Chapter 3: Orality and literacy and a theory of short-distance transmission

The present and the following chapter provide the broad theoretical and methodological basis for investigating the transmissional context of the äattuša lexical tradition as a part of the LBA peripheral lexical traditions – the second principal aim of the study. Therefore, the focus of the present chapter is on what will be introduced as short-distance transmission in sect. 3.2., i.e., on the mechanisms involved in the transmission and reproduction of textual traditions in a constant archival environment, as found for the lexical lists of the corpora investigated. The interrelations between the individual textual traditions within the larger geographical framework of the LBA western periphery, i.e., the aspects of long-distance transmission (as also introduced in sect. 3.2.), require further theoretical considerations, which are presented and discussed in the following chapter.

This chapter exposes the terminology and concepts (sects. 3-5) that serve as the apparatus for the descriptive parts of the study (part B, chapters 5-11), after making a brief delineation from the position of the study within the field of orality-literacy research, the earlier reception of orality-literacy research in the field of Assyriology (sect. 1), and from the specific presets of the textual genre that are of relevance in this respect (sects. 2). Although they do not provide any direct information about their transmissional context, making the available sources exploitable for investigation as a first step requires an account of the transmissional practices which appear theoretically possible, as well as of the specific implications they supposedly had on the transmissional process and – through it – on the material (sect. 3.). With 'texts' being the objects of the specific transmission process investigated and in the same place forming the main sources available for the investigation, a closer look at the specific levels of textuality involved is a further prerequisite (sect. 4.). Finally, since the scribes as the operators within the transmission process are hardly to be grasped as historical persons, the secondary imprints they leave in the sources – in the shape of linguistic and psycho-linguistic specifics – need to be theoretically elucidated (sect. 5.).

In parts, especially regarding the fields of linguistics and mental cognition, the theoretical framework can draw on a rich supply of studies. In other sections, particularly regarding the aspects of knowledge transfer, the relevant theoretical categories have been largely invented on occasion of the present study. This chapter concludes with drawing a number of methodological guidelines for further investigation (sect. 6).

1.1. [Orality-literacy research – the position of the present study] Research on oral vs. literate modes of language, discourse/text, and tradition, has occupied various fields within the humanities and the social sciences, including (mostly classical, Middle-Eastern, and medieval) philology, linguistics, (medieval and early modern) history, anthropology and social sciences, communication studies,

as well as psychology. Thereby, the initial overall theories[1] that often regarded orality and literacy as antipodes or that have constructed a 'Great Divide' between oral, 'pre-modern' cultures, modes of communication, and social behavior on the one hand and literate, 'modern' ones on the other,[2] have since the early 1980s continuously given way to more balanced studies. These limit themselves to specific historical and/or geographical contexts and rather aim at investigating the interplay of oral and literate techniques than regarding them as strict opponents.[3] As for a detailed account of the rich general history of orality-literacy research, see Finnegan 1992.

Contrary to most studies in orality-literacy research, the present study is not a direct investigation of the effects of the interplay of orality and literacy on the basis of some known or well-reconstructed practices. Historically rooted as it is, it rather attempts to reach back from the effects of this interplay, i.e., from the preserved textual materials as its outcomes, to the original practices. The central focus of the study thus is on the specific practices by which text was transmitted to, within, and among the archives investigated. The question of the implications which the specific kinds of reconstructed transmissional practices had on the social, cultural, or mental environment, is only touched upon cursorily and mostly as far as it concerns scribal education.

The specific chronological and geographical distribution of sources thereby allows the present study to also focus on long-term and trans-regional aspects of textual transmission (as revealed in the following chapter).

1.2.1. [Orality-literacy research – earlier reception in the field of Assyriology – Sumerian and Akkadian poetry and poetic narrative] Orality-literacy research undertaken in the field of Assyriology received its chief influences from classical philology and anthropology. Its introduction basically implied the creation of methods and procedures by which the extant philological and anthropological concepts could be applied to the kind of philological sources that Assyriology specifically deals with.

Attempts of this sort have continuously been undertaken since the early 1980s. Research therefore concentrated prevailingly on the question of whether or not the Sumerian (and Akkadian) literary compositions turning up in writing by the 3rd and early 2nd millennium possessed orally-transmitted forerunners and/or 'by-runners' and how the versions fixed through writing relate to these presumed oral companions. Textual features that had been isolated in other disciplines – predominantly in classical philology – and acknowledged the oral compositional and transmissional background of text thereby proved to be largely inapplicable to Mesopotamian literature.

1 Most prominently to be mentioned Ong 1982.

2 Such as the ground-breaking study Goody / Watt 1968 or Havelock 1986 (classical philology).

3 Cf. the criticisms expressed in Finnegan 1988 (anthropology), but also studies like Goody 1987, Stock 1983 (both anthropological), Street 1984 (medieval history).

As unanimously emphasized in Alster 1992, Black 1992, Cooper 1992, or Vanstiphout 1992, Mesopotamian poetry and narrative as preserved in the written sources shows very clear imprints of a highly literate scribal culture, such as scribal puns, catch words, or graphically-motivated sign sequences. And therefore it would be hard to compare e.g., with Homer or 20th-century African oral narratives. Yet, scribes apparently made broad use of devices that are actually deemed to be orally-derived, such as repetition, parallelism, and the use of formulas, etc., and researchers tended to explain these typically oral devices by the assertion that the compositions were to be performed in front of an audience; the scribes producing the texts would thus have built on features of oral composition in order to make the texts more 'audible', and the supposed features of orality, hence, actually were features of an aurality.

Isolating potential traces of oral composition and/or reproduction in Mesopotamian literary compositions requires clever detection based on indicative features that fit the genuine context of these compositions. As a consequence, studies in this field to a great extent assume the shape of prolegomena, exemplifying and discussing methodological problems, rather than that of effective investigations.

1.2.2. [Orality-literacy research – earlier reception in the field of Assyriology – the context of scribal education] Great part of the Sumerian poetry and poetic narratives preserved has proved to be not only embedded in the scribal schools, but eventually to have grown out of this specific context, exclusively composed for and reproduced during scribal education;[4] this sheds new light on the oral vs. literate transmissional background of those texts. As explained in chapter 2, sect. 4.2.2., it has been assumed – at least with regard to the scribal education in the OB period – that the compositions studied in the scribal school, the poetic and narrative texts as well as the lexical lists, were studied for the final sake of their memorization, and were in fact memorized. Regardless of the question of whether this memorization was just a partial one or implied the complete internalization of the texts, the oral features of these texts may thus not – or not only – be explained as the results of making them *audible* (as for which, see previous section), but as the results of making them *memorable*.

