Sumerian word order alterations
Jarle Ebeling

Introduction

The study reported here is a corpus-based study of Sumerian word order patterns. It is a pilot study and the findings can best be described as preliminary. It is my hope, however, that they can serve as a basis for a more comprehensive investigation, including a corpus-based comparison with typologically similar languages.

When we talk about Sumerian today, we refer to a language that has not been spoken by a native speaker in four thousand years, and a language which has been deciphered/construed posthumously from exclusively written sources spanning hundreds of years. In addition, much of what we know about Sumerian has come to us through speakers of another long-dead language, namely Akkadian. Akkadian is an East Semitic language which co-existed with Sumerian in Iraq, but it is not related to Sumerian. The Akkadians were among the first to translate Sumerian and produce bilingual lexical and grammatical lists. All this, together with the limitations imposed by our sources, make any general statement about the Sumerian language necessarily less well founded than statements about other better-documented languages.

The ETCSL

The material for this pilot study is taken from the *Electronic Text Corpus of Sumerian Literature* (ETCSL). The aim of the ETCSL project is to build a corpus of literary Sumerian, lemmatise it and enrich it with morphological and syntactic information. We will also try to add an English label or gloss to every Sumerian lemma. Enriching it with grammatical information and labels will hugely enhance the usefulness of the corpus and should make it easier to make statistically valid generalisations about Sumerian both for sumerologists and linguists alike. Example (1) shows the kind of information we will include.

(1)   nam-lugal-bi $unug^{ki}$-$\check{s}e_3$ ba-de_6
        nam-lugal<kingship>-3POSS   unug<Unug>-TERM   PASS-de_6<bring>
        Trans.: its/their kingship was brought to Unug
            (nam-lugal = "ship-king", ^{ki} = determinative meaning "place")

At present we are proofreading the lemmatisation and the English labels. We hope to put this material on the web within the year. The project is based at the Oriental Institute at the University Oxford and goes on until April 2006.

Limitations of the study

The study presented here is limited in several important ways. First, the material for the study is limited to finite clauses containing at least one locative element. This means that I shall primarily be concerned with the placement of locative elements in relation to other elements in the clause. The reason for choosing place adverbials is mostly pragmatic. They are relatively easy to search for, recognise and classify. In addition, being in many instances non-obligatory arguments of the verb, their position within the clause may be less susceptible to grammatical constraints and more susceptible to functional or performance-driven factors like relative importance or length. This should make them good indicators of the rigidity of the word order of the particular language.

The text basis for the study is limited by the fact that only literary compositions have been included. This means that the material has many of the characteristics of narratives, which will influence the result of the study.

Finally, the study is limited by the fact that only tentative conclusions can be drawn based on the limited number of occurrences that has been examined so far.

The structure of the paper

The presentation consists of the following parts: I shall start by comparing Sumerian word order with the word order of other SOV languages. Next, I will go on to look at the position of locative elements in more detail before setting out major and minor word order patterns of Sumerian based on descriptions found in existing grammars. Then, after a introducing some terminology, I will go on to discuss particular findings and give examples of patterns found in the corpus. Finally, the major and minor word order patterns gleaned from existing grammars will be compared with the findings.

Sumerian word order

Although relatively little has been written about Sumerian word order by sumerologists, the language has been included in quite a few word-order studies, e.g. Greenberg 1963, Hawkins 1983, Rijkhoff 1998, Gensler 2003 and Siewierska 2003. In Hawkins (p. 338), Sumerian is characterised as an SOV language with postpositions and noun-adjective, noun-genitive and noun-relative clause word order. Table 1 compares Sumerian with other SOV languages, including the extinct Akkadian language.[1]

Table 1. Word order information on five SOV languages[2]

	BWO	Adpos	Dem/N	Num/N	Adj/N	G/N	Pro/N	Rel/N
Akkadian	**SOV**	prep	**NDem**	NumN	**NAdj**	**NG**	**NPro**	**NRel**
Basque	**SOV**	post	**NDem**	NumN (b)	**NAdj** (b)	GN	ProN	RelN (b)
Japanese	**SOV**	post	DemN	NumN (b)	AdjN	GN	ProN	RelN
Sumerian	**SOV**	**(post)**	**NDem**	**both**	**NAdj**	**NG**	**NPro**	**NRel**[3]
Turkish	**SOV**	post	DemN	NumN	AdjN	GN	both	RelN

The table shows that only Sumerian is consistently head before modifier in the noun phrase. Demonstratives, adjectives, numerals, genitives and relative clauses will follow their head in Sumerian. Sumerian is generally not regarded as having adpositions, only case markers. Since these attach to the last word of the phrase, they are often regarded as clitics and not affixes. This consistent head-modifier order is at odds with observations about other SOV languages, which seem to place most modifiers before the head. Testelec (1998:650) writes:

> Though in head-final languages not all modifiers of the noun exhibit the same likelihood of being placed in pre-head position [...], any SOV language may be expected to position at least some modifiers before the head noun.

