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THE
ASSYRIAN HERBAL

BY
R. CAMPBELL THOMPSON, M.A., F.S.A.,

FELLOW OF MERTON COLLEGE, OXFORD.

A MONOGRAPH ON THE ASSYRIAN VEGETABLE DRUGS,
THE SUBJECT MATTER OF WHICH WAS COMMUNICATED
IN A PAPER TO THE ROYAL SOCIETY, MARCH 20, 1924.



1740

LUZAC AND CO.,
LONDON,
1924.

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MATERIA MEDICA, Vegetable : Ancient
HERBALS : Ancient
ASSYRIAN MEDICINE

Galls


LDQ.ATI (folios)

43352



To

My Wife
who shared



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THE ASSYRIAN HERBAL

§ 1. INTRODUCTION.

The following study of ancient Assyrian vegetable drugs is based on (a) approximately 120 fragments of cuneiform plant-lists, from Rawlinson's W.A.I., or my copies in CT. XIV; (b) my copies of 550 medical tablets in my Assyrian Medical Texts; (c) previous publications of medical texts^①

I have been fortunate in being able to refer to my two friends, Mr. T. Gambier-Parry, of Bodley's Library, and Mr. Ernest Stenhouse, B.Sc. for their help in numerous botanical problems which I was not competent to solve. I am also indebted to Mr. Sidney Smith and Mr. C.J. Gadd of the British Museum for their ready help. Particularly would I thank Dr. A.E. Cowley, Bodley's Librarian, for his never-failing encouragement during the writing of this small book, and through him the courtesy which Bodley's Library always

① For a list of these see the Preface of Assyrian Medical Texts. Meek, RA, 1920, 179, 181, published S. 1701, a duplicate of PL. 10. Ebeling's KAR No. 202 is a duplicate of PL. 23, K. 259.

extends to Students. To Professor Langdon I owe many references to material which I have incorporated.

Difficulties in printing a monograph for which there is only a limited public, (with which Assyriologists will sympathize), have rendered this form of production imperative. It cannot, however, be said to be satisfactory; on the other hand, the material offered is chiefly in the form of a work of reference, which does not demand continuous reading.

§ 2. THE METHOD FOLLOWED.

It has long been obvious that the medical texts lack their chief interest without a wider understanding of the drugs prescribed^①. Of these drugs the most numerous are vegetable; and therefore, before the texts in AM were translated, the first essential was to make a co-ordinated study of the plants.

^① Many of the translations of these drugs, which were commonly accepted, were unsatisfactory. I have tried to shew that kukru is not chicory, but fir-turpentine: kasû not cassia, but rose: karšû not leek, but cherry: sagilatu not cyperus, but an alkali plant: ballutku not oleander, but *ferula communis: haldappânu not rhododaphne, but mustard: armânu not pomegranate, but apricot: saḫlu, not aress, but lolium: HUL.GIL not "stink-cucumber," but poppy.

The method which I have adopted in these pages in discussing the large number of plants in the Assyrian Herbal (approximately 250) is as follows:

- (1) A tabulated list was made of the occurrences of these drugs in the 660 tablets of AM, the latter being adopted as a definitely restricted, and yet ample basis for a proportionate calculation of the relative popularity, rarity, or other factor, of the 250 vegetable drugs employed by the physicians. It is obvious that the diseases for which these drugs were used, and the way in which such medicines were prescribed, would throw great light on the properties of the drugs, whether anodyne, narcotic, cathartic, etc.
- (2) The next source of information was the plant-lists which I had copied some twenty years ago, to be published in CT. XIV, most of these being lists of plants with medicinal value. Herein the Assyrian Botanists had collected a great number of synonyms and equivalents for the different plants, arranged them in a definite order, and not infrequently added illuminating little notes of their own.
- (3) Leaving the native Assyrian sources, I found that the drugs in the Index of Budge's Syriac Book of Medicines, when arranged in the order of their frequency, afforded some idea of what might be expected.
- (4) It remained then to co-ordinate and apply

iv.

§ 2: § 3.

The above data by comparison with the modern flora of Mesopotamia, and with the drugs of Oriental and Classical writers: as well as with those in the modern Pharmacopoeias, both European and Oriental, in their parallelism of use: and particularly by philological comparison with other Semitic languages.

§ 3. THE ARRANGEMENT OF THE MATERIAL:—

§ 4. A Table of Proportionate Occurrences of the drugs in the 660 tablets of AM.

§ 5. A List of all the vegetable drugs occurring more than 5 times in AM, with the number of times they occur, and the order of their frequency.

§ 6. The Botanical Order, according to certain semi-medical lists.

§ 7. Notes on the borrowing of Assyrian plant-names into the languages of the West, and remarks on the methods of the Assyrian scribes in their botanical works.

§ 8. Critical notes to my copies of the Plant-lists in CT. XIV. Since the publication of this volume I have made many fresh joins.

§ 9A-CU. The chief Plant-lists in CT. XIV in transliteration.