A second point, which is specific to the educational context, concerns the practice of oral instruction. As already noted by M. Civil, "several facts [the lists expose] would remain unexplained" (1975: 130) if scribal education – again at least in the pre-canonical period – had not strongly been accompanied by oral instruction which complemented and explained the materials practiced on the tablets. Without oral instruction, the textual materials, particularly the lexical tablets, would appear almost useless, for almost incomprehensible to beginner scribes.

Yet, as explained in greater detail in sect. 4.1., the oral *transmission of text* and the oral *instruction regarding the use of text* are two transmissional procedures to be kept distinct.

4 Cf. Vanstiphout 1995: 16; also see Veldhuis 2004: 60f.

2.1. [Lexical lists – the peculiarities of the textual genre] Lexical lists form a very specific textual genre, differing considerably – in structure as well as in content – from the kind of textual compositions, which are the usual object of (Assyriological and Non-Assyriological) study in the context of orality-literacy research. As has been outlined in greater detail in chapter 2, lexical lists are lists of cuneiform signs or of Sumerian words and larger syntagmatic structures. They are organized in a meaningful (vertical) structure and they are (often) appended by phonetic and semantic information in the shape of phonetic syllabifications and translations (mostly into Akkadian), which are added in horizontal direction to the items.

In contrast to poetic and narrative compositions, thus, lexical lists do not contain regular and coherent speech, and so too, do the items they contain lack the context of syntagmatic coordination which regular and coherent speech is subjected to. As a kind of compensation, however, these items appear embedded into a vertical and horizontal context of mutual lexical reference. Naturally, these peculiarities of structure and content must quite specifically have shaped and determined the processes of textual production and reproduction that the lists underwent. Given these peculiarities, unraveling the role of orality within the transmission of the lists – needless to say – requires the development of a very specific and specialized instrumentarium.

2.2. [Lexical lists – on the border between oral and literate transmission] Due to the context of scribal education in which they are largely embedded – i.e., being the written outcomes, the literate by-products, so to speak, of ANE scribal training – lexical tablets assume quite a specific position within the orality-literacy complex: Like all kinds of education, scribal training in the ANE can be viewed as the more or less standardized reproduction of a more or less standardized set of cultural techniques and of the knowledge presetting and accompanying it.[5] Even in highly-literate modern Western society, this reproduction of knowledge is still considerably – it seems, to a no lesser degree than in earlier societies – bound to oral instruction and interaction as well as to memorization. The shift from a purely oral-based society to a literate society seems in the first place to concern the specific kinds, and not so much the specific amounts of knowledge that is to be memorized and handed down orally. As oral instruction and memorization are innate components of knowledge transfer even in today's Western society, they undoubtedly played a considerable role in ANE scribal education. The production of the lexical tablets was certainly embedded into a set of oral and memory-based cultural procedures.

5 Of course it involves more than pure techniques and knowledge, but also the reproduction of social habits and privileges (cf. Veldhuis 1997: 142-146), aspects which however are of minor interest in the present study. As for a definition of school and schooling rightly applicable in the present context, see Gesche 2000: 3.

On the other hand, it is also undeniable that writing played a considerable role in the transmissional context of the lists: (1) the information they dealt with is (a kind of encyclopedic) information about cuneiform writing;[6] (2) obviously, they were themselves committed to writing, i.e., written down in considerable quantities; and apparently, (3) their relatively abstract design was innately bound to writing – J. Goody (1977: 74-111 & 1987: 274-276) e.g., stresses the profoundly literate, i.e., 'grapho-linguistic' character of (abstract) tables and lists, also pointing to the example of ANE lexical lists.

In this respect, a study of the oral vs. literate background of the lexical lists cannot simply give one-dimensional answers. In demand of a useful and exact terminology, it needs to define and unravel the various levels that provide and accompany the textual reproduction of the lists.

3.1. [Aspects of transmission – storage and mediation] The transmission of knowledge – be it in textual or in non-textual shape – is not a uniform procedure, but actually involves *two* basic actions, *storage* and *mediation*. It appears that both of these actions have been mostly regarded as two sides of the same coin in many Assyriological studies, literate mediation being identified with storage through writing, and mediation via oral communication being identified with storage in memory. This identification is inadequate. Storage and mediation are distinct and independent devices. Storage forms the static part of the transmission process, guaranteeing the preservation of knowledge, whereas mediation is the dynamic component, involving the transfer from one storage container to another or the multiplication of the storage container(s).

Transmission from memory to memory can involve written sources as mediation. Transmission from written sources to written sources can involve oral mediation. Storage in memory and storage on written sources as well as oral and literate mediation generally do not exclude each other, but may be used side by side, and to some degree they may even depend on one another. There are multiple combinations conceivable between them (cf. the systematic overviews in sect. 3.3.). Investigating the transmissional background of lexical lists means separately investigating the modes of their storage and the modes of their mediation.

The two concurring basic literate and oral modes of storage and mediation show specific peculiarities. The production of written storage means the production of an artifact, which implies that, in the ideal case, it is permanent and does not require further reproduction. Its status as artifact also implies that a written source can simultaneously serve as storage and as medium in the transmission process. However, that status also implies that it is not directly accessible and must be decoded anew in every single case it is used. In contrast, memory as storage is not an artifact separate from memory's 'owner'. It is directly accessible, yet not permanent without continuous

6 As for the term 'encyclopedias of writing' in connection with lexical lists, cf. Veldhuis 1997: 139.

rehearsal during and after memorization; it is in this respect never complete in the strict sense, since the human memory is in continuous flow (in this respect also cf. sect. 5.2. & 5.5. on cognitional aspects). Although one may generally hold that, due to this dynamic character of the human memory, oral- and memory-based traditions are more flexible and show more variation than literate traditions; further research, particularly in the field of the Ancient Indian Vedic tradition, has demonstrated that oral and memory-based traditions can create and transmit complex textual structures with remarkable stability.[7]

3.2. [Aspects of transmission – long-distance transmission and short distance transmission] Transmission of knowledge also has to be differentiated according to its geographical and chronological dimensions. One must in this respect keep separate two general modes: geographically-dynamic transmission, here referred to as *long-distance transmission*; and geographically-static transmission, here denoted as *short-distance transmission*.

