

44) Evidence for an instrumental meaning of *ina libbi*, 'by means of'. The *AHw* quotes several examples of instrumental *ina libbi* (I p. 550 *libbu* C1f 'kausal'; g 'mittels'). However, the *GAG* (§115d) does not mention this meaning, and it was dropped by the *CAD* (cf. Vol. L *libbu* 4b). There were good reasons for that, since most of the examples quoted in the *AHw* do not survive close scrutiny: *CT* 22: 196, 22: 'by the desire of' (contra *Ebeling Neubab. Briefe*: 'dank'); *UET* 4, 163, 5: 'in the matter of' (cf. *CAD* Vol. D *dalaḫu* 2b); *YOS* 3, 137, 8: 'from it' (cf. *CAD* Vol. A II *arrabu* c). The remaining example occurs in the letter *ABL* 292 Obv. 5-7: (5) *at-tu-nu ti-da-a ša<sub>2</sub> ina libbi*(ŠA<sub>3</sub>) *patri*(GIR<sub>2</sub>.AN.BAR) *ša<sub>2</sub>* (6) *Aššur*(AN.ŠAR) *DINGIR.MEŠ E A KUR ul-li-ti gab-bi-ša<sub>2</sub>* (7) *i-ša<sub>2</sub>-a-tu tu-ša<sub>2</sub>-a-ki-lu*: 'You (pl.) know that by means of the sword of Assur, the gods?... you have let fire devour that entire land'. Here 'by means of' might be correct, but this is uncertain, because the text is difficult to understand (for a translation cf. Waterman 1930), and Harper's copy requires collation (e.g. in line 6). It is therefore understandable that the *CAD* does not mention the instrumental meaning. However, two overlooked or hitherto unknown passages now prove beyond doubt that *ina libbi* can have an instrumental meaning after all. First, the following well-known but overlooked passage from the astronomical text *MUL.APIN*, Tablet I iv 1-3 (Hunger & Pingree 1989):

(1) *DIŠ MUL.MEŠ ša<sub>2</sub> ziq-pi ša<sub>2</sub> i-na KASKAL šu-ur* <sup>4</sup>*En-lil<sub>2</sub> i-na MURUB<sub>4</sub> AN-e ina IGI-et GABA ša<sub>2</sub> našir*(URU<sub>3</sub>) *AN-e GUB.MEŠ-ma māša*(GI<sub>6</sub>) *niphīr*(KUR) *u rabū*(ŠU<sub>2</sub>) *ša MUL.MEŠ i-na lib<sub>3</sub>-bi-šu-nu im-ma-ru*: 'The *ziqpu* stars which stand in the path of Enlil in the middle of the sky in front of the breast of the celestial observer and with which he observes the risings and the settings of the stars at night.'

This passage is duplicated, with minor changes, in *MUL.APIN* Tablet I iv 7-9 and in the Seleucid *ziqpu* star list AO 6478 (*TCL* 6 21). The instrumental meaning, already proposed by Thureau-Dangin (1913) and taken up by Schaumberger (1952), makes perfect sense, because *ziqpu* stars, which are stars that pass through the zenith, were used for timing astronomical phenomena during the night, e.g. risings and settings (cf. Hunger & Pingree 1999, 84-90). The *CAD* (Vol. Z *ziqpu* A4b) does quote the passage, but *ina libbišunu* is inaptly translated as 'in relation to which'.

The second passage occurs in the Seleucid 'Gold Theft Chronicle' *BCHP* 15 (under preparation by B. van der Spek and I. Finkel), Obv. 11-13:

(11) *ina KI.LA<sub>2</sub>.MEŠ ša<sub>2</sub> E<sub>2</sub>* <sup>lu<sub>2</sub></sup>*KU<sub>3</sub>.DIM ša<sub>2</sub> ina IGI-ma ina lib<sub>3</sub>-bi-šu<sub>2</sub>-nu LA<sub>2</sub>* (12) *ki-i LA<sub>2</sub>-šu<sub>2</sub> 2/3 6 1/2 KU<sub>3</sub>.SIG<sub>17</sub> in-da-tu*: 'When they weighed it with the weight stones of the house of the goldsmiths, with which they had previously weighed it, it had diminished by 2/3 mina 6 1/2 shekels'.

It is probably significant that both examples concern instrumental relative clauses ('by means of which'). In main clauses the instrumental meaning is usually realised by the bare preposition *ina*, 'through'. In instrumental relative clauses this is not possible, because, according to Akkadian syntax, *ina* cannot carry a resumptive pronoun (*GAG* §114c). This seems to prompt the insertion of *libbi* in between *ina* and the resumptive pronoun (-*šunu*, -*šu*). It may also be significant that most if not all sources, including *ABL* 292, date from the 1st millennium BC and are written in the Babylonian script. Only one fragment of *MUL.APIN* that partly preserves the quoted passage is written in the Neo Assyrian script (YY = VAT 9527).

Finally, I propose that the instrumental meaning may also apply to some instances of the conjunction *libbû ša*, e.g. in the Seleucid astronomical procedure text (see Ossendrijver 2010 for a new edition of these texts) BM 32167+ (*ACT* 200+) Obv. I.14':

*DU<sub>3</sub>-uš ša<sub>2</sub> ZI sin AB<sub>2</sub> ana AB<sub>2</sub> 42 TAB u LA<sub>2</sub> lib<sub>3</sub>-bu-u<sub>2</sub> ša<sub>2</sub> 15.56.54.22.30 KUR-ad<sub>2</sub>*: 'Procedure for the displacement of the Moon. Month by month you add and subtract 0;42, by means of which you reach 15;56,54,22,30.'

#### References

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 Ossendrijver 2010, 'Babylonian Mathematical Astronomy. Procedure Texts' (in press)  
 Schaumberger 1952, 'Die *Ziqpu*-Gestirne nach neuen Keilschrifttexten', *ZA* 50, 214-229  
 Thureau-Dangin 1913, 'Distances entres étoiles fixes d'après une tablette de l'époque Séleucides', *RA* 10, 215-225  
 R. van der Spek, I. Finkel, *BCHP* 15 (to appear); cf. [http://www.livius.org/cg-cm/chronicles/bchp-gold/theft\\_1.html](http://www.livius.org/cg-cm/chronicles/bchp-gold/theft_1.html)  
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