one shared reading of DU as the compound verbal element RÁ ('to address'). No solid confirmation of these interpretations can be found in the Akkadian equivalents. Of those, only the first two are readable and of these only the second (*ra-ṣa-pu* 'to pile, build up') seems to share some of its semantic field with that of the postulated Sumerian logographic counterpart (GIN 'to establish'). Neither, however, do these Akkadian equivalents exclude the suggested interpretations - throughout SaV the relations between the Akkadian element, the gloss-element and the logogram element are consistently unstable. The second attested series seems to provide the key-sign NI with the three glosses $^{li\text{-}i\text{-}ú}$, $^{za\text{-}li\text{-}i\text{-}ú}$ and $^{ti\text{-}gil\text{-}li\text{-}i\text{-}ú}$ (5'-7'). Next, there follow two lines (8'-9') that are likely to refer to the compound logogram NI-NI and that also have elements preceding the logogram: $^{šu?\text{-}i\text{-}ú}$ and i-li mi-na-bi respectively. The first of these elements looks like a gloss (the ending $^{–i\text{-}ú}$ indicates continuity with the preceding gloss entries) but the second is a regular sign name. The most obvious interpretation would be to follow the parallel text of T1 and read the first three entries as NI=LÉ, NI=ZAL/LÉ, NI=DIG/LÉ. The fourth entry may reflect NI=SÚŠ but that does not take into account the fact that the actual logogram is likely to be N[I-NI], a likelihood due to the horizontal ruling that lumps in line 8' with line 9' (i-li mi-na-bi). Again, the Akkadian is of limited use (*ši-*, perhaps for *šêmu*) in 6' but otherwise broken). Nevertheless, a pattern seems to arise when the glosses under discussion in T3 and T4 are compared. In both series there is a double content that is constructed by prefixing an individually distinctive element to a shared

and stable reference element. Such double content, in effect, allows a double identification of the logogram. If such double identification is indeed intended in these glosses, they could be regarded as a *hybrid gloss-annex-sign name element* - they contain variable phonetic component as well as a shared identification component. The postulated hybrid state of these glosses would be line with their position in the double-duty second slot, which is where, in the other SaV texts, glosses as well as sign names are located.

Element 3 – the sign name

The sign name, the third element of the entry counted by the Civil-code, will be treated *before* the logogram, the second element. The reason for this is that in Emar, where the sign name occurs relatively rarely, it occupies the slot before the logogram, sharing it with the gloss, the second element in the entry. There are relatively few sign names preserved for the SaV material because large parts of the long-version tablets T3 and T4, the only tablets that systematically provide them, are broken. Only one sign name is found in the short-version tablet. All attested sign names are included Table 5, which separates them from the glosses that precede them and clarifies their structure. Note that additional synchronic and diachronic comparative analysis of the Emar sign names may be found in the study by Gong ('Namen der Keilschriftzeichen').

Table 5. Analysis of the gloss/sign name combinations in SaV

Tablet	PST	Logogram	Gloss	Sign name (**bold** = 'in-written' element)
T1	159	KÁ-GAL(*abullu*)	a-bu-ul	a-ga[43]-gal-la-ak-ku
T3	057	DÙL(SUMUR)	šu-mur	šag gu-nu-u
T4	011	NI-NI(*ì-lí*)	-	i-li mi-na-bi
	int(4)	PÀD-DA	pa-da	i-[gu$^{?}$]-šup-pa-ak-ka[44]
	039a	GÁxNÍG(ĜALGA)	ga-an-ga	ša bi-ši-ga-ak-ku **ninda^{da}** min
	039b	GÁxME.NA(!ÈRA=DÁN)	tu-un-na	min **me-na** min
	039c	GÁxÁŠ(GAZI)	ka-za	min **te-eš-ša** min
	039d	GAxPA(SILA$_4$)	si-la	min **ki-iš-□u-ra** min
	039e	GÁxŠE(ÉSAG)	[…]	[min **e]-ia** min
	039f	GÁxNIR(ÙR; *gušūru*)	gu-šu-ur	na-an **nir mi-na-bi**[45] min
	039g	GÁxLI	ú-ia	ša bi-ša-ga-ak-ku **li-la**[46] i-ku-ub
	043a	IRIxIGI(!ĜIŠGAL)	na-aš-gal	ša e-ri-ak$^{!}$-ku **i-gu** i-ku-ub
	049	NAB	na-ab	[a-na] mi-na-bi$_4$
	050	MUL	mu-ul	a-na eš-ša-bi
	int(9)	GUR$_5$(IRIxGU)	ib-bi 42	ša ú-ra-[ak-ku **gu-ga** i-ku-ub][47]

In T3 and T4 the entries that have sign names are generally given in two lines: in the first line are given both the gloss and the sign name, in the second follow the logogram and the

[42] Note that the Akkadian equivalent *uqquru* means 'cripple' and that the sign name ib-bi seems to refer to IB 'hips', allowing a simultaneous semantic association with both preceding 051.04 HAL 'thigh' and following 052.01 UR=*awilu* 'man'.

[43] Cf. Y. Gong, 'Die mittelbabylonische Namen der Keilschriftzeichen aus Hattuša und Emar', *RA* 85 (1995), p.56 n.41.

[44] Interpretation by Gong, 'Namen der Keilschriftzeichen', 57.

[45] Cf. Gong, 'Namen der Keilschriftzeichen', 52.

[46] Ibidem, p.55 n.34.

[47] Ibidem, 57.

Akkadian equivalent. Only the element i-li-mi-na-bi (011a.01 in T4 III 9'), the terminology of which (viz. the use of the term mi-na-bi to express doubling of a graphic element) indicates that it is a sign name, does not seem to fit this rule. It should be noted that, although gloss and sign name share the same slot before the logogram, the gloss consistently precedes the sign name. If the long-version SaV texts have indeed two types of gloss, as was suggested earlier, then there is common ground between these two types: phonetic information consistently precedes other information about the sign. In the entries which have both regular glosses and sign names, listed in Table 5, the gloss always precedes the sign name and in the entries with 'hybrid-type' glosses, treated previously, *specific* phonetic information always precedes the shared part of the sign description. This permits the formulation of the rule that in the horizontal organization of the SaV texts the left-most position (after the line marker) is always taken up by the description of the logogram, be it a phonetic gloss or a sign name.

Element 2 – the logogram

Here the logogram, the central element of SaV as well as all other lexical compositions, will be investigated more closely in order to better understand what object it actually presented to the ancient scribes themselves.

The SaV exercise is built up around a limited and sequentially fairly stable inventory of common key-signs, mostly presented with multiple logographic readings. The principle that guides the selection of signs in the S^a key-sign inventory is that it collects signs that carry either the most frequent phonetic values used for spelling Akkadian words or the most common Sumerian logographic values - often indeed a combination of both is found. This means that the S^a key-signs may be considered as the most basic signs used in cuneiform writing. The function of the various exercises using the S^a key-sign inventory is to make pupils acquainted with their various properties, graphic, phonetic and semantic. However, the selection of key-signs thus achieved does not automatically result in a sign collection of unified graphic appearance: the phonetic and semantic criteria used in choosing signs have a random result in terms of graphic properties. In terms of graphic presentation, the inventory of the S^a key-signs was thus determined *conventionally* rather than *systematically*. To present their pupils with an exercise that balances the diverse associative principles which they needed to master, the ancient scholars presented the S^a key-sign inventory in a fixed sequence which is equally guided by graphic, phonetic and semantic criteria.

At this point the text history of the S^a text is of interest. Of course its original purpose may theoretically have been different from that of its later users, but whether a deliberate, programmatic composition determined its sequence, or whether it grew organically out of other lists is immaterial to the historically attested function of the S^a key-sign list in the curriculum. What is relevant, is that it functioned as an important basic exercise in schools throughout the whole area of cuneiform culture and throughout all of its later period. The limited and fixed inventory and the stability of its sequence seem to explain the remarkable historical continuity of the S^a text (cf. Appendix 1 of Part 2). Its attestation starts in the OB period, with the rise of written Akkadian and the lexical effort to preserve the Sumerian literary tradition after the demise of Sumerian spoken language, and it stops only shortly before cuneiform writing itself stops.

If the concise presentation of fixed inventory and the stable sequencing are the strengths of the S^a list, they are also its limitations. There is friction between the pragmatic selective criteria applied in the S^a list (viz. usage frequency in phonetic spelling and double phonetic-

logographic value) and the systematic classificatory analysis (viz. separate studies of graphic, phonetic and semantic associative mechanisms) found in much of the further curriculum. A single-focus analysis is attested in many other parts of the lexical curriculum: the curriculum shows an approach that focuses on different aspects of the writing system in different lexical works. The focus of Tu-ta-ti is on phonetic association, that of the thematic lists (G, Hh, Lu) is on semantic association and in the advanced lists graphic association is important. In the organization of the logogram inventory the S^a list does not have such a single focus. This helps explain the occurrence of many of the deviations found in different attestations of SaV. On the level of horizontal organization, it explains the frequent occurrence of compound forms for what should be single, basic signs. Often the basic S^a key-signs are found in a compound form. In examples such as 011a **NI**-NI, 036a U-**MU**, 039a **GÁ**xNÍG, 077a **AM**-SI and 078a **IM**-TE it may be noted that various elements are affixed to the basic form (rendered **BOLD**), resulting in compound forms and non-standard added entries. Such non-standard additions to the S^a key-sign inventory, attested in most individual SaV texts, are contextually determined expansions that occur when the analytical approach occasionally takes precedence over the conventional limitations of the S^a text. The compounded forms of the basic signs follow the same mechanism of graphic association that is also productive in the standard S^a text: sequences that show graphical association through compounding are also frequently found within the regular S^a key-sign inventory (e.g. 014-015 **KU** - LU(**KU**+DIŠ), 036-037 **MU** - TAH(**MU**+ZIB), 046-7 **HI** - KAM(**HI**+BE), 074-075 **UM** - DUB(**UM**+DIŠ)). The only criterion for determining what is a valid compound addition in the S^a text is by following the traditional convention - otherwise all compounds follow an analytical method that is equally valid. The conventional inventory itself, it should be noted, is not entirely stable throughout the tradition (Appendix 1 of the composite edition compares the Emar and canonical S^a key-sign inventories).

Because of their contextual determination, the additions to the regular inventory will be primarily treated in the analysis of the vertical organization of content, in the appropriate paragraph below. There, an analysis will also be made of other, non-compound additions to the S^a key-sign inventory.

Element 4 – the Akkadian equivalent

In the SaV material the relation between the key-sign and the Akkadian equivalent is unstable. Even if the translation of one specific logographic reading of the key-sign is most often the obvious aim of the Akkadian element, it may also stand in other types of relations to it. Summing up, the horizontal relation of the Akkadian element to the key-sign may be observed to have the following realization types:

1. The 'regular' realization is that the Akkadian element provides a straightforward, one-on-one translation of a specific reading of the logogram represented by the key-sign. Multiple Akkadian equivalents may be used to cover a diverging semantic field implied by a single Sumerian reading (e.g. in 014.10-11 two Akkadian equivalents, *□ēmu* ('insight') and *pakku* ('consideration'), are used to cover the semantic field of Sumerian UMUŠ). This strategy should not be confused with the use of different Akkadian equivalents to cover different grammatical uses of the same Sumerian reading (e.g. in 016.02 and .04 Akkadian *maqātu* ('to fall') and *miqittu* ('fall') cover different uses of the Sumerian morpheme ŠUB, viz. verbal and nominal root). It should also not be confused with the use of different Akkadian equivalents for different Sumerian readings of the same sign in case of polyphone signs (e.g. in 055 the sign KA, originally a pictogram of head with lines through the face, may be read KÁG

'mouth', ZÚ 'tooth', KÌRI 'nose', INIM 'word', GÙ 'noise' and DUG_4 'to speak'). When the Akkadian equivalents shift their reference to a different Sumerian reading, this is often indicated by a simultaneous change in the gloss (e.g. in 016.02 and .04 the gloss ^{šu} indicates the reading ŠUB, but in 016.03 the gloss is $^{il\text{-}lu\text{-}ur}$ or $^{il\text{-}úr}$, indicating that RU should here be read ILLURU). It should be remembered, however, that the application of glosses was neither straightforward nor entirely consistent (cf. preceding remarks on element 2).

2. The Akkadian element may give a partial translation of the logogram. In SaV this means that the Akkadian equivalent gives a translation that would apply to a larger phrase (or compound form) of which the logogram (or key-sign) could be only part: effectively, the logogram is interpreted by postulating a semantic value on a *pars-pro-toto* basis. Examples: in 001.16 *zunnu* 'rain (water)' is the translation appropriate to ŠÈĜ, which is written A-AN, not A; in 001.30 *kapru* 'village' is the translation appropriate to $É.DURU_5$, which is written É-A, not A; in 015.01 *rē'u* 'shepherd' is the translation appropriate to SIPAD, which is written PA-LU, not LU. In all these cases the meaning of a larger phrase is projected onto one of its components.

3. The Akkadian element may give a translation that applies to another logogram, but one that is graphically related to the actual logogram it describes. In such a case the logogram is interpreted by postulating a theoretical semantic value through empirical graphic association. Examples: in 005.04 *harru* 'ditch, watercourse' is the translation appropriate to SÙR, which is written HI-AŠ, not HI-ÁŠ (note that the both logograms share both a graphic element in the first compound-element and a common phonetic value for the second compound-element); in 038.02 *ha□□u* 'stick, sceptre' is the translation appropriate to ĜIDRU, which is written PA, not GIŠ (note that GIŠ is not only graphically close but is also relevant as the appropriate determinative to be used with ĜIDRU); in158.02 *gagû* 'cloister' is the translation appropriate to ĜÁ.GI.A, the initial sign of which is graphically close to the actual logogram, É (note the shared semantic field 'house'). In all these cases the meaning of another, graphically related logogram is projected on the logogram that is actually treated.

4. The Akkadian element may give a translation that applies to another logogram, but one with which it shares a phonetic value. In such a case the logogram is interpreted by postulating a theoretical semantic value through empirical homophony. Examples: in 006.09 *hurru* 'hole' is the translation appropriate to U but is given for UH; in 027.01 *maṣallu* 'sleeping place' is appropriate to NÚ but is given for NU; in 053.03 *puluhtu* 'fear' is appropriate to NÍ but is given for NE. In all these cases the meaning of another, homophone logogram is projected on the logogram that is actually treated.

5. The Akkadian element may give a translation that applies to another logogram on the mere basis of semantic association. In such a case the logogram is interpreted by postulating a theoretical extension of its semantic field. Examples: in 006.11-2 *rūhu* and *rusū* ('spell') are added to the interpretations of AH because of a shared semantic range in the sphere of magic (AH means also 'spittle'), despite the fact that *rūhu* and *rusū* are properly written KAxLI-RI and KAxBAD, both graphically unrelated to AH, and despite the fact that they have only partially related Sumerian pronunciations, /ušri/ and /uš/; in 163.05 *šapru* ('thigh') is added to the interpretations of ÚR because of a shared semantic range in the sphere of body parts (ÚR means also 'leg'), despite the fact that *šapru* is properly written ZIG, graphically unrelated to ÚR, and despite the fact that it has an equally unrelated Sumerian pronunciation, /haš/. The logical premises of semantic association found in the SaV lists has likely not been reconstructed in all cases that it applies, but definitely includes the attraction of classificatory

opposites. Examples of the latter are 041.01/.03, explaining EN first as *bēlu* ('lord') and then as *bēltu* ('lady') and 048.03/.04, explaining AN first as *ilu* ('god') and then as *awīlu* ('man').

6. The Akkadian element may interpret a key-sign not as a logogram but notice it as a partial phonetic rendering of an Akkadian word. Such an Akkadian word may or may not be a loanword in Sumerian. In such a case the key-sign is exclusively used for its phonetic value. Examples: in 012.03 *puhru* is the interpretation of BU on the basis of the loanword PU.UH.RU.UM 'assembly'; in 035.01 *mātu* (spelled $KUR^{tu}{}_{4}$) is the interpretation of MA on the basis of the loanword MA.DA 'land'. In 178.01 *bēlu* ('lord') the key-sign BE just happens to be a frequent sign used in the Akkadian spelling of that specific word.

Finally, it should be remembered that the horizontal relation of the Akkadian element to the key-sign may occasionally be implemented through various combinations of the above listed realization types. Examples: in 017.02 the Akkadian element *halāqu* relates to the key-sign HA in a double manner: on the one hand it gives a translation that would apply to a compound sign of which the sign would be only part (viz. **HA**-A=ZÁH) (type 2 realization) , and on the other hand it is a partial phonetic rendering of the Akkadian word ***ha***-*la*-*qu* (type 6 realization); in 053.04 the key-sign NE relates to the Akkadian element by simultaneously applying two realization strategies: its single sign value ṢAH, applying the *pars-pro-toto* type (type 2) realization, is taken to represent a Akkadian equivalent (*rēṣu* meaning 'aid') that actually needs to be written with two signs (Á.TAH) – this is only possible by simultaneously applying a homophone (type 4) realization (i.e ṢAH for TAH).

Integrative methodology in the horizontal organization

Regarding the larger issue of the Mesopotamian 'science of writing', it may be appropriate to draw attention to the methodology of the ancient scholars for establishing relations between the horizontally organized elements of each single SaV entry. In SaV, which played a crucial role in the curriculum, they analysed these relations with a different approach to linguistic phenomena than found in contemporary western science.

Modern western science tends to a compartmentalized approach of knowledge, considering each field of study as a collection of (potential) specializations and sub-specializations. Linguistic phenomena are studied separately from literary and cultural historical phenomena. Within linguistics there are further separations, causing graphology, phonology, morphology and semantics to develop into sub-sciences with diverging objects of inquiry. The phenomena particular to each of these objects are further dissected and classified as mutually exclusive (e.g. regarding graphology: individual ductus vs. collective orthography, synchronic conformity vs. diachronic divergence). This method could be described as a *segregating* approach to knowledge, resulting in a *monographic* presentation of knowledge. On the other hand, the lexical work of the ancient scribes systematically investigates the relations between phenomena that modern science considers as pertaining to separate objects of inquiry. The above analysis of the relation between horizontally organized elements has shown a sophisticated interaction of graphic, phonological, morphological, semantic associations. The ancient scribes were well aware of the different lines of inquiry that are used in modern western science - the grapho-morphologically, phonetically and semantically ordered sections of the lexical curriculum clearly prove this -, they just did not systematically keep these approaches separate in SaV.

The method of the ancient scribes was to establish (speculative) relations between what would now be considered scientifically unrelated phenomena, i.e. without the constraint of many of the classificatory boundaries imposed by modern science. The ancient scribes established relations between what, in modern terms, are considered scientifically unrelated units of speech and of writing. Their method could be described as an *integrative approach*, which is reflected in the resulting *non-monographic* presentation of knowledge[48]. In the lexical curriculum such a presentation is achieved in a systematic description of cross-classificatory connections between heterogeneous (graphic, phonetic, semantic) elements[49]. The lexical curriculum, in fact, shows a methodology that is also found in the process through which cuneiform writing had progressed beyond pictography in the first place. That progress had depended on establishing relations between sub-phrasal auditory units (phonemes and morphemes) and sub-real visual units (graphic symbols). Effectively, the integrative methodology that had allowed the initial development of the writing system remains productive in the lexical curriculum[50]. The lexical series may be said to *establish* rather than *describe* a writing system[51]. This is especially clear in SaV, a series specifically used to introduce students to the application of the integrative methodology. Many of the complicated, often twisted associations found in various relations between various horizontal elements are a sure measure of the progress made by the student in applying the integrative methodology that he was supposed to master. A similar observation may be made for deviations found in the vertical organization, i.e. those with regard to inventory and sequence. Such deviations may have been misplaced in as far as they fell outside the conventional inventory of SaV established by tradition, but they are equally a measure of the student's progress in establishing connections through application of the integrative methodology. This topic will be again touched upon in the analysis of content (2.1.3.).

2.1.2.2. Vertical organization

Horizontal ruling

There are two types of horizontal ruling attested: T1, T3 and T4 have intermittent ruling, the positioning of which is related to the content of the text, and T2 has continuous ruling (in the autograph it only extends to the logogram sub-column). In T1 the intermittent ruling mostly serves to separate blocks of repeated entries for each single S^a key-sign, more rarely such blocks include more than one key-sign (e.g. column II with LI and LA or column IX with HUL, GUL, ÁŠ and ÍL). In T3 and T4 the intermittent ruling basically functions like in T1 but additionally serves to create subdivisions within certain particularly long stretches of repetitions for single key-signs (e.g. T3 column I with a subdivision within A and T4 column VI with a subdivision within IGI). Such additional blocks are consistently marked wherever a (new) gloss is given for the key-sign in question. This proves that horizontal ruling, which in SaV is always content-related, is not a feature that is exclusively linked to *graphic* content.

[48] Cf. N.C. Veldhuis, 'TIN.TIR=Babylon, The Question of Canonization and the Production of Meaning', *JCS* 50 (1998) 84.
[49] Cf. Cavigneaux, *Zeichenlisten*, 118-9 and 125-6.
[50] Ibidem, 127-8.
[51] Relevant examples of production of signs ('allographs') in various series of periods II-IV are discussed in Cavigneaux, *Zeichenlisten*, 122-5. Earlier 'theoretical signs' resulting from the integrative methodology are discussed by Th.J.H. Krispijn, 'The Early Mesopotamian Lexical Lists and the Dawn of Linguistics', *JEOL* 32 (1991-2) 14 (also note the comments of Veldhuis, *Elementary Education*, 13).

The aberrant continuous ruling found in T2 could be explained in terms of the content-relatedness of horizontal line positioning: T2 is the only tablet which has continuous ruling but it is also the only one which does not systematically provide glosses (it has only one gloss, $^{mu\text{-}ia}$ in IX 42, which does not fit into the vertical lay-out). The continuous ruling of T2 seems to indicate that T2 was used in a slightly different manner than the other SaV texts, viz. without exercising the phonetic values by means of the otherwise frequently inserted glosses.

Division

No divisions are found in the short-version tablets but for the long-version text a divisional organization is *implied* by the fact that, theoretically, a complete long-version of SaV would have required several divisions. The preserved incomplete long-version material shows that, due to the exponential growth of the number of entries particular to the long version, only about a quarter of the S^a key-signs could be fitted on a single long-version tablet. Text material is only attested for one such long-version 'division', viz. covering the first quarter of the S^a key-signs (T3 has the signs up to PST 058, T4 probably extended to about the same sign). The complete lack of any long-version text fragment for the later key-signs seems to indicate that these were not covered by the Emar curriculum: apparently only the first part of the SaV exercise was produced in two versions. If this is true, the short- and long-version must have had complementary uses, i.e. they served different purposes within the curriculum. This seems to be born out by the fact that the long-version material has a different horizontal organization (it includes the sign name element not found in the short-term material) and that many Akkadian sub-entries show complimentary distribution.

2.1.3. Vertical organization of content

Limitations of the content analysis

The general remarks on the limitations of the content analysis for the Sa-format series given in the paragraph discussing the content SaP (2.3.3.) also apply to SaV. There it is said that any content outside the traditional-conventional key-sign core (i.e. Emar-specific content), may be assumed to be valuable for understanding the particular implementation of the S^a-format in the Emar curriculum: such non-core, Emar-specific content will here be analysed. If the traditional S^a key-sign core is defined as the 211 signs of the canonical version given by MSL (which gives a suitable diachronic composite), then there are three types of content that fall outside it: (1) additional key-signs, (2) incidental compound forms with any of the key-signs and (3) other, non-key-sign and non-compound interpolations. A convenient overview of the Emar and canonical S^a key-sign inventories is found in Appendix 1 of the composite text edition.

Additional key-signs

Additional key-sign are defined as non-Izi-compound signs that systematically recur in the Emar S^a-format series but are not part of the canonical S^a key-sign inventory. Izi-compound signs are excluded because, as a norm, no such compounds are part of the canonical S^a key-sign inventory - the only exceptions are the compound forms KUG.BABBAR and KUG.GI. With systematic recurrence is meant that the additional key-sign is attested in more than one text attested with either the SaV or the SaP series. Thus defined, the Emar S^a key-sign inventory includes 11 signs that do not occur in the canonical version. Parenthetically, it should be noted that the listed additions to the Emar S^a key-sign inventory do not necessarily imply that it was

(much) larger than the canonical version in absolute terms because, vice-versa, at least five signs that are part of the canonical key-sign inventory are not found in Emar (042 SIG_7, 071 URUDU, 081 GEŠTIN, 094 KASKAL and 169 ZIB). Table 6 lists these signs and specifies how they are imbedded in the text through various associations.

Table 6. Additional S^a key-sign inventory in Emar

PST	Key-sign	Contextual associations /gr/ - graphic; /ph/ - phonetic; /sem/ - semantic
004	ŠIR	/gr/ - preceding PAD, through virtual BUR (004.01 *bi-ra*)
022	SIG_4	/gr/ - preceding LUM and LAM
023	ŠID	/sem/ - preceding SIG_4 (*libittu – kurbanu*)
034	PAN	/gr/ - preceding GIM
049	NAB	/gr/ - preceding AN
050	MUL	/gr/ - preceding AN and NAB; /sem/ - preceding AN (*šamû – kakkabu*)
062	IA	/gr/ - preceding I
085	GIG	/gr/ - preceding MI and DUGUD
146	LÁ	/gr/ - following LÁL; /ph/ - following LÁL and LÀL
153	NAGA	/gr/ - preceding SUM
169	DAM	/gr/ - preceding SAL and NIN; /sem/ - preceding SAL and NIN (*sinništu – ahātu – aššatu*)

Table 6 clearly shows that the various associative mechanisms determining the vertical organization of the canonical S^a key-sign inventory are also found to be productive in the positioning of the additional key-signs particular to the Emar corpus. The fact that the same mechanisms are productive in both allows the conclusion that the function of the Late Bronze SaV exercise in the Emar school was to teach the same approach to the writing system that guided the original composition of the OB S^a-list. This common approach to vertical organization may be considered another effect of the integrative methodology that was previously postulated as an explanation for the horizontal organization.

Incidental compound forms with key-signs

Often a key-sign is followed by a compound which adds another graphic element to the key-sign. If a compound is defined as a sign consisting of distinct graphic elements that can carry sound and meaning separately, than many key-sign are compounded forms of preceding key-signs. E.g. 062 IA is written I-A, 088 SISKUR is written ZURxŠE and 153 NAGA is written SUM-IR; all of these signs are part of the basic key-sign inventory of S^a, but may be considered compound forms of the preceding signs (respectively 061 I, 087 ZUR and 152 SUM). Note that none of the compounded key-signs in canonical list is an Izi-compound logogram (IA is not a logogram). Izi-compounds are therefore to be considered as foreign to the S^a-format lists[52].

Incidental compounds are here defined as compounds that incidentally follow key-signs but are not key-signs themselves in either the Emar or the canonical corpus. Such incidental compounds principally include all Izi-compounds, even if they recur regularly (PST 188a KAR-KID is found in all attested sources of that part of the SaV text). Diri-compounds are only considered incidental compounds if they do not recur regularly - if they do recur

[52] Also noted in the discussion of the differences between Sa and PEa given in MSL 14, 166.

regularly they are considered part of the Emar key-signs inventory. Each incidental compound is indicated in the text edition by adding a letter (a-z) to the preceding key-sign that recurs in the compound. The Emar incidental compounds may be grouped into four types:

0. Key-sign+phonetic complement. Sign-combinations with phonetic complements are actually 'virtual compounds' because in them the phonetic complement is merely a reading aid – it indicates a sound that is implied in the reading of the key-sign. In the Emar corpus there are three examples of such combinations: 004a ŠIR-RUM, 042a IN-NU and 195a HUL-A. This type of 'virtual' incidental compound may be considered as intended to assist in the correct reading of the key-sign and not as an interpolation.

1. Reduplicated key-sign. The doubled key-sign implies the reduplication of the nominal or verbal Sumerian root. In the Emar corpus there are four examples of such reduplications: 009a RI-RI(DAL.DAL), 056a SAG-SAG, 175a KUR-KUR and 181a TUR-TUR (there is also the reduplication NI-NI in 011a, but that must be considered to represent the Akkadian phonetic reading *ì-lí*). Generally, this type of incidental compound may be considered as merely giving additional information about the key-sign (plurality, intensification etc.).

2. Izi-compounds. All Izi-compounds are considered to be incidental compounds: they are elements that are foreign to the basic format of the S^a-format because such compounds are as a rule excluded from the canonical S^a key-sign inventory. Examples: 078a IM-TE(NÍ.TE); 145a Á-TUKU; 159a KÁ-GAL.

3. Diri-compounds. Many Diri-compounds are regularly found as part of the basic S^a key-sign inventory of all versions, in Emar and elsewhere. Occasionally another Diri-compound is found in an individual text and remains unconfirmed by the canonical text. On pragmatic grounds such isolated Diri-compounds are considered incidental compounds. Examples of such incidental Diri-compounds in the Emar text are: 036a U-MU(UDUN), 081a NUN-ME(ABGAL) and 202a EZENxBAD(BÀD).

Other interpolations

After classifying most non-core content either as additional key-signs specific to the Emar corpus or as incidental compounds, there are still a number of other interpolations left. These other interpolations are neither of a recurring nature nor identifiable as compounds of key-signs. Table 7 lists them, in order of occurrence, and gives a specification of the various associations by which they are embedded in the text. Note that some interpolations include multiple entries that are all similarly related to the main text.

Table 7. Interpolations in SaV

Interpolation number	Content	Contextual associations /gr/ - graphic; /ph/ - phonetic; /sem/ - semantic
int(1)	DIŠ=A	/sem/ - following HI (HI.A'plural'↔DIŠ'singular')
int(2)	HI=A	/sem/ - A (HI.A 'plural')
int(3)	E=A	/ph/ - A=E_4
int(4)	Á=A	/ph/ - A=A
int(5)	LAM=*uš-šu-bu*	/gr/ and /ph/ - preceding LUM
int(6)	NUMUN=[*ze*]-*rù*	?
int(7)	SA;$ŠAG_4$-GAD=*ma-at-nu*	/sem/ - preceding PAN ('bow' > 'string')
int(8)	NAGA=*qa-qu-lu*	/gr/ and /sem/ - preceding IN ('straw' > 'plant')
int(9)	GUR_5=*uq-qú*-[*ru*]	/sem/ - preceding HAL and /sem/ + /ph/ following UR ('thigh' > 'cripple' > 'man')
int(10)	UL_4=*ar-hi-iš*	/gr/ - preceding DIM[53]
int(11)	GAN=*hu-ṣa-bu*	/gr/ - following AZ[54]
int(12)	NUMUN; GAN; NIR-NIR =*a-la-du*	/sem/ - preceding Ù (Ù.TUD 'to give birth')
int(13)	BULUG=various	/gr/ - preceding MAŠ
int(14)	MA-DA=*ma-tu*$_4$	/sem/ - preceding KUR ('land')
int(15)	UGU=[xxx]	/ph/ - following UN=ÙĜ
int(16)	SAG; MU=*ẹt-lu*$_4$	/sem/ - preceding ŠUL ('young man')
int(17)	IDIM $MURUB_4$ GUB-BA ŠI-RU KA-SIG-GÁN-NU	sign name of preceding BÀD (EZENxBAD)[55]

It will be noted that all interpolations (except for number 17, which is a sign name) relate to the key-sign entries that precede or follow them in associations similar to those found for the other non-core content. These associations may be of a graphic, phonetic, semantic or combined nature. Note that the vertical organization shows associative strategies similar to those found in the horizontal organization treated in the previous paragraph (E.g. interpolation 12 semantically associates with preceding *pars-pro-toto* Ù<.TUD>). Note also that an interpolation may be introduced to create a connection between otherwise unrelated regular key-signs (E.g. interpolation 9 IRIxGU(!MIN)=*uqquru* 'cripple' semantically links 051 HAL *hallu* 'thigh' and 052 UR *awīlu* 'man' and simultaneously establishes the phonetic link GUR_5!-UR. This phonetic link also explains the scribal error in the writing of GUR_5 with a the phonetically attracted GU- instead of the correct MIN-infix).

Integrative methodology in the vertical organization of content

The three types of non-core content show that, despite the stability of the traditional key-sign inventory, the SaV exercise tends to frequently include improvised expansions. The second type (the incidental compounds) represent associations of a primarily graphic nature, but other associations (phonetic, semantic and combined) are equally important in the first and third

[53] For palaeography UL_4=GÍR (AbZ 10) and DIM (AbZ 94) cf. AbZ p. 6 and 11 respectively.
[54] Note that the sign GAN (AbZ 143) is graphically close to HUŠ (AbZ 402) and GÌR=HÚŠ (AbZ 444).
[55] Note that interpolation 17 may be interpreted as the sign name of EZEN(=ŠÌR) IDIM $MURUB_4$.GUB.BA ŠI-RU KA-SIG-GÁN 'IDIM standing inside, *širu* the pronunciation') with a somewhat twisted writing of the Sumerian expression KA.KA.SI.GA ('pronunciation'). The fact that the words are spread over several lines may be an indication that the student was writing down oral instructions, the elements of which he superfluously provided with multiple individual Akkadian equivalents.

types (respectively the additional key-signs and the other interpolations). Apparently the type of methodological approach involved, viz. the integrating approach, regularly led the scribes to include associations that, strictly speaking, fell outside the narrow traditional-conventional framework set for the SaV exercise. The friction caused by the traditional maintenance of artificial-conventional limitations in an exercise that was supposed to teach a highly varied associative methodology may also explain the generalized occurrence of slight deviations in the overall inventory of the SaV corpora between various sites and various periods.

2.2. Syllabary A

For the first of the three S^a-series, unilingual Sa, only one small fragment is preserved: 538E. Although 538E was listed as a SaP text in *Emar* VI 4, it clearly shows only single, unpaired entries without any characteristically palaeographic features and must therefore be considered as the sole attested non-palaeographic unilingual S^a text in Emar. Too little content is preserved to allow a proper analysis or a proper comparison with the bilingual SaV series. The mere presence of a Sa text, however, is significant in terms of curricular structure - this will be discussed in the curricular analysis found later on in this commentary.

2.3. Syllabary A Palaeography

2.3.1. Text corpus – tablet inventory and typology

The attested SaP material consists of two Type I tablets (T1-2) and a number of fragments. Most of the fragments are very small and probably part of T1 or 2, though lacking in direct joins. One fragment, 538 D, duplicates a palaeographically executed section of Appendix B and has part of a colophon, which proves it must have been part of a third tablet, the rest of which is now lost. Both T1 and T2 had five columns on each side of the tablet and on both tablets columns IX and X contained (unilingual) Appendix 1 as well as Appendix 2.

2.3.2. Formal features

2.3.2.1. Horizontal organization

Vertical ruling

Vertical ruling serves to provide the lay-out of the text with columns and sub-columns. In both tablets each column has two sub-columns, creating two slots for horizontal organization. In SaP these slots serve to present different graphic aspects of the S^a key-sign logogram, which is the sole entry element given in SaP. In the first slot the logogram is given in its contemporary LBA form and in the second it is given in a palaeographic variant form. It should be noted that some of the 'palaeographic' forms are in fact either artificially 'archaizing' forms or mere orthographic variants. For some key-signs only the contemporaneous and no palaeographic form is given - in these cases the contemporaneous form is shifted to the second slot and the first slot is left empty (indicated *vacat* in the transcription).

Entry element inventory

As noted earlier, the sole entry element presented in SaP is the logogram, which it describes exclusively in terms of graphic variation. This single-element set-up of the entry in SaP is also found in the Sa exercise (attested only in the single fragment 538 E). It means that in both the SaP and Sa series in Emar the 0-element (Civil-code) is missing, although it is consistently found in the other S^a-format series, SaV. In Ugarit the situation is different: there the 0-element is also missing in SaP, but is attested in both Sa and SaV.

2.3.2.2. Vertical organization

Horizontal ruling

In the SaP material horizontal ruling is intermittent and serves to distinguish texts blocks covering one or more S^a key-signs. In the latter case, signs may be grouped together according to either graphic (e.g. MI-DUGUD; SAL-NIN-DAM) or phonetic criteria (e.g. LI-LA; NU-NA). There is no complete consistency in the location of the divider lines in T1 and T2 (e.g. in T1 there is divider line between LUM and SIG_4, which is not found in T2).

2.3.3. Vertical organization of content

Limitations of the content analysis

The combination of the diachronic and synchronic stability in the traditional content of the S^a list format, clearly attested from the OB period to the 1st Millennium (cf. Appendix 1 of Part 2), as well as its general lack of a single organizational focus imply that an investigation of the structure of the S^a key-sign core of the S^a format series cannot be the subject of the mere synchronic analysis aimed at by this study. The content outside that core, i.e. the content particular to the Emar corpus, however, may be assumed to be valuable for understanding the particular implementation of the S^a-format in the Emar curriculum and has been analysed in the discussion of the SaV exercises (2.1.3.3.). The content of SaP is primarily geared to palaeographic sign values, but a palaeographic analysis falls outside the remit of this study. The only aspect of the content of SaP that will be analysed here is its relation to that of SaV, in order to determine the relation that the two series had to each other in the curriculum. The content of SaP will therefore be compared to that of SaV in terms of categories relevant in terms of organizational structure, i.e. key-sign inventory and number of entries per key-sign.

S^a key-sign inventory

Although there is no complete consistency in S^a key-sign inventory between T1 and T2 (T1 has ERIM which is omitted in T2) and although there are considerable gaps in the attestation record, it may be said that, generally, the SaP key-sign inventory significantly deviates from that of SaV. SaV has many signs that are omitted in SaP (NAB, MUL, UM, SISKUR, LAGAB, KU_7, KID, DAG, E, SIG_5) and, vice versa, SaP has many signs that are omitted in SaV (A', ŠA, ERIM, RAD, NIN, SA_6, ÁRAD). This discrepancy may be partially explained by postulating complementary distribution, which would assume that certain signs were purposefully included in SaV rather than in SaP and vice versa. Of the signs omitted in SaP the compound signs (NAB, MUL, SISKUR) may have been considered non-essential in respect to a purely graphic treatment because the main element had already been treated (i.e. the AN-element of NAB and MUL and the ZUR-element of SISKUR). Vice versa, one of the

signs omitted in SaV, A', is an artificially created, post-OB modification of another sign, AH. Such an artificial sign lacked an intrinsic logographic value that would have warranted its inclusion in a vocabulary exercise such as SaV.

Number of entries per S^a key-sign

Although there is no complete consistency in the number of entries for each S^a key-sign between T1 and T2 and although there are considerable gaps in the attestation record, the number of entries per sign in SaP may generally be said to be much lower than that in SaV. This implies that the number of palaeographic variants treated in SaP was regarded as unrelated to the number of logographic readings treated in SaV. Taken together with the discrepancies in key-sign inventory noted earlier, the discrepancies in the number of entries per key-sign imply that the SaP exercise was composed independently from the SaV exercise, even if both are largely structured around a shared key-sign sequence. This independence of the respective exercises is of course consistent with their different functions in the curriculum.

2.4. Appendix 1 – 'Syllabary A Onomasticon'

The first of the appendices (series 2.4. is Appendix 1) follows directly after the last of the S^a key-signs (PST 215 BARAG). Because the first entry of this appendix (*i-ṣur*) is nowhere separated from the preceding S^a-format series by an 'end-of-text-unit-marker' or any other graphic device, it seems to have been considered as an integral part of the exercise. The fixed link to the S^a-format is confirmed by the fact that, where preserved, the last line of Appendix 1 in both the SaP and SaV material is consistently followed by a 'end-of-text-unit-marker'. The formal properties (use of entry-markers, lay-out, ruling) of Appendix 1 conform to those of the respective series that they are attached to. The content of Appendix 1, however, has a different focus than the regular S^a-format series: it gives combinations of signs -mostly to be read syllabically- which represent onomastic elements. Considering its content and its apparently fixed connection to the S^a-format, '*Syllabary A Onomasticon*' could be proposed as an appropriate name for Appendix 1.

When Appendix 1 follows the SaP texts, its sign combinations are provided with palaeographic equivalents (in fact continuing the palaeographic approach of the preceding exercise) - the result is here referred to as its 'unilingual' version.

When Appendix 1 follows the SaV texts, its sign combinations are provided with Akkadian equivalents that may be read as phonetic variants (e.g. 001 *i-ṣur* = *iṣ-ṣu-ur* and 002 *i-din* = *id-di-nam*) or 'explanations' (e.g. 034 *li-bur* = *li-t*[*à-m*]*ar*, which explains the G Prec of *bâru* by giving the Gt Prec of *amāru*). Some of these 'explanations' seem to have gone awry (e.g. 047 *ri-im* = *e-re-mu* and 048 *ri-iš* = *e-re-šu*), others are actually Akkadian translations of Sumerian logograms (e.g. 025 P[A-LU(SIPAD) = *re-*]*e-ú*). The expanded version of Appendix 1 following the SaV texts may be conveniently referred to as its 'bilingual' version.

2.5. Appendix 2 – 'Syllabary A Additional Palaeography'

In the SaP material Appendix 1 concludes with the 'end-of-text-unit-marker' but is consistently followed by another appendix. This second appendix (series 2.5. is Appendix 2) gives a limited number of signs, starting with DAM and ending with AZU, provided with palaeographic equivalents. In fact, Appendix 2 continues the palaeographic approach of preceding SaP+Appendix 1. Most of the signs of Appendix 2 are not covered by the S^a-format

and some may be considered to be of a more 'complicated nature' (the signs in question are less frequent and often compounded); in this sense Appendix 2 may be considered an appropriate addition to the very basic sign inventory offered by the S^a-format. The principle of graphic association, commonly found in the sequencing of key-signs in the S^a-format, also seems to guide some of the sequences of the signs in Appendix 2 (e.g. 240-2 MÁŠ-KUN-UMBIN - all three start with a single horizontal and a single vertical). Considering its content and its apparently fixed connection to the SaP exercise (it is not found after SaV), '*Syllabary A Additional Palaeography*' could be proposed as an appropriate name for Appendix 2.

Summary

2.1.1./2.3.1. Material - tablet inventory and typology:

1. The attested material includes the following: for Sa only one small fragment; for SaP two Type I tablets as well as a number of fragments (among them is one that is incompatible with two reconstructed tablets); for SaV four Type I tablets as well as few fragments.

2.1.2./2.3.2. Formal features:

1. Vertical ruling organizes text lay-out to provide columns and to provide slots for the various elements found in the horizontal entry.
2. The horizontal organization in terms of the Civil-code is: for Sa -2-; for SaP -2-2-; for short-version SaV 0-1-2-4; for long-version SaV 0-1-3-2-4. In long-version SaV the gloss and sign name share the second slot in the entry – if both occur simultaneously then the gloss precedes the sign name.
3. The specific use of element 0 in the SaV texts makes the name *line marker* appropriate. As it counts lines rather than entries it is actually *not an entry element* in the Emar corpus.
4. The glosses do not have a predictable relation to the reading of the logograms – there are a number of possible relations, including mismatches.
5. A number of glosses may, in respect to content, be characterized as a *gloss-annex-sign name hybrids element*.
6. The relation between the S^a key-sign and the Akkadian equivalent within SaV may be realized in a number of ways, including straightforward translation of the former into the latter, reinterpretation by various associations, and reading of the key-sign as a phonetic value.
7. Horizontal ruling is intermittent and related to content in both SaP and SaV. In SaP it groups different S^a key-signs together according to graphic or phonetic criteria. In SaV it separates consecutive S^a key-signs. In the long-version SaV tablets, additionally, it groups entries within each key-sign section according to the relevant pronunciation gloss.
8. The attested long-version SaV text covers one whole tablet with the first 58 S^a key-signs. There is no long-version text attested that covers the later key-signs but this implies that there was a (theoretical) divisional organization within long-version SaV.
9. The particularities of the horizontal organization show that, in regard to methodology, the ancient scribes pursued an *integrating approach*, which implies that they were seeking to establish interrelations between various graphic and linguistic phenomena that are unrelated in modern scientific terms.

2.1.3./2.3.3. Vertical organization of content:

1. There are significant discrepancies in the S^a key-sign inventory and the number of entries per key-sign between the SaP and the SaV corpora.
2. Synchronic and diachronic deviations in the content of SaV are caused by friction between the pragmatic criteria of its traditional-conventional inventory and the systematic classificatory methodology that SaV and the other lexical series seek to teach.
3. The deviations mentioned under 2 include additions to the S^a key-sign inventory. In comparison to the 1^{st} Millennium canonical key-sign inventory Emar SaV adds three types of non-core content: (1) additional key-signs, (2) incidental compounds with standard key-signs (including all Izi-compounds, which are per definition not part of SaV) and (3) other interpolations.
4. The methodology guiding the addition of non-core content shows that the *integrating approach* noted in the horizontal organization is equally important in the vertical organization of content.
5. In Emar there are two recurring appendices which are formally treated as integral parts of SaP (appendices 1 and 2) and/or SaV (Appendix 1 only). Considering its content, Appendix 1 may be termed *Syllabary A Onomasticon* – it occurs in a unilingual version in SaP and in a bilingual version in SaV. Appendix 2 may be termed *Syllabary A Additional Palaeography* because it adds a series of (less frequent and more 'complicated') new signs to the S^a key-signs – it is attested only in SaP.

CHAPTER 3 - THE WEIDNER GOD LIST[56]

3.1. Text corpus – tablet inventory and typology

It should be noted that the structural analysis provided by this chapter is based on the incomplete text publication of the G material: *Emar* VI only includes the Sumero-Akkadian version while the Sumero-Hurrian version remains unpublished[57]. This means that the findings of this commentary must be considered as preliminary and provisional.

The published G material consists of a number of fragments. The fact that their content shows them to be mutually compatible and the fact that they share the same formal features seems to indicate that most of these fragments are in fact part of one single Type I tablet, provisionally reconstructed as T1. Note, however, that some smaller fragments may belong to the unpublished Sumero-Hurrian G material occasionally referred to by Arnaud in his article 'Les textes cunéiformes suméro-accadiens des campagnes 1979-1980 à Ras Shamra-Ougarit', *Syria* 59 (1982) 199-207 (e.g. note the proximity of 539D 6' ^{D}A┐.[RI.TUM] and 9' ^{D}B[U.LA.LA] with unpublished 'Msk 74118' respectively A-r]i-um and Bu-l]a-la, mentioned on p. 207 of Arnaud's article). The spread of the text, which is very close of that found in the parallel OB and Ugarit material in entry sequence and inventory, and the fact that the observe of T1 has three columns make it likely that the reverse also had three columns.

3.2. Formal features

3.2.1. Horizontal organization

Vertical ruling

Vertical ruling serves to provide the lay-out of the text with columns and sub-columns. Each column is divided into three sub-columns and the use of the first or left-hand slot is reserved for the (consistently repeated) determinative (^{D}). The use of the other two slots, i.e. the middle and right-hand slots, is not as may be expected from parallel usage of similar slots attested in other lexical series (such as preceding SaV or following Hh), where different slots serve to accommodate different elements of the horizontal entry. Except for the obligatory logogram element (element 2), the G text in T1 occasionally also provides the Akkadian element (element 4), but the distribution of text over the slots shows that the slots in T1 do not serve to separate or align these elements. Rather, the third slot is always used for giving the *last sign* of the logogram element. When an Akkadian equivalent is given, it follows that last logogram sign in the third slot, always preceded by a *Glossenkeil* (i.e. a GAM sign). It should be noted that there is always one logogram sign in the third slot (and never more). When a logogram only consists of a single sign, in accordance with the general scribal convention of right-shift position, the second slot is left blank and the single sign is given in the third slot (e.g. II 12 AK; II 20-1 KUD and NIRAH).

[56] Cf. the comparative analysis of the LBA peripheral material in Gantzert, 'SLT 3' (forthcoming).
[57] Glimpses of the Sumero-Hurrian material are provided in two articles: E. Laroche, 'La version hourrite de la liste *AN* de Meskène-Emar', *CRAIBL* 1989, 8-12 and D. Arnaud, 'Les textes cuneiforms suméro-accadiens des campagnes 1979-1980 à Ras Shamra-Ougarit', *Syria* 59 (1982) 199-222.

Entry element inventory

The G text provides maximally two of the regular elements found in the horizontal entry: (2) the logogram and, occasionally, (4) the Akkadian equivalent. The status of the 2-element as a logogram is clear: the systematic inclusion of the ^{D} determinative element indicates that the 2-element entries are to be read as DNs. The status of the 4-element as an 'Akkadian' equivalent, however, is more problematic - it will be discussed below.

Element 2 – the logogram

In the G text, the logogram element always consists of two sub-elements, graphically separated by vertical ruling, viz. the actual logogram and the determinative that precedes it. This recurring relation is essential in order to define the actual logograms as belonging to the semantic sphere of divinities. Without this determinative, most logograms may be read in various ways; often without any obvious association with the divine sphere (e.g. without their ^{D} determinatives 062 ÍD and 068 AK may be read as the Sumerian noun 'river' and the Sumerian verb 'to make' respectively). This means that not only the overall character of G as thematic list but also the content of its individual logograms depend on the determinative for definition. Apart from establishing the semantic range by means of the ^{D} determinative, the skills needed to write the DN logograms given in G include proficiency in a wide variety of other compositional techniques. The DNs are composed through the application of a complex web of graphic, phonetic and semantic associations. To appreciate the scope of the necessary proficiency the different compositional techniques will be listed and illustrated.

Only part of the listed DNs is given in actual Sumerian logograms - many others are given in phonetic spelling. Among the DNs given in logographic form, some are written with sign-combinations that may be read as meaningful Sumerian phrases (e.g. 003 EN.LÍL and 086 AMAR.UTU may be translated as 'Lord Wind' and 'Calf of Shamash' respectively), others are written with signs that establish an iconic relation (e.g. 029 BARAG and 079 MUŠ are the signs for 'socle; sanctuary' and 'snake' respectively but are conventionally read as the DNs ŠARA and NIRAH when accompanied by the ^{D} determinative). In a some cases iconic elements are combined with phonetic elements (e.g. both 007 and 008 start with the NE sign, originally a pictogram of a torch, and then add a 'phonetic complement', resulting in NE-GI and NE-SI_4 respectively, the conventional writings of the DNs Girru and Lisi – note that *girru* is the Akkadian word for 'fire' and that the Divine Fire in 007 is listed right after the gods Nusku and Sadarnuna in 005-6, both associated with fire and light). It should be noted that not all logograms in use for DNs are clearly understood, their meaning or the associative principle linking to a given divinity cannot be always be established with certainty (e.g. 098 HAR and 099 PA). Also another potential variant of logographic writing of DNs should be mentioned: writing by magical number. In G, however, this variant is only rarely found and then only in the form of glosses (in 010 and 011).

Some DNs may be written with either logograms or phonetic spellings, reflecting respectively the Sumerian and the Akkadian forms of the name in question (e.g. in 010 ŠEŠ-KI the moon god is listed by his Sumerian name, Nanna, and in 011 EN-ZU - the conventional metathesis for Suen –by his Akkadian name, Sîn; in 057 the god of the underground ocean and magic is listed by his Sumerian name, Enki, and in 058 by his Akkadian name, Ea). The fact that G lists the two forms of the DNs consecutively indicates that mastering their dual form was an explicit learning goal.

Many DNs are only found written in phonetic spelling. Some of these phonetically written DNs clearly reflect Sumerian words (e.g. 148 GU.LA is a phonetic variant of GAL 'great') and some names may even belong to an earlier linguistic stratum (cf. 090 MA.MA or 135 TU.TU), but most are of Semitic origin. Examples of names with a clear Semitic etymology are 070 TAŠ.ME.TUM 'favourable hearing', 091 MA.LIK 'counsellor' and 154 DA.MU 'blood'. Often these Semitic names are rendered according to OB scribal convention, viz. they preserve the OB mimation (e.g. 067 ṢAR.PA.NI.TUM, 069 NA.BI.UM and 070 TAŠ.ME.TUM). These OB forms are not only found in LBA Emar but also in NA and NB texts: in effect, such DNs remained 'frozen' in their OB form and were treated as logograms. The conventional rendering of these 'frozen' forms is one more skill that is taught in the logograms provided by G.

Element 4 – status and distribution

Some particularities of the element-4 entries occurring in G have been mentioned before: (1) they do not have their own sub-column slot and (2) there are very few of them. Another particularity that should be mentioned is that (3) some of the element-4 entries should be read as glosses rather than as Akkadian equivalents. Because there a so few element-4 entries in the G text they are conveniently collected for individual analysis in Table 8. Of course it should be remembered that the only published G tablet (T1) is fragmentary and that some additional element-4 entries, now lost, may have been included in missing text sections[58]. The table will show which of the element-4 entries have parallels in the MA material edited by Schroeder and Weidner. It should be noted that in the Ugarit material Hurrian and Ugaritic equivalents are found but Akkadian equivalents are omitted (i.e. element-5/6 entries are found but element-4 entries are omitted). Also, it will provide tentative interpretations of their content.

Table 8. Element-4 entries in G

PST	Element 2 logogram	Element-4 signs values	Element-4 OB parallels[59]	Element-4 suggested interpretations
005	[^{D}]NUSKU	*šul-mu*	-	Akkadian: 'health'
007	[^{D}]GIBIL$_6$	*gír$^{?}$-ru*	$^{\circ D}$*gi-ir*$^{\urcorner}$ [*-ra*][61]	Akkadian: 'fire'
010	[^{D}]NANNA	^{D}40	^{D}[…]	DN logogram: '40'[63]
011	[^{D}]EN.ZU	^{D}30	^{D}30[62]	DN logogram: '30'
013	[^{D}NIN].GAL	ni-ik-kal	-	pronunciation gloss
024	[^{D}NA.NA.A]	[na]-na-ia	-	pronunciation gloss
027	[^{D}LÚ.LÀL]	lu-la-ah-hu	-	sign name
074	^{D}IŠTARAN	^{D}U-LUH$^{?}$ [60]	-	DN logogram: ŠU$_4$.LUH 'cleansing'

[58] T1 III 7 preserves a *Glossenkeil* after the logogram ([^{D}]GÌR), indicating it must have been followed by a element-4 entry, now lost.
[59] Cf. E.F. Weidner, 'Altbabylonische Götterlisten', *AfK* 2 (1924-5) = *AfO* 1-3 (1923-6) 8ff.
[60] Note that D. Arnaud, *Recherches au pays d'Aštata. Emar* VI 4 (Paris 1985-7) 34 reads (l. 39') ^{d}U-gur$^{?!}$, which is the logographic writing found for the DN Nergal (and would translate 'Divine Sword'). His 'GUR'-sign, however, ends in a clear *Winkelhaken* and contains three, not two, verticals – making the reading LUH much more likely. For the reading of U as ŠU$_4$ cf. ePSD.
[61] The relevant text of *KAv* 63 was collated and reconstructed by Weidner, 'Götterlisten', p.10 n. 1.
[62] O. Schroeder, 'Ein neuer Götterlistentypus aus Assur', *ZA* 33 (1931) p.128 n.5.
[63] The regular numerical logogram for Nanna-Sîn is 30, not 40 (40 is used for Ea).

Comparing the various element-4 entries, three groups may be distinguished. There is a group (1) that consists of DN equivalents, viz. a group of entries in which the DN given in the logogram is matched by another DN, comprising the entries 010, 011 and 074. The two-element DN+DN horizontal organization found in this group is also found in the MA material edited by Schroeder and Weidner (and at least one element-4 entry, 010, has an exact parallel). The DN equivalent found in this group is obviously not the Akkadian equivalent expected in the element-4 slot. In other words, for group one the element-4 entry (a second DN) is regular in form, in as far as that form has parallels in the MA texts, but not in content (it does not give an *Akkadian equivalent*). There is another group of element-4 entries (2) that offers actual Akkadian equivalents, consisting of the entries 005 *šul-mu* and 007 *gír-ru*. The absence of the ^{D} determinative and the spelling (non-mimated nominative singulars) suggest that these entries are intended to be read as nouns. In this group the use of the element-4 slot matches that found in earlier and later lists (SaV respectively Hh) but seems hardly appropriate for a list of names[64]. In other words, for group two the element-4 entry is irregular in form (there are no parallel G texts known where the DNs are followed by Akkadian nouns) but regular in content, in as far as the 4-slot is normally used for real Akkadian equivalents in earlier and later lists. The last group (3), consisting of entries 013, 024 and 027, may be said to include the category 'miscellaneous': it has two pronunciation glosses (013 and 024 have phonetic spellings of the preceding DNs) and one entry which has the form normally found for sign name (027 gives the pronunciation followed by the ending –u often found for sign names[65]). In terms of the other Emar lexical material these entries are completely irregular in form (glosses and sign names regularly occupy the slot before the logogram in Emar). In terms of parallel material, however, it should be noted that in the 5-column MA fragments[66] glosses as well as sign names may be found (even though there the gloss is also given in the slot before the logogram). On balance the 4-slot found in T1 seems to have been used primarily as a convenient place to locate various, pragmatically added auxiliary elements. The slot was not reserved for one regular type of entry; rather, it was mostly left unused and appears to have been used only when the need was felt for the introduction of some form of auxiliary element. Some types among the attested auxiliary elements (equivalent DNs, glosses, sign names) are also found in parallel texts outside Emar. Finally, it should be noted that almost all of the entries found in the 4-slot are found in the early part of the text (in column I) - this may indicate that the need for improvised auxiliary elements decreased as the student progressed through the material. Such a *progressive phasing out of auxiliary elements* makes sense in terms of the curricular position of G between the elementary sign list SaV, which systematically provides glosses and sign names, and the next thematic series Hh, which only rarely includes such elements.

[64] It should be noted that a parallel for 005 *gír-ru* is found in the phonetic spelling *gi-ir-*[*ra*] in the MA material, but in the latter case it is preceded by the appropriate ^{D} determinative.

[65] The spelling –ah-hu may reflect a glottal stop resulting from adding the –u sign name ending after omission of the final consonant in LÀL.

[66] VAT 10220 and VAT 10249, listed by Schroeder, 'Götterlistentypus', 127 and Weidner, 'Götterlisten', 8 as texts D and E respectively. The first editions are found in, respectively, O. Schroeder, 'Eine Götterliste für den Schulgebrauch', *MVaG* 21 (1916) 178-81 and O. Schroeder, 'Zur "Götterliste für den Schulgebrauch" (*MVaG* 1916 S. 175ff.)', *OLz* 1918 5/6 127-8.

3.2.2. Vertical organization

Horizontal ruling

In T1 horizontal ruling is intermittent and gives subdivisions between variously sized blocks of text. Although their organization is not entirely consistent, these subdivisions often set aside text blocks according to either shared key-sign (graphic association) or shared semantic field (semantic association). Some of the most obvious examples of organization according to key-sign are found in the sections II 22-6' (where the entries 080-4all start with the common key-signs I.ŠAR) and III 6-9' (where the entries 114-7 all start with the common key-sign LUGAL). Examples of organization according to semantic field are found in II 9-11' (where the entries 065-7 refer to either the god Marduk or his consort) and II 12-3' (where both entries are variant writings for the name of the scribe god).

3.3. Vertical organization of content

Level 2 - Key-word collection

The entry inventory of G consists of a collection of semantically associated key-words, viz. a collection of DNs. The exclusively semantic definition of this collection means that G may be described as a thematic series (this definition and the typology of the various series will be discussed in 11.3.). In as far as the semantic field of DNs implies that all entries share a common determinative (^{D}), the semantic association of G is *supplemented* by graphic association, a characteristic that this series shares with much of Hh. The organization of the entry sequence shown by G is problematic. The diachronic and synchronic stability[67] of the G logogram sequence, clearly attested from the Ur III to the NB period[68] and the fact that it is strictly adhered to in Emar, means that a study of the vertical organization of content in G cannot be the subject of the mere synchronic analysis intended in this study. In short: analysis of the entry sequence in the Emar G material is not feasible in the framework of this study.

Summary

3.1. Material – tablet inventory and typology:

1. The attested material includes a number of compatible fragments that have provisionally been reconstructed as belonging to one single Type I tablet. The trilingual G material remains unpublished.

3.2. Formal features:

1. Vertical ruling organizes text lay-out primarily to provide columns and secondarily to provide slots for the various elements found in the horizontal entry. However, the second and third slot are both used for the logogram element - where an element-4 entry is found it does not have its own slot but shares the third slot with the logogram.
2. The horizontal organization in terms of the Civil-code is 2a-b<-4>.
3. The status of the element-4 entry is not uniform: except for Akkadian 'translations' it may include DN equivalents or even glosses and sign names.
4. The distribution of the element-4 entries, viz. mostly in the first part of the text, suggests they may have been pragmatically added auxiliary elements that were phased out as the student progressed.
5. Horizontal ruling is intermittent and its use is related to (graphic or semantic) content.

[67] Regarding the synchronic status of the Emar G material it may be said that in content it hardly deviates from the texts found elsewhere in the LBA periphery - cf. the comparative analysis of the LBA peripheral material in Gantzert, 'SLT 3' (forthcoming).

[68] Overview of attestations in W.G. Lambert, 'Götterlisten', *RlA* 3: Fabel-Gyges und Nachtrag (Berlin 1957-1971) 474.

CHAPTER 4 - HAR(UR$_5$).RA=*hubullu*

4.1. Text corpus - tablet inventory and typology

For a full inventory of all attested Hh material the reader is referred to the table preceding the text edition. Here only two additional remarks will be made concerning the text inventory. First, it should be noted that the only Emar lexical text found outside Archive 1 in Area M is part of the Hh corpus: 7bE1 was found in Archive 7 in Area C[69]. Second, it should be noted that the Hh corpus includes one fragment that is not part of the otherwise nearly complete collection of Emar lexical texts kept in the Aleppo museum. This fragment forms the main body of 7aT3 (where it joins with the Aleppo fragment 548-9J) and is now found in the Freiburg *Museum für Völkerkunde*. It will here be referred to as the FVH-fragment, after the title of its original publication[70].

With regards to tablet typology, there are two types of tablet on which Hh texts are found: regular (multi-column) tablets and small (single column) extract tablets. In terms of Civil's tablet classification[71], the first are Type I tablets and the second are Type III tablets. The two types will be dealt with mostly in separate analysis, but it will be seen that the relation between the two is important in terms of curricular structure - it will be discussed in 4.4. .

Generally, Type I tablets have the same number of columns on the reverse as on the obverse, with the columns on the observe to be read from left to right and those on the reverse from right to left. The number of columns on each side of a tablet can vary from two to five. First, sometimes a tablet does not have an equal number of columns on obverse and reverse, as is the case for 4T1 and 5T1. It is a common phenomenon that when scribes do not need the same amount of space on the reverse as on the obverse columns, they leave excess space empty on the reverse rather than continue writing across a conventional division boundary. The occurrence of such empty excess space should always be considered a possibility when reconstructing severely fragmented or damaged tablets. Generally, Type I tablets contain only material of one genre (in this case the lexical genre). A few minor deviations from these general rules should be noted. It is uncommon is for the reverse to have more columns than the obverse. This, however, is the case for 5T1 (cf. Sketch **XX**). A second deviation from the standard format is found in 3T1, there the scribe fills up the excess space left on a lexical exercise tablet with a non-lexical text: an incantation text is written vertically along the long tablet axis following (under and besides) the colophon[72].