Long-distance transmission implies that the storage containers – i.e., the tablets, the memory, or both – are supposed to 'travel': they are transferred from one geographical point to another one. Certainly, transmission of this kind also involves a chronological dimension, its main characteristic however being the geographical diffusion. In contrast, short-distance transmission is carried out at a fixed location, in case of the tradition of lexical lists for e.g., at a local school. It guarantees chronological persistence of the knowledge by reproducing the storage container.

In describing long-distance transmission, it is rather the level of storage that is of primary interest, raising the question of whether the knowledge is transferred through memory, i.e., by traveling specialists, or physically transported on written sources – or both. Also, the specific routes of transmission play an important role. For describing short-distance transmission, i.e., for describing the actual procedures and techniques involved in the transfer, the levels of storage and transmission must be strictly separated, since, as explained in 3.1., transmitting a text from memory to memory can make use of literate techniques, and the transmission from tablet to tablet may involve oral mediation.

3.3.1. [Aspects of transmission – the possible modes of short-distance transmission – transmissional modes] According to the concepts established in the preceding sections, one can distinguish the following five modes, by which lexical texts could theoretically have been transmitted in short distance transmission, from one storage container to the next:

7 The Vedic tradition thereby builds on a set of extremely elaborate and sumptuous memorizing techniques, which apparently enabled the Vedic priests to reproduce huge amounts of metric text throughout many centuries without even a syllable or accent having changed; cf. Staal 1986.

I. Transmission from memory to memory

1. *by purely oral communication* implies that person A, having the text in memory, speaks it in front of person B, who then memorizes the heard speech. Longer and complicated passages of text may require (frequent) repetition of the procedure.

2. *by purely literate communication* involves the use of written sources as a medium. Person A, having the text in memory, transposes the memorized into writing, from which person B memorizes it. In comparison to purely oral communication, it has the advantage that the text can be at anytime re-inspected on the *vorlage* – or at least: as long as the *vorlage* exists.

3. *by mixed oral-literate communication* is similar to mode I.2., with the difference being that the tablet is not directly transcribed by person A, who has the text in memory, but by person B, to whom A dictates the memorized.

II. Transmission from tablet to tablet

1. *without mediation* means that tablet B is copied by a single person through mere visual inspection of the *vorlage*, i.e., directly from tablet A;

2. *by oral mediation* involves the cooperation of two persons, the first one reading out tablet A aloud, dictating the text to the second person, who eventually writes tablet B.

This principal modes of short-distance transmission, can be schematized as follows:

Transmission from memory to memory	**Transmission from memory to memory**	**Transmission from memory to memory**	**Transmission from written source to written source**	**Transmission from written source to written source**
+	+	+	+	+
purely literate mediation	purely literate mediation	mixed oral-literate mediation	no mediation	oral mediation
Memory 1 ↓ Oral communication ↓ Memory 2	Memory 1 ↓ Tablet ↓ Memory 2	Memory 1 ↓ Oral communication ↓ Tablet ↓ Memory 2	Tablet 1 ↓ Tablet 2	Tablet 1 ↓ Oral communication ↓ Tablet 2

3.3.2. [Aspects of transmission – the possible modes of short-distance transmission – internal modes] As noted in sect. 3.1., memory-based transmission is never complete, since it requires continuous rehearsal. Apart from the strict acts of transmission, thus, one has to distinguish a further group of internal procedures, which can be conceived of as loops within the larger transmission procedures, necessary for generating and re-generating memory. Apart from that, they can also form the transition from memory-based to writing-based storage and vice versa.

As with regard to the transmissional modes, one can distinguish between internal modes that are based on storage in memory and internal modes that are based on storage on written sources:

III. Internal modes based on storage in memory: presuppose that at least parts of the text have been memorized; modes of this kind seem more suitable for checking the memorized text than for the actual process of memorizing it, and thus it is the mode typically expected in recitation (possibly as part of an assignment); one can further distinguish:

1. *oral reproduction*, involving the pronunciation, silent or aloud, of the memorized, and
2. *literate reproduction*, involving the transposition of the memorized into writing

IV. Internal modes based on storage on written sources: do not presuppose that parts of the text have already been memorized. It is the mode typically expected in memorization. One can further distinguish:

1. *oral reproduction*, involving the re-reading of the tablet, as often as necessary, and
2. *literate reproduction*, involving the re-copying of a *vorlage*, as often as necessary.

The distinct internal modes can be schematized as follows:

Memory-based	**Memory-base**	**Writing-based**	**Writing based**
+	+	+	+
oral internal reproduction	literate internal reproduction	oral internal reproduction	literate internal reproduction
Memory 1	Memory 1	Tablet	Tablet 1
↓	↓	↓	↓
Oral reproduction	Literate reproduction (Tablet)	Oral reproduction	Literate reproduction (Tablet 2)
↓	↓	↓	↓
(Memory 1)	(Memory 1)	Memory	Memory

Needless to say, there are multiple combinations possible among the individual transmissional modes and internal modes. This variety of combinations is enhanced by the fact that memory-based and writing-based transmission may complement each other, and that individual written records are variable in their function. Designed as a means of mediation, an individual tablet may e.g.,

be transformed into a means of storage later, and may again later be used as a departure point for memorization as part of a writing-based internal mode.

4.1. [Aspects of textuality – the textual levels] As discourse analysis has broadly demonstrated, 'text' is not a uniform concept, but is "part of a family of loosely connected concepts" (Hanks 1989: 96). Apart from '*text*', as the core element of a textual tradition and as the core object of transmission, there are some additional levels of the tradition to be specified in the present study. Texts are regularly embedded into a '*meta-text*', which involves all those devices that make the text accessible and keep it understandable, thus all sorts of interpretation and commentary, to which one may, under specific circumstances, also count translations. Moreover, one has to keep apart the '*con-text*', which involves the knowledge and cultural techniques necessary for the continuity and preservation of the text (and of the meta-text), i.e., the skills necessary to reproduce, but also to use text as well as meta-text.[8] The transmission of 'pure' text must be supposed to be regularly accompanied by the transmission of the respective meta-textual and con-textual knowledge. Investigating the oral vs. literate transmission of text, thus, it is necessary to differentiate the investigation according to these individual levels of the 'textual family'.

