

O.R. Gurney / J.J. Finkelstein (1957) The Sultantepe Tablets I.

E. Reiner (1960) Fortune-Telling in Mesopotamia, *Journal of Near Eastern Studies* 19, 23-35.

STT 73:57-60

57 DU₃.DU₃.BI NI₂-ka UD.UD PA SAG *eb bi u eb bi ti* GIŠ.HUR.MEŠ

58 *ša*^dE₂-a u^dAsal-lu₂-hi te-šir-ma KI DINGIR-ka u^dXV-ka

59 ta-nam-mar-ma EGIR NI₂-ka i-par-ra-su-ka

60 GIŠ.HUR *an-ni-tu*₂ *ša*₂ e-š_i-ru-ka te-š_ir

"You cleanse yourself, ... you draw the figures of Ea and Marduk (two crude anthropomorphic drawings are provided as models), then you will see your personal god and goddess face to face and they will reveal your future. Make this drawing that I have drawn for you (as a model)"

S.A.L. Butler (1998) Mesopotamian Conceptions of Dreams and Dream Rituals.

ROP = Rituals to Obtain a Purussu

57 DU₃.DU₃.BI NI₂-ka DAGAD *ina* SAG *eb-bi u eb-bi-ti* GIŠ.HUR.MEŠ

58 *ša*^dE₂-a u^dAsal-lu₂-hi te-š_ir-ma KI DINGIR-ka u^dXV-ka

59 ta-... EGIR NI₂-ka i-par-ra-su-ka

60 GIŠ.HUR *an-ni-tu*₂ *ša*₂ e-š_i-ru-ka te-š_ir

"Its ritual: You cleanse yourself according to the rules for a pure man and a pure woman. You draw sketches of Ea and Asalluhi. You ... with your personal god and your personal goddess. They will decide your own future for you. You draw this sketch which I drew for you (accompanying diagram on the tablet)"

CAD/AHw

ešeru HUR "1. to draw, to make a drawing; 2. *uššuru* to make a drawing, to establish (regulations)"

ušurtu(m) GIŠ.HUR "Zeichnung, Vorzeichnung, Planung"

gišhuru GIŠ.HUR "1. plan (of a building), model, archetype 2. magic circle"

Lexical I

Ea V 121. hu-ur HUR = *e-še-ru*

Proto-Izi c 1. HUR = *e-še-ru*

CT 18:10 (K 4233+4371+4595+4598+11223+11410 Reverse) iii 61. *e-se-qu* ["to incise, carve"] = *e-še-rum*

Aa VIII/1 15. geš-hur KAD₅ = *u₂-šur-tum*

Ananum 307. ^dgiš-hur-mah-su₃-su₃ = ^d*nin-imma*_x(SIG₇)

Ananum 289. ^dnin-giš-hur-an-na = MIN (= *ma-an-ša-at*)

BM 35666 6. giš^{hu-ur}hur = *i-tu-u₂ ša₂* DINGIR
Comm to SIG₇.ALAN I 30. giš-hur = *i-tu-u₂ ša₂* DINGIR
Ea VIII 7. geš-hur KAD₅ = *u₂-šur-tum*
Emesal Voc III 60. mu-hur giš-hur = *u-šur-tu₂*
Kagal I 264. giš^{hu-ur}hur = *e-ke-ku-um* ["to scratch"]
OB Lu A 461. lu₂-giš-hur = *ša u₂-šu₂-ra-tim*
Proto-Kagal 56. giš-hur = *i-iš ...* ["wood(en) ..."]
Proto-Kagal 57. giš-hur = *i-šu₂-ur-tum*
Proto-Kagal 58. giš-hur = *e-ge₄-gum*
Ugumu 28. giš-hur-šu-mu = *u₂-šu₂-ra-at qa₂-ti-ia*

B. Landsberger / O.R. Gurney (1957) igi-duh-a = *tamartu*, short version, Archiv für Orientforschung 18, 81-86.

51. giš-hur = *u₂-šur-tu₂*

M. Krebernik (1983) Zu Syllabar und Orthographie der lexikalischen Texte aus Ebla. Teil 2 (Glossar), Zeitschrift für Assyriologie 73, 1-47.

468. GIŠ-HUR = *hu-ri₂ bu₃-bu₃-tim*

Lexical II

G. Farber-Flügge (1973) Der Mythos "Inanna und Enki" unter besonderer Berücksichtigung der Liste der me.

D.O. Edzard (1972) *hamtu, maru* und freie Reduplikation beim sumerischen Verbum, Zeitschrift für Assyriologie 62, 1-34.

giš-hur, akkadisches Lehnwort *gišhurru* oder *gišhuru*, "Plan, Zeichnung, Grundriß". Grundbedeutung a) "Holz einritzen" oder b) "ingeritztes Holz", je nach dem, ob die Verbindung ursprünglich einen Vorgang oder aber das Resultat davon beschrieb.

H.Th. Bossert (1952) GIŠ.HUR, Bibliotheca Orientalis 9, 172-173.

GIŠ.HUR bedeutet in Bogazköy "Hieroglyphentext" und nichts weiter.

Bilinguals

M.E. Cohen (1989) A Bilingual Šuilla to Ningeštinanna. Dumu-e-dub-ba-a: Studies in Honor of Ake W. Sjöberg. 79-85.

MLC 1861

6. mar-za GUR-ru ...-ra-da mu-hur-e ki-peš i₃-ha-... = *qi₃-á-šat par-šu₂ ŠA-...-tu u₂-šu-ra-at KI-ti₃ ana ...-ta-...* "she who makes a gift of the ... divine functions, ... the divine plan of the (whole) wide world"

BM 68609

40. giš-hur-mah billuda-suh-a-zu ki-ba = *u₂-šu-ra-tu-ka ši-ra-a-tu pil-lu-du-ka nu-us-su-qu-tum*

M.E. Cohen (1988) The Canonical Lamentations of Ancient Mesopotamia. II.

u₄-dam gu₃-de₂-de₂-aš "He is a storm. At the howling"

c+66. me-bi ...-ha-lam-me-eš **mu**-hur-bi ba-da-kur₂-re-eš = *par-šu-šu it-tam-šu₂-u₂*
u₂-šu-ra-ta-šu₂ it-tak-kir

R.C. Thompson (1903) *The Devils and Evil Spirits of Babylonia*, being Babylonian and Assyrian Incantations against the Demons, Ghouls, Vampires, Hobgoblins, Ghosts and Kindred Evil Spirits, which attack Mankind. Vol. I. "Evil Spirits".