Another observation about SOV languages that is pertinent to Sumerian is the one made by Greenberg (1963:63) regarding the distinction between rigid and non-rigid ones.[4] A non-rigid SOV language is one where at least one operator on the verb, e.g. subject or object, can follow it, while this is not allowed in rigid SOV languages (Hawkins 1983:137). Rigid SOV languages are captured by Greenberg's universal 7 (ibid.):

> If in a language with dominant SOV order, there is no alternative basic order, or only OSV as the alternative, then all adverbial modifiers of the verb likewise precede the verb.

Greenberg regards Japanese and Turkish as rigid SOV languages, while Basque is non-rigid. In Siewierska et al. (1998) however, both Basque and Turkish are said to have a variant order where the recipient in a ditransitive clause can come after the verb. Butt and King (1996) also claim that direct objects can occur a postverbally in Turkish. They illustrate this with the example cited in (2) taken from Göksel (1995).

(2)   dün ben gör-düm bir filim
        Gloss: yesterday I.NOM see-Past.1SG one film

As regards Sumerian, Attinger (1993:154) claims that OSV is the only variant word order in Sumerian non-literary texts, and that (S)VO and VSO orders are extremely rare and only occur in literary texts. These alternative word orders, he claims, may indicate a topicalisation of the object.[5] This leaves, at least partly, open whether Sumerian should be characterised as a rigid SOV language on a par with Japanese or non-rigid like Basque and probably Turkish.

From this general overview of SOV languages and Sumerian, we move on to look more specifically at the position of adverbial elements.

Adverbial placement

The following tentative universals, taken from Sanders (1978:72-74), give a good overview of the possible positions of adverbial constructions:

> U.9   All languages have sentences with sentence-initial adverbial constructions.
> U.10   All languages have sentences with non-initial adverbial constructions.
> U.11   For the most if not all adverbial constructions in all languages, the most "normal", most prosaic, and implicationally most unmarked ordering for such constructions is in a non-sentence-initial position — following either the superficial subject or the superficial object or both.
> U.12   If a language has S(O)V orderings but not SVO orderings, then it will have S(O)ADV V orderings, but no S(O)V ADV orderings.

In a footnote to universal no. 12 (p. 74), Sanders writes: [quote] "The non-occurrence of post-verbal objects may also imply the non-occurrence of [S ADV O V] orderings. I have insufficient data on such orderings, however, to determine whether or not this correlation actually holds." [unquote]

According to Thomsen (1984:52), this correlation does not seem to hold for Sumerian.

> Between the intransitive subject and the verb, and between the transitive subject and the object, various dimensional cases may occur. Exceptionally a dimensional case or an adverbial expression may occur between the object and the verb.

This means that S A V and S A O V are the basic patterns, while S O A V is a less frequent alternative to the second pattern. To summarise we can set up the following patterns for Sumerian:[6]

> Major patterns: S V, S O V, S A V, S A O V
> Minor patterns: O S V, S O A V
> Marginal patterns: (S) V O, V S O (in literary texts only)

These word order patterns only occur, of course, when subject and object are encoded by noun phrases with lexical heads or by pronouns, not when subject and/or object appear as affixes on the verb.

The study presented here is an attempt at establishing through text counts, if the pattern ranking above is correct, and as a corollary, whether Sumerian can be described as a rigid or non-rigid SOV language with the limitations on word order alternatives this implies.

Before we look at the data and the analysis, the method by which they were obtained and the way they were classified will be discussed. Unfortunately, this means that we need to introduce some more terminology.

Material and terminology

The material for the study was obtained by searching for words having the case markers *-še3* (terminative) and *-ta* (ablative).[7] In addition, certain words which would most likely be part

of an adverbial expression of place, like *sila* (street) and *sila dağal-la* (street wide = square/market), were included.