Yet, it is often hard to keep the three textual levels strictly distinct, which is also the case with the lexical lists. The Akkadian translations e.g., can be understood as a part of the core-text, but, in their interpretative function towards the Sumerian, they may also be considered to be a part of the meta-text; the same applies to the graphemic and phonetic information given through sign names or pronunciation glosses. Hittite translations, in this respect, can be regarded as explanatory meta-text to the Akkadian translations, i.e., as a kind of second-level meta-text.

There are some diachronic developments to be taken into consideration as well: Parts of the meta-textual or con-textual level can convert into a more or less independent text, becoming commentary texts (meta-text >> text) or manuals (con-text >> text); further elaboration may then lead to commentaries on commentaries (e.g., the Hittite column in lexical lists, providing a meta-text to the Akkadian column, which can itself be conceived of as meta-text to the Sumerian column), to commentaries on manuals or to manuals on commentaries. Being the object of transmission and study (i.e., being basically 'text'), lexical lists can, as a whole, also be regarded as part of the meta-text when emphasis is put on their exegetical function towards literary texts, or as a part of the con-text regarding their role in the transmission of the cultural technique of writing.

Historically, it seems that among the three levels, a composition representing the core text appears rendered into writing earlier than compositions that form the associated meta-text, which in turn

8 The terminology has been taken over from Hanks 1989: 96, though the definitions given partially diverge from the definitions given there. The further concepts given there, i.e., 'co-text', 'pre-text', 'sub-text', and 'after-text', are of minor relevance for the present study and have therefore been neglected.

precede the associated con-textual compositions.[9] This is also the case with the lexical lists; there are no written attestations of the con-textual level except in the secondary, peripheral environment of the so-called *eduba* literature.[10] Pure manuals are generally rare within Mesopotamian literature, being mainly confined to the genre of ritual. Commentaries referring to lexical texts, along with those that refer to the omen collections, appear not earlier than in the 1st millennium.[11]

4.2. [Aspects of textuality – writing surface, writing, language, text, curriculum] Text – irrespective whether belonging to the core level of text or to meta-textual or con-textual levels – is moreover bound to specific 'carriers'. Texts are composed of (natural) language. They are handed down on specific media that require specific techniques of decoding and encoding.

The material sources of the present study are written texts, though the study also investigates the oral modes of these texts that may have broadly accompanied the transmission of the written versions. Apart from the actual *textual level*, thus, there are three additional sets of data relevant for the present study, i.e., the specifics of the writing systems and languages out of which the texts are composed (*graphemic/linguistic level*), the (physical) specifics of the writing by which the languages are encoded (*paleographic level*), and the specifics of the surface on which the writing is placed (*epigraphic level*). Superordinate to the textual level, there is an additional level that involves the specific configuration of the distinct lexical lists into larger curricula (*curricular level*).

The circumstances of the transmission process (short-distance or long-distance, writing-based or memory-based, oral or literate, etc.) will naturally imprint themselves in – hence will be deducible from – all five of these levels. The specific range and modes of imprint, in turn, will be specifically different for each individual level. The graphemic/linguistic level thereby requires the additional theoretical pre-considerations dealt with in sect. 5.

4.3. [Aspects of textuality – the textual-traditional actions and their aspects] During its 'life' a given text (or meta-text, or con-text) undergoes a number of specific textual-traditional acts. One

9 However, note that this is not necessarily a universal tendency. In the transmission of the Old Indian Veda, the primary texts were considered too holy to be 'impurified by writing' and were therefore handed down orally from teacher to pupil. A group of texts know as the *vedāṅga*-s comprises the manuals that describe the complicated procedures involved in the exact oral transmission of these texts, but also grammatical commentaries which explain certain phonological transformations necessary in the recitation of the texts. The *vedāṅga*-s were put into writing considerably earlier than the texts for which they provide the means for exact transmission, i.e., than the Vedic hymns, songs, incantations, etc. Cf. Aithal 1991.

10 See Sjöberg 1975.

11 See Cavigneaux 1980-83

may in this respect distinguish between *compositional*, *transmissional* and *performative* aspects.[12] Compositional aspects determine content and form of the text, transmissional aspects guarantee its preservation and persistence, while performative aspects pertain to its actual usage.

Although a text naturally comes into being through the act of its composition, and although its final aim is mostly identical with its performance, the three textual-traditional acts do not necessarily follow in a serial, subsequent order; within its life span, a given text may be (re-)composed and performed several times and may be transmitted in various directions. Moreover, two or even all three of the textual-traditional aspects mentioned may converge in a single textual-traditional action:

(1) Composition always involves at least some virtual performance; a book is written and a story is told – at least silently – during its composition; it is composed in the anticipation of its performance. (2) A text is not composed out of nothing but builds on earlier traditions that have in their turn been subject to continuous transmission and performance. (3) In a transmissional mode which involves some degree of orality, transmission is invariably bound to performance, since the structure of the human memory calls for active repetition of the material which is to be stored; also, the copying of a written text may to a certain degree be conceived of as performance. (4) And, during their transmission, texts often undergo changes, thus involving additional acts of (re-) composition.[13]

In this respect, the present study, although focusing on the transmissional aspects of the corpus under investigation, cannot avoid dealing with aspects of performance and composition. Moreover, it has to take into account that the degree of oral or writing-based techniques involved may vary considerably within the individual stages and actions of the tradition of a given text. Oral composition e.g., does not necessarily entail an oral mode of transmission or an oral mode of performance.

5.1. [Aspects of language and mental cognition – language and transmission] The opposition of spoken vs. written language is a crucial one within orality-literacy research. On first sight, since oral transmission relies on speaking and literate transmission on writing, spoken and written language respectively appear as an indicator of oral and literate modes of transmission. This equation

12 The distinction between composition, transmission and performance traces back to Goody 1987:80f. They are not so much to be conceived of as linear, subsequent phases, but rather as making up an interdependent and repetitive set of respectively colored actions. This and similar conceptions have already been taken up in Black 1992: 87-89, Cooper 1992: 105 & 111ff., and Westenholz 1992: 124f., applying them to Sumerian and Akkadian poetry and poetic narrative.