UDUG.HUL.A.MEŠ (Tablet 3)

CT 16:6

209 giš-hur ^den-ki-ke₄ šu-mu mu-un-da-an-gal₂

210 *u₂-šu-rat* ^de₂-a [...] *ba-ša₂-a*

"The Ban of Ea is in my hand"

CT 17:48 (47852, duplicate)

[*u-š*]ur-tu₂ ^dIDIM *ina qa-ti-ia ba-ša₂-a*

Tablet of a similar series ("K")

CT 16:43

66 ki-bi-ta la ba-ra-e₃(UD-DU) giš-hur-bi ba-hul

67 *ir-ši-ti ul ip-du-u₂ u₂-sur-ta-šu-nu lim-ni-it*

"On earth they are ruthless, Evil is their ban"

CT 16:43 (K 4905) *šu-ur* (*sur*) *šu₂* (*šu*)

R.C. Thompson (1904) *The Devils and Evil Spirits of Babylonia*, being Babylonian and Assyrian Incantations against the Demons, Ghouls, Vampires, Hobgoblins, Ghosts and Kindred Evil Spirits, which attack Mankind. Vol. II. "Fever Sickness" and "Headache", etc.

Tablet of the Ban (Tablet "V")

CT 17:34

Obverse

1 en₂ sag-ba sag-ba giš-hur-ra nu-bal-e

2 *ma-mit ma-mit u₂-s.ur-tu ša₂ la e-te-qi₂*

"Incantation: Ban! Ban! Barrier that none can pass"

3 giš-hur dingir-ri-e-ne-ke₄ nu-bal-e

4 *u₂-s.u-rat* DINGIR^{MEŠ} *ša₂ la na-bal-ku-ti*

"Barrier of the gods, that none may break"

5 giš-hur an-ki-a nu-kur₂-ru-da

6 *u₂-s.u-rat* AN-*e u* KI-*tim ša₂ la ut-tak-ka-ru*

"Barrier of heaven and earth that none can change"

31 giš-hur-ra ni-bal-e

32 *u₂-s.ur-tum ib-ba-lak-ki-tu*

"Or which hath broken the barrier"

33 giš-hur-ra giš-hur an-ki-a šu-nam-ba-bar-ra

34 *u₂-s.ur-ti* DINGIR^{MEŠ} *u₂-s.u-rat* AN-*e u* KI-*tim a-a u₂-maš-šir₃-šu₂*

"Let not the barrier of the gods, The barrier of heaven and earth, let it go free!"

O.R. Gurney / G. Meier / E.F. Weidner (1936-1937) *Keilschrifttexte nach Kopien von T.G. Pinches*, *Archiv für Orientforschung* 11, 358-369.

Sm 814+816 (Beschwörung mittels eines Mehlkreises)

6 zi₃.zu giš.hur.am₃

7 *qi₂-mu-ka giš-hu-ru*

“Dein Mehl (ist) ein Zauberkreis”

The goddess ^dgišhuranki

A. Deimel (1914) Pantheon Babylonicum. Nomina deorum e textibus cuneiformibus excerpta et ordine alphabetico distributa.

296. ^dAš-šir

639. ^dGiš-har-an-ki

CT 24:26 110. ^daš-šir-gi₄ = dumu dingir-mah-ke₄ (Ananum 68)

CT 24:26 111. ^dgiš-hur-an-ki = *dam-bi*-SAL [“his wife”] (Ananum 69)

M.E. Cohen (1988) The Canonical Lamentations of Ancient Mesopotamia. II.

u₄-dam gu₃-de₂-de₂-aš “He is a storm. At the howling”

b+49. gašan-gu-la ^dmu-hur-an-ki-ke₄ = *be-el-tu₄ ra-bi-tu₄* ^dMIN *ana-ku* “I am the great lady, Muhuranki”

M.E. Vogelzang (1988) *BIN ŠAR DADME*. Edition and Analysis of the Akkadian Anzu Poem.

Sb 9470 (Old Babylonian; Susa)

36. ^dMAH NIN *u₂-šu₂-ra-ti* “Dingirmah, the mistress of the decrees”

The temple egišhur

A.R. George (1992) Babylonian Topographical Texts.

Tintir IV 32. e₂.giš.hur.an.ki.a = *bit* ^d*belet*(gašan)-*ni-nu₂-a* “E-gišhur-ankia = the temple of Belet-Ninua” “House of the Ordinances of Heaven and Underworld”

BM 34850 reverse 12. e₂.giš.hur.an.ki.a = *bit u₂-šu-rat šame^e u eršetim^{im}* “E-gišhur-ankia = House of the ordinances of heaven and underworld”

The Götteradressbuch of Aššur 171. e₂.giš.hur.an.ki.a = *bitu ša₂ ušurat*(giš.hur)^{meš} *šame^e u eršetim^{im} ina lib-bi-šu₂ ud-da-a* = *bit* ^d*belat*(gašan)-*ninua^{ki}* “E-gišhur-ankia = House in which the designs of heaven and underworld are revealed = the temple of Belat-Ninua” (variant: *u₂-šu-rat*)

Tintir II 18. giš.hur.an.ki.a = MIN (= *šu-bat*) ^d*a-nim ša₂ ub.šu.ukkin.na ša₂* ^d*madanu*(di.ku₅) *ana tar-ši i-* “Gišhur-ankia (Ordinances of Heaven and Underworld) = the seat of Anu in Ubšu-ukkinna facing which Madanu ...”

Tintir II 27. e₂.giš.hur.an.na = MIN (= *manzaz*(ki.gub)) ^d*en.nun.ga₂.he₂.du₇* ... “E-gišhur-anna (House of the Ordinances of Heaven) = the station of Ennungahedu ...”

VAT 10111 1. e₂.giš.hur.bi.GALAM.GALAM = *bitu ša₂ u₂-šu-rat* “E-gišhurbi-galamgalam (House whose Ordinances are Skilfully Contrived) = House of the Ordinances ...”

M.E. Cohen (1988) The Canonical Lamentations of Ancient Mesopotamia. II.

lugal-e dim₃-me-er-an-ki-a

a+11 umun-e₂-an-ki-ke₄ umun-e₂-giš-hur-an-ki-a za-e mah-me-en

Incantations

S.A.L. Butler (1998) Mesopotamian Conceptions of Dreams and Dream Rituals.
Ashur Dream Ritual Compendium
Reverse Column III 40 (VAT 9026 (KAR 252), 81-2-4, 233)
mu-us.-s.i-ru GIŠ.HUR.MEŠ "the drawer of the cosmic plans"

CM 20 Nr. 166 (Wunsch)

"Am 20.1. wird NU, der Sklave des Iddinaja, bereit sein und einen Eid bei den Göttern vor Šamaš bei Sonnenaufgang im magischen Kreis (*giš-hur-ri*) dem Nadin leisten"

KUB 30:1 Kol. IV 18 **gi-iš**-hu-ur

A. Cavigneaux / F. al-Rawi (2002) Liturgies exorcistiques agraires (Textes de Tell Haddad IX), Zeitschrift für Assyriologie 92, 1-59.
Face Colonne ii 10

ni-iš-hu-ur i-ni-in-ki-id-ki šu um-me-du

"fais donc soigneusement le dessin d'Enki (tiens la baguette à dessin d'Enki)"

W.G. Lambert (1954-1956) An Address of Marduk to the Demons, Archiv für Orientforschung 17, 310-321.