Generally, Type III tablets give a single, short section of a text, selected from the larger text corpus found in unabbreviated form on Type I tablets. Such a section tends to contain from about five to perhaps fifteen lines of text on the obverse and often continues (sometimes with the same number of lines) across the lower edge onto the reverse, in the same fashion as a multi-column tablet. Among the nine attested extracts, only two (7bE1 and 13E1) do not have text on the reverse. One extract, 13E2, is exceptional because it continues its reading onto the reverse *sideways*, i.e. each entry continues over the right side onto the reverse. The reason for this deviating textual presentation is the length of each entry, which is exceptionally long due

[69] Cf. M. Dietrich, 'Die akkadischen Texte der Archive und Bibliotheken von Emar', *UF* 22 (1990) 32-3. In Arnaud, *Emar* VI 3-4 the text of 7bE1 has been twice edited, once as individual text 39 (volume 3), and once within composite text 538 (volume 4).
[70] K. Watanabe, 'Freiburger Vorläufer zu HAR-ra=hubullu XI und XII', *ASJ* 9 (1987) 277-91.
[71] Civil, 'Ancient Mesopotamian Lexicography', 2308.
[72] Identification in M. Civil, 'The Texts from Meskene-Emar', *AuOr* 7 (1989) 11.

to the fact that it includes not only Sumerian logograms and Akkadian translations but also, placed between them, a full phonetic rendering of the Sumerian words.

4.2. Formal features

4.2.1. Horizontal organization

Vertical ruling

Vertical ruling occurs on all the multi-column tablets to provide column division. In *bilingual* texts, however, additional vertical ruling is also used to provide additional sub-columns. This results in the division of columns into three or four sub-columns. It may be noted that the use of vertical ruling for sub-columns is a feature that the Emar material shares with the Ugarit corpus[73]. The first use of such sub-columns is to provide slots for different elements within each entry. E.g. in 3T3 the determinative, the logogram and the Akkadian translation each have their own slot. Such slots are not always used entirely consistently, due to omissions and overlaps. E.g. in 4T1 the determinatives are left out, resulting in a mostly empty first sub-column, while there are substantial sections in which the Sumerian text of the second column entries actually continue into the third column: in such sections divider signs (GAM signs, rendered as ':' in the text edition) are used to indicate the end of the Sumerian element. Another use of the slots provided by sub-columns is to provide slots for sign positioning (including positioning of entire graphic clusters) *within* logograms (e.g. 1T3 column I). The latter use will be discussed in more detail in the relevant paragraph of the chapter on Lu (5.2.1.), where it is also encountered.

Entry element inventory

The *next* paragraph (4.2.2.) will cover vertical formal features, which concern large-scale organizational structures, such as tablet, division and linguistic format. The resulting analysis will serve to identify distinct curricular units within the Hh series, the make-up of which will shed light on the *construction* and *direction* of the scribal educational program.

In contrast, *this* paragraph will cover horizontal formal features, which concern small-scale organizational structures, such as entry element inventory and inter-element relations. The horizontal organizational structutr will show the *means* by which the educational program was implemented. The *location* of each individual entry is dependent on vertical organization, i.e. it is contextually determined (e.g. association by graphic, phonetic or semantic context), but its *content* is dependent on horizontal organization, which juxtaposes different reference items in a standardized fashion. These different referent items appear as different elements of the horizontal entry. In Hh four such elements (numbered according to the Civil-code) are attested: (1) gloss, (2a) logogram, (2b) determinative and (4) Akkadian translation. Both the relation of vertical to horizontal organization and the juxtaposition of these elements within the horizontal organization can be illustrated by the following example.

The occurrence of the weapons sections and the ILLAR section in the middle of division 4 (EST 4208-15) is triggered by the context of wooden objects and utensils (indicated by the determinative $^{\hat{G}I\check{S}}$). Individual entries within this section, in turn, are triggered by the key-word ILLAR. Thus, the vertical organization is clearly guided by semantic association. However,

[73] J. Krecher, 'Scheiberschulung in Ugarit: die Tradition von Listen und sumerischen Texten', *UF* 1 (1969)143.

actual semantic content is not realized in the vertical organization. Rather, it is realized by combined contributions from the various different elements juxtaposed in the horizontal structure. The most important of these elements is the logogram (element 2a), a conventional graphic representation that may be described as RU. This graphic representation, however, is a discretionary carrier and may denote various words, including the verbs 'to impose' and 'to fall' (realized through its readings as RU and ŠUB respectively) as well as various nouns, including one meaning 'ball' or 'dart' - the latter noun is realized by its reading as ILLAR. It is the latter semantic content that is meant here, but only by combining the graphic form RU with other reference items can this exact meaning be achieved. These reference items appear in the form of the other elements of the horizontal structure. Among these elements the determinative (element 2b) is closely related to the logogram because it also involves graphic rendering: it classifies the logogram conventionally, in this case as a wooden object (^{ĜIŠ}). With this addition, the semantic range of the logogram has now been narrowed down to that of a wooden object. However, there is still more than one option because ^{ĜIŠ}RU may be read as either ^{ĜIŠ}GEŠBU 'bow; javelin' or as ^{ĜIŠ}ILLAR 'ball; dart'. Logographic writing, developed by and inherited from the Sumerians, remained traditionally bound to and formulated in the Sumerian language, even if that language was extinct outside literate circles. Therefore, in addition to graphic form, the phonetic value of each logogram had to be specifically learned, which explains the need for the gloss (element 1) in the horizontal organization of entries of many series. In Hh they also occur, but infrequently because phonetic values were mostly taught at an earlier stage and in other series. In 4208 the logogram ILLAR has the (phonetically slightly deviating) gloss $^{il\text{-}li\text{-}il}{}_5$. With this third element the possible semantic range of the RU-sign has been narrowed down to just one: ILLAR 'ball; dart'. Because the mastering the writing system involved learning another language, Sumerian, however, a fourth element was added: a translation. At an early stage in the educational curriculum, this translation (element 4) had to be provided in order to define the meaning of words in the dead Sumerian language. In Old Babylonian school texts, written during a period that Sumerian was already extinct as a spoken language, the Akkadian translation is mostly not written out and must have been provided orally[74]. However, in Emar and elsewhere in the periphery such an Akkadian translation was (mostly) written out in the lexical texts because, in addition to the Sumerian curriculum, the students also had to master Akkadian as a foreign language. Akkadian was of great administrative and cultural significance, but was not spoken natively. This is why, in the early, bilingual stage of the Hh curriculum, the Akkadian translation *talpanu* is added to the logogram ILLAR in entry 4208.

Having established the inventory and having illustrated the general process of the production of meaning in the horizontal organization of Hh, it is now necessary to proceed with a more precise analysis of the specific functions of each element found in the horizontal organization in Emar Hh. Which elements occur where and why?

Element 1 – the gloss

Before analysing the gloss as an element of the horizontal organization of the entry, it should be defined more precisely vis-à-vis the phenomenon of phonetic complement. Properly speaking, gloss is a full phonetic rendering of the key-word logograms that it precedes (e.g. $^{tu\text{-}ul}$ before the sign LAGABxU with the reading TÚL in 2001). A phonetic complement, on the other hand, is treated as an integral part of the logogram itself. Phonetic complements give an indication of the Sumerian phonetic shape of the logogram and may be found attached in front

[74] Veldhuis, *Elementary Education*, 46-7.

of, within or behind the logograms they refers to (e.g. respectively ^{i}IZI GU.ZA in 3a257, KI^{LÚ}.KAL=ULUDIN in 1112 and TÚM^{UM} in 1143). In certain cases it is difficult to determine if a sign is a phonetic complement or if it constitutes part of the logogram or (e.g. GI and BU signs in GI.ZÚ.LUM.MA and BU.ZÚ.LUM.MA in 3a200-1, translated *gišlammu* and *buṣinnu* respectively[75]). The glosses proper, then, distinguish themselves from phonetic complements by their full phonetic rendering of the following logogram and by their fixed slot in the entry, always in the first slot, *before* the logogram.

The Hh text gives relatively few glosses, and these serve either to resolve reading ambiguities or to shed light on some reading difficulty. In the first category are glosses that handle *absolute* ambiguity, such as the single gloss ^{dur} for 4167 which specifies that the single KU entry must be read as DÚR 'board', and not as (equally plausible in the context of the ^{ĜIŠ} list) TUKUL 'weapon', as well as glosses that handle *relative* ambiguity, such as the multiple glosses for 4076-9, which specify that the repeated sign BU has four different readings in a row. In the second category are glosses that were apparently considered necessary for the understanding of infrequent readings or 'difficult' sign forms. The reading SUGIN for BAD in 4243 (gloss $^{su\text{-}uk\text{-}ki\text{-}in}$), for example, could be considered relatively infrequent. That certain sign forms may be considered 'difficult' is shown by the fact that sometimes only glosses can help modern reconstruction of correct sign forms. In 4292 the gloss $^{ni\text{-}šal}$ shows that the following BI-IŠ should have been BI-GIŠ (AbZ 226), which has the reading ĜISAL referred to by the gloss. Similarly, in 14014 the gloss $^{qa\text{-}ri\text{-}im}$ shows that the following LAGABxA should have been LAGABxKUG (AbZ 513) which has the reading ĜARIM that is referred to. In a some cases the gloss even replaces the logogram: in 4200-1 the gloss $^{šu\text{-}gur}$ is given but the expected logogram ŠUKUR (written IGI-GAG the same form with which DÁLA in preceding entry 4199 is written) is not. These examples show that, even if rarely found in Hh, the gloss element may be of vital significance within the horizontal organization for establishing the meaning of the logogram.

It seems reasonable to suppose that in those cases when a gloss is given, it was indispensable to the student for the correct interpretation of the logogram. Glosses are relatively rare, always function to resolving ambiguities or difficulties and there are very few that could be construed as referring to basic readings. In other words: in Hh glosses are not standard because this lexical series did apparently not serve to teach phonetic values. Glosses were only added as a last resort, viz. when they were indispensable for understanding the text. This means that, stated in the Civil-code, the horizontal structure of the Hh text must have been <1->2a(-b)(-4), i.e. either uni- or bilingual (-4) and with a relatively rare use of the gloss element <-1>. It should be noted that no glosses are found in unilingual texts, suggesting that the unilingual texts were produced at a more advanced stage in the curriculum.

Element 2a – the logogram

The logogram is the indispensable central element of each entry: it is what all other elements in the horizontal structure are geared to expand upon. It is never completely omitted and when a part of it is missing, as attested on a limited number of occasions, that part must be assumed as a *virtual presence*. Sometimes it is replaced by the sign MIN, which is the Sumerian word for 'two' but is here to be interpreted as 'repetition of key-word'. Such replacement does not imply absence, but merely reflects a convenient abbreviation. It seems significant, though, that such replacement only occurs in bilingual texts (15T1 is considered as a 'virtual'

[75] Veldhuis (personal communication) suggestes that GI and BU signs are unlikely to represent Akkadian glosses as they are also found in unilingual OB parallels.

bilingual text). The only occasion when a part of the logogram is really intentionally left out, without replacement by MIN and without implying a unintentional omission (a mistake), is found in division 8: in the bilingual version the key-word (GUD) must be assumed to be virtually present in the section covered by entries 8a097-8b032.

Element 2b – the determinative

Before analysing the determinative as an element of the horizontal organization of the entry, it is important to define what is precisely meant by it. Much of Hh is vertically organized in divisions in which all entries are preceded or followed by a sign that ia conventionally referred to as a 'determinative'. It is important to be careful with the use of term 'determinative' because it refers to a *implicit category* of signs in the cuneiform sources, i.e. a category of signs the existence of which is assumed from their specific use, a use not least attested in Hh. Modern research considers the signs in that category as explicitly different in quality from other signs found in the logogram and it is therefore marked (by $^{\text{SUPERSCRIPT}}$). However, it is worth noticing that 'determinatives' are *not* explicitly marked as qualitatively different from other signs in the original cuneiform texts, and that they may also occur as a 'regular' (logographic or phonetic) signs. E.g.: the sign KI may be a determinative (indicating a land as in geographic location, which is how it occurs in divisions 15-16), it may be a logogram (meaning 'land', Akkadian *erṣetu*) or it may be a CV syllable (with phonetic value /ki/). These three uses may be compared to the following near-analogue meanings of English 'land' in the following contexts: 'Britain' (not pronounced but implied as a concept, i.e. BRITAIN$^{\text{LAND}}$), 'England' (explicit qualification, i.e. ANGEL.LAND), 'land' (independent noun, i.e. LAND) and 'island' (phonetic presence in lexicalized morpheme-compound, i.e. IS.LAND). Any definition of the term 'determinative' is bound to be relevant only in the modern scientific context, and of limited use even there. Such a definition may have a limited descriptive value only, with little relevance to the historical context of the scribal school and its lexical texts. However, because the term 'determinative' has become part of the Assyriological vocabulary it shall be conventionally employed, and used to refer to those signs that are empirically found to be added (before or after) logograms to classify them as belonging to a certain semantic field, without adding their specific phonetic value to them. This pragmatic definition allows easy reference to certain signs, even if not necessarily covering a classificatory category actually relevant in the texts themselves.

Because determinates occur in much of the Hh material, it should be attempted to specify their actual *determining* function with regard to the entries they are added to. To shed some light on this function, it may be useful to contrast the occurrence of determinatives in that part of the text with their absence in other parts. The most obvious absence of determinatives is found in divisions 1-2, which are compilations of administrative and legal terminology with added paradigms and some excursions. That no determinatives are called in these divisions for is related to their semantic content. Unlike the rest of Hh, they treat abstract entities and actions and not concrete material objects or locations, which is what the use of determinatives is reserved for. However, within the rest of Hh there are large parts of the text, even whole divisions (cf. Table 11) that treat concrete material objects but where no determinatives are used. In these parts of Hh the entries are grouped together according to initial key-words and these groups belong to coherent semantic fields. E.g.: there are no determinatives in division 8, but all entries are grouped according to ten or so initial key-words (UDU, UZUD, MÁŠ, GUD etc.), which all belong to the semantic range of life-stock. Because the divisions where entries are preceded or followed by determinatives *simultaneously* group these entries within specific semantic fields, the overall (vertical) organizing principle of Hh may be said to be that of

semantic field - not determinative, initial sign or key-word. Determinatives, initial signs and key-words only *happen* to occur in many of the semantic fields. In other words: the determinative alone is *not* a classificatory category relevant to the vertical organization of the Hh text.

Because possession of a determinative is no prerequisite for the inclusion of an entry of any kind into the Hh text and because, in fact, many entries in Hh have no determinative, it was earlier listed as a 'possible' element in the horizontal entry. It actual *appearance* as a separate element is due to the fact that, throughout large sections of the text, it frequently repeats when the logograms keep changing. The only reason that it is repeated in these sections (most importantly in divisions 3-5) is simply because it is the only way to unequivocally specify many of the logograms as belonging to the particular semantic field that is covered in the section they belong to. E.g.: the sign KU in 3001 may be read in many ways (TUKUL, TÚG etc.) and the only way to know that it should be read TASKARIN is by adding the ^{ĜIŠ} determinative, which specifies it as belonging to the category wood and the context of tree names narrows down its possible meaning to TASKARIN ('box tree'). Similarly the sign HAR in 9a070 may be read in many ways (KÍN, ÀR etc.) and only by adding the ^{UZU} determinative is it shown as a having a reading with reference to a body organ (UR_5 'liver'). Effectively, the logogram functions as part of the logogram. This is confirmed by the fact that it always occupies the same slot in the entry, i.e. it is always immediately before or after the key-word logogram. On the few occasions that an entry has both a gloss and a determinative preceding the key-word logogram, the determinative is placed *after* the gloss, and not before it: entry 3a265 in fragment 544 E gives $^{li\text{-}iš\text{-}ša}$: ^{ĜIŠ}Š[Ú-A][76]. This shows that the determinative does not have an independent status as a separate entry element: it does not remain in the first slot independently, but 'sticks' to the logogram. Another indication of its mere auxiliary status is found in its frequently complementary distribution with the Akkadian translation: in the unilingual format the determinative is *always* given, but in the bilingual format the determinative is often almost completely omitted (often only in the first and last entries of a column are given, especially in the earlier divisions). This means that in the those texts the determinative or the Akkadian translation may apparently equally serve to determine a logogram. This confirms that, in the school texts at least, the logogram can do without the determinative if there is another determinant factor (the Akkadian translation). The determinative is merely a functional auxiliary without independent status in the horizontal structure. In the earlier part of Hh curriculum the determinative can be designated as an empirically conditional part of the logogram. Position-bound to the logogram and not independently carrying a particular aspect of content, it can not be given equal status among the other elements of the horizontal structure, hence its designation as element 2b.

It should be noted that the partial complementary distribution of determinative and Akkadian equivalent shows again that within the Hh curriculum there was a phased approach to the writing system. If it is assumed that the initial phase of the Hh curriculum consisted of bilingual composition, then it was geared explicitly to teaching the *meaning* of logograms by giving the translation: the Akkadian meaning was written out (the local West Semitic language may be assumed to have been added orally). Only in unilingual composition, presumably a later phase in the curriculum, is the correct *writing* of the logogram fully implemented by the consistent addition of the determinative. The endless repetition of determinatives, which is mandatory in the unilingual lists, could therefore to be regarded as *didactically functional* for a later stage of the curriculum.

[76] Commentary on this gloss in Veldhuis, *Elementary Education*, 172.

Element 4 – the Akkadian equivalent

In Hh the most frequent relation of the Akkadian equivalent to the logogram is that of straightforward translation, which is what may be expected in a thematic list. The only other relation found is that of partial translation, which mostly occurs when the Akkadian equivalent only refers to the attribute of a repeated key-sign. More complex than its implementation, however, is the distribution of Akkadian equivalent: in some (bilingual) texts it is found and in other (unilingual) texts it is omitted. It will be established in the analysis of its vertical organization that the *default format* of Hh is bilingual. All divisions of the text are attested in bilingual format and many of them only in that format. The first stage in the Hh curriculum may be assumed to have aimed at the reproduction of (most of) the series as a collection of semantically grouped logograms with Akkadian translations, establishing their meaning and practising their graphic rendering. Having accomplished this, the student was likely instructed to proceed to a next stage in which only selected parts of the series were reworked (and partially reorganized) in an exclusively unilingual format. For that second stage the meaning of the logograms was apparently supposed to have been mastered already to such an extent that the student could reproduce them in the correct, traditional Sumerian graphic form (i.e. with the correct determinatives) and without the need for an explicit Akkadian translation. However, indications that the Akkadian translation was eventually scheduled to be phased out are not lacking in bilingually formatted texts either.

Even in the divisions belonging to the first part of the bilingual curriculum it is occasionally found that the Akkadian equivalent is omitted. In bilingual 3bT2 the Akkadian equivalent is omitted for the entries 3b021-5, which list parts of the MAR.GÍD.DA 'wagon'. Translations for these entries may have been considered superfluous as they repeat items that were already treated in earlier comparable sections, treating the GIGIR and the GAG-SÌLA, the 'chariot' and the 'freight cart'. In 4T2 more omissions of superfluous repetitions are attested: in the entries 4018-4052, covering the key-words from IG 'door' to TAK-TÚG 'loom heddle', key-words are found with translations but no translations are found for the subentries: they are systematically left out. These sub-entries involve basic vocabulary, such as the common adjectives GU.LA, GIBIL and LIBIR.RA, and must have been assumed as familiar material, not necessarily warranting repetition of the translations. Even if in another text (4T1) these same entries are fully translated, this omission confirms that the phasing out of Akkadian entries is found in the bilingual format and that it started with the omission of recurring and common vocabulary found in the sub-entries (which frequently repeat similar qualifications for different key-words). Yet another example of such omissions in an early division is found in 5T1, were no Akkadian is given for the sub-entry adjectives MAH, TUR and ŠU when added to the key-word MA.SÁ.AB 'basket' (5074-5).

In the later divisions, as the student progresses through the Hh curriculum, omissions are found more and more frequently. In 8bT2 and the bilingual fragments of division 8 there are systematic omissions of the Akkadian translation for all the subentries belonging to the key-words UDU and GUD. The material of divisions 9-11, even if often fragmentary, shows similar omissions (e.g. 9bT1 9a027-9b030, 9b Fragment 551 F 9b029, 10T1 10021-3, 10T2 10210 and 11 Fragment 554 F). Theoretically some of the left-out translations may have been previously given somewhere else, in some lost section of these fragmentarily preserved texts, but because there are only a few key-words and many omissions it is likely that they were not given at all. On many occasions, familiarity with the un-translated vocabulary seems to have been assumed (in fact much of it was indeed covered in the earlier divisions) and only new,

unfamiliar material may have been selected for translation. If such familiarity is indeed implied, the later divisions of bilingual Hh may effectively have doubled as a 'control exercise' for the material covered in the earlier divisions. Students were apparently assumed acquainted with Akkadian entries that are omitted, such as those corresponding to GANBA 8a097 and ZÌG.GA 8b025 (8bT2), which may be found in earlier exercises (division 2 respectively 2073 and 2084). The omissions effectively imply cross-referencing within the Hh material. Additionally, the increasing frequency of the systematic omission of the Akkadian translation may have been functional in the curriculum in as far as it allows, as the student progresses, speedier coverage of later divisions.

In some of the last divisions of the bilingual format the omission of the Akkadian entries takes on epidemic proportions: there are long sections and even a whole division where Akkadian translations are omitted. In divisions 15 and 16 this affects much of the geography section (the ^{KI} and ^{ÍD} entries). In fact, in 15T1 division 15 has been rendered only in the structural skeleton of the bilingual format (preserving only its presentation with intermittent ruling), a situation that is also found in some of the extracts. Obviously it could be argued that geographical terminology often requires no actual translation. However, 16bT1 column II shows that the teacher could always opt for adding the Akkadian column anyway, using it as an exercise for giving an 'akkadizing' phonetic and simplified rendering of the Sumerian logograms and CVC signs. It therefore appears that the increase in systematic omissions attested in these divisions is primarily an extension of the development shown in the earlier divisions (even if it is also happens to be quite appropriate to much of the content). It may be said, then, that there is a *gradual increase in the omission frequency* of the Akkadian translation as the curricular program advances, culminating in the complete abandonment of the bilingual format (sometimes after still maintaining its form without its content) and followed by a change-over to the unilingual format. This phenomenon seems functional in as far as it allows increased speed in doing exercises and prepares the student for the unilingual stage of the Hh curriculum by encouraging his progressive independence from the Akkadian translation.

4.2.2. Vertical organization

Horizontal ruling

Two different types of horizontal ruling patterns may be found on Type I tablets: the first type gives full ruling in the whole text, i.e. lines between each entry, the second gives only intermittent ruling between selected entries within the text. The first type is found in unilingual texts, the second in bilingual texts. There are a few intermittently ruled texts that have unilingual content but these conform in sign inventory and entry sequence to the bilingual format - these texts will be discussed below (and will be termed *virtually bilingual* in 4.4.). These two horizontal ruling types must therefore be considered as formal features particular to each linguistic format. These features may, on occasion, assist in the identification of badly damaged fragments. The choice of entries for intermittent ruling in the bilingual format is random in terms of line count (i.e. ruling does not divide a text in sections of a particular number of lines). It is, however, related to the (graphic or semantic) content of the entries and the issue of intermittent ruling will require closer inspection in the later discussion of the vertical organization of content. On Type III tablets (extracts) have either intermittent ruling or none. Intermittent and lack of ruling are attested on extracts with (apparent) unilingual as well as bilingual content and when all apparently unilingual extracts are considered as virtually bilingual the latter may be considered as a mere variant of the

former, i.e. the lack of horizontal ruling may be related to the unitary content of the text covered.

Tablet and text division

As elsewhere and in other periods, the text of Hh in Late Bronze Emar is found spread over multiple tablets, but the number of tablets and the (vertical) organization of the text across them are particular to the Emar corpus. This particularity invites a simultaneous investigation of the empirical data concerning the formal features of the physical tablet and those concerning text content. The most obvious point of departure for such an investigation is the definition of *divisional organization*. The divisional organization of the Hh text (i.e. the location of tablet boundaries in the text) is not random, but systematically related to content. This is shown by the repetition of divisional boundaries on different tablets with the same content. The data pertaining to tablet, i.e. the physical text carrier, and those pertaining to division, i.e. the selection of text for that carrier, both provide empirical evidence and will be brought into relation with each other. The application of linguistic format will be analysed as the primary process that affects this relation in the Emar Hh corpus.

Bilingual tablets generally tend to have less columns th a unilingual tablets, reflecting the spatial effect of the lengthening of the entries caused by the addition of the Akkadian component. Unilingual text, providing the entries in a more condense manner, allows for a larger number of entries to be included on a single tablet. In general terms, the addition of Akkadian content has the overall effect of forcing the spread of the text over more tablets. In diachronic perspective. This process may be seen at work when comparing the tablet division found in Emar with that found for Old Babylonian Nippur. In Nippur the texts are still given in an exclusively unilingual format. Appendix 2 of Part 2 shows how the text section treating stones, vegetation, fish, birds and cloth (canonical tablets XVI-XIX) is given on two tablets (4-5) in Nippur, but on four (divisions 10-13) in Emar. Similar observations may be made for other parts of the text. Within the Emar material itself, this spreading process can actually be seen at work: the first ĜIŠ-division needs only one tablet when given in a unilingual format (in 3aT1-2) but is split in two when given in a bilingual format (in 3bT1-2). This specific split will later become standardized in the canonical 1st Millennium version. There, the process reaches its historically maximal segmentation, resulting in an expansion to 24 (canonical) tablets from an original number of six tablets in Old Babylonian Nippur. Between these extremes, the division into 18 tablets in Hh in Late Bronze Emar accurately shows the extent to which its internal dynamics, related to the process of bilingualization of the lexical corpus, had developed in the direction of those of the canonical version.

With regard to the bilingual split in division 3, it should be noted that it represents the only time that there is more than one option for text division in the Emar Hh corpus and that the option involving an extra division is related to the use of the bilingual format. This indicates that, through column size, there is a relation between linguistic format and text division: introduction of the bilingual format tends to lead to more divisions. The empiric data (all tablets respect the a single divisional boundary point except in case of the bilingual version of division 3) suggest that unity of divisional presentation, irrespective of linguistic format, was aimed at. There were two ways to maintain this unity: either (1) a given division was presented in single linguistic format only, or (2) it was presented in two different versions. Leaving aside division 6 (for which no tablets could be reconstructed and too few fragments

of which are available to determine its length), the first strategy is found in divisions 2, 4[77]-5, 10-15, 17-18 and the second strategy in divisions 7-9 and 16. The only exceptions are found in divisions 1 and 3. The former exception may be due to the small size of division 1: its 177 entries could be fitted on one tablet irrespective of linguistic format. The latter exception involves a break-down in unity of divisional presentation but also gives an instructive illustration of the driving mechanism behind the historical progressive subdivision as well as the transformation of content within Hh, viz. the need to accommodate the bilingual format in a traditionally unilingual list.

The specific choice of a linguistic format for a given text may be assumed to pertain to the function of that text within the wider curriculum and will be discussed in the paragraph concerned with the reconstruction of curricular order (4.4.).

4.3. Vertical organization of content

Analytical approach

After the formal aspect of vertical organization was discussed in 4.2.2., this paragraph, in turn, means to investigate its content aspect: it aims to relate the formal organizational structure found in the text to its content. Its central question is: how is content realized in the vertical text structure? As was noted in the preceding discussion about the determinative, the basic overall organizing principle of Hh is its ordering by semantic field (which may be expressed by a determinative or otherwise). This is why it is classified as a thematic series. Within Hh, semantic fields can be defined at different *levels*: that of the individual entry may be defined as its most basic or lowest level and that of the complete text as its most expanded or highest level. These two extremes of semantic field are not relevant here because they can not provide empiric data concerning the vertical realization of content. The lowest level refers only to the horizontal organization of aspects of meaning across elements of the individual entry and was discussed previously. The highest level refers to the meaning of the Hh text as whole and is only relevant with regard to its function within the wider curriculum. The present analysis must focus on the intermediate levels, viz. on semantic fields that are defined by different but equally valid empirical data. In fact, two intermediate levels of organization can be empirically distinguished: that of key-sign/-word and that of division. These will be labelled 'level 2' and 'level 3' respectively. The lowest level, that of the individual entry and its paradigms, and the highest, that of the full text, could be termed as levels 1 and 4 respectively.

Level 2 - Key-sign, key-word and subentry

In lists which collect logograms, i.e. graphic representations of words, in a thematic manner, such as Hh, vertical sequences of consecutive logograms often share a common grapheme. As the smallest common denominator of these logograms such a grapheme may be termed the *key-sign*. It may either reflect a morpheme or a word and it can occur alone or in a compound or larger phrase. Where the shared key-sign reflects a word it is also termed a *key-word*. Entries that combine key-words with other elements may be termed *subentries* if they are defined in relation to the key-word. Sequences of consecutive key-sign, key-word and subentry entries together form semantically coherent units. These units reflect empirically

[77] With fragment 545 R taken as a likely extract, only fragments 545 AO and AS may potentially be construed as unilingual, but their fragmentary state and the contrary indication of the intermittent ruling (mostly a reliable indicator of bilingualism) make this uncertain.

valid semantic fields above the level of the individual entry but under that of the division. The empiric quality of the semantic field covered by text sections formed by key-sign-keyword-subentry combinations allows insight into the classificatory strategies employed by the ancient scribes in organizing content. In this respect it should be noted that these combinations also include nominal and verbal paradigmatic sequences. The organization of these paradigms is obvious and paradigmatic groups can be treated as long single entries, for this reason subentries in paradigms are not given separate numbers in the EST count but are referred to by letters added to a single entry number.

Application of the key-sign and key-word criteria – examples

The use of the key-sign and key-word criteria on the second level of the analysis of content organization may be illustrated by applying it to some samples of the text, to show how these criteria can expose underlying organizational structure. Tables 8 and 9 will show which entries are organized by grouping according to key-sign and key-word semantic fields and how these fields interrelate. In Table 9 two samples will be given because Hh has two parts with very different content: division 1 will be taken to represent the first two divisions, which treat abstract administrative and legal terminology, and division 3 will be taken to represent the rest of the Hh, which treats concrete material objects and locations. All key-signs (i.e. signs that are shared by multiple consecutive entries) will be listed and those key-signs that are also key-words will be marked. The semantic range of each key-sign and key-word will be indicated by English translations - these ranges combined will set the semantic parameters for the next level of analysis.

Table 9. Key-signs organization in Hh divisions 1 and 3

EST	**Key-sign** hyphens (-) indicate morpheme status **bold type** indicates key-sign=key-word	**Semantic field** *italics* indicate morpheme status **bold type** indicates key-word
Hh 1		
1003-4	ŠU-	*'hand'*
1005-6	-BA	*'to give'*
1008-10	BA.AN-	*CONJUGATION PREFIX*
1012-9	ŠU-	*'favour'*
1022-6	-BA	*'ration'*
1027-8	$ŠAG_4$-	*'heart; inner part'*
1029-30	MUR-	*'fodder'*
1031-3	IGI-	*'eye'*
1035-6	-DÉ	*'to bring'*
1036-9	NÍĜ-	*'thing'*
1042-61	**MÁŠ**	**interest**
1065-6	$-GI_4$	*'to turn go around; change'*
1067-8	NÍĜ-	*'thing'*
1069-74	**DAM**	**spouse**
1076-82	**DUMU**	**child**
1081-89	-A.NI	*POSSESSIVE SUFFIX*
1096-9	ŠU-	*'hand'*
1100-3	**ŠE GUR$_{10}$ KUD**	**barley harvest**
1104-6	**EBUR**	**harvest**
1108-9	KI-	*'place'*

1112-3	KI-	*'place'*
1117-8	**ÁĜ**	**to measure**
1122-3	**UGU**	**upon; against**
1125-6	**NAM.TAB.BA**	**partnership**
1136-40	**SÁM**	**price**
1147-8	-ÀM	*DISTRIBUTIVE SUFFIX*
1150-1	-GIN$_7$	*DECLINATION SUFFIX*
1153-4	Ì-	*CONJUGATION PREFIX*
1155-7	**KUG.BABBAR**	**silver**
1157-8	**GUB**	**to stand; guarantee**
1159-61	-E.MEŠ	*CONJUGATION SUFFIX*
1161-2	**DIRIG**	**to exceed**
1163-4	**TUKU**	**to have**

Hh 3

3a003-9	**ESI**	**ebony**
3a013-5	**KÍN**	**?**
3a020-28	**ĜEŠTIN**	**vine**
3a029-36	**PÈŠ**	**fig**
3a036-43	**HAŠHUR**	**apple**
3a044-7	**Ù.SUH$_5$**	**pine**
3a048-50	**ŠIM**	**incense**
3a051-2	**ŠENNUR**	**medlar**
3a053-5	**LAM**	**pistachio**
3a057-62	**ÍLDAG**	**poplar**
3a064-5	**A.AB.BA**	***kušabku***
3a067-76	**MA.NU**	**willow**
3a077-84	**TIR**	**grove; wood**
3a088-96	**MES**	**big tree**
3a097-9	**EREN**	**cedar**
3a100-13	-UM	*AKK. DECLINATION AFFIX*
3a117-52	**NIMBAR**	**date**
3a152-3	ŠAG$_4$-	*'heart; inner part'*
3a154-5	**PA**	**branch**
3a157-81	**NIMBAR**	**date**
3a182-6	**ÁSAL**	**poplar**
3a188-90	**KIŠI$_{16}$**	***ašagu***
3a191-98	-UM	*AKKADIAN NOUN*
3a197-8	**ZAR**	***sheaf***
3a200-1	**ZÚ.LUM.MA**	**date fruit**
3a204-5	MAŠ-	*PHONETIC ASSOCIATION*
3a207-8	**DURME**	**chain**
3a211-2	**GIL**	**foliage**
3a217-9	**BA**	**cutting tool**
3a224-58	**GU.ZA**	**chair; seat**
3a259-64	**NA**	**box**
3a265-72	**ŠÚ-A-DIŠ**	**stool**
3a273-5	**GÌR.GUB**	**foot-stand**
3a276-86	**NÚ**	**bed**
3a287-91	**BANŠUR**	**table**

3a292-5	**KA.KARA$_X$**	**table**
3a297-305	**ÉMERAH**	**jug**
3a307-12	**KUN$_4$**	**stairs; ladder**
3a313-8	**BÚNIN/BUNIN$_4$/BUNIN**	**bucket**
3a319-23	**NÀĜA**	**mortar**
3a328-9	**MI.RÍ.ZA**	**helm; rudder**
3a330-64	**MÁ**	**boat**
3a365-6	**AN.TI.BAL**	**sign(post)**
3a369-70	**ŠÍBIR**	**standard**
3a370-1	**GAG**	**peg**
3a374-87	**GIGIR**	**chariot**
3a388-91	**GAG-SÌLA**	**freight cart**
3a392-4	**ŠID.DÙ**	**?**
3a395-9	**ÙSAN**	**whip**
3a400-5	**MAR.GÍD.DA**	**cart; wagon**

In division 1 it is found that key-signs are as likely to be loose morphemes as (key) words. A number of morphemes are declination or conjugation affixes, but most are nominal or verbal elements that occur in series of compounds. These elements have intrinsic meanings which are frequently irrelevant to the meaning of the compound words in which they are found (such meanings are given in quotation marks). This implies that a substantial part of the actual sequence of entries was guided by a semantic association under the level of word association. Apparently many entries were grouped together so as to repeat certain morphemes, which systematically coincide with certain graphemes. This shows that the text was partially organized according to sign form. Even if the thematic nature of division 1 is undoubted (as will be shown next), the initial part of the Hh curriculum may therefore be said to include a certain degree of vocabulary acquisition organized by graphic association, a principle known from other series.

In division 3, on the contrary, key-sign is virtually synonymous with key-word and key-signs with morpheme status, such as frequently found in division 1, are rare. An interesting feature uncovered by applying the key-sign criterion, however, is that it shows that some groups of entries are ordered by the Akkadian declination suffix –UM. These entries are, in fact, Akkadian words: the -UM suffix, which includes mimation, represents Old Babylonian spelling and was a conventional attribute of Akkadian loanwords in Sumerian. On at least one occasion an Akkadian loan word is actually the translation of a logographic Sumerian form that precedes it: 3a194 ṢU.TE.NU.UM is the translation (AHw form *ṣudianu*) of 3a193 PEŠ.KAL. Generally these words tend to occur in clusters in the tree list part of division 3. This means that key-sign clusters consist either of collections of key-word entries or of collections of Akkadian words. The vertical organization of content within Hh 3, in other words, functions almost exclusively at the level of *word-association*, unlike that in Hh 1, where graphic distinction at morpheme level is also found. When those key-sign clusters are seen in the context of all other logograms (cf. composite edition) it is found that the *whole* entry inventory for this division represents a simple word list, clearly semantically associated as trees, wood types and wooden objects, and that the only forms of sub-organization found in this listing are the repetition of key-words in compound expansions (which include many adjectives) and the clustering of the occasionally included Akkadian loan words.

For division 3 key-signs have been found to systematically overlap with key-words, but for division 1 they cover distinctly separate semantic fields. For division 1, however, it was established that part of the organization depends on association under word level, clearly setting it aside from division 3. Because the example of division 1 represents both divisions 1 and 2 and the example of division 3 represents all other divisions, it may be said that the early part of Hh (Hh 1-2) was differently organized than the rest. The hybrid vertical organization of content in the first two divisions, combining graphically organization with thematic organization, effectively provides a *transitional exercise* between the elementary sign-lists and the thematic lists. In this regard G may be considered as a continuation of the PN/DN analysis started in SaAP1. A closer inspection of the division 1 sample will show how this hybrid status was effectuated: Table 10 below will investigate how in Hh1 the relation between graphic organization and thematic organization was established through assigning key-word status to the key-signs (the latter were identified in Table 9).

Table 10. Relation of key-signs and key-words in Hh division 1

Entry	**Key-sign** **bold type** indicates key-sign=key-word	**Key-word** *italics* indicate key-sign **bold type** indicates key-word	**Semantic field** **bold type** indicates key-word
1001	-	UR_5.RA	loan
1002	-	EŠ.DÉ.A	loan
1003-4	ŠU-	*ŠU*.LAL/BAL	gift; transfer
1005-6	-BA	NÍĜ/IN.NA.AN.*BA*	gift; to give
1007	-	A MU.UN.NA.RA	to dedicate
1008-10	BA.AN-	*BA.AN*.DÙ/BAL/DUH	to build
1011	-	MU.UN.NA.DÍM	to create
1012-9	ŠU-	*ŠU*.ĜAR GI/NÍĜ.ĜÁL.LA etc.	favour
1020	-	ZI KAR.RA	to take life
1021	-	HA.LA	share
1022-6	BA-	^{ĜIŠ}ŠUB/ŠE/Ì/SÍG/TÚG.*BA*	allotment; ration
1027-8	$ŠAG_4$-	*$ŠAG_4$*.ĜÁL/ĜAR	sustenance; hunger
1029-30	MUR-	*MUR*.GÚ/GUD	fodder
1031-3	IGI-	*IGI*.SÁ/KÁR/DUH.A	tax; tribute
1034	-	SÁ.DUG_4	offering
1035-6	-DÉ	KAŠ/NÍĜ.*DÉ*.A	to bring
1036-9	NÍĜ-	*NÍĜ*.MÍ.ÚS.SÁ/ŠU.TAK_4/MU.PÀD	gift; (bride)price; oath
1040	-	KUG.BABBAR.PAD.DU	lump of silver
1041	-	KI.LAL	weight
1042-61	**MÁŠ**	**MÁŠ** (^{D}UTU) etc.	**interest**
1062	-	NU/BA.AN.TUKU	not having; bearing
1063	-	SAĜ.DU	head
1064	-	É.GI.A	bride
1065-6	-GI_4	(UGULA) DAG.*GI_4*.A	city quarter
1067-8	NÍĜ-	*NÍĜ*/*NÍĜ*.KUD.DA	possessions; revenue
1069-74	**DAM**	**DAM** (GURUŠ/LÚ/BÀNDA etc.)	**spouse**
1075	-	NIN	females
1076-82	**DUMU**	**DUMU** (MÍ/-UŠ/GAB)	**child**
1081-9	-A.NI	**DUMU**/ŠEŠ/NIN/AD/AMA.*A.NI* etc.	relatives
…	…	…	...
1090	-	KI	place; earth

1091	-	NAM	in; fate
1092-4	SAĜ	SAĜÌR/GÉME/GÉME.ÌR	domestic personnel
1095	-	IGI	eye
1096-9	ŠU-	*ŠU* BA.AN.TI/ etc.	to take (a fee)
1100-3	**ŠE GUR$_{10}$ KUD**	(UD/EGIR) **ŠE GUR$_{10}$ KUD**(.ŠÈ)	**to harvest**
1104-6	**EBUR**	MU.UN.KUR$_9$ **EBUR**.ŠÈ etc.	**harvest**
1107	-	MU.UN.KUR$_9$ ŠE	in-gathering of barley
1108-9	KI-	-UD=KISLAH/-KAL=KANKAL	threshing floor;ground
1110	-	UD	day count
…	…	…	...
1111	-	ITUD	month count
1112-3	KI-	-KAL/ĜIZKIM.BI.DA	conform its summons
1114	-	ÉD/ÈD	to move out; go up
1115(-6)	-	LAL	to weight
1117-8	**ÁĜ**	(ŠE) Ì.**ÁĜ**.ĜÁ(.E.MEŠ)	**to measure** (barley)
1119	-	KUG.BABBAR LÁ	to weight silver
1120	-	ŠÚM	to give
1121	-	GUR	to return
…	…	…	...
1122-3	**UGU**	**UGU**.ZU.NE.NE/BI.NE.NE etc.	(to have) **upon**
1124	-	TUKUM.BI	soon; if
1125-6	**NAM.TAB.BA**	KUG.B. **NAM.TAB.BA** etc.	(silver of)**partnership**
1128	-	BAL	to turn over
1129	-	KUG.B *ù* MÁŠ.BI	PHRASE
1130	-	ŠE *u* MÁŠ.BI	PHRASE
1131(-2)	-	GI.GI	to return; pay back
1133	-	KI LÚ.SILIM.MA.TA	PHRASE
1134	-	*ù* LÚ.SILIM.GI.NA.TA	PHRASE
1135	-	KUG.B.BI ŠU BA.AB.TEĜ$_4$	PHRASE
1136-40	**SÁM**	**SÁM**.BI(.ŠÈ) IN.ĜAR/TIL.LA etc.	**price**; to pay
…	…	…	...
1141	-	INIM NU.ĜÁ.ĜÁ.A	PHRASE
1142	-	MU PÀD	to swear an oath
1143	-	TÚM	to take away
1144	-	AN.TI.BAL	sign
1145	-	KI.BI.ĜAR.RA	exchange
1146	-	GAB.RI.A	equivalent
1147-9	-ÀM	ŠU.RI.*ÀM*/IGI 3 ĜAL.*ÀM* etc.	DISTRIBUTIVA
1150-1	-GIN$_7$	ŠEŠ ŠEŠ.*GIN$_7$*/LÚ LÚ.*GIN$_7$*	equally
1152	-	NÍĜ.NAM.A.NA Ì.ĜÁL.LA	PHRASE
1153-4	Ì-	*Ì*.BA/GU$_7$.A	to divide; consume
1155-7	**KUG.BABBAR**	**KUG.B**.TA GUB.BA/DUH.A etc.	**silver**
1157-8	**GUB**	MÁŠ KUG.B.BI.ŠÈ AL.**GUB** etc.	**to guarantee**
1159-61	-E.MEŠ	DUH/SI.SÁ.*E.MEŠ*	to redeem; fulfil
1161-2	**DIRIG**	ÍB.**DIRIG.**GA.E.MEŠ etc.	**to exceed**
1163-4	**TUKU**	(NU.)BA.**TUKU** etc.	**to have; take**
1165	-	NINDA.BI Ì.GU$_7$.E	PHRASE
1166	-	TUG.BI AL.MU$_4$.MU$_4$	PHRASE
1167	-	ŠE <Ì.>ÀR.[RA]	PHRASE
1168	-	BA.ÚŠ BA.(AN.)TAK$_4$.A	PHRASE

1169	-	UGU/Ú.ĜU$_{10}$.UŠ BA.AN.DÉ	PHRASE
1170	-	ĜÁ.LA BA.AN.DAG	PHRASE
1171	-	UD ĜÁ.LA BA.AN.DAG	PHRASE
1172	-	UD 1^{KAM} BÁN ŠE.TA.ÀM	PHRASE
1173	-	Á.BI Ì.ÁĜ.E	PHRASE
1174	-	UD KUG.B MU.UN.TÚM	PHRASE
1174a	-	UD KUG.B Á.BI MU.UN.TÚM	PHRASE
1175a	-	GÉME.A.NI BA.TÚM	PHRASE
1175b	-	ÌR.A.NI BA.TÚM(.MU)	PHRASE
1176	-	Á.BI ÍB.SI.SÁ	PHRASE
1177	-	IN.NA.AN.ŠÚM	PHRASE

As in division 3, the inventory of semantic fields for division 1 (right-hand column of above table) can be explained as a simple listing of word(group)s, that are semantically related on an abstract level. In the final analysis this means that division 1 is intended as a thematic list. In fact, historically the text of Hh divisions 1-2 is a separate thematic exercise, dealing with administrative and legal phraseology and was only secondarily incorporated in Hh in an adjusted and expanded form (cf. Appendix 3 of the composite edition). An residue of the original structure may be found in some entries that consist of complete administrative and legal phrases, rather than the mere words or noun phrases that are found in the other divisions of Hh. Some of these entries have to be read consecutively (e.g. 1113 'Conform its summons...' 1114 '...he has moved out'; 1133 'From all debtors...' 1134 '...and from all guarantors'; 1152 'Whatever there is of it...' 1153 '...he has divided'). The last section of division 1 as well as the entries 194-200 of division 2 actually consists of complete blocks of legal texts (concerning marriage and the manumission of slaves).

Within its semantically coherent framework, however, divisions 1-2 systematically set out to group entries according to graphic association: relevant expressions and terminology are collected in clusters according to graphic criteria (e.g. the BA.AN- verbal prefix cluster 1008-10, the ŠU cluster 1012-9, the MÁŠ cluster 1042-61 and the SÁM cluster in 1136-40). Sometimes one graphic association is linked to the next, such as in 1036 NÍĜ.DÉ.A, where the DÉ element is shared with preceding 1035 and the NÍĜ element with following 1037-9. The shared graphic element may be a morpheme or a word, but it is the graphic link that counts as the organizing principle guiding the formation of these clusters. The mixed collection of graphic and semantic associations and text passages effectually results in an exercise that involves working with different aspects of cuneiform writing. The positioning, at the start of Hh, of an exercise that in some regards continues the integrative methodology found in earlier series and in other regards simultaneously represents a thematic lists, could be considered didactically functional (conceivably its positioning was intentional in this regard). Hh 1-2 effectively functions as an exercise that combines training in basic compositional skills and the mastering of the integrative methodology, found in the elementary series, with the acquisition of thematically organized vocabulary that dominates the thematic series.

Horizontal ruling

Before proceeding to the next level of content analysis, which involves abstract semantics, it is appropriate to reconsider horizontal ruling, a phenomenon already mentioned earlier as a formal feature but apparently also related to the organization content at an intermediate level. Appendix 2 of the text edition clearly shows that continuous ruling between all entries is a feature particular to the unilingual format and that, vice versa, intermittent ruling between

selected entries is particular to the bilingual format. In the first case ruling obviously does not organize content on a level above that of the individual entry, but in the second case the question is what criterion is applied to the choice of entries to be divided by ruling. A few criteria can immediately be discounted. Nowhere in the Emar Hh text is intermittent ruling used for counting lines, a device known from other texts found elsewhere. Neither is intermittent ruling in the bilingual format dependent on any inventory relation between the uni- and bilingual versions: this is clear from a comparison of those texts that have the same version in both formats (divisions 1-2). The actual criterion applied therefore must be content-related, even if it only happens to be applied in bilingually formatted texts.

A closer look at the actual autographs of the bilingual texts, allows the formulation of some rules for the selection of entries for ruling. First, the lines are not 'under-rulings' of particular entries but rather *divider* lines that primarily serve to mark text blocks. Second, those blocks are mostly *graphically distinct* in an obvious fashion. E.g., in the autograph of 1T3 (731044 – p.125) column I shows lines around blocks with the entries such as 1012-9, 1023-6 and 1036-9, which have common graphic elements that clearly stand out in the lay-out (respectively initial ŠU, final BA and initial NÍĜ). Third, in sections that lack characteristically distinctive graphic elements, such as those with longer phrases or sentences, a relation to graphic distinction could not be strictly maintained and the divider lines were instead used to mark text blocks that are *semantically coherent*. E.g. the sentence UD 1 KAM BÁN ŠE.TA.ÀM / Á.BI Ì.ÁĜ.e 'each day one *sutu* of barley / as wage shall he measure out.' is divided over the two entry lines 1172-3 but is marked off as a text block by divider lines. In certain cases both a graphic and a semantic division is indicated, e.g. in 10T1, which deals with stones and marks of text blocks that often have the standard sequence: 0 stone type (key-word entry), 1 KIŠIB ('seal made of') + stone type, 2 LAGAB ('block of') + stone type and 3 ÉLLAĜ ('cameo made of') + stone type. Throughout the bilingual texts it is found that in some instances divider lines are applied in a somewhat haphazard fashion, but it may be said that, as a rule, intermittent application of horizontal ruling in the bilingual format primarily serves to indicate graphic distinction and more rarely semantic distinction. This primarily graphic criterion means that, by and large, the occurrence of divider lines coincides with the occurrence of key-signs, which in the later divisions of Hh mostly have key-words status.

An answer to the question why intermittent divider lines are particular to bilingual texts may be sought in the curricular position of the bilingual format, which represents the first stage in the treatment of the Hh texts. Apparently, at this earlier stage it was felt that the student was in need of some 'crutches' before tackling Hh in its final form. One of these 'crutches' was the addition of the Akkadian translation of the entries and another was the subdivision of the text by means of divider lines, primarily according to graphic distinction of the entries. This intermittent application of divider lines in the early stages of the treatment of Hh is a practice also found to be consistently applied in the lists that precede Hh in the curriculum (such as Svo and SaV) - effectively it allowed the student to continue working with the new text along familiar lines. The link between intermittent ruling and the bilingual format may be seen as didactically functional in terms of the curricular program.

Between level 2 and level 3

Investigation of the vertical organization of content on both levels 2 and 3 (key-sign/-word and division respectively) can use empirical data derived from the text material. However, on the intermediate level between them, an exclusively *synchronic* investigation would involve abstract semantic criteria that lack explicit, empirical criteria. Such an approach is bound to

invite projection of modern categories and classification strategies on material for which no relevant explicit discourse is available. It is tempting to speculate on the reasons why, within a given division, key-words occur in a certain sequence and about the possible semantic categories distinguished within each sequence. However, 'hard' evidence in the form of verifiable, empiric data is lacking when the synchronic approach is followed. An example of the limitations on empiric verification may be found in the interpretation of the combined translations for division 3. This interpretation shows that a section on trees or wood types is followed by subsequent sections on wooden furniture, boats and wagons. However, the semantic fields implied by the translations are not confirmed by empiric data such as consistently shared key-signs, let alone explicit remarks on inventory[78]. Therefore, no definite conclusions regarding the compositional principle are possible: the overall composition may have resulted from intentional semantic distinctions but may equally be the result of random historical accretion. In general, graphic association (such as provided by key-words) seem to cause entry-clusters[79], but why such clusters are ordered they way they are and whether the semantic fields that may be projected on them by the modern observer were actually relevant to the ancient composers, are questions that remain open in a synchronic analysis.

The answer to these questions ought to be sought in a *diachronic* approach. Such an approach falls largely outside the scope of this study, but a few general remarks should be made about the historical transmission of the Hh text. The purpose of Hh is to teach a large inventory of logograms representing Sumerian words that need a number of explanations: graphic analysis, pronunciation and translation. In the larger curricular context Hh occurs after a number of more elementary exercises which serve to teach basic writing skills through focus on graphic analysis. Once a student had mastered such basic writing skills he was then required to acquire a large vocabulary in order to actually read and write Sumerian texts: Hh, with its extensive inventory of words, obviously served to provide him with part of this vocabulary. This choice of Hh was compulsory and all texts that served the education of scribes were part of a traditionally transmitted corpus. In it, there was little room for improvisation or manipulation on the part of either teacher or student, which explains it remarkable stability throughout large areas of the Ancient Near East and throughout long ages. The inventory and sequence of the text, in other words, had to be reproduced by successive generations of scholars in a form that was intended to preserve tradition. Change that occurs over time, including addition of vocabulary, involved content rather than structure and it was organic rather than programmatic. If the need was felt for reinterpretation, reorganization or simplification the old lists were not replaced, but new lists were added to the scholarly repertory. Such new lists always are always formed in reference to the old lists. This could take the form of excerpts (Practical Vocabulary of Assur), expansions (Aa), commentaries (HAR.GUD) or rearrangements (Izi). This process may be seen at work in the organic growth and resulting increase in subdivisions as Hh progresses towards its final canonical version as well as in the later composition of its HAR.GUD commentary. Modern questions concerning the entry inventory and sequence of Hh may therefore be considered to be of a diachronic, text historical, rather than of a synchronic semantic nature. The genesis of Hh from a collection of historically separate texts is an established fact: divisions 1-2 are variants of the texts found as KI.ULUTIN.BI.ŠÈ in the OB schools and other divisions have 'forerunners' in various separate thematic lists, some of which date back to the earliest stage of written history[80]. Hh as a whole may be considered as a pedagogically geared repository of historically heterogeneous thematic lists. Therefore, the vertical organization of content between levels 2 and 3 can only

[78] Closer analysis of organization of the ĜIŠ-list in Veldhuis, *Elementary Education*, 84-126.
[79] Ibidem, 111-3.
[80] E.g. the ED name lists (cf. MSL 12 4ff.)

be profitably studied by a text historical approach. Mostly, the diachronic field of enquiry falls outside the scope of this study but a few forays will be appropriate in the next paragraph, because they touch on the relation of semantic field and divisional text organization.

Level 3 – Division

To assist in the following division-level analysis of content, Table 11 below gives an overview of the content of the Hh series by listing the sections of each division, distinguished according to shared determinatives or key-words. Translations are added for the determinatives and key-signs specified. Some extra lines of commentary have been added, either to specify the content in more detail or to describe parts of the text not covered by single key-words. The specification of content and a detailed description of the consecutive text sections are needed because the division-level analysis of content can only proceed after additional sub-division level investigation. Such investigation is possible based on the attestation of *additional* subdivisions in diachronically equivalent Hh material, viz. in the canonical equivalents. In Table 11 such additional subdivisions are indicated by double division lines. In conjunction with attestation of other subdivision strategies in other periods and places, including synchronically in Ugarit (cf. Appendix 2 of Part 2), the additional subdivisions suggest that certain divisions attested in Emar were empirically 'sub-divisible' into smaller units. A confirmation of the validity of this 'sub-divisibility' is provided by the fact that Emar division 3 is found as a single unit in most attested texts but is exceptionally subdivided on one occasion (3bT1 and 2). On that occasion the split occurs exactly where it is consistently found in the canonical version. Because divisions were always defined in a semantically coherent manner, the 'sub-divisibility' indicates that the ancient scribes distinguished semantic units within certain divisions even although they appear as single units. What was the extent of these additional semantic distinctions, is probably not fully retraceable. The maximum extent of 'sub-divisibility' in Hh is found in the canonical version and other semantic subdivisions recognized by the ancient scribes remain hidden. What may be done, however, is to project the rules applied by the ancient scribes in determining the attested division borders on parts of the text without explicit semantic distinctions. Some of these rules may be reconstructed from the diachronic analysis, i.e. by comparing the Emar and the canonical tablet division and relating the differences to content. A concise comparison is provided in Table 11 below.

Table 11. Content of Hh divisions

broken line: Emar tablet division // double line: canonical tablet division

Emar division		**Content** DETERMINATIVES and KEY-WORDS	**MSL tablet**[81]	**Translation of determinatives and description of content** SMALL CAPS: translation; *italics*: description
1			I	*administrative and legal terminology*
2			II	*administrative and legal terminology*
3	3.1	ĜIŠ	III	WOOD: *trees, palm tree cultivation, tree parts*
	3.2		IV	WOOD: *tools, furniture, boats*
			V	WOOD: *wagons*

[81] Cf. Cavigneaux, 'Lexikalische Listen', 627.

4			WOOD: *doors, locks, loom parts*
		VI	WOOD: *tools, agricultural equipment*
		VII	WOOD:*weapons,music instruments,statues*
5	GI	VIII	REED: *walls, covers*
		IX	REED: *mats, baskets, handicrafts*
6	DUG	X	POTTERY
7	KUŠ, AN, IM, URUDU, ZABAR, KUG.BABBAR, KUG.GI	XI	LEATHER: *skin types, shoes, clothing, bags* TIN, PASTE, COPPER
		XII	BRONZE, SILVER, GOLD
8	UDU, UZUD, MÁŠ, GUD, ÁB, ANŠE, EME_X, DÙR	XIII	SHEEP, GOAT, HE-GOAT, LAMB, OX, COW, DONKEY, SHE-ASS, DONKEY-FOAL
9	MUŠ, UR, *various wild mammals*, BA.AL.GI, $KIŠI_8$, EH, NIM, $BURU_5$, UZU	XIV	SNAKE, CANINE AND FELINE PREDATORS,*various wild mammals*, TURTLE, ANT, VERMIN, FLY, INSECT
		XV	MEAT: *anatomy*
10	NA_4	XVI	STONE: *stone types, jewellery, medicinal stones, tools, weights*
11	Ú	XVII	VEGETATION
12	KU_6, MUŠEN	XVIII	FISH, BIRDS
13	SIG, TÚG, GADA	XIX	WOOL, CLOTHING, FLAX: *various garments*
14	$A.ŠAG_4$	XX	FIELD: *field and cultivation types*
15	KI	XXI	PLACE: *topography - cities, lands*
16			PLACE: *topography - cities, lands*
	(KUR,) ÍD, ÉG, TÚL, (PA_5,) MUL, ÉŠ	XXII	(MOUNTAIN,) RIVER, LEVEE, WELL, (CANAL): *topography - mountains,watercourses* STAR, ROPE
17	TU_7, KAŠ, ŠIM, SÚN, ZÍD, NINDA	XXIII	SOUP, BEER, MALT, SPICE, FLOUR, BREAD
18	Ì, GA, NU.ÚR.MA, U_4.HI.IN, ZÚ.LUM.MA, [MUN, NAĜA,] ESIR	XXIV	OIL, MILK, POMEGRATE, DATES, [SALT, MORTAR,] BITUMEN

In order to gain insight into the semantic categories relevant to the ancient scholars it will be attempted to reconstruct some of their own rules for semantic distinction. Other than those implied in the synchronically attested divisional divides, the only other semantic distinctions that may be considered empirically valid are those based on an analysis of the relations between diachronically diverging tablet divisions. For the relation between the LBA Emar and the 1st Millennium canonical tablet divisions these divergences are found where the 1st Millennium divisions cut into the Emar divisions. These intersections are indicated in Table 11 – note that the 1st Millennium divisions are marked by double ruling. There are two types of semantic distinction that emerge:

1. *Grapho-semantic distinction.* These are distinctions made with reference to a unifying determinative or key-sign (i.e. a determinative or key-sign that is found vertically repeated across a significant number of entries) on at least one side of the new divide. These

distinctions are characterized as *grapho-semantic* to indicate that they are not independent from graphic criteria, even if a semantic shift is implied. E.g. the relation of Emar division 5 to canonical division VIII/IX shows that a simultaneous graphic and semantic distinction was made between the section guided by key-sign KID (EST 5016-32, MSL 8286-349) and the section guided by key-sign GUR (EST 5033-57, MSL 9001-49). Similar distinction are found in the relations between Emar 7 to canonical XI/XII and Emar 9 to canonical XIV/XV, where they refer to the determinatives or key-signs ^{URUDU}/^{ZABAR} and BURU$_5$/^{UZU} respectively.

2. *Abstract semantic distinction*. These are distinctions made without reference to a unifying determinative or key-sign on either side of the new divide. These distinctions are abstract in as far as semantic quality is here clearly considered separate from the object it applies to, viz. writing. E.g. the relation of Emar division 3 to canonical division IV/V shows that a semantic distinction was made between the sections 'masts-poles-standards' (equivalents of MSL 3396-430) and 'wagons-chariots-carts' (equivalents MSL 4001-103). Neither of these sections has a common, distinctive key-sign. Similar distinctions are apparent in the relations of Emar division 4 to MSL V/VI and MSL VI/VIIa, where they refer to 'textile industrial machinery'/'craftsman's wheels' and 'spears'/ '(other) weapons' respectively.

The fact that there are two types of semantic distinction, at least for the LBA and 1st Millennium Hh texts, has two implications.

First, it shows that divisional organization was treated pragmatically: abstract semantic distinction was apparently as acceptable as grapho-semantic distinction. This means that divisional organization, as attested in Emar and the canonical version, was pragmatically implemented. This pragmatic implementation may have resulted in synchronically normative, i.e. traditional-conventional, boundaries but in diachronic perspective these are just coincidences.

Second, it implies that semantic distinction did occur independently from graphic distinction. If abstract classification in the lexical curriculum is defined as the consideration of meaning separately from the graphic and phonetic object of study than it may be said that the ancient scribes could and did use abstraction in their analysis of the Hh text. In other words, the organization of the written Hh text is at least partially determined by abstract classification. It is conceivable that the situation is different regarding earlier Hh texts. Abstract semantic distinctions may have been absent in earlier texts, as seems to be suggested by a superficial comparison of the OB and later divisional structure (cf. Appendix 2 of the composite edition). If so, it may be possible to argue that the accretion process and resulting quantitative growth in Hh over time caused the development of abstract semantic distinctions, i.e. it forced the scribes to think of strategies for the formal inclusion of additional material into the traditional lists. In that case the simple accumulation of knowledge would explain the rise of abstract semantic analysis: quantitative change resulting in qualitative change. This line of inquiry, however, is more relevant to a diachronic approach of lexical composition.

4.4. Curricular order within Hh

Linguistic format

Here the application of linguistic format will be treated as a empirical criterion by which to approach the apparent priorities in the curriculum and to explain the sequencing of the attested texts. This paragraph will address the issue of choice of linguistic format that presented itself at the conclusion of the analysis of the vertical organization in 4.2.2. . To make this possible, a statistical analysis of linguistic format needs to be conducted first, which will furnish information about its empirically verifiable use. An overview of the relevant data will be found in Appendix 1 of the text edition. A summary of the curricular order within Hh as provisionally reconstructed through the following analysis will be found in Table 12.

It is remarkable that in all but one of the divisions presented in a single linguistic format, this format is always bilingual. The exception is division 15, which has the KI-section in an (apparent) unilingual format, an which is attested only on one tablet, 15T1, and on one extract, 558 A. Before considering the apparent pre-eminence of the bilingual format, this exceptional case should be looked at more closely.

It should be noted that 15T1 also happens to be the only tablet in all of the Hh material that has both a unilingual format *and* intermittent ruling. Elsewhere in Hh intermittent ruling may be considered a reliable indication of linguistic format. This suggests that 15T1 *is* actually bilingually formatted. This is conformed by the extract: the extract conforms in content and sequence to the equivalent section of the unilingual tablet but also adds (some) actual Akkadian text. It may have been that the author formatted tablet 15T1 as a bilingual text, giving it the appropriate intermittent bilingual (as opposed to continuous unilingual) ruling, but that he simply left out the Akkadian. Such an omission is precisely what is found for most of the entries on the extract (only three of its eleven completely preserved entries have an Akkadian equivalent). An explanation for this aberration may be found in the analogous treatment of the rest of the KI-section when it is continued in the bilingual version of division 16. In the continued KI-section, in both attested bilingual tablets (16bT1 and 2) as well as in the only relevant fragment to preserve a substantial piece of its Akkadian column (558 H'), there are large parts (16bT1 III, 16bT2 I-II) in which the entries are not provided with an Akkadian translation. It appears that for this part of the Hh text, which gives geographical names that do not necessarily need translation, it was customary to dispense with (much of) the Akkadian content. This customary dispensation seems to have been consistently applied by the author of 15T1, who, to all appearances, treated his part of the KI-section as if to give an *implicitly* bilingual text. Thus it can be argued that, given its exceptional format, 15T1 in fact represents a *virtual bilingual* text.