13 P. Zumthor Introduction 32f. tries to account for these ambiguities by distinguishing five stages, (1) Fr. 'production', (2) 'transmission' (in the meaning of Engl. "communication"), (3) 'réception', (4) 'conservation', and (5) 'répétition'; thereby 'performance' involves stages (2) and (3), in case of improvisation also stage (1). Accordingly, transmission would involve stage (4) in a literate environment and stages (2)-(5) in an oral one.

disregards two important points: (1) the interdependence of spoken and written language, which in many contexts makes the two varieties appear indistinct, and (2) the principal difference between the production of language and the transmission of a piece of text composed of language.

In contrast to the neogrammarian and early-structuralist *dependence hypothesis*, which considers written language to be a mere transposition of spoken language into writing, and in contrast to the later *autonomy hypothesis*, which regards both varieties as completely different and unrelated entities, the majority of modern linguists hold that written language is principally modeled after and thus secondary to spoken language, but that it has developed its own characteristics, has therefore achieved a relative autonomy and must be approached by a distinct set of methods (*interdependence hypothesis*).[14] Thus, although (1) written language is acquired (phylogenetically and ontogenetically) later than (spoken) language, and (2) spoken language does exist without written language, whereas vice versa, written language does not exist without spoken language – thus, although written language seems to be dependent upon and secondary to spoken language – the exclusive spatial and tool-bound character of written language (as opposed to the temporal and body-bound character of spoken language) creates a set of linguistic features that is exclusive to written language and grants it a certain autonomy and independence.

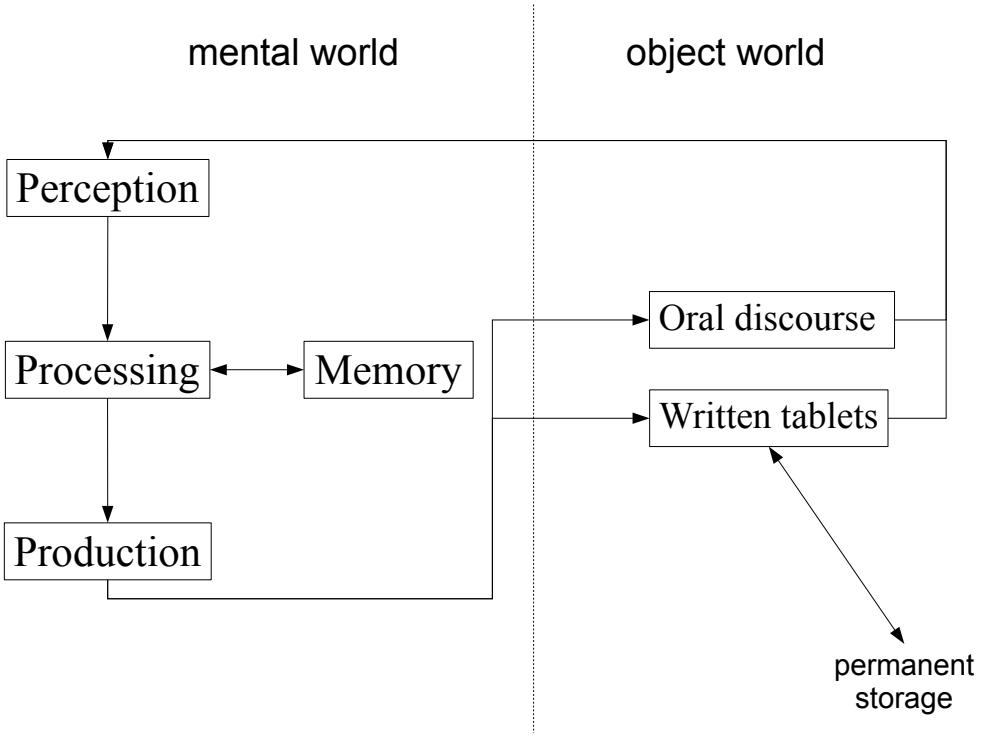
At the graphic/phonetic level – which is the linguistic level mostly relevant with regard to the abstract collections of isolated words which the lexical lists represent – written and spoken language mainly differ through all of the kinds of shortenings that spoken language exhibits in contrast to the written form, i.e., through elision, contraction, assimilation, etc. Yet, since written language is principally modeled according to the spoken variety, features of the spoken form can – and in fact do – trace themselves to the written form. And due to the relative autonomy of written language, the latter can also create feedback for the spoken variety; e.g., (ortho)graphical features may (re-) affect the pronunciation of words.[15] As noted above, therefore, it is not possible to draw a clear-cut line of distinction between spoken and written language in all potential contexts.

This relative indistinctness of spoken and written language lowers the usability of this opposition as indicator for oral and literate transmission. Its full-applicability is moreover discarded by the aforementioned principal difference between the production of language and the transmission of text. Texts composed of spoken language can be transmitted by written forms, as is the case with private letters; whereas, highly-literate language can be transmitted by oral forms, as is the case with the memorization and performance of songs or poems.

14 Cf. Glück 2005 sub ‘Abhängigkeitshypothese’, sub ‘Autonomiehypothese’, as well as sub ‘Interdependenzhypothese’.

15 As it is e.g., manifest in the phonetization of the originally silent word-initial [h] in English (e.g., Engl. *hotel*, *habit*, or *herb*) or the restitution of originally dropped final consonants [t], [k], and [s] in French (e.g., Fr. *huit*, *donc*, or *plus*).

5.2. [Aspects of language and mental cognition – the reproductional cylce][16] Be it in the transmission from memory to memory, or be it in the transmission from written source to written source – the creative actor operating within the transmission process is the human mind. The textual-traditional aspects described above as storage, mediation, or internal reproduction correspond to – actually are conducted by – a specific set of cognitive actions. One must in this respect distinguish between *perception*, *processing*, and *production*, which together make up the three mental-operational stages of the *reproductional cycle* of a text:[17]



At the level of perception, a given linguistic item/structure is perceived from oral discourse or from the surface of an inscribed writing surface in the shape of audible/phonetic or visual/graphic signs. The production stage respectively accomplishes its re-transposition. Note that, in this concept, perception and production are not conceived of as passive 'reflexes' of the sensual and the motor system, but as full cognitive operations: Reading, writing, speaking and aural-language perception as sensitive and motor actions are innately bound to – and permanently fused with – mental operations. The processing stage, which is situated between the perception and production stage, is an optional stage. I.e., textual reproduction can simply build on chains of perception and production without further processing, but usually, it comprises some additional mental activities. Within the reproduction of lexical

16 The present section in parts is parallel to Scheucher forthc.

17 The models employed in cognitive linguistics, usually not concerned with the reproduction of a well-established text, but with free language production, summarize the mental processes involved under the two stages of perception and production only; cf. the collection of Allport / Mackay / Prinz / Scheerer 1987 and the contributions it contains; also see Ahlsén 2006.

lists, the most important processing operation presumably was the memorization of the item/structure perceived, but also its integration into the linguistic and/or (extra-)textual context of the previously-learned,[18] its translation, or its otherwise conscious transformation.