C 11. *ana-ku*^d *asar-lu₂-hi ha-'iṭ lal₃-gar ba-ši-mu giš-hu-ru* "I am Asarluhi who scans hidden wisdom, who creates the 'concepts'"

Commentary: MU *iš-šur-tu₂ ša₂ bi ... iq-ta-bi* "He meant it with reference to the 'concepts' of ..."

Commentary variant: *giš-hur-ri*

E. Reiner (1958) Šurpu. A Collection of Sumerian and Akkadian Incantations.

III 127. *ma-mit ina* GIŠ.HUR *ma-har*^d UTU *a-ra-du* "the 'oath': to go down into a magic circle at sunlight" (variant: *gi-iš-hu-ru*)

R. Labat (1974) Textes littéraires de Suse.

Suse XII/3

I

15 SAG GIŠ.HUR ŠUB GU.ZA IGI DUMU LUGAL EŠ₂ ŠU.HA *a-bi-šu*

"regarde la tête de la Figure de l'Assise-du-trône: le fils du roi, pour faire une révolte contre son père"

20 DIŠ KI *tu-a-mi* GABA SAG GIŠ.HUR ŠUB GU.ZA TUH

"Si le site des Gémeaux, face à la tête de la Figure de l'Assise-du-trône, est fendu"

23 MURU₂ GIŠ.HUR ŠUB GU.ZA IGI *ti-bu* TU DUMU KIN-ri

"regarde le milieu de la Figure de l'Assise-du-trône: attaque; arrivée d'un messenger"

42 DIŠ GIŠ.TUKUL A EGIR GIM₃ GABA GIŠ.HUR SAG *me-hi-iš* IGI KUR₂ AN.TA-*ma*

"Si, de derrière l'Oracle, une Arme monte, face à la Figure de la tête du Choc-au-front-ennemi"

45 DIŠ EŠ₂ IGI-*šu* TA ŠA₃ GIŠ.HUR SAG *me-hi-iš* IGI KUR₂ BUR₃ ŠUB.BA

"Si, comme variante, à l'intérieur de la Figure de la tête du Choc-du-front-ennemi, se trouve une Cavité"

51 DIŠ GIŠ.TUKUL A EGIR GIM₃ GABA MURU₂ GIŠ.HUR *me-hi-iš* IGI KUR₂ AN.TA-*ma*

"Si, de derrière l'Oracle, une Arme monte, face à la partie médiane de la Figure du Choc-au-front-ennemi"

II

2 DIŠ EŠ₂ IGI-š_u TA ŠA₃ GIŠ.HUR MURU₂ *me-hi-iš* IGI KUR₂ BUR₃ ŠUB

"Si, comme variante, à l'intérieur de la Figure du Choc-au-front-ennemi, se trouve une Cavité"

9 DIŠ EŠ₂ IGI-š_u TA ŠA₃ GIŠ.HUR SUHUŠ *me-hi-iš* IGI KUR₂ BUR₃ ŠUB

"Si, comme variante, à l'intérieur de la Figure de la base du Choc-au-front-ennemi, se trouve une Cavité"

24 ŠA₃ GIŠ.HUR SUHUŠ *me-hi-iš* IGI KUR₂ IGI GIŠ.TUKUL *nu-ku-ra-ti*

"regarde l'intérieur de la Figure de la base du Choc-au-front-ennemi: Arme d'hostilités"

28 DIŠ *i-si-il-ti* GUB₃ GABA GIŠ.HUR SUHUŠ *me-hi-iš* IGI KUR₂ TUH

"Si le sphincter gauche, face à la Figure de la base du Choc-au-front-ennemi, est fendu"

III

6 ŠA₃ GIŠ.HUR SILIM.MA IGI GIŠ.TUKUL *ze₂-ra-ti* IR₃.MEŠ *ze₂-ra-ti*

"regarde l'intérieur de la Figure d'Apaisement: Arme de haines; les esclaves (ne cesseront de se comporter de façon) haineuse (à l'égard de leurs maîtres"

The series i.NAM.giš.hur.an.ki.a

A. Livingstone (1986) *Mystical and Mythological Explanatory Works of Assyrian and Babylonian Scholars*.

BM 47860

Reverse 12 (colophon) i.NAM.giš.hur.an.ki.a ur₅.ur₅.ra *ki pi* DUB GABA-ri *la-ba-ri-š_u₂*

"i.NAM.giš.hur.an.ki.a, corresponding things. According to a tablet copied from its original"

K 2164 + 2195 + 3510

Reverse 33 (colophon) MIN *pir-su* i.NAM.giš.hur.an.ki.a *tab-ba-a-ti AN-e u KI-ti₃ š_u-ut apsi ma-la ba-aš₂-mu* "2nd division of i.NAM.giš.hur.an.ki.a, corresponding things of heaven and underworld, things of the Apsu, as many as are designed"

K 2670 3-4 (colophon)

3 EŠ₅-š_u₂ *pir-su* i.NAM.giš.hur.an.ki.a *tab-ba-a-ti AN-e u KI-ti₃* "3rd division of i.NAM.giš.hur.an.ki.a, corresponding things of heaven and underworld"

4 *š_u-ut ap-si-i ma-la ba-aš₂-mu* "things of the Apsu, as many as are designed"

K 170 + Rm 520

Reverse 8 (colophon) ...-u₂ *nis-hu* i.NAM.giš.hur.an.ki.a AL.TIL "... the xth excerpt of i.NAM.giš.hur.an.ki is finished"

giš.hur and the abzu

B. Alster (1971-1972) *Ninurta and the Turtle*, UET 6/1 2, *Journal of Cuneiform Studies* 24, 120-125.

1 dug₄-ga-ni-ta ^{giš}tukul-zu hul-a mu-ni-in-ŠUM

2 me š_u-ga₂ š_u ba-ba-mu-de₃ me-bi abzu-še₃ ba-an-gi₄

3 giš-hur š_u-ga₂ š_u ba-ba-mu-de₃ giš-hur-bi abzu-še₃ ba-an-gi₄

4 dub-nam-tar-ra-bi abzu-še₃ ba-an-gi₄ me ab-la₂-e-en

"At his command you smote me with your weapon, the evil one, and then, when I lost the divine functions from my hands, those divine functions returned to Abzu. When I lost the 'plans' from my hands, those 'plans' returned to Abzu. Those tablets of fate returned to Abzu. I am short of divine functions."