The most obvious case marker to include would be locative *-a*. The problem, however, is that one of the allomorphs of the genitive case marker *-ak* is also *-a*. This makes it difficult at times to distinguish locative expressions from genitive ones, as in (3).

(3)   a-a (water-GEN/LOC?)

-a is also a non-finite verb suffix (cf. *sila dağal-la*), which complicates matters even further when searching for locative expressions. To exclude possible differences between the position of the adverbial in clauses versus phrases, only finite clauses are included in the material for the study.

As regards transliteration and glosses, I have not made any distinction between affixes and clitics, nor, in most cases, between graphemes which can or cannot be further segmented. Note especially that we have adopted a sign-by-sign transliteration for the material of the corpus, not a morpheme-by-morpheme one. The hyphen is of course a modern convention to help in our interpretation. To simplify further, I have normalised place names and proper nouns according to English spelling in the glosses and translations alike.

All the clauses were analysed using a set of functions or roles. These functions are the **Process**, which is encoded by the verb; the **Medium**, which is the role or entity through which the process comes into existence, and which corresponds to Actor in intransitive processes and to Goal in transitive ones; the **Agent**, which is the external cause of the combination Process + Medium; the **Beneficiary**, which is the one to (Recipient) or for (Client) something is done; the **Range**, which construes the scope over which the process takes place; and finally the **Circumstance**, which in our case is a spatial constituent, but which can also construe the unfolding of the event through time or the way in which a process is actualised, that is manner. Figure 1, taken from Halliday (2004), shows how the various functions relate to each other.

Figure 1. Clause nucleus of Process + Medium, inner ring of Agent, Beneficiary and Range and outer ring of circumstances (Halliday 2004:296)
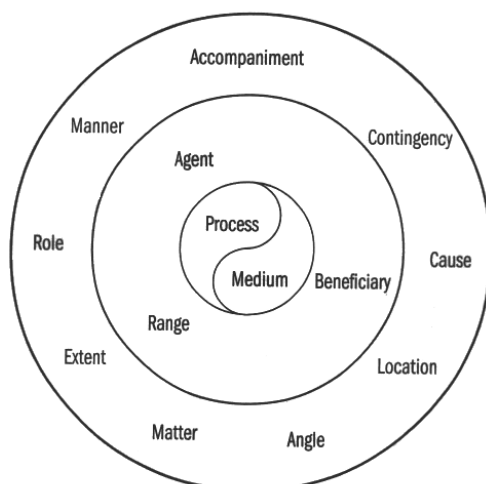
These are all Hallidayan terms and function in the clause as representation seen from the ergative perspective. According to Halliday (2004), the ergative model is the more general one, where the nucleus of the clause consists of the Process and the Medium. The Medium is the participant that is never introduced by a preposition, or case maker, in the case of Sumerian. Since Sumerian is regarded as a basically ergative language, applying the ergative model when analysing and classifying the material seems appropriate. In the discussion of the findings, the following abbreviations will be used:

- A = Agent
- B = Beneficiary (Recipient or Client)
- L = Location (usually motion from or to a place)
- M = Medium (Actor or Goal depending on the valency of the verb)
- P = Process (verb)

There are many reasons why a systemic-functional approach has been chosen, all of which I cannot go into here. However, it is worth mentioning that the approach stresses the importance of the corpus as a primary source of language data, and advocates close text scrutiny in language research. It also recognises the fact that a clause functions on several levels, of which the experiential one, which is very conspicuous in narratives, is but one.

      We should now be equipped to start the analysis of the Sumerian data.

Analysis

My material consists of 194 instances of finite clauses containing a locative element, which yielded 69 different word order patterns. The high number of patterns can to a large degree be explained by the fact that we get slightly different word orders depending on whether the Agent and/or Medium is overtly expressed in the clause or not, and whether they are noun phrases with lexical heads or only person-number-gender (PNG) markers on the verb, or both.

      In (4), the Medium, which is not marked for case, would be analysed as Actor in the transitive model, while in (5), the Medium is comparable to Goal since we here have an ergative-marked Agent.