In a cognitive perspective, the difference between storage in memory and storage on written sources is crucial, since the memory is a part of the same mental system which also perceives, processes, and produces text, while written sources are not. In this respect, perceiving text from one's own memory, i.e., retrieving it, is not an act of perception, nor is memorizing to be considered an act of production, i.e., as a kind of 'writing into memory'.

The mental operations involved in a specific mode of transmission specifically imprint themselves into the structure and contents of the transmitted and reproduced. These imprints, in turn, may help identify the mode by which a given text has been transmitted.

5.3. [Aspects of language and mental cognition – a cognitive model of reading] Language perception and production as mental activities have been clarified in a fragmentary means only. Although it is possible to adjust specific cerebral areas to these activities, the actual mechanisms governing these areas – like most mental mechanisms – are still largely opaque.[19] Yet, by means of experiments, researchers were able to establish significant and adaptable models to several cognitive operations. Among the four basic perceptive-productive acts in oral and writing-based communication, i.e., speaking, hearing (as aural perception of language), writing, and reading, the latter is the action studied most intensely. Research, thereby, has largely focused on word recognition in contrast to recognition of greater, syntactic (and pragmatic) structures. Although this may be considered a general shortcoming, the limitation to isolated word recognition fits well into the context of the present study: The reproduction of lexical lists basically appears as a reproduction of relatively isolated words.

According to the now widely accepted *dual-route model*,[20] readers follow a combination of two strategies: *semantic reading*, identifying meanings directly from the overall graphic appearance of words; and *sublexical reading*, identifying the meanings of words via phonological encoding, grapheme by grapheme. The 'decision' readers make between the two routes has empirically been shown to depend on factors like the familiarity or the length of the word to be recognized, but also on

18 In models working with the two stages of perception and production only, '*integration*' is considered to be a significant part of the perception stage already, yet in this conception it refers to immediate syntagmatic and paradigmatic linguistic context (cf. Prestin 2003: 493f.). In the present conception; however, 'integration' is viewed as one of the components central to learning.

19 In general cf. Ashcraft 2006 and Ahlsén 2007.

20 There have been an abundance of studies produced on the theory of reading, which can not be reclaimed here in detail; cf. the valuable overviews in Günther / Pompiono-Marschall 1996, Prestin 2003, Ahlsén 2007. The dual-route model of reading corresponds to the dual-encoding hypothesis in the study of human memory; cf. Ashcraft 2006: 234f. as well as Sadoski 2003.

the grade of regularity of the respective orthography. Unfamiliar words, exceptionally long words, or words written in irregular orthography tend to be identified via sublexical reading, while comparably familiar and short as well as orthographically-regular words tend to be identified via semantic-reading strategies.[21]

Semantic reading principally operates beyond the phonetic/phonological level of language; yet, further research has shown that under normal circumstances, semantic reading as a kind of reflex activates the pronunciation – at least the silent pronunciation – of the read *after* the reader has identified the meaning – a phenomenon called *subvocalization*.[22] Under normal circumstances thus, – i.e., if subvocalization is not suppressed – reading invariably involves a certain degree of speaking, directly through sublexical reading or indirectly through subvocalization in semantic reading. Written language, not only in a linguistic or logical (see sect. 5.1.), but also in a cognitive perspective, seems to be embedded in and penetrated by spoken language.

The cognitive activity of writing has largely been assumed more or less to be an inversion of the activity of reading, with the specific – and for the present study very important – difference that phonetization is a permanent and inevitable escort of this activity, i.e., that writing always involves a certain degree of speaking (at least silently).

5.4. [Aspects of language and mental cognition – phonetically-determined vs. graphically-determined modes of writing][23] Research on the cognition of reading (and writing) has predominantly been focused on living, spoken languages that are linked to an alphabetic writing system. It is questionable as to whether or not the results gained from these studies also prove true for non-spoken – i.e., formerly-spoken, but now extinct – languages or for languages related to non-alphabetic writing systems.

Consistent studies that explicitly contrast the cognition of reading in alphabetic with that in syllabic writing systems are absent. The principal phonetic orientation syllabic systems share with alphabetic systems suggests that the tendencies exposed in the previous section are also valid for syllabic writing systems like those found for the Akkadian and Hittite of the present-corpus lists. Moreover, definitely Akkadian and very probably Hittite were still spoken languages at the time the present-

21 As for the effects of orthographic regularity on word-recognition strategies, particularly cf. Scheerer 1987.

22 Current methods of speed reading e.g., attempt to suppress this subvocalization reflex and thus successfully increase the reading tempo.

23 In the following, no principal distinction is made between the concepts of ‘writing system’ (logographic, syllabographic, or alphabetic) and ‘orthography’ (deep and shallow; as for the terminology cf. Scheerer 1987). In the present context of cuneiform writing, ‘phonetically-determined’ writing systems are conceived of as basically syllabographic with shallow orthography, while ‘graphically-determined’ writing systems are conceived of as basically logographic with deep orthography.

corpus tablets were produced and it is very likely that they were also perceived as such by the students and scribes of the texts.[24] Items of both languages appear in a relatively irregular orthography in the present-corpus texts (brought about by the polyphony of the cuneiform signs in general and by their relatively voice-indistinct application in the western peripheral syllabaries; cf. chapter 9. sects. 1.1., 1.2., & 2.1.), which seems to have made sublexical reading unavoidable in most contexts. The approach to the *written* Akkadian and Hittite items of the lists, thus, for several reasons must have been a primarily *phonetic* approach. The Akkadian and Hittite of the present-corpus texts appear as *phonetically-determined* languages.