e-nu-ma e-liš

Tablet I

75. *qer-biš₂ ku-um-mi-šū₂ šup-šu-hi-iš i-nu-uh₂-ma*

76. *im-bi-šu-ma ABZU u₂-ad-du-u₂ eš-re-e-ti*

77. *aš₂-ru-uš-šu gi-pa-ra-šū₂ u₂-šar-šid-ma*

78. ^d*e₂-a u^d dam-ki-na hi-ra-tuš ina rab-ba-a-te uš-bu*

79. *ina ki-iš-ši NAM.MEŠ aṭ-ma-an GIŠ.HUR.MEŠ*

80. *le-'u u₂ le-'u-u₂-ti ABGAL DINGIR.MEŠ ^dEN it-tar-he-e-ma*

81. *ina qe₂-reb ABZU ib-ba-ni^dAMAR.UTU*

82. *ina qe₂-reb KU₃ ABZU ib-ba-ni^dAMAR.UTU*

83. *ib-ni-šu-ma^d e₂-a a-ba-šu*

84. ^d*dam-ki-na ama-šu har-ša₂-as-šu*

Then he rested very quietly inside his private quarters
And named them Apsu and assigned chapels,
Founded his own residence there,
And Ea and Damkina his lover dwelt in splendour.
In the chamber of destinies, the hall of designs,
Bel, cleverest of the clever, sage of the gods, was begotten.
And inside Apsu, Marduk was created;
Inside pure Apsu, Marduk was born.
Ea his father created him,
Damkina his mother bore him.
(transliteration: Heise; translation: Dalley)

Babylonian Chronicles

I. Finkel / B. van der Spek (forthcoming) Babylonian Chronicles of the Hellenistic Period (BCHP).

Ruin of Esagila chronicle (BCHP 6)

Obverse 6 GU₄.MEŠ.HI.A u₃ PAD.^dINNIN GIM GIŠ.HUR 7 KUR *Ia-a-ma-nu* DU₃-uš

"Oxen and an offering in the Greek fashion he made"

Chronicle concerning Antiochus, Bactria, and India (BCHP 7)

Reverse 3 PAD ^DINNIN ša₂ GIM GIŠ.HUR KUR *Ia-a-man-nu* "an offering in the Greek fashion"

End of Seleucus Chronicle (BCHP 9)

Reverse 6 PAD.^dINNIN GIŠ HUR KUR *Ia-a-ma-nu ina ... a-di* GU₂ ⁱ₂^dUD.KIB.NUN.KI DU.MEŠ "They made an offering in the Greek fashion in the ... on the bank of the Euphrates"

The Ptolemy III Chronicle (BCHP 11)

Obverse 1 PAD.^dINNIN GIM GIŠ.HUR 2 KUR *Ia-man-nu ina lib-bi* E₂.SAG.GIL₂ DU₃-uš
"Offerings in the Greek fashion within Esagila they performed"

AD II, p. 470, No. -168 A1 Obv. 15 (BM 41581 = 81-6-25, 195+197)

14. ITU BI *al-te-me um-ma*

15. ^mAN LUGAL *ina* URU.MEŠ *ša*₂ KUR *Me-luh-ha šal-ṭa-niš* GIN.GIN-ak ^{lu}₂*pu-li-ṭe-e pu-up-pe-e u ep*₂*-še-e-tu*₂ *ša*₂ GIM *u*₂*-ṣur-tu*₂ ^{lu}₂*Ia-a-man-nu*

“That month I heard as follows:

King Antiochus marched victoriously through the cities of Egypt. The *politai* (*pu-li-ṭe-e*) [established] a *pompe* (*pu-up-pe-e*) and a ritual in the Greek fashion”

D. Gera / W. Horowitz (1997) Antiochus IV in Life and Death: Evidence from the Babylonian Astronomical Diaries, Journal of the American Oriental Society 117, 240-252.

14. ITU.BI *al-te-e um-ma*

15. ^mAN LUGAL *ina* URU.MEŠ *ša* KUR *Me-luh-ha šal-ṭa-niš* GIN.GIN-*ma* ^{lu}₂*pu-li-ṭe-e pu-up-pe-e u e-še-e-tu*₂ *ša*₂ GIM *u*₂*-ṣur-tu*₂ ^{lu}₂*Ia-a-man-nu*

“That month I (the astronomer) heard as follows:

King Antiochus marched victoriously through the cities of Meluhha (southern Egypt) and [...] the citizens, processions (*pompe*) and rituals akin to the style of the Greeks”

Hittite/Luvian

T. van den Hout (1998) The Purity of Kingship. An Edition of CHT 569 and Related Hittite Oracle Inquiries of Tuthaliya IV.

p. 184 GIŠ.HUR *gul-za-at-tar* | *gul-za-at-ta-ra-pat*₂ “the *gulzattar*-tablet(s)”

p. 184 GIŠ.HUR “tablet”

p. 184 GIŠ.HUR.HI.A “tablets”

H.C. Melchert (1993) Cuneiform Luvian Lexicon.

^dGulza “fate; Fate-goddess” (that which is drawn)

gulza(i) “draw”

^{GIŠ.HUR}*gulzattar/gulzattn* “sketch, rough draft, wooden tablet”

H.C. Melchert (2001) Cuneiform Luvian Corpus.

KBo XXIX 17 Rs. III 4 ^dGul-za-an

Astronomy

W.F. Albright (1972) Neglected Factors in the Greek Intellectual Revolution.

Proceedings of the American Philosophical Society. 116-3. 225-242.

The translation of kosmos [Anaximander Fragment] as “prototypic pattern” from the early Greek usage of “pattern, plan, the way things are done, the proper way to do something” – stems from a basic meaning such as “orderly arrangement”. The notion of orderly patterns in the planetary heavens is extremely ancient in Babylonian astronomy; it is, in fact, the basis of Babylonian astrology. In Mesopotamia we have a term which appears in Sumerian as GIŠ-HUR and in Accadian as *uṣurtu*, both of which mean “outline, plan, configuration, plan of a building, immutable destiny”.

F. Gössmann (1950) Planetarium Babylonicum oder die sumerisch-babylonischen Stern-namen. Sumerisches Lexikon IV Teil, Band 2.

158. ^{mul}*uṣurti* Nach Hehn wäre zu lesen kakkab uṣurti, “Einzelstern eines Sternbildes”
352. SIN Umschliessung (*uṣurtu*)

Sin III 139. DIŠ XXX TUR₃ GIŠ.HUR NIGIN₂ LAL ŠE U IN.NU "Wenn der Mond eine Umschliessung hat, Verminderung des Getreides und des Strohes"

R.C. Thompson (1900) The Reports of the Magicians and Astrologers of Nineveh and Babylon in the British Museum.