(4) **M L P** : lugal-$\tilde{g}u_{10}$ keš^{ki}-še$_3$ na-$\tilde{g}$en
     king-1SG.POSS Kec-TERM MDL-go
     Trans.: My king went to Kec

(5) **A L M L P**: ensi$_2$-ke$_4$ kisal di$\tilde{g}$ir sirara$_6$-ta-ka sa$\tilde{g}$ an-še$_3$ mi-ni-il$_2$
     ruler-ERG courtyard deity Sirara-ABL-GEN:LOC head heaven-TERM CISLOC-LOC-raise
     Trans.: The ruler raised (his) head towards heaven in the courtyard of the deity from Sirara

Examples (6) and (7) show very typical patterns. In (6), there is no Actor expressed at all, while in (7) there is a PNG-marker suffixed to the verb, which can be interpreted as referring to the Actor.

(6) **L P:** eridug^{ki}-še$_3$ ba-$\tilde{g}$en
     Eridug-TERM 3SG/PL.NHUM:DAT-go
     Trans.: went to Eridug

(7) **L P-png:** nibru^{ki}-še$_3$ ba-du-un
     Nibru-TERM 3SG/PL.NHUM:DAT-go-1/2SG.HUM
     Trans.: I am/You are going to Nibru

Table 2 shows the distribution of the various patterns where there is a locative element in addition to the Medium. Medium is here comparable to Actor in the transitive model of the system.

Table 2. Processes where Medium = Actor

Pattern	Frequency
M L P	35
L P	30

L P-png	16
L M P	5
Total	86

The frequency and distribution of the patterns conform well to the major and minor patterns set out in the beginning of the talk. In most cases, the locative element follows the Medium when the latter is a full noun phrase. Note the large number of L P constructions. Very often the Medium is not expressed at all in the clause. This is of course not uncommon, neither as a language feature, compare for instance Japanese, nor as a feature of literary texts.[8] The three most frequent patterns of table 2 are illustrated by examples (4), (6) and (7).

The five instances of the Locative - Medium - Process pattern are interesting in that four of them contain a pronoun, while one has a proper noun in mid-position. Unfortunately, the four instances containing a pronoun is the same line of text repeated four times, and should therefore really only be counted as one occurrence. However, they do show that a locative element can precede the Medium in Sumerian intransitive constructions, as in (8).

(8) **L M P:** kul-aba$_4^{ki}$-še$_3$ ğe$_{26}$-e ga-ğen
     Kulaba-TERM 1SG.HUM MDL-go
     Trans.: I will go to Kulaba

The word order patterns of table 2 are all captured by Sanders universals U.9 to U.11. The question is whether the fronting of the locative element is a conscious choice, and whether it signals a shift in emphasis? It seems reasonable to suggest that having a pronoun immediately preceding the verb in Sumerian entails a strong focus on the referent of the pronoun.

To put it more generally, one can claim with Halliday that "prominence comes from occurring either earlier or later than expected in the clause" (p. 296). If, as seems to be the case, occurring immediately before the verb is the expected position for a locative element in Sumerian clauses where Medium equals Actor, having it before the Medium gives prominence to it, as in the example (9).

(9) **L M P:** unug^{ki}-ta ^{d}inana ba-da-an-kar
     Unug-ABL Inana 3.NHUM-ABL-LOC-flee
     Trans.: From Unug Inana fled

However, the emphasis may as well be on the Medium, *Inana*, since preverbal position is the usual position for introducing salient information in many SOV languages.

Next we move on to clauses where there is an Agent in addition to the Medium, that is processes having two participants in addition to the locative element. Unfortunately, there is much less data to base any preliminary conclusions on, so this is all very tentative. For the sake of clarity, png-markers have not been indicated in the table.

Table 3. Processes where Medium = Goal

Pattern	Frequency
M L P	28
A L M P	5
L M P	4
M P L	2
L P L	1
Total	38

Where there is no Agent mentioned in the clause, the preferred pattern seems to be for the locative element to follow the Medium. On the other hand, when there is an overt Agent, the preferred pattern seems to be for the locative element to precede the Medium. This latter

pattern also occurs four times when there is no expressed Agent in the clause. Based on the findings presented in table 3, we may need to reformulate what we consider as major and minor word order patterns of Sumerian. The findings so far seem to indicate that Medium before locative is a far more frequent pattern than locative before Medium.