In contrast, the Sumerian of the lists appears to be *graphically-determined* for several reasons: (1) Sumerian was an extinct language for centuries by the time the present corpus was produced, probably even having lost the status of a natural language, and (2) it was basically written in logographic script; according to recent studies on the reading of Chinese, it appears that logographic spelling strongly abets the strategy of semantic reading at the expense of sublexical reading,[25] which thus forms a fairly applicable hypothesis for the reading of Sumerian. (3) The Sumerian of the lexical lists is moreover rendered in comparably regular orthography. With that, (4) the core component of the texts to be preserved was the Sumerian column, and the purpose of studying the Sumerian column was not only to understand Sumerian but also to know how to write in Sumerian; it was useless to know how Sumerian items were pronounced without knowing how they were written. The approach to the Sumerian items of the present-corpus lists, thus, primarily was a graphic one. It even seems that (virtual) graphic decoding and encoding also must have played a considerable role within oral and memory-based modes of transmission. In the reproduction of the Sumerian parts of the lexical lists, it seems, graphical decoding and encoding could not easily be permeated and overridden by phonetic decoding and encoding.

5.5. [Aspects of mental cognition – cognitive aspects of memory and memorization] Research in human memory is able to isolate different levels of memory.[26] Researchers basically oppose *short-term* (working) memory to *long-term* memory; the latter is generally qualified as *explicit* (or *declarative*) memory, memory that can be reflected upon consciously; and *implicit* (or *non-declarative*) memory, that guides human actions without conscious awareness necessary or even possible. Within declarative

24 As for Akkadian, this conclusion is inevitable; whereas for Hittite, doubts have recently been raised as to whether it still was a spoken language in the late 13th century (cf. van den Hout 2006). Yet, even if one tends to follow this hypothesis, it seems very probable that Hittite, although extinct already, was still perceived as having a concrete phonetic reality and realization by the scribes who studied the lists.

25 Cf. the collections of articles Wang/Inhoff/Chen 2010 (particularly the contribution Zhou/Shu/Bi/Shi 2010), Hoosain 1995, and Leong/Nitta/Yamada 2003.

26 For this and the following, cf. Ashcraft 2006 and Baddeley 1990.

memory, an additional distinction must be drawn between *episodic* and *semantic* memory. Following M.H. Ashcraft, one may characterize episodic memory as "a personal, autobiographical store", while semantic memory would be "a genetic storehouse of knowledge" (2006: 259). The memorization of text is certainly a part of episodic memory, while the memory of language is semantic. The memorization of lexical lists, thus, seems to theoretically depend in part on episodic and in part on semantic memory. Existing categorizations of the 'genetic storehouse' (semantic memory) form the context in which new material is integrated through the memorization of text (episodic memory).

Studies in mental cognition normally distinguish between two kinds of rehearsal by which information is stored in memory, *maintenance rehearsal* and *elaborative rehearsal*. Maintenance rehearsal – as the term suggests – simply denotes the maintenance of the to-be-memorized within memory, mostly by repetition. Compared to elaborative rehearsal, which denotes the deep-encoding of the to-be-memorized by working it into existing memory structures, maintenance rehearsal is the by far less effective strategy with regard to long-term storage. This deficiency reflects itself in the low effects the technique of rote learning shows in contrast to elaborative techniques of memorization. Elaboration, i.e., deep-encoding of the to-be-memorized is accomplished in various ways. Besides such devices as rhyme, imagery, or semantic elaboration, *organization* seems to be the aspect central to all effective memorization and learning. Researchers thereby have arrived at the result that memorization and learning function within a network of *organizational units*, discrete chunks which can be related and combined into larger units in various ways. The number of single items (words, objects, concepts, etc.) that ideally make up one organizational unit has been determined to be 5 ± 2.[27] With regard to the overall structure of lexical lists as described in chapter 2, with the high grade of organization (vertical structure) and semantic elaboration (vertical & horizontal structure) they provide, these compositions seem to be relatively accessible for memorization. On the other hand, the rigidity of their structure, making individual entries structurally interchangeable – and structurally indiscriminable – puts some natural limitations on the grade of viable elaboration.

Apart from that, the network-like organization of human memory forms an important aspect of memorization and retrieval as it is relevant for the study of lexical lists. Within memory, units seem to be related to each other in multiple directions, at least in normal cases, so there is simple not a singular and sole retrieval cue.[28] Usually, the memorized units can be accessed via several routes. This multiple accessibility probably explains why the sequence of serially-memorized items can alter within retrieval. Lexical lists, though organized hierarchically to some degree, seem to be basically serial compositions, and in case of their memorization, subsequent retrieval expectedly leads to some degree of variation in this sequence of items.

27 Thus resuming Miller's famous article 'The magical number seven plus or minus two' (1956).

28 In this respect note the post-structuralist approach to lexical lists as proposed by M. Hilgert (2009).

6.1. [Methodological consequences – defining the object of study] In terms of the outline given in the preceding sections, it is possible to define the objects of investigation – i.e., what is to be conceived of as *transmission* and as *lexical lists* – more precisely. Reconstructing the transmissional background of the lexical lists as preserved at Ḫattuša and at the other sites of the LBA periphery means reconstructing the modes of *storage* and *mediation* (cf. sect. 3.1.) involved in their *long-distance* as well as in their *short-distance* transmission (cf. sect. 3.2.). The object of the study thereby is the *transmission* of the lists; the sources preserved being the results of the literate *performance* of the texts (cf. sect. 4.3.). The study therefore must attempt to reconstruct the transmission of the texts out of the performative acts that involved their transmission.

The textual concept of *lexical lists*, though appearing clearly defined on first sight, requires additional specification with regard to the textual levels involved. According to the model established in sect. 4.1., the demarcation between *textual* and *meta-textual* levels, i.e., between core information and explanatory information embedded in the lexical compositions, is not quite clear. The observer therefore has to reckon with the fact that individual components of the text (e.g., parts of the meta-text, perhaps the Hittite column) were transmitted differently than others (e.g., parts of the core textual level, perhaps the Sumerian column). One further needs to define which textual levels to include into the investigation: In investigating the short-distance transmission of the present-corpus lists, the study – by definition – only cursorily deals with the transmission of the *con-textual* levels, i.e., with the cultural techniques necessary for textual perception and textual understanding (as for the long-distance transmission, see the following chapter). Also, potential meta-textual levels are more intensely studied only as far as they appear explicit in the written format. The main focus of the study is the transmission of the core textual level, the level which is the best accessible through written sources.