112. Obv. 4. ... ^dXXX GIŠ.HUR NIGIN AN.MI GAR-*an* 5 AN.MI *du-luh-hu-u* 6 *mu-šu an-ni-u₂* GIŠ.HUR NIGIN *la ik-šur* "When a *usurtu* surrounds the Moon, there will be an eclipse. An eclipse is a disturbance. Last night a *usurtu* surrounded the Moon; it was not consolidated" [83-1-18, 197]

114. Obv. 8. ^{mul}*u₂-šur-ti*

Ch. Virolleaud (1912) Etudes astrologiques, *Babyloniaca* 6, 115-128, 251-261.

K 4777 Col. III 9 ^{mul}*u₂-šur-tu₂*

E. Ebeling (1920) Keilschrifttexte aus Assur religiösen Inhalts.

Nr. 307 VAT 8917 Beschreibung von Neujahrsfestzeremonien

Vorderseite

33 AN-*u₂* KI.TA ^{meš na}*4aš-pu-u ša* ^{mul}*lu-ma-ši ša* DINGIR ^{meš}*ina* UGU *e-šir* "The lower heaven is jasper stone. He [Marduk] drew the star constellations of the gods on it"

E. Weidner (1959-1960) Ein astrologischer Sammeltext aus der Sargonidenzeit, *Archiv für Orientforschung* 19, 105-113.

AO 8196 IV 22 [AN-*u₂*] KI.TA-*tum* ^{na}*4aš-pu₂-u ša₂* MUL ^{meš} "The lower heaven is jasper stone of the stars"

E.F. Weidner (1927) Eine Beschreibung des Sternenhimmels aus Assur, *Archiv für Orientforschung* 4, 73-85.

VAT 9428

Vorderseite 13 MUL ^{meš} ... *iš-ru* "Sterne sind ... eingezeichnet"

Vorderseite 16 ^{mul}UR.GU.LA ... *e-šir* "Der ^{mul}UR.GU.LA [= Leo] ist ... eingezeichnet"

Rückseite 14 MUL *e-šir* "ist ein Stern eingezeichnet"

L. Verderame Due testi astrologici da Sultantepe

STT 339

Verso 21 HUR x RU *za-mar za-mar* GIŠ.HUR BABBAR *ina* UGU-*šu₂* GIL-*ma* AN.MI 2 ŠU.SI GAR-*ma* "improvvisamente un 'disegno' bianco si dispiega nella parte superiore della luna e si verifica un'eclisse di 2 'dita'"

L. Verderame I colori nell'astrologia mesopotamica

DIŠ 20 KUR-*ma* ... *ur-riq-ma* *ina* GAL-*šu₂* GIŠ.HUR NIGIN₂ "se il sole sorge e ... diviene verde e, quando tramonta, è circondato da un *disegno*"

O.R. Gurney / G. Meier / E.F. Weidner (1936-1937) Keilschrifttexte nach Kopien von T.G. Pinches, *Archiv für Orientforschung* 11, 358-369.

K 2884 (Anfrage an Šamaš und Adad wegen einer Mondfinsternis)

21 *u* KI-*tim in-na₇-ma-ru* ^dXXX GIŠ.HUR NIGIN-*u₂* MUL BULUG₂-*šu₂* TE-*šu₂* "und auf der Erde gesehen wird, der Monat von einem Kranz umgeben ist, ein Stern *in seinem Ringe* sich ihm nähert"

E.F. Weidner (1915) Handbuch der babylonischen Astronomie. Erster Band. Der babylonische Fixsternhimmel. Beiträge zur ältesten Geschichte der Sternbilder. Der Text 82, 5-22, 512

CT 33:9

4. [gi]š-hur-ru 1-gin₇ he₂-en-x-ib₂-zal-zal-la

9. [MUL LU₂ DINGIR^{meš}] ina u₂-šur-tu

Ch. Virolleaud (1908-1912) L'Astrologie Chaldéenne. Le Livre intitulé *enuma (Anu) ilu Bel*.

Sin I (K 3139; K 4027)

1. UD AN^dEN.LIL₂.LAL^dEN.KI DINGIR GAL.GAL.LA GALGA NE.NE.TA

2. ME GAL.GAL.LA AN.KI.A MA₂.TU^dEN.ZU.NA MU.UN.GI.NE.EŠ

"When An, Enlil, and Enki, the great gods, in their firm counsel established as a great "me" of heaven and earth the boat of Sin (crescent moon)"

5. ša-ni-iš e-nu-ma^dA-nim^dEN.LIL₂.LAL^dE₂-a DINGIR^{meš} GAL^{meš}

6. ina mil-ki-šū₂-nu GIŠ.HUR^{meš} AN-e u KI-tim iš-ku-nu

"Or, alternatively, When Anu, Enlil, and Ea, the great gods, by their firm counsel established the designs of heaven and earth"

[translations: Rochberg]

15. DIŠ XXX GIM UD I^{kan} ina IGI.LAL-šū₂ UD XXVIII^{kan} IGI-ma GIŠ.HUR : TUR₃

NIGIN-mi HUL-tim MAR.TU GAR KIMIN AN.MI GAR

19. DIŠ XXX GIM UD I^{kan} ina IGI.LAL-šū₂ ina UD XXIX^{kan} IGI-ma GIŠ.HUR NIGIN-mi

HUL-tim MAR.TU^{ki} KIMIN ZI-ut MAR.TU^{ki} GAR

48. DUB I^{kam} UD AN^dEN.LIL₂

Sin III (Sm 270)

137. DIŠ XXX TUR₃ NIGIN₂-ma^{mul} u₂-šur-ti ina ŠA₃-šū₂ GUB-iz NU GU₇.GU₇ um-mad

139. DIŠ XXX TUR₃ GIŠ.HUR NIGIN₂ LAL ŠE u IN.NU

143. DUB I^{kam} DIŠ XXX ina IGI.DUH.A-šū₂ ša₂ PA₃-da UD^dEN.LIL₂

Sin X (K 202)

15. DIŠ XXX TUR₃ GIŠ.HUR NIGIN₂

Sin XII (79, 7-8, 150)

1. GIŠ.HUR NIGIN₂

2. DIŠ UD XX^{kan} II GIŠ.HUR NIGIN₂ UD ŠU₂ dIškur

3. DIŠ UD XX^{kan} III GIŠ.HUR

4. DIŠ UD XXV^{kan} II GIŠ.HUR

5. DIŠ UD XXVI^{kan} GIŠ.HUR

6. DIŠ UD XXVII^{kan} III GIŠ.HUR

7. DIŠ UD XXVIII^{kan} V GIŠ.HUR

8. DUB X^{kan} DIŠ UD AN^dEN.LIL₂

9. DIŠ XXX GIŠ.HUR NIGIN₂-ma KA₂-šū₂ ana AN

Sin XV (K 5280)