Given, then, that all divisions attested in single linguistic format could actually be labelled as bilingual, it may be said that the bilingual format is empirically their regular, standard format. If we also consider that there are many divisions attested in a single linguistic format and that, in fact, there are no divisions which have the opposite preferential format, it may be said that the bilingual format is also the standard format for *all* of the Hh divisions. In other words, while all divisions of Hh can always be expected in the bilingual, they should apparently only be expected in the unilingual format for a special reason. Empirically, the bilingual format is the *default* format and the unilingual format the *marked* format, i.e. the attested material shows the empiric rule that unless the marked (unilingual) format is explicitly required for rendering a specific division, it is always, by default, rendered in the unmarked (bilingual)

format. Now it remains to be explained why in Hh the unilingual format appears as the marked format, and the bilingual format as the default format.

Application of linguistic format

Assuming that the text material under investigation always had *some* function in an educational framework, it follows that the marked or default status of each linguistic format also must be functional when applied to a given text. A choice was made regarding the application of each format to a given text based on the function of that format in the curriculum. If it is assumed that mastery of an exclusively unilingual format indicates a more advanced stage in the curriculum, in parallel to what has been shown in the near-contemporaneous curriculum of Ugarit[82], some conclusions can be drawn concerning the Emar curriculum. It should be remembered, however, that, lacking explicit data concerning the curricular organization, the resulting reconstruction can only be hypothetical. It is possible that the linguistic formats were, at least to a certain extent, applied in parallel, with material for each division being treated in the one and the other format in turn before the student proceeded to the next division. It is also likely that the curriculum could be slightly differently applied for each student, for example when one student needed to pay more attention to a specific exercise than another student. This may account for some of the unevenness in attestation record and format selection. A search for a rigid standard form for the Hh curriculum is discouraged not only by the loss of much text material and all of the oral curricular component, but also by its flexible appearance and eclectic nature. The following hypothesis, therefore, gives only a rough outline of the curriculum.

When a student had arrived at the stage of his education that he had to tackle Hh, it may have been first treated in the default (bilingual) format, perhaps in its entirety. In this first treatment the emphasis must have been on the first divisions because attestations for those generally outnumber those for the later divisions. The first divisions were, apparently, more commonly used material than the later divisions. This may indicate that, generally, the curriculum foresaw in a thorough mastering of the first divisions, followed later, perhaps only in as far as was deemed necessary, by progress into the later divisions. Later, at some appropriate point, the student was made to switch to the marked (unilingual) format, which was, however, only selectively applied. The record (Appendix 1 of the text edition) shows that relatively few Hh texts were produced in the marked format and that only some divisions were selected for its application. An attempt should be made to find objective criteria applied in this selection.

First divisions - core curriculum and complementary distribution of linguistic format

The first batch of unilingual texts on the inventory list (Appendix 1 of the text edition) is found in divisions 1 and 3, i.e. from among the same divisions that are quantitatively prioritized in the bilingual curriculum. Apparently these divisions, with cover legal phraseology (1-2) and the ĜIŠ-list (3-4), were considered as an especially important part of the Hh curriculum. This importance is shown by the quantity of attestations: the texts covering divisions 1-4 quantitatively cover about half of all attested Hh texts. The selection of this part of Hh for re-treatment in the marked (unilingual) format, therefore, does not seem random.

[82] Cf. W.H. van Soldt, 'Babylonian Lexical, Religious and Literary Texts and Scribal Education at Ugarit and Its Implications for the Alphabetic Literary Texts' in: M. Dietrich and O. Loretz (eds.), *Ugarit. Ein ostmediterranes Kulturzentrum im Alten Orient* 1: Ugarit und seine altorientalische Umwelt. Abhandlungen zur Literatur Alt-Syrien-Palästinas 7 (Münster 1995) 175 with a discussion pertaining to this issue in Ugarit, including references to the situation in the Old Babylonian school as well.

The frequently copied first divisions may be assumed to represented *core curriculum*. The first Hh text, division 1, is not only treated relatively frequently but is also given special treatment in respect of linguistic format. This division is the only one that retains the same logogram inventory and sequence in texts of both linguistic formats. The advancing student starting with the unilingual format was apparently made to rework the very first part of Hh without the Akkadian entries, but could stick to the familiar logogram inventory and sequence practiced in the bilingual format. Thus, the wide initial application of the default (bilingual) format, possibly even to Hh in its entirety, was followed by a narrow, selective application of the marked (unilingual) format to parts of it. The application of the marked format starting with the reworking of the core curriculum, the content and sequence of which initially remained unaltered.

Looking more closely at the attestations of the linguistic formats within the core curriculum, nuances may be detected in text treatment within it. Considering the bilingual format the following remarks may be made about its distribution in the core curriculum. The later parts of both the legal phraseology section and the ĜIŠ-section, i.e. divisions 2 and 4 respectively, are exclusively found in bilingual format, but with relatively many attestations (three tablets for each of these divisions). Their earlier parts, i.e. divisions 1 and 3 respectively, attested in both formats, have less attestations in the bilingual format than in the unilingual format (division 3 has two bilingual tablets, but these form are actually one text covering the whole division). This seems to imply a (partial) *complementary distribution* in the use of the respective formats for the core section of Hh: divisions frequently treated in bilingual format are *not* treated in unilingual format and divisions infrequently treated in bilingual format *are* treated in unilingual format. If the attestation record is taken to be reflect of the priorities of the curricular program, and not a whim of the teachers or some other coincidence, then it suggests a considerable degree of pedagogical sophistication. The only texts that were repeated in both formats are the initial sections of the two components of the core curriculum: the beginning of the legal phraseology and the beginning of the ĜIŠ-list. The selection of texts for specific exercises, according to the perceived priority of their content, is of course a basic pedagogical tool. The selection of choice texts for unassisted reproduction (i.e. without the 'crutches' provided in the bilingual format) is one possible implementation of this tool. In the Emar school such choice texts apparently also existed: at a certain stage students were expected to be able to reproduce the choice texts of divisions 1 and 3 in their traditional, exclusively Sumerian form (the unilingual format).

Later divisions - progressive compositional flexibility

In contrast to the situation in the textually stable first division, when the unilingual format is applied to later divisions, these take on a consistently and profoundly different aspect. In these divisions completely different versions (different in entry inventory as well as in sequence) are found and these versions systematically and exclusively coincide with a specific choice in linguistic format. After the core curriculum, unilingual texts are found in two places. The first of these is in divisions 7-9 and the second (only one text) in division 16. What is remarkable is that these are divisions in which, contrary to the first divisions and to some later ones, a single determinative no longer covers each whole division. The first division for which a unilingual text is attested after the core section of the curriculum, division 7, also happens to be the first division in which no single determinative is found: instead, it contains at least five determinatives (KUŠ and the metal determinatives) that give it structure in conjunction with additional key-words (cf. Table 11). The substantial deviations from the bilingual version attested in the unilingual version of the later divisions may actually be linked to the absence of a single unifying determinative. The inherent thematic segmentation of these divisions seems to have resulted in *compositional flexibility*, as reflected in the different versions of the text in the respective linguistic formats. At first, in divisions 3 and 7-9, the alterations observed (as far as their sometimes problematic reconstruction allows) are not of a very radical nature. Individual entries occurring in the bilingual version, or small groups of them, may be omitted in the unilingual version and (less frequently) vice versa, and many short sequences are inverted, but larger sections organized by the determinatives or the key-words are not omitted or inverted (cf. the different versions given in the composite edition).

If, however, the last attested unilingual text is considered in this light, the textual differentiation between the two linguistic formats is of a much more radical nature. In this text, 16aT1, the difference with the bilingual version, still limited in divisions 3 and 7-9, is considerable: the deviations are no longer limited in scope and now involve whole determinative or key-word sections, which may be omitted or added. No longer are all determinatives or key-words shared between texts of both linguistic formats: the unilingual version adds an E-section missing in the bilingual version and omits the KUR-section found in the bilingual section (cf. notes preceding concordance of 16b version). The increased inter-version differentiation suggests that compositional flexibility was in fact *progressive* as the curriculum advanced. This may imply that, as apprentice scribes progressed through the Hh curriculum, they were actually confronted with textual divergences, in which case compositional flexibility may have been intentional. In any case, the simultaneous existence of different text versions in the same archival context suggests awareness of divergences in the transmission and tradition of the Hh text on the part of the teachers.

Later divisions - structural omission

The attestation record clearly shows a general decrease in the number of tablets of both linguistic formats as Hh continues into the higher division numbers. Not only are less tablets found, also less of these tablets tends to be preserved. It appears that the later divisions where subject to (some degree of) *structural omission*: the production level of texts that treat the later divisions appears to have been consistently lower. This tendency may be considered as inherent in the structure of the curriculum. In the larger educational context it must be assumed that reproduction of the Hh text was not a purpose by itself, but a means to an end. Texts must have been copied only in as far as this served something else than mere text reproduction, otherwise an equal attestation frequency should be expected for all of the

divisions. Copying texts, then, must have had some other aim. If that aim is assumed to be the mastery of certain techniques, then both the tendency to progressive textual flexibility (resulting in multiple versions) and the tendency to structural omission of the later divisions, could be explained. The former could be explained by the compositional techniques, which apparently involved an increasingly flexible approach to the Hh text. The latter could be explained by the improved application of those techniques, i.e. by the progress of the apprentice scribes: as they advanced in skill, they may have been allowed to abandon the full rendering of full divisions.

The attestation record suggests that for the later divisions only rarely a full text was produced. Once the techniques taught in applying the bilingual format were mastered, there would no longer have been a need to continue copying each full Hh division. The more advanced application of the unilingual format in any case only applied to selected parts of Hh and seems to have been likewise abandoned once its technique was mastered. Instead, the pensum may easily have been covered by piecemeal treatment in extracts. This would have effectively meant continuing the regular initial treatment of any given lexical text[83] but abandoning the more advanced treatment provided by a full copy. This would explain why only a few multi-column tablets are found for the later divisions. It also shows the *ambivalent status* of fully written lexical texts: on the one hand they are meant as complete records of what is learnt, on the other hand the fact that they are produced at all implies that the apprenticeship of the author is not yet completed. From this perspective, true mastery of the lexical pensum may be defined as the ability to teach others rather than to produce a given text[84].

Thus, the apparent fragmentary treatment of Hh, as shown by the increased omission of complete text rendering, is in fact an indication of the *function* of Hh, viz. that of an exercise in an educational context. On the one hand, this causes complications in modern text edition, due to the considerable variations found and due to the difficulty of reconstructing the fragmentarily attested later divisions. On the other hand, studying the functionality of the educational program allows insights into its aims and methodology.

Extracts - distribution and linguistic format

Nine extract tablets with Hh material have been identified with certainty. In division 4 two further fragments, 545 R and 545 AQ, may also be extracts. A systematic listing of these extracts (and all others found in the Emar corpus) may be found in paragraph 11.1. . Three of the Hh extracts are (apparently) unilingual and the other six are bilingual. One of the bilingual extracts, 12E1, has phonetic instead of logographic Sumerian entries and another, 13E2, adds a third column between the Sumerian logograms and the Akkadian translations which offers a full phonetic spelling of the Sumerian words - these two extracts will be given special attention later on. If an extract is always an exercise that is preliminary to a complete text in relation to which it is defined[85] and if bilingual treatment represents a stage preceding that of unilingual treatment, then it may be expected that the use of linguistic format found in extracts is related to that in multi-column tablets. It will now be investigated what the attestation record has to say in this regard.

[83] W.W. Hallo, 'Notes from the Babylonian Collection II: Old Babylonian HAR-ra', *JCS* 34 (1982) 88ff.
[84] M. Civil, 'Lexicography' in: Lieberman (ed.), *Sumerological Studies in Honor of thorkild Jacobsen on his Seventieth Birthday June 7, 1974*. AS 20 (Chicago and London 1975) 130-1.
[85] Krecher, 'Schreiberschulung', 132.

Comparing the attested distribution of multi-column tablets with that of extracts across the divisions (Appendix 1 of the text edition), a striking contrast can be observed. For the multi-column tablets it was established that, relative to the material for the first four divisions, which account for about half of all Hh material found, the later divisions may be said to show structural omission. Regarding the extracts the situation is reversed: of the nine extracts, only two are found in the earlier divisions (4E1 and 4E2 covering the weaponry and the music instruments sections respectively). No extracts are founds at all for the core curriculum. In fact, extracts are found for some of the divisions that are among the least frequently found in the multi-tablet material. E.g. in divisions 12 and 13 the same number of attestations (one and two respectively) is found for multi-columned tablets as for extracts. The relative frequent attestation in the school archive of extracts for the later part of the Hh curriculum could be considered the mirror-effect of the structural omission of full texts discussed earlier. Lacking full texts, the archivist seems to have compensated this by preserving a relative high number of extracts in his collection.

The bilingual extracts conform in inventory and sequence to their multi-column counterparts and may be assumed to have been integrated in the bilingual stage of the Hh curriculum in a regular manner. The situation for the three unilingual extracts is very different. They are ostensibly unilingual but the only other common ground they show with the unilingual multi-column tablets is the absence of Akkadian equivalents: in form (intermittent ruling) and content (logogram inventory and sequence) they otherwise show the characteristics of the bilingual format.

Extracts - inter-version exercises

The first unilingual extract, 4E1, is the only unilingual text attested for division 4. There are two indications that, in fact, 4E1 was a *bilingual* text: first there is the sign *da-* in Obverse 4, which may be a remainder of the broken-off Akkadian column, and second there is the presence of horizontal rulings, which is a feature elsewhere consistently associated with the bilingual format. Of the other two unilingual extracts found in the later divisions, 7bE1 and 16bE1, the first is the only lexical text found outside the context of Archive 1. In form, however, it is matched by the second, allowing a joint analysis in terms of structural properties. Both these extracts are found among those of the later divisions that are attested in both the unilingual and the bilingual format. Here an interesting phenomenon can be observed: these two extracts only give the Sumerian logograms, but they give them according to the bilingual inventory and the bilingual sequence. In respect to ruling (partial or none) they also show the bilingual format. In effect, they completely conform to the bilingual format and only leave out the Akkadian element of the entries. It is conceivable that, in fact, they are *bilingual* extracts, the Akkadian column of which was broken off during exercises[86]. If, however, these tablets would prove to have lacked Akkadian equivalents in their original state as well, they could be considered *virtual bilingual* texts, a phenomenon that was also noted in the multi-column text 15T1 which also belongs to the later divisions.

In any case, these unilingual extracts effectively represent the 'missing link' between the two formats. Their logogram inventory and sequence consistently conforms to the standard bilingual text version but their lack of Akkadian equivalents shows that the learning goal of the bilingual format must have been the *Sumerian text*. Before proceeding to the unilingual format, the students had to be able to reproduce the bilingual version in Sumerian only - the

[86] Veldhuis (personal communication). Note that the square corners on the autographs are meant to indicate the original edges.

'inter-version' exercises shown by the unilingual extracts attest to it. If the assumption of a broken-off Akkadian column is correct, then the fact that extracts 7bE1 and 16b1 show a unilingual rendering of the bilingual logogram inventory and sequence also explains the difference between the unilingual and bilingual text versions: the bilingual version is only kept because originally there was a direct reference to the bilingual version. When no such referent is available, as in the multi-column tablets, the text versions given in each linguistic format immediately become divergent.

Extracts - phonetic exercises

Unique within the Hh corpus is 13E2, which is a bilingual extract but adds an extra column between the Sumerian logograms and the Akkadian translations, in which the Sumerian words are fully phonetically spelled. The slot that the extra phonetic spelling occupies within the entry (Civil-code 3) is that which in documents of later periods is regularly occupied by the sign name[87]. Within the Emar corpus, however, sign names are consistently found in the slot before the logogram (Civil-code 1), often instead of the pronunciation glosses expected there (cf. SaV T3-4). The extra entries given after the logograms in 13E2 are neither sign names nor glosses, but are clearly intended as a rendering of the full pronunciation of the Sumerian words represented by those logograms (e.g. ka-ad an-ti-il for 13050 GADA AN.DÚL). This attempt at full phonetic rendering seems only partially successful (especially with regard to vocalization) and raises questions about the level attained in the field of Sumerian studies in the peripheral school[88]. Also, it may reflect a certain degree of confusion between the categories pronunciation and sign name (e.g. the consistent rendering of NIN.DIĜIR.RA as i-ri-iš-ti-gi-ra or the rendering of ĜI$_6$ and SÍG in 13058b and 13060 as ki-ik-ki and ši-ki respectively). Taking these aberrations into account, it is conceivable that this extract actually gives a glimpse of a (Late Bronze) stage of development in the lexical list format during which slot assignment within the entry was still fluid, open to different realizations, a stage that ended when list format became canonized. Even if the exact phonetic object that the added column aims at and the normative context of slot assignment in 13E2, is occasionally somewhat ambivalent, it is clear from the added column of 13E2 that more knowledge of Sumerian was exercised in the school than normally meets the eye on the logographic surface of the most frequent Type I tablets.

This is confirmed by the 12E1, which is unambiguously geared to phonetic rendering of Sumerian phrases: it omits the Sumerian logograms altogether and replaces them with a purely phonetic rendering.

Apparently it was relevant for the apprentice scribe to practice the correct phonetic value of the Sumerian noun phrases before proceeding to the unilingual stage of the Hh curriculum, i.e. the stage at which the written text is given exclusively in logograms. This means that the required skills extended beyond the mere written command of Sumerian. Apprentice scribes were required to explicitly master a skill that has so far not been encountered in the attested curriculum: the coherent phonetic rendering of complex Sumerian word groups. Such phonetic rendering was primarily relevant in an oral educational context and only rarely do texts afford a glimpse of this lost oral dimension, which is why the two extracts 12E1 and 13E2 are of particular interest.

[87] Civil, 'Ancient Mesopotamian Lexicography', 2308 notes that the addition of this element is first attested in the Middle Babylonian period.
[88] Civil, 'Texts', 19.

Table 12. Provisional reconstruction of curricular order within Hh

Stages	Exercise	Relevant text material
1. bilingual excerpts for all divisions	consistent implementation excerpts with Akkadian equivalents or	only sporadically preserved: 4E1-2, 7bE1-2, 13E1, 15E1, 16bE1
	excerpts with Sum. pronunciation	12E1, 13E2
2. bilingual full text for the core curriculum	consistent implementation full texts with Akkadian equivalents and some glosses	1T3-4, 2T1-3, 3b1T1, 3b2T1, 4T1-3
3. unilingual full text for a selection of core curriculum	pragmatic selection full text without glosses - same as bilingual version or	1T1-2
	- different from bilingual version	3a1T1, 3a2T1
4. bilingual full text for all later divisions	pragmatic selection subject to progressive structural omission full texts but Akkadian occasionally omitted	5T1, 7bT1, 8bT1-2, 9bT1, 10T1-2, 12T1, 13T1'-2', 15aT1, 16bT1, 17T1', 18T1'
5. unilingual full text for a selection of later divisions	pragmatic selection full text without glosses - different from bilingual version	7aT1-3, 8aT1', 9aT1, 16aT1

Summary

4.1. Material - tablet inventory and typology:

1. The attested material includes many Type I and a few Type III tablets - a full inventory list precedes the text edition of Hh.

4.2. Formal features:

1. Vertical ruling organizes text lay-out primarily to provide columns and secondarily to provide slots for the various elements found in the horizontal entry as well for sign positioning within the logogram.
2. The horizontal organization in terms of the Civil-code is <1->2a(-b)(-4).
3. Glosses (<1->) are not a standard part of the horizontal organization - they only occur when didactically considered indispensable. They only occur in bilingual texts.
4. Determinatives (2b) do not represent a category of classification relevant for the analysis of the overall vertical organization of Hh. The vertical organization of content in Hh is guided by thematically defined semantic fields, many of which only *happen* to be indicated by determinatives.
5. Continuous and intermittent horizontal ruling are found to be features particular to the unilingual and bilingual format respectively. Intermittent ruling is related to (primarily graphic aspects of) content.
6. Variation and expansion in the number of divisions, diachronic and synchronic, is primarily caused by addition of Akkadian translations through the resultant increased size of the entries.

4.3. Vertical organization of content:

1. Semantic field may be analysed at two empirically verifiable levels between the level of the individual entry and that of the Hh text as a whole: *key-sign*/-*word* and division.
2. The application of the key-sign/-word criterion shows a difference between the organizational structure of divisions 1-2 and that of the rest of the series. The marked emphasis on graphic key-sign association in divisions 1-2 makes them an exercise that effectively occupies a transitional position between the preceding basic sign-list series and the thematically organized Hh divisions 3-18.
3. The application of intermittent horizontal ruling is related to (primarily graphic) content.
4. The exclusive use of intermittent horizontal ruling in the bilingual format is in line with the earlier curricular position of the bilingual stage: its use continues the application of intermittent ruling in the series preceding Hh.
5. Synchronic analysis of vertical organization of content on a level between that of key-sign/-word and divisions (attempted in previous literature by projection of anachronistic semantic interpretations), cannot be based on empirical data within the text corpus.
6. For analysis on such an intermediate level a diachronic (text historical) approach is appropriate. In this respect, Hh as a whole could be characterized as a pedagogically geared repository for a collection of historically heterogeneous thematic lists.
7. Diachronic comparison of the LBA and 1st Millennium divisional organization of Hh shows that there are two *emically* valid principles of semantic distinction: *grapho-semantic* and (non-graphic, abstract) *semantic* distinction. Both are applied pragmatically, resulting in pragmatic divisional boundaries.
8. The scribes used abstract (semantic) distinction in their analysis of the Hh text and the organization of the list is partially guided by abstract classificatory principles.

4.4. Curricular order within Hh:

1. In curricular context the bilingual and unilingual formats are, respectively, the *default* and the *marked* format.
2. The outline of a didactically geared program, which gives specific texts with specific exercises in a certain order, may be reconstructed within the Hh curriculum.
3. Tablet 15aT1, of unilingual content but bilingually formatted, is a *virtual* bilingual text.
4. Certain divisions may, by quantitative and qualitative criteria, be distinguished as *core curriculum*.
5. The occurrence of increasingly diverging text versions implies a *progressive compositional flexibility* related to the inherent thematic segmentation of the later divisions of Hh.
6. The relatively poor attestation record of Type I tablets for the later divisions may imply that the mastery of compositional skills by the students led to functional *structural omission* once that mastery was achieved.
7. The structural omission of Type I tablets and the simultaneous relative frequency of Type III tablets in the coherent archival context of M1 imply an *ambivalent status* of fully written lexical texts: such texts offer complete records of the pensum but the fact that they are produced at all also shows the incomplete proficiency of the author: true mastery of the lexical pensum relates to recall for transmission rather than to written production.
8. The primary bilingual stage focuses on semantic and phonetic definition and the secondary unilingual stage on correct writing.

CHAPTER 5 - LÚ=*ša*

5.1. Text corpus – tablet inventory and typology

The attested Lu material consists of three Type I and one Type III tablets as well as a number of loosely edited fragments. All Type I tablets have four columns on each side. Two of the Type I tablets (1T1-2) and all of the loosely edited fragments belong to Lu division 1. Lu division 2 is only found in one of the Type I tablets (2T1) and in the single Type III tablet (2E1). Regarding the reconstruction of the division 1 material it should be noted that 1T2 is only very fragmentarily preserved but that not all loose fragments, which include the remains of the colophon in 602AD, may automatically be assumed to belong to it. There are two fragments, 602 E' and 602T, that are incompatible with both 1T1 and 1T2, indicating that a third Type I tablet covering division 1 may have existed[89]. Because the loose fragments are all incompatible with 1T2 they may have been part of either 1T2 or of a unreconstructed third tablet. Regarding the reconstruction of the division 2 material it should be noted that all material consists of small fragments. However, because all of these fragments (except 602AJ, which covers an extract) are mutually compatible (some even have direct joins) and they all show the same formal features (bilingual format, horizontal and vertical ruling) they are provisionally assumed to be part of the single tablet 2T1. Due to the complexity of the reconstruction and the need for extensive corrections in the *Emar* VI 4 edition of the constituent fragments of 2T1, a table with an inventory and an edition concordance precedes the text edition. It should also be noted that 2T1 is unique within the Emar lexical corpus because it is the only attested *Sammeltafel*: it contains not only the text of Lu division 2 but also the first section of Izi (found on the LEE fragments 602AK+AL). Even if this implies that the scribes considered Lu and Izi as a single text unit - at least in certain respects - the Lu and Izi material will here be treated as separate compositions, due to clear differences in content and their conventional separation in other contexts (including the canonical text).

5.2. Formal features

5.2.1. Horizontal organization

Vertical ruling

Vertical ruling serves to provide the lay-out of the text with columns and sub-columns. In all material of both divisions most columns are divided into three sub-columns. On a few occasions subdivision of the column is omitted, viz. on 1T1 in VIII and on 1T2 in V, on both occasions, however, this applies only to one single column on a multi-column tablet. On one occasion more sub-columns, i.e. not three but four, are found, viz. on 1T1 in I (discussed below). The division of columns in sub-columns is often related to the positioning of the various different elements found within the horizontal entry, as was the case in the earlier series. This is clearly illustrated by sections such as found in 1T1 I-II, where the Akkadian equivalent occurs as the sole element in the last sub-column. However, throughout Lu the link between sub-column division and entry-element positioning is generally weaker than in the preceding series, including the basic sign lists and most of Hh. In Lu, instead, vertical ruling and sub-columns can also serve for *sign positioning* within the logogram element, i.e. for the

[89] Subject to collation. In fact, 602E' could be unilingual (it may be an extract) and 602T has a highly irregular entry sequence - features which are not matched in any of the other fragments. All other fragments are compatible with 1T2.

juxtapositioning of individual signs within it. This phenomenon was also found in the bilingual Hh texts and should be looked at in more detail.

Dual use of sub-columns – entry element separation and key-sign separation

In Lu, the first sub-column is quite consistently reserved for the *first sign* of the logogram, even if the text remains subject to the general scribal convention of *right-shift position*, which applies to those logograms that consist of only a single sign. Similarly, the third sub-column is quite consistently found to start with the *last sign* of the logogram. In this case the Akkadian equivalent is always located to the right of the last logogram sign, i.e. in the same sub-column, and it is always preceded by a separation marker. As a result of these positioning strategies, which place the first and last signs of the logogram in the first and third sub-columns respectively, the second sub-column is often left vacant (e.g. 1T1 I 12-15; III 25'-29'; 1T2 IV 12'-16').

The observed rules in the relation between sub-column division and sign position are by no means applied consistently. Most importantly, they do not apply if they would have interfered with the regular order of the different elements in the horizontal entry. Glosses always precede the logogram, even if it means that the gloss will replace the first sign of a logogram in the first sub-column slot (e.g. 1T1 I 29-30; V 4'; 13'-14'; 1T2 V 21'; 30'; 33'; 42-43'). This implies that the frequent relation of sub-column division to sign positioning found in the Lu material reflects merely a secondary purpose in the use of sub-columns by the scribes. It seems that, in Lu, sub-columns are *primarily* used for the purpose of separating various entry elements from each other and only *secondarily* for the purpose of separating various components within one of these elements, viz. within the logogram. This duality of purpose explains the noted unevenness in use of vertical ruling throughout Lu. The basic sequence of elements in the horizontal sequence (i.e. gloss-logogram-Akkadian equivalent) always remains unchanged underneath the raster of vertical lines and that same sequence guides at least part of the sub-column lay-out. Only secondarily did the scribes use sub-columns to separate signs within the logogram. This dual use is clearly illustrated in the first column of 1T1. Here there is an additional sub-column to cover purposes *simultaneously*: a fourth sub-column is added to accommodate the Akkadian equivalent separately after the last sign of the logogram in the third sub-column. Clearly here sub-columns did not serve only the purpose of separating different entry elements but also the purpose of separating signs within logograms.

A parallel phenomenon (i.e. a similar dual use of sub-columns) is found in many bilingual texts in Hh: logograms are systematically segmented by sub-columns in Hh divisions 1-2, 8-9 and 17-18. That such logogram segmentation by means of sub-column ruling occurs only in bilingual texts is to be expected because sub-columns are only found in bilingual texts[90]. What should be noted, however, is that the listed Hh divisions and Lu share their lack of initial determinatives. In view of the fact that initial determinatives are elsewhere always found in a separate sub-column, it is clear that bilingual thematic texts *always* use a separate sub-column for the positioning of their first sign. In other words, a sub-column for the first sign is provided not only where initial determinatives are found (such as in G and most divisions of Hh), but also where this is not the case. An explanation of this shared *form* may be found in shared *content*: in the first sub-columns of any bilingual thematic texts the first sign always tends to be a single, *repeated key-sign*, either in the form of a determinative or

[90] The only exceptions are the SaP texts and Hh 15T1: the former is explained by the fact that the palaeographic texts give two instead of one logograms in each horizontal entry line, the latter is explained by the *virtual bilingual* nature of the tablet in question (discussed in the paragraph on Hh).

otherwise. These key-signs repeat in the same slot (i.e. in the first sub-column) throughout longer or shorter entry sequences and its boundaries of which are formed by horizontal lines. A closer look at the lay-out of the Lu text makes this clear. E.g. on the obverse of Lu 1T1 the first sub-column of each column is subdivided into vertical sections by horizontal ruling and the content of these sections consists of either repeated key-signs or repeated MIN signs. Similar examples may be found in the relevant Hh material (cf. lay-out of bilingual material for the divisions listed above).

Thus, the evidence of Lu clearly shows that vertical ruling in sub-columns has a function in horizontal text organization as well as in vertical text organization: in the former in the distinction of elements for horizontal text organization and in the latter in the distinction of key-sign blocks in the vertical text. The latter function it fulfils in conjunction with horizontal ruling, effectively creating blocks of key-signs as distinct units within the lay-out of bilingual texts.

This combined operation explains the *simultaneous* difference in vertical and horizontal ruling between uni- and bilingual texts evident in certain divisions in Hh. There, unilingual texts omit all vertical sub-column ruling and have continuous (i.e. non-distinctive) horizontal ruling. In unilingual texts neither vertical nor horizontal lines serve to distinguish blocks of text. In contrast, bilingual texts have vertical sub-column ruling as well as intermittent horizontal ruling: these ruling patterns combined serve to distinguish text blocks. These different lay-out strategies suggest different didactic purposes for each linguistic format. On the one hand, the bilingual lay-out strategy systematically contrasts those parts of the text that remain the same (key-sign blocks) with those that do not, marking compositional contrasts between consecutive entries through focus on their minimal graphic oppositions. On the other hand, the unilingual lay-out strategy does not provide such a contrast and requires composition without any aid from tablet ruling. The implication is that unilingual composition required greater skill on the part of the apprentice scribe. In this regard it may be significant that none of the advanced lexical series in the Emar curriculum, including Lu, is attested in unilingual format. Apparently, the advanced series involved exercises that were considered merely auxiliary in terms of compositional skill, i.e. they focussed on logogram analysis rather than text composition. This results in a clear contrast between the exclusively bilingual advanced series and the frequently unilingual thematic series: the former are *systemic* (they analyse the writing system) while the latter are *compositional* exercises (they aim at the correct reproduction of a given composition).

Entry element inventory

In the Lu text three types of entry elements are found: glosses, logograms and Akkadian equivalents. With regard to entry element inventory the Lu series deviates from the Hh series it by its omission of determinatives. Rather, it matches the advanced series that follow it: the Lu entry element inventory appears to recur in all later series. Anticipating the below discussion of its constituent elements, its structure may be summarized by the Civil-code formula <1->2b-4.

Element 1 – the gloss

The use of glosses in the Lu series conforms to their use in the preceding Hh series: there are relatively few of them and they serve either to resolve ambiguities (e.g. in 1021-2 SAL-HÚB is glossed for two different readings, viz. $^{\text{la-ga-ar}}$ and $^{\text{e-me}}$ respectively) or to assist in the reading

of rare logograms (e.g. 1091 $^{\text{um-ma}}$ for ÚMUN and 1194 $^{\text{gud-da}}$ for GUDUG). In the commentary on the entry elements of Hh it was suggested that in the later stages of the lexical curriculum glosses are only added exceptionally and only when they are indispensable to the student. The frequency and distribution of glosses in Lu, a series which belongs in the same thematic stage of the curriculum as Hh, empirically conforms to this pattern.

Special contexts in which glosses occur in Lu are the use of phonetic writing for numbers, in 1003-5 where $^{\text{u}}{}_{5}$, $^{\text{ú-mi-na}}$ and $^{\text{in-nu-u}}$ are used for U '10', IMIN '7' and NINNU '50', and for Emesal words, in 1021-3 where $^{\text{la-ga-ar}}$ and $^{\text{e-me}}$ are followed by the phonetic spelling LI.BI.IR.

Element 2 – the logogram

With Lu continuing the thematic exercises G and Hh, it is no surprise to find that the role of the logogram in Lu is similar to that found in these other exercises: it is the indispensable central element of each entry, the semantic field of which the other elements serve to analyse. In an important contrast to G and Hh, however, the logograms of Lu are not systematically accompanied by their appropriate determinative. In G and Hh all entries that have a determinative outside the lexical corpus are given their appropriate determinatives, even if these sometimes take on a virtual form (i.e. if they are written only in the first and last few entries of each column and assumed for all entries in between). In Lu the human $^{\text{LÚ}}$ determinative, appropriate to its logograms and consistently added to them when they occur outside the lexical corpus are almost completely omitted. A few apparent exceptions will be looked at before investigating the reason for this deviation.

After the first few entries of Lu (1001a-g), where the sign LÚ is given alone and provided with a number of different Akkadian equivalents, its only attestations in initial position (i.e. before an entry, as appropriate when occurring as a determinative) are in 1108 LÚ.ÙR.RA and 1110 LÚ ŠAH.ŠUM.MA. That these attestations do not reflect inconsistencies due to scribal error is clear from the fact that that they are repeated for the same entries in two different texts (1T1 and fragment 602C+I). It could be proposed that in these two cases LÚ is explicitly written because it is not be read as a determinative but rather as an indispensable (part of a) *word*, i.e. similarly to how LÚ is read as a word in the initial entry sequence 1001a-g. The same situation occurs in English with certain words for professional titles, such as 'fireman' and 'postman', which cannot be written without the explicit morpheme 'man'. This proposition is confirmed by the fact that in 1108 the texts give the Akkadian equivalent as *lurrakku* (i.e. an Akkadized reading of the complete Sumerian logogram LÚ.ÙR.RA), indicating a pronunciation that included the LÚ morpheme.;;

In parallel to the *word* reading of LÚ in the above instances when it occurs in initial position, the feminine counterpart to LÚ, MUNUS, should also be read as a word when it is found in initial position (i.e. in 2068-75 and presumably to be reconstructed additionally in 2064-7 and 2015). It may be assumed that if LÚ can be omitted as a determinative in Lu, than MUNUS can also be omitted because it functions in an identical manner to LÚ: it too may be used as a word as well as a determinative. That this is the case is confirmed by the attestation of feminine nouns in the Akkadian equivalents for some entries which omit the $^{\text{MUNUS}}$ determinative for the logogram (viz. *šāhirat* in 2081-4): i.e. in Lu a logogram can be feminine without the need for a determinative. That MUNUS should indeed be read as a word when it is found in initial position is also shown by the content of some of the logograms in question: 2074 KASKAL and 2075 KAR mean just 'street' and 'quay' if not preceded by the word 'woman (of the)'. To give a specific feminine reference to the logograms in question, which is undoubtedly meant in

view of the Akkadian equivalents, they *must* be accompanied to the explicit *word* 'woman'. The same applies when a gender specification is needed for a basically gender-neutral professional title such as 2069 DUB.SAR 'writer' (the male equivalent is already listed in 1084).

On the basis of the above discussion it may concluded that Lu indeed shows a complete and systematic omission of both of the human-referent determinatives LÚ and MUNUS. This is, as noted, unusual in view of what is found for G and Hh, the other two thematic lists preceding it. A possible explanation may be that Lu should not be considered as a 'thematic' list in the same manner as G and Hh. There are two indications that the 'thematic' status of Lu may be doubted. First, Lu in fact has many entries that do not have an exclusively human referent. Starting with entry 1179 ĜARZA (*parṣū* 'rites'), there are frequent text sections that give words, both in the logogram and the Akkadian equivalent, that lack an obvious human referent. These include concrete referents (e.g. 1239-42 giving a list of nouns referring to the feminine genitals), abstract concepts (e.g. 1179-80 ĜARZA and BILUDA, *parṣū* 'rites' and *pilludû* 'rituals') and verbs (e.g. 1183a-f ŠAB with equivalents *nakāsu* 'to cut', *šarāmu* 'to break off', *harāru* 'to dig out' etc.). Second, if Lu and Izi are considered to be a single text, than the 'thematic' nature of the Lu-part could be considered dubious unit because Izi is clearly *not* thematic in nature. The fact that 2T1, in which Lu is directly followed by (the first section of) Izi, is the only *Sammeltafel* attested in the whole corpus indicates that Lu and Izi were treated as a single text unit by the scribes. That this is not just a unexpected aberration particular to one Emar text is clear from the fact that Lu-Izi combinations are known outside Emar[91]. If the 'thematic' nature of Lu may be doubted, than the fact that Lu deviates from the 'core' thematic lists with respect to formal organization, i.e. in its systematic omission of the determinatives, comes as less of a surprise. Rather, it may be argued that Lu omits the determinative precisely because it is *not (only) a thematic list*. This issue of the 'thematic' nature, or otherwise, of Lu itself will be addressed in the appropriate section on content organization (cf. paragraph 5.2.2.).

Element 4 – the Akkadian equivalent

As in the preceding series Hh, the general purpose of the Akkadian equivalents in Lu is to provide a straightforward translation of the logogram, as expected for a thematic series. What should be noted, however, is the fact that there are few occasions when the relation between the logogram and the Akkadian equivalent is not that of a straightforward translation of the former by the latter. Such deviant relations are sometimes found when a logogram alone is repeated a number of times for a number of different Akkadian equivalents: among these different equivalents some may be straightforward translations but other others may not. Clear examples are 1001e and g *bēlu* and *šarru* for LÚ, 1060b-d *ellu*, *ebbu* and *namru* for ŠÀ.TAM and 1183g and j *sūtu* and *mashutu* for ŠAB. The entries 1001 e and g, *bēlu* and *šarru*, reflect *pars-pro-toto* relations because the LÚ sign is part of the logogram required by both of these two Akkadian words, viz. LUGAL. These entries effectively anticipate the key-word LUGAL found in the following entries, 1002-1018. The relation of the other Akkadian equivalents to their logograms may be described as semantic association: the adjectival qualifications found in 1060b-d were apparently considered appropriate to the ŠÀ.TAM official, while the nouns found in 1183g and j, *sūtu* and *mashutu*[92], are both associated with SAB 'jar' (1183k *šappu*) in

[91] J. Taylor, 'A New OB Proto-Lu-Proto-Izi Combination Tablet', *OrNS* 70.3 (2001) 209-34 contains the edition of an OB tablet combining parts of Proto-Lu and Proto-Izi. Also cf. Veldhuis, 'A Late Old Babylonian Proto-Kagal/Nigga Text and the Nature of the Acrographic Series', *ASJ* 20 (1998) 209.
[92] Cf. AHw, 625 *mašhu* I (< *mašāhu*) 'Bierbecher'.

the semantic field of 'container'. These examples show that in Lu the relation between the logogram and Akkadian elements is occasionally realized differently than through straightforward or partial translation. In this regard Lu deviates from Hh. A parallel for such variety in the realization of the relation between elements 2 and 4 may be found in the elementary series Svo and SaV: semantic associations may be found in those series as well (cf. 1.3.1. and 2.3.2.1. respectively). It should be noted that such realizations of the relation between elements 2 and 4 consistently occur in those entry sequences which *repeat* a logogram a number of times: this is exactly what is found in SaV, which tends to give long series of repeated logograms. It should not be assumed that Lu had the same didactic purpose as SaV, but rather that it occasionally uses the same didactic strategy. In fact, by the occasional use of this strategy, i.e. the varied realization of the relation between elements 2 and 4, Lu does not so much return to a previous series type as anticipate the next series type. It will be seen that, with regard to horizontal organization, Lu shows affinity with the advanced series.

In another deviation from the earlier thematic series, Lu texts are found exclusively in bilingual format. An important aim of the Hh exercises was to enable apprentice scribes to reproduce unilingual compositions: the curricular structure of Hh has been shown to be geared towards this aim and many unilingual texts have been found as its end-product. Because the single published G text is bilingual in form but nearly completely unilingual in content (a similar phenomenon is also found in Hh), it could be said that unilingual composition was exercised in both of the first two thematic series. For Lu, however, no unilingual compositions are attested. In fact, no unilingual texts have been found for *any* of the advanced lexical series: the series that followed Hh in the curriculum are attested exclusively as bilingual texts. If it is assumed that the preserved lexical corpus is representative for the scribal curriculum in LBA Emar, as has been done until now, and that it is representative for its later series (Lu and the advanced lists) no less than for its early series (the elementary series and the thematic series G and Hh), then it may be concluded that the aim of reproducing a unilingual end-product did apparently not apply to *any* of the later series, including Lu. In terms of the curricular position of the various series the implication is that such production was not considered didactically functional in the later series and that these series must have had a different didactic function than the earlier series. The (partially superficial) similarity in content between the earlier thematic series and Lu, viz. their shared thematic content, tends to obscure this functional dissimilarity. In terms of didactic functionality the exclusively bilingual format suggests that Lu is closer to the following (advanced) series rather than to the preceding (thematic) series. The distribution of linguistic format throughout the different series and their respective didactic functionality will be discussed in the curricular analysis provided later on in this commentary.

5.2.2. Vertical Organization

Horizontal ruling

In all Lu texts of both attested tablet types horizontal ruling is intermittent, resulting in subdivisions of the text into variously sized blocks of entry sequences. Although their organization is not always entirely consistent, these subdivisions mostly define text blocks either by shared key-signs (graphic association) or by shared semantic fields (semantic association). Examples of such text blocks may be found for the former type in 1T1 I 1-7 and II 15-19 (shared key-signs LÚ and ŠÀ.TAM respectively) and for the latter in 1T1 I 8-16 and 2T1 III 8'-11' (shared semantic fields through shared Akkadian equivalent LUGAL KUR *kiš-šá-*

ti and through entertainment association respectively). Generally the findings for the relation between horizontal ruling and content organization in Hh (cf. 4.3.) may be said to apply also to Lu. The interaction between horizontal and vertical (sub-column) ruling in arranging vertical text organization should be noted (cf. 5.2.1.).

Division

If the Lu series is defined as a separate composition, which is justified in view of parallel texts found elsewhere and in other periods (references to the relevant canonical and OB material may be found in the text edition), then the Emar Lu series may be said to comprise only two divisions. In this view Lu is the only series apart from Hh for which multiple divisions are attested with complete certainty. The text of its first division is attested on two multi-column tablets (there are some additional fragments) and the text of its second division is only very partially attested on one badly damaged multi-column tablet (there is also one badly damaged extract).

In fact, the situation regarding the divisional organization in Lu is less straightforward than it seems. The last part of the second division Lu text is lost but it is clear that on 2T1 it was immediately followed by the first part of Izi (cf. remarks on the organization of material preceding the composite edition of Izi). This complicates the issue of divisional organization in Lu and Izi. If Lu and Izi are considered a single text unit (which is what the unique *Sammeltafel* organization on 2T1 and parallels outside Emar suggest - cf. remarks in paragraph 5.2.1.), then the number of its divisions would be at least three because there is at least one more tablet with Izi material which continues exactly from the point where the Izi text on 2T1 ends. If, alternatively, Lu and Izi are considered as separate text units this obviously violates their empirically attested unity in Emar. This said, it should be noted that in this study the Lu and Izi texts are treated as a *separate compositions*, but only as a matter of convenience. Even when maintaining the established reference terminology for the separate Lu and Izi texts, however, an attempt will be made to explain their united appearance in the Emar corpus in the curricular analysis provided later on in this commentary.

With regard to the positioning of the dividing point between Lu divisions 1 and 2 the only clue provided by a synchronic analysis of the preserved material is that it is likely that 1T1 as well as the other tablet(s) covering the first part of Lu (1T2 and fragments) ended at the same point. The positioning of the obverse/reverse change-over point in 1T2 is similar to that in 1T1 (on both tablets the UGULA-entries and GUDUG-entries are located in the middle of columns IV and V respectively), suggesting a very similar column spread and making it very likely that they ended at the same point. This implies that the dividing point between the two divisions, i.e. the divisional organization of the Lu text across tablet boundaries, is not random, but systematically related to content – this is similar to what was found with regard to divisional organizationin Hh (cf. paragraph 4.2.2.).

Although diachronic analysis is not the aim of this study, two facts may be mentioned with regard to the historical divisional structure of Lu. First, the dividing point found between Lu divisions 1 and 2 is not only attested in the LBA periphery (Emar and Ugarit) but is already indicated in earlier sources[93]. Second, combinations of Lu and Izi texts are also already attested in the OB period[94].

[93] Civil, 'Texts', 21 and MSL 12, 26-7.
[94] MSL 12, 27,78-80, now add the source of Taylor, 'Proto-Lu-Proto-Izi'.

5.3. Vertical organization of content

Analytical approach

With regard to the vertical organization of content in Lu, the following analysis will repeat the method employed in Hh: the organization of the text will be investigated at two semantic levels, i.e. level 2 (key-sign and key-word) and level 3 (division). The reason that the same analytical approach will be repeated for Lu is that it allows investigation of the qualification 'thematic': it should establish whether or not Lu is organized by key-word association. Thus, a key-sign/key-word analysis will show in how far the organizational structure of Lu conforms to that of Hh. As the relevant terminology has already been introduced in the parallel paragraph in the Hh commentary (4.3.), the analysis can now proceed to discuss the level 2 organization found in the Lu text.

Level 2 – key-sign and key-word

Similar to how Table 11 approached the text of Hh 1 (only in a slightly more abbreviated form), Table 13 will give a key-sign and key-word analysis for the text of Lu.

Table 13. Key-sign and key-word organization in Lu

EST	**Logograms** + indicates entry sequence with compounds *italics* indicate key-sign **bold type** indicates key-word ruling indicates phonetic association	**Semantic field** **bold type** indicates key-word
Division 1		
1001a-f	***LÚ***	**man**
1002-18	***LU*GAL** +	**king**
1018	**DUMU LUGAL**	son of
1019	**DUMU** NUN.NA	son of
1020	**DUMU** GUR_4.RA	son of
1021	LÀGAR(*SAL-HÚB*)	minister
1022	EME_5(*SAL-HÚB*)	?
1023	LI.BI.IR	minister
1024-37	**SUKKAL** +	**minister**
1038	ZABAR.DAB	'bronze holder'
1039-40	**GAL.ZU** +	**'wise man'**
1041	^{GIŠ}GU.ZA.LÁ	'chair bearer'
...	...	...
1042	GI.MAH.AD.GI_4.GI_4	'grave adviser'
1043-47?	**RA.AB** +	**chief**
...	...	...
1048	BISAĜ^{ku}.DUB.BA.A	archivist
1049-50	**ÉNSI** +	**ruler**
1051-8	**UM.MI.A.AN** +	**expert**

1059	DUMU.MEŠ É.DUB.BA.A	'sons of the tablet house'
1060-81	**ŠÀ.TAM** +	**administrator**
1082	GÁB.*SAR*	engraver
1083	MU.*SAR*	inscriber
1084-93?	**DUB.*SAR*** +	**writer**
...	...	...
1094?-98	**ŠU.I** +	**barber**
1099-105	**MUHALDIM** +	**baker**
1106	GUD.GAZ	butcher
1107	ĜÍR.RI.A	tattoo cutter
1108	LÚ.ÙR.RA	?
1109	GAL.*ŠAH*	butcher
1110	LÚ *ŠAH*.ŠUM.MA	butcher
1111-7	**MA.AN.DU** +	**soldier**
1118-22	**SAGI** +	**cup-bearer**
1119-33	**EN.NU.ÙĜ** +	**guard**
1134	UGULA GÁN.NU	'chief of the (vessel) stands'
1135-42?	**Ì.DU$_8$** +	**gate keeper**
...	…	...
1146?**-89**	**UGULA(PA)** +	**chief; overseer**
1190	**EN**	lord
1191	LAGAR	priest
1192	**EN** LUGAL	?
1193	NU.ÉNSI(!ÈŠ)	priest
1194-202	**GUDUG** +	**priest**
1203	URUH	priest
1204-7	**IŠIB** +	**sorcerer**
1208	SUSBU	priest
...	…	...
1209	EN-*GAG-SIG$_7$-NUN-ME-EZEN*	temple treasurer
1210	NIN-*GAG-SIG$_7$-NUN-ME-EZEN*	temple functionary
1211-3	**KIŠIB.ĜÁL** +	**seal bearer**
1214-?	**LUKUR**	**priestess**
...	…	...
1215?**-8**	**ĜURUŠ** +	**young male**
1218	**ĜURUŠ DILI**	single **young male**
1219	*SAĜ* **DILI**	'single head'
1220	*SAĜ*.ÚS	permanent attendant
1221-2	**KISAL.LUH**	**courtyard sweeper**
1223-34	**AMA** +	**mother**
...	…	...
1235	NIN.A.NI	'his sister'
...	…	
1236	IM.RI.A DAGAL	extended family
1237	GÚ.DÚB.BU	?
1238	KI-NE.NE GUL.GUL	?
...	...	...
1239	ÌR	son of a slave girl
1240	GAL$_4$	female genitals
1240c	SÍK GAL$_4$.LA	?

1241	PI.IN.ZI.IR	female genitals
1242	SÍK NA BI	vulva
1243-5	**EME.DA** +	**nurse**
1246	AMA.SIKI	old woman
1247	UM.MA	old woman
1248	BUR.ŠÚM.MA	old woman
1249-54	***AB*.BA** +	**old man**
1255	*AB*	father
1256	AD	father
1257	A	father
1258	A.A	grandfather
1259	PA_4.BÍL.KI	ancestor
1260	$ŠAG_4$.KI.SAĜ	'strong of heart'
1261	AD.GI.GI	advisor
1262	INIM ŠÁR.ŠÁR	'mixer of words'
1263-6	**NIĜIR** +	**herald**
1267	HA.ZA.AN.NU	mayor
1268-71	**ŠAGGINA** +	**governor**
1272-3	**NU.BÀN.DA** +	**lieutenant**
1274-7	**GUD.DA** +	**cattle**
1278-81	**AB.SÍN** +	**furrow**
1282-?	*DUR* +	
...	...	...

Division 2

2001-6?	**SIPAD** +	**shepherd**
…	...	...
2007?**-10**?	**ŠURUM** +	**droppings**
…	...	...
2011-4?	**ĜIŠKIM**(AGRIG) +	**trust; aid** (AGRIG 'steward')
…	...	...
2015?**-24**	+ **ÍL**	**carrier**
2025	ÀR.ÀR	miller
…	...	...
2026	ALAN.ZU	clown
2027	UD.DA.TUŠ	clown
2028	SÙH.SÙH	dancer
2029	Á.Ú.A	fool
2030	KA.DUG_4.DUG_4	singer
2031	GU_4.UD.DA	dancer
2032	HÚB.BÉ	acrobat
…	...	...
2033	ZA.AM.ZA.AM	music instrument/song
…	...	...
2034	*KI*.RU.GÚ	musical notation
2035	*KI*.ŠÚ	?
…	...	...
2036-7	**BUR.GUL** +	**stone cutter**
2038-9	**ZA.*DÍM*** +	**stone cutter**

2040-1	**KUG.*DÍM*** +	**silver smith**
2042-3	**SIMUG** +	**smith**
2044-5	**NAGAR** +	**carpenter**
2046-8	**BÁHAR** +	**potter**
2049-50	**TIBIRA** +	**sculptor**
2051-2	**ZADIM** +	**stone cutter; bow maker**
2053-63?	+ **DÍM**	**maker**
...	…	...
2064?-75	**MUNUS**	**woman**
2075	**MUNUS KAR<.KID>**	'**woman** of the quay'
2076-80	**KAR<.KID>**	**prostitute**
2081-4	+ **GI_4.GI_4**	**'she that goes round'**
2085	**KAR**	to run
…	…	...
2086	BÀN.DA	child
2087	**KU.LI**	friend
2088	**KU.LI**.LI	close friend
2089	DU_{10}.ÚS.SA	friend
2090	GÉME.ÌR	domestic personnel
2091	AN.TA	companion; partner
2092	TAB.BA	companion; partner
2093	ZU.A	acquaintance
2094	DÙG.GA MU	'speaking the name'
2095	MI.IQ.DU	?
2096	DÈ.HU	supporter
...	…	...
2097	TÚG.BA	cloak
2098	SI.IL.LÁ	allocation; delivery
2099	$KURU_7$	to entrust; deposit
2100	ŠU ŠÚM.MA	to entrust; deposit
2101-3	**ÉRIN**	**troops**
...	…	...
2104	$KUŠ_7$	animal trainer
2105	KÌRI.DAB	(animal) driver
2106-7	**AD_4**	**cripple**
2008	GÌR.A.HUM	paralysis
...	…	...
2110-13?	+ **KUD**	**broken**
...	…	...
2114	KID ^{ĜIŠ}GI	reed stalk; stylus
2115-7	**KI.SIKIL**	**girl**
2118-21?	*AB-* +	
...	...	...

Table 13 shows all entries of Hh which share either key-signs or -words in *italics* respectively **bold type**. In as far as Lu shows many long key-word sequences and only a few key-sign associations which do not simultaneously have key-word status, it may be said to show a structural similarity with Hh. In terms of overall *semantic range* (i.e. the range of all Lu key-words combined), however, the result is less unanimous. The findings of the analysis of content organization in Lu provided by Table 13 may be summed up as follows.

With regard to *key-sign* association Lu may be said to show a few instances where entry sequences are associated below word level. These include some both graphic and phonetic associations (e.g. 1146?-89 PA+ and 1039-41 GAL.ZU/GU.ZA.LÁ respectively). These deviations from the key-word associations typical for thematic lists (cf. 4.3.) are significant in terms of the relation between Lu and Izi and will be discussed in 6.3. .

With regard to *key-word* association, Lu shows much similarity to Hh 3-18. When reduced to its structural skeleton, the long list of about 550 reconstructed entries found for Lu in Emar may be summarized as showing only about 130 key-words. Because the complete Lu text of Emar probably counted more than 900 entries (a conservative count derived from a projection of the average line and column count found in division 1 onto division 2), an accurate estimate of the total number of key-words in the original text would probably be around 200. The basic inventory of bare key-word entries (sometimes repeated themselves to allow for different Akkadian equivalents) is systematically expanded as many entries combine the key-word with various compound elements throughout shorter or longer entry sequences. In the resulting compounds the key-word is often abbreviated to 'MIN' (e.g. the key-word LUGAL found in 1002 is rendered MIN when compounded in 1003-17). Similar 'expanded' sequences are also frequently encountered in Hh (e.g. Hh 4313-9 gives the abbreviation MIN for the key-word TUKUL). In Lu such sequences often repeat certain standard sequences with fixed compounds. Note for example the repetition of the standard compound sequence IRI/LUGAL, often expanded to include KÁ.GAL/É.GAL/KÁ.É.GAL, after the key-words MA.AN.DU 1115-6, SAGI 1120-1, EN.NU.ÙĜ 1124-8 and Ì.DU$_8$ 1137-41. Parallels to this phenomenon are frequently encountered in Hh (e.g. the standardized colour sequences ĜI$_6$/SA$_5$/GÙN.NU.A/SIG$_7$.SIG$_7$ added to the key-words MUŠ 9b001-9a002, UR 9a009a-e and KIŠI$_8$ 9b029a-e). On balance, Lu may be said to closely conform to Hh in terms of key-word organization.

In terms of semantic *association* Lu largely conforms to Hh in as far as it is primarily (but not exclusively!) organized according to word-association. The semantic *range* of Lu, however, may be said to progressively veer away from its thematic departing point, which could be described as 'man and his various conditions'. Deviations from this theme become more frequent as the text progresses and are endemic in division 2. Division 1 starts with the pronominal and nominal uses of LÚ (1001) and then proceeds with a list of titles and professions. In the later part of division 1 and in division 2 this list is repeatedly interrupted to include other topics. Some of those topics, like those concerning kinship and household (1223-39), acquaintances (2087-96) and physical condition (2104-13) may be semantically coherent if the theme is extended to include the human condition in general, but other topics are not thematically relevant in any way. The first doubtful interpolations are the adjectival associations found for ŠÀ.TAM in 1060b-d (*ellu, ebbu, namru*)[95] but the problem becomes acute with the abstract nouns (*parṣū* 'rites' and *pilludû* 'rituals') and the subsequent verb series found in 1179-83 for PA-AN and PA-IB. These are associations which are graphically but not *thematically* appropriate: they are Diri-compounds with the preceding key-sign PA, which alone is read as UGULA in 1146-1178. Other drastic departures, such as the agricultural terminology in 1278-81 and the musical terminology in 2033-5, are neither graphically nor thematically appropriate but seem to have been triggered by semantic associations outside the thematic scope of the human condition (respectively the agricultural workers in 1274-7 and the entertainers in 2026-32). It is clear that the frequency and extent of such deviations from

[95] Note that these entries may be considered a 'stereotype paradigm' (Cavigneaux, *Zeichenlisten*, 111-2).

the originally clearly delineated'human' theme increases as the list progresses into the second division, even if the state of the material (which, especially in the second division, shows large lacunae) does not allow a definitive assessment of the complete content. On balance, it may be argued that Lu is not a thematic list in the strict sense of the word but rather a *list of progressively diverging semantic associations with a thematic point of departure*[96]. Because, however, Lu effectively starts out as a continuation of the preceding thematic series and because its thematic point of departure sets it apart from the following advanced series it seems justifiable to retain its conventional classification as a thematic list.

The last section of Lu is not preserved in the Emar material but was directly followed by the text of Izi, which is certainly not a thematic list. The fact that the Lu text progressively deviates from its original theme to include various interpolations on the basis of un-thematic associations and then changes, to all appearances seamlessly, into Izi suggests that the relation between Lu and Izi should be investigated in terms of the curricular coherence of these series. Such an investigation will be given in the curricular analysis later on.

Level 3 - division

The discussion of the organization of Lu at level 3 (division) may be short because there is only one divisional divide (cf. discussion in paragraph 5.3.2. above). This divide is not marked by a transition of determinative, as often found in the preceding series Hh. It is also not marked by a major transition in implicit semantic field, such as found in some Hh divisions that lack determinatives (e.g. between the domestic and wild animals from division 8 to 9 or between ropes (ÉŠ) and foodstuffs from division 16 to 17). Division 2 of Lu actually continues to list entries that fit into the same (implicit) semantic field found in the last section of division 1, viz. agricultural workers and agricultural terminology. Division 1 ends with the key-words GUD.DA 'cattle' and AB.SÍN 'plow furrow' (1274ff.) and division 2 starts with the keywords SIPAD 'shepherd' and ŠURUM '(animal) droppings' (2001-14). The only explicit marking of the divisional divide in Emar is found in the appearance of a new key-word sequence. Even if the last entries of division 1 in Emar are lost, it is certain that the divisional divide is located on a key-word divide because the first entry of division is a single key-word (2001 SIPAD) which is always the first in a new series of key-word entries. Depending solely on a key-word divide, the divisional divide in Lu may be described as a *semantically trivial transition*, i.e. as a transition without significant semantic implications.

The semantically trivial status of the divisional transition in Lu is matched in the very last divisional divide in Hh: Hh division 18 continues with entries in the (implicit) semantic field of food-stuffs that was started in division 17. On this basis it may be argued that divisional transition in the thematic series (taking G, Hh and Lu as a whole) is *progressively less semantically-distinct* as the curriculum advances. Key-signs are collected within (implicit) semantic fields that are so loosely defined ('foodstuffs' in Hh 17-18 and 'human conditions' in Lu) that divisional divides no longer coincide with distinctly separate semantic fields, leading to semantically trivial divisional transitions. This progressive widening of semantic fields occurs as the curriculum approaches its advanced stage, viz. the stage in which the *thematic* organization of lexical entries (as found in G, Hh, Lu) is abandoned and replaced by their *graphemic* organization (as found in the advanced series). In this regard 'graphemic' may be defined as an organization of entries based on their intrinsic qualities (as writing symbols) rather than on their external referents (to concrete objects or locations). It may be no

[96] Cf. commentary on Lu and its OB forerunner, Proto-Lu, by Cavigneaux, 'Lexikalische Listen', 629.

coincidence that the loss of divisional semantic distinction becomes visible when the thematic lists no longer deal with *naturally defined referents* (raw materials, fauna, flora and geography) but with *culturally defined referents* ('foodstuffs', 'human attributes').

Summary

5.1. Material – tablet inventory and typology:

1. The attested material includes three Type I (2T1 is a *Sammeltafel*) tablet and one Type III tablet as well as some incompatible fragments.

5.2. Formal features:

1. Vertical ruling organizes text lay-out according to columns and sub-columns. The sub-columns have a *dual use*: they serve to provide slots for the various elements found in the horizontal entry but also partly to provide vertical alignment for individual logogram signs.
2. Where vertical ruling serves to align individual logogram signs it combines with horizontal ruling to distinguish text blocks, allowing easy analysis of the text structure by focus on minimal graphic oppositions. This implies that the bilingual format, which is the only format found in the advanced series, systematically provides an analytical aid in the text lay-out. This aid is lacking in the unilingual format found in the preceding series, Hh, confirming that unilingual composition represents an more advanced stage within the Hh curriculum.
3. The formal contrast between the exclusively bilingual advanced series and the frequently unilingual thematic series noted above implies that the former are *systemic* exercises (focussed on analysis of the writing system) while the latter are *compositional* exercises (focussed on the reproduction of a given composition).
4. The horizontal organization in terms of the Civil-code is <1->2b-4.
5. Glosses (<1->) are a mere auxiliary element in the horizontal organization - they appear only when they may be considered indispensable for the apprentice scribe.
6. No determinatives (2a) are found in Lu.
7. Horizontal ruling in Lu is exclusively intermittent (which reflects the fact that Lu is only attested in bilingual format) and its use is related to (primarily graphic aspects of) content.
8. In the Emar corpus the definition of Lu as a separate series is problematic due to its combination with Izi in a *Sammeltafel* (2T1), a combination also found elsewhere.
9. The Lu text has two divisions of which the latter is combined with the first section of Izi on 2T1.

5.3. Vertical organization of content:

1. The application of the key-sign/key-word criterion shows that Lu is mostly organized similarly to Hh in as far as it mostly links entries through semantic association (key-words). Occasionally Lu shows key-word relations inappropriate for a thematic list. In this respect it anticipates the abandonment of the key-word status of the key-sign that is observed in Izi.
2. Lu deviates from the other thematic series in that the thematic unity of its inter-key-word semantic associations is progressively weakened in the later stages of the text.
3. Lu is not a thematic list in the strict sense of the word but rather a *list of progressively diverging semantic associations with a thematic point of departure.*
4. Divisional organization in Lu is characterized by a *semantically trivial transition*, similar to what is found in the last divisional divide in Hh (17-18).
5. The *progressively less semantically-distinct* character of the divisional transition in later Hh and Lu is related to the advance in the curriculum towards the non-thematic advanced series. This advance involves the change of *thematic* organization to *graphemic* association and occurs closely behind the shift from *naturally defined external referents* in Hh 3-16 to *culturally defined external referents* in Hh 17-18 and Lu.