6.2. [Methodological consequences – investigating oral mediation of text] Oral mediation, as exposed in the model of sect. 3.1., denotes the handing-down of a text from one storage container (memory or writing surface) to another one by oral communication (reciting from memory or dictating from a writing surface). Oral communication can principally be detected indirectly only in written primary sources, i.e., through the indirect traces it leaves in written manuscripts. Observing traces of oral discourse in lexical lists is particularly difficult, since these are collections of isolated words devoid of any regular-speech discourse. Traces of oral speech can only be found in linguistic, mostly phonetic/phonological, transformations (or deformations) of individual items. Yet, as argued in sect. 5.3., reading and writing in phonetically-determined linguistic contexts invariably includes a phonetic dimension – a phonetic dimension that is primary to the graphic dimension and may override it. Phonetically-induced deviations in written sources, thus, do not necessarily point to oral communication having preceded their production.

Only in graphically-determined linguistic contexts, phonetic transformations and deformations can be used as evidence. As demonstrated in sect. 5.4, it is only the Orthographic-Sumerian column in the present-corpus texts that, for a number of reasons, provides a context suitable in this respect. To resume, (1) the writing system used in this column is basically logographic, i.e., independent from pronunciation; (2) the orthography of Sumerian is relatively regular and fixed, (3) the Sumerian column contains the core elements of the lists to be preserved with high accuracy; and (4) Sumerian was an extinct, (primarily) written, and partly artificial language at the time the manuscripts were produced. It appears highly improbable that a scribe copying a list from a written vorlage distorted Sumerian items with his phonetic misinterpretations under these presets. In this respect, phonetically-induced deviations with all probability point to oral mediation as their origin and thus as the mode of mediation involved in the transmission.

Oral mediation, thus, is only demonstrable through phonetically-motivated deformations of items in the Sumerian column. As will be seen in chapter 9, sect. 5.1. & chapter 10, sect. 1.2.1.2., it is in this respect necessary to further distinguish between real deviations and more or less regular 'unorthographic and derivative spellings' of Sumerian items, which have circulated in the manuscripts since the OB period – a distinction which is possible in many cases. The dating of such indicative features poses an additional problem. As they are phonetically-motivated, it is impossible to adduce writing-based features for dating, such as orthography or paleography.

6.3. [Methodological consequences – investigating memory-based storage of text] Memory-based storage, according to the model given in sect. 3.1., denotes the preservation of a text through its memorization, whatever the source from which and the mode by which the text is received. Demonstrating memory-based storage of text can build on negative textual evidence only, since there are only *written* primary sources at the observer's disposal. I.e., demonstrating memory-based storage in principle means demonstrating that sources were *not* stored through writing.

A first feature enabling a falsification of this kind is formed by the textual instability that manifests itself as variation among duplicating sources of a textual version. Investigating textual variation in this respect, naturally presupposes the presence of a sufficient number of duplicates that demonstrably stem from the same coherent archival environment and that are roughly contemporaneous – a prerequisite that is unfortunately not given for all corpora investigated.

A second feature by which memory-based storage can be demonstrated is the simple absence of parts of text, meta-text, or con-text. Every component of this sort which is to be expected, but is decidedly not present in written sources must, as a principal initial hypothesis, have been handed down by memory-based transmission. Presuming that there are no principal losses including whole textual genres among the written sources of the LBA peripheral tablet collections, one may fairly

assume that a good deal of knowledge necessary for understanding and using the lexical lists was stored by memorization. This is by no means surprising, since learning and being taught always involve at least a certain degree of memorization; learning without internalizing the material in some way, has failed (see sect. 2.2.). Regarding the fact that in a given corpus of texts, one can always identify textual components that are not present in writing, it is very important to provide a clear definition of the textual levels as well as of the textual-traditional acts that are considered subject of the investigation (see above, sect. 6.1.).

6.4. [Methodological consequences – investigating writing-based modes of transmission] The study of literate modes of transmission on the one hand has the advantage that the researcher can build on positive evidence; written sources are available in abundance. On the other hand, researchers face the problem that, as mentioned in sect. 3.1., written records, although produced for a specific usage, are functionally variable and can, due to their potential permanence, be dedicated to other usages after their production. In this respect, one has to keep apart original, primary usages from later, secondary usages.

Thus, it is clear through the mere presence of written sources that writing was in one way or another involved in the transmission of lexical lists; it is however difficult to determine the exact usage of these written sources within the transmission process. In this respect, the question of the transmission of the lists strongly correlates with the question of their functional context. In a transmissional perspective, written sources can be produced/used as: (1) storage in writing-based transmission, as (2) mediation in memory-based storage, as (3) the by-product in writing-based internal reproduction, or as (4) the by-product in memory-based internal reproduction (cf. the schemes in sect. 3.3.). The primary functions usually corresponding to these transmissional roles are: (1) reference, (1 & 2) *vorlage* for reproduction, (3) aide memoire, and (3 & 4) assignment/recitation. Thus, it is clear that, if the (primary) functional of (the production of) a manuscript for e.g., was the procedure of memorization, its transmissional context must have been the context of writing-based internal reproduction.

Altogether, there is a limited number of features by which the role of written records within transmissional processes can be determined:

(1) Tablets that were demonstrably copied from written *vorlagen* must have been used as storage (at least in their secondary function) or they were produced during memorization in writing-based internal reproduction.

(2) Tablets that can be shown to have been an integral part of the long-term tablet collections, subjected to the usual reproductional mechanisms of these collections, were used as storage – at least in their secondary usage. The mere fact that a tablet was kept is in this respect not sufficient for proving its *use* as storage; their active usage is evident only in their active reproduction.

(3) Tablets that show abbreviations, a high number of mistakes, or sketchy or clumsy writing hands very likely have emerged from writing-based internal reproduction as their primary usage.[29]

In this respect, it is possible to determine usages (1) and (3) only in the primary sources, and consequently, to reconstruct only those writing-based transmissional modes that are related to these usages.

29 In contrast; however, the well-shaped appearance of manuscripts does not contradict an exercise context.