10. GIŠ.HUR NIGIN₂ u₇ II

11. DIŠ GIŠ.HUR NIGIN₂ u₇ II GIŠ.HUR

Sin XVI (K 3163)

2. GIŠ.HUR BABBAR ina muh-hi-šū₂ GIL

Sin XXII (K 2254)

21. MUL^{meš} GIŠ.HUR

Sin XXIV (K 2878)

91. DIŠ *ina*^{iti}BAR₂ XXX MI GIŠ.HUR NIGIN AN.MI *ba-ra-ri-tum* GAR LUGAL GAZ-*ak*
Shamash XV (K 7849) [tentative translation: When in the month Nisan during the
night the moon is surrounded by a cruciform halo, and the dark sky causes the
evening watch to be present, the king will be killed]

8. DIŠ XX *ina* MAŠ *u₄-mi* GIŠ.HUR NIGIN₂ *u* KUR-š_u₂ DARA₄-*meš* GAL₂

Ishtar II (Rm 103)

33. ZAH₂(=HA-A) KUR GIŠ.HUR

E. Ebeling (1933) Aus den Archiven von Uruk und Assur. Aus fünf Jahrtausenden
morgenländischer Kultur. Festschrift Max Freiherrn von Oppenheim zum 70.
Geburtstage gewidmet von Freunden und Mitarbeitern. Archiv für Orientforschung
Beiheft 1. 27-36.

Br. M. 76506 (CT XLI, 44)

Obvers 14 *u-šur-tu* : *par-ši*

R. Largement (1957) Contribution à l'Etude des Astres errants dans l'Astrologie
chaldéenne (1), Zeitschrift für Assyriologie 52, 235-264.

Enuma Anu Enlil LVI

89. "(Si) un 'bibbu' assemble une croix (*iš-pa-lu-ur-ta*), les esclaves tueront leur roi,
pilleront son palais; la fin de l'année ne sera pas bonne"

Ishtar XXVIII 37. *iš-pa-lu-ur-tu₄*

Ištar suppl. I LVI 6. *iš-pa-lu-ur-*

Ištar suppl. I LVI 8. *iš-pa-lu-*

aban *iš-pi-lu-ur-ti* "sceau"

Ištar suppl. II LXIV 17-18. "(si) dans les cieux, une lueur, de l'est à l'ouest, du nord
au sud, comme une croix (*pi-il-lu-ur-ti*) se projette"

Sin suppl. I VII 12. "(si) la lune, à son apparition, encercle une croix (*pal-lu-ur-ti*)
d'astres"

K 4336 I 17. ^{MUL} *pal-lu-ur-tu₂* = *u₂-šur-tu*

L'ensemble de ces textes indique que (*iš*)-*palurta* désigne un halo cruciforme dû à la
réflexion de la lumière sur les cristaux de glace, flottant dans la haute atmosphère.

E.F. Weidner (1941-1944) Die astrologische Serie Enuma Anu Enlil, Archiv für
Orientforschung 14, 172-195, 308-318.

K 4336 Obvers I 18. *pal-lu-ur-tu₂* = *u₂-šur-tu₂*

MSL 14:232 244. *ba-ar₂* *bar* = *pal-lu-ur-tum* (Aa I/6)

VAT 9718 Vs. III 61. *pal-lu-ur-tu₂* = *it-gu-rum*

A III/1 234. *gil gi-il* = *e-ge-ru*

Ea III 31b. *gil gi-il* = *e-ge-ru*

Sb Voc_I 286. MIN (= *gi-li*) *gil* = *e-ge-ru*

a-gal-gal buru_x *šu-šu* (CLAM 501)

a+134. *dubur₂-an gi₁₆-li-gi₁₆-li im-me-* = *i-šit-tu₄* AN-*e it-gu-ru-tu₂* MIN

E. Leichty (1970) The Omen Series *šumma izbu*.

Tablet VI

14. BE *iz-bu 2-ma* GIM BAR-*ti it-lu-pu* LUGAL *kiš-šu₂-tam* DU₃-*uš* "If the anomalies are double, and they are grown together like a cross – the king will exercise universal kingship"

15. BE *iz-bu 2-ma* GIM *pi₂-il-lu-ur-ti* (var. *pi-il-lu-ur-ti*) *it-gu-ru* UŠ₄ KUR NIŠ-*ni* SUH₃ *ina* KUR GAL₂ // *e-du-u₂* BA.UG₆ "If the anomalies are double, and they are crossed like a cross – the land will go mad; there will be confusion in the land, (var.), a famous person will die"

16. BE *iz-bu 2-ma* GIM *pi₂-il-lu-ur-ti* (var. *pi-il-lu-ur-ti*) *it-gu-ru-ma* *ina* MURUB₂-*šu₂* DIB.DIB *taq-ti-it* BAL UŠ₄ KUR NIŠ-*ni* SUH₃ *ina* KUR GAL₂-*ši* "If the anomalies are double, and they are crossed like a cross, and are joined at the waist – end of the dynasty; the land will go mad; there will be confusion in the land"

17. BE *iz-bu 2-ma* GIM *pi₂-il-lu-ur-ti* (var. *pi-il-lu-ur-ti*) *it-gu-ru-ma* GU₂-*su-nu* *su-hur-ma* SAG.DU-*su-nu* 1-*ma* KUR *ana qa₂-bi-e* LUGAL-*ša₂* DUR₂-*ab* "If the anomalies are double, and they are crossed like a cross, and their neck is turned, but they have only one head – the land will remain obedient to its king"

18. BE *iz-bu 2-ma* GIM *pi₂-il-lu-ur-ti* (var. *pi-il-lu-ur-ti*) *it-gu-ru-ma* KA *ša-bi-it nin-tu-u₂* LUGAL ŠU₂ *ina* KUR GAL₂ "If the anomalies are double, and they are crossed like a cross, and the mouth is closed - ...; there will be a despotic king in the land"

Commentary VAT 9718:

240. ^{ba-ar}₂bar = *pal-lu-ur-tu₂*

241, *pal-lu-ur-tu₂* = *it-gu-rum*

^{mul}giš.hur

Aa II/6 33. mu-lu MUL = *ku-un-nu-u*

A. Falkenstein (1963) Zu den Inschriftenfunden der Grabung in Uruk-Warka 1960-1961, Baghdader Mitteilungen 2, 1-82.

Ein sumerisches Lied auf König Anam (W 20477)

24 giš-hur-ru gi-me-en "die Regeln festigst du"

The lament for Sumer and Urim

CBS 9204 (SEM 96) CBS 9878 (SEM 95)

493 me an-na giš-hur ug₃ gen₆-ne₂ an-ne₂ nam-kur₂-re "May An not change the divine powers of heaven, the divine plans for treating the people with justice"

B. Hruška (1969) Das spätbabylonische Lehrgedicht "Inannas Erhöhung", Archiv Orientalni 37, 473-522.

Tafel III

47 te-me-en-da-ri₂-an-ki-ke₄ giš-hur-gi-na-dim₃-me-er-e-ne-ka-a-ta

48 *ina da-ru-ti te-me-en* AN-*e u* KI-*ti₃* *u₂-šu-rat* DINGIR^{meš} *ki-na-a-ti*

"Als auf dem ewigen Fundament von Himmel und Erde gemäß der unabänderlichen Ordnungen der Götter"

W.H.Ph. Römer (1990) Review of Th. Jacobsen, The Harps that Once ... Sumerian Poetry in Translation, Bibliotheca Orientalis 47, 375-394.