Once more, however, we are faced with the problem that many of the instances of the most frequent pattern come from only one text. The text in question lists the transferal of power from one place to another, and the verb is most likely in the passive voice. So we have instances like (10) and (11), which are nearly identical.

```
(10) M L P: nam-lugal-bi a-ga-de₃ᵏⁱ-še₃ ba-de₆
         kingship-3SG/PL.POSS Agade-TERM PASS-bring
         Trans.: Its/Their kingship was brought to Agade

(11) M L P: nam-lugal-bi ḫa-ma-zi₂ᵏⁱ-še₃ ba-de₆
         kingship-3SG/PL.POSS Hamazi-TERM PASS-bring
         Trans.: Its/Their kingship was brought to Hamazi
```

Since the passive is used, it comes as no surprise that the Medium is in initial position nor that the Agent is not mentioned. Demoting the Agent and emphasising the Medium is after all the main functions of the passive.

There are, however, a few instances of this pattern with the verb in the active as well, but they are not more frequent than the other patterns of table 3. Examples (12) - (15) show instances of the most frequent patterns of table 3.

```
(12) M L P: niĝ₂ asil₃-la₂ lagašᵏⁱ-ta u₃-um-de₆
         thing joy-GEN Lagac-ABL CONN-CISLOC-bring
         Trans.: and then brought thing of joy from Lagac

(13) M L P-png: sig-sig a-ga-de₃ᵏⁱ-še₃ i₃-gi₄-in
         wind Agade-TERM FFM-turn-1/2SG.HUM
         Trans.: I/You turned the wind to(wards) Agade

(14) A L M P: ᵈen-ki-du lugal eg₂ pa₅-ra-ke₄ urimᵏⁱ-ta eg₂ pa₅ ba-da-
an-kar
         Enkidu king dyke canal-GEN-ERG Urim-ABL dyke canal 3.NUM-
         ABL-3SG.HUM-take
         Trans.: Enkidu, the king of dyke (and) canal, took away dyke
(and) canal from Urim

(15) L M P: arattaᵏⁱ-aš inim mu-un-bur₂
         Aratta-TERM word CISLOC-3SG.HUM-spread
         Trans.: spread the word to Aratta
```

The two instances of the M P L pattern and the one instance of the L P L pattern are interesting since here, for the first time, we have an indication that a clause constituent can follow the verb in Sumerian, making it a non-rigid SOV language. The two instances of the M P L word order pattern are the same line repeated twice, so they should really count as one occurrence of the pattern. There is no doubt that the locative element follows the verb, even though the meaning of the clause is difficult to grasp. The relevant line is included here with a two-line context and italicised.

```
(16) unugᵏⁱ-ge niĝ₂-gur₁₁ ni₂-ba-ke₄ ᵍⁱˢma₂ ḫe₂-em-da-gid₂-de₃
         Unug-ERG goods self-3SG/PL.NHUM.POSS -GEN:DIR boat MDL-
         CISLOC-COM-sail-3.HUM
         M P-png L: ᵍⁱᶜma₂ ḫe₂-em-da-la₂-e e₂-za-gin₃ arattaᵏⁱ-še₃
         boat MDL-CISLOC-COM-bind-3.HUM Ezagin Aratta-TERM
```

```
        sukkal an-sig₇-ga-ri-a iri-na mu-ni-zig₃ KIŠI₄-na mu-ni-šub
        minister Ansigaria city-3SG.HUM.POSS:LOC CISLOC-LOC-rise
...
        Trans.: Unug will be bringing goods on their own by boat.
        They will bind [tow?] with (them) the boat to the Ezagin of
        Aratta. Minister Ansigaria rose in his city ...
```

Example (17) shows the L P L pattern, where the function of Agent is suffixed to the verb.

```
(17) L P-png L: gar₃-gar₃ kur-ra-ke₄ ḫe₂-en-tum₂-mu-de₃ kul-abaᵏⁱ-
še₃
        high_place mountain-GEN-DIR MDL-3SG.HUM-bring-IMPF-
        3SG.HUM Kulaba-TERM
        Trans.: Over the high places of the mountain he was bringing
        him to Kulaba
```

Examples (16) and (17) seem to confirm that locative elements can occur after the finite verb in Sumerian. We shall return briefly to other elements occurring after the finite verb later on.

　　　　With regard to the two alternative word orders Locative before Medium (L M P) and Medium before Locative (M L P), they both seem to occur regularly.