CHAPTER 6 – IZI=*išātu*

6.1. Text corpus – tablet inventory and typology

Except for the initial section of Izi found on tablet Lu 2T1, the attested Izi material consists of a number of loose fragments. Most of these fragments have been collected under the heading 'Izi' because their content has direct parallels in the series (Proto-)Izi. Other fragments have no such parallels but show a combination of acrographic content and specific formal features that makes it likely that they belong to Izi and not to another (advanced) series[97]. The fragmentary state of the material does not, at present, allow for a satisfactory reconstruction of the tablets that these fragments originally belonged to. In this situation, and for lack of a better method, the text edition provisionally organizes the fragment material in four groups: the first three are reconstructed according to their parallel sources. For group 1 parallel contentmay be found in Proto-Izi I, for group 2 in Hattusha Izi A-B, and for group 3 in canonical Izi XV. For group 4 there is no parallel source. The reconstruction and (possible) coherence of these improvised groups has been described in more detail in the introduction to the composite edition. The composite edition also provides a table with a full fragment inventory and edition concordance. It should be kept in mind that the groups of material listed here as Izi 1-4 are *not* text versions or divisions reflecting the actual textual situation in Emar, but merely *presentational devices* which rely on chronologically diverging parallels.

Summarizing the inventory of the Izi material it may be said to include (at least) two Type I tablets with mutually incompatible content (i.e. two tablets that must have each covered a different division of Izi), as well as one Type III tablet and a number of loose fragments. In view of the fact that between the preserved materials there are no overlaps in content, it is likely that in the Emar school archive Izi was only kept in a single full copy (there is of course also one extract text 572). This situation is similar to that found for many other texts in the advanced curriculum: Hh 17-18, Lu 2, SagB, Nigga and Diri are either certain or likely to have been preserved each only in a single copy.

6.2. Formal features

6.2.1. Horizontal organization

Vertical ruling

Vertical ruling serves to provide the lay-out of the text with columns and sub-columns. In the Type I tablet material columns are divided into sub-columns (the extract tablet 4E1 does not show any use of ruling). The number of attested sub-columns varies: the material of groups 1 and 4 shows a consistent division into four sub-columns, but the material of group 2 shows a lower number of sub-columns (the single fragment in group 3 is too damaged to provide conclusive evidence). This variation in sub-column division does not necessarily identify some groups as belonging to one specific tablet and other groups as belonging to another because variation in the number of sub-columns is also attested within one and the same tablet: 2BT1 has only two sub-columns on the obverse but three on the reverse. Such variation

[97] Note that acrographic content combined with specific formal features found in Izi are also found in fragment 576, listed as 'Kagal'. It is possible that this single 'Kagal' fragment in fact belongs to Izi, or that, vice-versa, some material (e.g. the GÚ- and GIŠ-entries) listed as 'Izi' in fact belongs to Kagal. After the MA period Kagal disappears as separate series (parts of its content absorbed are observed in Izi) but the situation in the LBA periphery is unclear (cf. commentary in MSL 13 227).

in the number of sub-columns in different columns on the same tablet is paralleled in the preceding Lu series.

In other respects too, the use of sub-columns in Izi shows similarities to that in Lu: in both series sub-columns serve the *dual purpose* of providing slots for different elements of the horizontal entry as well as for individual signs in the logogram entry. On the one hand, the provision of slots for different entry elements in Izi is found in a consistent and exclusive use of the last sub-column for the Akkadian equivalent in many texts (e.g. 567B in 1T1, 564A, 566C, G+H and 571), a use paralleled in Lu. On the other hand, the provision of slots for separate parts of the logogram can also be found. It is most elaborated in the Type I texts of groups 1 and 4. In Izi, as in Lu and the earlier thematic series, the first sub-column is always reserved for the *first* logogram sign alone (subject to the general scribal convention of *right position shift* for single-sign logograms), resulting in vertical sequences of single, repeated signs in the first sub-column. Another positional device with parallels in Lu and frequently found in Izi is the location of the *last* logogram sign in the last sub-column - in this case the last sub-column is shared between the last logogram sign and the Akkadian equivalent (e.g. 568 in 2BT1 and 577). These similarities between the use of vertical ruling in Izi and that in Lu and the resulting similarity in overall ruling lay-out, which marks selected text blocks by simultaneous use of both vertical and horizontal ruling, are not unexpected in view of the fact that Lu and Izi are empirically treated as a single text unit (the text of Izi directly continues that of Lu on Lu 2T1).

Entry element inventory

As in the series Lu preceding it and the advanced series following it, three types of entry elements are found in Izi: glosses, logograms and Akkadian equivalents. The standard structure of the horizontal entry of Izi may be summarized according to the Civil-code as <1->2-4.

Element 1 – the gloss

Similar to what was found in the preceding thematic series, the *frequency* of glosses in Izi is very low. In contrast, in regard to *distribution* their use is different in as far as they do not exclusively occur for rare logogram readings. Only three among a total of six glosses found in the preserved Izi material relate to (somewhat) rare logograms readings (1004 $^{an\text{-}bar}$ for AN-NE, 1006 $^{du\text{-}GIR}$ for IM-GÚ and 1016 $^{la\text{-}am\text{-}[ma]}$ for [KAL]) - two of these (1004 and 1006) are found on *Sammeltafel* Lu 2T1. Among the three remaining glosses two refer to quite common logogram readings (2B003a $^{ki\text{-}iš}$ for GIŠ and 2B015a $^{i\text{-}di\text{-}im}$ for BAD), both covered by the basic sign list SaV. These two glosses both occur as the first in a sequence of repeated single sign logograms. However, glossing of such entries does not constitute a rule because several first entries of similar sequences are elsewhere attested *without* glosses (1028 U, 1029 KU and 2B020 MUD). The poor state of the material causes a lack of comparative data and thus prohibits further investigation of this phenomenon.

The last gloss attested in the Izi material occurs in the extract 4E1. Entry 4007d $^{tu\text{-}bu\text{-}ul}$ obviously refers to the logogram ŠU-BU(=DUBUL), which is found in the preceding entry series 4007a-d but omitted in 4007d itself. Logogram omission and gloss status of $^{tu\text{-}bu\text{-}ul}$ in 4007d must be assumed because elsewhere Izi the element 2-slot only has logograms: no other purely phonetic spellings are encountered.

Element 2 – the logogram

In the preceding discussion on vertical ruling it was said that, as in Lu, sub-column divisions in Izi have a dual purpose and that one of their purposes is to provide slots for separate elements of the logogram. In Izi the contrast between logogram elements, highlighted by such sub-column slots, is more important than in earlier texts where multi-element logograms are found. The divisions between various parts of the logograms indicated by the sub-columns highlight the contrast between logogram elements: it is this *contrast between logogram elements* which is important in both the horizontal and vertical organization of Izi. The vertical organization of Izi will be discussed in the appropriate paragraph below but its implication is that the horizontal organization of Izi can only be understood in terms of its vertical organization and this must be discussed here.

Logograms in Izi must be viewed differently than logograms in the preceding series. While in the preceding series it is the *logogram as a whole* that is the object of the lexical investigation, in Izi it is rather the *logogram as a collection of units* that is the object. The listing of logograms in Izi neither results in a basic compendium for the acquisition of elementary writing skills, such as found in the elementary sign lists, nor in a thematic compendium for the acquisition of vocabulary, such as found in the thematic lists. Rather, the logogram listing presented by Izi results in an analysis of the logogram itself, viz. in an analysis of the logogram as a *construct*, consisting of one or more basic units[98].

In Izi vertical ruling divides each logogram into its various constituent units and effectively assists in the construct-analysis that the series aims at. Because in some earlier series sub-division of the logogram by means of sub-columns may also be found (cf. 5.2.1.) it could be objected that sub-columns also provide a construct-analysis of the logogram in these series. However, while in Izi such an analysis is *explicitly* aimed through systematic acrographic listing, this is not the case for the earlier series. It may be assumed that in the earlier series a construct-analysis of the logogram was at most latently *implied* by the sub-columns. This may be deducted from the function of these earlier series: in earlier lists the apprentice scribe was supposed to learn how to *recognize and use* logograms. For this he had to learn the relevant phonetic values, sign names, equivalents as well as the logogram sign forms. In this he was often assisted by sub-columns, which provided him with an auxiliary ruling raster in which to fill in the (often repeated) constituent parts of the logogram. This raster allowed focus on minimal graphic oppositions in logogram composition in consectutive entries without such composition itself being a topic of enquiry. In Izi, however, the apprentice scribe was supposed to learn how to *analyse* logograms: for this he had to master the potential relations between the various graphemes and in Izi the sub-columns served as an aid by marking the boundaries of the relevant writing units, i.e. marking those points at which relations between units were established.

Izi analyzes the construction of logograms by focussing on the relations between *graphemes* (defined as the smallest units of writing that still carry distinct meanings), resulting in long listings of various possible graphemic combinations. Most of these combinations are to be pronounced as they are written, i.e. as morpheme sequences. E.g. in 2A007 the combination of the graphemes GÚ+RU+BA is pronounced as /gu+šub+ba/. This type of sign combination is conventionally given the name of the present lexical series, viz. *Izi-compound*. Except for actual Izi-compounds Izi also lists logograms that do not match this type. In this regard two

[98] Cf. Veldhuis, 'Proto-Kagal/Nigga', 208 and H. Vanstiphout, 'Memory and Literacy in Ancient western Asia' in: J.M. Sasson (ed.), *Civilizations of the Ancient Near East* IV (New York 1995) 2191-2.

phenomena should be distinguished. First, not all sign combinations found in Izi are in fact Izi-compounds: some combinations are to be read differently than as the mere sum of their components (e.g. the entries 2B017 IGI-DIM and 4006a ŠU-KÀD should be read as the single words HENZER and $PEŠ_6$ respectively). Second, not all entries in Izi give *compounds*. Rather, Izi treats individual graphemes as well as the compounds build around these individual graphemes. Thus, Izi offers a full analysis of logographic composition: it defines the *potential* range of each individual grapheme (by listing its various appropriate values and associations) as well as its *actual* range (by listing the various combinations in which it actually occurs).

Finally a remark should be made concerning the status of the determinative in Izi. It should be noted that when determinatives occur in initial position (attested only 1016-8) they must be considered as integral parts of the logogram because key-sign sequences are always based on the initial sign, irrespective of its determinative status or otherwise. This is why in the summary Civil-code formula of Izi (<1->2-4) it was not explicitly specified whether the logogram includes or excludes the determinative (otherwise it is coded as sub-element '2a').

Element 4 – the Akkadian equivalent

Although many individual Akkadian equivalents provide a one-on-one translation of the logograms they refer to, in Izi such a realization of the relation between elements 2 and 4 is by no means the rule. There are only relatively few entries in Izi for which the logogram and the Akkadian equivalent are reliably preserved or restorable simultaneously. To derive the maximal possible insight into the horizontal organization of the Izi text from these relatively scarce entries, all of them will be investigated individually. Table 14 lists all relevant entries and, where possible, specifies the realization types they show for the relation between elements 2 and 4. The five realization types found show similarities with the first five realization types found in the analysis of SaV (2.3.2.1.) and they are numbered in parallel (the sixth realization type found for SaV, i.e. phonetic Akkadian reading of the logogram is not found in the preserved Izi material). The five realization types found in Izi may be summarized as follows:

1. The Akkadian equivalent gives a *one-on-one* translation of the logogram.
2. The Akkadian equivalent gives a *partial* translation of the logogram.
3. The Akkadian equivalent translates a *graphically associated* logogram.
4. The Akkadian equivalent translates a *phonetically associated* logogram.
5. The Akkadian equivalent translates a *semantically associated* logogram.

Table 14. Realization typology of the relation between elements 2 and 4 in Izi

EST	Element 2 – logogram	Element 4 – Akkadian equivalent	Realization type
1001	NE-RI=DÈ.DAL	*ditallu*	1. one-on-one
1002	AN-BÀD	*tabīnu* = Á.BÀD	4. ph.: AN.BÀD & Á.BÀD
1003	AN-BÀD-BIR-RI	*tabīnu saphu*	4. ph.: AN.BÀD & Á.BÀD
1004	AN-NE=AN.BAR$_7$	*muṣlālu*	1. one-on-one
...	...	...	...
1007	AN-ÚR	*upû*	5. sem.: 'cloud'[99]
1008	<AN->ÚR	*išdī šamê*	1. one-on-one
1009	AN-PA-A	*elat šamê*	1. one-on-one
1010	AN-A-ŠAG$_4$-GA	*qereb šamê*	1. one-on-one
1011	AN-TAR	*patru ša šamê*	5. sem.: ^{MUL}ĜÍR.AN.BAR[100]
1012	AN-TAR-TAR	*alluttu*	5. sem.: ^{MUL}ĜÍR.TAB[101]
1013	AN-DAGAL-LA	*šamū rapšutu*	1. one-on-one
...	...	...	...
2A001a	[Á]-ÁŠ	*asakku* I=Á.SÀG(Á-PA) / *har-hu-ru*	3. gr.: ÁŠ and PA / Akkadian unclear
2A001b	[Á]-ÁŠ	*murṣu*	5. sem.: 'ill'
2A001c	[Á]-ÁŠ	*di'u* I	5. sem.: 'illness'
2A001d	[Á]-ÁŠ	*nissatu* / *bu-šu-ut-tu*	5. sem.: 'wailing' / Akkadian unclear
...	...	...	...
2A008	[A-MA]-RU-KAM	*anumma*	5. sem: 'urgency'[102]
2A009	GÚ-LAGAB-LAGAB	*napharu*	1. one-on-one
2A010	GÚ-LAGAB-LAGAB-KUR-RA	*naphar māti*	1. one-on-one
2A011a	GÚ-GAM	*kanāšu*	1. one-on-one
...	…	...	...
2A013a	[ZAG]=EN$_7$	*ana*	4. ph.: EN$_7$ & *ana*
2A013b	ZAG	*idu*	1. one-on-one
2A013c	ZAG	*imittu*	1. one-on-one
2A013d	ZAG	*eli*	1. one-on-one
2A013e	ZAG	*išdu*	5. sem. with 2A013d: 'fundament' & 'upon'
2A013f	ZAG=EN$_7$	*adi*	1. one-on-one
...	…	...	...
2A014a	[GAZ]	*mahāṣu*	1. one-on-one
2A014b	[GAZ]	*šar-pa-u*	Akkadian unclear
2A014c	GAZ	*hašālu*	1. one-on-one
...	…	...	...
2A014f	GAZ	*kaṣāṣu*	1. one-on-one
2A014g	GAZ	*dâṣu*	5. sem.: 'to afflict'
2A014h	GAZ	*tabāku*	5. sem.: 'to spill (blood)'

[99] Also note the simultaneously graphic and semantic association with 1006 $^{du\text{-}GIR}$IM-GÚ (DUNGU=IM-SI-A).
[100] Semantic association ĜÍR 'sword' and TAR 'to cut'.
[101] As in previous but with 'double sword' (ĜÍR.TAB).
[102] Cf. AHw, 55.

2A014i	GAZ=KUMxŠE	*namāšu*=LAGABxEŠ	3. gr.: sign form
2A014j	GAZ	*bakû* = ÉR PAD	4. ph. with 2A014i: ÉR with LAGABxEŠ=ER
...	…	...	...
2B001a	[GIŠ-TÚG-PI-ŠIR-TAR]	*waqû* D	1. one-on-one
2B001b	[GIŠ-TÚG-PI-ŠIR-TAR]	*waqû* Dt	1. one-on-one
...	...	...	...
2B001d	[GIŠ]-TÚG-PI-ŠIR-TAR	*hāsisu*	1. one-on-one
2B001e	GIŠ-TÚG-PI-ŠIR-TAR	*qâlu*	1. one-on-one
2B001f	GIŠ-TÚG-PI-ŠIR-TAR	*qâlu* D	1. one-on-one
2B001g	GIŠ-TÚG-PI-ŠIR-TAR	*nešmû*	1. one-on-one
2B002	GIŠ-TÚG-PI-ŠIR-TAR GÀR	*tahsistu*	1. one-on-one
2B002’	GIŠ-ŠU-IG x	*nešmû*	1. one-on-one
2B003a	GIŠ	*iṣu*	1. one-on-one
2B003b	GIŠ=ĜIDRU	*haṭṭu*	1. one-on-one
2B003c	GIŠ	*tertu* = TÚG	3 gr. with 2B001: TÚG
...	...	...	...
2B013a	KI-BI-RI-A	*ribbatu*	logogram unclear
2B013b	KI-BI-RI-A	*miṭītu*	logogram unclear
2B013c	KI-BI-RI-A	*imṭû*	logogram unclear
2B013d	KI-BI-RI-A	*maṭû*	logogram unclear
2B014a	SI-IL-LÁ	*imṭu*= LÁ	2. partial: LÁ
2B014b	SI-IL-LÁ	*maṭu*= LÁ	2. partial: LÁ
2B015a	BAD=IDIM	*nagbu*	1. one-on-one
2B015b	BAD=IDIM	*kabtu*	1. one-on-one
2B015c	BAD=IDIM	*qallu*	5. sem.: opposite ‘light’ & ‘heavy’
2B015d	BAD=KIR$_5$	*šamû*	5. sem.: opposite ‘heaven’ & ‘earth’
2B015e	BAD=KIR$_5$	*erṣetu*	1. one-on-one
2B015f	BAD=IDIM	*ekletu*=ÍTIMA(UDxMI)	4. ph.: IDIM & ÍTIMA
2B015g	BAD=IDIM	*eṭutu* = ÍTIMA	4. ph.: IDIM & ÍTIMA
2B015h	BAD=IDIM	*ulālu*	1. one-on-one
2B015i	BAD=IDIM	*alālu*	4. ph.: *ulālu* & *alālu*
2B015j	[BAD]	*pi-it-tu*	Akkadian unclear
...	...	...	...
2B015k	[BAD]	*nesû*	1. one-on-one
2B015l	[BAD]=ÚŠ	*rūtu* = UŠ$_7$(KAxLI)	4. ph.: ÚŠ & UŠ$_7$
2B015m	[BAD]=ÚŠ	*tapšāhu*	5. sem.: ‘death’ & ‘resting place’
...	...	...	...
2B017	[IGI]-DIM=HENZER	*saṣhartu*	1. one-on-one
2B018	[BAD]=ÚŠ	*dāmu*	1. one-on-one
2B019	[BAD-UD]=LUGUD	*šarku*	1. one-on-one
...	...	...	...
2B020a	[MUD]	*uppu* I	1. one-on-one
2B020b	[MUD]	*pardu*	1. one-on-one
2B020c	[MUD]	*dāmu*	1. one-on-one
2B020d	[MUD]	*da’āmu*	4. ph. with 2B020c: *dāmu* & *da’āmu*

2B020e	[MUD]	*da'āmu* D	4. ph. idem
...	...	...	...
B021a-b	BU-LUH-SI-IL-LÁ	*gilitta malû*	1. one-on-one
2B023	ZI-[IG]-AZ	*za-za-ah-hu-ku*	4. ph.: Akkadian gives ph. spelling of logogram
...	...	...	...
2B026	ŠE-ŠE-GA	*magāru*	1. one-on-one
2B027	NU-UM-[ŠE-ŠE]-GA	*lā magāru*	1. one-on-one
...	…	…	...
3001a	IGI-BAR-RA	*dalāpu* = IGI-LUL	3. gr.: IGI-
3001b	IGI-BAR-RA	*barû*	1. one-on-one
3001c	IGI-BAR-RA	*naplusu*	1. one-on-one
3001d	IGI-BAR-RA	*amāru*	1. one-on-one
3001e	IGI-BAR-RA	*naṭālu* = IGI-DU	3. gr.: IGI- and 5. sem.: 'to look'
3001f	[IGI-BAR]-RA	*kullumu*	5. sem.: 'to look at' & 'to show'
3001g	[IGI-BAR-RA]	*dagālu* = IGI-IG	3. gr.: IGI- and 5. sem.: 'to look at'
...	…	...	...
4001b	NIR	*tāmartu*	5. sem. with 4001c: 'view' & 'to look at'
4001c	NIR	*dagālu* = IGI-IG	3. gr. with 4002a-c: -IG
4002a-c	NIR-IG=NIR.ĜÁL	*etellu*	1. one-on-one
...	...	...	...
4003a	ŠU-BU	*kamû* = ŠU-GAG	3. gr.: ŠU-
4003b	ŠU-BU	*masku*	relation unclear
4004	ŠU-GALAM-MA	*šittu*	relation unclear
4005	ŠU-LUH	*šuluhhu*	1. one-on-one
4006a	ŠU-KÀD=PEŠ$_6$	*napāšu*	1. one-on-one
4006b	MIN	*šapāṣu* = ŠU-KAL	3. gr. ŠU-
4006c	MIN	*le-e-tu$_4$*	Akkadian unclear
4006d	MIN	*šalāṭu*	5. sem.: 'to cut; slice'
4006e	MIN	*salātu*	5. sem.: 'to cut; slice'
4006f	MIN	*pašāhu*	5. sem.: 'to breathe'
4006g	MIN	*ēpiš šīpāti*	5. sem.: 'cutting work'
4007a	ŠU-BU=ŠU.GÍD	*qāta ṣabātu*	1. one-on-one
4007b	ŠU-BU=ŠU.GÍD	*barû*	1. one-on-one
4007c	ŠU-BU	*baṭālu* = ŠUB(RU)	4. ph.: ŠU BU & ŠUB
4007d	tu-bu-ul< ŠU-BU=DUBUL>	*elēpu*	1. one-on-one

Table 14 shows that, even if the single most common realization type is the one-on-one translation, about half of the attested entries have other realization types. Among these other realization types semantic association is most frequent. It should be noted that some entries show double realization types. This is for example the case for 3001e IGI-BAR-RA = *naṭālu* 'to look' and 3001g IGI-BAR-RA = *dagālu* 'to look at': in these two entries the relation between elements 2 and 4 is realized simultaneously through graphic association (the appropriate logograms for the Akkadian words, IGI-DU and IGI-IG respectively, share the first sign) and semantic association (IGI-BAR means to 'to look at'). Summarizing, two phenomena may be observed in the horizontal organization of Izi:

The first phenomenon is the *general variety* of realization types found in the horizontal structure. It should be noted that this variety is frequently emphasized by the vertical structure: often series of consecutive entries show variously related Akkadian equivalents for one and the same logogram. E.g. the BAD logogram in 2B015 is not only investigated for its own values (subentries a, b, e, h, k) but also for its phonetic (f, g, l) and semantic associations (c, d, m). The general variety of realization types and their direct juxtaposition in the vertical structure shows that Izi aimed to investigate individual logograms on different levels.

The second phenomenon is the occasional realization of the relation between logogram and Akkadian equivalent through *secondary association*. This phenomenon may be defined as a situation in which the specific relation of one Akkadian equivalent to a given logogram can only be understood in terms of the relation of another Akkadian equivalent with another logogram found in a *neighbouring* entry. E.g. the entry 2B003c GIŠ = *tertu* may be explained as referring to the virtually shared graphic element TÚG, which is appropriate for *tertu* but is actually found in the logogram of the neighbouring entries 2B001-2, GIŠ-TÚG-PI-ŠIR-TAR. In this example the meaning of the *virtually* shared element, TÚG, is projected on the *actually* shared element, GIŠ, as a result of their combination in the (semantically related) compound GIŠ-TÚG-PI-ŠIR-TAR. Another example of secondary association is found in 4001c, where NIR = *dagālu* may be explained through the virtually shared element IG, which is part of the appropriate logogram for *dagālu* (i.e. IGI-IG) but is actually found in the logogram of the neighbouring entry 4002, NIR-IG = *etellu*. In this example the value of the virtually shared element, IG, is again projected on the actually shared element, NIR, as a result of their combination in the compound NIR-IG. Secondary association confirms the interrelation between horizontal and vertical organization in Izi, already noted earlier with regard to the use of vertical and horizontal ruling.

The two phenomena of general variety of realization types and of secondary association show that the *integrative method* of classification of writing elements observed for SaV (cf. 2.3.2.1. and 2.3.3.) is also found in Izi. The Izi logograms are systematically described in terms of cross-classificatory connections, i.e. of connections between (graphic, phonetic, semantic) categories that are unrelated in terms of modern science. In this respect, the difference between the two series is that SaV focuses on the values of *single signs* whereas Izi focuses on the values of *signs in relation to each other* (as in compounds and other sign combinations).

A final feature to be mentioned, and which Izi shares with Lu, is its exclusively bilingual attestation. The fact that all later series, i.e. Lu and all advanced series, share the feature of exclusive bilingual attestation, already noted in the commentary to Lu (5.2.1.), will be commented on in the curricular analysis provided later on.

6.2.2. Vertical organization

Horizontal ruling

In all Izi texts found on Type I tablets horizontal ruling is intermittent, resulting in subdivisions of the text into variously sized blocks of entry sequences (the single Type III tablet does not show any ruling). Generally these subdivisions define text blocks by shared key-signs (graphic association). Only occasionally such key-sign blocks show internal sub-divisions (e.g. the internal divisions in the large text block with the shared key-sign AN, which follow the entries 1012, 1013 and 1017). The poor state of preservation of the relevant sections does not allow definitive conclusions regarding the distribution of these internal sub-divisions but it is conceivable that horizontal ruling may also be used to mark off text sections according to non-graphic association, a phenomenon previously attested in SaV and Hh (cf. 2.3.2.2 and 4.3.). The interaction between horizontal and vertical (sub-column) ruling in arranging vertical text organization has already been noted (cf. 6.2.1.).

Division

As stated in the relevant commentary on Lu (cf. 5.2.2.), the question of divisional organization in the empirically combined series Lu+Izi is complicated. Izi 1T1 directly continues the Izi text found on the LEE of Lu 2T1, which implies a divisional organization involving at least three divisions for the combined Lu+Izi series. Moreover, in the organizational analysis preceding the composite edition of Izi it was found that the fragmentary Izi material following that in Lu 2T1 was likely spread over more than one division. In this case the combined Lu+Izi series of Emar would have consisted of at least four divisions. A possible count of two tablets for the Izi material in Emar would match the situation found for Proto-Izi, which also had two tablets[103]. In terms of content, however, most of the Emar material does not match Proto-Izi. As the length of key-sign sequences attested in Emar is moderate compared to what is found in canonical Izi, another possible scenario is that in Emar Izi was represented by a slightly enlarged version of Proto-Izi, i.e. a version with more than two but less than the much higher number of tablets found in the canonical version[104]. At present, however, no conclusive evidence concerning the divisional structure of Izi is available. The relation of Izi to the other, often rather fragmentarily attested, advanced series will be discussed in the curricular analysis.

6.3. Vertical organization of content

Analytical context

The vertical organization of content in the previously reviewed series was, as far as possible, analyzed through the key-sign and key-word approach. For Svo this method has permitted description of its content organization in terms of a patterned and positional sequencing of key-signs. For SaV it has allowed important aspects of vertical organization (viz. deviations from the traditional key-sign sequence) to be described in terms of the interrelating properties of key-signs. For the thematic series Hh and Lu it has allowed the content organization to be shown as primarily guided by semantic association between key-words. On balance, the

[103] Cf. MSL 13, 7.
[104] Such an intermediate recension is found among the canonical materials edited in MSL 13 (cf. introduction to the canonical version on p.154-5).

elementary series and the thematic series were found to be primarily organized according to key-sign and key-word relations respectively.

The question that now remains is by what association type the later series, including Izi, are organized. Because conventionally Izi has been described as an 'acrographic' series[105], a term that suggests organization by graphic association and hence by key-sign relations, it should first be determined in how far this description is accurate.

Acrographic organizational features

The term *acrographic* implies description of the initial sign form. An acrographic list would therefore be a list that is fully organized according to initial sign forms. In Izi, however, acrographic organization is only found *within* individual key-sign sequences (e.g. the sequence of signs starting with AN in 1002-17 or that starting with GÚ in 2A003-12). The relations *between* these key-sign sequences are *not* systematically organized according to the acrographic principle. Occasionally, transitions between consecutive key-sign sequences may be explained through acrographic association (e.g. 1018/9 AN/MUL), but such transitions are the exception rather than the rule. Due to the fragmentary state of the material only ten key-sign transitions are sufficiently preserved (cf. Table 15) but among these only one transition (1018/9) shows a distinctively graphic association. From this evidence (and from that of the parallel OB and canonical material) it may be concluded that acrographic association does not apply to the large majority of key-sign transitions. In other words: acrographic organization does *not* guide overall vertical organization of content in Izi. Strictly speaking, this implies that the classification 'acrographic' is technically incorrect for Izi as a whole[106]. Because, however, large sections of the text share the same key-sign it may be considered as at least partially descriptively appropriate. For this reason and for the sake of convenient conventional reference the term will be employed as a reference term in the following analysis.

Now that fully *acrographic* organization has been shown to be absent from Emar Izi it should be asked whether another graphic principle guided it. It has been suggested for the OB forerunner to Izi, Proto-Izi, that (some) key-sign transitions are linked to each other by means of overlapping key-signs (e.g. Proto-Izi I 14 AN-NE links preceding key-sign NE with following key-sign AN)[107]. If this was originally consistently the case (which is not certain), this would imply that key-sign organization was originally the overall guiding principle behind Proto-Izi and that inconsistencies in various textual deviations could be explained as the result of later interpolations. However, even if such an elegant graphic organizational principle lay originally behind the older versions of Izi, it is not any longer visible in the LBA version of Izi found in Emar. No overlapping key-signs are detectable around the attested key-sign transitions (e.g. the entry 1004 AN-NE in Emar Izi has shifted to third place in the AN key-sign sequence, away from the key-sign transition point). In Emar Izi, therefore, the overall vertical organization of content must have depended on other than graphic criteria.

Semantic organizational features

Because the question of the overall vertical organization of content in Izi still remains open, it is useful to investigate another suggestion made with regard to Proto-Izi, viz. that it originally represented a compendium of thematic sections in which thematic unity was frequently

[105] E.g. Cavigneaux, 'Lexikalische Listen', 632.
[106] Cf. discussion in MSL 13, 3-4.
[107] MSL 13, 8.

combined with acrographic unity and that the acrographic organization tended to become dominant in later parts of Proto-Izi[108]. In this regard it should be noted that even if semantic coherence is found *within* various sequences of consecutive entries this does not necessarily extend to a systematic thematic organization *between* such sequences. The suggestion is nevertheless useful in that it draws attention to the connection between semantically and acrographically organized sequences in Izi. This connection will be investigated by determining the *distribution* of semantically organized sequences throughout Izi. Analysis of the distribution of semantically organized sequences in Izi shows that there are two types of such sequences.

The first type includes semantically coherent listings of consecutive Akkadian equivalents under a *single* logogram (e.g. 2B001a-h and 3001b-g). Such listings not only establish the semantic *values* of a given logogram but also investigate their semantic *associations*. This is done by listing direct Akkadian translations (e.g. 3001b-d IGI-BAR-RA = *barû*, *naplusu* and *amāru*) as well as indirect, associative translations (e.g. 3001e-g IGI-BAR-RA = *naṭālu*, *kullumu* and *dagālu* - these translations actually refer to the logograms IGI-DU, LÁ and IGI-IG respectively)[109]. Because many logograms, through polyphony, have several different readings covering different semantic fields and because Izi seeks to cover all of these, multiple semantic fields are often found for a single logogram. E.g. 2B015 BAD is read IDIM (a-c and f-i), KIR_5 (d-e), BAD (k) and ÚŠ (l-m) – there are at least seven different semantic fields for the single logogram BAD. Thus, semantically organized sequences of this first type are found to occur *within* acrographically organized sections. It should be remembered that within acrographically organized sections coherence between consecutive entries is not only or necessarily based on semantic association - it may also be based on phonetic (and other types of graphic) association[110] (cf. Table 14 above).

The second type of semantically organized sequences includes semantically coherent listings of *consecutive* logograms, i.e. sequences that cross the transition point *between* acrographically organized sections. Unfortunately, the fragmentary state of the Emar material means that only a limited number of key-sign transitions are available for analysis and that it is impossible to determine to what extent semantic coherence applied across key-sign transitions. It should be noted that in the parallel Hattusha material graphic coherence seems to predominate (cf. 14.6. and Table 30.). Table 15 lists the preserved transitions in Emar and, where possible, gives suggestions regarding the associative principle evident across these them.

[108] Ibidem, 3-4.
[109] Note that these entries may be considered a ‘stereotype paradigm’ (Cavigneaux, *Zeichenlisten*, 111).
[110] Cf. Cavigneaux, *Zeichenlisten*, 34.

Table 15. Key-sign transitions in Izi

EST	Key-sign transition	Suggestions for association principle
1001>2	NE>AN	?
1018>9	AN>MUL	graphic: AN > AN/AN-AN
1021>2	HAR>KIN	phonetic: KÍN > KIN & semantic: *hamāmu* 'to collect' > *še'û* 'to search'
1024>5	NIM>GIŠ	phonetic: NI_7 > ĜIŠ
1027>8	GIŠ>U	semantic: ĜISSU 'shade' > ŠUŠ 'cover'
1028>9	U>KU	semantic: ŠUŠ 'cover' > TÚG 'cloth(cover)'
2B006>7	ŠEN>KI	?
2B013>4	KI>SI	semantic: *maṭû*/*imṭû* 'to be little/loss' > idem
2B014>5	SI>BAD	?
2B015>7	BAD>IGI	phono-semantic: $BANDA_4$(!BÀNDA) > HENZER 'child' & semantic: IDIM 'weak' > HENZER 'child'
2B022>3	BU>ZI	semantic?: BU.LUH SI 'to fill with fear' > ZI.IG.ZA.AK ZA 'to rumble'

From the limited evidence gathered from table 15 it may be concluded that semantic association across key-sign transitions is relatively frequent[111]. Only in two cases the preservation of the full entry makes it certain that semantic association should be completely ruled out (i.e. NE-RI = *ditallu* > AN-BÀD *tabīnu* and SI-IL-LÁ = *maṭû* > BAD = *nagbu*).

Synthesis of vertical organization of content

From the above discussion it appears that the vertical organization of content in Izi is multi-layered. At the lowest level (1) sub-entries with various interpretations of repeated logograms are often grouped together according to various types of association (graphic, phonetic or semantic). These groupings may include entries in which the Akkadian equivalent is not necessarily an accurate translation. It may, in fact, refer to a different logogram as long as the association is considered relevant. At the mid level (2) logograms are consistently grouped together according to their acrographic principle. At the higher level (3) these acrographic sequences are frequently connected through various associations, most often semantic. The fact that acrographic associative consistency is only found at mid-level suggests that acrographic organization was *not* the actual guiding principle of the series as a whole, but merely a device for bringing together various attestations for a given key-sign once that key-sign had been given according to some other (higher) level principle. The simultaneously mixed and layered associative structure found in Izi will be termed *mixed-stepped* association[112].

At the lower level, i.e. that of sub-entries, organizational consistency may be found in the systematic use of associative variation. This may be considered functional in as far as it allows an investigation of all possible relations between signs. SaV also uses varied association and there it primarily serves to investigate the properties of each single key-signs. In Izi, on the other hand, it primarily serves to investigate the *relational* values of signs, often through a study of the properties of compound signs. The mid-level acrographic sequences

[111] Ibidem, 35.
[112] Cf. Veldhuis, 'Proto-Kagal/Nigga', p.208 n.6.

show that the investigation of the relations between signs is primarily achieved by consistently (and often exhaustively) contrasting the various uses of a given *grapheme* (i.e. a given sign, irrespective of its status as phoneme, morpheme or word). Once a given sign has been treated, there are no pre-set criteria to determine which sign should be treated next - there is only the conventional order of signs for the Izi composition as transmitted by the lexical tradition. In this respect, the order of key-signs in Izi is of the same nature as that in Sa: it was conventionally established in the (remote) past and only a diachronic analysis of the lexical tradition can determine its exact origin. The only synchronic empiric data relevant to the order of key-signs signs in Izi are the frequent semantic associations across key-sign transitions (as found Table 15). In other words, the order of the Izi key-signs is not determined by an acrographic but by conventional principle and this conventional principle seems to involve a certain degree of semantic association.

A similar combination of conventional order and semantic association is also found in parts of Lu, a series which in Emar is (the earlier) part of a single Lu-Izi composition. The thematic principle, still implied in the early part of Lu, has been completely abandoned in Izi but the principle of semantic association is retained at least partially[113]. In fact, the acrographic principle that permeates the Izi text could be considered as an outgrowth of a well known strategy for establishing semantic fields in the thematic lists: the repetition of key-words and addition of modifying elements. Thematic lists often take a key-word and add other words to it to modify the meaning of the key-word (e.g. Hh 8a001-56 UDU+modifiers; 8a057-69 UZUD+modifiers; Lu 1146-78 UGULA+modifiers). The abandonment of the thematic principle is merely a by-effect of the abandonment of the key-word status of the key-sign, a phenomenon already noted in the later parts of Lu (e.g. 1179 PA+modifiers). Effectively, Izi takes the analysis of sign combinations a step further than the preceding thematic lists: it looks at *all* possible combinations of signs, not just those involving *words*. That Izi has a different function than the preceding lists is confirmed by the fact that it repeats many signs that are found in earlier lists: it seeks to treat the same signs from a different perspective, viz. as *graphemes* instead of *words*. In this graphemic approach Izi uses many associative strategies already found in the elementary series, especially Sa, but it applies them primarily to *sign relations*, not just single signs. The focus on words and their meaning, evident in the elementary and the thematic series, is shifted to graphemes and their function in the advanced series.

The multi-layered and mixed-associative vertical organization of content in Izi described above implies that the same *integrative methodology* that was observed in its horizontal structure also pervades its vertical structure. The purpose of Izi was apparently to collect as many associations as possible around each given grapheme and to effectively establish relations between these various types of associations. Such relations systematically cut through the classificatory boundaries of modern science, which is a typical characteristic of the integrative methodology used by the ancient scribes.

[113] An earlier discussion of the classification and interrelation of the thematic and advanced series may be found in Veldhuis, 'Proto-Kagal/Nigga', 201-16. Note that there the special relationship between thematic Lu and acrographic Izi in Emar, parallelled in the OB material, is discussed on p.209.

Summary

6.1. Material – tablet inventory and typology:

1. The attested material includes (at least) two Type I tablets and one Type III tablet as well as a number of fragments. Due to the fragmentary state of the material the coherence of the Izi text and its divisional structure are unclear.

6.2. Formal features:

1. Vertical ruling organizes text lay-out according to columns and sub-columns. The positioning of the sub-columns serves partly to provide slots for the various elements found in the horizontal entry and partly to provide vertical alignment for individual logogram signs. In Izi the latter strategy is functional: it provides a contrast between logogram elements that is important in Izi because Izi approaches logograms as *grapheme collections* rather than as units.
2. The graphemic approach provided by Izi involves analysis of individual signs (regarding their potential range) as well as analysis of sign combinations (regarding their actual range as found in actual compounds).
3. The horizontal organization in terms of the Civil-code is <1->2-4.
4. Glosses are infrequent in Izi but are not, as in the preceding thematic series, restricted in use to ambiguous or uncommon readings.
5. In terms of vertical (acrographic) organization determinatives in initial position are treated as integral parts of the logogram.
6. Not all logogram sign combinations given in Izi are actually 'Izi-compounds'.
7. The relation between the logogram and the Akkadian equivalent shows a *general variety* of (sometimes combined) realization types, these include not only straightforward translation of the former into the latter but also translation on the basis of various graphic, phonetic and semantic associations.
8. Realization of the relation between the logogram and the Akkadian equivalent is occasionally effectuated by *secondary association*, i.e. by the interpretation of a horizontal relation in one entry in reference to another horizontal relation in another entry.
9. The particularities of the horizontal organization show that the ancient scribes pursued an *integrative approach* which implies that they were seeking to establish relations between phenomena unrelated in modern scientific terms.
10. Horizontal ruling is exclusively intermittent (which reflects the fact that Izi is only attested in bilingual format) and what is known from its (insufficiently documented) use suggests a primary relation to graphic content.
11. In the Emar corpus the definition of Izi as a separate series is problematic due to its combination with Izi in a *Sammeltafel* (2T1) - a combination that is also attested elsewhere and in other periods.
12. The preserved Izi text shows at least two incompatible divisions. In terms of content - which shows considerable expansions compared to Proto-Izi - it is possible that Izi had more than two divisions.

6.3. Vertical organization of content:

1. The classification of Izi as 'acrographic' is strictly speaking incorrect because the transitions between the various key-sign sequences (themselves acrographically organized) do not show acrographic associations.
2. Many preserved key-sign transitions show semantic association.
3. Vertical organization in Izi is multi-layered: at the lower level (sub-entry) association is varied (i.e. graphic, phonetic and semantic), at the mid level (key-sign sequence) association is acrographic and at the higher level (between key-sign sequences) association is traditionally-conventionally determined (varied associations, often semantic). The simultaneously mixed and layered associative structure found in Izi will be termed *mixed-stepped* association.
4. The multi-layered vertical organization of Izi is functional in as far as it is suitable to the investigation of graphemic relations.
5. The combination of conventional ordering and semantic association on the higher level of vertical organization in Izi is in line with what was found in Lu, which in Emar is the earlier part of the combined Lu-Izi composition.
6. The dominant acrographic principle of Izi may be considered as an outgrowth of a well known strategy found in the thematic lists, viz. of giving key-words in combination with modifying elements. The adaptation of this strategy in Izi is effectuated by abandoning the key-word status of the key-sign, thus expanding the scope of lexical investigation.
7. The abandonment of the thematic principle in Izi is a side-effect of the abandonment of the key-word status of the key-sign.
8. The multi-layered and mixed-associative vertical organization of content implies that the *integrative methodology* noted in the horizontal organization of Izi is equally important in its vertical organization.

CHAPTER 7 – KÁ.GAL=*abullu*

7.0 The Kagal series in Emar

In Emar there is only one text fragment, 576, that can only be classified as 'Kagal'. Lacking direct joins and other parallels, the text of 576 is here provisionally listed as 'Kagal' due to the parallel content found in 'canonical' (actually OB[114]) Kagal tablet D Section 1 (2'-4'). Theoretically, 576 could be the sole surviving fragment of a tablet belonging to a separate Kagal series but the existence of a separate Kagal series in Emar cannot be assured on basis of this single small fragment alone. In this respect it should be noted that Kagal is not found in the synchronically parallel Ugarit corpus (but then again, neither is SagB) and that Kagal material has been shown to have been progressively absorbed into Izi after the OB period. However, because the series is still attested separately in the MB period in the Assur and Hattusha corpora[115], the continued existence of a separate Kagal series in Emar remains a possibility.

7.1. Inventory, typology, formal features and vertical organization of content

The material relevant to this chapter is limited to the single small fragment 576, which may or may not have belonged to a separate Kagal series in Emar. It is impossible to be completely certain whether this fragment belonged to a multi-column tablet or to an extract but the fact that the fragment has 8 lines on a single side but no preserved tablet edges suggests it was not part of an extract (most extracts have about 10 lines on a single side). Some formal features, viz. intermittent horizontal ruling, bilingual format and use of the *Glossenkeil*, are very similar to those found in the preceding series, Izi. The lack of vertical ruling between elements 2 and 4 of the horizontal ruling may also be found in some parts of the Izi text (e.g. 568A Obv and 577). The vertical organization of content in 576 may be presumed as consistently acrographic (initial IM-signs) but the visible horizontal line between lines 4' and 5' is relevant to lay-out (IM- is located relatively far to the right in lines 1'-4' and (presumably) relatively far to the left in lines 5'-9') as well as to content (lines 1'-4' refer to wind *direction* and lines 5'-9' refer to wind *speed*). This points to a mixed-stepped association in the vertical organization of content.

7.2. Curricular position

Sub-classification of the advanced material

Due to the fragmentary state of the material and the lack of close parallels a proper reconstruction of the advanced series Izi and Kagal in Emar is at present impossible. The only reliable evidence concerning the classification of the advanced lexical material in Emar comes from its formal features. The Emar advanced series share a number of formal features, such as bilingual format and intermittent horizontal ruling, but there are also a two criteria that allow them to be classified in two different groups. The first is the *use of sub-columns*. In some series they only to differentiate individual signs within logograms - this is what is found in the Izi, Kagal and SagB material. In others they also differentiate individual signs within the *Akkadian equivalent* - this is what is found in the Nigga and Diri. The second criterion is whether or not a logogram is consistently written out when it is repeated. Repeated logograms are consistently written out in Izi and SagB (and presumably Kagal) but are *systematically*

[114] Cf. MSL 13, 127 and 227.
[115] Ibidem.

omitted in Nigga and Diri. On the basis of the available evidence it may be assumed these two alternative presentational strategies are not mixed within a single series. Because the two criteria show supplementary distribution (i.e. they always occur in conjunction) they allow the sub-classification of the advanced material into two groups. The first comprises of those series in which sub-columns-differentiation applies to logograms only *and* in which the logogram is consistently written out when repeated. The second group comprises those series in which sub-columns-differentiation applies to both Akkadian equivalents and logograms *and* in which the logogram is not written out when repeated. The former group includes Izi, Kagal and SagB and the latter group includes Nigga and Diri. Fragment 576, with its repeated IM-logograms is part of the first group, which makes it likely that it is either part of Izi or of a separate Kagal series.

Curricular order of the advanced series

On the basis of the fact that Izi directly followed Lu in the curriculum, and in view of the curricular sequence reconstructed for the synchronically parallel Ugarit material as well as for the OB forerunner, the formal typology discussed above may be used to determine the curricular position of the various advanced series. Thus the *early advanced series*, Izi, Kagal and SagB, may be formally opposed to the *later advanced series*, Nigga and Diri.

Summary

7.1. Inventory, typology, formal features and vertical organization of content:

1. The attested material includes a single fragment which was part of a (probably multi-column) tablet that covered either an expanded version of Proto-Izi or a (otherwise lost) separate version of Kagal.
2. The discernable formal features include intermittent horizontal ruling, bilingual format, use of the *Glossenkeil* and the consistent writing of repeated logograms.
3. Content is organized primarily by acrographic principle and secondarily by semantic principle (mixed-stepped association).

7.2. Curricular position:

1. There are two supplementary criteria that may be used as a combined diagnostic tool for the sub-classification of the advanced series: (1) use of sub-columns to distinguish individual signs either in the logogram only or in the Akkadian equivalent as well as the logogram and (2) consistent writing of repeated logograms. On this basis the Kagal fragment may be said to formally conform to the Izi texts rather than to the Nigga and Diri texts.
2. In the sub-classification of the advanced series the *early advanced series* (Izi, Kagal and SagB), may be differentiated from the *later advanced series* (Nigga and Diri).

CHAPTER 8 – SAĜ B

8.0. The SagB series in Emar

In the present analysis of the Emar lexical tradition all material and all attested series are primarily investigated in terms of structure and function. Generally speaking, a description of both structure and function of a given series is at least partially possible without necessary reference to the other series. In the case of the Emar series, however, their (almost totally) unified archival context additionally permits a curricular contextualization of their structure and function. In other words, in Emar a structural and functional comparison between the various lexical series is justified by their archival unity. However, as already stated in the introduction to this structural analysis, such a contextual approach must have the caveat that the archival unity of the text corpus does not necessarily imply a simultaneous use of all attested series in schooling practice. Before proceeding with the commentary on the SagB series it should be noted that for this series this caveat is especially relevant. Even if SagB is edited alongside the other advanced series and its analysis is given among the other series' analyses, it should be noted that there are indications that the sole preserved SagB text should be classified as belonging to another, earlier composition stratum than the rest of the series. In as far as these indications are of a formal nature, they will be discussed in the following commentary - otherwise the reader is referred to the relevant literature[116].

It should be remembered that, notwithstanding a possible deviating compositional stratigraphy noted above, the fact of the matter remains that the SagB material was found in the same archival context as the rest of series - it must therefore have had *some kind* of function in the school. The fact that SagB - or any other series for that matter - was included in the school archive implies that it was deemed to have some relevance to the living lexical tradition. This would also be true if it was used only as a reference work (a status that may theoretically also be applicable to some of the other texts). The use or disuse of a given series as a school exercise does not automatically qualify or disqualify it with regard to analysis in the present study. As stated in the introduction to this commentary, the present study is concerned with the Emar lexical texts as witnesses to lexical *scholarship*, and not just as witnesses to *schooling*, even if investigation of lexical scholarship mostly relies on evidence gleaned from school texts. Even if a given individual text, such as SagB, was not part of the *school exercises*, it certainly was part of the *lexical corpus* - it will be therefore be discussed in the same manner as the other series.

8.1 Text corpus – tablet inventory and typology

The attested SagB material consists of two joining fragments that together cover most of one single multi-column tablet. This single type I tablet is the only SagB text found in Emar. The larger of the two fragments is not part of the (otherwise nearly complete) collection of Emar lexical texts kept in the Aleppo museum. Instead, it is kept in the Institute of Oriental Culture in Tokyo and here it will be referred to as the BLT-fragment, after the title of its original publication[117].

[116] Y. Cohen, *The Transmission and Reception of Mesopotamian Scholarly Texts at the City of Emar* (Ann Arbor 2003) 291-2 (also cf. 271-81).
[117] M. Yoshikawa and E. Matsushima, 'Bilingual Lexical Tablet', *BSNESJ* 23.2 (1980) 1-23.

It should be noted that the separate publication of the two fragments has resulted in some unevenness in documentation. The publication of the BLT-fragment differs from the publication of the other fragment, *Emar* VI 4 575, in that it does not give the vertical and horizontal ruling on the original tablet. Nevertheless, the evidence provided by fragment 575 is sufficient to allow analysis of the ruling pattern on the whole of the original.

8.2. Formal features

8.2.1. Horizontal organization

Vertical ruling

Vertical ruling serves to provide the lay-out of the text with columns and sub-columns. On the tablet the columns are divided into two sub-columns, which provide slots for the two main elements occurring in the horizontal entry, viz. the logogram and the Akkadian equivalent. Occasionally, longer logograms overlap into the slot of Akkadian equivalent. Remarkably, overlaps on the same entry line do *not* normally cause insertion of a *Glossenkeil*-type marker between the two elements, as is consistently the case in texts belonging to other series. Only a single exception to this rule is found in I 19 where the logogram overlaps into the Akkadian slot and the Akkadian equivalent is preceded by a *Glossenkeil*-type marker. In fact, except for this one deviant occurrence, the *Glossenkeil*-type marker occurs only when a part of the Akkadian element continues below the starting line. E.g. in the entries I 40-1 a *Glossenkeil*-type marker twice occurs before a part of the Akkadian element that is found below its starting line. In this context another formal deviation from the other texts found in the SagB tablet should be noted: the *Glossenkeil*-type marker found on the SagB tablet consists of only *one Winkelhaken* (the U-sign) - i.e. it does not use the two *Winkelhaken* (the GAM-sign) *Glossenkeil* found in the other lexical texts.

Vertical rulings do not separate elements of the Akkadian equivalent, which means that, in terms of its classification among the advanced series according to this criterion (7.2.), SagB clearly belongs to the group of the *early advanced series*, i.e. it belongs in the same group as the Izi and Kagal material.

Entry element inventory

As in Izi, three types of entry elements are found in SagB: glosses, logograms and Akkadian equivalents. The standard structure of the horizontal entry for SagB according to the Civil-code may be summarized as <1->2-4.

It should be noted that in the SagB tablet another element, not covered by the Civil-code, may occur in the horizontal entry: the *entry count marker*. This element occurs as a single large *Winkelhaken* (the U-sign), it has the regular reading ‘10’ and its use in the SagB tablet is unique within the Emar lexical corpus. It is consistently used to count every tenth entry throughout the text. It should be kept in mind that an *entry* count is not the same as a *line* count because entries are sometimes spread over more than one line. E.g. the entry count markers in column VIII count the tenth and fifteenth entries (EST 205 and 210a respectively) as single entries, even if both cover two lines (in both the last part of the Akkadian equivalent is continued on the next line). Thus, the *entry count marker*, which occurs in (the single tablet of) SagB, should be differentiated from the *line count marker* (Civil-code ‘0’), which is found on the SaV tablets.

Element 1 – the gloss

As was found in the preceding thematic series and in Izi, the frequency of glosses in SagB is very low. The occurrence of glosses in SagB is very similar to that in Izi in two other respects: it is not systematic (it does not consistently occur for new signs or new phonetic values) and it is not restricted to rare readings (as it was in the thematic series). Of the six different glosses attested in SagB two refer to relatively basic readings (070 $^{ki\text{-}ri}$KA=KÌRI and 151 $^{i\text{-}nim}$KA=INIM). The other four refer to relatively rare readings, which occur as a cluster in the last section of the list (VIII 18ff.).

Element 2 – the logogram

Despite the fact that the SagB tablet, unlike the other advanced series, does not use sub-columns to highlight distinctions between different elements within the logogram, the nature of its content is such that such a distinction is immediately evident in its lay-out. Except in those entries where the first line of a new key-sign is introduced (i.e. in those where the general scribal convention of *right position shift* is applied), all initial elements are consistently vertically aligned. Because all initial elements are *graphically related*, the lay-out automatically provides a clear contrast between those elements that remain unchanged (the initial key-signs) and those that do not (the other, compounded elements). Thus, the SagB tablet visually emphasizes the contrast between logogram elements in its lay-out. The phenomenon of *visual emphasis on contrasts within the logogram* may therefore be said to recur in the lay-out of all advanced series - it is just differently implemented in different series. The series Izi and Kagal it is achieved primarily through vertical sub-columns while in SagB it is achieved primarily through the consistent graphic relation between vertically aligned initial signs.

In other respects, the typology of logograms in SagB shows similarities to that in the other advanced series: logograms include both single-element as well as compound logograms and the compound logograms are of various types. With regard to the varied typology of compound logograms it should be noted that although SagB does not have Diri-compounds involving key-signs, such compounds do occur in other parts of the logogram (e.g. EST 137 KAxME-**SI-A**=EME **DIRIG**). In this regard it should be noted that some of multi-element initial key-signs are not strictly speaking Diri-compounds, but are rather single signs that include *in-written* elements. Signs such as KAxME, repeated in entries 118-50, and KAxNUN, which recurs in entries 186-200, are composed of a basic form (KA) in combination with an in-written element (ME and NUN respectively). Because they are written as a single unit in the logogram they may be considered single, non-compound signs (in the given examples the in-written ME- and NUN-elements could actually be considered as phonetic complements).

Repeated logograms are consistently written, which means that, in terms of its classification among the advanced series according to this criterion (7.2.), SagB clearly belongs to the group of the *early advanced series*, i.e. it belongs in the same group as the Izi and Kagal material.

Element 4 – the Akkadian equivalent

Similar to what was found for the preceding Izi series, the relation of the logogram to the Akkadian equivalent in SagB may be realized in a number of ways. The typology used for the analysis of Izi (6.2.1.) may also be applied to SagB: the occurrence of the same types (numbered 1-5) in SagB will here be illustrated by some examples.

1. As in Izi, the first type, viz. a one-to-one translation, is very common and, as its principle speaks for itself, no examples need to be given.

2. The second type, viz. a partial translation of the logogram by the Akkadian equivalent, is also quite common. In SagB, however, the second type should be considered as a systematic *variant* of the first type because the partial Akkadian rendering of the logogram systematically applies to the *variable* elements added to the key-word. E.g. in EST 009 SAG-HA-ZA = *kullu* the Akkadian equivalent applies only to the variable part HA-ZA and not to the key-word SAG; similarly in 014 SAG-GAG-TUKU = *išû* the Akkadian equivalent applies only to the variable part TUKU and not to the key-word SAG-GAG. In these cases the Akkadian equivalents, which omit the interpretation of the key-word, are simply abbreviated one-to-one translations.

The other realization types are less frequent than the full and partial one-to-one translations but they do occur and may be illustrated with some examples.

3. An example of the third realization type, viz. translation of a graphically associated logogram, is found in 018 SAG-KI = *puhru*, in which SAG is interpreted as graphically related to LAGAB-LAGAB, read KÌLIB ‘entirety; assembly’ (the KI element can here additionally be interpreted as an appropriate phonetic complement).

4. Examples of the fourth realization type, viz. translation of a phonetically associated logogram, are found in 070 SAG-TAR-DA (read SAĜ.KUD.DA), 097b KA-GU-LA and 114 KA-GAL(read KÌRI.GAL): in these entries the Akkadian equivalents, respectively *zā’eru* ‘hater’, *abtu* ‘destroyed’ and *namṭāru*/*patru* ‘sword’, interpret the actually given logograms as homophones for their theoretically appropriate logograms, viz. GÚ.DÙ.A, KA.GUL and ĜÍR.GAL respectively. Note that in case of entry 070 the relation between logogram and Akkadian equivalent is simultaneously of partial (type 2) and phonetically associative (type 4).

5. Examples of the fifth realization type, viz. translation of a semantically associated logogram, are found in 059a/b SAG-GALAM-DA (read SAĜ.SUKUD.DA) and 061a SAG-TAB-BA: in these entries the Akkadian equivalents, respectively *arku*/*kurû* ‘long’/‘short’ and *pazāru* Št ‘to cause to be hidden’, are semantically related to the logograms, viz. SUKUD ‘height’ and TAB ‘to lay flat’[118]. Note that in both of these examples the relation between logogram and Akkadian equivalent is again simultaneously of two types: partial (type 2) and semantically associative (type 5).

[118] In addition, there is a phonetic proximity between SUKUD ‘height’ and LÚGUD ‘short’.

With respect to the general variety in realization types, the horizontal structure of SagB may be said to conform to that found in Izi. The integrating approach to the classification of writing elements, implied by this structure, is therefore shared by both series. This, in turn, suggests that even if the SagB tablet belongs to a deviating compositional stratum (cf. 8.0.) there is some *structural unity* between it and the other advanced series.

Exclusive bilingual format is another feature which SagB shares with the other advanced series (cf. 6.2.1.), reinforcing the emerging picture of structural unity.

8.2.2. Vertical organization

Horizontal ruling

As far as can be observed in the available evidence (cf. relevant remarks in 8.1.), horizontal ruling in the SagB tablet is intermittent and generally serves to divide the text into blocks of entries. Such blocks may either be graphically or semantically distinct. An example of the former type is found in the entry block III 1-3, in which the two initial signs SAG+AN are shared. An example of the latter type is found in the entry block VI 44-5, which contains two entries, the second of which (EST 155 KA-NU-GI-NA) is the negation of the first (154 KA-GI-NA). Use of horizontal ruling to mark off text sections in relation to semantic content, as opposed to graphic content and as found in the latter example, is also found in Hh (cf. 4.3.).

8.3. Vertical organization of content

Acrographic organizational features

The SagB text may be said to have a systematically acrographical organization: the initial key-signs of its logograms are all graphically related to each other. In fact, the whole text could be said to cover just three graphically related key-signs, viz. SAG, DÙL and KA, the last of which occurs either alone or with various in-written elements. In graphic terms the most basic of these signs is the one listed first, SAG, the original pictographic form of which represents a stylized human head. The other two signs, DÙL and KA, repeat this basic pictogram but add some other graphic elements: DÙL and KA are (originally) based on the same 'head' sign but the former adds hatches (in sign names this is described as *gunû* 'coloured'[119], hence its reading SUMUR 'angry') and the latter adds facial features (specifying the nose and mouth). SagB also includes many KA-signs which have added in-written graphic elements (KAxME, KAxNUN, KAxSA, KAxGÁ, KAxIM and KAxLI), which specify their readings through phonetic and/or semantic complements. The fact that *all* KA-signs, i.e. both those with and those without added in-written elements, are classified as a *single group* is implied by their order: those with such added elements are not separated from those without and both groups are mixed (KA alone occurs in the sections 077-117, 151-85 and 201-7, while KA with in-written elements occurs in the sections 118-50, 186-200 and 208-17). The *picto*graphic relation between all key-signs having thus been established, the *acro*graphic organization of SagB may be said to result from the fact that all key-signs occur in initial position.

[119] ePSD GUNU 'to be speckle, multicolored'.

Semantic organizational features

SagB and Nigga are the only two series that show a fully acrographic organization. In view of this fact, it may be asked how, in terms of organization, SagB and Nigga (the latter which will be discussed in Chapter 9) relate to the other series in the advanced part of the curriculum, i.e. to Izi before them and Diri after them. As it is found that both Izi and Diri show mixed-stepped association, the most obvious approach to this question is to determine whether or not SagB *additionally* shows (elements of) a semantic organization. It is possible that, aside from its acrographic organization, SagB also shows other associative principles, as typically found in mixed-stepped association. There are two indications that this is indeed the case.

The first indication is that semantic association, sometimes joined to phonetic association, is frequently found linking consecutive entries *within* key-sign sequences. E.g. EST 011 SAG-DU (read SAĜ.TÚM) and 012 SAG-GAG (read SAĜ.DÙ), which both share the key-sign SAG, also share the semantic field of 'creation; formation'; 028 SAG-LI-TAR and 029 SAG-AŠ can both refer to officials (even if the Akkadian translations do not specify this); 035 SAG-ZI-DA and 036 SAG-LUL-A cover the semantic opposites 'right' and 'false' and the entries 124-9 all refer to various languages spoken in the Ancient Near East. This means that semantically coherent entry sequences occur *within* acrographically organized sections in SagB composition, similar to how semantically organized sequences occur *within* acrographically organized sections of Izi (cf. 6.3.). It should be noted that in SagB, as in Izi, not only semantic organization but also phonetic organization may be found within acrographically coherent sections. E.g. 015 SAG-GAG-NU-TUKU and 016 SAG-GAG share not only the phonetic value /saĝ/ but also that of /tak/, in as far as the latter logogram may be read /santak/ (cf. ePSD), and 082 KA-TAB and 082 KA-DIB share not only /kiri/ but also the phonetically related morphemes /tab/ and /dib/.

The second indication is that the overall organization of SagB is not merely guided by (acro)graphic but simultaneously by semantic (and, to a lesser extent, by phonetic) association: in case of SagB the common pictographic origin of its key-signs implies that there is a (albeit somewhat residual) common semantic field, viz. 'the head, its parts and expressions'. If the parallel between the organizational structure of SagB with that of the other advanced series is considered, it may be suggested that, in SagB too, the semantic organization is primary and that the acrographic organization is a secondary by-effect.

Synthesis of vertical organization of content

The fact that semantic association may be found between entries belonging to a single key-sign sequence as well as between different key-signs implies that content in SagB is actually similarly organized to that in Izi: both series show mixed-stepped association. In this regard the main difference between SagB and Izi is quantitative: SagB contains only very few key-signs compared to Izi. Historically, only Nigga has a similarly low number of key-signs[120]. In relation to the other advanced series SagB could therefore be considered as similar in its mixed vertical organization of content, i.e. semantic-acrographic. It just happened that SagB (and Nigga) treated a relatively limited number of key-signs which, due to their importance and polyvalence, took up the space of an entire tablet to treat in all their aspects. The elegant acrographic unity of SagB, resulting from a fortuitous combination of pictographically related key-signs, is likely to be a mere by-effect rather than a programmatic goal. In fact, the

[120] MSL 13, 91.

evidence of parallel OB material suggests that the sequence SAG-DÙL-KA found in SagB is a mere variation of the traditional-conventional sequence SAG-KIŠI$_4$-KA-IGI-ŠAG$_4$) found in earlier material (e.g. BM 54728+78947)[121]. In diachronic perspective DÙL may be considered a mere graphic and phonetic variation (KIŠI$_4$>KÚŠ.Ù). The systematic acrographic organization found in SagB seems to be a fortuitous 'coincidence' and an exception rather than a rule among the advanced lexical lists. In the Emar version of Nigga, close to SagB in curricular position, there is no such coincidence because it only has one single key-sign. In fact, in its OB version Nigga had a higher number but similarly limited number of key-signs that were of equal importance to those found in SagB and that similarly covered an entire tablet in traditional-conventional sequence - these key-signs, however, are *not* graphically related.