KU 25

IV u.Rd.

170 giš-hur-hur-ra-a-ni inim ge-en-ge-en

O.R. Gurney / S.N. Kramer (1976) Sumerian Literary Texts in the Ashmolean Museum.

Išbi-Irra's Beguiling Letter to Ibbi-Sin

8 me-si₃-mu us₂ giš-hur-gi-en-gi-ne₂ sig-igi-nim-ma "dispensing the me, stabilizing 'law and order' below and above"

An adab to Suen for Ibbi-Suen

50 ^dnanna ud zu₂ keše₂ giš-hur gen₆-ne₂ "Nanna, the ... light, confirming the divine plans"

Excursus: cruciform halo

G. Tissandier (1878) Histoire de mes ascensions. Récit de vingt-quatre voyages aériens (1868-1877). Précédé de simples notions sur les ballons et la navigation aérienne. Ouvrage illustré de nombreux dessins par Albert Tissandier.



L'ascension de longue durée du ballon 'le zénith' de Paris à Arcachon (Gironde), 23-24 mars 1875.

A 4 h. 30 du matin, un spectacle grandiose va se présenter à nos yeux. La lune qui n'a pas cessé de briller dans l'azur du ciel, s'entoure d'un halo resplendissant, d'un cercle de feu, dû à la réfraction de la lumière à travers les paillettes de glace suspendues dans l'atmosphère; ce cercle est blanc comme de l'argent, il se découpe sur un fond obscur, et grandit à vue d'œil, en prenant bientôt l'aspect d'une ellipse. Peu à peu, une croix de lumière étend ses quatre branches autour de la lune et complète ce tableau étrange, plein de majesté, qu'on admiré parfois les explorateurs des régions polaires.

Registrum huius operis libri cronicarum cu figuris et imagibus ab inicio mundi



1493 Latin



1493 German



1500 German

Hartmann Schedel, Liber chronicarum. 1493

Similio modo primis annis tres lune apparuere et in media signum crucis

Hartmann Schedel, Das Buch der Chroniken und Geschichten. 1493

Deßgleichen sinnd auch in de nechsten iarn darnach drey monde erschynen und in dem mittleren ein creuzzeichen

Hartmann Schedel, Das Buch der Chroniken und Geschichten. 1500

Deßgleichen so sind auch in den nechsten iaren darnach erschynen drey monde unnd yn dem mittlern ein creußzeichen

Conradus Lycosthenes (1557) Prodigiurum ac Ostentorum Chronicon





412



414



525



583

412 Praeterea signum crucis apparuit in luna et statim Albericus miles Beluacensis vir sanctiss pro fide Christiana passus est martyrrium

414 Mense Septemb. visi sunt tres soles una caelo omnium serenissimo et paucos post dies eiusdem mensis tres lunae et in luna medium locum occupante alba crux Unde ex Parisiensi et Bononiensi Gymnasjs nec non Venetiarum quoque doctores naturalium que rerum quam doctissimi perscrutatores vocati prognostica interpretarunt: innuentes Cardinalium discordiam in electione Ne summi pontificis futuram et principum quoque electorum; in electione Romanorum regis Nec fefellit eventus homines ingenio acutissimos

525 Sexto circa nonam noctis Luna cum cruce signata et circulo inclusa cui maior semicirculus in parte superiori erat

583 Septimo Aprilis hora octava post meridiem caelo sereno visum caeli prodigium in civitate Vuyl in Turgauia luna videlicet in cuius corpore alba crux splendebat

C. Goltwurm Athesinus (1557) Wunderwerck vnd Wunderzeichen Buch. Darinne alle fuernemste Goettliche / Geistliche / Himlische / Elementische / Irdische vnd Teuflische wunderwerck / so sich in solchem allem von anfang der Welt-schoepfung biss auff vnser jetzige zeit / zugetragen vnd begeben haben / Kuertzlich vnnnd ordentlich verfasset sein / Der gestalt vor nie gedruckt worden.

272 Im jar 1174. erschienen am himel drey Mond / und in der mitten ein Kreuß / Etliche legten dieses Gesicht auß / das solches bedeuten solt / die zwitracht der Kardinäl / in erwehlung eines Papsts / auch die uneinigkeit der Khurfürsten in erwehlung eines Römischen Königs / wie dann 17. jarlang nach einander / im Römischen Reich / gar gefehrliche und beschwerliche zeit gewest.

273 Im 1159. jar / Ist ein wunderbarliche gestalt des Monds erschienen / und ein Kreuß mitten in dem schein des Monds gesehen worden / darnach ist groß Kreuß und trübsal allenthalben in der Christenheit geuolget / Dauon auch an seinem orth meldung beschehen wirdt.

274-275 Im jar 1554. den 14. tag Junij / ist zu Schweinfurt der Mond blut roth erschienen / und ganz ob der Statt gestanden / darinn ist ein bildniß gestanden wie ein Stättlin / oder ein besonders Gebew / Bald darnach (wie hie beuor etlich mal gemelt) ist Schweinfurt in grund abgebrannt und verwüestet worden. Im obgemelten jar / dfast in disem Monat / ist zu Greussen der Mond uber der Statt ganz rötlich gestanden / darinne ist ein Kreuz ganz deutlich gesehenn worden.

Balthasaris Exneri de Hirschberga, Dictorum et Factorum Memorabilium. Liber Septimus. [1620]

Caput VIII. De Omnibus.

Summaria.

Friderici I. Imp. Anno, priusquam Fridericus primus Imper. cum Alexandro Pontifice ad bellum descenderet, clara in globo lunae crux conspecta est.