　　　　Before we summarise, a few more examples of non-verb-final clauses will be presented. These instances seem to confirm Attinger's observations that Sumerian allows constituents in postverbal position, at least in literary texts. In examples (18) to (21) the verb form has been underlined while the postverbal element has been italicised.

```
(18) id₂ maḫ-gin₇ mi-ni-ib-be₂ i₃-ur₄-ru gu₂-erim₂-še₃
        river mighty-EQT CISLOC-LOC-3SG/PL.NHUM-say FFM-gather-
        3.HUM enemy-TERM
        Trans.: river said [roared] like (being) great (--) it was
gathering towards enemies
```

```
(19) na-ru₂-a ud ul-la₂-še₃ me-gub-bu-uš me-da ud-še₃
        stele day distant-GEN-TERM CISLOC-stand-3PL exist-COM day-
TERM
        Trans.: steles (which are) standing for future days, for
days to come
```

```
(20) me ki-en-gi-ra-ke₄ ki ud-ba ḫa-la-me-eš ud ul-li-še₃
        essence Kiengir-GEN-ERG place day-3SG/PL.NHUM.POSS:LOC
        distribute-COP-3PL day distant-GEN-TERM
        Trans.: ... the divine powers of Sumer, which at that time
were forgotten forever
```

```
(21) g̃e₂₆-e nu-mu-da-sa₂-e-en ud da-ri₂-še₃
        1SG.HUM NEG-CISLOC-COM-equal-1/2SG.HUM day side-distant-
ALL
        Trans.: I cannot equal you ever
```

Examples (19) to (21), in particular, show that a temporal constituent can come after the final verb in Sumerian. The semantics of these temporal elements stand out in the sense that they emphasise strongly the remote extent of the time referred to. The question is whether the postverbal position adds to this focussing. Since we do not have access to native-speaker intuition, perhaps evidence from other languages can answer this question. This is something a more comprehensive study could look into.

Summary

We started out by listing major, minor and marginal word order patterns in Sumerian based on descriptions found in grammars. These patterns are repeated here for convenience.

> Major patterns: S V, S O V, S A V, S A O V
> Minor patterns: O S V, S O A V
> Marginal patterns: (S) V O, V S O

The current study has shown that if we collapse the functions of Actor in intransitive clauses with Goal in transitive ones into Medium, which together with the process (verb) constitute the nucleus of the Sumerian clause as representation, we get Medium - Locative - Process as by far the most frequent word order pattern in Sumerian literary texts. When there is an Agent in the clause, expressed by a full noun phrase, the most frequent word order is Agent followed by Locative followed by Medium (A L M P).

The word order Locative - Medium - Process (L M P), again the Medium is either Actor or Goal, is also attested. Actually, it is so frequent that I would hesitate to call it minor.

If we convert our labels to the ones used in the grammars to simplify the comparison, but keep L to show that we have primarily looked at locative elements, our study yields this list of patterns:

> Most frequent patterns: L V, S L V, O L V
> Less frequent patterns: L S V, L O V, S L O V
> Marked pattern(?): O V A (A = adverbial of time/space)

The study has confirmed that although locative before direct object is a common word order pattern in Sumerian, it has revealed that when there is no Agent expressed in the clause, the most frequent pattern is in fact object before locative. We have also been able to show that literary Sumerian can have adverbial elements in postverbal position making it a non-rigid SOV language. This, I hope, shows the usefulness of corpus-based word order studies, as well as the importance of distinguishing between clauses where the participants are coded by full noun phrases and where they are not.

Abbreviations

1, 2, 3 = 1st, 2nd, 3rd person
ABL = ablative
CISLOC = cislocative (the term ventive is often used by sumerologists)
COP = copula
DAT = dative
DIR = directive ((motion+) arriving at place)
EQT = equative
ERG = ergative
EXCL = exclamation
FFM = finite form marker
GEN = genitive
HUM = human gender, including deities
IMPF = imperfective
LOC = locative
MDL = modal (he2 - affirmative, ga - cohortative/volatile, na - affirmative+narrative)
MID = middle marker
NEG = negator/negative
NHUM = non-human gender, including groups of people and slaves
PASS = passive
PL = plural
PNG = person-number-gender marker
SG = singular
TERM = terminative (motion towards a place)
TOP = topic

References

Attinger, Pascal. 1993. *Eléments de linguistique sumérienne. La construction de* du$_{11}$/e/di *"dire".* Göttingen: Vandenhoeck & Ruprecht.

Butt, Miriam and Tracy Holloway King. 1996. Structural Topic and Focus without Movement. *Proceedings of the first annual LFG conference*. Stanford, California: CSLI Publications.