This observation regarding the 'coincidental' nature of the acrographic organization of SagB should be qualified by considering the methodological approach of the ancient scribes that made such 'coincidences' possible. Both the horizontal and the vertical organization principles of SagB have been shown to conform quite closely to those of Izi and the integrative methodology may be said to be equally visible in both series: the methodological integration of scientifically unrelated phenomena in the horizontal and vertical organization is found in SagB as well as Izi. During its initial discussion (2.3.2.1.) the integrative methodology was said to have contributed to the original development of the cuneiform writing system because it had allowed cross-classificatory relations (i.e. relations between heterogeneous, unrelated phenomena) to be established: the original logograms were established by assuming a cross-classificatory unity between form (grapheme), sound (phoneme) and idea (semantic field). The SagB tablet illustrates exceptionally well to what extent the lexical studies of the ancient scribes kept relying on the integrative methodology: it shows that an advanced lexical work treats key-signs as *simultaneously* related in various ways. In SagB all key-signs are *simultaneously* graphically and semantically related: the former relation is shown in the full acrographic unity and the latter in the residual semantic field 'the head, its parts and expressions'. The phonetic unity is unavoidably incomplete but also receives attention as in two regards. First, throughout each key-sign section the key-sign itself is consistently pronounced in the same manner for each entry until it is replaced by another key-sign: SagB systematically omits Diri-compounds involving its key-signs. Second, an effort seems to have been made to establish phonetic relations between most consecutive key-signs: 075/6 SAĜ/KÚŠ is linked through *šas**suku***/**KÚŠ.Ù**, 076/7 KÚŠ/KÌRI through KÚŠ.Ù AK.**AK**/**KA**, 094/5 KÌRI/KA through KÌRI SÍG.ŠAG$_4$.**GA**/**KA**, 174/5 INIM/GÙ through INIM.ŠU.KÁR.**GA**/**GÙ** and 212/3 ŠEG$_{10}$/KANA through ŠEG$_{10}$ **GI.NA**/**KANA**. In SagB the ancient scribes clearly managed to present the wide range of various possible connections between key-signs in a manner that was coherent on various classificatory levels (graphic, phonetic and semantic) *simultaneously*. In this regard the acrographic nature of SagB is not really coincidental because graphic association was a valid mechanism in the integrative methodology. It was, however, a fortuitous aesthetic achievement within the scholarly framework of the ancient lexicographers because their integrative methodology *per definition* avoided an *exclusively* acrographic organization.

[121] MSL SS 1, 7. Note that the organization of lexical entries here depends on consecutive key-signs that are all body parts.

Summary

8.1. Material – tablet inventory and typology:

1. The attested material includes two joining fragments of a single Type I tablet. The larger of the two fragments has become separated from the rest of the lexical corpus: it is kept in the Institute of Oriental Culture in Tokyo and has been published separately.

8.2. Formal features:

1. Vertical ruling organizes text lay-out according to columns and sub-columns. The sub-columns serve to provide slots for elements 2 and 4 in the horizontal entry. The lack of further sub-columns for individual signs or sign-clusters within these elements indicates that SagB belongs to the group of the *early advanced series*.
2. The standard horizontal organization for SagB in terms of the Civil-code is <1->2-4.
3. Visual contrast between logogram elements recurs in all advanced series but in SagB it is achieved through consistent vertical alignment of repeated initial elements.
4. The horizontal organization of entries in the SagB tablet includes an element not found elsewhere in the Emar lexical corpus: the entry count marker, which counts every tenth entry (≠line) and occurs as a single large *Winkelhaken* (the U-sign).
5. SagB shows a deviant use and form of what is the *Glossenkeil* in other series: in SagB a *Glossenkeil* is not used for separating overlapping elements on the same entry line, as found in the other texts, whereas in other contexts a *Glossenkeil*-type marker is found consisting of a single *Winkelhaken* (instead of the double *Winkelhaken* found otherwise).
6. Glosses found in SagB conform in frequency and distribution to those found in Izi: they are infrequent but not restricted to uncommon readings.
7. The consistent writing of repeated logograms indicates that SagB belongs to the group of the *early advanced series*.
8. As in Izi, the relation between the logogram and the Akkadian equivalent shows a (somewhat less pronounced) *general variety* of (sometimes combined) realization types, which includes not only straightforward translation of the former into the latter but also translation on the basis of various graphic, phonetic and semantic associations.
9. As in Izi, the variety of realization types in the horizontal organization show that the ancient scribes pursued an *integrating approach* which implies that they were seeking to establish interrelations between phenomena which are unrelated in modern scientific terms.
10. Horizontal ruling is exclusively intermittent, reflecting the fact that SagB is only attested in bilingual format, and the resulting text blocks are either graphically or semantically distinct in content.

8.3. Vertical organization of content:

1. SagB shows a full and systematic acrographic organization but except for acrographic coherence the key-signs in SagB *also* show semantic coherence: the series is organized by mixed-stepped association.
2. SagB shows semantic association *within* key-sign sequences as well as *between* key-sign sequences and in this regard it matches the other advanced series with regard to organizational principles.
3. The acrographic organization of the SagB series is a fortuitous side-effect of its semantic organization that was possible because it only lists a few important key-signs which fill an entire tablet. The order of these key-signs was not determined by acrographic consideration but by a traditional-conventional sequence of signs.
4. The SagB tablet is an exceptionally elegant product of the integrative methodology of the ancient scholars. This integrative methodology sought to establish the maximum number of simultaneous associations applicable to a given key-signs. For the key-signs treated in SagB the ancient scholars exceptionally managed to come up with a list that was simultaneously fully coherent both in acrographic and semantic terms.

CHAPTER 9 - NÍĜ.GA=*makkūru*

9.0 The Nigga series in Emar

In the primary edition of the Emar lexical material it was recognized that some fragments contained material paralleled in the OB series Nigga[122] but it was not explicitly stated that a separate Nigga-type composition existed in Emar. The existence of a separate Nigga series can now be confirmed on basis of the fact that two of the fragments can be joined and that they together preserve (most of) the upper half of a two-column tablet (T1), which includes parts of the beginning and end sections of the text. All entries attested on this tablet, including the first and last sections, share the initial key-sign NÍG, and many entry sequences have parallels in the OB material: this means that the text of this tablet represents an Emar version of Nigga. Because, however, T1 concludes with an end-of-text-unit marker (LEE II 5) it is clear that this Emar version deviates from the OB version with regard to text division: the Emar tablet only has entries with the initial key-sign NÍG, while the OB tablets also include other key-signs (ŠU, SA, BAL, GÚ and KI). Theoretically, it is possible that Emar Nigga was divided in multiple divisions and that the other divisions are lost. However, the fact that most of the other key-signs of OB Nigga are extensively covered in Izi (ŠU in Izi 4, GÚ in Izi 2A and KI in Izi 2B) makes it likely that in Emar the Nigga series was limited to a single tablet. If so, the material covered by OB Nigga was split in two parts which were handled quite differently in LBA Emar. The first part (key-sign NÍG) continued to exist as a separate series, albeit of reduced scope, and the second part (the other key-signs) was transformed into, and/or merged with, another acrographic series. In Emar the relevant evidence suggests that the second part of OB Nigga amalgamated with the Izi-series. The reduced core version of Nigga found in Emar may be classified as belonging to the *later advanced series*: vertical lining subdivides Akkadian elements and its logograms are not written when repeated. The rest of OB Nigga recurs, at least partially, in Izi, which belongs to the *early advanced series*. This difference in curricular positioning implies that the NÍG-material was separated from the rest of the OB Nigga material because it was *used* differently.

9.1. Text corpus – tablet inventory and typology

The attested Nigga material consists of a number of fragments. Two of these join into the upper half of a two-column Type I tablet. One of the other fragments, 586, only preserves some Akkadian entries that seem to refer to Nigga logograms but show a deviating order (1' *sartu* and 5' *nukurtu* should refer to respectively EST 012-3 NÍG-LUL(-A) and 020 NÍG-PAB-DI but 3' *tibûtu* should refer to NÍG-ZI, which is 010 in T1). It should be noted that fragment 586 does not only deviate in content but also in form: it omits the otherwise usual horizontal rulings between consecutive entry sections of different logograms as well as the otherwise usual vertical subdivision rulings in the Akkadian equivalent. This may indicate that 586 does not belong to T1 (and perhaps not even to Nigga). As long as this issue remains unresolved, the apparent overlap of 586 with T1 implies that there was more than one copy of at least part of Nigga. This in turn means that the fragments that do not have direct joins should not be automatically assumed to belong to T1.

[122] Arnaud, *Emar* VI 4 168-9.

9.2. Formal features

9.2.1. Horizontal organization

Vertical ruling

In T1 vertical ruling is used to create columns as well as sub-columns: each column is subdivided into five sub-columns with are consistently used in the same manner. When given, the logogram occupies the first two sub-columns and its last sign is always located in the second of these. When the logogram is not given, the first two sub-columns are left empty. The Akkadian equivalent occupies the other three sub-columns and its last sign is always located in the last, fifth, sub-column. The fragments not joinable to T1 are too small to determine whether or not they conform to this vertical ruling pattern (the situation in 586 has already been discussed in 9.1.). The vertical ruling pattern described, which sets apart various signs within the logogram as well as within the Akkadian equivalent, strongly deviates from that found in the preceding series. A similar vertical ruling pattern, however, may be found in the following Diri series. In the commentary on the 'Kagal' fragment (7.3.) this difference was linked to the simultaneous difference in treatment of repeated logograms. These combined differences were then used as a diagnostic tool for distinguishing between two types of advanced series. On the basis of the curricular order of the parallel Ugarit curriculum these are referred the early and later advanced series. Given that Nigga shows the use of sub-columns to separate signs both within the logogram and the Akkadian equivalent, as well as the omission of repeated logograms, Nigga clearly belongs to the *later advanced series*.

Entry element inventory

As in the other advanced series preceding and following it, three types of entry elements are found in Nigga: glosses, logograms and Akkadian equivalents. The standard structure of the horizontal entry of Nigga may be summarized according to the Civil-code as <1->2-4.

Element 1 - the gloss

In the preserved part of T1 only one gloss, viz. $^{ga\text{-}ar}$, repeated four times in LEE II 1-4, is found. Even considering the quite fragmentary preservation of T1 this implies that the frequency of glosses in Nigga is low - in this regard it conforms to what is found in the other advanced series. The same seems true with regard to the distribution of glosses in Nigga, as $^{ga\text{-}ar}$ (for ĜAR) refers to a quite common reading of the corresponding logogram (NÍG).

Element 2 - the logogram

As in Izi and Kagal, Nigga achieves visual emphasis on contrasts within the logogram through the use of sub-columns (cf. above remarks on virtual ruling).

The typology of logograms in Nigga shows similarities to that in the other advanced series: logograms include both single-element as well as compound logograms and the compound logograms are of various types. As in SagB, Nigga does not have Diri-compounds involving the initial key-sign (which is always NÍG), but such compounds do occur in other parts of the logogram (e.g. EST 029 NÍG-**KI-LAM**=NÍĜ.**GANBA**). The fact that a systematic omission of Diri-compounds with the initial key-sign is found in both of the true 'acrographic' series, SagB and Nigga, contrasts with what is found in the other advanced series: Izi and Diri both

have Izi- as well as Diri-compounds. The selective omission of Diri-compounds from the key-sign inventory for SagB and Nigga not only implies that such compounds were considered didactically inappropriate for these exercises, showing the systematic nature of the curriculum, but also confirms that (acro)graphic association alone was not the principle on which the selection of entries for these series was based.

As noted earlier, logograms are omitted when repeated, confirming that Nigga belongs to the group of the *late advanced series* (i.e. it belongs in the same group as the Diri material).

Element 4 – the Akkadian equivalent

As the fragmentary state of the material makes definite conclusions concerning the variation of realization types in Nigga impossible, the following description is provisional. Apart from the fact that in some entries the meaning of either the logogram or the Akkadian entry remains unclear, in comparison to the preceding advanced series the preserved text of Nigga seems to show a consistent singularity in the relation between the logogram and the Akkadian equivalent, viz. the latter is consistently an one-to-one translation of the former. In this regard the relation of these two elements in Nigga seems to deviate from that found in some of the early advanced series. In terms of curricular context, however, this contrast is not entirely surprising. If the partial realization type (i.e. type 2) is considered as a variant of the one-to-one type (cf. 8.2.1.), then the preceding exercise, SagB, already showed a clear preponderance of the one-to-one type. In this regard it may be appropriate to speak of a *tendency to reduced variance in realization types* as the advanced curriculum progresses. Nigga could be said to merely take this reduced variance the furthest of all advanced series. Due to its fragmentary state, the preserved text does not allow the conclusion that Nigga completely excluded all other realization types, but it certainly shows a decrease in realization type variance. The evidence thus shows that a wide variation of realization types in the horizontal relation between elements 2 and 4 is not a common feature of all advanced series. The fact that typological variation was already found early in the curriculum (in SaV) shows that such variation is functionally linked to individual exercises (most notably SaV and Izi), rather than to the advanced series as a group.

Like all other advanced series, Nigga is only attested in bilingual format.

9.2.2. Vertical organization

Horizontal ruling

The use of intermittent horizontal ruling in Nigga conforms to that in the preceding series Kagal and SagB (and possibly Izi): it distinguishes blocks of text according to either graphic or semantic association. The many occasions where horizontal ruling sets aside blocks with only a single logogram (such as in I 6'-10' and II 20'-6') are examples of the former type. Examples of the latter type are found in the two-line blocks I 22'-3' and II 33'-4': in the first example the second line (EST 015 NÍG-NU-SI-DI) negates the first (014 NÍG-SI-DI) and in the second example both lines concern themselves with pricing terminology (028 NÍG-ŠÁM-MA and 029 NÍG-KI-LAM).

Division

As noted earlier, the possibility of the existence of other Nigga tablets should not be excluded. In view of the evidence from parallel texts it is theoretically possible that in Emar Nigga also had multiple divisions and that the other divisions are lost. It was also noted earlier, however, that as some of the other key-signs of OB Nigga are extensively covered in Emar Izi, it is more likely that in Emar the Nigga series was, in fact, limited to one single tablet.

9.3. Vertical organization of content

Acrographic organizational features

The Nigga text could be said to be completely acrographically organized, for purposes of an exclusively synchronic analysis, however, this is a meaningless statement because all entries in Nigga start with the same initial key-sign (NÍG). However, this same acrographic unity may explain the synchronic curricular position of Nigga between the other advanced series if it is viewed in terms of the diachronic development of the advanced series generally. In terms of diachronic analysis the mere fact that among the various advanced series, which otherwise have many different initial key-signs, a separate tablet was reserved for treatment of entries that all start with NÍG is remarkable in itself. In conjunction with the evidence of SagB, it shows that the process of incorporation of various separate OB series with limited key-sign inventories (such as Proto-Kagal, Proto-Sag and Nigga) into the single NA Izi composition was still far from complete in LBA Emar. Some smaller traditional series remain recognizably independent despite the clearly visible expansion of the series Izi and Diri, which replace them in later periods. In case of SagB and Nigga it may be suggested that their survival is related to the fact that in the Emar version these two series happened to show an acrographic unity which kept them relevant at that stage of the development of the advanced part of the curriculum. In LBA Emar the two other advanced series of the curriculum, Izi and Diri, are at a half-way stage in their transformation into systematic acrographic sign-collections, a transformation that is only completed in their canonical versions. At this half-way stage they had not yet completely absorbed the material of the older series (Proto-)Sag and (Proto-)Nigga because Izi and Diri were apparently not yet re-defined to include all older series. It seems that, as long as these older series showed sufficient acrographic unity, they could co-exist with Izi and Diri.

Semantic organizational features

Within the single NÍG key-sign sequence offered by Nigga there are indications of semantic association between consecutive entries. E.g. the entries 010-7 all deal with various descriptions of the relation 'right/wrong' and the entries 018-9 both deal with 'falling/dropping'. This implies a similar mixed-stepped association as found in the previously treated advanced series.

Because the only key-sign found in the material identified as Nigga is NÍG and because no information is available as to which key-signs preceded or followed it in other series, no conclusions can be drawn regarding the type of possible association that the NÍG key-sign had with the key-signs in other series. It is impossible to say if *inter-key-sign* semantic association, such as found between various key-signs in Izi and SagB, also determined the position of Nigga vis-à-vis the other series.

Synthesis of vertical organization of content

Even if there is no evidence regarding inter-key-sign association, Nigga conforms to the previously treated advanced series (Izi, SagB) with regard to vertical organization of content in two other respects: it shows frequent low-level semantic association (i.e. within single key-sign sequences) and consistent mid-level acrographic organization (i.e. entry clusters according to shared initial key-signs). In terms of the vertical organization of content Nigga may therefore be said to differs from the other advanced series not *qualitatively* but only *quantitatively*: it does not have a different organization but it has just one key-sign to organize.

Summary

9.1. Material – tablet inventory and typology:

1. The attested material includes a number of fragments of which two have (most of) the upper part of a Type I tablet.
2. Theoretically, it is possible that in Emar Nigga was divided in multiple divisions and that the material for the other divisions has been lost, but it seems more likely that the Emar Nigga series was limited to a single tablet.

9.2. Formal features:

1. Vertical ruling organizes text lay-out according to columns and sub-columns. The sub-columns serve to provide separate slots for elements 2 and 4 in the horizontal entry as well as for individual signs or sign-clusters *within* these elements, indicating that Nigga belongs to the group of the *later advanced series*.
2. The standard horizontal organization for Nigga in terms of the Civil-code is <1->2-4.
3. The glosses found in Nigga conform in frequency and distribution to those found in Izi: they are infrequent but not restricted to uncommon readings.
4. As in Izi and Kagal, Nigga achieves visual emphasis on contrasts within the logogram through the use of sub-columns.
5. The omission of repeated logograms indicates that Nigga belongs to the *later advanced series*.
6. The attested relations between logogram and Akkadian equivalent in Nigga show a single realization type: the one-to-one translation of the former by the latter.
7. The gradual decrease of realization type variance in the earlier advanced series and the apparent single realization type in Nigga suggest a *tendency to reduced variance in realization types* as the advanced curriculum progresses.
8. Horizontal ruling is exclusively intermittent, reflecting the fact that Nigga is only attested in bilingual format, and the resulting text blocks are either graphically or semantically distinct in content.

9.3. Vertical organization of content:

1. The Nigga text is fully acrographical because all entries start with the same initial key-sign, NÍG.
2. Nigga also shows the mixed-stepped associative organization found in the previously treated advanced series in terms of vertical organization of content in as far as it shows semantic association within the NÍG key-sign sequence as well as acrographic association. The absence of inter-key-sign semantic association found in the other advanced series merely reflects a quantitative, not a qualitative difference. Nigga is not differently organized but has just one key-sign to be organized.
3. The synchronic curricular position of Nigga may be explained by the general diachronic development of the advanced series. Various separate OB advanced series that are absorbed by Izi and Diri in the 1st Millennium, including Nigga, remain recognizable in Emar despite the fact that the expansion of Izi and Diri is already evident. The expansion of Izi and Diri results from a process of progressive acrographic systematization which tends to encroach upon the other advanced series but this process is not yet complete in Emar[123]. The acrographic unity of (the first part of) Nigga seems to have kept this series independent into the LBA period. A similar situation may apply to the SagB series in Emar and explains its continued independent attestation.

[123] Cf. Cavigneaux, 'Lexikalische Listen', 633.

CHAPTER 10 - DIRI=*watru*

10.1 Text corpus – tablet inventory and typology

The attested Diri material consists of a number of fragments, some of which may be joined together. Some show multiple columns and belong to Type I tablets, for others a typology cannot be established with absolute certainty. The fragmentary state of the material does not, at present, permit a satisfactory reconstruction of the tablets that these fragments originally belonged to. The fact that the preserved fragments show some congruency with the parallel texts of Ugarit and canonical Diri and the fact that these parallel texts were spread over multiple tablets combine to suggest that Emar Diri too may have had multiple divisions. The attestation record for the advanced series in Emar is generally quite poor but for Diri this is especially true. In this situation, the text edition presents the fragments as they are. They are ordered, as far as possible, according to the entry sequence found in Ugarit.

It should be noted that fragment 2 (540 F) preserves a few Akkadian entries that are paralleled in fragment 1 but that it also shows some deviations and incompatible traces (e.g. fragment 2 6' and 7' have *ša a-ka-li*/*lu* where fragment1 10'ff. has …]-*ru*). Further, it should be noted that fragment 2 does not only deviate in content but also in form: it is the only fragment to use the *Glossenkeil*, otherwise completely absent in the later advanced series, and also the only one that shows no sub-columns for the Akkadian entries. This could indicate that fragment 2 does not belong to Diri (cf. relevant note in the text edition). As long as this issue remains unresolved, the apparent overlap of fragments 1 and 2 implies that there was more than one copy of at least one of the Diri tablets.

10.2. Formal features

10.2.1. Horizontal organization

Vertical ruling

As far as visible, in all Diri fragments (except fragment 2, as discussed in 10.1.) vertical ruling is used in a similar manner as in Nigga (cf. 9.2.1.). Columns are sub-divided in five sub-columns, the first two of which are occupied by the gloss and the logogram whenever these are given. In this respect the main difference between Nigga and Diri is that in Diri the logogram is more frequently preceded by a gloss than in Nigga. As in Nigga, when the logogram is not given the first two sub-columns are left empty. The Akkadian equivalent always occupies the last three sub-columns. This vertical ruling pattern is most clearly visible in fragment 3. The combination of this vertical ruling pattern with a simultaneous omission of repeated logograms may be used as a diagnostic tool for determining that Diri belongs to the *later advanced series*.

Entry element inventory

As in the other advanced series preceding it, three types of entry elements are found in Diri: glosses, logograms and Akkadian equivalents. The structure of the horizontal entry for Diri, may be summarized according to the Civil-code as 1-2-4.

Element 1 - the gloss

As far as can be determined from the fragmentary evidence, the frequency of the gloss in Diri is much higher than that in the other advanced series. This is not surprising given the fact that Diri systematically provides compound logograms for which the phonetic value cannot be reduced to the sum of the their parts, i.e. the so-called Diri-compounds, named after this series. The increased frequency of glosses in Diri confirms what was suggested earlier in this commentary, viz. that gloss frequency is functional in as far as glosses tend to occur where new phonetic values need to be learnt. In this respect it is unsurprising to find distinct peaks in gloss frequency in the series SaV and Diri.

One particularity of the glosses in Diri is that some give the *same spelling* as the logogram (EST 007.01 $^{igi\text{-}du}{}_{8}$ IGI-DU$_8$ and 008.01 $^{igi\text{-}BU}$ IGI-BU). The fact that in these cases the gloss does not give additional phonetic information may be related to the fact that the logograms they refer to are not Diri-compounds but Izi-compounds. In other words, the repetition of the logographic spelling in the gloss apparently serves as an indication of the Izi-compound status of the logogram. Whether this empiric rule extends to the whole of the Emar Diri-text cannot be verified due to the fragmentary state of the material.

Another particularity of the glosses in Diri is that some refer to the *Akkadian* rather than to the Sumerian reading of the logogram (012.02 [$^{ab\text{-}ra}$]$^{\text{-}ak}$ [IGI-DUB][124] and 030.01 $^{nam\text{-}ru}$ Ú-ZA-MÙŠ). Irrespective of the (possibly questionable) level of knowledge of Sumerian in the Emar school, a direct Akkadian reading of logograms may indicate that the *actual use* of logograms was also considered a priority in educational context.

Element 2 – the logogram

For the other advanced series it was found that sub-columns provided a visual emphasis on contrasts within the logogram. This is much less clearly the case in Diri because it has a much higher frequency of glosses. These glosses occupy space (generally most of the first sub-column) and tend to 'push' the logograms into the second sub-column. Even so, many logograms are found to cross the sub-column divide, which suggests that the logogram slot was in fact conceived of as including both of the first two sub-columns. If so, the frequent positional shifts between gloss and logogram, which result in a lack of vertical alignment for these two elements, may be explained as an attempt to write the logogram as far to the left as possible (as shown most clearly in fragment 5). Thus, it may be argued that the strategy of visual sub-division of the logogram slot through vertical ruling found in the other advanced series also applies to Diri - it just happens to be obscured by the much higher frequency of glosses.

The typology of logograms in Diri differs from that in the other advanced series: logograms include almost only compounds (the only non-compound entry is the single element entry RA found in fragment 10 Obv 3) and these compounds are almost all either Diri-compounds or reduplication compounds - the latter may be presumed to represent irregular pronunciation variations[125]. Diri contains only very few real Izi-readings, which may or may not represent secondary interpolations[126].

[124] Note the status absolutus form (cf. Cavigneaux, *Zeichenlisten*, 91-2).
[125] MSL 15, 3.
[126] Ibidem, 4.

As noted earlier, logograms are omitted when repeated, confirming that Diri belongs to the group of *late advanced series* (i.e. it belongs in the same group as the Nigga material). Note, however, that a logogram is always repeated for every variant gloss that is given (e.g. fragment 3 has IGI-DU twice, in line 4 as well as line 9).

Finally, a remark should be made concerning the status of the determinative in Diri[127]. It should be noted that when determinatives are found in initial position, they occur as part of larger sequences in which the same initial key-sign is sometimes a determinative and sometimes not. In the entry sequence with initial key-sign Ú- this key-sign is found as a determinative in some entries (015-22) and as a non-determinative compound-element in others (023-30). A similar situation may be found in the entry sequence with initial key-sign GIŠ- (035-9), where at least one entry uses it as a determinative (036.06 ^{ĜIŠ}BU=^{ĜIŠ}GAZINBU). This means that entries were collected according to common initial key-sign irrespective of its determinative status. This is why in the summary Civil-code formula of Diri (<1->2-4) it was not explicitly specified whether the logogram includes or excludes the determinative (otherwise coded as sub-element '2a'). The fact that 'determinative' status was not a *emically*[128] valid criterion for the classification of signs (i.e. 'determinative status' is an *etic* projection of modern scientific criteria on the ancient texts) has already been noted in the discussion of the logogram element in Hh and Izi (cf. respectively 4.2.1. and 6.2.1.).

Element 4 – the Akkadian equivalent

In Diri the attested relations between the Akkadian equivalent and the logogram show only very limited variation. Most relations are of the one-to-one translation type. Only on a few occasions other realization types are found. Partial translation may be found once in 013.04 (HUL = *zēru* 'hatred' refers to HUL.GIG). Graphic association may be found once in 001.04 (AMAR-AMAR = *sullu* 'prayer' refers to AMARxŠE). Phonetic (and semantic) association may be found once in 036.04 (*alallu* 'stick' actually refers to A.LA.LA, not MALA) Semantic association may be found a few times more (e.g. in 024.03-4 *kumāṣu* 'bush' and *kušāru* 'bush shelter' are locations associated with GÙD = *qinnu* 'nest'). On balance, it may be said that Diri shows the same *tendency to reduced variance in realization types* noted earlier for the other advanced series that come after Izi.

Like all other advanced series, Diri is only attested in bilingual format.

10.2.2. Vertical organization

Horizontal ruling

The use of horizontal ruling in Diri differs from that in the other advanced series in that it may distinguish blocks of text according to either graphic or phonetic association. The first association type is evident in the systematic distinction of entry blocks for each consecutive new logogram. The second association type is evident in the occasional sub-division of such entry-blocks. In such sub-divided entry-blocks the logogram is always repeated and always given a new gloss. A clear example of such a sub-divided entry-block is found for the logogram GIŠ-BU in fragment 4 IV' 3'-8'. The only other series in which phonetic association was found in the application of horizontal ruling was SaV (cf. 2.3.2.2.). The

[127] Cf. Cavigneaux, 'Lexikalische Listen', 626.
[128] A definition of the terms *emic* and *etic* may be found in Eriksen, *Small Places, Large Issues*, 36-7.

reason for this similarity between SaV and Diri is that both series systematically teach the polyphone values of logograms, as evidenced by the use of glosses.

The fact that intermittent horizontal ruling in bilingual texts has been found to distinguish content according to various types of associations in different series implies that its varied use may be considered a general feature. In other words, the *varied relation of intermittent horizontal ruling to content* in bilingual texts reflects a *general scribal convention* rather than a distinctive feature of a specific series or of a specific part of the curriculum. While in SaV and Diri it is related to graphic and/or phonetic association, in the thematic series and the other advanced series it is related to graphic and/or semantic association. As the content of the series varies, so does the use of horizontal ruling.

Division

As noted earlier, it is very likely that the Emar version of Diri had multiple divisions. The fragmentary state of the material, however, does not allow a satisfactory reconstruction of this tablet division.

10.3. Vertical organization of content

Acrographic organization of content

Despite the fragmentary state of the material one aspect of the vertical organization of content in Diri is immediately clear: compounds are grouped together on the basis of common initial key-signs (e.g. in 003-13 all entries start with IGI- and in 015-30 all entries start with Ú-). This means that Diri shares acrographic association as a mid-level organizational principle with the other advanced series.

Semantic organization of content

As in the other advanced series, semantic association may be found in the lower-level organization, i.e. in the organization of entries *within* key-sign sequences (e.g. the logograms in 006-9 all relate to the semantic field of 'seeing' and those in 015-22 all relate to the semantic field of 'plants').

The associative principle underlying the higher-level inter-key-sign organization (i.e. the principle guiding the transitions *between* consecutive initial key-signs), which is often found to be semantic in earlier advanced series, remains unclear. Only two such transitions (013-4 IGI>LAGAB and 033-4 $KAŠ_4$>BÚR) are clearly attested in the Emar material and neither of these shows an obvious associative principle. The only way to approach the inter-key-sign organization of Diri would be to study the evidence from better-preserved parallel texts and to project the resulting analysis on the Emar material. However, even the few fragments of Emar Diri that remain show substantial deviations from these parallel texts, in inventory as well as sequence. Therefore such a projection would not necessarily be methodically valid.

Synthesis of vertical organization of content

As pointed out above, Diri conforms to the other advanced series with regard to low-level and mid-level organizational principle (i.e. semantic association within key-sign sequences and acrographic association of larger entry clusters). In this regard it may be said to show the same mixed-stepped associative organization. The question remains what was its high-level organizational principle. In as far as inductive evidence is lacking from the fragmentary Emar material some deductive argumentation may be attempted. A test will be made of the hypothesis that Diri was *purposefully composed* as a collection of one special class of compounds, viz. the Diri-compounds.

It was seen that two of the preceding series, SagB and Nigga, show a seemingly systematic omission of Diri-compounds with regard to their key-signs. It was also seen that Diri establishes a systematic collection of exactly such compounds. These two circumstances suggest that the *systematic treatment* of Diri-compounds may have been expressly reserved for the Diri-exercise. This could be true even if Diri-compounds were occasionally pragmatically included in earlier series and even if the Diri-compounding principle was already familiar to apprentice scribes before they started with the Diri series itself. If it is hypothetically assumed that the ancient scribes recognized Diri-compounds as a distinct class of words and then purposefully set out to produce a series that collected them all[129], this would *a priori* have determined the entry inventory of the Diri series. However, an entry *inventory* does not in itself establish an entry *sequence* and the question arises according to what principle the inventory was ordered. In this regard it is remarkable that the main distinctive feature of the compound type which Diri seemingly sets out to collect, viz. phonetic value as separated from graphic value, did *not* determine the organization of its entry sequence: the Diri entries are *not* ordered by phonetic value. On the contrary, in terms of low- and mid-level organizational principles, Diri closely conforms to the organizational format of the other advanced series, which show a multi-levelled, mixed use of (mostly graphic and semantic) associative principles. In other words, the *sequence* of Diri is not phonetically determined even although its *inventory* appears to be determined by a phonetic form criterion. This means that the organization principle of content in Diri is independent from the apparent selection principle of that content. To explain this inconsistency it may be useful to consider the impact on Diri of the integrative methodology particular to Mesopotamian scholarship.

Integrative methodology in the vertical organization of content

Even if the hypothetical assumption about the recognition of Diri-compounds as an abstract classificatory category and about the purposeful composition of the Diri-series as a repository for this category by the ancient scribes is correct, it may be argued that at no point they completely abandoned the integrative methodology. If abstraction is defined as the consideration of qualities apart from a given object, then the recognition of 'Diri-compounds' as a classificatory category may be taken as a clear abstraction from the object of study, viz. cuneiform writing signs, because it requires the separation of pronunciation from graphic form. The collection of 'Diri-compounds' in a special list, seemingly implied by the selective inventory of Diri, may be taken as prove of the use of *abstract analysis* in list composition[130]. This use, however, remained limited: it only determined the *inventory* and not the *sequence* of the resulting composition. Despite the hypothetically abstract *inventory conception* of Diri, its *organizational conception* shows all the hallmarks of the integrative methodology: graphic,

[129] Various inconsistencies in content make it doubtful that this was actually the case (cf. MSL 15, 3-4).
[130] Cf. Veldhuis, 'Proto-Kagal/Nigga', 206.

phonetic as well as semantic association may be found in the organization its vertical sequence. The fact that some entries do *not* classify as Diri-compounds may be taken to illustrate the overriding concern of the integrative method, viz. the association of signs on multiple levels, irrespective of any abstract selection criterion. No single classificatory criterion, graphic, phonetic or semantic, ultimately determines the organization of any lexical composition. In certain series more than in others, certain association types may have been emphasized (or rather: emphatically practiced) but apparently never to the point that the other (potential) types were completely ignored.

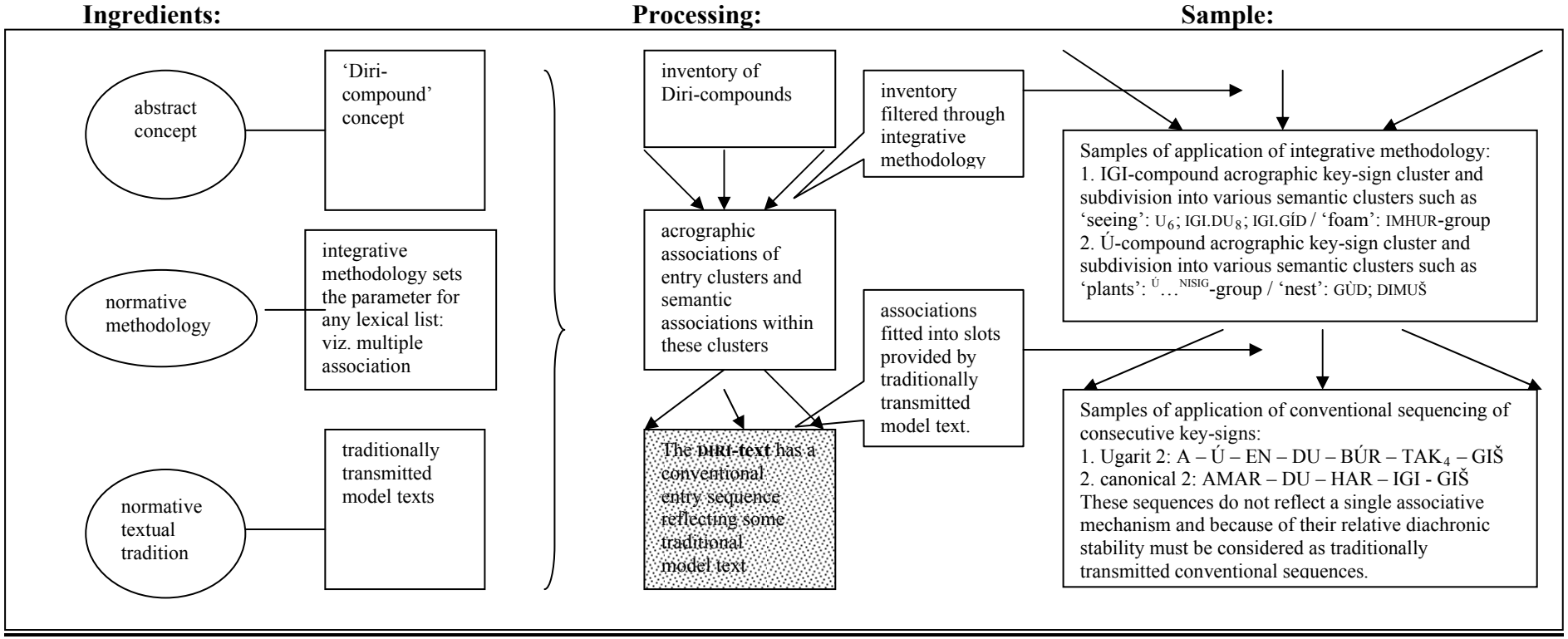
Diri is the only series in which two fundamental associative mechanisms used in the integrative method, viz. graphic and phonetic value, *systematically collide* - this is what defines the remarkably abstract quality of its inventory conception. If it is postulated that the integrative methodology of the ancient scholars resulted from their search for a consistent and close relation of their writing system to *concrete* categories (concrete categories by definition admit of multiple abstract associations), the introduction of a deviant, abstract selection mechanism may be assumed to result from the *breakdown* of this consistent and close relation with regard to Diri-compounds. It could be argued that abstract analysis had a mere *auxiliary function* for the ancient lexicographers. It was only used after the basic associative mechanisms of their integrative method had *failed* them and they were forced to resort to alternative means for classifying their material. In this regard it is probably not a coincidence that Diri is found as the last series in the lexical curriculum: it consisted of a *residual category* of compounds which did not fit in elsewhere. The series name itself, DIRIG 'surplus', suggests that the scribes recognized it as such[131]. It may be that, in order to present apprentice scribes with some sort of guideline through the unpredictable readings of the Diri-compounds, the Diri series presented its compounds in the same mixed-stepped organizational format familiar to them from the other advanced lists.

Theoretical reconstruction of the composition process of Diri

Taking the deductive method one step further, the concept of the integrative methodology may be used to reconstruct the composition process of Diri from the textual evidence found in Emar and elsewhere. To illustrate it, Figure 1 schematically presents a theoretical model that includes some text samples. The composition process may be assumed to have been shaped by the interaction of three different types of input ('ingredients'): concept (the abstract category of the 'Diri-compound'), methodology (the integrative method) and textual tradition. Because the integrative methodology and textual tradition had a *normative status*, the vertical organization of Diri was bound to be shaped by them, even if the compound inventory was originally selected on the basis of an abstract concept. The fact that the actual Diri key-sign sequences as they appear in Emar and elsewhere show similarities to each other but nowhere show a single coherent associative mechanism, strongly suggests that the Diri key-sign sequence was conventionally established, meaning that it depended on a traditionally transmitted normative model text. This traditional model text, presumably some earlier lexical list, may originally not have had the purpose of collecting Diri-compounds. In this regard, the presence of non-Diri-compound content may be significant. The identification of this model text is a task appropriate to diachronic research.

[131] MSL 15, 3.

Figure 1. Composition process of Diri



Summary

10.1. Material – tablet inventory and typology:

1. The attested material consists of a number of fragments, some of which belong to Type I tablets. Due to the fragmentary state of the material the coherence of the Izi text and its divisional structure are unclear.

10.2. Formal features:

1. Vertical ruling organizes text lay-out according to columns and sub-columns. The sub-columns serve to provide separate slots for elements 2 and 4 in the horizontal entry as well as for individual signs or sign-clusters *within* these elements, indicating that Diri belongs to the group of the *later advanced series*.
2. The standard horizontal organization for Diri in terms of the Civil-code is 1-2-4.
3. Particularities of the glosses in Diri include the occasional repetition of the spelling of the logogram (which seems related to the Izi-compound status of logograms) and the occasional Akkadian reading in glosses.
4. The use of sub-columns for achieving visual contrast between logogram elements is hindered by the systematic inclusion of glosses.
5. The omission of repeated logograms indicates that Diri belongs to the *later advanced series*.
6. In parallel to what was found for the other advanced series, the relation between the logogram and the Akkadian equivalent shows a (limited) *general variety* of realization types, which mostly includes straightforward translation of the former into the latter but also some translation on the basis of various graphic, phonetic and semantic associations.
7. The *tendency to reduced variance in realization types* as the advanced curriculum progresses, noted for SagB and Nigga, is confirmed in Diri.
8. Horizontal ruling is exclusively intermittent, reflecting the fact that Diri is only attested in bilingual format, and the resulting text blocks are either graphically or phonetically distinct in content.
9. The fact that the use of intermittent horizontal ruling in bilingual texts for both graphic and semantic distinction has now been found in many different series implies that it may be considered a general feature. The *varied relation of intermittent horizontal ruling to content* in bilingual texts reflects a *general scribal convention* rather than a distinctive feature of a specific series or specific part of the curriculum.
10. In view of the substantial parallels in content between the Emar material and the parallel Ugarit and canonical texts it is very likely that the Emar version of Diri had multiple divisions but the fragmentary state of the material does not allow a satisfactory reconstruction of its tablet division.

10.3. Vertical organization of content:

1. Diri conforms to other advanced series in terms of vertical organization of content in as far as it shows both semantic association within key-sign sequences and acrographic association in key-sign clusters, i.e. mixed-stepped association.
2. The systematic treatment of Diri-compounds suggests that the Diri-list was conceived as a repository for such compounds but this *abstract inventory criterion* may be contrasted with the integrative methodology evident in the organization of that inventory.
3. The use of abstract classification (i.e. the recognition of the abstract category 'Diri-compound'), evident in the entry inventory of Diri, may be explained as an *auxiliary device* used in case of failure of the standard associative mechanisms of the integrative method (i.e. the clash between graphic and phonetic association in Diri-compounds).
4. A reconstruction of the composition process of Diri depends on recognizing the *normative status* of both the integrative methodology and the textual tradition.

CURRICULAR ANALYSIS

CHAPTER 11 - FORMAL AND ORGANIZATIONAL COMPARISON

11.0. Formal-organizational units

In the preceding chapters it was found that in the Emar lexical texts the various formal and organizational features investigated are generally not particular to individual tablets or individual scribes but primarily related to the series they belong to. In other words, the occurrence of a given feature is not random, but determined by the series. The only variations in formal and organizational features found apart from those determined by the series are those that are determined by linguistic format, i.e. determined by the uni- or bilingual linguistic format of a given series. In the Emar school most series are attested in a single linguistic format (SaP only occurs in the unilingual format and Svo, SaV, G as well as the advanced series occur only in bilingual format), which means that there is no variation of formal and organizational features within these series. The only series in the Emar curriculum that is attested in both unilingual and bilingual format - and therefore showing two varying sets of features - is Hh. Each series and each linguistic format within each series (the latter in Hh only) constitutes a *formal-organizational unit* and the formal and organizational features of each individual text with material belonging to such a unit are predictable. It should be noted that with regard to a few specific analytic criteria such units may show some internal unevenness - this will be noted where applicable. In the present chapter it will be investigated how these formal-organizational units relate to each other. This will allow a formal and organizational evaluation of the curriculum as a whole.

There are two caveats to the curricular evaluation given in this chapter. First, for some series their status in the Emar curriculum in unclear (Tu-ta-ti and Kagal) or their attested material is too fragmentary to allow a sufficient evaluation (Sa). This leaves eleven units to compare, viz. ten different series and a double linguistic format for Hh – their numbering will conform to that used in the text edition. The implication is that the curricular evaluation must remain incomplete. Second, it is possible that some of the evaluated material belongs to a deviating compositional stratum, especially in case of the single SagB text (cf. 8.0.). This means that the curricular evaluation is of a provisional character.

The first three paragraphs will give a comparative analysis for each of the investigated features in the same sequence as they are given in the chapters of the series analysis: 11.1. will cover tablet typology, 11.2. will cover formal features and 11.3. will cover vertical organization of content. Next, the issue of the curricular position of the various series will be investigated in paragraph 11.4. . As this chapter effectively gives a synthesis of the preceding series analysis, frequent references to the preceding chapters will be made by adding bracketed paragraph numbers to the text.

The issue of curricular order proceeds from the basis of the working hypothesis that the Emar school curriculum gave the various lexical series in the same order as that reconstructed for LBA Ugarit[132] which, in turn, largely conforms to that found in the OB school[133]. Despite the fact that the Emar corpus offers only one *Sammeltafel* to confirm part of this hypothesis, it will be seen that there are empirically verifiable formal and organizational features that point to its applicability.

[132] Van Soldt, 'Babylonian Texts', 72-4.
[133] Veldhuis, *Elementary Education*, 41-63.

11.1. Tablet typology

For each formal-organizational unit all or most text material was found on Type I tablets. Additionally, for a few units (Hh, Lu and Izi) one or more Type III (one-column extract) tablets were found. Where applicable, some apparent differences in formal and organizational features between the two tablet types will be discussed in the relevant sections of the next two paragraphs. Both types, however, may be said to actually consistently fit into a single formal-organizational unit. For convenient reference, Table 16 below gives a listing of all actual and possible Type III tablets found in the Emar lexical text corpus.

Table 16. Inventory of Type III tablets

? indicates possible extract

Formal-organizational unit		Tablet number	Old edition *Emar* VI 4 number	Museum and publication page number	Linguistic format
0.	Tu-ta-ti	Tutati E1	601	7462 – p.197	bilingual
4b.	Hh	Hh 4E1	545 I	7448 – p.189	originally bilingual (breakage)
		Hh 4E2	545 M +	74114d – p.285	bilingual
			545 S +	74109b – p.279	
			545 AZ	74178c – p.452	
		?	545 R	74190i – p.464	virtually bilingual
		?	545 AQ	7496j – p.235	bilingual
		Hh 7bE1	548 C	73265 – p.52	virtually bilingual
		Hh 7bE2	548 G	74148a – p.372	bilingual
		Hh 12E1	555 K	7467 – p.201	bilingual (phonetic Sumerian)
		Hh 13E1	556 A	74202 – p.500	bilingual
		Hh 13E2	556 D	74149 – p.381-2	bilingual (phonetic Sumerian)
		Hh 15E1	558 A’	74234b – p.545	bilingual
		Hh 16bE1	559 D	7455 + 74155b – p.193	virtually bilingual
5.	Lu	Lu 2E1	583	74158e – p.392	bilingual
6.	Izi	Izi 4E1	572	7433 – p.176	bilingual

11.2. Formal features

11.2.1. Horizontal formal features

Vertical ruling - columns

All Type I tablets in the Emar lexical corpus use vertical ruling to provide columns. In contrast, Type III tablets are defined as single-column tablets. The number of columns given on a particular Type I tablet surface varies from two to five. In Table 17 below the number of columns on the Type I tablets of each formal-organizational units is specified.

Table 17. Column-count on Type I tablets across formal-organizational units

Note that due to their fragmentary state for some tablets only an estimate can be made. This estimate is either based on the column count in parallel Emar tablets or by assuming a number of entries equal to that found in the canonical version and dividing it by the estimated average line count per column. When the result is uncertain it is given a question mark (?).

Formal-organizational unit		**Linguistic format**	**Tablets and number of columns** (Obverse/Reverse)
1.	Svo	bilingual	T1: 2/2, T2: 2/2
2.1.	SaV	bilingual	T1: 5/5, T2: 5/5, T3: 4/4, T4: 4/4
2.3.	SaP	unilingual	T1: 5/5, T2: 5/5
3.	G	bilingual	T1: 3/3
4a.	Hh 1	unilingual	T1: 4/4, T2: 4/4
	Hh 3		T1: 5/5, T2: 5/5
	Hh 7		T1: 5/5, T2: 5/5, T3: 5/5
	Hh 8		T1': 4/4
	Hh 9		T1: 4/4
	Hh 15		T1: 3/3 (virtual bilingual)
	Hh 16		T1: 4/4
4b.	Hh 1	bilingual	T3: 4/4, T4: ?
	Hh 2		T1: 3/3, T2: 3/3, T3: 3/3
	Hh 3		T1: 2/2, T2: 2/2
	Hh 4		T1: 4/5, T2: 4/4, T3: 4/4?
	Hh 5		T1: 4/3
	Hh 7		T1: 3/3?
	Hh 8		T1: 4/4?, T2b 4/4?
	Hh 9		T1: 3/3
	Hh 10		T1: 3/3, T2: 3/3
	Hh 12		T1: 3/3
	Hh 13		T1': 3/3? , T2': 3/3?
	Hh 16		T1: 3/3, T2: 3/3
	Hh 17		T1': 3/3
	Hh 18		T1': 4/4?
5.	Lu 1	bilingual	T1: 4/4, T2: 4/4
	Lu 2		T1: 4/4
6.	Izi	bilingual	1T1: 3/3, 2BT1: 3/3
8.	Sag B	bilingual	T1: 4/4
9.	Nigga	bilingual	T1: 2/2
10.	Diri	bilingual	fragments only (2:2 tablets?)

The distribution of the low and high column-counts, i.e. the two- and five-column tablets respectively, found in Table 17 will be briefly commented upon.

A low column-count, i.e. a two-column tablet, is found relatively rarely and only in certain formal-organizational units, viz. in Svo, Nigga and bilingual Hh 3. The fragmentary evidence suggests that the Diri-material too was probably also written on two-column tablets. The fact that bilingual Hh 3 has two-column tablets may be assumed to be linked to the fact that division 3 is the only part of Hh where the two different linguistic versions have a different tablet division: the unilingual version shows a single division but the bilingual version is spread over two divisions (termed 3.1 and 3.2). The bilingual version exceeded the space available on a single tablet, but this excess was limited, so that no more than two columns were needed on two tablets. In case of the other formal-organizational units, i.e. Svo, Nigga and (probably) Diri, it should be noted that the fact that they all have two columns coincides with the fact that these three series have a lay-out feature not found in other series: all three show *systematic omission of repeated logograms* (discussed in more detail in 7.2.). This 'coincidence' seems to point to a scribal convention that linked this type of lay-out to the specific number of two columns.

A high column-count, i.e. a five-column tablet, is found almost exclusively in those formal-organizational units that have relatively short horizontal entries, as found in SaP (rarely more than two signs per horizontal entry), SaV (mostly one-sign logograms) and unilingual Hh (which omits the Akkadian equivalent). The only attested five-column tablet outside of such units is Hh 4T1, which manages to include five columns on the Reverse - note that the Obverse has four columns. Generally, it appears that five was the maximum number of columns per tablet surface deemed feasible in lexical compositions.

Vertical ruling - sub-columns

On all Type I and most Type III tablets in the Emar lexical corpus vertical ruling is used to provide sub-columns. The use of sub-columns on Type III tablets generally conforms to that on Type I tablets. Of the eleven Type III tablets identified with certainty nine belong to Hh (viz. 4E1-2, 7bE1-2, 12E1, 13E1-2, 15E1, 16bE1). These nine belong to the bilingual formal-organizational unit, even if some (viz. 4E1, 7bE1, 16bE1) lack the actual Akkadian equivalents (cf. 4.4.). All except one show dual purpose use of sub-columns: the one exception is the unique tablet 13E2, which is the only extract to add a separate column of phonetic Sumerian and also is the only one on which the reverse is read as a horizontal continuation of the obverse. The remaining two Type III tablets belong to Lu and Izi (Lu2E1 and Izi4E1 respectively) and show no discernible sign of sub-column use (note that Lu2E1 is damaged). In Table 18 below the type of use made of sub-columns in each formal-organizational units is specified. There are three types of use:

1. *single purpose use* - which is generally to provide slots for different elements in the horizontal entry. Only in case of SaP is the single purpose involved different, viz. to provide slots for graphic variants of the logogram.
2. *dual purpose use* - which is to provide slots for entry elements as well as slots for sign positioning *within* logograms. This type of use has been discussed in detail in the relevant paragraph dealing with Lu (5.2.1.).
3. *elaborate dual purpose use* - which is to provide slots for entry elements as well as slots for sign positioning within both logograms *and* Akkadian equivalents.

Table 18. Sub-column use typology across formal-organizational units

Formal-organizational unit		Linguistic format	Number of sub-columns	Type of use of sub-columns
1.	Svo	bilingual	2	single purpose use
2.1.	SaV	bilingual	2/3	single purpose use
2.3.	SaP	unilingual	2	single purpose use (slots for graphic variants)
3.	G	bilingual	3	dual purpose use
4a.	Hh	unilingual	none	n/a
4b.	Hh	bilingual	2/3/4	dual purpose use
5.	Lu	bilingual	3/4	dual purpose use
6.	Izi	bilingual	2/3/4	dual purpose use
8.	SagB	bilingual	2	single purpose use
9.	Nigga	bilingual	5	elaborate dual purpose use
10.	Diri	bilingual	5	elaborate dual purpose use

The first conclusion to be drawn from the analysis provided by Table 18 is that the use of vertical ruling for sub-columns is only found in those formal-organizational units in which the horizontal entry is built up of more than one element. This excludes all unilingual texts except those which repeat their single element, i.e. except SaP, which gives multiple graphic versions of the Sa key-sign logograms.

The second conclusion to be drawn is that the type of use of sub-columns is generally *linked to the list-type* covered by the formal-organizational unit in question: the elementary sign-lists (Svo, SaP, SaV) show single purpose use, the thematic lists and the early advanced list Izi show dual purpose use and the later advanced lists (Nigga, Diri) show elaborate dual purpose use. The only formal-organizational unit that does not conform to this empiric rule is SagB. In this respect it is appropriate to again refer to the hypothesis that SagB in fact belongs to a deviating compositional stratum (cf. 8.0.). The use of sub-column typology as a diagnostic tool for identifying lexical fragments as belonging to specific formal-organizational units has already been suggested earlier (cf. 7.2.). It should be noted that the exclusive attestation of elaborate dual purpose use for Nigga and Diri could be a formal reflection of the originally (historically) deviating content of these two series: they are the only series that were systematically provided some sort of explicit Akkadian translation in the OB curriculum[134].

Entry element inventory

Superficially there are some deviations between the entry element inventories of Type I and Type III tablets found in bilingual Hh. Bilingual Hh has three Type III tablets that appear to show unilingual content and two others that show the insertion of phonetic Sumerian spellings. However, these two phenomena do not imply an actual difference in entry element inventory as the former is due either to breakage or to virtual bilingualism (cf. 4.4.) whereas the latter merely concerns an alternative rendering of a single element, viz. the logogram. Therefore Table 19 below gives a single inventory of entry elements for all formal-organizational units, regardless of tablet type. Entry elements which do occur but are attested relatively infrequently in a given unit are given in pointed brackets (< >) - such elements

[134] Veldhuis, 'Proto-Kagal/Nigga', 209-10.

frequently have the character of auxiliary elements. Observations concerning the analysis provided by Table 19 will be given below in order of the relevant elements.

Table 19. Entry element inventory across formal-organizational units

Formal-organizational unit		Linguistic format	Entry elements (Civil-code) 0 - line marker	1 - gloss	3 - sign name	2 - logogram	4 - Akkadian equivalent
1.	Svo	bilingual	-	-	-	+[1]	+
2.1.	SaV	bilingual	+	+[3]	(+)[4]	+	+
2.3.	SaP	unilingual	-	-	-	+[2]	-
3.	G	bilingual	-	-	-	+	<+>[5]
4a.	Hh	unilingual	-	-	-	+	-
4b.	Hh	bilingual	-	<+>	-	+	+
5.	Lu	bilingual	-	<+>	-	+	+
6.	Izi	bilingual	-	<+>	-	+	+
8.	SagB	bilingual	-	<+>	-	+	+
9.	Nigga	bilingual	-	<+>	-	+	+
10.	Diri	bilingual	-	+	-	+	+

[1] The status of the logogram in Svo is discussed in 1.2.1.
[2] The Sa key-sign logograms in SaP are given in multiple graphic variants
[3] The omission of glosses in SaV T2 is discussed in 2.1.2.1.
[4] Sign names are (almost) exclusively attested in the long-version tablets (SaV T3-4)
[5] The status of the element 4-entries in G I discussed in 3.2.1.

Element 0 - the line marker

For undetermined reasons this element only occurs in SaV. There it was said that, as element 0 is not related to individual entries, in the Emar corpus at least, it is actually *not an entry element*. (cf. 2.1.2.1.).

Element 1 - the gloss

Glosses are only systematically added in two formal-organizational units, viz. SaV and Diri. In Svo, SaP, G and unilingual Hh glosses are systematically omitted and in the other units they do occur, but only relatively infrequently. A discussion of gloss omission will be given first, followed by a discussion of gloss frequency.

For Svo this omission may be explained by the deviant status of its element 2-entries: if these are not regular logograms (as argued in 1.2.1.), then it is not surprising that Svo lacks glosses because glosses generally serve to provide phonetic information about logograms. For SaP the omission of glosses is due to the fact that SaP provides an exercise exclusively concerned with the graphic and not with the phonetic values of the Sa key-sign logograms - the latter values are provided by SaV. In G the issue of glosses is somewhat complicated because some element 4-entries, even if placed *after* the logogram, in fact take on the form of glosses. It could be argued that the low frequency of such 'glosses' in G is caused by its tendency to progressively phase out of auxiliary elements (cf. 3.2.1.). The omission of glosses in unilingual Hh may be explained by the fact that the unilingual version of Hh most likely represents an more advanced stage of the curriculum, i.e. a stage at which the apprentice scribe was supposed to be already familiar with the phonetic values of the logograms.

Concerning the relatively low gloss frequency in bilingual Hh, Lu, Izi, SagB and Nigga (marked < > in Table 19) it was already suggested (4.2.1.) that it may be explained by didactic functionality: in these series glosses were only given when indispensable for resolving ambiguities or explaining unusual readings. The uneven frequency of glosses in different formal-organizational units is functional in as far as a higher frequency tends to occur whenever many new phonetic values need to be learned. It is therefore unsurprising to find distinct peaks in gloss frequency in the series SaV and Diri. SaV served to teach all the essentials of writing including most basic phonetic values. In the course of the further curriculum the phonetic knowledge acquired in SaV was occasionally supplemented by (relatively infrequent) glosses in the following series. When the apprentice scribe arrived at the last lexical exercise, Diri, he was confronted with a large residue of compounds which, due their specific nature, had not fitted into the other series (in terms of the integrative methodology Diri-compounds show a conflict between graphic and phonetic value - cf. 10.3.). At that point he had to systematically learn the values of those compounds of which the phonetic sum and the graphic sum did not match each other and which had not been treated previously, hence the second peak in gloss frequency in Diri.

Element 3 - the sign name

Sign names are only found in SaV, where they share the number 2 slot with the gloss. Their positioning, unusual in terms of the canonical sequence of entry element, and their relation to the gloss element were discussed in 2.1.2.1. . In terms of curricular structure the exclusive occurrence of sign names in SaV makes good sense: SaV tends to simultaneously concentrate on various aspects of its key-sign logograms and the sign-name is one of the aspects of every logogram. What is remarkable in this respect, however, is that the listing of sign names tends to be a phenomenon exclusively restricted to the long-version tablets (SaV T3-4). In their vast expansion of the number of Akkadian equivalents per key-sign these long-version tablets approach the series Aa in scope and organization[135] (though not in key-sign sequence). It should be noted that in this respect the long-version tablets effectively 'replace' the Ea/Aa series, which are not attested in Emar. Not matched in any earlier or parallel text, the expanded scope of SaV of the Emar long-version tablets may reflect an innovation particular to the LBA period. This would fit in with the explicit writing of sign names found in these tablets, a phenomenon generally associated with later periods[136].

Element 2 - the logogram

All formal-organizational units have the logogram at their core and their organization is set up around this core. What should be reiterated here, however, is the fact that different units treat the logogram in different ways. In the elementary sign-list SaV a relatively short list of key-sign logograms is investigated simultaneously from several different angles (graphic relation, polyphony, semantic scope). This allowed the apprentice scribe to become familiar with some basic signs and to gain some basic insights into the various aspects of writing. In the various thematic lists the logograms are primarily investigated as words which are presented in semantically coherent clusters. This, in turn, allowed the apprentice scribe to master a wide range of vocabulary. In the advanced lists logograms are primarily approached as the potential or actual elements of compounds, i.e. they are investigated for their various graphic, phonetic and semantic combinatory possibilities. As a result the apprentice scribe gained compositional

[135] Aa has the horizontal structure 0-1-2-(3-)4 (Cavigneaux, 'Lexikalische Listen', 621).
[136] Cavigneaux, 'Lexikalische Listen', 611.

skills and learnt to analyse the writing system by isolating and rearranging its smallest relevant elements, viz. its graphemes. In Diri, the final lexical exercise these skills were extended to a large residual category of compounds that were (mostly) conventionally read without regard for the phonetic values of individual graphemes.

In the course of the curriculum different formal-organizational units repeated many individual signs in different contexts. E.g. in the elementary sign-list SaV the sign GIŠ (PST 038) is treated from various associative perspectives, viz. graphic (039 GÁ also start with two horizontals), phonetic (038.02-3 have the glosses $^{\text{ke-eš}}$ and $^{\text{né-eš}}$) and semantic (*iṣu* 'wood' and *haṭṭu* 'sceptre'). In the thematic list Hh the same sign recurs as the determinative for a large semantic field extended throughout two divisions (3-4) and is concluded with appropriate sentence ĜIŠ ŠU.NÍĜIN.NA 'the wood(list is) complete'. In the advanced list Izi the sign GIŠ (EST 2B001-3) returns in another context, viz. as a potential (2B003) and actual (2B001-2) combinatory element in compounds. Such recurrences illustrate how the various formal-organizational units did not relate to each other as complementary inventories but as supplementary methods. Overlapping content was approached from different angles in various series.

With regard to the formal presentation of the logogram it was found that two different strategies may be found within the Emar curriculum, viz. either a full rendering of each repeated logogram or omission of repeated logograms. The former strategy is encountered in most formal-organizational units, the latter only in Svo, Nigga and Diri. For the latter two it was found that omission of repeated logograms, in conjunction with elaborate dual purpose use of sub-columns, may be used as a diagnostic tool for determining whether a given text (fragment) belongs to the early or to the later advanced series.

Element 4 - the Akkadian equivalent

In this paragraph an important aspect of variation in the horizontal organization between the various formal-organizational units will be investigated, viz. the variation in realization types occurring in the relation between logogram and Akkadian equivalent. In the series analysis preceding this chapter it was found that different units showed different realization types. Table 20 below gives a systematic analysis of the resulting organizational variations throughout the curriculum. It should be noted that SaP and unilingual Hh are not listed because these series do not include Akkadian equivalents. There are six possible realization types found in the relation of logogram and Akkadian equivalent - sometimes these may be combined in a single entry. Examples of each type may be found in the relevant paragraphs of the series analysis (e.g. for Svo in 1.2.1. and for SaV in 2.3.2.1.)[137].

[137] In terms of Cavigneaux' classification the approximate equivalents of these realization types may be listed as follows: 1. regular = A.1. *Isolexie*; 2. pars-pro-toto = A.3. *Taxilexie*; 3/5. graphic/semantic association = A.4. *Metalexie* and 4. phonetic association = A.2. *Paralexie* (Cavigneaux, *Zeichenlisten*, 29-36). Note that Cavigneaux' category A.5. *Dyslexie* does not have an equivalent in the realization typology of this study as it is felt that the identification of 'mistakes' involves an *etic* projection of contemporary methodology on ancient scholarship. Such identification may be inappropriate in terms of the integrative methodology used by the ancient scribes.

1. a 'regular', *one-to-one* translation. In this case the Akkadian equivalent aims to give a straightforward translation of the logogram. Note that frequently more than one Akkadian word is given so as to cover the diverging semantic range of a single Sumerian word.
2. a *partial* translation. In this case the Akkadian equivalent either translates only part of the logogram or, vice-versa, projects the meaning of a virtual larger phrase on a single element that may be part of such a phrase. In some series (Hh, Lu, SagB) this type is merely a *systematic variant* of type 1, viz. when the partial rendering consistently and exclusively refers to the variable elements added to key-words (i.e. when it is used merely as an *abbreviation* strategy).
3. the equivalent refers to another logogram that is *graphically associated* with the logogram actually found.
4. the equivalent refers to another logogram that is *phonetically associated* with the logogram actually found.
5. the equivalent refers to another logogram that is *semantically associated* with the logogram actually found.
6. the Akkadian equivalent is triggered by an Akkadian, i.e. *phonetic reading* of the logogram.