Oeuvres Complètes de Christiaan Huygens

Tome Dix-Septième

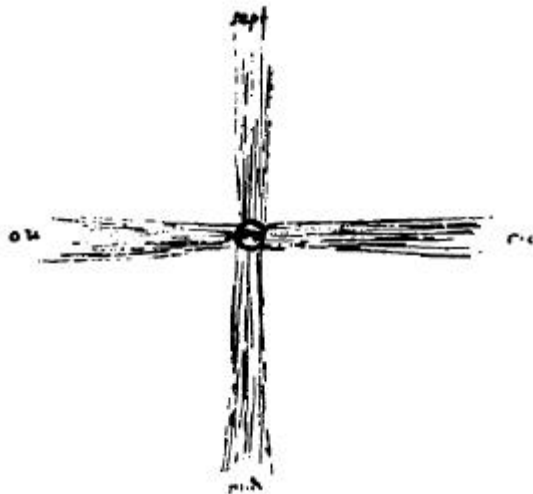
Traité des Couronnes et des Parhélies (1662 ou 1663)

1932

438 §43 Les trois autres phénomènes d'Hevelius, savoir ceux qu'il observa le 30 mars, le 6 avril et le 17 décembre, ont des causes évidentes d'après ce qui a été dit plus haut. A cette exception près que dans la dernière de ces observations une croix blanchâtre a été vue composée de deux bras, l'un horizontal l'autre vertical, se coupant dans le disque même de la lune. Or, la cause de cette croix s'offre d'elle-même: elle doit être venue des cylindres verticaux et horizontaux suspendus dans l'air et capable de produire les parasélènes et les diverses circonférences.

439 §43 Porro autem et alia tria phaenomena Heveliana nempe quae 30 Mart. et 6 Apr. et 17 Dec. observavit causas manifestas habent ex antedictis. nisi quod in postremo horum crux albicans visa est e trabibus binis transversa rectaque in ipso lunae disco sese intersecantibus. Huius vero causa in ipsis illis cylindris erectis transversisque qui ad paraselenas circulosque efficiendos in aere pependere ultro sese offert.

511-512 Appendice xiii au traite des couronnes et des parhélies



§2 Croix blanche formée par les rayons de la lune la nuit entre le 16 et 17 de May 1677 a deux heures auvant son eclipse qui commença a deux heures et demie

J. Barrow (1818) A Chronological History of Voyages into the Arctic Regions; undertaken chiefly for the purpose of discovering a north-east, north-west, or polar passage between the atlantic and pacific.

Jens Munk. 1619.

231-232 On the 18th of the preceding December, there was an eclipse of the moon, and the night this luminary was environed by a transparent circle, within which was a

cross, cutting through the centre of the moon, and quartering it – this phenomenon was regarded as the harbinger of those misfortunes which soon befel them.

J. Leslie / R. Jameson / H. Murray (1836) Narrative of Discovery and Adventure in the Polar Seas and Regions.

196 In 1619, Christian IV. sent out two well-appointed vessels under Jens Munk, who had the reputation of a good seaman. He succeeded in penetrating through Hudson's Straits into the bay, whereupon he took upon himself to change the whole nomenclature of that region, imposing the names of Christian's Straits and Christian's Sea, and calling the western coast New Denmark. But this innovation, which was contrary to every principle recognised in such cases, has not been confirmed by posterity. When September arrived, and the ice closed in, he thought it prudent to seek winter-quarters, and, accordingly, established himself in the mouth of an opening, which, it is highly probable, was that channel which has been since called Chesterfield Inlet. The season seemed to open with the best promise, commodious huts were constructed, and there were both abundance and variety of game. The Danes saw some of those brilliant aerial phenomena which are peculiar to those latitudes; at one 197 time two, and at another three suns in the sky, and the moon once environed by a transparent circle, within which was a cross cutting through its centre; but, instead of amusing their minds with these beautiful appearances, they were depressed by viewing them as a mysterious presage of future evils.

J.J. Shillinglaw (1851) A Narrative of Arctic Discovery, from the earliest period to the present time.

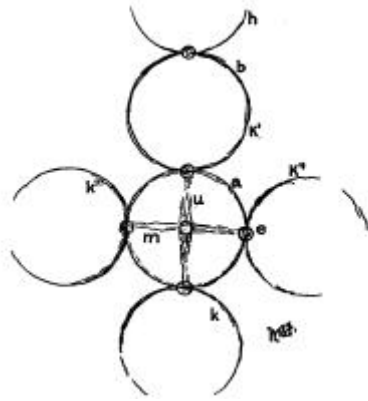
Jens Munk – 1619.

112-113 In December they also beheld an eclipse of the moon, which appeared as if environed by a transparent circle, within which was a cross, seemingly dividing the moon into four quarters. All these beautiful appearances instead of amusing them had a directly contrary effect, and were regarded as the harbinger of those misfortunes which shortly followed.

Monthly Weather Review (January, 1916)

A Lunar Halo of July 24, 1861

Mr. William B. Frew, now 87 years of age and for many years our cooperative observer at Aledo, Ill., sends the accompanying old sketch, by himself, of an interesting case of lunar halos and paraselenæ which he observed in Mercer County, Ill., on July 24, 1861.



The lunar cross mu is of course composed of a part of the paraselenic circle, m , and a lunar pillar, u , of Bravais' "second class".

Monthly Weather Review (November 1914)

Light Pillars

Light pillars of the second order appear only during higher altitudes of the luminary. They are due to a twofold reflection from the basal planes of the vertical ice prisms, and appear above or below the luminary according to the relative positions of the two reflecting surfaces. Of course the pillars may appear above and below the luminary simultaneously. The light rays fall first upon an upper basal plane, whence they are reflected upward to a lower basal plane which throws them down to the observer.

Monthly Weather Review (June 1920)

A General Theory of Halos

The parhelic [paraselenic] circle – a faint, colorless circle everywhere equally distant from the zenith and passing through the sun [moon]. This was attributed by Thomas Young to reflection from the faces of hexagonal prisms falling vertically. Bravais improved this theory by the remark that crystals with their principal axes persistently horizontal would also contribute to this feature. I shall show that probably only such reflection as is total, hence from the interior of the crystals, is generally effective.

F. Thureau-Dangin (1921) *Rituel Accadiens*.

DT 114 face i 9 *be-lu kib-rat* LUGAL DINGIR.DINGIR ŠU₂ *mu-kin* GIŠ.HUR "seigneur des regions, roi des dieux, Marduk, qui fixes les dessins (celestes)"

Scott's Last Expedition, being the journals of captain R.F. Scott (1913).

Chapter IX. The Work and the Workers

Saturday, May 13 [1911]. – The wind dropped about 10 last night. This morning it was calm and clear save for a light misty veil of ice crystals through which the moon shone with scarce clouded brilliancy, surrounded with bright cruciform halo and white paraselene. Mock moons with prismatic patches of colour appeared in the radiant ring, echoes of the main source of light. Wilson has a charming sketch of the phenomenon.

A. Cherry-Garrard (1922) *The Worst Journey in the World. Antarctic 1910-1913*.



J. Dana Hrubes, South Pole, August 2005