Gensler, Orin D. 2003. Object ordering in verbs marking two pronominal objects: Non-explanation and explanation. *Linguistic Typology* 7-2, 187-231.

Göksel, A. 1995. Linearity, focus, and preverbal position in Turkish. Unpublished manuscript. London: SOAS.

Greenberg, Joseph H. 1963. "Some universals of grammar with particular reference to the order of meaningful elements". In Greenberg, Joseph H. (ed), *Universals of language. Report of a conference held at Dobbs Ferry, New York April 13-15, 1961*, Cambridge, Massachusetts: The M.I.T Press, 58-90.

Halliday, M.A.K. Revised by Christian M.I.M Matthiessen. 2004. *An introduction to functional grammar. Third edition*. London: Arnold.

Hawkins, John A. 1983. *Word order universals*. New York/London: Academic Press.

Hawkins, John A. 1998. "Some issues in a performance theory of word order." In Siewierska (ed), 729-780.

Huehnergard, John. 2000. *A grammar of Akkadian*. Winona Lake, Indiana: Eisenbrauns.

Rijkhoff, Jan. 1998. "Order in the noun phrase of the languages of Europa". In Siewierska (ed), 321-382.

Sanders, Gerald A. 1978. "Adverbial constructions." In Greenberg, Joseph H. (ed), *Universals of human language. Volume 4 - Syntax*, Stanford, California: Stanford University Press, 51-84.

Shibatani, Masayoshi. 1990. *The languages of Japan*. Cambridge: Cambridge University Press.

Siewierska, Anna (ed). 1998. *Constituent order in the languages of Europe*. Berlin/New York: Mouton de Gruyter.

Siweierska, Anna. 1998. "Variation in major constituent order: a global and a European perspective." In Siewierska (ed), 475-551.

Siewierska, Anna. 2003. Person agreement and the determination of alignment. *Transactions of the Phililogical Society vol 101-2. Special number: Agreement: A typological perspective*, 339-370.

Siewierska, Anna, Jan Rijkhoff and Dik Bakker. 1998. "Appendix - 12 word order variables in the languages of Europe." In Siewierska (ed), 783-812.

Testelec, Yakov G. 1998. "Word order variation in some SOV languages of Europe". In Siewierska (ed), 649-679.

Thomsen, Marie-Louise. 1984. *The Sumerian language. An introduction to its history and grammatical structure.* Copenhagen: Akademisk Forlag.

[1] The word order information in Table 1 is from Huehnergard 2000 for Akkadian, from Hawkins 1983 for Japanese and from Siewierska et al. 1998 for Basque and Turkish.

[2] BWO - basic word order, Adpos - postposition or preposition, Dem/N - order of demonstrative and noun, Num/N - order of cardinal number and noun, Adj/N - order of adjective and noun, G/N - order of possessor and possessed noun, Pro/N - order of pronominal possessor and possessed noun, Rel/N - order of restrictive relative clause and noun, (b) - basic order (i.e. other orders occur/are possible)

[3] Hawkins (1998:743) claims that the following orders of N Adj and Rel (S), where C stands for complementiser or relative pronoun, have been grammaticalised: [N Adj [C S]], [Adj N [C S]], [[S C] Adj N] and [[S C] N Adj]]. Sumerian seems to contradict this by having [N Adj [[S C]].

[4] Siewierska (1998:502*ff*) has a more fine-grained classification of word order patterns into rigid, restricted, variable, flexible and highly flexible languages.

[5] 'Si un constituant est topicalisé ou focalisé, l'ordre des mots peut être modifié. Dans les textes non "littéraires", le seul ordre alternant est OSV.

a) Topicalisation/focalisation de O : SOV →OSV, très rarement (S)VO ou VSO' (Attinger 1993:154).

[6] "In the case of languages with basic SOV order, the most common word order variant is OSV. [...] The second most common word order variant, SVO, occurs in only 33% of the SOV languages. And the OVS variant is found in only a fifth of the SOV languages" Siewierska (1998:493).

[7] Some people prefer 'allative' to 'terminative' as the label for -še$_3$.

[8] "Where many languages may have pronouns, Japanese simply uses no overt expression. The absence of overt pronominal forms is often compensated for by agreement features in European, especially Romance languages, but Japanese leaves no such trace" Shibatani (1990:390).