Realization types that occur relatively infrequently in a given unit are given between pointed brackets (< >). When the state of the material does not allow definite conclusions regarding the occurrence of a certain realization type in a given unit this is indicated by square brackets ([]). Note that the record for G is uncertain due to the limited inventory and problematic status inventory of the element 4-entries available. It should also be noted that in G equivalent Sumerian and Akkadian DNs tend to be listed in vertically consecutive entries rather than in a single horizontal entry.

Table 20. Distribution of realization types in the relation between logogram and Akkadian equivalent across formal-organizational units

Formal-organizational unit		**Realization types** 1	2	3	4	5	6
1.	Svo	+	+	+	+	+	<+>
2.1.	SaV	+	+	+	+	+	<+>
3.	G	?[1]	-	-	-	?[1]	-
4b.	Hh	+	(+)	-	-	-	-
5.	Lu	+	(+)	-	-	<+>	-
6.	Izi	+	+	+	+	+	[]
8.	SagB	+	(+)	<+>	<+>	<+>	-
9.	Nigga	+	[]	[]	[]	[]	[]
10.	Diri	+	<+>	<+>	<+>	<+>	[]

[1] Cf. discussion on the status of the element 4-entries in G in 3.2.1.

The distribution of realization types across the various units found in Table 20 shows two clear tendencies. It should be noted that these tendencies will also be discussed later on, as relevant to the issue of didactic functionality (11.4.).

The first tendency is that there is a wide variety of realization types at two points in the curriculum: the first in the elementary sign-lists (Svo and SaV) and the second in the advanced series, especially in Izi. For the elementary sign-lists this wide variety was recognized as didactically appropriate with regard to the postulated integrative methodology (2.1.2.1.). A similar didactic functionality has been postulated for the recurrence of wide

variety in Izi because Izi applies the integrative methodology to *multiple logograms* (6.2.1.) in the same manner as SaV applied it to *single logograms*. The decreased variety in the other advanced series shown in Table 20 was also noted in the series analysis (9.2.1. and 10.2.1.) and suggests a differentiation in functional focus between the various advanced series. In this respect it may be relevant to point to the contrast between the diachronic development of Izi and that of the smaller series SagB and Nigga: in later times Izi expands while SagB and Nigga disappear. The different focus of the smaller advanced series, i.e. on the maintenance of a traditional-conventional presentation of vocabulary, may account for their eventual disappearance as it made them increasingly irrelevant during the development of the advanced series towards the 1st Millennium. In view of the development of Izi in the direction of its canonical version (i.e. its expansion and transformation in comparison to the OB version), which is clearly visible in Emar, it may be argued that the presence of SagB and Nigga in Emar is vestigial (cf. 14.6.). Finally, the last series, Diri, must be considered separately because its very specialized inventory concept kept it independently relevant during the otherwise sweeping unification of the earlier, heterogeneous 'acrographic' material into Izi.

The second tendency is the narrow variety in realization types in the thematic series[138], which shows a clear contrast between the elementary and advanced series on the one hand and the thematic series on the other. In fact, if it is considered that in the thematic series realization type 2 is a systematic variant of type 1 (as explained under point 2 above), these may be said to show hardly any variety. In the thematic series the only real departure from this limited variety is found in the later part of Lu, where it is due to its progressive deviation from its original thematic organization and the close relation of Lu and Izi (cf. 5.3.).

11.2.2. Vertical formal features

Horizontal ruling

Concerning horizontal ruling the most important finding of the series analysis is that there are two types of ruling patterns that are linked to linguistic format. In 4.2.2. it was shown that in Hh full and intermittent horizontal ruling were features particular to respectively the unilingual and bilingual format. The use of intermittent ruling was found to be linked to (primarily graphic) content in all formal-organizational units. In those units that showed omission of repeated logograms (Svo, Nigga and Diri) intermittent ruling is an important instrument in the vertical organization of content but overall its primary function was that of an auxiliary compositional device. In this regard it should be reiterated that uni- and bilingual texts differ with regard to both vertical (sub-column) ruling and horizontal ruling *simultaneously*. Effectively, the specific types of vertical and horizontal ruling found in the lay-out of bilingual texts provided apprentice scribes with assistance in composing their content. A more detailed discussion of the auxiliary function of ruling in bilingual texts was given earlier (cf. 4.3. and 5.2.1.).

It should be noted that the application and function of the ruling patterns found in the Emar curriculum may conceivably be similar in other text corpora. Even if this would turn out not to be the case, a comparison of the application and function of ruling between different lexical corpora may still offer an interesting avenue of further research.

[138] Cavigneaux, *Zeichenlisten*, 2.

Division

The general relation between tablet and text division was discussed in the analysis of the divisional structure of Hh (4.2.2.). If the term tablet refers to the physical text carrier, then the term division refers to the conventional choice of content for that carrier. Except for Hh, the only other formal-organizational units showing multiple divisions are Lu, Izi and (probably) Diri, although evidence of the exact divisional organization is lacking for the latter two. The only variation in divisional organization attested in the Emar material is that between uni- and bilingual Hh: for the first part of the wood-list unilingual Hh has a single division (Hh3) whereas bilingual Hh has two divisions (Hh3.1 and 3.2).

Further investigation allowed the formulation of two important principles concerning the formal feature of division. The first is that the relation between tablet and division is not static but dynamically related to developments in content. In the relatively short diachronic span covered by the Emar corpus the only such development visible is in divergent divisional structures of uni- and bilingual Hh. The second principle is that multilingualism can be a driving force for progressive subdivision. In the Emar corpus it was found that the need to accommodate bilingual content in a traditionally unilingual list may cause transformations in content, attested in the different text versions for each linguistic format in Hh 3, 7-9 and 16, and/or transformations in divisional structure, attested in the extra subdivision in bilingual Hh3.

11.3. Vertical organization of content

Based on the findings of the series analysis, Table 21 below summarizes the distribution of associative strategies evident in the vertical organization of content throughout the curriculum. The various possible associative strategies were defined in the introduction (cf. Table 2) and are now considered in their curricular context.

Table 21. Distribution of association types in the vertical organizational structure across formal-organizational units

Formal-organizational unit		Level 2 Key-sign/ Key-word	Level 3 Division	Level 4 Series	Series type
1.	Svo	graphic / unclear	-	conventional	elementary sign-list
2.1.	SaV	mixed	-[2]	conventional	elementary sign-list
2.3.	SaP	mixed	-	conventional	elementary sign-list
3.	G	semantic	-	semantic	thematic list
4.	Hh 1-2	mixed	conventional	semantic	thematic list
	Hh 3-16	semantic	semantic		
	Hh 17-18	semantic	conventional		
5.	Lu	semantic[1]	conventional	semantic	thematic list[6]
6.	Izi	mixed-stepped	conventional	conventional[4]	advanced sign-list
8	SagB	mixed-stepped	-	graphic-semantic	advanced sign-list
9.	Nigga	mixed-stepped	-[3]	graphic-semantic	advanced sign-list
10.	Diri	mixed-stepped	conventional	conventional[5]	advanced sign-list

[1] Some mixture of association types in the last part (cf. 5.3. and 6.3.).
[2] Note that long-version SaV should theoretically have had more than one division (cf. 2.1.2.2.).
[3] It is uncertain whether in Emar Nigga had more than one division (cf. 9.2.2.).
[4] The traditional-conventional association of the Izi series involves a certain degree of semantic organization (cf. 6.3.).
[5] In Diri the entry sequence is traditionally-conventionally determined but its entry inventory is subject to an abstract selection criterion (cf. 10.3.).
[6] More precisely Lu is actually a list of progressively diverging semantic associations with a thematic point of departure (cf. 5.3.).

The following analysis will start with a level-by-level discussion of vertical organization. Note that level 1, i.e. horizontal organization, has already been discussed in 11.2.1. . It should also be noted that on levels 2 and 3 the formal-organizational unit of Hh shows some internal unevenness: different parts of Hh show different associative principles than others - to account for this, these parts are listed separately in Table 21. After the discussion of the various levels the issue of series typology will be addressed.

Level 2 – key-sign and key-word

On this level the organizational features of key-sign and key-word refer to graphic(-phonetic) association and semantic association respectively. Two important observations may be made concerning the distribution of associative types on level 2.

The first observation is that in some series these association types are either *mixed* or *mixed-stepped* throughout the vertical structure. The mixed type exercise was recognized as didactically appropriate to the introduction of the integrative methodology (2.1.3.). The mixed-stepped type is found in the advanced series and implies that different types of associations are found hierarchically stacked: semantically associated entry sequences occur within graphically associated entry sequences and these graphically associated entry sequences may in turn be linked by semantic associations (cf. 6.3.).

The second observation is that the distribution of association types throughout the various series largely *coincides with the postulated curricular position* of these series: mixed association is found in the early parts of the curriculum (SaV, Hh 1-2), semantic association is found in the middle part (G, Hh and Lu) while mixed-stepped association is found in later part

(Izi, SagB, Nigga and Diri). In this regard the only apparent anomaly is the first part of Hh (divisions 1-2) which shows mixed associations between the otherwise semantically associated lists G and Hh 3-18. This anomaly is less surprising if Hh 1-2 are considered as a transitional exercise and if G is considered as effectively constituting a continuation of the PN/DN analysis started in SaAP1 (cf. 4.3.). The use of specific association types at specific points in the curriculum may be considered as didactically functional. It was already observed that the occurrence of mixed association in SaV can be related to its introduction of the integrative methodology. The occurrence of mixed association in (the latter parts of) Lu may be related to its transitional status (cf. 5.3. and 6.3.). The preponderance of semantic and mixed-stepped association in respectively the thematic and advanced series likewise reflects diverging analytic foci and presentational schemes.

In more general terms the noted link between the distribution of association types in the various series and their postulated curricular positions suggests a *structural-organizational coherence of the curriculum* that goes some way to explain its internal order as well as its diachronic resilience.

Level 3 – division

On the level of division it may be observed that there is a clear *preponderance of the conventional-traditional association type*. Only Hh 3-16 show semantic association as the decisive factor in the assignment of divisional boundaries. All other divisional boundaries may be described as showing semantically trivial transitions (cf. 5.3.). In the last divisions of Hh and in Lu this phenomenon appears as a result of the progressive loss of semantic distinction between divisions. This loss of distinction occurs at the juncture where the thematic lists switch from naturally defined referents to culturally defined referents and when the organization of content starts giving way to graphemic organization (cf. 5.3.). In the diachronic analysis of divisional boundaries in Hh (4.2.2.) it was found that in the LBA and 1st Millennium periods, these boundaries were established either on the basis of combined graphic-semantic distinction between entry-blocks or on the basis of abstract semantic distinction alone. The latter type implies that abstract classification was (or had become) relevant to the organization of lexical compositions (cf. 4.3.).

In more general terms it may be observed that *divisional structure is only attested in the middle and later parts of the curriculum*. The eighteen divisions found in Hh are followed by two in Lu and a undetermined number in Izi. The last series, Diri, in all likelihood also had multiple divisions (cf. 10.1). Concerning the two single-tablet advanced series, SagB and Nigga, it may be proposed that they were vestiges of an older corpus of shorter advanced-curriculum compositions. These shorter compositions included Proto-Izi and Kagal and were increasingly overshadowed by the expansion of the transforming Izi series. Due to their fortuitous 'acrographic' content SagB and Nigga may have been considered usable in the curriculum as long as the expansion of Izi had not proceeded to the point of including their content - as it eventually was (cf. 9.3.).

Level 4 – series

On the level of series it is found that the distribution of association types largely *coincides with the postulated curricular position* of these series. This is similar to what was found on level 2, even if the association types themselves are different. On level 4 traditional-conventional association is found in the early and late series and semantic association is found

in the intermediate series. The only anomaly found is for SagB and Nigga: these series show graphic-semantic association while the preceding and following series (Izi and Diri respectively) show traditional-conventional association. The *anomalous typology of SagB and Nigga* on level 4 may be considered as confirmation of the deviant (vestigial) status of these two series in the advanced curriculum earlier suggested in the discussion of their level 3 typology. It should be noted that, if SagB and Nigga are ignored as anomalies and it is kept in mind that the traditional-conventional association found in Izi involves a certain degree of semantic association (cf. 6.3.), all thematic and most advanced series show at least some measure of internal semantic coherence. From this perspective the only series of the lexical curriculum that show an exclusively traditional-conventional association on level 4 are the elementary sign-lists and Diri.

As found for level 2, the noted link between the distribution of association types in the various series and their postulated curricular positions suggests a *structural-organizational coherence of the curriculum*.

Series typology

Table 21 shows that the associative principles found for the various formal-organizational units can be different for their various organizational levels (e.g. Lu shows semantic organization on level 2, traditional-conventional association on level 3 and semantic association on level 4). In order to describe each series in structural-analytic terms the juxtaposition of different associative principles on levels 2 and 4 effectively constitutes a *typological definition* of each series (in this regard level 3 organization is obviously irrelevant because it is the series and not the division which is to be described).

The juxtaposition of mixed or mixed-stepped organization on level 2 and traditional-conventional organization on level 4 results in a *sign-list*, i.e. a list which primarily has *graphemes* as its study object and in which the presentational format (i.e. series inventory and sequence) is unrelated to semantic criteria. Such sign-lists are found in the early and later parts of the curriculum. The early sign-lists primarily involved acquisition and analysis of basic signs and may be referred to as *elementary sign-lists*. Because Svo also treats basic signs and in many respects represents a suitable introductory exercise (cf. 1.4.) it is listed as an elementary sign-list but it should be noted that its exact purpose remains unclear (cf. 1.3.). The later sign-lists primarily concerned themselves with (the analysis of) compound signs and may be referred to as *advanced sign-lists*.

The juxtaposition of semantic or mixed organization on level 2 and semantic organization on level 4 results in a *thematic list*, i.e. a list which primarily has an *abstract theme* as its study object and in which the presentational format is unrelated to graphemic criteria. In this respect an abstract theme may be defined as a subject that is a (semantically defined) quality considered separate from a concrete object (e.g. the quality ‘wooden’ may cover concrete objects as diverse as trees and shipping utensils). Such thematic lists are found in the intermediate part of the curriculum and primarily involve the acquisition of a wide range of vocabulary.

The juxtaposition of mixed-stepped organization on level 2 and graphic-semantic ('acrographic') organization on level 4 is only found in SagB and Nigga, two lists that belong to the advanced part of the curriculum. Earlier in this paragraph it was suggested that their anomalous position in the Emar curriculum may be interpreted as a vestigial and anachronistic presence.

In the text and composite edition of the text material it has been attempted to reflect this organizational typology, in conjunction with the formal typology discussed earlier, by assigning different presentational aspects to different series (cf. Organizational Table 3 in Part 1).

11.4. Curricular sequence

Didactic-functional analysis

In the preceding part of this chapter the issue of the curricular sequence of the various series was addressed through a *formal-organizational* approach. The various series were compared as formal-organizational units. It was shown that, in terms of both the horizontal and vertical organization of content (11.2.1. and 11.3. respectively), the curriculum shows structural-organizational coherence. It was also said that this coherence goes some way to explain the internal sequence as well as the diachronic resilience of the lexical curriculum. In this paragraph the issue of curricular sequence will be addressed through a different approach, viz. from the point of view of *didactic-functionality*. As the value of a functionalist analysis of any cultural phenomenon, including education, is a descriptive rather than explanatory contribution[139], the following analysis will be limited in aim. It will merely *describe* phenomena in didactic-functional terms - it will not attempt to *explain* their occurrence as related to their function.

Acquisitive and analytic foci

By projecting a didactic functionality on the curriculum as a whole, two phenomena observed in the analysis of horizontal organization of content may be related to each other. These are the contrasting tendencies of respectively wide and narrow variety of realization types in certain parts of the curriculum (cf. 11.2.1. and Table 20). These may be viewed as reflecting contrastive effects of a didactic-functional *oscillatory principle* involving alternating combinations of the *acquisitive* ('know what') and *analytic* ('know how') foci. Table 22 below schematically shows the oscillations between these foci throughout the curriculum by contrasting the levels of the acquisitive and analytic exercises provided by each formal-organizational unit.

Acquisitive focus is measured by the degree of new sign values that have to be absorbed in relation to preceding series. In this respect only SaP and Izi score low, the former because it repeats the S^a key-signs taught in SaV and the latter because it frequently repeats and combines signs that were already taught in earlier series. Analytic focus is measured by two empirically synchronized criteria: (1) the width of variety in realization types and (2) the number of entry elements (cf. 11.2.1. Tables 20 and 19 respectively). The latter criterion shows the number of simultaneous information types to be processed, which is considered high if above average, i.e. above two. In order to cover all units in this table SaP and

[139] This issue is introduced in Eriksen, *Small Places, Large Issues*, 85.

unilingual Hh, which were excluded from the analysis of the relation type variety, are now included. They are described as having analytic and acquisitive foci respectively, which seems appropriate because SaP analyzes graphic variance of signs already taught in Sa/SaV and because unilingual Hh is merely a shortened version of bilingual Hh. Note that, as Table 22 aims to present the various formal-organizational units in their actual curricular order, unilingual Hh has been listed *after* bilingual Hh.

Table 22. Oscillation of acquisitive and analytic foci throughout the curriculum

Formal-organizational unit		**Focus**	
		Acquisitive	**Analytic**
1.	Svo	limited range	limited range
2.1.	SaV	high	high
2.3.	SaP	low	high
3.	G	high	low
4b.	Hh (bilingual)	high	low
4a.	Hh (unilingual)	very high	low
5.	Lu	high	shift from low to high
6.	Izi	low	high
8.	SagB	high	low
9.	Nigga	high	low
10.	Diri	high	high[1]

[1] Diri has a narrow variety of realization types but a high variety of entry elements (cf. Table 19).

Note that a summary listing of the different scholarly foci in the different series is also found in Organizational Table 2 in Part 1. The analysis provided by Table 22 may be commented upon as follows. The first series, Svo, had a generally limited range in terms of either acquisitive or analytic value, i.e. parts of it have neither. As suggested in the series analysis (1.4.), Svo could be viewed as primarily geared to a general introduction of the lexical genre. Next among the elementary lists, SaV shows a high level of analytic focus - here the apprentice scribe was introduced to the principles of the integrating methodology. Progressing to the second stage of the lexical curriculum, i.e. the thematic lists, the focus shifts to the acquisition of vocabulary. At the third and last stage of the lexical curriculum Izi reverts to an analytic focus in order to extend the application of the integrating methodology to compound logograms, a shift which is anticipated in the later parts of Lu. With regard to analytic focus the next two series, SagB and Nigga do not agree with Izi. The final series, Diri, is a special case due to its uniquely abstract inventory conception dealing with what effectively is, from the integrative-methodological perspective, a residual category of compounds (cf. 10.3.). If the lexical curriculum is viewed as a didactically-functionally integrated system the Emar lexical corpus shows two important *typological anomalies*.

The first of these typological anomalies is the occurrence of one isolated unilingual formal-organizational unit in an otherwise almost exclusively bilingual corpus, viz. unilingual Hh. In this regard it should be noted that even within the Hh corpus unilingual texts are relatively infrequent: the bilingual format is the default format (cf. 4.4.). With regard to the infrequent attestation of unilingual texts within the corpus it should be noted that SaP can be ignored because its linguistic content is irrelevant to its aim, which is to teach graphic variants only. In fact, except for unilingual Hh, the only other unilingual composition in the Emar curriculum is the single Sa fragment. In diachronic perspective the anomalous position of unilingual Hh (and Sa) may be explained as a remnant from the earlier, predominantly unilingual, OB

lexical tradition. Perhaps the prestige of that tradition caused a survival of the unilingual format in core sections of the curriculum, such as Sa and Hh 3. In this respect the Emar tradition may actually show a snapshot insight into the transformative process leading from the predominantly unilingual OB tradition to the predominantly bilingual canonical tradition.

The second typological anomaly is the presence in the later curriculum of two series, viz. SagB and Nigga, that do not show the high analytical focus found in the others. These two series do not have a primarily analytic focus but are topical, 'acrographic' lists of limited, i.e. single-tablet, scope. Again, a diachronic perspective may suggest an explanation for this anomaly. In the canonical curriculum SagB and Nigga have vanished, their content having been largely absorbed into Izi. Their survival in Emar could be considered as indicative of an intermediate stage in the transformation of the advanced curriculum (cf. 9.3.). At the canonical stage this transformation had resulted in the acrographic systematization of Izi as well as its exponential growth, involving the absorption of (much material from) older series into Izi. In Emar this transformation had apparently not yet progressed to the point of eliminating SagB and Nigga as separate series, although it is likely that SagB already belonged to an older compositional stratum (cf. 8.0.). In this regard it should be noted that in Emar Kagal too may have survived as an independent series (cf. 7.0.).

Relation of horizontal focus and vertical association

The preceding didactic-functional interpretation of the curricular structure was based solely on an analysis of the horizontal organization of content. In terms of didactic functionality, however, horizontal and vertical organization of content can be related. The distribution of focus types found in the horizontal organization may be related to the distribution of association types in the vertical organization. Two such relations may be found by comparing Tables 21 and 22.

First, there is a relation between high analytical focus and mixed or mixed-stepped association on level 2 of the vertical organization, a combination found in SaV and Izi. This implies a *simultaneous application of the integrative methodology in both the horizontal and vertical organization of content* at those points of the curriculum that show high analytic focus. In terms of didactic-functionality the series SaV and Izi may be said to be the core or *analytic key series* of the curriculum: it is here that the integrative method is taught. In SaV it is taught for single elementary signs, in Izi for compounds (cf. 6.2.1.). In this perspective Diri does not belong to this core as it seeks to teach a specific concept rather a methodology. In contrast to the analytic key series, Diri has a high analytic focus that depends on a high variety of entry elements rather than on a high variety of realization types. In terms of the integrative methodology the content of Diri (phonemes unrelated to graphemes) is random and residual (cf. 10.3.).

Second, there is a relation between high analytic focus and traditional-conventional association on level 4 of the vertical organization, a combination found for SaV, Izi and Diri. This means that *those series which are crucial in terms of teaching either a method or a concept consistently show methodologically and conceptually unstructured environments*, viz. traditionally-conventionally associated lists. In contrast, those series that have a low analytic but high acquisitive focus consistently show environments with a clear methodological structure, viz. an associative vertical organization: G, Hh and Lu are semantically associated while SagB and Nigga are grapho-semantically associated. The *contrasting oppositions of analytic focus in methodologically unstructured environment and acquisitive focus in*

methodologically structured environment may be explained if the definition of methodological structure is considered. If methodological structure is defined in modern terms, as was done in the preceding sentences, than the environment (i.e. vertical organization on level 4) found in the series with high analytic focus is indeed unstructured. In modern scientific terms this environment can only be synchronically analyzed as conforming to traditional-conventional association. If, however, methodological structure is defined in terms of the postulated *integrative approach* of the ancient scribes (cf. 2.1.2.1.), this environment is not unstructured. Rather, *any* environment, i.e. *any* key-sign inventory and sequence on any organizational level, may be approached through the integrative methodology. The aim of the integrative methodology was always to search for as well as *establish* the maximum number of possible relations in any environment. This holds true irrespective of the fact that many of these may be termed speculative or inappropriate in terms of modern classification. Some of the sequences and associations that constitute *classificatory discrepancies* (including many traditional-conventional associations) in terms of modern scientific criteria, would have constituted *classificatory opportunities* in terms of the integrative methodology. Where the modern scientist would stop at the diagnosis of a classification deficit, the ancient scribes would often see an opportunity for further analysis (e.g. in the added, non-core content found in SaV - cf. 2.1.3.). In other words, those series that show traditional-conventional association in their organization of content on the level of the series as a whole are unstructured only in terms of modern scientific methodology. In terms of the integrative methodology they are neither structured nor unstructured - they are merely traditionally transmitted texts used as exercise material. Of course the question remains what is the origin of these texts, but that question can only be answered on the basis of a diachronic study and is synchronically irrelevant.

Summary

11.0. Formal-organizational units:

1. Each series and each linguistic format within each series constitutes a *formal-organizational unit* and the formal and organizational features of each text belonging to such a unit are predictable.

11.1. Tablet typology:

1. For each formal-organizational unit all or most text material consists of Type I (multi-column) tablets or tablet fragments. Only for a few units (Hh, Lu and Izi) one or more Type III (one column extract) tablets were found.

11.2. Formal features:

1. A low-column count (i.e. the two-column tablet) is almost exclusively found in specific formal-organizational units, viz. Svo, Nigga and (most likely) Diri. This coincides with the fact that these units show a lay-out feature not found elsewhere, viz. systematic omission of repeated logograms, which suggests a conventional link between this lay-out and the two-column form.
2. A high-column count (i.e. the five-column tablet) is almost exclusively found for formal-organizational units with relatively short horizontal entries (viz. SaP, SaV and unilingual Hh).
3. There are three types of sub-column use: (1) single purpose use (slots for different entry elements), (2) *dual purpose use* (slots for entry elements as well as sign positioning within the logogram element) and (3) *elaborate dual purpose use* (as in dual purpose use but additionally for sign positioning within the Akkadian equivalent). The type of use is generally linked to the list-type found in the various formal-organizational units: type 1 is found for the elementary sign-lists, type 2 is found for the thematic lists and Izi, type 3 is found in the later advanced lists.
4. Entry element 0, i.e. the line marker, only occurs in SaV but as it related to lines rather than entries it is actually not an entry element.
5. The omission and frequency of entry element 1, i.e. the gloss, throughout the various formal-organizational units may be explained as a related to the didactic functionality of glosses: high frequencies are found whenever many new phonetic values need to be learned, viz. in SaV and Diri.
6. Entry element 3, i.e. the sign name, only occurs in the *long version* of SaV. The fact that this long version appears to be an innovation particular to the LBA period coincides with the fact that the explicit writing of sign names is a phenomenon generally associated with later periods.
7. Entry element 2, i.e. the logogram, is treated differently in different formal-organizational units, viz. as multi-associatable single sign in the elementary sign-lists, as a word in the thematic lists and as a compound(-element) in the advanced sign-lists. This explains the frequent recurrence of specific signs in different series: overlapping content implies different approaches in different series.
8. Various realization types may be found (and combined) in the relation between entry elements 2 and 4, i.e. the logogram and the Akkadian equivalent respectively: (1) one-to-one translation, (2) partial translation, (3) graphic association, (4) phonetic association, (5) semantic association and (6) Akkadian (i.e. phonetic) reading of the logogram.
9. A wide distribution of realization types is only found in certain formal-organizational units (the elementary sign-lists and the advanced series, especially SaV and Izi) and can be related to their didactic functionality.
10. There are two patterns of horizontal ruling: (1) continuous ruling is particular to the unilingual format and (2) intermittent ruling is particular to the bilingual format.
11. The differences in vertical (sub-column) and horizontal ruling found in the two linguistic formats are *simultaneous*. In bilingual texts both types of ruling combined serve to provide the apprentice scribe with an auxiliary compositional device.
12. The relation between tablet and divisional structure is not static but dynamically related to developments in content. The introduction of multilingualism is one of the factors driving the progressive subdivision of various series.

11.3. Vertical organization of content:

1. On level 2 of the vertical organization of content (i.e. key-sign or key-word) the association types found (i.e. graphic, phonetic or semantic association) differ per formal-organizational unit. In some series association types occur mixed or mixed-stepped (the latter implies hierarchical stacking of association types according to the length of vertical content they cover).
2. The distribution of association types on level 2 across the various formal-organizational units coincides largely with their postulated curricular position: mixed association is found in the early parts of the curriculum (SaV, Hh 1-2), semantic association is found in the middle part (G, Hh, Lu) while mixed-stepped association is found in the latter part (Izi, SagB, Nigga, Diri). This coincidence can be related to shifts in didactic functionality throughout the curriculum.
3. Generally, the link between the distribution of association types in the various series and their postulated curricular positions suggest a *structural-organizational coherence of the curriculum* that goes some way to explain its internal order as well as its diachronic resilience.

4. On level 4 of the vertical organization of content (i.e. series) the distribution of association types coincides with the postulated curricular position of the various series: conventional-traditional association is found in the elementary and advanced sign-lists whereas semantic association is found in the thematic series. This confirms the postulated structural-organizational coherence of the curriculum.
5. The juxtaposition of different association types on different levels for each series allows the establishment of a *series typology*. Juxtaposition of mixed or mixed-stepped organization on level 2 with traditional-conventional association on level 4 results in *sign-lists* which have graphemes as their study-object and in which the presentational format is unrelated to semantic criteria, either for basic signs (the elementary sign-lists Svo and Sa) or for compound signs (Izi and Diri). Juxtaposition of semantic organization on level 2 with the same on level 4 results in *thematic lists* which have abstract themes as their study-object and in which the presentational format is unrelated to graphemic criteria (G, Hh and Lu).
6. In terms of the patterns found on levels 3 and 4 of the vertical organization of content and with regard to series typology the series SagB and Nigga represent *typological anomalies* that may be explained as resulting from their *vestigial status*.

11.4. Curricular sequence:

1. In terms of didactic functionality the lexical curriculum may be described as subject to a *oscillatory principle* involving its *acquisitive* and *analytic foci*, which are measurable by empiric criteria. SaV scores high with regard to both foci, after which the thematic lists show a combination of high acquisitive and low analytic focus. Next, Izi shows low acquisitive focus and high analytic focus. Finally, Diri again scores high with regard to both foci.
2. SagB and Nigga deviate from the high analytic focus typifying the other advanced series. If the lexical curriculum is viewed as a didactically-functionally integrated system SagB and Nigga again represent *typological anomalies*.
3. Relating horizontal focus and vertical association two links may be established. The first between high analytic focus and mixed or mixed-stepped association on level 2, showing a *simultaneous application of integrative methodology in both horizontal and vertical organization of content* (SaV and Izi). The second between high analytic focus and traditional-conventional association on level 4, showing that series which teach a method or concept do so in methodologically and conceptually *unstructured* environments, while series which focus only on acquisition consistently show methodologically *structured* environments.
4. The contrast of structured and unstructured environments is only valid in terms of modern scientific criteria and not in those of the integrative methodology postulated for ancient Mesopotamian scholarship.

CHAPTER 12 – GENERAL SCRIBAL CONVENTIONS

12.0. Non-distinctive features

In the introduction the formal features to be investigated were divided into two groups: distinctive features, which distinguish various formal-organizational units, and non-distinctive features, which do not. The latter group will be discussed in this chapter. The features involved are not relevant to the analysis of curricular structure and are merely discussed in order to contribute to a more complete description of the scribal conventions evident in the Emar lexical corpus.

12.1. Right position shifts

A single-sign logographic entry is always horizontally shifted to a right position within its slot, resulting in a indentation in the column lay-out. In bilingual texts, such entries are often shifted to a position right next to the Akkadian equivalent. Determinatives are not subject to this rule: they remain in their slot irrespective of the occurrence of a right position shift in the logograms they belong to. The first entry where the logogram is subject to the shift is always preceded by horizontal lining. Table 23 below shows the general nature of the right position shift phenomenon by listing, in as far as the state of preservation of the material allows, examples of for all series.

Table 23. Attestation of right position shifts

Svo	E.g. T1: I 24 MAŠ
SaV	All logograms consistently occupy a slot leaving a reserved space to its left, resulting in a standard indentation in column lay-out[140].
SaP	The left-side entry (contemporaneous sign form) is shifted to the right position when the right-side entry (palaeographic form) is omitted. E.g. T1: III 4-8 SUHUŠ-KAŠ$_4$-I-IA-ŠU; T2: I 9-10 HU-RI
Hh	E.g. 1T1: I 12-13 ŠU, VI 20 SÁM; 1T2: I 3'-4' ŠU; 1T3: I 12 ŠU, I 44 MÁŠ; 2T1: III 2''-9'' MU, IV 21'-23' ÚS-SAĞ-BÙRU; 3aT2: II 6 EREN; 4T1: III 24' AL
Lu	E.g. 1T1: 1-7 LÚ, III 12 [MU], VII 33-35 AB-AD-A; 1 fr 602 E': 1'-2' EN-LAGAR; 2T1: 16' [ZADIM]
Izi	E.g. 1T1: VI' 7'-12' U-KU; 2a fr G+H: IV' 3'-9' ZAG; 4E1: 1'-4' NIR
Kagal	relevant text not preserved
SagB	E.g. T1: I 1-10 SAG, III 41 KA, V 14 KA=EME, VII 20 KA=GÙ and 37 KAxNUN=NUNDUM
Nigga	relevant text not preserved
Diri	relevant text not preserved

[140] This also holds true for T2, which systematically omits the gloss element to the left of the logogram: the provision for space between the entry marker (¶) and the right-shifted logogram is visible on the few occasions that a logogram or double-element logogram occurs (e.g. IX 21 TUR-TUR, IX 42 $^{mu\text{-}ia}$ MU and X 48 *i-ṣur*).

12.2. Separation markers

The GAM-sign (transliterated ‘:’) is used as a separation marker between different elements in the horizontal entry whenever one element intrudes or overruns into a slot appropriate to another element. This includes overruns of the content of one horizontal entry from one line onto the next line. The marker may separate all types of elements, e.g. glosses from logograms, logograms from Akkadian equivalents and even multiple Akkadian equivalents from each other. The name *Glossenkeil*, often found in older literature, is actually imprecise: often the separation marker happens to find itself positioned next to a gloss but this does not mean that all glosses are necessarily accompanied by it (e.g. in SaV glosses are consistently placed in their appropriate slot, without the need for the use of a separation marker). Table 24 below shows the general nature of the separation marker phenomenon by showing its distribution throughout the various series. It is found that it is only completely absent in Svo, SaP and Nigga. It is also relatively infrequent in Diri. In SaP the lay-out shows no cross-slot overruns and thus no separation markers can be expected. The absence or infrequent use of separation markers in Svo, Nigga and Diri can be related to the fact that their lay-out is different from that of the other series. In these series the logogram has a separate horizontal slot within which it is only given once and the entry slots provided by the sub-columns are generally consistently respected, so that generally no separation markers are needed. The fact that a few separation markers can be found in Diri proves that separation markers *can* occur in all series and thus represent a general phenomenon.

Table 24. Attestation of separation markers

Svo	no separation markers found
SaV	E.g. gloss/logogram fr 537L; logogram/Akk T3: VIII’ 17’-18’; double entry T2: VI 15’; T4: VI 6.
SaP	no separation markers found
G	E.g. logogram/Akk T1: I 3, 5, 10 and 20; double entry T1 I 8 and 9.
Hh	E.g. gloss/logogram 2T1: 4’ and 8’-10’; logogram/Akk 1T3: 23’ and 25’-27’ ; 2T2: VI 22’-23’, 25’ and 27’; double entry 4T1: I 18’’, IV 14’-15’ and 32’, V 13’, VI 10’; overrun on next line 1T1: VIII 7’; 1T2: VIII 7’ and 18’-19’ (2 *me-at* : 75 MU.BI). In 5T1, 8bT1-2, 9bT1, 13T1 and 16bT1-2 (probably also in the fragmentarily preserved tablets 17T1 and 18T1) *all* logograms and Akk equivalents are separated by markers.
Lu	In 1T1-2 and 2T1 *all* logograms and Akk equivalents are separated by markers[142].
Izi	E.g. logogram/Akk 2bT1: II 1’-2’and 5’-10’; double entry: 1 fr 564A: 1 and 4; 1 fr G+H: V 1’, 4’ and 5’.
Kagal	In the single fr, 576, *all* logograms and Akk equivalents are separated by markers.
SagB[141]	E.g. logogram/Akk T1: I 19; overrun on next line T1: I 40-41, II 18, 30 and 44.
Nigga	no separation markers found
Diri	E.g. logogram/Akk fr 2: 2’-7’

[141] The separation markers found on SagB T1, a tablet which also shows other deviating formal features, are rendered in the form of a single *Winkelhaken*, rather than that of the regular ‘GAM’-sign found elsewhere.
[142] The only exception in the preserved text sections is Lu 2T1 VI 23’ KAR *la-sa-mu*.

12.3. Virtual determinative sequences

When repeated over long entry sequences covering multiple columns, determinatives are frequently found to be systematically omitted except in the first and last few lines of the column. In these cases they were apparently assumed as a virtual presence. Within the lexical curriculum the repetition of determinatives throughout long entry sequences only occurs in the thematic series. Table 25 below shows, as far as the preservation of the material allows, the attestation of virtual determinatives in these series. With regard to the Lu series it should be noted that the ^{LÚ} determinative is completely omitted for all entries of all texts. This complete omission appears to results in virtual determinatives for many entries but is in fact related to the fact that Lu is not precisely a 'thematic' series (cf. 5.2.1.). With regard to the other series it should be noted that the attestation of virtual determinatives is restricted to the bilingual format. It was earlier suggested that this the consistent repetition of determinatives in the unilingual format could be considered didactically functional in as far as it emphasizes writing as opposed to meaning, the latter being the central concern of the bilingual format (cf. 4.2.1.). Not all series and divisions show virtual omission - it clearly was an optional strategy. This optional strategy, however, can be considered a general phenomenon in itself in as far as it is generally found on multiple text copies of the same divisions. In this regard the only exceptions are the extracts 7bE1 and 12E1, which are the only texts of their divisions that show virtual determinatives. The latter case of 12E1 may be explained as due to its phonetic rendering of the logogram: in such rendering the unpronounced determinative may be expected to be omitted. The former case may be explained by the fact that 7bE1 is a text that does not belong to Archive 1: it may have been produced in a different school.

Table 25. Attestation of virtual determinative sequences

Series/ division	Determinatives	Unilingual material	Bilingual material
G	^{D}	n/a	no omission
Hh 1-2	n/a	n/a	n/a
Hh 3a	^{GIŠ}	no omission	n/a
Hh 3b	^{GIŠ}	n/a	no omission
Hh 4	^{GIŠ}	n/a	*virtual determinatives in all texts*
Hh 5	^{GI}	n/a	*virtual determinatives in all texts*
Hh 6	^{DUG}	n/a	relevant text not preserved
Hh 7a	$^{KUŠ}/^{URUDU}/^{ZABAR}/^{KUG.B.}/^{KUG.GI}$	no omission	n/a
Hh 7b	$^{KUŠ}/^{URUDU}/^{ZABAR}/^{KUG.B.}/^{KUG.GI}$	n/a	virtual determinatives only in E1
Hh 8a/b	n/a	n/a	n/a
Hh 9a	^{UZU}	no omission	n/a
Hh 9b	^{UZU}	n/a	relevant text not preserved
Hh 10	$^{NA}{}_{4}$	n/a	*virtual determinatives in all texts*
Hh 11	^{Ú}	n/a	no omission
Hh 12	$^{KU}{}_{6}/^{MUŠEN}$	n/a	virtual determinatives only in E1
Hh 13	$^{SÍG}/^{TÚG}$	n/a	*virtual determinatives in all texts*
Hh 14	$^{A.ŠAG}{}_{4}$	n/a	no omission
Hh 15	^{KI}	n/a	no omission (note: T1 uses MIN)
Hh 16a	$^{ÍD}/^{MUL}$	no omission	n/a
Hh 16b	$^{KUR}/^{ÍD}/^{MUL}$	n/a	no omission (note: E1 uses MIN)
Hh 17-18	n/a	n/a	n/a
Lu 1-2	^{LÚ}	n/a	*complete omission in all texts*

Summary

12.1. Right position shifts:

1. There is a general scribal convention that single-sign logographic entries (which never include the determinative) always horizontally shift to the right-most position in its slot.

12.2. Separation markers:

1. There is a general scribal convention that GAM-sign markers are used to separate different entry elements in case of overruns of one element into the slot of another or of an entry onto a next line.

12.3. Virtual determinative sequences:

1. There is a general (but optional) scribal convention that, when repeated over long entry sequences covering multiple columns, determinatives may be omitted except in the first an last few lines of the column.

CHAPTER 13 - SCRIBAL REDACTION NOTES

13.0. Aim and organization

This chapter deals with the scribal redaction notes found in the Emar lexical curriculum. Scribal redaction notes are defined as those elements in the tablet text that are not part of a compositional unit, but rather serve to give explicit information regarding the redaction or organization of the tablet text. As the existing literature on the Emar colophons is quite extensive (cf. Annotated Bibliography of Part 2), the aim of this chapter is limited to making selected supplementary research contributions. The first contribution it seeks to make is to provide a new presentation of all material, rearranged according to curricular sequence and including various improved readings. The second contribution is an investigating into a thus far under-exposed aspect, viz. the distribution and function of the different types of scribal redaction notes. The third and last contribution is a newly arranged overview of data pertaining to the Emar scribes.

According the above listed order of selected contributions, this chapter will be organized in the following manner. First (13.1.), all relevant material will be presented in a single table, allowing a convenient overview. This presentation, found in Table 26 below, assigns reference numbers to the relevant attestations, which will be used to refer to them throughout the further text. Next (13.2.), the different types of scribal redaction notes and their functions will be determined by an investigation of their distribution[143]. Finally (13.3.), following some introductory remarks, all data concerning scribes attested in the lexical material will be summarized in two tables: the first will order the data by tablet, the second by PN. These tables will systematically include notes with references to much of the relevant literature.

13.1. New presentation of the scribal redaction note material

Table 26 below lists almost all scribal redaction notes in curricular order. The only material not included here is that of three other damaged tablets in which the colophons are (presumably) broken off and only the end-of-text-unit markers are (partially) preserved. These tablets are Hh 10T1, 13T2 and Nigga T1.

Table 26. Inventory of redaction notes

1. Svo T1 (603A / 74246b – p.569-70) Lower Edge

no end-of-text-unit marker found but note that the part of the Lower Edge following the last entry is broken

1.	ŠU ^{ID}EN.x[xxx] Ì.ZU.TUR.TUR	By) the hand of Bēlu-[?qarrad], junior scribe,
2.	ÌR ^{D}AK [*u* ^{D}NISABA] *u* ^{D}*a-a*	servant of Nabû [and Nisaba] and Ayya.

[143] It should be clearly noted that the findings of this part of the excursus apply only to the material actually investigated, i.e. the Emar lexical corpus - they are be no means necessarily valid elsewhere.

2. SaP T1 (538 I / 74175a – p.442-6) Reverse column X

no end-of-text-unit marker

29.	[ŠU ^{I}] ⌜^{D}⌝HAR.AD	[(By) the hand] of Shaggar-abu,
30.	⌜DUMU ^{D}⌝IM.UR.SAĞ	the son of Ba^{c}al-qarrad,
31.	^{LÚ}HAL *ša* DIĞIR.MEŠ	diviner of the gods
32.	*ša* ^{IRI}*e-mar*	of Emar.

3. SaP T2 (538J / 74193a – p.475-7) LEft Edge

preceding section broken

1’	[ŠU ^{ID}30-*a*-]*bu*	[(By) the hand of Shaggar-a]bu,
2’	⌜DUMU⌝ ⌜^{D}⌝IM.UR.SAĞ	son of Ba^{c}al-qarrad,
	^{L}[^{Ú}HAL *ša* DIĞIR.MEŠ *ša* ^{IRI}*e-mar*]	[diviner of the gods of Emar.]

4. SaP Fragment 538D (7483b – p.199)

no end-of-text-unit marker

7’	ŠU ^{ID}I[M-xxx]	(By) the hand of Ba^{c}[al-ʔmalik/bēlu]
8’	<ì>R $^{D!}$⌟A[K xxx]	Servant of Na[bû ...]

5. SaV T1 (537A / 74171b – p.429-32) Reverse column X

28’	MAN TIL M[AN]	*end-of-text-unit marker*
29’	*ṭup-pi* ŠU ^{I}[xxx]	Tablet (written by) the hand of [PN,]
30’	ÌR ^{D}A[K]	servant of Na[bû]
31’	*u* ^{D}PAP.PAP	and Pappap,
32’	ÌR ^{D}AMAR.UTU	servant of Marduk
33’	*u* ^{D}ṢAR.PA.NI.TUM	and Ṣarpanitu.

6. SaV T2 (537C / 731064+74249a – p.139-42) LEft Edge

preceding section broken

1.	ŠU ^{I}*ri-bi-*^{D}*da-gan*	(From) the hand of Ribi-Dagan,
2.	ÌR ^{D}AK *ù* ^{D}NISABA	servant of Nabû and Nisaba.
3.	*i-na* EZEN-EZEN^{ZABAR} *i-na* UD [xxx]	In bronzen bindings for/on (the) day(s) [xxx]
4.	*ša-ak-na-ku ṭup-pa an-na* I[N.ŠAR]	I am placed (and) this tablet I[wrote.]

7. SaV T3 (537B / 74204a – p.502-3) Reverse column VIII’

no end-of-text-unit marker

22’	[xxx]x NU.TIL	[...] incomplete (text).
23’	[ŠU ^{ID}30-*a-b*]*u*	[(Written by) the hand of Shaggar-ab]u,
	^{LÚ}M◦ÁŠ[.ŠU.GÍD.GÍD]	the di[viner.]

8. Hh1 T1 (541A / 731046 – p.127) Reverse column VIII

-	MAN MAN MAN	*end-of-text-unit marker*
12’	⌞TÚ$^{<C/A>}$L	*catch line*
13’	ŠU$^{<C/A>}$B.BA	*catch line*

colophon written vertically across lower part of Fragment A Column VIII

1.	AL.TIL <IGI.>KÁRA	It has been completed (and) <che>cked:
2.	ŠU.NÍĞIN 3 *me-tì* 15 MU.BI	(in) total 315 (are) its lines.
3.	ŠU ^{D}IM.EN Ì.ZU TUR	(By) the hand of Ba^{c}al-belu, junior diviner,
4.	ÌR ^{D}NA.BI.UM	the servant of Nabû
5.	*ù* ^{D}NISABA	and Nisaba.

9. Hh1 T2 (541D / 731059a-c – p.125+136) Reverse column VIII

-	MAN MAN MAN	*end-of-text-unit marker*
16’	TÚL	*catch line*
17.	AL.TIL <IGI.>KÁRA	It has been completed (and) <che>cked:
18.	ŠU.NÍĞIN 2 *me-at*	(in) total 200
19.	*:* 75 MU.BI.UM	(and) 75 (are) its lines.
20.	ŠU ^{I}*iš-ma-a’*-^{D}KUR	(By) the hand of Išma’-Dagan,
21.	Ì.ZU TUR.TUR	most junior diviner,
22.	ÌR ^{D}A[K]	servant of Na[bû]
23.	*ù* ^{D}NIS[ABA]	and Nis[aba.]
24.	xx[x]	…

10. Hh1 T3 (541B / 731044 – p.125) Reverse column VIII

30’	MAN TIL MAN TIL MAN	*end-of-text-unit marker*
31’	ŠU ^{ID}I[M.*ma-li*]*k* DUMU ^{D}IM.UR.SA[Ğ]	(By) the hand of Ba[^{c}al-mali]k, son of Ba^{c}al-qarr[ad],
32’	^{LÚ}DUB.SA[R ^{LÚ}HAL *š*]*a* DIĞIR.MEŠ	scrib[e (and) diviner o]f the gods
33’	^{IRI}*e-mar* [ÌR ^{D}AK]	of Emar, [servant of Nabû]
34’	*u* ^{D}NIS[ABA ÌR ^{D}AMAR.UTU]	and Nis[aba, servant of Marduk]
35’	*u* ^{D}ṢAR.P[A.NI.TUM]	and Ṣarp[anitu.]

11. Hh3a T1 (543-5A / 731030 – p.105-9) Reverse column IX

break in upper part of column, followed by empty space before the colophon

1.	AL<.TIL> IGI.KÁRA	It has been <completed> (and) checked:
2.	ŠU.NÍĞIN.NA	(in) total
3.	5 *me-at* 18	518 (are)
4.	MU.BI.UM	its lines.
5.	ŠU ^{I}*ri-bi-*^{D}*da-gan*	(By) the hand of Rîbi-Dagan,
6.	Ì.ZU TUR.TUR	most junior apprentice-scribe,
7.	ÌR ^{D}AK	the servant of Nabû
8.	*ù* ^{D}NISABA	and Nisaba,
9.	ÌR ^{D}*a-a*	the servant of Ayya
10.	*u* ^{D}PAP.PAP	and Pappap
11.	*u* ^{D}NIN.DUB.GAL.GAL	and Nindubgalgal
12.	*u* ^{D}EREŠ.KI.GAL	and Ereshkigal.

followed by a *Mannam Lušpur* incantation

12. Hh3b T2 (544-5B / 731048 – p.128) Reverse column IV

-	MAN TIL MAN	*end-of-text-unit marker*
14’	ŠU ^{ID}IM-*ma-lik*	(By) the hand of Ba^{c}al-malik,
15’	DUMU ^{D}IM.UR.SAĞ	son of Ba^{c}al-qarrad,
16’	ÌR ^{D}AK˩	the servant of Nabû
17’	*u* ^{D}N[ISABA]	and N[isaba.]

break

13. Hh4 T1 (545V / 74143a – p.352) Reverse column IX

3’	^{ĞIŠ}ŠU.^{níg}NÍĞIN.NA x[xxx]	The wood(list) (is) complete.
4’	MAN TIL MAN [x]	*end-of-text-unit marker*
5’	ŠU ^{D}IM-*ma-lik* DUMU ^{D}I[M-UR.SAĞ]	(By) the hand of Ba^{c}al-malik, son of B[a^{c}al-qarrad,]
6’	^{LÚ}DUB.SAR ^{LÚ}HAL	scribe (and) diviner
7’	*ša* DIĞIR.MEŠ ^{IRI}*e-mar*	of the gods of Emar,
8’	[ì]R ^{D}AK *u* ^{D}NI[SABA]	[ser]vant of Nabû and Ni[saba,]
9’	[ÌR] ^{D}*é-a u* ^{D}DA[M.KI.NA]	[servant] of Ea and Da[mkina,]
10’	[ÌR] ˹^{D} ˺30˩ *u* ^{D}UTU	[servant] of Sîn and Shamash,
11’	[ÌR ^{D}KUR] ˹*u* ^{D}*š*[*a-la-aš*]	[servant of Dagan] and Sh[alash]

break (with some traces in 12’)

14. Hh4 T2 (545AG+G / 74126a – p.320 + 7498f – p.240) sub-column III’ of LEft Edge

7.	ĞIŠ ŠU.^{níg}NÍĞIN	The wood(list) (is) complete.
8.	MAN TIL $^{<AG/G>}$MAN	*end-of-text-unit marker*
9.	ŠU ^{ID}30[-*a-bu* $^{<AG/G>}$ DUMU ^{ID}IM-U]R.SAĞ ^{LÚ}DUB.SAR ^{LÚ}HAL	(By) the hand of Shaggar[-abu, son of Ba^{c}al-q]arrad, scribe (and) diviner.

15. Hh4 T3 (545U / 74190c – p.462) Reverse column VIII'

12''	<ĞIŠ> ŠU.NÍĞIN	<The wood(list)> (is) complete.
13''	MAN TIL MAN	*end-of-text-unit marker*
14''	ŠU ^{I}x[xxx]	(By) the hand of [PN]
15''	KAB.ZU.[ZU xxx]	pup[il of PN]
16''	ÌR ^{ID}A[K xxx]	servant of Na[bû and DN]
17''	*u* ^{D}EREŠ.KI$^{\urcorner}$[.GAL]	and Ereshki[gal]

16. Hh5 T1 (546A'' / 74191b – p.471-3) Reverse column VI/VII

in column VI:

22'	MAN TIL M[AN x]	*end-of-text-unit marker*

break

in column VII:

1'	[PN ^{LÚ}DUB.]SAR ^{LÚ}HAL	[PN, scr]ibe (and) diviner,
2'	ÌR $^{D°}$[xxx]	servant of [DN(s),]
3'	ÌR $^{D°}$[xxx]	servant of [DN(s),]
4'	ÌR ^{D}[xxx]	servant of [DN(s),]
5'	*u* ^{D}[xxx]	and [DN(s),]
6'	[KAB.ZU.ZU *šá* ^{I}ŠÚ/*ki-din-*^{D}G]U.LA	[pupil of Kidin-G]ula.

break

17. Hh7b T1 (548H / 74166a – p.423) Reverse column VI'

5'	MAN] MAN MAN	
6'	[ŠU ^{I}*zu-*]*ba-la*	[(By) the hand of Zu]-Ba^{c}la,
	DUMU ^{D}IM-*ma-lik*	son of Ba^{c}al-malik,
7'	[^{LÚ}DUB.SAR] ^{LÚ}HAL	[scribe (and)] diviner
8'	[*ša* DIĞIR.MEŠ ^{IRI}] ⌞*e-mar*	[of the gods of] Emar,
9'	[ÌR ^{D}*é-a u*]$^{°D}$*dam-ki-na*	[servant of Ea and] Damkina,
10'	[?KAB.ZU.ZU *ša*] ^{D}IM-*ma-lik*	[?pupil of] Ba^{c}al-malik.

18. Hh8b T1 (550D / 7520 – p.729) Reverse VIII'

5'	MAN TIL MAN [x]	*end-of-text-unit marker*
6'	ŠU ^{ID}30-*a-bu*	(By) the hand of Shaggar-abu,
	DUMU $^{D°}$[IM.UR.SAĞ]	the son of [Ba^{c}al-qarrad.]

19. Hh12 T1 (555D / 74166d – p.424; 555E / 74208c – p.507; 555A' / 7498c – p.238)
Reverse VI

in D:

8''	MAN MAN	*end-of-text-unit marker*
9''	ŠU $^{ID°}$ ⌜IM-*ma-lik*	(By) the hand of Ba^{c}al-malik,
10''	⌞DUMU ^{D}IM.UR.SAĞ ^{LÚ}DUB.SAR ^{LÚ}⌝ [HAL]	son of Ba^{c}al-qarrad, scribe (&) [diviner]
11''	[*ša* D]IĞIR.MEŠ ^{IRI}*e-mar* ÌR ^{D}AK	[of the g]ods of Emar, servant of Nabû.

in E (after D there is a blank space of about 8 lines):

1'''	[KAB.ZU.ZU *ša*]^{I}*ki-din-*^{D}GU.LA	[pupil of] Kidin-Gula.

in A' (somewhere near fragment E):

1''''	ŠU.NÍĞIN [xxx]	Total [...]

20. Lu1 T1 (602A / 74121 – p.294-300) Reverse column VIII

preceding section broken

1'	[ŠU HA]R.AD	[(By) the hand of Shagga]r-abu,
2'	D[UMU ^{D}IM.UR.]SAĞ	s[on of Ba^{c}al-qar]rad,
3'	^{L}[^{Ú}X ^{LÚ}]AZU(NÍNDAxNUN)	[... (and)] soothsayer,
4'	DU[MU ^{D}*z*]*u-ba-la*	s[on of Z]u-Ba^{c}la,
5'	^{L}[^{Ú}HAL *ša*] DIĞIR.MEŠ	[diviner of] the gods
6'	*ša*[^{IRI}*e-m*]*ar*	of [Em]ar,
7'	DUMU[^{D}IM.U]R.SAĞ	son of [Ba^{c}al-qa]rrad,
8'	⌞^{LÚ}⌟ [x] ^{LÚ}AZU	[...] (and) soothsayer.

break

21. Lu1 fragment (602AD / 7495a – p.233) Rev column VIII' (may be part of Lu1 T1 or T2)

lines 1'-2' have traces only (1' ends in HA]L)

3'	DUM[U …]	so[n of PN,]
4'	KAB[.Z]U[.Z]U	pupil
5'	*ša* ^{ID}IM-↑*ma-lik*	of Ba^{c}al-malik.

22. Izi1 T1 (567E / 74248b – p.575; 567B / 74105b – p.265; 567C / 74122i – p.305)
sub-columns I/II of LEft Edge

in I (fragment E):

3'	[MAN] MAN	*end-of-text-unit marker*

in II (fragments B/C):

2'	[…]⌜DUMU$^{?}$⌝ ⌜^{D}I[M.UR.$^{<C/B>}$]SAĞ ^{LÚ}HAL	[... PN,] son of B[a^{c}al-qar]rad, the diviner,
3'	[ÌR ^{D}UT]U *u* ^{D}40 K[AB.$^{<C/B>}$Z]U.ZU *šá* ^{I}ŠÚ.^{D}GU.LA	[servant of Shama]sh and Sîn, pupil of Kidin-Gula.

23. SagB T1 (BLT=Tokyo fragment) Reverse column VIII

27.	MAN MAN MAN	*end-of-text-unit marker*
28.	AL.TIL IGI.KÁRA	It has been completed (and) checked:
29.	ŠU.NÍĞIN 3 *me-ti* 52	(in) total 352
30.	MU.BI.IM	(are) its lines.
31.	ŠU ^{ID}IM.MÁŠ.ŠU.GÍD.GÍD	(By) the hand of Ba^{c}al-bārû,
32.	^{LÚ}Ì.ZU	the student,
33.	ÌR ^{D}AK *u* ^{D}NISABA	the servant of Nabû and Nisaba.

13.2. Distribution and function of various redaction note types

Colophons

The first type of redaction note is the *colophon*. For the approximately 50 to 60 Type I tablets attested in the Emar lexical corpus, (parts of) 23 colophons have been preserved (cf. Table 26 above). Because of this relatively high preservation rate and because there is not a single type-I tablet attested that may with certainty be said to have omitted a colophon (i.e. there is no evidence to the contrary) it seems reasonable to assume that all type-I tablets in fact did carry a colophon.

The information included in colophons primarily includes data regarding authorship, mostly name, father's name, professional title and religious affiliation. Often, but not necessarily, this information may include a teacher's name (found in numbers 15, 16, 19, 21 and 22 - possibly also in 17[144]). Except for information regarding the author, often a colophon also includes the sum total of the line count of the tablet (found in numbers 8, 9, 11 and 23). When such a sum total is given, it is always introduced by the clause AL.TIL IGI.KÁRA 'it has been completed (and) checked'. This introductory clause and the sum total are always found together (they do not occur separately) and therefore may be assumed to form a unit. On one occasion a colophon (number 6) is found to include some kind of personal note by the author, the content of which, lacking parallels and additional documentation, remains rather enigmatic.

Because they often give the sum total of the tablet line count and in view of the fact that they always occur as the last section of the text, colophons may be said to be a type of scribal redaction note that always applies to the complete text of a given *tablet* rather than of a given composition. In other words, colophons were added after all the text on a tablet was completed and when the tablet was considered finished. Confirmation of this is found in the unique wording of colophon number 5, in which the standard phrase ŠU PN, 'by the hand of PN', is preceded by the word *.tup-pi* 'tablet'. This implies that the standard formula introducing the authorship section of a colophon may be read as 'This is a tablet written by the hand of PN...', which is often abbreviated to 'hand of PN'. Thus, colophons refer to the finished, complete text of the tablet and the colophon is located at the end of it. They do not refer to a certain part of the text or to a single compositional unit within the larger text. At first glance, this statement may seem rather superfluous, as the total text on a tablet mostly contains no more than a single compositional text unit. However there are exceptions and there is another type of redaction note, which relates to compositional text unit in the same way that the colophon relates to the total text of a tablet, viz. the end-of-text-unit marker.

[144] Reconstruction on basis of available space in broken section of 7bT1 VI'10' and of parallel in Lu1 fragment 602AD VIII' 5'.

One apparent exception to the mentioned position of the colophon in the last section of a tablet is found in Hh3a T1: there the colophon, in the middle of column X, is actually followed by a short literary composition, viz. a *Mannam Lušpur* incantation. The incantation text is written in the lower section of column X and continues onto the LEft Edge, i.e. it is written *after* the colophon. This exception could be explained by assuming that the incantation was a secondary addition. This is plausible in view of the fact that there are no other attestations of type-I tablets combining lexical compositions with other text genres. The original tablet Hh3a T1 may well have been originally composed in a regular manner (i.e. with exclusively lexical material and concluded by a colophon) - the incantation may have been added as an afterthought, or even at a later stage[145]. Another indication that the addition of the incantation text should be considered as an aberration is the fact that the text in the lower part of column X is written at a 90^{o} angle compared to the regular lexical entries on the rest of the reverse (i.e. the is written in a vertical manner) – such drastic direction shifts are not attested in lexical texts elsewhere within the corpus.

With regard to the distribution of the colophons a final remark should be made concerning the occurrence of palaeographically written colophons. Without offering an explanation, it seems useful to provide the relevant data and define the problem of their distribution somewhat more precisely than has been done previously. The following colophons numbers are executed in palaeographic writing: 2 (SaP T1), 3 (SaP T2), 20 (Lu1 T1), 21 (Lu1 fragment 602AD[146]) and 22 (Izi1 T1)[147]. At first glance the fact that the colophon also uses palaeographic writing in the palaeographic SaP exercises may appear to be a predictable phenomenon, however, colophon number 4 - the only other SaP colophon attested - is written in regular script and shows that matching palaeographic writing in the colophon cannot be taken for granted. The case of the Lu and Izi colophons confirms this: there is no necessary match between the writing style of the exercise material and that of the colophon. Except for writing style, the only obvious common ground between the palaeographic colophons is that the ones which preserve the name (2, 3 and 20) have the same author, viz. Shaggar-abu, son of Ba^{c}al-qarrad. In case of the two others (21 and 22), which do no preserve the author's name, one (22) shows Shaggar-abu's patronym and may also be his, while the other (21) is likely not to be a separate colophon but rather part of either number 20 or number 21. However, even if it is true that the palaeographic writing of colophons is linked to the authorship of one individual scribe (in casu: Shaggar-abu), that still does not explain his choice of the material: the same scribe is also attested as the author of non-palaeographic colophons (numbers 7, 14 and 18). On balance it appears that the phenomenon of palaeographic writing in colophons has as yet to be adequately explained[148].

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[145] In view of the similar ductus, the author of both the regular Hh text and the incantation seems to have been the same Ribi-Dagan. It should be noted that plaintive content of the incantation text may well fit into the circumstances alluded to by Ribi-Dagan in another colophon (number 6 = SaV T2).

[146] Note that Lu 1 fragment 602 AD may actually have been part of Lu 1T1 or T2.

[147] Note that there is another palaeographic colophon fragment that cannot presently be joined to any specific text (and which, in fact, may not belong to a lexical text): 74102g (p.253) has:

1' *ù*◦[…]
2' ÌR […]
3' *ù* $^{D°}$[…]
4' KA◦B.Z[U.ZU]
5' ⌜*ša* […]

end of column

[148] Cohen, *Transmission*, 46 suggests that archaic calligraphy served the purpose of professional prestige but in that case the question arises why the palaeographic spelling only occurs in the Lu and Izi colophons.

End-of-text-unit markers

The second type of scribal redaction note is the end-of-text-unit marker. The end-of-text-unit marker is a graphic device occurring after the last entry of a distinct compositional text unit is completed, often separating the text from the following colophon[149]. This device consists of double horizontal lines between which the sign MAN or the combination of the signs MAN and BE are repeated a number of times. All attested uses of the end-of-text marker are listed in Table 27.

Table 27. Attested use of end-of-text-unit markers

Series/ division	Tablets with preserved final text section		Tablets without preserved final text section
	with end-of-text-unit marker preceding the colophon	without end-of-text-unit marker preceding the colophon	
Svo	-	-	T1, T2
SaP	-	T1, T2, fr 538D	-
SaV	T1	T3	T2, T4
G	-	-	T1
Hh 1	T1, T2, T3	-	-
Hh 2	-	-	T1, T2, T3
Hh 3	bT2	aT1?	aT2, bT1
Hh 4	T1, T2, T3	-	-
Hh 5	T1	-	-
Hh 6	-	-	-
Hh 7	bT1	-	aT1, aT2, aT3
Hh 8	bT1, bT2	-	aT1
Hh 9	-	-	aT1, bT1
Hh 10	T1	-	T2
Hh 11	-	-	-
Hh 12	T1	-	-
Hh 13	T2’	-	T1’
Hh 14	-	-	-
Hh 15	-	-	T1
Hh 16	-	-	aT1, bT1, bT2
Hh 17	T1	-	-
Hh 18	T1	-	-
Lu 1	-	-	T1, T2
Lu 2	-	-	T1
Izi	1T1	-	2bT1
Kagal	-	-	-
SagB	T1	-	-
Nigga	T1	-	-
Diri	-	-	-

[149] Various theories have been put forward for the reading of the ‘content’ of the end-of-text-unit marker. Another, theoretically possible, explanation is that the ‘cryptic colophon’ indeed gives a ‘cryptic’, viz. abbreviated, rendering of the full clause AL.TIL IGI.KÁRA, with BE=TIL and ‘MAN’=GAM=GÚR as a phonetic spelling for KÁRA=GUR$_6$. Of course such an explanation would only be valid if it is assumed that this meaning was actually *forgotten* by the Emar scribes, because on a number of occasions *both* the end-of-text-unit marker *and* the full clause are found (viz. in colophon numbers 8, 9 and 23).

The function of the end-of-text-unit marker becomes clear when its distribution throughout the lexical text corpus is considered. There are four attestations of a tablet on which regular text is directly followed by a colophon *without* an end-of-text-unit marker preceding the colophon: in SaV T3 and in all three SaP texts (T1-2 and fragment 538D) – a possible fifth case, Hh 3a T1, is uncertain[150]. The case of SaV T3 offers a clear explanation of the absence of the end-of-text-unit marker: the text was not considered completed (note the entry NU.TIL 'incomplete' in the following colophon). In actual fact SaV T3 is the first tablet of the long version of SaV, covering only about the first quarter of the S^a key-signs. This explanation is confirmed by the case of SaP fragment 538D: it is clear that the text of that fragment really is incomplete - it only has the first part of Appendix 2 (up to entry 230b GÍR). In fact, in all SaP texts an end-of-text-unit marker occurs not at the end of the tablet but between two distinct compositions, viz. on the boundary between Appendix 1 and Appendix 2. This could imply that the text of Appendix 2 was not considered complete in case of SaP T1-2 either, despite the fact that no more lines of this composition are known than what is found in these Emar texts[151]. The combined evidence from SaV T3 and the SaP material shows that use of the marker is not related to the total text on a given tablet, as was the case for colophons, but that it is related to marking the end of a given text unit[152], hence the choice of the term 'end-of-text-unit marker'. This term seems more appropriate than that of 'cryptic colophon', found in Arnaud and Cohen: the markers nowhere substitute colophons and neither do they necessarily share the location of the colophons, which invariably is the very end of the tablet. The fact that the end-of-text-unit marker is often found in conjunction with the colophon is to be expected, because most tablets end where a given text composition ends, but this conjunction is still no more than a coincidence.

It should be noted that there are three cases in which there is an explicit textual note indicating the end of a text, a note that precedes the end-of-text-unit marker. All three cases involve the same text composition: in all three attested sources of Hh4 (T1, T2 and T3) the text ĞIŠ ŠU.NÍĞIN (with variant spellings) is found, meaning 'the wood(list) (is) complete'. This line, however, should not be understood as a scribal redaction note and as conflicting with the above given definition of the end-of-text-unit marker. Instead it should be read as an integral part of the 'wood-list' found in Hh divisions 3 and 4: it is already found as such in the OB material. This line could actually be considered as a 'fossilized' scribal redaction note that became absorbed into the lexical composition of which it once only marked the end.

[150] The case of Hh 3aT1 is uncertain because the upper part of column X is broken and the end-of-text-unit marker may have been lost, together with an unknown number of Hh3a entries. On the other hand, it is conceivable that 3aT1 was considered as incomplete because the bilingual version in fact shows many more MAR.GÍD.DA entries than are found in the unilingual version preserved in 3aT1. Due to lack of parallel textual evidence (the relevant section in 3aT2 is broken) no absolutely certainty is possible. Note also that after the broken section there is also still some open space left in the upper part of column X before the colophon.

[151] In view of the fact that the text breaks off at the same point on both tablets SaP T1 and T2 (and because the composition 'Appendix 2' is hardly attested outside Emar) it is (unlikely but) theoretically possible that the end-of-text-unit marker was actually omitted because the exercise 'Appendix 2' was somehow not counted as an actual 'text' or composition.

[152] Note that this use is very similar to that of the OB doxology ^{D}NISABA ZÀ.MÍ described by Veldhuis, 'Proto-Kagal/Nigga', 211-2.

Catch lines

The third type of redaction note is the catch line. A catch line occurs when the last line of a completed text is followed by the first line of another text, announcing that the former will be followed by the latter. This mechanism is well attested elsewhere, not only within series, such as some of the larger, multi-tablet literary compositions but also for indicating the order between series, including lexical series. In the whole of the Emar lexical corpus, however, there are only two attestations of catch lines, both occurring between the same text units (viz. Hh1 and 2). Neither the scarcity of catch lines (which means modern research lacks useful data for the reconstruction of the curricular order of the various lexical series), nor the reason why only these two specific attestations[153] occur can be satisfactorily explained at this stage. It can only be noted that the two catch lines precede two very similarly structured colophons written by two scribes at approximately the same stage of education (both are designated Ì.ZU.TUR(.TUR) and both write the same text). Actually both of these scribes are related and attested as indented into the service of the Zu-Baʿala clan as infants by means of the famous footprint documents.

An important feature of the two attestations for the catch line-type scribal redaction note is their positioning *vis-à-vis* the other two types of redaction notes: both occur *between* the end-of-text-unit marker and the colophon. This positioning conforms to the observations made earlier about the end-of-text-unit marker and the colophon. The former always marks the end of a text unit (Hh1) and the latter always occurs at the very end of the tablet. The catch line, not being part of the preceding text but still part of the tablet text, is appropriately positioned between them.

13.3. Overview of colophon data concerning the scribes

Limitations to the analysis of data concerning the scribes

Many publications deal with the content of the colophons and with the identification of the scribes; in this regard the only contribution this study aims to make is to give a summary overview of the data available in the lexical colophons. It could not be the aim of this study to attempt a reconstruction of the careers of the teachers and students in the school or of individual influence on it on the basis of the lexical material alone. But even if the other school texts were included for investigation, such a reconstruction would be a hazardous undertaking: many, probably most, colophons – vital material for the reconstruction of individual corpora – are broken or lost, as shown by Table 26. In addition, work would have to proceed on basis of the uncertain record of a historically coincidental text collection that lacks explicit organization and is based on archaeological chance. For purposes of this study, however, an even more important objection against the hypothetical project of reconstructing individual careers and influences is the theoretical methodology adopted at the outset.

Theoretical perspective on individual scribal achievement

The purpose of this study is to reconstruct the Mesopotamian lexical tradition, exemplified by a given school curriculum in a given place and time. It aims to reconstruct what the scribes aspired to in terms of that tradition, not what distinguished them as historical individuals. Undoubtedly it is true that they, as historical individuals shaped by specific linguistic and

[153] Note that although both cover the same transition (Hh1 to 2), marking this transition with a catch line is apparently not required elsewhere: in another text, Hh1 T3, the catch line is omitted.

educational backgrounds, may have left some individual imprint on their lexical output, but this individual imprint is not what is primarily relevant. Even if it was, it could only be understood in terms of the larger tradition they were part of, viz. in terms of developments in orthography, spelling, phoneme distribution and linguistic substratum. Rather, what is primarily relevant with regard to the aims of this study is that individual apprentice scribes strove to conform to collectively held, institutionally transmitted traditional scholarly models. Their professional goal was certainly to achieve mastery of functional (writing) skills but this was only attained through a curriculum of set-piece lexical texts. Model versions of these may be assumed to have existed primarily as virtual compositions in the memory of accomplished scholars. It follows that all or most text attestations left for the modern researcher to study may be considered as no more than exercises, i.e. more or less successful attempts by apprentice scribes to conform to these virtual models.

In turn, the virtual models transmitted by accomplished scholars were primarily defined in terms of conformity to an ancient tradition. This is proven by the remarkable continuity of individual compositions throughout the centuries. It follows that, as the apprentice did nothing but acquire the virtual model presented by his master, so the master did nothing but transmit an ancient tradition. The scribes implicitly recognized the authority of the tradition in which they stood: in the colophons they consistently refer to their gods (primarily the gods of writing, Nabû and Sarpanitu), speaking of themselves as ÌR 'servant', as well as their teachers. These combined were the guardians of the tradition they aimed to serve. In short, the scholarship reflected in the lexical texts may be described as primarily *deferential*. In this sense, these texts may be considered as striving to conform to 'ideal texts', i.e. model texts which exist only in the virtual realities of memory and tradition.

It may be argued that a reconstruction of the Mesopotamian lexical tradition owes to focus on the reconstruction of the 'ideal texts' behind the individual text witnesses, rather than on these text witnesses themselves. With this in mind, the present study focuses on typical, structural features of collective scholarly achievement rather than on a-typical, particular features of an individual academic record. Having said this, modern scholarship must acknowledge the debt it owes to those ancient students and teachers known by name: they were the bearers of the scribal tradition and also provided individual text variants that often shed light on the ideas current in the wider text tradition they belong to. It is therefore appropriate to proceed with the roll-call of the Emar scribes.

Table 28. Colophons listed by series

Colophon number	Series/ division	Tablet/ fragment number	Name of scribe[154]	Patronym	Title[155]	Teacher
1.	Svo	T1/603 A	Bēlu-[?qarrad]	-	Ì.ZU TUR.TUR	-
2.	SaP+	T1/538 I	Shaggar-abu	Baᶜal-qarrād	-	-
3.	SaP+	T2/538 J	[Shaggar]-abu	Baᶜal-qarrād	-	-
4.	SaP+	538D	Baᶜal-[malik/bēlu][157]	?	?	?
5.	SaV+	T1/537 A	?[158]	-	-	-
6.	SaV+	T2/537 C	Ribi-Dagan	-	-	-
7.	SaV	T3/537 B	[Shaggar]-abu	-	MÁŠ.ŠU.GÍD.GÍD	-
8.	Hh 1	T1/541 A	Baᶜal-belu	-	Ì.ZU TUR	-
9.	Hh 1	T2/541 Da	Ishmah-Dagan	-	Ì.ZU TUR.TUR	-
10.	Hh 1	T3/541 B	Baᶜal-malik	Baᶜal-qarrād	DUB.SAR & HAL	-
11.	Hh 3a	T1/543-5 A	Ribi-Dagan	-	Ì.ZU TUR.TUR	-
12.	Hh 3b	T2/544-5 B	Baᶜal-malik	Baᶜal-qarrād	-	-
13.	Hh 4	T1/545 V	Baᶜal-malik	Baᶜal-qarrād	DUB.SAR& HAL	-
14.	Hh 4	T2/545 AG+G	Shaggar-[abu][159]	[Baᶜal]-qarrad	DUB.SAR & HAL	-
15.	Hh 4	T3/545 U	?	?	?	?
16.	Hh 5	T1/546 A''	?	?	?	Kidin-Gula
17.	Hh 7b	T1/548 H	[Zu]-Baᶜala[160]	Baᶜal-malik	[DUB.SAR]&HAL	-
18.	Hh 8b	T1/550 D	Shaggar-abu	[Baᶜal-qarrad]	-	?
19.	Hh 12	T1/555 D+?E	Baᶜal-malik	Baᶜal-qarrād	DUB.SAR& HAL	?Kidin-Gula
20.	Lu 1	T1/602 A	Shaggar-abu	Baᶜal-qarrād	[HAL]&AZU[162]	-
21.	Lu 1	602AD[156]	?	?	?	Baᶜal-malik
22.	Izi 1	T1/567 B+C	?	Baᶜal-qarrād	HAL	Kidin-Gula
23.	SagB	T1/BLT	Baᶜal-bāru[161]	-	Ì.ZU	-

[154] Cf. D.E. Fleming, *Time at Emar : the Cultic Calendar and the Rituals from the Diviner's Archive* (Winona Lake 2000) p.26-7 n.41 for the reading ^{D}IM as Baᶜla. He also suggests reading ^{D}HAR.AD as well as ^{D}30 as Shaggar (p.31-2 n.61). Both readings are followed here.

[155] For possible functional differentiation between ranks cf. Fleming, *Time*, p.27-8 n.43.

[156] Colophon on fragment 602 AD may be part of Lu 1T2.

[157] Suggestion by Cohen, *Transmission*, 110.

[158] Arnaud: ^{I}[^{D}20-*a-bu*] (reconstruction Arnaud, *Emar* VI 4 604.9).

[159] Reconstruction follows Cohen, *Transmission*, 212.

[160] For the reading Zu-Baᶜla cf. M. Yamada, 'The Family of Zū-Baᶜla the Diviner and the Hittites' in: S. Izre'el, I. Singer and R. Zadok (eds.), *Past Links. Studies in the Languages and Cultures of the Ancient Near East*. Israel Oriental Studies 18 (Winona Lake 1998) p.324 n.4. Cohen, *Transmission*, 90 assumes that this [^{I}*zu*]-*ba-la* is not the same as the patriarch and diviner. Note that, if Cohen is correct, the author of the tablet ([xxx]-*ba-la*) may in fact be a son of the patriarch's grandson Baᶜal-malik.

[161] Fleming, *Time*, p.28 n.43.

[162] Note that the titles in colophon Lu 1T1 are followed by three consecutive patronyms. The first patronym is that of his father, the second that of his grand-father and the third seems to repeat that of his father. The titles following the grandfather's name ([HAL] *ša* DIĞIR.MEŠ) deviate from those following the father's name ([HAL] and AZU). It seems likely that the grandfather was still alive and still carried all his titles. The titles after the father's name probably are those of the grandson.

Table 29. Scribes listed in alphabetic order

Name of scribe	Patronym	Generation in Zu-Baʿala's genealogy[163]	Title[164] [165]	Series/division/tablet
Baʿal-bāru[166]	-	n/a	Ì.ZU	Sag B T1
Baʿal-belu[167]	-	n/a	Ì.ZU TUR	Hh 1T1 (SaP 538D?)
Baʿal-malik	Baʿal-qarrād	2[171]	[174]**DUB.SAR&HAL**	Hh 1T3, 3bT2, 4T1, 12T1 (SaP538D?)
Bēlu-[?qarrad]	-	2[172]	Ì.ZU TUR.TUR	Svo T1
Ishmah-Dagan[168]	-	n/a	Ì.ZU TUR.TUR	Hh 1T2
Ribi-Dagan	-	n/a	[175]Ì.ZU TUR.TUR	SaV T2, Hh 3aT1
^{D}HAR.AD= Shaggar-abu[169]	Baʿal-qarrād	2[173]	[176][x]&AZU	SaP T1, Lu 1T1
^{D}30-*a-bu*= Shaggar-abu	Baʿal-qarrad	2	[177]**DUB.SAR&HAL** /MÁŠ.ŠU.GÍD.GÍD	SaP T2, SaV T3, Hh 4T2, 8bT1
[?Zu]-Baʿala[170]	Baʿal-malik	3	**[DUB.SAR]&HAL**	Hh 7bT1

[163] Members of Zu-Baʿala's family are identified by generation count (Zu-Baʿala=0, Baʿal-qarrad=1, Baʿal-malik/Shaggar-abu=2), following the analysis of Yamada, 'Zu-Baʿla', 327-8, adjusted by Cohen, *Transmission*, p.114 Figure 10.

[164] Note Fleming's remark, *Time*, p. 26 and n. 40, that in colophons the titles DUB.SAR and HAL were not regularly combined: according to him they are only combined in the colophons of Baʿal-malik. However in two cases the combined titles were applied to another person: in Hh4T2 to Shaggar[-abu] and in 7bT1 to [Zu]-Baʿala (in the latter tablet the positioning of the preserved signs strongly suggests that ^{LÚ}HAL was preceded by ^{LÚ}DUB.SAR).

[165] Note that Yamada, 'Zu-Baʿla', 332 suggests that the title 'diviner of the gods of Emar' was reserved for members of the Zu-Baʿala family - in this supposition he is followed by Fleming, *Time*, 26.

[166] Fleming, *Time*, p.28 n.43.

[167] Likely to be identified with an infant of the same name sold to Baʿal-malik (Cohen, *Transmission*, 106-9 and Figure 9 p.112).

[168] Likely to be identified with an infant of the same name sold to Baʿal-malik (Cohen, *Transmission*, 106-9 and Figure 9 p.112).

[169] Note that Yamada, 'Zu-Baʿla', 329 identifies ^{D}GÌR.AD (=Rashap-abu) with ^{D}30-*a-bu* (=Sîn-abu), which is followed by Fleming, *Time*, p.31-2 n.61. Fleming, however, reads HAR instead of GÌR, translated Shaggar instead of Rashap. Both Yamada's identification and Fleming's interpretation are tentatively followed here.

[170] For the emendation [^{I}*zu*]- in 7bT1 and for the phonetic reading Zu-Baʿla cf. Yamada, 'Zu-Baʿla', respectively p.326 and p.324 n.4. Cohen, *Transmission*, 90 assumes that this [^{I}*zu*]-*ba-la* is not the same as the patriarch and diviner. Note that, if Cohen is correct, the author of the tablet ([xxx]-*ba-la*) may in fact be a son of Baʿal-malik, the patriarch's grandson.

[171] According to Yamada, 'Zu-Baʿla', 329 both Shaggar-abu and Baʿal-malik are likely to have been sons of Baʿal-qarrad, with the latter succeeding his brother Shaggar-abu when he died.

[172] Cf. Cohen, *Transmission*, p.151 n.261 and Figure 10 p.114.

[173] According to Yamada, 'Zu-Baʿla', 329 both Shaggar-abu and Baʿal-malik are likely to have been sons of Baʿal-qarrad, with the latter succeeding his brother Shaggar-abu when he died.

[174] The title DUB.SAR & HAL is found in Hh1 T3, 4 T1 and 12T1 (no titles are found in 3bT2).

[175] The title Ì.ZU.TUR.TUR is only found in Hh3a T1 (no titles are found in SaV T2).

[176] The title AZU is only found in Lu 1T1 (no titles are found in SaP T1). Note that the colophon of this tablet is also the only palaeographically written colophon that preserves the author's title: there may be a compositional link between the palaeographic writing and the deviant writing AZU.

[177] The title DUB.SAR & HAL is only found in Hh 4T2, the title MÁŠ.ŠU.GÍD.GÍD only found in SaV T3 (no titles are found in SaP T2 and Hh 8bT1).

Summary

13.2. Investigation of the distribution and function of various redaction note types:

1. There three types of redaction notes: (1) colophons, (2) end-of-text-unit markers and (3) catch lines.
2. Colophons represent scribal redaction notes that apply to the complete text of a tablet rather than of a composition - this in contrast to the end-of-text-unit marker.
3. There is no link between palaeographic content and palaeographic colophons or between non-palaeographic content and non-palaeographic colophons.
4. The end-of-text marker is graphic device serving to mark the end of a compositional unit (and not necessarily of the end of the text on a tablet). The term 'cryptic colophon' is incorrect in terms of distribution.
5. The position of catch lines is always between the end-of-text marker and the colophon: the catch line is not part of the preceding composition but is still part of the tablet text.

CHAPTER 14 – DIACHRONIC CONTEXT

14.0. Aim and organization

Aim and analytic framework

This last chapter in fact constitutes a diachronic excursus added to a synchronic studies. In this excursus the diachronic position of the various series attested in the Emar corpus will be discussed in short summary commentaries. This diachronic position will be approached primarily from three selected criteria: *linguistic format*, *entry inventory* and *key-sign/word/determinative sequence*. It should be noted that, in line with previous usage, the terms *key-sign* and *key-word* apply to the (elementary and advanced) sign-lists and the thematic lists respectively. Only for Svo the term *logogram* will be substituted. The first of the three above-mentioned criteria is a core aspect of horizontal organization and the other two are core aspects of vertical organization. They allow a (admittedly partial) diachronic extension of the synchronic structural description given in the preceding chapters of Part 3. The comparison of these three core aspects of horizontal and vertical organization throughout diachronically consecutive versions may help to *explain* the organizational structure found in the Emar material as in part due to diachronic developments. In this regard, easy comparison is made possible by the systematic provision of references to parallel versions added to parts 1 and 2. A complete inventory of all references provided is given in Organizational Table 4 preceding Part 1. For the most convenient comparison between the Emar material and the parallel materials, use of Part 2 is recommended as it gives a composite text of all preserved entries. It should be noted that, due to spatial constraints, the parallel references for some series, viz. Svo, Nigga and Diri are *only* given in Part 2.

Other avenues of diachronic research, primarily the formal and didactic-functional approaches, have not been systematically explored due to the limited scope of the study. In this respect the following paragraphs will only provide a few occasional remarks. A formal approach would be important to determine to what extent the formal features (ruling, entry element inventory) found in the Emar corpus are shared by earlier and later corpora and whether or not their implementation in Emar is symptomatic of wider diachronic developments. Regarding a didactic-functional approach, various remarks may be found in previous literature, suggesting that the use of certain series changed through time[178]; a systematic study, however, has yet to be made. These are approaches that may be suggested as important contributions yet to be made to the study of the lexical genre.

Organization

This chapter will proceed to give a summary series-by-series analysis of the Emar material in view of selected diachronic parallels, which are mostly those given in the references added to parts 1 and 2. As said before, a complete listing of these may be found in Organizational Table 4 in Part 1. Paragraphs 14.1-10 will discuss each of the Emar lexical series in the same order as these series were treated in the preceding synchronic analysis. Where possible, this discussion will be preceded by a short investigation of the possibility of comparing the LBA peripheral version as a whole with other versions. The rest of the discussion will consist of the actual diachronic comparison by applying the three above mentioned criteria, i.e. linguistic format, entry inventory and key-sign/word sequence. Due to the uneven availability of

[178] E.g. the changing use of Sal discussed by Çiğ and Kizilyay, *Schulbücher*, 114-6.

editions of parallel material from other periods, different parts of Hh will be treated separately, as dictated by the availability of such editions. For Hh divisions 1-2 a comparison is made to another lexical series altogether. The final paragraph, 14.11, will give attempt to give a synthetic summary by characterizing the diachronic position of the Emar curriculum as a whole. It should be reiterated that, within the framework of the synchronic investigation intended by this study, this chapter cannot aim at anything more than a superficial reconnaissance of an issue of this magnitude. Any observations, let alone 'conclusions', are therefore of an entirely provisional nature.

14.1. Syllable Alphabet A Vocabulary

The LBA peripheral version of Svo

The proximity of the Ugarit and Emar versions has been noted in previous literature[179]. The inventory and sequence of the Svo 'logograms' are very similar: of the 126 entries found in Ugarit Sal only very few are not exactly matched in Emar (a few omissions and some slight deviations are found in numbers 39, 65, 79, 81, 112-3, 123 and 126)[180]. When the Ugarit and Emar versions are compared, there are two main differences. First, Ugarit has a unilingual (Sal)[181] as well as a bilingual version (Svo), whereas Emar only has a bilingual version. In view of the fact that the inventory and sequence of the 'logograms' themselves stay the same, however, the uni- and bilingual texts can still be considered as representing a single tradition. Second, the bilingual versions found in both sites differ with regard to inventory and sequence of the Akkadian equivalents given to specific 'logograms'. In view of the fact that the same flexible relationship between 'logograms' and Akkadian equivalents is also found within the Ugarit corpus[182] and in other corpora[183], this phenomenon may indeed be considered a regular feature of Svo in general. On balance, it is therefore possible to speak of a coherent Syrian version of Svo. Because the published MA material suggests that this version is also adhered to in Assur[184], it may be proposed that this coherence also characterizes the whole extent of the *LBA peripheral version of Svo*. This synchronically coherent version Svo as a whole can be compared with versions from other periods.

Earlier and later versions

The texts from Ugarit and Emar are among the last attestations of unilingual Sal and bilingual Svo as independent school exercises. The only later attestations of Sal and Svo are as citations in other lists or as additions to the text of the Creation Myth[185]. Earlier, Sal and Svo are widely attested as school texts in the OB curriculum, both in Nippur and elsewhere[186], but it may be assumed that their composition can be dated back to the Ur III period[187]. The most conveniently accessible OB version of Svo is provided by Sollberger's edition of BM

[179] Farber, 'Leitfaden', 119.
[180] Nougayrol, '"Vocalisés"', 31-3.
[181] Cf. Cavigneaux, 'Lexikalische Listen', 619 and Farber, 'Leitfaden', 119.
[182] Nougayrol, '"Vocalisés"', 38.
[183] Farber, 'Leitfaden', 119.
[184] Overview, references and additional readings in Farber, 'Leitfaden', 127-30.
[185] Landsberger, 'Notenschrift', 175-8 and Farber, 'Leitfaden', 120-1.
[186] Farber, 'Leitfaden', 119.
[187] Çiğ and Kizilyay, *Schulbücher*, 112-6.

13902[188]: references to it have been systematically added in the composite edition of Emar Svo provided by Part 2.

Diachronic development of linguistic format

Because for Svo it is difficult to determine to what extent element 4 is intended as an *interpretation* of element 2 (cf. 1.2.1.), it is difficult to say whether Svo can be interpreted as a 'bilingual' text. Therefore it is problematic to apply any of the terms 'linguistic format', 'unilingual' or 'bilingual'. It may be more accurate to state that Sal gives its entries in a single column whereas Svo gives them in multiple columns. The OB version under consideration can be described as a Svo text because it gives multiple columns. In fact, BM 13902 gives *three* columns whereas the peripheral version of Svo gives only *two*, i.e. the former adds two elements to each 'logogram' whereas the latter adds only one[189]. A second difference between peripheral Svo and BM 13902 is that the former frequently gives multiple entries for each 'logogram' whereas the latter never gives more than a single entry per 'logogram'.

A possible explanation of these two differences may be sought in their interconnection. The net result of both strategies is a *multiplicity of relations* between the element 2 and element 4. Considering that the relation between these two elements is flexible it could be suggested that generally the function of Svo was merely to provide a *structure* or framework for the presentation of multiple relations listed according to a stable series of 'logograms', irrespective of the variable 'content' seemingly implied by these relations. In BM 13902 this was achieved by adding two elements to 'logograms' that are given in one-line entries, whereas in peripheral Svo this was achieved by adding a one element to a 'logogram' that was often given in more than one entry line. It is conceivable that the first strategy was abandoned[190] in favour of the second as a result of *organizational systematization*. In post-OB times most lists took on a bilingual form in which only one 'Akkadian equivalent' is given per entry and in which the logogram is repeated when more than one equivalent was given. Svo seems to have been remoulded to conform to this form but the continuing instability of the relations between elements 2 and 4 still suggests that its primary function is that of a *presentational device*. The noted re-modification may also explain the fact that form and use *appear* to be that of a regular exercise but are only very partially matched by the actual content of that 'exercise'. The question of what content the 'presentational device' presented in Svo was actually meant to present is a different issue altogether[191].

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[188] E. Sollberger, 'A Three-column *Silbenvokabular A*' in: H.G. Güterbock and Th. Jacobsen (eds.), *Studies in Honor of Benno Landsberger on his Seventy-Fifth Birthday: April 21, 1965*. AS 16 (1965) 21-39.

[189] Farber, 'Leitfaden', 119.

[190] The format of BM 13902 is not matched in any later texts (a listing of all attested Svo texts is found in Farber, 'Leitfaden', 126-8).

[191] If the suggestion of the original function of Svo as a presentational device is related to the stability of the Sal/Svo 'logograms', it follows that the 'logogram' inventory and sequence represent the constant factor. The 'logogram' might or might not be linked to a number of 'equivalents' but the presentation of such 'equivalents' always involved *ordering* according to the 'logogram' sequence. This ordering takes places without it implying a necessary association between the 'logogram' and the 'equivalents'. If ordering is taken as the functional purpose of Svo than it is conceivable that this purpose extends to the 'logogram' sequence of Sal as well. If the signs of which the 'logograms' are made up are considered *separately* from this perspective, then some common ground between the 'logograms' and the 'equivalents' appears: almost all of the former appear as key-signs and almost all of the latter either as key-words or as translations throughout various *other* lexical series. As a suggestion for its original concept it may be proposed that Svo may in fact represent a *study scheme* for the lexical curriculum as implemented in the school. If it is assumed that parts of various series were studied simultaneously, this would explain the co-occurrence of the logograms (conceivably from Sa, Izi and the other advanced series, possibly more than one simultaneously) with DNs (from G) and Akkadian equivalents (from Hh

Diachronic development of 'logogram' inventory and sequence

When comparing the EST numbers with the reference numbers of Sollberger's edition it is clear that *Svo shows a remarkable diachronic stability* in terms of its 'logogram' inventory and sequence. In this respect the OB and peripheral version of Sal/Svo are practically identical.

14.2. The S^{a}-format lists

The LBA peripheral version of Sa/V/P

In a separate investigation it was established that the LBA SaV and SaP materials from Ugarit and Emar show sufficient homogeny in their vertical organization of content to allow the reconstruction of a single, coherent composite text[192]. In fact, in previous research it was found that the synchronic homogeny of SaV and SaP found in Syria also applies to Sa and extends to all of the LBA periphery (S^{a}-format lists are also attested in Akhetaten, Hattusha and Assur[193])[194]. This homogeny involves distinct stability in key-sign inventory and sequence, irrespective of the frequency of repetitions or the number of equivalents found for each key-sign (in this regard there is considerable variation throughout the various sites and versions). The relative synchronic textual coherence allows the *LBA peripheral version of Sa/V/P* as a whole to be compared to earlier and later material.

Earlier and later versions

For the rather fragmentarily preserved OB text (from Sippar) there is no systematic edition[195], but as it has been investigated in an earlier study[196] it will be considered in the following

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and Lu). This co-occurrence may reflect the combined daily pensum of lines from different exercises. In this respect note the matches between the Akkadian content of Svo and the content of Hh/Lu (cf. for example the 'professions' of 092.01ff. with those of Lu). Almost all Akkadian equivalents found in Svo may be found in the various lexical series (especially G and Lu). The quantity of pensum per series per day suggested in previous literature (Hallo, 'Notes') may prove to be projectable onto this Svo 'study scheme'. Within the scope of the present study no full investigation is possible of this avenue of research, especially because it would have to focus on the development of Sal/Svo in the context of earlier curricula. If the explanation of Svo as a 'study scheme' is correct, then Landsberger's hypothesis concerning the Sal/Svo 'logograms' would be invalid: the 'logograms' should be interpreted as incipits rather than PNs. Note that even if the 'study scheme' explanation would be correct, it would still be possible that Sal/Svo had a hybrid status and simultaneously served as an 'introductory exercise', perhaps due to 'faulty' reinterpretation. For Sal/Svo as an *exercise*, irrespective of its suggested 'study scheme' function, the structural description given in 1.3. therefore remains relevant.

[192] Gantzert, 'SLT 1' (forthcoming).

[193] With regard to the inclusion of Assur in the peripheral lexical tradition, cf. Cavigneaux, 'Lexikalische Listen', 617.

[194] M. Gantzert, Two Hunderd Pillars of Wisdom. Quantitative Analysis of the Syllabary A Format in the Late Bronze Periphery (unpublished MA thesis, Leiden 2004), 30-1, relevant bibliography on p. 80-3 of Appendix B.

[195] The relevant texts may be found in V. Scheil, *Une saison de fouilles à Sippar*. Mémoires publiés par les members de l'institut français d'archéologie orientale du Caire sous la direction de M.E. Chassinat 1 (Paris 1902) 34-7 (Sippar 140, 208-10, 350, 503, 667) and M. Tanret, Oudbabylonische "schooltabletten" en documentaire teksten uit het huis van Ur-Utu, opperklaagpriester van Annunītum te Sippar-Amnānum (unpublished dissertation, Ghent 1981) publication pp. 42, 51, 6, 73, 79, 82-3 edition pp. 240-6 (Di 94, 117, 132, 134).

[196] Gantzert, Two Hunderd Pillars, 30-1.

remarks. Appendix 1 of part 2 provides a systematic comparison of the LBA peripheral version with the 1st Millennium version edited in MSL III[197].

Diachronic development of linguistic format

It is remarkable that the LBA peripheral version is the only version that occurs in a unilingual as well as a multilingual format: the OB and 1st Millennium versions are both exclusively unilingual[198]. It has been suggested that this may be related to shifts in the didactic functionality of Syllabary A[199].

Diachronic development of key-word inventory and sequence

From a comparison of the PST and MSL numbers (the former represent the LBA peripheral version, the latter the canonical version) it is immediately clear that, despite occasional omissions, additions and sequential inversions, *Sa/V/P shows a remarkable degree of diachronic stability* with regard to key-word inventory and sequence. This diachronic stability also extends back in time to the earliest Sa texts from OB Sippar[200].

14.3. Weidner God List

The LBA peripheral version of G

In a separate investigation it was found that the various LBA peripheral G materials (G is attested in Ugarit, Emar, Akhetaten and Assur) show sufficient homogeny in their vertical organization of content to allow the reconstruction of a single, coherent composite text[201]. G shows a fairly stable inventory and sequence of key-words throughout the whole LBA periphery, irrespective of the frequently deviating horizontal structure. Thus, it is possible to speak of a coherent *LBA peripheral version of G*, which as a whole can be compared to versions from other periods.

Earlier and later versions

The text edition of G given in Parts 1-2 includes standard references to the composite edition of Weidner entitled 'Altbabylonische Götterlisten'. It should be noted, however, that this title does not fully match the material used in that edition. Actually, much of this material is not from the OB but from the LBA period: texts A-E[202] are MA[203] (text G is Ur III). The text edition of G found in Parts 1-2 is based on a new composite edition of all peripheral material which includes this MA material - a comparison with the Weidner edition would therefore result in circular argumentation. In fact, in Parts 1-2 references to the Weidner edition have

[197] The Sa sources (OB and 1st Millennium) are listed on pp. 7-10 and the SaV sources (MA and LBA peripheral) are listed on pp. 49-50.
[198] Cavigneaux, 'Lexikalische Listen', 622-3.
[199] Ibidem, 623.
[200] Cf. Tables 5, 11 and 14 in Appendix A of Gantzert, Two Hunderd Pillars.
[201] Gantzert, 'SLT 3' (forthcoming).
[202] Inventory in Weidner, 'Götterlisten', 8.
[203] Texts A1-5 in Gantzert, 'SLT 3' (forthcoming). For periodization refer to O. Pedersén, *Archives and Libraries in the City of Assur: a Survey of the Material from the German Excavations* I. Studie Semitica Upsaliensia 6 (Uppsala 1985) 31ff. (M2) and O. Pedersén, *Archives and Libraries in the City of Assur: a Survey of the Material from the German Excavations* II. Studie Semitica Upsaliensia 8 (Uppsala 1986) 11ff. (N1). In this regard note the incorrect periodization given for KAv 46, 47, 62, 63 and 65 in Lambert, 'Götterlisten', 474.

only been included for the convenience of the reader. This means that no systematic edition of the G material from other periods is available. The sole fact, however, that the Weidner edition managed to present material from various periods, ranging from Ur III to the 1st Millennium, in a coherent composite text, implies at least a certain degree of diachronic stability.

Diachronic development of linguistic format

Due to the fact that when 'Akkadian equivalents' is added to the G logograms these tend to be references to other DNs, in case of G it is actually inappropriate to speak of 'linguistic format'. It would be more accurate to state that G may give either single- or multiple-element entries. Only in the LBA version G may occur with multi-element entries, even if the entry element inventory of G texts from various sites is highly variable[204]. In the earlier and later periods G texts only give the logogram element[205].

Diachronic development of key-word inventory and sequence

As said earlier, the diachronic composite edition of Weidner implies a certain degree of diachronic stability. If the text from various periods are compared more closely with regard to key-word inventory and sequence, it may in fact be said that *G shows a high degree of diachronic stability*.

Didactic-functional perspective

With regard to the didactic functionality of G and its position in the wider school curriculum, there are two phenomena should be noted. First, in both the Emar and MA texts the G entry element inventory is often expanded to include glosses and sign-names, exactly as in many other school texts. Second, in the MA corpus G may be found sharing the same tablet with Sa(V)[206]. These phenomena establish without a doubt that, at least in the LBA period, G was a school text[207].

14.4. HAR(UR_5).RA=*hubullu*

Methodological limitations

With regard to a diachronic evaluation of Hh there are three methodological problems concerning the access to parallel texts from other periods with which to compare the Emar version. The first problem is that for some divisions no systematic text editions are available for such texts. In the introduction to Part 1 the limitations of the use of MSL as a reference tool were discussed. For many of the earlier divisions of Hh the earlier volumes of MSL give a composite edition that mixes material from different periods and places. In certain cases this composite edition reflects a certain degree of actual diachronic stability (e.g. for Hh 1-2) but in other cases it is an artificial compilation of mutually irreconcilable materials (e.g. in case of canonical tablet VII[208]). This results in a 'canonical' model that does not reflect the text as it historically existed in the 1st Millennium and that is largely unusable for diachronic research.

[204] Gantzert, 'SLT 3' (forthcoming).
[205] Lambert, 'Götterlisten', 474.
[206] Gantzert, 'SLT 3' (forthcoming).
[207] Lambert, 'Götterlisten', 474.
[208] Multiple versions listed in MSL 6, 81ff.

As a complete revision of the MSL edition falls outside the scope of this study, this means that, when no alternative edition is available, for some of the early divisions no comparison is feasible. An overview of the relevant parallel text editions is given in Organizational Table 4 of Part 1. The second problem is that for some divisions either the available parallel texts from other periods or the reconstructed Emar texts themselves are too fragmentary to allow a reliable comparison. The third problem is that for some divisions a comparison is feasible and has been postponed pending further research. For different divisions these problems have been dealt with in different ways, as summarized below. Note that the division count used is always that of Emar Hh unless explicitly stated otherwise.

Implementation of comparative analysis

For divisions 1 and 2 no usable edition of earlier or later parallel texts is available and instead an excursus has been given on the relation of Hh 1-2 to the earlier series KI.ULUDIN.BI.ŠÈ=*ana ittišu*. For divisions 3 and 4 there is an alternative to the largely unusable MSL edition, viz. the Veldhuis edition of the Nippur text[209], which allows a regular comparison with the OB text. For division 5 the MSL edition of the canonical version is too fragmentary to allow a reliable comparison (cf. notes preceding the composite edition in Part 2). For divisions 6-7 and 10-11 a diachronic comparative investigation has been postponed and will be discussed in a separate study of the LBA peripheral corpus for these divisions[210]. For divisions 8 and 13-16 a regular diachronic comparison will be given, based on the MSL editions of the relevant parallel materials. For divisions 9 and 12 no usable edition of parallel material from other periods is available. For divisions 17-18 both the MSL edition and the reconstructed Emar texts themselves are too fragmentary to permit a reliable comparison.

14.4.1. Divisions 1-2

Comparison with* KI.ULUDIN.BI.ŠÈ=*ana ittišu

Hh divisions 1-2 may be considered as a secondarily added and therefore diachronically distinct unit within Hh[211]. To show it in its text-historical context a concordance of the entries shared between Emar Hh 1-2 and KI.ULUDIN.BI.ŠÈ=*ana ittišu* is provided by Appendix 3 of Part 2. It extends (and partially corrects the canonical Hh reference numbering of) the table of comparison given in MSL I (p. x-xii).

The historical relation between Hh 1-2 and* KI.ULUDIN.BI.ŠÈ=*ana ittišu

There is substantial similarity between the content of LBA Emar Hh 1-2 (continuing into the 1st Millenium canonical version of Hh I-II) and that of the older thematic list KI.ULUDIN.BI.ŠÈ=*ana ittišu* - attention to this similarity was already drawn in MSL I. The version of the latter found in the 1st Millennium probably originates in the time of Hammurabi, even if it is likely to have originated in the time of 1st Dynasty of Isin[212]. The relation between KI.ULUDIN.BI.ŠÈ=*ana ittišu* and Hh 1-2 is complex and not necessarily of a linear generic nature[213]. Both texts seem to use material of similar semantic range (legal

[209] Veldhuis, *Elementary Education*, 151-252.
[210] Gantzert, 'SLT 4' (forthcoming).
[211] W.W. Hallo, 'Notes from the Babylonian Collection, II: Old Babylonian HAR-ra', *JCS* 34 (1982) 85-6.
[212] MSL 1, iii. The oldest certain attestation of Hh I-II dates to the reign of Samsuiluna - cf. also Hallo, 'Notes II', 86, with references.
[213] Discussion Veldhuis, *Elementary Education*, 79.

phrases and paradigms of relevant verbs) for different purposes. KI.ULUDIN.BI.ŠÈ=*ana ittišu* is an exercise that is thematically strictly limited. Compared to it, Hh 1-2 adds many unrelated elaborations, such as kinship terminology EST 1069-89, chronology 1110-11 and professions 2016-19; 2172-93. The widely differing sequencing indicates that, even if there is some kind of genetic relation between the two, in Hh 1-2 the didactic selection made from current Sumerian legal terminology (which is also found in other school texts, viz. model contract exercises) has resulted in a radically deviating educational tool. The differences between the two are possibly due to origins in different traditions. KI.ULUDIN.BI.ŠÈ =*ana ittišu*, belonging in the Nippur tradition, may have been separately transmitted, ending in the library of Assurbanipal as traditional lore without wider educational application. The material from which Hh 1-2 originates may belong to another, North Babylonian tradition, similarly to what may be the case for the rest of the peripheral lexical tradition: predecessor texts of Hh 1-2 are found in OB Sippar and Meturan[214]. It has been suggested that another 'formula book', with a compilation somewhat similar to that of KI.ULUDIN.BI.ŠÈ=*ana ittišu*, may have been the source of Hh 1-2[215]. What is certain is that Hh 1-2 is of a younger origin, as evident in its impoverished and decaying Sumerian (e.g. plural E.MEŠ where E.NE is expected)[216].

14.4.2. Divisions 3-4

Earlier and later versions

Due to the diachronically conflated nature of the canonical version edited in MSL V-VI no reliable comparison between the Emar and 1st Millennium versions is possible. The following commentary is based on a comparison of the Emar text with the OB Nippur text as edited by Veldhuis[217] - it has been consistently referred to in the right-most reference column in Parts 1 and 2.

Diachronic development of linguistic format

The most obvious difference between the OB and Emar versions is that the former is exclusively unilingual whereas the former is found in a unilingual as well as a bilingual format. In terms of diachronic development this means that the Emar version stands half-way between the OB[218] and 1st Millennium versions. It should be noted that in the Emar corpus most text material attested for division 3 is unilingual whereas most material attested for division 4 is bilingual. Such a complementary distribution suggests that the Emar texts reflect a *transitional stage* in the development of Hh, viz. a stage at which the old unilingual format was being phased out but may still be found in certain (core) parts of the curriculum (cf. 4.4. and 11.4.).

Diachronic development of entry inventory

The entry inventory of the Emar version is considerably lenghtier than that of the OB version: the OB version omits many entries found in the Emar version whereas the Emar version rarely omits an entry found in the OB version. This is the case for the unilingual as well as the bilingual material found in Emar and therefore *not* exclusively related to linguistic format. In

[214] Ibidem, p.79 n.256.
[215] MSL 1, x.
[216] Ibidem, iii.
[217] Veldhuis, *Elementary Education*, 151-252.
[218] Cf. Cavigneaux, 'Lexikalische Listen', 626-7.

view of the fact that the 1st Millennium version of Hh, in turn, is lengthier than the Emar version (cf. the resulting development of divisional structure shown in Appendix 2 of Part 2), it may be said that the expansion of the Emar version of Hh 3-4 vis-à-vis the OB version is an effect of a wider and general *tendency to diachronic expansion*. This tendency is not only visible in Hh but can also be noticed in other lexical lists (cf. 14.11.).

Without attempting a full diachronic analysis of the phenomenon, it may be suggested that one of the possible explanation of this tendency to diachronic expansion may be the *accumulative impact of integrative methodology of ancients scholarship*. a unavoidable effect of the continuous search for multiple associations throughout successive generations of scholarship is the progressive accumulation of elaborations and interpolations. If the early lexical exercises, with a limited program involving a limited number of basic signs, may be - to a certain extent - immune to such diachronic expansion, there are no programmatic limitations to the expansion of systematically thematic series such as Hh (or systematically acrographic series such as Post-OB Izi).

Diachronic development of key-word sequence

By and large the key-word sequence found in the OB version is maintained in the Emar sequence of both the unilingual and bilingual texts as a *skeletal structure* around which extra content is accumulated. In this respect only few major deviations may be found (mainly the repetition of SNT entries 491-3 and 550 and the interpolation of SNT entries 496, 500 and 502 in the EST entry block 4312-64 as well as the lack of SNT parallels in the extensive EST entry block 4367-86). Minor sequential deviations tend to affect the sequencing *within* key-word blocks rather than the sequencing of the key-words themselves. Examples of such minor deviations may be found within the key-word clusters NIMBAR (3a117ff.), GU.ZA (3a224ff.) and IG (4001ff.). Due to the fact that no separate edition of the 1st Millennium version is available, it is impossible to determine whether the OB skeletal structure remains discernable in later texts of this part of Hh.

14.4.3. Division 8

Earlier and later versions

The following commentary is based primarily on a comparison of the Emar version of Hh 8 with the 1st Millennium version as edited in MSL VIII.1[219] and as referred to by the reference column found in Parts 1 and 2. As MSL also offers a separate edition of the forerunners, some additional remarks will be given concerning the OB version[220].

Diachronic development of linguistic format

The Emar text is found in a unilingual as well as a bilingual version whereas the 1st Millennium text is only found in a bilingual version. As OB Hh is exclusively unilingual, this puts the Emar version at a half-way point between the OB and 1st Millennium traditions. This is similar to what was found for Emar Hh 3-4. If for Hh 8 the bilingual texts from Emar and the 1st Millennium are compared to each other it is found that in the former the Akkadian equivalents are very frequently omitted, a phenomenon not encountered in the latter. Even considering the poor attestation record for many text sections, it seems that in Emar the

[219] MSL 8.1, 7-52.
[220] The OB forerunners to canonical tablet XIII are edited in MSL 8.1, 83-94.

omission of Akkadian equivalents in bilingual texts is generally most frequent in those divisions that are also attested in a different unilingual version (i.e. divisions 3, 7-9 and 16). This may be interpreted as a confirmation of the transitional stage in the diachronic development of Hh represented by the Emar corpus suggested earlier (cf. 14.2.2.). For certain divisions the older unilingual format was apparently still in use next to the new bilingual format. The unilingual format represented a more advanced stage in the curriculum and this may have motivated the apprentice scribes to already start omitting the Akkadian equivalents wherever possible in the bilingual texts.

Diachronic development of entry inventory

If the preserved material is considered representative for Emar Hh 8 as a whole, it could be said that the unilingual version often shows an inventory that is clearly more limited than that of the 1st Millennium version. While the Emar version generally maintains a very similar sequence, counting the MSL reference numbers shows that there are many omissions vis-à-vis the 1st Millennium version. E.g. in the section 8a014-43 about sixty MSL reference numbers have no Emar parallels. In the more fragmentarily preserved bilingual version this tendency is less clear. Vice versa, both the uni- and bilingual Emar versions show some expansions that have no match in the 1st Millennium version: the GUD-section in 8a102ff. and 8b009ff. and the ANŠE-section in 8b043ff. . Due to the fragmentary state of the material it is impossible to determine whether or not, on balance, the Emar version had a much smaller entry inventory than the 1st Millennium version. What is certain is that the OB Nippur version had a considerably smaller entry inventory (269 entries) than the 1st Millennium version (382 entries) and that it is quite possible that the entry inventory of the Emar version occupies a middle position between the two.

Diachronic development of key-word sequence

Similarly to what was found for Hh 3-4, in Hh 8 the key-word sequence of the OB version forms the skeletal structure around which the Emar version is built. In case of Hh 8 this *structural diachronic continuity* can also be seen to extend to the 1st Millennium version. The basic key-word sequence UDU-U_8-UZUD-MÁŠ-$SILA_4$-ZEH-GUD-ÁB-AMAR-ANŠE-EME_X/DÙR can be discerned under the OB Nippur and the LBA Emar as well as the 1st Millennium versions. All sequential deviations may be considered minor deviations *within* blocks of entries that share a common key-word. In this regard the expansion of the Emar GUD- and ANŠE-sections that are not matched in the 1st Millennium version is a *structurally unmarked* phenomenon, i.e. a phenomenon that merely reflects varying content implementations within a unvarying organizational structure.

14.4.4. Division 13

The LBA Syrian version of Hh 13

Hh 13 is the first of the divisions investigated here for which a comprehensive edition of the Ugarit material is available[221]. The Emar and Ugarit versions of Hh 13 show sufficient homogeny in their vertical organization of content to allow the reconstruction of a single, coherent composite text. Despite its fragmentary state the Emar material shows such close conformity to the Ugarit material in entry inventory and sequence that it is safe to speak of a

[221] The RS forerunner to canonical tablet XIX is edited in MSL 10, 149-53.

coherent LBA Syrian version of Hh 13. The main difference between the two corpora is that the Ugarit material is unilingual and the Emar material is bilingual.

Earlier and later versions

The following commentary is based primarily on a comparison of the Emar version of Hh 13 with the 1st Millennium version as edited in MSL X[222] and referred to by the first reference column found in Parts 1 and 2. As MSL X also offers a separate edition of the forerunners, some additional remarks will be given concerning the OB version[223].

Diachronic development of linguistic format

Like most later Hh divisions, Emar Hh 13 is found exclusively in a bilingual format. However, as the Ugarit material is unilingual, it may be said that the LBA Syrian version as a whole stands at a half-way point between the OB and 1st Millennium traditions. Apparently, the Syrian version of Hh 13 could be realized in different linguistic formats in different schools, just as the Emar version of Hh 3-4 and 8 could be realized in different formats within a single school. Whether or not such *linguistic variation* applies to the Syrian Hh corpus as a whole cannot be established until all relevant material from Ugarit is published.

Diachronic development of entry inventory

As part of the LBA Syrian version, the fragmentary Emar material is assumed to have had an entry inventory similar to that found for Ugarit. With regard to inventory size the 266 entries of the Ugarit version of Hh 13 represent a developmental half-way point between the 138 entries of the OB version and the 346 entries of the 1st Millennium version. This confirms that the wider *tendency to diachronic expansion* observed for the earlier divisions (cf. 14.4.2.) may apply to Hh as a whole.

Diachronic development of key-word sequence

The key-word sequence of the LBA Syrian version of Hh 13 may be compared to that of the OB and 1st Millennium versions through the RS references added to the respective editions in MSL X. Such a comparison appears to show significant discrepancies between the various versions when the jumble of reference numbers is considered. On closer inspection, however, it may be seen that the sequence of key-words remains the same, viz. SIKI-TÚG-GADA. The considerable deviations in the entry sequence *within* these key-word sections may be explained to their relative length. The key-word sections of Hh 13 are much longer than those found in for example Hh 8 and thus leave much more room for internal variation within these sections. This internal variation itself, however, is a *structurally unmarked* phenomenon, similar to the expansion of the Emar GUD- and ANŠE-sections found in Hh 8.

[222] MSL 10, 128-37.
[223] The OB forerunners to canonical tablet XIX are edited in MSL 10, 143-9.

14.4.5. Divisions 14-16

Comparison of the LBA Syrian versions of Hh 14-6

For Hh 14-16 a comprehensive edition of the Ugarit material is available in MSL XI but this should be used with caution for two reasons. First, the two 'Ras Shamra Recensions' it gives are actually two different parts of Hh: 'Recension A' covers Hh 16 (canonical tablets XXIb-XXII) and 'Recension B' covers Hh 14-15 (canonical tablets XX-XXIa)[224]. This means that whereas canonical tablets XX-XXII are covered by three tablets in Emar, they are covered by only two in Ugarit[225]. Second, for the latter 'recension' there is now available an expanded and improved edition[226]. In the new edition of the Emar material found in parts 1 and 2 this results in the use of different sets of references to the Ugarit parallels: the Ugarit references for Emar Hh 14-15 refer to the edition of van Soldt, whereas those for Emar Hh 16 refer to MSL XI 'Recension A'.

Comparing the Ugarit and Emar versions, some important differences can be noticed. First, as mentioned earlier, the divisional structure is different: Ugarit has a two-fold divisional structure (Hh 14+15 and 16) whereas Emar has a three-fold divisional structure (Hh 14, 15 and 16). Second, in Ugarit all divisions are attested in both uni- and bilingual format, whereas in Emar divisions 14-15 are only attested in bilingual format, even if in most text material of division 15 (and some of division 16) this bilinguality is virtual (cf. 4.4.). Third, Emar Hh 16 is attested in uni- as well as bilingual format but these different formats are linked to wholly different *versions*: not only does the entry inventory and sequence attested within specific key-word sections differ but the inventory of the key-word themselves differs (version A has an extensive ÉG-section missing in B, while B has a KUR-section lacking in A – cf. introductory notes to the composite edition of 16b). In Ugarit the situation is different: both linguistic formats found for Hh 16 reflect the same version of the text[227]. On balance it seems that, despite fairly substantial similarities in content throughout large text sections, it is not possible to speak of a single, homogeneous Syrian version of Hh 14-16.

Earlier and later versions

For Hh 14-16 editions of the canonical version can be found in MSL XI but these are largely fragmentary and their reconstructed sequence is frequently based on those of material from earlier periods[228]. Therefore for these divisions no completely reliable, systematic comparison with the 1st Millennium version is possible. The references to the canonical editions added to the Emar text in parts 1 and 2 are mainly provided as a convenience for the reader. Apart from some general remarks, the following commentary will only consider those specific features of the canonical version that are verifiably particular to the 1st Millennium period. Regarding a comparison of the Emar material with the OB materials edited in MSL XI the following commentary will only consider the Forerunner 1 from Larsa[229], which shows much more similarity to the peripheral material than the Nippur forerunner[230].

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[224] W.H. van Soldt, 'The Ugarit Version of Harra-hubullu 20-21a. A New Source' in: M. Dietrich and O. Loretz (eds.), *Mesopotamica – Ugaritica – Biblica. Festschrift für Kurt Bergerhof zur Vollendung seines 70. Lebensjahres am 7. Mai 1992* (Neukirchen 1993), 429.
[225] Ibidem, 440.
[226] Ibidem, 427-446.
[227] MSL 11, 42-49.
[228] Ibidem, 3, 8-9, 21.
[229] Ibidem, 129-36; more specific identification in van Soldt, 'Ugarit Version', 429.
[230] Van Soldt, 'Ugarit Version', 441.

Diachronic development of linguistic format

For Hh 14-15 the Emar text is only found in a bilingual version but for Hh 16 it shows a unilingual as well as a bilingual version. As OB Hh is exclusively unilingual and the 1st Millennium text is exclusively bilingual, it may be said that, in terms of linguistic format, Emar Hh 14-15 conforms to the canonical version while 16 stands at a half-way point between the OB and 1st Millennium traditions. The latter phenomenon is in line with what was found for Emar Hh 3-4 and 8 as well as for Syrian LBA Hh 13.

Diachronic development of entry inventory

With regard to Hh 14 the fragmentary state of the Emar version makes an entry count impossible but with regard to Hh 15-16 the preserved material, through projection of column length on broken sections, allows an estimate of the number of entries for the various key-word blocks. The ^{KI}-section of Hh 15 combined with that of the uni- and bilingual versions of Hh 16 must have comprised at least 200 entries and 260 entries respectively. In both versions the other shared key-word blocks, viz. ^{ÍD} and ^{MUL}, must have comprised about 70 and 30 entries respectively. For OB Forerunner 1 the entry count for the ^{KI}, ^{ÍD} and ^{MUL} sections may be estimated at approximately 200, 40 and 20 respectively. This means that, for those key-words common to OB Forerunner 1 and both Emar versions, the entry inventory shows the same *tendency to diachronic expansion* as observed or suspected for earlier divisions (cf. 14.4.2., 14.4.3. and 14.4.4.). In case of virtually bilingual Hh 15 and unilingual 16 this tendency seems to be somewhat less pronounced, implying that the unilingual version stands closer to the OB tradition than the bilingual version.

Diachronic development of key-word sequence

After the stable key-word sequence $^{A.ŠAG}{}_4$-^{KI} found in Hh 14, 15 and early 16, the rest of Hh 16 shows important differences in key-word sequence between the uni- and bilingual Emar versions. The unilingual version certainly has the sequence ^{ÍD}-ÉG-TÚL-^{MUL} (PA_5 may have been present in the broken section between TÚL and ^{MUL}, but this is not likely if it is considered that the lower part of 16aT1 VI probably had at least some ^{MUL}-entries) whereas the bilingual version has ^{KUR}-^{ÍD}-TÚL-PA_5-ÉG-^{MUL}-ÉŠ. If these two sequences are juxtaposed with the key-word sequence found in OB Forerunner 1, which has ^{ÍD}-ÉG-^{MUL}-PEŠ (i.e. omitting ÉŠ), it is clear that the unilingual Emar version is closer to that of OB Forerunner 1 than the bilingual Emar version. The former only deviates with regard to the interpolation of TÚL, whereas the latter deviates with regard to the interpolation of ^{KUR}, TÚL, PA_5 as well as ÉŠ. The impression that the two linguistic formats found in Emar effectively represent contrasting diachronic strata is reinforced by the fact that the bilingual version has a ^{KUR}-section also found in the 1st Millennium version[231] but completely lacking in both the unilingual version and OB Forerunner 1. This evidence is well in line with the diachronic position of the unilingual version suggested by the preceding analysis of linguistic format and entry inventory.

[231] MSL 11, 21.

14.5. LÚ=*ša*

Lu material in the LBA periphery

Before proceeding with a comparison of the various versions found in the LBA periphery it should be noted that, although the Emar version is undoubtedly a variant of the series Lu, its title actually deviates from that of the canonical title. The title of the canonical series is that of its first entry, which is LÚ=*ša* - in Emar this entry is shifted to the second line and replaced by the entry LÚ=*šū*. In the following commentary this difference is of minor importance as the series will be referred to by the neutral abbreviation 'Lu'. Apart from Emar, Lu texts are attested in three LBA peripheral sites, viz. Nuzi, Ugarit and Hattusha. As far as published, these are edited in MSL XII[232]. It should be noted that most of the Ugarit material remains unpublished - the only exception is a single unilingual fragment. The Nuzi and Ugarit material is unilingual but in terms of key-word inventory and sequence it largely conforms to the Emar version: the ŠÀ.TAM and DUB.SAR entries found in Nuzi and Ugarit are mostly matched in the EST section 1070-1093''. The similarity is sufficient to postulate a common Syrian Lu tradition shared by Nuzi. With regard to the Hattusha material the situation is less clear. The bilingual Hattusha texts cover a number of entries that have parallels in the later parts of canonical Lu (Lu II in the Short Version) but are very fragmentary, so that there are very few overlaps for a comparison with the also quite fragmentary Emar text. With regard to the only substantial overlap, the KAR.KID-section, the Hattusha and Emar versions show considerable deviations in entry inventory as well as sequence. Based on the presently available evidence, therefore, it is impossible to postulate a common Lu tradition for all peripheral sites.

Earlier and later versions

The Lu series is attested from the OB to the 1st Millennium period and separate editions of the attested materials for the different periods are available in MSL XII. In regard to the materials found in MSL XII two remarks should be made. First, it is important not to confuse the series Lu, i.e. LÚ=*ša*, with the series called OB Lu, i.e. ^{LÚ}ÁZLAG=*ašlāku* - the latter has thematically related content but represents a different composition that only occurs in the OB period and is therefore not found in Emar. To differentiate between the OB version of LÚ=*ša* and ^{LÚ}ÁZLAG=*ašlāku*, the former is referred to as *Proto-Lu* and the latter as *OB Lu*. Second, it should be noted that the canonical 1st Millennium version of Lu is found in two distinct versions: a Short and a Standard Recension[233] - the former is divided into two, the latter into five tablets.

Diachronic development of linguistic format

Proto-Lu is found almost exclusively in unilingual format, whereas in the 1st Millennium Lu is found exclusively in bilingual format. Despite the fact that the Syrian texts appear to share a common key-word inventory and sequence they do not show a consistently shared linguistic format: the Ugarit version is attested in both unilingual and bilingual format[234] whereas the Emar version is only attested in the bilingual format. In this regard the Emar and Hattusha versions may be said to be more 'modern' than the Ugarit version.

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[232] MSL 12, 77-84..

[233] A third version, viz. the so-called 'Long Recension', may in fact be considered as the first tablet of the Standard Recension (the first tablet listed for the Standard Recension itself actually belongs to the Short Recension) - cf. MSl 12, 89.

[234] Van Soldt, 'Babylonian Texts', 203-4.

Diachronic development of entry inventory

With regard to entry inventory it may be observed that the Emar version of Lu shows a considerable expansion in comparison to Proto-Lu. In Emar the total number of entries must have been around 1100 (about 75 lines per column multiplied by eight respectively seven-and-a-half columns on the first and second tablets), whereas in Proto-Lu this number is just under 850. Proto-Lu is found as a single-tablet composition, whereas Emar Lu is found on two tablets. This means that, for the Emar version of Lu, the entry inventory shows the same *tendency to diachronic expansion* as observed in Hh (14.4.2., 14.4.3., 14.4.4.). It should be noted that although the two-tablet structure is also found in the Short Recension of the canonical version this does *not* necessarily imply that Emar Lu necessarily conforms to the Short Recension with regard to either entry inventory or key-word sequence. In fact, in terms of entry inventory size the Emar version is much closer to the Standard Version than to the Short Version[235].

Diachronic development of key-word sequence

In terms of key-word sequence the Emar version quite closely adheres to Proto-Lu; the main difference between the two is that the former shows frequent expansions within key-word sections and some interpolations between them. The only part of Emar Lu that shows a key-word sequence somewhat similar to that found in the 1st Millennium version is the section EST 1001-1110 and this is only due to the fact that, exceptionally, this section of Lu is transmitted from Proto-Lu to canonical Lu (I) in a fairly stable form. On balance, it may be said that in terms of key-word sequence Emar Lu is closer to Proto-Lu than to canonical Lu.

14.6. IZI=*išātu*

Comparison of the LBA peripheral versions of Izi

Apart from Emar, Izi texts are attested in two other LBA peripheral sites, viz. Ugarit and Hattusha. As far as published, these are edited in MSL XIII[236]. It should be noted that most of the Ugarit material remains unpublished - the only exception is a single unilingual text which has a short version of OB Proto-Izi II. The Emar material shares only a few individual key-sign sections (Á and ZAG) with Proto-Izi II and this Ugarit text and these sections are found in a deviating sequence. It is therefore certain that there is no common Syrian Izi version. With regard to the Hattusha version, however, a number of fragments of Emar Izi show some parallel content. In fact, for much of Emar Izi the only substantial parallels available are those found in Hattusha. The specific parallels in question are discussed in more detail in the introductory notes preceding the composite edition. Due to large gaps in the attestation record for both sites it is impossible, at this stage, to say whether the Emar and Hattusha Izi fragments reflect a common version, but this is certainly not inconceivable.

[235] Cf. MSL 12, 89 Table II.
[236] MSL 13, 125-47.

Earlier and later versions

The Izi series is attested from the OB to the 1st Millennium period and separate editions of the attested materials for the different periods are available in MSL XIII[237]. With regard to the rather badly preserved canonical version three remarks should be made. First, it should be noted that it includes some materials from before the 'canonical' 1st Millennium period: Tablets I and XV contain some (Late) OB Sippar texts whereas Tablets G and M contain some MA texts. Second, among the the 1st Millennium (NA) texts there appear to be two versions[238]. There is a 'short version', which actually constitutes an extended version of Proto-Izi (Tablets H and J match Proto-Izi I whereas Tablets Q and R match Proto-Izi II) and which, hypothetically, may have had four tablets. There is also a 'long version', which in terms of sequence has little common ground with Proto-Izi but shows an exponential quantitative expansion both in terms of key-signs and Akkadian equivalents - this 'long version' seems to have included at least sixteen tablets. Third, in its canonical version Izi contains much content which in earlier periods is found in other series (e.g. Tablet F has the key-signs GÚ and KA, which in the OB period are found in Kagal and Sag).

For a comparison of Emar version of Izi with the 1st Millennium version there two main methodological problems. The first problem is that of the diachronic transformation of Izi, which involves its complete redefinition. In the OB curriculum the Proto-Izi series is limited in scope (two tablets) and shows a mixed thematic-acrographic organization[239], whereas the long canonical version is of encyclopaedic proportions and tends to a systematically acrographic organization[240]. This transformation includes the progressive absorption of material previously covered in smaller, separate series, leading to the complete disappearance of series such as Kagal, Sag and Nigga (cf. 11.4.). Effectively, this implies that a comparison of OB or LBA Izi with 1st Millennium Izi constitutes a comparison of two very different compositions, which may indeed have served very different purposes. The second problem is that, in any case, the fragmentary state of the Emar as well as the canonical material implies that no complete or fully systematic comparison of Emar and 1st Millennium versions is possible. Due to these methodological limitations the following remarks must be - at least as far as the 1st Millennium comparison is concerned - of a provisional nature.

Diachronic development of linguistic format

In contrast to some other advanced series, such as OB Lu and Diri, Izi is only very rarely found in the bilingual format during the OB period[241]. On the other side of the diachronic spectrum, canonical Izi is found exclusively in the bilingual format. From this perspective it is important to note the difference within the LBA periphery between Ugarit on the one hand and Emar-Hattusha on the other hand. The single published Ugarit Izi text adheres closely to its forerunner, OB Proto-Izi, with regard to content (key-sign inventory and sequence) as well as linguistic format (unilingual text). Even if some of the other (unpublished) Ugarit material is bilingual[242], the mixture between uni- and bilingual texts still clearly contrasts with the

[237] MSL 13 gives the OB (Proto-Izi), LBA (pre-canonical and peripheral) and 1st Millennium (canonical) versions on pp. 8-59, 125-47 and 154-226 respectively.
[238] Cf. MSL 13, 154-5.
[239] Ibidem, 7.
[240] Ibidem, 154-5.
[241] Ibidem, 10.
[242] Van Soldt, 'Babylonian Texts', 204-5.

Emar and Hattusha texts: these not only abandoned the OB inventory and sequence but also *consistently* show a bilingual format.

Diachronic development of entry inventory

As mentioned above OB Proto-Izi is a list of limited length (two tablets) in comparison with which canonical Izi shows exponential growth. This growth is visible in terms of key-sign inventory as well as in terms of the number of Akkadian equivalent given per key-signs. The former is visible in the absorption of many key-signs previously found in Kagal, Sag and Nigga, whereas the latter is visible by noting the lengthening of entry-blocks for individual key-signs. In this regard the Emar and Hattusha material may be said to show a clear tendency to develop in the direction of the canonical version. An example of the inclusion of material from another series in Emar is found in the key-sign GÚ (2A003-12), which in the OB period is found in Kagal. An example of the lengthening of entry-blocks for individual key-signs in Emar is found in the entry-block for ZAG (2A013), which in Proto-Izi has four entries[243] but in Emar has at least nine entries. In the canonical version the *tendency to diachronic expansion*, also found for other series (14.4.2., 14.4.4., 14.4.5., 14.5.), is more pronounced, but it is clear that Emar and Hattusha Izi already show this phenomenon. In this respect, the published unilingual version Ugarit Izi seems to point to a divergent transmission chronology but it should be noted that the situation may be different with regard to the unpublished bilingual bilingual version.

Diachronic development of key-sign sequence

As in the case of entry inventory discussed above, there is a clear opposition between the Ugarit and Emar-Hattusha Izi series in terms of key-sign sequence. Whereas the Ugarit version conforms largely to the Proto-Izi sequence, the versions from Emar and Hattusha show significant deviations. As far as can be made out from the fragmentary evidence, the key-sign sequences of Emar and Hattusha show some similarity (e.g. the order GÚ-Á and the proximity of BAD and MUD). Unfortunately, the equally fragmentary state of the canonical material does not allow a detailed study of the later development of Izi. Due to the fact, however, that in Emar and Hattusha (parts of) the older lists Kagal, Sag and Nigga survive as independent compositions, it is clear that the process causing the transformation of Proto-Izi into canonical Izi, with its full absorption of these older lists, is not yet complete. As the transformation of Proto-Izi into canonical Izi also predates the full acrographic systematization characteristic of the canonical series (Emar Izi still shows a mixed-stepped vertical organization of content - cf. 6.3.), Emar (and Hattusha) Izi may be said to show an *early stage* of the transformative process through which Proto-Izi became canonical Izi. A comparison of the original OB list with one of the earliest versions of the transformed list, viz. the LBA Hattusha version, may give some insight into the early triggering mechanism of this transformation.

Diachronic transformation of Izi

At its early stage, the transformative process is primarily characterized by growth in entry-inventory and rearrangement of the key-sign sequence. In the LBA version no programmatic elimination of the other acrographic series is visible. In other words, even if canonical Izi eventually did absorb many other series, that phenomenon is likely to be a non-programmatic

[243] MSL 13, 48.

side-effect of another transformative mechanism. In this respect the most obvious lead is provided by the clear rearrangement of the key-sign sequence. If the longest preserved sequence of LBA Hattusha is compared to that of Proto-Izi it is seen that the former is a complete rearrangement of the latter (Table 30).

Table 30. The sequence of the LBA Hattusha Izi Tablet A key-signs in OB Proto-Izi

Key-sign [] gap or unclear	**AbZ number** palaeography pp.5-35	**Position in Hattusha Izi Tablet A** MSL XIII pp.132-43	**Position in unilingual OB Proto-Izi** MSL XIII I: pp. 17-34; II: pp. 41-59
Á	334	11-84	II 1-101
GÚ	106	85-183	not found (Kagal key-sign)
SI	112	184-201	I 525-531
[]	[]	[202-227]	[]
NÍG	597	228-234	not found (Nigga key-sign)
[]	[]	[235-238]	[]
ZAG	332	239-257	II 259-275
DA	335	258-272	II 102-107
ŠE	367	273-276	II 161-168
[]	[]	[277-296]	[]
DAG / KIB	280 / 228	297-307 / 308	I 142-154 / not found
MÁŠ	076	309-318	II 344-348

If the key-sign transitions preserved in Hattusha (Á>GÚ, GÚ>SI etc.) are analyzed it is found that in almost all cases there is a close graphic association between the key-signs involved. Á and GÚ share the HI-element, GÚ and SI share two uneven horizontals, ZAG and DA share three horizontals whereas in their older form DAG, KIB and MÁŠ share two slanted wedges in their final sections (cf. AbZ palaeography). This clearly shows that the Hattusha version shows an increased *acrographic systematization* in comparison to OB Proto-Izi. Only in case of the transition DA>ŠE the key-sign transition is not characterized by graphic but by semantic association: DA(.RÍ.AN.ŠUB) is associated with ŠE(.BE.DA) over *patālu* 'to twist; wind'. This exception implies that the process of acrographic systematization is not yet completely dominant in guiding the key-sign sequence in Hattusha Izi.

The analysis of the preserved Emar key-sign transitions (6.3. Table 15) has shown that in Emar semantic association seems to be more frequent than in Hattusha (note, however, that the available samples for both sites are quite narrow). If this is so, this may indicate a slight difference between the Emar and Hattusha versions in terms of the developmental stage of Izi in the two sites: the Emar version may be slightly less advanced in terms of acrographic systematization. Such a slightly more conservative form would not be surprising if it is considered that the Emar school also retains at least one older series that is completely omitted in the Hattusha curriculum, viz. Nigga (the same may also be the case for the Sag series).

Modular structure of the 'acrographic' series

The diachronic transformation of Izi clearly shows that individual key-sign blocks found in Izi and the other 'acrographic' series were treated as autonomous 'modules': they could be rearranged within a series or transferred between series as the need was felt. For Izi this meant that, in its later versions, 'modules' from other series were increasingly added to its original OB inventory. In the discussion of the other 'acrographic' series it will be seen that, due to various factors, there also was a constant reshuffling (addition, omission and transferral) of 'modules' in the other series. These factors include the introduction of the bilingual format, the general tendency to diachronic growth and different types of associative systematization. The mixed-stepped organization on the key-sign organizational level (i.e. level 2 of the vertical organization of content) found in the advanced series (cf. 11.3) meant that these series intrinsically encouraged a 'modular' approach to key-signs, i.e. they invited investigation of there various potential associations. Taken in conjunction with the above mentioned factors this intrinsic feature resulted in a rather loose, diachronically manipulatable *modular structure*.

Modular structure and the transformation of the advanced curriculum

Eventually, this modular structure was responsible for the abandonment of the traditional-conventional definition of most series originally found in the OB advanced curriculum. Izi absorbed the smaller 'acrographic' series and was transformed into an nearly fully acrographic series. Due to its special status, the only other OB advanced series to survive into the canonical lexical corpus was Diri (cf. 11.4.). Lu, originally narrowly related to Izi, was also involved in this redefinition progress as it was progressively consolidated into a almost fully thematic series, loosing its Izi-type interpolations[244].

Effectively, it may be said that the combination of mixed-stepped (level 2) and the traditional-conventional (level 4) organization of content found in many advanced series proved untenable on the long run. Their traditional-conventional organization form was eliminated - or rather made unrecognizable and irrelevant - by accumulated shifts in a modular structure that was empirically an essential feature of the mixed-stepped organization form. Simultaneously, in the remaining series, single-association organization forms (acrographic in case of Izi, semantic in case of Lu) superseded the mixed-stepped organization form in which they had previously coexisted (cf. 11.2.1.). In the long run, the traditional-conventional organization form on level 4 proved diachronically resilient only for two types of lexical compositional. The first type includes series in which traditional-conventional organization on level 4 was linked to single-associative organization on level 2 (semantic association in case of G, Hh and Lu and acrographic association in case or canonical Izi). The second type includes a few series which had a functionally (didactically) irreplaceable original key-sign inventory (Sa and Diri).

[244] Cf. MSL 12, 87.

14.7. KÁ.GAL=*abullu*

Kagal material in the LBA periphery

In the absence of conclusive evidence for Ugarit, the only certain attestations of Kagal in the LBA periphery (excluding Assur) are found in Hattusha. Hattusha Kagal is edited in MSL XIII[245]. Aside from some Sag-material, which may have been part of Kagal (as is the case in the parallel MA corpus - cf. 14.8.), the Hattusha corpus includes fragments with the key-signs KÁ-GAL, KISAL, KÁ and É. It should be noted that at least one key-sign found in OB Kagal[246], viz. GÚ, in Hattusha is not found in Kagal but in Izi[247]. This is similar to the situation in Emar (cf. Izi EST 2A003-12) and shows that Hattusha and Emar show some shared developments in their advanced curricula. For the existence of the Kagal series in Emar, however, no conclusive evidence is available. The only Emar text fragment that can not be classified as part of another series is 576, which shows a series of entries with the shared key-sign IM. For this key-sign, however, there is no parallel in Hattusha Kagal or any other Hattusha series. The question that should be answered is whether the key-sign IM necessarily represents Kagal content.

Outside the Emar corpus the only attested parallel for an acrographic list with key-sign IM is found in OB Nippur, presumably preceding material with Sag-type content (cf. 14.8.). In MSL XIII this material was classified as an 'unlabeled acrographic list' and described as part of Kagal (Kagal Tablet D)[248] on the basis of the fact that in the MA corpus Sag-material is listed as belonging Kagal. It is impossible to ascertain whether the classification 'Kagal' for either the Sag-material or the associated IM-material may be projected on either the OB Nippur source in question or on Emar text 576. The only thing that is certain is that, according to formal and organizational criteria, the Emar IM-section does not belong to either Sag, Nigga or Diri (cf. 7.1-2.). According to the same criteria, it could theoretically have belonged to Izi, but for lack of more conclusive evidence, it is convenient to keep the present classification.

The fact that individual key-sign blocks can be shown to be attachable or detachable in the 'acrographic' series (e.g. causing Sag to be merged into Kagal in Assur), or even exchangeable between them (e.g. causing GÚ to appear in Kagal Hattusha), is further prove of their postulated *modular structure* (cf. 14.6., 14.8., 14.9.).

Earlier and later versions

The series Kagal is only attested in the OB and LBA periods and most relevant material has been edited in MSL XIII[249]. With regard to this edition two remarks should be made. First, the so-called 'canonical' version in fact refers to a mixture of OB and LBA texts (the latter are found in Assur in Hattusha). Of these texts only those edited under Tablets A-D and H actually contain material that has been dated later than the OB period. Second, not all 'canonical' material has been identified as belonging to Kagal with certainty, this is especially so for the so-called 'unlabelled acrographic lists' (Tablets D, F-H). Like some other

[245] MSL 13, 148-53, now add G. Wilhelm, 'Die zweite tafel der Serie Kagal in Hattusa', *ZA* 79 (1989) 73-9.
[246] 'Canonical' Kagal Tablet I in MSL 13, 227-31. The key-sign GÚ is found in entries 362-85.
[247] Izi Boghazköy Tablet A in MSL 13, 132-43. The key-sign GÚ is found in entries 85-183.
[248] MSL 13, 124.
[249] Now add Wilhelm, 'Kagal Hattusa'.

'acrographic' series, Kagal completely disappears after the LBA period: it is not found in a 'canonical' 1st Millennium version.

Diachronic development of linguistic format

OB Kagal is found in uni- as well as bilingual format - in this respect bilingual Emar fragment 576 conforms to the parallel Assur. It should be noted that for Hattusha Kagal both uni- and bilingual material is attested.

Diachronic development of entry inventory and key-sign sequence

The evidence of fragment 576, which only preserves part of the entries for one single key-sign, is not sufficient to allow for conclusions regarding either the quantitative or sequential aspect of the key-signs of whatever series it belonged to.

14.8. SAĜ B

Definition of Sag

In order to study the diachronic position of the Emar SagB material it is first necessary to define the series Sag in relation to the other lexical series. This issue is addressed in the introduction of MSL SS 1: there it is shown that in the OB and LBA periods lexical material with Sag-content was integrated into larger advanced compositions, which include the 'acrographic' series as well as Proto-Lu[250]. In at least one instance Sag-content was classified by the ancient scribes as belonging to the larger series known as Kagal[251]. Effectively, larger advanced compositions appear to have been sub-divisible into shorter independent series - one such independent series is the 'Sag series'. This *modular structure* wa also found in other OB and LBA advanced series and represents a general feature of all 'acrographic' series as well as (Proto-)Lu (cf. 14.6., 14.7. and 14.9.).

In the OB corpus there are four tablets where Sag-content appears *together* with other lexical material: a bilingual tablet, where Sag-content occurs in conjunction with the key-sign IM[252], and three unilingual tablets, where it occurs following OB LuD[253]. There is, however, a fifth, bilingual OB tablet on which the Sag series appears *independently*[254] - this is the recension commonly referred to as SagA. On some tablets the evidence for the key-sign sequence is limited but not incompatible with that found on the others, viz. SAG-KA-compounds-IGI, which may be followed by $ŠAG_4$. It should be noted that there is no evidence that the OB Sag-material, whether it occurs within larger compositions or independently, was ever classified by the ancient scribes as belonging to Kagal.

The LBA Sag material may be divided into two corpora. First, there is the Sag-content found in 'canonical' Kagal 'Tablet B'[255]. With regard to this material it should be noted that the term 'canonical Kagal' used in MSL is somewhat misleading: Kagal disappears as an

[250] MSL SS 1, 3. The association between Proto-Lu and the 'acrographic' series, including Sag, is discussed by Veldhuis, 'Proto-Kagal/Nigga', 209.
[251] MSL 13, 233-4 colophon of 'canonical' Kagal Tablet B in source C.
[252] Ibidem, 243-7 'canonical' Kagal 'Tablet D' source A.
[253] MSL SS 1, 7ff. Proto-Sag sources A-C.
[254] Ibidem, 17ff. SagA source YBC 9868.
[255] MSL 13, 233-7.

independent series before the 'canonical' 1st Millennium period[256]. All texts collected under the heading 'canonical Kagal' date from the OB and LBA periods and their only common feature is that they are bilingual versions of the series. 'Canonical' Tablet B is, in fact, a collection of MA texts from different tablets[257] and will henceforth be referred to as such. Second, there is the peripheral material, which is found in two sites: Emar and Hattusha. In the Emar version it shows the sequence SAG-DÙL-KA-compounds and it is this recension that is commonly referred to as SagB. Before proceeding to the diachronic comparison, the relation of the Emar version to the other peripheral material as well as to MA Kagal 'Tablet B' will be briefly touched upon below.

It will be noticed that the differentiation between the recensions A and B found in MSL SS 1 is meant to refer to two different forms of the bilingual text. Effectively, however, it refers to texts from two different periods, viz. the OB and MB periods respectively. Differences in content should be viewed in relation to diachronic development and therefore it would be more accurate to use the terms *OB Sag* and *LBA Sag* - the former can occur either in unilingual ('Proto-Sag') or in bilingual form. As observed earlier, both OB and LBA Sag could occur either as part of larger 'acrographic' compositions or as an independent series.

Sag material in the LBA periphery

Except for Emar the only other LBA peripheral site where *Sag-type* material may be found is Hattusha - a listing of the relevant fragments found in Hattusha may be found in MSL SS 1[258]. Note that three of these fragments are edited in MSL XIII[259], where they were originally classified as belonging to Kagal. In fact, due to its fragmentary state it is at present not clear whether the Hattusha material belongs to a separate Sag series or whether it is indeed part of any larger lexical composition. Considering that other Kagal material is attested in Hattusha, the main argument for classifying the Hattusha Sag-material as belonging to Kagal would be that this conforms to the classification of Sag-material in the parallel MA corpus. It should be noted, however, that such classification does not account either for the different chronological strata to which the Assur and Hattusha corpora belong or for the different strata attested within the Hattusha corpus.

Due to the fragmentary state of the material it is impossible to determine what was the key-sign sequence of the Hattusha text. A more detailed comparison with the Emar version shows that in terms of the entry sequences *within* key-sign blocks there are considerable deviations between the Emar and Hattusha material. Even if many individual entries may be found in both versions (e.g. Hattusha Fragment A 1'-10' has parallels for EST 001b-e and g-h), their sequences never consistently match (e.g. in Hattusha Fragment B lines 2', 3', 4' and 5' have differently sequenced parallels in Emar, viz. EST 055, 057, 058 and 007 respectively).

Although it is theoretically possible that in Hattusha too Sag was an independent series Sag, possibly even sharing its key-sign sequence with the OB or Emar version, the attested deviations between the Hattusha and Emar versions suggest that there certainly was no fully unified LBA peripheral version of Sag.

[256] Ibidem, 227.
[257] Ibidem, 233-4.
[258] MSL SS 1, 36-8.
[259] MSL 13, 243ff. sections 4, 10 and 12; corrections and addenda in MSL SS 1, 36.

Comparison of the LBA peripheral and MA versions

It should be reiterated that the MA materials presented as 'Tablet B' in MSL XIII are, in fact, a collection of fragments of different tablets[260]. The heterogeneous nature of this material and the fact that all of the fragments only preserve text with a single key-sign (SAG) makes a systematic structural comparison of the peripheral and MA versions impossible. Only two observations can be made. First, there is evidence that, although the MA Sag-material was considered part of the Kagal series[261], it was given on a *separate tablet*: source A of 'Tablet B' gives a piece of the first column of a tablet[262]. In the MA curriculum the Sag-material thus appears to have been treated as a separate division within Kagal. Second, in terms of the entry sequences *within* key-sign blocks there are considerable deviations between both peripheral versions and the MA version. A number of individual entries are shared (e.g. SAG-LI-TAR = EST 028, Hattusha Section 12 1'-2', MA 'Tablet B' 302-4), but for none of these the sequential context is the same.

Earlier and later versions

As a distinct compositional unit the Sag series is only found in the OB and LBA periods and its various attestations in both periods has been discussed already. Comparison of the Emar version with the OB version is possible on the basis of the MSL SS 1 edition, which gives the unilingual OB material as 'Proto-Sag' and the bilingual OB material as 'SagA'.

In later periods the content of Sag is absorbed into Izi - a similar phenomenon may be observed with regard to other small 'acrographic' series. This wider process, resulting in the transformation of Izi as well as the complete disappearance of these older series, including Sag, has been commented upon in paragraph 14.6. .

Diachronic development of linguistic format

The OB Sag-material is found in both uni- and bilingual format. It should be noted that combinations of Sag-material with OB LuD are only attested in the unilingual texts. The only OB *bilingual* text that explicitly shows a combination of Sag-material with other lexical material on a single tablet is source A of the so-called 'Canonical Kagal Tablet D'. In source A, however, Sag-material does not occur together with OB LuD, but with an IM-section[263]. If this phenomenon is linked to the fact that all later Sag-material is multilingual and is given, as far as can be observed, either as an independent series or as a separate division within Kagal, it may be suggested that for Sag the shift from uni- to multilingual format coincides with the development of Sag into an independent series. It seems that at approximately the same time that the bilingual format was introduced in the Late OB period, the 'acrographic' material became separated from OB LuD, which it had previously followed. In the OB bilingual texts the SAG and KA logograms are still linked to some other 'acrographic' material (i.e. the IM-section in source A and the IGI-section in SagA), but no longer to Proto-Lu. It is only in the LBA texts that the Sag-text occurs completely independently, i.e. in Emar SagB and, most likely, MA Kagal 'Tablet B'. Given the modular structure of the larger 'acrographic' series, to

[260] MSL 13, 233-4.
[261] Ibidem, 233-4 colophon of 'canonical' Kagal Tablet B in source C.
[262] Ibidem, 233.
[263] Note that if the IM-section is assumed to *follow* the Sag-material, as assumed in the original publication (E. Chiera, *Sumerian Lexical Texts from the Temple School of Nippur* (Chicago 1929) text 248 p. 124), its presence may be explained as a graphically associated expansion of the Sag-list, viz. KAxIM > IM.

which the Sag originally belonged, the combination of the introduction of the bilingual format and the general tendency to diachronic expansion (see below) produced the independent Sag series.

Diachronic development of entry inventory

With regard to entry inventory it has already been observed in earlier literature[264] that Sag shows a similar *tendency to diachronic expansion* as found for some of the other series discussed earlier: the number of Akkadian equivalents given for each logogram tends to increase.

This tendency to diachronic expansion is only one of the factors contributing the lengthening of series such as Sag. The lengthening of the series is a different, albeit related, phenomenon. In this regard two processes should be distinguished. On the hand, there is the increase in the horizontal length of each entry due to the *introduction of the bilingual format*. This means that less key-signs can be covered on a single tablet: Proto-Sag has SAG-KA-IGI-ŠAG$_4$ whereas SagA only has SAG-KA-IGI. On the other hand there is the *tendency to diachronic expansion*, i.e. the expansion of the number of entries per key-sign: this shortens the number of key-signs covered even further: LBA SagB only has the key-signs SAG and KA left.

Diachronic development of key-sign sequence

If the the KA-compounds are considered variants of the KA key-sign, then Emar SagB only contains three key-signs, given in the order SAG-DÙL-KA. Within the KA key-sign block a number of variant readings (KÌRI, ZÚ, INIM, GÙ, DUG$_4$) and compound variants (xME, xNUN, xSA, xGÁ, xIM, xLI) are given, but this does not affect the larger key-sign sequence itself. If DÙL, read KÚŠ(.Ù), is considered a graphic and phonetic variant of OB KIŠI$_4$ (Proto-Sag VIII 23' and SagA II 28[265]), then this sequence may be said to faithfully mirror the OB sequence. Due to the fragmentary state of the relevant material it is not possible to say whether this *diachronic stability* also applies to the MA version.

14.9. NÍĜ.GA=*makkūru*

Definition of Nigga

In order to study the diachronic position of the Emar Nigga material it is first necessary to define the series Nigga in relation to the other lexical series. Despite the fact that Nigga is clearly attested as an independent series in the OB period, and now in LBA Emar as well (cf. 9.0.), more generally its independence and relation to the other acrographic may be described as problematic issues. In the OB and LBA periods Nigga-type material is also frequently found as part of larger 'acrographic' compositions, variously classified as either Kagal or Izi[266]. This implies that the *modular structure* earlier observed for Lu, Izi and SagB also applies to Nigga, confirming that it is indeed a general OB and LBA feature of the 'acrographic' series as well as (Proto-)Lu. Later on, in the 1st Millennium period, the distinction between various smaller 'acrographic' series is completely lost: Kagal, Sag and Nigga completely disappear and most of their content is absorbed into and spread throughout the exponentially expanded canonical series Izi.

[264] MSL SS 1, 5.
[265] Ibidem, 8 and 20 respectively.
[266] Cf. Veldhuis, 'Proto-Kagal/Nigga', 211ff.

In order to determine the status of Nigga in a given corpus, such as that of the various LBA peripheral sites discussed next, it is useful to investigate all *Nigga-type material*, regardless of what series it occurs in. Here, Nigga-type material will be defined as text material that covers those key-signs that are found in the independent OB series Nigga, viz. NÍG, ŠU, SA, BAL, GÚ and KI (the last key-sign is only found in the unilingual version)[267].

Nigga-type material in the LBA periphery

Except for Emar, *Nigga-type* material is attested in two other peripheral sites: Ugarit and Hattusha[268]. For Ugarit the relevant material, viz. one single text in the Rap'ānu archive[269], remains unpublished and therefore can not be evaluated. For Hattusha some Nigga-type material is found embedded in texts that have been classified as belonging to either Izi or Kagal. The relevant Hattusha Izi material includes Tablet A, which has GÚ and NÍG sections, and Tablet D, which preserves a BAL-section[270]. The relevant Hattusha Kagal material is found in Kagal II, which has a GÚ-section[271]. The fact that in Hattusha all Nigga-type material consistently occurs directly embedded in non-Nigga contexts (i.e. mixed among key-signs not found in OB Nigga) clearly shows that in Hattusha Nigga does not occur as an independent series. This implies that, with regard to the 'acrographic' part of the curriculum, the Emar and Hattusha lexical traditions are significantly different.

Earlier and later versions

As stated earlier, Nigga has disappeared as an independent series in the 1st Millennium curriculum. In fact, the Emar text represents the last attestation of Nigga as a separate compositional unit. Regarding the earlier versions it should be noted that when Nigga appears as a separate series in the OB period, it may be found in a unilingual as well as bilingual version. The bilingual version maintains nearly the same key-sign sequence as the unilingual version. It only omits the final KI-section, which it replaces by a section with a number of longer phrases but without a shared key-sign. Comparison of the Emar version with the OB version is possible on the basis of its full edition in MSL XIII edition.

In later periods the content of Nigga is absorbed into Izi - a similar phenomenon may be observed with regard to other small 'acrographic' series. This wider process, resulting in the complete disappearance of these older series, including Nigga, has been commented upon in paragraph 14.6. .

Diachronic development of linguistic format

The OB Nigga texts are found in both uni- and bilingual format whereas the LBA texts are only found in the bilingual format. Unlike Sag, Nigga is already attested as an independent series before the introduction of the bilingual format in the Late OB period. More generally, this confirms that the postulated *modular structure* of the 'acrographic' series is not historically conditioned (i.e. related to the introduction of the bilingual format), but that it represents a general organizational feature related to content. In case of Sag it was seen that,

[267] MSL 13, 96ff.
[268] A detailed listing with references is given by Veldhuis, 'Proto-Kagal/Nigga', 212.
[269] RS 20.221 listed by van Soldt, 'Babylonian Texts', 205.
[270] MSL 13, 132ff.
[271] Wilhelm, 'Kagal Hattusa', 74.

given the background of this modular structure, the introduction of the bilingual format and the general tendency to diachronic expansion triggered the development of an independent Sag series. In case of Nigga its modular structure meant that already in the Early OB period the same material could be presented in two different ways, viz. integrated into Kagal (source BM 54712[272]) or given separately (sources given in MSL XIII, 91ff.), quite independently from linguistic format. In other words, whereas the linguistic format of 'acrographic' series such as Nigga is a distinctive feature for a diachronic comparison covering the OB and LBA periods, their modular structure is not.

Diachronic development of entry inventory

Considering that in all Nigga texts attested for the OB period, regardless of their compositional independence or their linguistic format, multiple key-sign blocks are fitted on a single tablet, it is remarkable that the Emar text fills a whole tablet with just one key-sign (NÍG). In the uni- and bilingual OB versions have 155 and 119 entries with a NÍG key-sign respectively - for Emar a conservative estimate (four columns with 50 entries each) would put this number at about 200. Thus, Nigga shows a similar *tendency to diachronic expansion* as found for many of the other series discussed earlier: the number of Akkadian equivalents given for each logogram tends to increase with time.

Diachronic development of key-sign sequence

As noted above, in Emar the entire text of Nigga has only a single key-sign, viz. NÍG. Earlier it was said that the possibility of the existence of other Nigga tablets, covering the other key-signs, can not be ruled out (9.2.2.). It is possible that in Emar Nigga had multiple divisions and that the other divisions are lost. However, as some of the other key-signs found in OB Nigga are extensively covered in Emar Izi, it seems more likely that in Emar the Nigga series was limited to one single tablet. Apparently, the other Nigga key-signs were reassigned to other series (cf. 9.0.). This would imply that in the 'acrographic' series sub-divisibility, characteristic of their modular structure, extended all the way down to level 2 of the vertical organization unit, i.e. to single key-sign blocks.

It seems that in the OB and LBA periods there was a certain liberty with which individual key-sign blocks were treated within the 'acrographic' curriculum. Within certain limits, such blocks could be combined or separated into larger or smaller series. In case of the Nigga key-signs this liberty was taken to great lenghts. In the Early OB period all modules may be found together (OB Nigga) as well as separated and mixed with others (the 'Proto-Kagal/Nigga' combination), whereas in the Late OB period the last module (key-sign) is replaced by another. In the LBA period a further mixing variant, involving Izi as well as Kagal material, is found in Hattusha whereas in Emar the sub-divisibility of the original Nigga key-sign sequence is taken to its very extreme, leaving only one module (the NÍG key-sign). This compositional liberty should be primarily defined as a diachronic phenomenon - there is no proof that it caused the same content to be covered by multiple, synchronically diverging texts within a single school at any given time[273]. Its consistent recurrence throughout a long period, however, indicates that a modular-structural conception of much of the advanced lexical curriculum persisted from the OB to the LBA period.

[272] Edition by Veldhuis, 'Proto-Kagal/Nigga', 201-5.

[273] In this regard it should be noted that the apparent occurrences in Hattusha of GÚ-sections in both Kagal (C) and Izi (A) actually reflect divergent compositional strata, as determined by palaeographic criteria (Scheucher – personal communication).

14.10. DIRI=*watru*

The LBA peripheral versions of Diri

MSL XV provides complete editions of all Diri versions found in the LBA periphery, including that found in Emar. Its edition of the Emar material has been updated in parts 1 and 2 of *The Emar Lexical Texts*, which offer some additions and changes (cf. *inventory and concordance* preceding the text edition in Part 1). The other LBA peripheral sites for which Diri material has been attested are Ugarit, Hattusha and Akhetaten. It is likely that the Ugarit version originally consisted of four tablets but only (parts of the first) three of these can be reconstructed with certainty[274]. As far as possible, systematic references to the Ugarit version are given in the composite edition of Diri in Part 2. For the other sites the fragmentary state of the material does not allow a comprehensive reconstruction of its divisional structure. What can be observed, however, is that many key-signs are shared and that such key-signs frequently show fairly similar numbers of equivalents (e.g. $KAŠ_4$-$KAŠ_4$ is attested in Ugarit, Emar, Hattusha and Akhetaten with 4, 7, 6 and 6 entries respectively[275]). This suggests that the total length of Diri in the various peripheral sites was quite similar.

The material from Ugarit is fairly well preserved but the fragmentary state of Diri in the other sites means that no comprehensive comparison of the various corpora is possible. What can be gathered from the fragmentary evidence, however, is that a standard version of Diri can be found neither in the periphery as a whole nor in Syria alone. Emar logogram sequences are found reversed or repositioned in Ugarit (e.g. the Emar sequence 012/3 IGI-DUB/IGI-UR is found split and reversed in Ugarit entries 1410 and 1354). Neither do Akkadian equivalents for specific logograms in Emar necessarily match those of Ugarit (e.g. of the seven Emar equivalents for DU-*š*-DU-*š* only one is matched in Ugarit). A similar situation can be observed if the Emar material is compared with that of Hattusha (e.g. in Emar LAGAB-LAGAB is preceded by IGI-UR, whereas in Hattusha it is preceded by TAK_4-TAK_4) and Akhetaten (e.g. in Emar AMAR-AMAR is followed by KU_7-KU_7, whereas in Akhetaten it is followed by DU-DU). It is clearly impossible to speak of a single, coherent LBA peripheral version of Diri[276]. The Emar version, therefore, will have to be compared with earlier and later versions on its own merits.

Earlier and later versions

Diri is attested from the OB period to the 1st Millennium and MSL XV offers mostly separate editions of the material from various periods, allowing proper comparison of the Emar version with earlier and later versions. The only caveat to be made is that the edition canonical version actually partially represents a conflation of MA and NA/NB materials[277]. It should be noted that the introduction to MSL XV offers some observations on the diachronic development of the series that already partially cover the ground to be covered by this paragraph[278].

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[274] MSL 15, 5.
[275] Ugarit 2105-8 (MSL 15, 77), Emar EST 033, Boghazköy 3:06-10 (MSL 15, 91), El-Amarna 1.3.03-8 (MSL 15, 100).
[276] Cf. MSL 15, 5.
[277] Ibidem, 6.
[278] Ibidem, 4-6.

Before proceeding to a comparison of the Emar version with earlier and later versions, two general phenomena should be observed with regard to the key-sign sequence in Diri.

First, it should be noted that a fairly stable key-sign sequence is found not only in the 1st Millennium period (i.e. in its standardized 'canonical' version) but also in the OB period. If the three main OB versions edited in MSL XV (Nippur, 'Oxford' and Sippar) are compared, a common key-sign sequence (with occasional inversions and interpolations) may be recognized in the first half of all three texts. For Nippur and 'Oxford' their common key-sign sequence for the first half of OB Diri may be summarized as SI-KA-UD-TUK-TAK_4-LAGAB-AMAR-DU-BÚR-HAR-IGI-GIŠ-ZA-Ú-A-PA. For convenience, this sequence will here be referred to as the 'Nippur sequence'. For Sippar evidence for some of the first few key-signs is missing but the only proven deviation from the given sequence is in the disappearance of the TAK_4-LAGAB-AMAR-section, which may have been given in another, now lost, part of the text. In the Nippur and Sippar sources the second half of Diri is fragmentary, but for the 'Oxford' prisms the key-sign sequence of the second half may be summarized as ŠU-KI-TÚG-NUN-SAL-É-NÍG-EN-IM-ŠE-DUG-KAŠ-AMA-MAŠ-AN.

Second, in terms of key-sign sequence a certain degree of continuity may be observed between the OB and canonical versions. In the first half of the canonical version of Diri (tablets I-III) - despite some minor inversions and sizable interpolations - the OB Nippur sequence can be recognized as its underlying 'skeleton' structure. With regard to the second half of Diri a comparison of the canonical and the OB 'Oxford' versions shows that there is hardly any common ground in terms of key-sign sequence.

Diachronic development of linguistic format

All versions of Diri, including the Emar version, are bilingual (the Hattusha material additionally has a Hittite equivalent)[279]. This means that, with regard to linguistic format, Diri shows *complete diachronic stability*.

Diachronic development of entry inventory

With regard to entry inventory it has already been observed in earlier literature[280] that Diri shows the same *tendency to diachronic expansion* found for some of the other series discussed earlier (14.4.2., 14.4.4., 14.4.5., 14.5., 14.6.): both the number of logograms and the number of Akkadian equivalents given for each logogram tends to increase. As a result, the number of tablets covered by the series increases from one in OB Nippur to (probably) four in LBA Ugarit and then to (probably) seven in the 1st Millennium canonical version. In this respect it was suggested that the total length of Diri in the various peripheral sites, including Emar, was fairly similar.

Diachronic development of key-sign sequence

As stated earlier, the general sequential organization of Diri shows a certain degree of stability between the various OB versions as well as between the OB and 1st Millennium versions. In this regard it should be noted that the LBA Ugarit version shows more significant deviations from the OB Nippur sequence than the canonical version. It has been suggested that this is due to the derivation of the peripheral tradition from a non-Nippur OB *Vorlage*. In this view

[279] Cavigneaux, 'Lexikalische Listen', 625-6.
[280] MSL 15, 4.

the canonical sequence is a continuation of the Nippur tradition[281]. In fact, the Ugarit key-sign sequence deviates from the Nippur sequence *as well as* the Sippar sequence. Significantly, the key-signs DU and BÚR, which in Sippar are found some distance before the HAR-AH-IGI-section, in Ugarit are shifted to a position some distance after IGI (viz. after A and Ú in tablet II). In Ugarit the key-signs HAR and AH the are divorced from their Sippar neighbours BÚR and IGI and shifted even further forward (viz. following the SAL and IM sections in tablet III). Actually, the only similarity of the Sippar and Ugarit sequences is that they do not conform to the Nippur sequence, a feature, however, that is much more pronounced in the Ugarit than in Sippar. It was already noted that the Emar sequence does not conform to the sequences found in other peripheral sites, so now it remains to be seen to what extent it conforms to (any of) the OB and canonical sequences.

The only key-sign sequences preserved in the fragmentary Emar material are AMAR-KU_7, IGI-LAGAB and DU(LAH_4-$KAŠ_4$)-BÚR. Only the last of these is matched in all of the attested OB and canonical sequences - the other two are matched in none. This evidence suggests that, although the Emar and Ugarit traditions differ substantially, together they share one common feature: they *both deviate* from the 'standard sequence' found in OB Nippur. From whatever *Vorlage* the Syrian Diri tradition was derived, it was certainly not the OB Nippur tradition.

Although not directly relevant to the diachronic position of Emar Diri, some additional remarks may be made regarding the attested versions of Diri in Hattusha and Akhetaten. With regard to the Hattusha material it should be noted that it shows at least one important similarity to the OB 'Oxford' sequence: it has the same TUK-TAK_4-LAGAB sequence[282] that is found in 'Oxford'. In keeping TUK and TAK_4 before LAGAB the Hattusha version maintains the OB Nippur tradition, abandoned in OB Sippar as well as LBA Syria. Unfortunately the rest of the fragmentary Hattusha material does not permit this evidence to be elaborated into a rule. With regard to the Akhetaten material a similar phenomenon may be observed: it keeps AMAR before DU[283]. In doing so the Akhetaten version maintains the OB Nippur tradition, abandoned in OB Sippar as well as LBA Emar (the relevant Ugarit text is lost). If this, admittedly meagre, evidence is indicative of the transmission of Diri into the LBA periphery it would imply that the Hattusha and Akhetaten texts are closer to the OB Nippur tradition than the Syrian texts.

[281] Ibidem, 6.
[282] Ibidem, 90 Section 2.
[283] Ibidem, 100.

14.11. Synthesis - diachronic position of the Emar curriculum as a whole

Criteria for determining the diachronic position of the Emar curriculum

In the preceding paragraphs the diachronic position of the individual series three criteria have been consistently used: (1) *linguistic format*, (2) *entry inventory* and (3) *key-sign/word sequence*. In order to establish the diachronic position of the Emar curriculum as a whole, the findings for these three criteria in the preceding paragraphs will now be compared (Table 31). The manner in which this is done is by describing the compared OB, LBA Ugarit, LBA Emar and 1st Millennium versions in terms of a few basic, empirically verifiable data. These data are: attestation of *uni- or bilinguality* for (1) linguistic format, *number of divisions* for (2) entry inventory and *recognisability of the OB sequence* for (3) key-sign/word sequence. With regard to the last data-set it should be emphasized that 'OB sequence' is here meant to refer to the sequencing of key-signs/words and determinatives only, ignoring the often important deviations *within* entry blocks which share common key-signs/words or determinatives. The OB references used are all specified in Organizational Table 4 of Part 1. Obviously, the criteria selected here only provide a partial insight in the larger diachronic development which they are meant to shed some light on. It should also be reiterated that some of the data available for the various series (especially Hh) and periods (especially the 1st Millennium) may be incomplete. In line with the mere reconnaissance aimed at in this chapter, this means that the commentary which follows Table 31 is of a tentative nature.

Table 31. Diachronic position of the Emar curriculum

Series / divisions		**1. Linguistic format** uni-/bi-/multilinguality				**2. Entry inventory** number of divisions				**3. Key-sign/word/determinative sequence** recognisability of the OB sequence			
		OB	**LBA**		**1st M**	**OB**	**LBA**		**1st M**	**OB**	**LBA**		**1st M**
			Ugarit[1]	**Emar**			**Ugarit**	**Emar**			**Ugarit**	**Emar**	
1.	Sal/Svo	uni/bi		bi		1				OB sequence maintained			
2.	Sa/V	uni	uni/bi/m	bi	uni	1[3]				OB sequence maintained			
3.	G	uni	uni/m	bi/m[2]	uni	1				OB sequence maintained			
4.	Hh	uni	uni/bi		bi	6	15[4]	18	24	OB sequence in skeletal structure[7]			
5.	Lu	uni	uni/bi	bi		1	2		2/4[5]	OB sequence in skeletal structure			transformed sequence[8]
6.	Izi	uni	uni/bi	bi		2	2	4?	4/16[6]	OB sequence maintained		transformed sequence[9]	
7.	Kagal	uni/bi		? (bi)		1		?		OB seq.		?	
8.	SagB	uni/bi		bi		1		1		OB seq.		short OB	
9.	Nigga	uni/bi	bi			1				OB seq.	?	short OB	
10.	Diri	bi				1	4?	4?	6	OB seq.	transformed sequence		

[1] For Ugarit a systematic overview of linguistic format is found in van Soldt, 'Babylonian Texts', 196-206.
[2] Cf. discussion in Gantzert, 'SLT 3' (forthcoming).
[3] Note that in Emar there was, except a 'regular' single-tablet version, also a long version which theoretically may have had four tablets (cf. 2.3.2.2.).
[4] Cf. van Soldt, 'Babylonian Texts', 173.
[5] The Short and Standard Recension respectively (cf. 14.5.).
[6] The 'short' and 'long' versions respectively (cf. 14.6.).
[7] Examples of some deviations in key-word sequence are discussed in 14.4.5. .
[8] Only canonical Lu I maintains the OB key-word sequence (cf. 14.5.).
[9] The transformation process of Izi is discussed in 14.6. .

Linguistic format

In terms of linguistic format it can be observed that generally the Emar version tends to conform to the 1st Millennium rather than to the OB version. The only Emar series that show differences with the 1st Millennium version are Sa/V, G and (a few divisions in) Hh. In LBA Emar these series are found in bi- or multilingual format, whereas in the 1st Millennium version they are found in unilingual format. As Sa/V and G show remarkable stability in terms of the two other criteria (entry inventory and key-sign sequence), this difference is not related to a compositional transformation. Rather, it was suggested that Sa/V and G may have had a different educational implementation in the LBA periphery (14.2.). The introduction of explicitly rendered Akkadian equivalents (which remain implicit with Sa, i.e. in the unilingual version) is not surprising in the context of the LBA periphery, where Akkadian is not natively spoken. With regard to the occurrence of unilingual versions for selected Hh divisions it was suggested that it implies that the Emar texts are witnesses to a *transitional stage* in the development of Hh, during which the older unilingual format was being phased out but could still be found in certain (core) parts of the curriculum (14.4.2.).

It may be noted that in terms of linguistic format the Ugarit version shows a more conservative tendency than the Emar version. Many series that are only found in bilingual format in the Emar and 1st Millennium versions (Svo, SaV, Lu and Izi) are still found in both uni- and bilingual format in Ugarit.

Entry inventory

When investigating the second criterion, entry inventory, the various series may be divided into three groups. The first group includes those series that are always contained on a single tablet and that are consistently attested in all periods (SaV and G). The second group includes those series that tend to be contained on a single tablet but that disappear in the later periods (Svo, Kagal, SagB and Nigga). The third group includes those series that start out as or develop into multi-divisional structures (Hh, Lu, Izi and Diri).

The first group, i.e. single-tablet series that are consistently attested in all periods, also shows diachronic stability with regard to key-sign/word sequence and may be said to be remarkably *change-resistant*. Considering that the series involved, viz. Sa/V and G, both occur in the early curriculum it could be suggested that this resistance may be linked to their curricular position: as basic exercises they seem to have had a didactic functionality that made them relatively *immune to transformative tendencies* affecting in other series, such as the tendency to diachronic expansion. From this perspective the attestation of SaV and G in Emar, Ugarit, or anywhere else, merely reflects the expected presence of diachronically standardized curricular items.

The second group, i.e. single-tablet series that have disappeared from the canonical curriculum, may have their disappearance explained in various ways. For Svo it may be explained by a shift in perception of of its content: Svo seems to have disappeared from the school curriculum but to have lived on literary contexts (i.e. in the context of the Creation Myth - cf. 14.1.). In view of its limited acquisitive and analytic value (cf. 11.4.) this disappearance and the apparent *reinterpretation of its content* is not surprising. If its postulated origin as a study scheme (cf. 14.1.) is considered, it could be suggested that, after its original purpose was forgotten, it was, in fact, reinterpreted twice: first as a lexical exercise in its own right and later as a text with mythological value. From this perspective the

attestation of Sal/Svo in the LBA periphery merely provides a *terminus post quem* for the reinterpretation of its content. The other disappeared series, viz. Kagal, SagB and Kagal, are all 'acrographic' series, belonging to the advanced part of the curriculum. Their disappearance and absorption into Izi has already been discussed as part of the larger process of the *historical transformation of the advanced curriculum*, a process related to the modular structure of all series involved (14.6.). The attestation of (some of) these series in the Emar curriculum suggests that this process was not complete in the LBA periphery. Taken in conjunction with the fact that in Emar a transformation of Izi can already be noted in terms of both an increased entry inventory and a changed key-sign sequence, however, it can be said that in that period this process was certainly under way. For Ugarit the situation is different: on the one hand Izi still retains much of its OB outlook (some texts in unilingual format, a two-fold divisional structure and a similar key-sign sequence) but on the other hand Kagal and SagB have disappeared - of the older 'acrographic' series only Nigga is still attested. In this regard it should be noted that, while missing some of the older 'acrographic' series, the Ugarit curriculum includes some newer compositions not found in Emar, including Erimhuš (and perhaps Ea)[284]. The fact that, in comparison with the Emar curriculum, the *Ugarit curriculum shows a mixture of conservative and innovative features* could be explained as resulting from a the combination of an earlier *Vorlage* for most series with a later stratum of scholarly innovations for some series, innovations partially matched in Hattusha[285]. In comparison to the Ugarit curriculum, the Emar curriculum has a uniformly 'modern' appearance and could very well have been transmitted directly from Mesopotamia at a later point in time[286].

The third group, i.e. the multi-divisional series, all show a diachronically progressive increase in the number of divisions. Two mechanisms contributing to this process were previously discussed: the *introduction of the bilingual format* (4.2.2.) and the *tendency to diachronic expansion* (cf. 14.4.2., 14.4.4., 14.4.5., 14.5-6., 14.10.). As in case of the criterion of linguistic format, the criterion of divisional count shows that the Emar version tends to be closer to the 1st Millennium rather than to the OB version. The lower count for Hh and Izi shows that the Ugarit version tends to be, once again, more conservative than the Emar version.

Key-sign/word/determinative sequence

When the recognisability of the OB sequence is taken as the criterion for investigating the diachronic development of the key-sign/word/determinative sequence found in the various series, there are three possibilities: (1) the OB sequence is (by and large) maintained, (2) the OB sequence is recognisably maintained as a skeletal structure underneath the diachronically expanded content (i.e. *structural diachronic continuity* of the sequence - cf. 14.4.3.) or (3) the OB sequence is transformed beyond recognition. The various Emar series may be divided into three groups according to these possibilities.

The first group, i.e. those series that maintain the OB sequence, includes Svo, SaV, G, SagB and Nigga. In the preceding discussion of entry inventory it was already noted that the change-resistant nature of the early series SaV and G may be related to their early position

[284] Van Soldt, 'Babylonian Texts', 173-4.
[285] Erimhuš is attested early in Hattusha too (Cavigneaux, 'Lexikalische Listen', 636). A chronological investigation relevant to the transmission of Mesopotamian scholarly tradition to Hattusha is found in: G. Beckman, 'Mesopotamians and Mesopotamian Learning at Hattuša', *JCS* 35 (1983) 97-114.
[286] This is, in fact, what is argued by Y. Cohen, 'Kidin-Gula - the Foreign Teacher at the Emar Scribal School', *RA* 98 (2004) 81-100.

and didactic functionality in the curriculum. It was also said that, as long as Svo too was treated as a (basic) lexical exercise, it showed the same diachronic stability as SaV and G - it was only after its content was reinterpreted and delegated to a different text genre that it was transformed and eliminated from the lexical curriculum. With regard to entry sequence Svo, SaV and G have a largely uniform appearance in Ugarit and Emar. Concerning SagB and Nigga it may be observed that these series too maintain the OB sequence but that they were *shortened*. They maintain the OB sequence but show less of it, i.e. less key-signs, because their increased length allowed less key-signs to be included on a single tablet. This is mainly due to the same *tendency to diachronic expansion* that is also attested in many other series. It should be reiterated that for Kagal the preserved corpus does not provide sufficient evidence for the possible existence and developments in LBA Emar. For Nigga, the only one of the older 'acrographic' series that is also found in both Emar and Ugarit, no comparison is possible with regard to entry sequence due to the delay in publication of the Ugarit materials.

The second group, i.e. those series in which the OB sequence is maintained as a skeletal structure in LBA Emar, includes Hh and Lu. In these series the basic OB sequence stays, by and large, recognizable but the key-word sections have become increasingly expanded and interpolated. It should be noted that in certain divisions of Hh there is some degree of transformation in certain key-sign sequences (14.4.5.). Although for many divisions an investigation of the 1st Millennium version of Hh is hampered by the lack of separate editions, the evidence for those divisions for which adequate editions are available (cf. 14.4.3-4.) shows that the structural diachronic continuity of the Hh key-word sequence found between the OB and LBA versions tends to extend all the way to the 1st Millennium version. With regard to Lu, however, this is generally not the case: only the first section of Lu shows a fairly stable key-word sequence throughout all periods (cf. 14.5.). It may be argued that the Post-LBA transformation of Lu is related to the simultaneous transformation of Izi. Originally, these two series were closely related, but after the LBA period they move in opposite directions. While the transformation of Izi involved *acrographic systematization*, the transformation of Lu involved *thematic systematization* (cf. 14.6.). Considering its originally *gradual* shift from thematic to 'acrographic' association, still visible in the LBA version (cf. 5.3. and 6.3.), it is not surprising that in the first section of canonical Lu the OB key-word sequence remained more or less intact. With regard to the entry sequences of Hh and Izi the description just given for the Emar material also largely applies to the Ugarit material.

The third group, i.e. those series in which the OB sequence is abandoned in LBA Emar, includes Izi and Diri. These series show far-reaching transformation of their key-sign sequences. It is important to note that, whereas Diri shows transformation in both the Ugarit and Emar versions, Izi only shows it in the Emar version. In terms of the general diachronic development of the lexical curriculum this implies that the OB sequence of Diri had been completely abandoned before its transmission to the LBA peripheral sites, whereas the OB sequence of Izi is still preserved in Ugarit. With regard to Izi the Emar text may therefore be said to provide insight into the earliest stages of its transformation.

Summary

14.1. Svo:

1. Considering the diachronically unstable relation between entry elements 2 and 4 in Svo, which suggests a use of Svo as a mere *presentational device*, and considering that (almost) all its 'logograms' and 'equivalents' appear as key-signs or key-words in *other* lexical series, it may be suggested that Svo originally represented a study scheme for the lexical curriculum as a whole. Over time, this function may have been combined with or replaced by its use as an introductory exercise.

14.4/6. General features:

1. Throughout the post-OB history of the lexical curriculum there is a *general tendency to diachronic expansion* in Hh and a number of other series. It was suggested that this phenomenon may be related to the *accumulative impact of the integrative methodology* of ancient scholarship: its continuous research into multiple associations may have caused a progressive accumulation of elaborations and interpolations. Only those series used in the early part of the curriculum, to which strict didactic-functional limitations were applied, seem to have been immune to diachronic expansion.

2. In the OB and LBA periods Izi and the other, smaller 'acrographic' series (Kagal, Sag, Nigga) show a diachronically manipulatible *modular structure*: individual key-sign blocks were treated as autonomous 'modules' that could be rearranged within a series or transferred between series. This modular structure allowed a transformation process to take place in the advanced series.

3. In Post-OB times there was a general *transformative process in the advanced curriculum* characterized by:
   a. Loss of the traditional-conventional definition of most of the advanced series that had existed in the OB period. This loss was related to accumulated shifts in the modular structure which was an essential feature of their mixed-stepped organization form. These accumulated shifts made the original traditional-conventional inventories and sequences unrecognizable and irrelevant.
   b. Acrographic systematization and exponential expansion of Izi in conjunction with the disappearance of various smaller 'acrographic' series (Kagal, Sag and Nigga)– these were effectievly absorbed into Izi.
   c. Thematic systematization of Lu, resulting in sequential transformations that especially affected its later sections - these sections originally had provided a seamless transition from early thematic Lu into mixed thematic-acrographic Izi.

14.11. Diachronic position of the Emar curriculum:

The diachronic position of the Emar curriculum was analyzed using three criteria: (1) linguistic format, (2) entry inventory and (3) key-sign/word/determinative sequence. These three criteria were applied by investigating three sets of empiric data - respectively uni- and bilinguality, number of divisions and recognisability of the OB sequence.

1. In terms of *linguistic format* the Emar texts mostly are *bilingual* and therefore mostly conform to the 1st Millennium version rather than to the OB version. In this respect the Emar texts show a more consistently innovative tendency than the Ugarit texts. The attestation of some unilingual texts for Hh suggests, however, that the Emar corpus reflects a *transitional stage* in the development of the lexical curriculum.
2. In terms of *entry inventory* the Emar series may be divided into three groups:
   a. The first group, including the early series SaV and G, shows a *consistent single-division structure* in all periods. This structure is linked to diachronic stability in terms of key-sign/word sequence and these series may be characterized as *change-resistant*, perhaps due to their didactic functionality as early exercises. This characterization applies to all periods and sites of attestation, including Ugarit.
   b. The second group, including Svo and the traditional 'acrographic' series SagB and Nigga (perhaps also Kagal), also shows single-division structure but *disappears from the lexical curriculum* after the LBA period. For as long as it is attested, Svo shows the same change-resistant character as the other early series, but after the LBA period it disappears from the lexical curriculum, apparently due to a reinterpretation of its content. The disappearance of SagB and Nigga is a result of the *historical transformation of the advanced curriculum* - for Kagal evidence is lacking. With regard to this second group it may be said that the Ugarit curriculum considerably deviates from the Emar curriculum: in Ugarit the older series SagB and Kagal are lacking but the newer series Ea and Erimhuš are introduced. In view of the fact, however, that the Ugarit curriculum is more conservative in other respects (it retains Izi in its OB sequence), it may be characterized as *mixed conservative-innovative*.
   c. The third group, including Hh, Lu, Izi and Diri, shows a *diachronically progressively increasing multi-divisional structure*. Two mechanisms can be said to contribute to this process: the *introduction of the bilingual format* and the *tendency to diachronic expansion*. The lower divisional count for Hh and Izi found in Ugarit indicates the slightly more conservative tendency of the Ugarit curriculum.

3. In terms of key-sign/word/determinative sequence the Emar series may be divided into three groups:

   a. The first group, including Svo, SaV, G, SagB and Nigga, *maintains the OB sequence*. For the early series Svo, SaV and G this phenomenon, also observed in Ugarit (and generally in all other periods and sites), was related to their consistent single-division structure. For SagB and Nigga the maintenance of the OB sequence combined with a tendency to diachronic expansion results in their *shortening* (less key-signs can fit on a single-tablet) - for Kagal insufficient evidence is available. For the only older 'acrographic' series attested in Ugarit, Nigga, no publication is available, making a comparison with the Emar material impossible.

   b. The second group, including Hh and Lu*, maintains the OB sequence as a recognizable skeletal structure* around which they are expanded. This is also found in the same series in Ugarit. As far as can be determined, this skeletal structure also remains recognizable in the 1st Millennium version of Hh. For 1st Millennium Lu this only holds true for its first section - the later sections, originally progressively less thematically coherent, were subject to *thematic systematization* as part of the larger process of the Post-OB *transformation of the advanced curriculum*.

   c. The third group, including Izi and Diri, does not maintain the OB sequence in any form but shows *far-reaching transformations* in the Emar material. In Ugarit Diri shows the same phenomenon, indicating that the transformation process dates back to the Late OB period. Ugarit Izi, however, shows a maintenance of the OB sequence, implying that the Emar version provides perhaps the earliest witness to the transformation of Izi.

MAIN CONCLUSIONS

1. Each series and each linguistic format within each series constitutes a *formal-organizational unit*, implying that the formal and organizational features of any individual text witness belonging to such a unit are predictable.

2. Both formal features (use of ruling; linguistic format; entry element inventory) and organizational features (horizontal distribution of realization types in the relation between elements 2 and 4; vertical distribution of association types) are related to the didactic functionality and curricular position of a given formal-organizational unit.

3. The relation between the formal-organizational features and didactic functionality of the various formal-organizational units shows the *structural-organizational coherence of the curriculum*. The structural-organizational typology of the various series, based on realization type and association type distribution throughout the lexical curriculum, largely agrees with the curricular sequence postulated on basis of the Ugarit corpus.

4. In terms of didactic functionality the lexical curriculum shows *systematic oscillation between empirically definable acquisitive and analytic foci*. Anomalies occurring in this system may be explained as caused by the presence of some residually anachronistic material in a otherwise diachronically evenly developed curriculum.

5. The ancient scribes pursued an *integrative methodology*, aimed at establishing relations between various graphic and linguistic phenomena that are unrelated in modern scientific terms. In terms of this integrative methodology a high analytic focus is shown by SaV and Izi: these *analytic key series* teach its application to single, basic signs and combined, compound signs respectively.

6. In contrast to the colophon, the *end-of-text marker* is a graphic device which marks the end of a compositional unit and not necessarily the end of the text on a tablet.

7. In Emar, as well as the OB and LBA periods generally, Izi and the other, smaller 'acrographic' series (Kagal, Sag, Nigga) show a *modular structure* that is diachronically manipulated in various ways: individual key-sign blocks are treated as autonomous 'modules' that can be rearranged within a series or transferred between series. This modular structure allowed the relatively drastic Post-OB transformation process to take place in the advanced series of the curriculum.

8. In terms of diachronic position the LBA Emar curriculum may be generally said to occupy the middle ground between the OB and 1st Millennium but to be somewhat more innovative than the Ugarit curriculum. The Emar series tend to be further developed in the direction of the almost exclusively bilingual format and the expanded divisional structure found in the 1st Millennium version. In terms of the Post-OB transformation of the advanced curriculum, the Emar corpus shows an early stage of that transformation. On the one hand some of the older, smaller OB acrographic series (SagB, Nigga) can still be found, on the other hand the divisional structure and key-sign sequence of Proto-Izi have already been abandoned.

9. The term 'acrographic' does not provide an organizationally relevant description of any series.

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List of bibliographical abbreviations

Note that the only abbreviations given in *italics* are those that refer to periodicals.

Abbreviation	Full reference
AbZ	R. Borger, *Assyrisch-babylonische Zeichenliste*. AOAT 33/33A (Neukirchen-Vluyn 1981)
AfK	*Archiv für Keilschriftforschung: internationale Zeitschrift für die Wissenschaft vom Alten Orient*
AfO	*Archiv für Orientforschung: internationale Zeitschrift für die Wissenschaft vom Alten Orient*
AHw	W. von Soden, *Akkadisches Handwörterbuch* I-III (Wiesbaden 1959-1981)
ANET	Ancient Near Eastern Texts and Studies
AOAT	Alter Orient und Altes Testament
AS	Assyriological Studies
ASJ	*Acta Sumerologica* (Japan)
AuOr	*Aula Orientalis. Revista de estudios del Próximo Oriente Antiguo*
baM	*Die babylonisch-assyrische Medizin in Texten und Untersuchungen*
BiOr	*Bibliotheca Orientalis*
BLT	M. Yoshikawa and E. Matsushima, 'Bilingual Lexical Tablet', *BSNESJ* 23.2 (1980) 1-23
BM	British Museum catalogue number
BSNESJ	*Bulletin of the Society for Near Eastern Studies in Japan*
BTG	M. Civil, 'HAR-ra=*hubullu*: Tablet X dug=*karpatu*' in: W. Sallaberger, *Der babylonische Töpfer und seine Gefässe nach Urkunden altsumerischer bis altbabylonischer Zeit sowie lexikalischen und literarischen Zeugnissen*. Mesopotamian History and Environment Series II Memoirs III (Ghent 1996)
CRAIBL	*Comptes rendus - Académie des Inscriptions & Belles-Lettres*
CT	*Cuneiform Texts from Babylonian Tablets in the British Museum*
Di	Sippar excavation number (catalogue in Tanret, Schooltabletten)
DCCLT	Digital Corpus of Cuneiform Lexical Texts (http://cdli.ucla.edu:1680/dcclt/)
ePSD	electronic Pennsylvania Sumerian Dictionary (http://psd.museum.upenn.edu/epsd/)
FVH	K. Watanabe, 'Freiburger Vorläufer zu HAR-ra=hubullu XI and XII', *ASJ* 9 (1987) 277-91
IEJ	*Israel Exploration Journal*
KBo	Keilschrifttexte aus Boghazköi
JCS	*Journal of Cuneiform Studies*
JNES	*Journal of Near Eastern Studies*
KAv	O. Schroeder, *Keilschrifttexte aus Assur verschiedenen Inhalts* (Leipzig 1920)
LB	Liagre-Böhl catalogue number
MSL	Materialien zum sumerischen Lexikon, later: Materials for the Sumerian Lexicon - volumes I, III, V-VIII and X: see Landsberger; volumes IX, XII, XIII and XV see Civil, volume XI see Reiner
MSL SS	Materials for the Sumerian Lexicon. Supplementary Series - volume I see Civil
MVaG	*Mitteilungen der Vorderasiatischen Gesellschaft*
NABU	*Nouvelles assyriologiques brèves et utilitaires*
OECT	Oxford Editions of Cuneiform Texts
OLz	*Orientalische Literaturzeitung: Monatschrift für die Wissenschaft vom ganzen Orient und seinen Beziehungen zu den angrenzenden Kulturkreisen*
OrNS	*Orientalia. Nova Series*
PBS	Publications of the Babylonian Section, Universit of Pennsylvania
RA	*Revue d'assyriologie et d'archéologie orientale*
RlA	Reallexikon der Assyriologie und vorderasiatischen Archäologie
RS	Ras Shamra excavation number
SLT	M. Gantzert, 'Syrian Lexical Texts 1-3', *UF* 38 (2007) **reference**
UF	*Ugarit Forschungen*
YBC	Yale Babylonian Collection catalogue number
ZA	*Zeitschrift für Assyriologie und verwandte Gebiete*

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