§ 10A-CT: Notes and identifications of the drugs in § 9, with their uses in Medicine.

§ 10 CU-21. The Gums and Gum-resins^①

§ 22-51 The Trees.

§ 52-72 Various Plants.

§ 73-86. The ŠE Groups.

INDEX.

§ 4. PROPORTIONATE OCCURRENCES OF DRUGS:

The following is a table of Assyrian drugs used in the medical texts in AM:-

(The figures are given in round numbers, approximately):

DRUGS	SPECIES	OCCURRENCES.
Vegetable	250	4600
Mineral	120	650
Other, and unidentified	180	630
Totals	550	5880

To which must be added -

ALCOHOLS -

KAŠ (šikaru), various 300

KAŠ.ŠAG (kurunnu) 100

GEŠTIN (grapes, wine) various 90

OTHER SUBSTANCES

FATS (various) 170

OILS (NI, NI, IŠ = šamnu) 340

HONEY 80

WAX 30

MILK (various) 40

① I am indebted to Messrs Dolbear and Goodell of Oxford for specimens of these

§ V. PROPORTIONATE OCCURRENCES OF PLANT-DRUGS:

The following list contains the relative frequency of occurrences of all vegetable drugs occurring in AM more than five times.

It is obvious that many drugs may be 'rely identified', and yet there may be uncertainty about the exact species. For instance, turpentine comes from many of the conifers; the gums are not easily distinguishable: the chamomiles and daisies are similar. It is probable that the ancient Mesopotamian peasant was as hazy about exact identifications as the modern Arab, whatever the schoolmen may have been. At the same time ^{it would be misleadingly} to append a question-mark to every identification which was slightly in doubt, and therefore I propose to use the following system of marks appended to drugs to denote their probability: (1) When nothing is added the identification may be regarded as certain: (2) When there is an asterisk *, a very slight doubt about the exact species, or, a slight variability possible owing to there being a closely-allied candidate for the same drug: (3) Two asterisks **, some doubt about the identification, but reasonable plausibility: (4) A query, (?) for real and justifiable doubt.

The number of times the plant occurs in AM is given in brackets: An (N) is appended to

those which I believe to be new identifications.

1. Burašu (202), Pinus, Pine-turpentine.
- (N). 2. Kukru (193), Abies, Fir-turpentine.
- (N). 3. Kasû (181), Rosa
4. Erinu (including erinu BAD) (148), Cedrus.
- (N). 5. Saḥlu (124) Lolium.
- (N). 6. Imḥur-pani ("š1.š1) (114), ** Calendula,
* * Heliotrope.
7. Bînu (106), Tamarix.
- (N). 8. "UD (= ḫil šarbatî) (101), * Storbis, * Styrax.
9. Ninû (100), * Ammi, or similar Umbellifer.
- (N). 10. Maldappânu ("HAR. HAR) (96) (including ḫallulaia
(1), Sinapis.
- (N). 11. Baluḫu (92) * Galbanum.
- 12, A. Uḫulu (87) Alkali (vegetable).
- 12, B. KUR. KUR (87) * Hyoscyamus. *
14. Mutru (85), Myrrha.
15. Saluppu, (84), Dactylus.
- (N). 16. Nuḫurtu (74), Asafoetida.
17. Imḥur-ašrâ ("š1. MAN) (68), similar to
No. 6, Imḥur-pani.
- (N). 18. Nikiḫtu (65), * Liquidambar orientalis, Mill.
19. Kanû ḫâbu (63), * Acorus calamus, L.
- 20, A. Tarmuš (62), Lupinus termis, Forsk.
- 20, B. Lišan kalbi (62), Arnoglosson^①
- (N). 22. Urnû (57), * Mentha.
23. Šunû (56), Vitex agnus castus, L.
24. Šimru, šimrânu, P1. P1 (51), Foeniculum
officinale, all.

① Add next ** Ricinus ("Sapabagalzu, "AG. UD, "AT. KAN (=60)).

25. Šurmēnu (49), Cupressus.
 26A. Karan šelibi (48), *Solanum.
 (N). 26B. AG.UD (48), * * Ricinus. (See p. VII, n. 10)
 28. Imbû tâmtim (47), Fucus(?).
 (N). 29. LITUR, LITAR, abukatu (45) Andropogon(?).
 30A. ŠE.BULUG (44) Millet.
 (N). 30B. Balukku (44) * Ferula communis, L.
 (N). 32. Dilbat (43) Anthemis, Bellis.
 ① 33A. HUL.GIL, irrû, ~~arariannu~~ (42), Papaver,
 opium (see also GUR.UŠ, 68c).
 33B. Šûšu (42), Glycyrrhiza.
 35. Êru (41), Laurus.
 (N). 36A. Nurmû (40), Pomegranate.
 (N). 36B. EL (arzallu) (40), Crataegus Azarolus(?).
 38A. ZI(D). GIG (35) * Wheat-flour (+ ŠE.GIG, (2)).
 38B. ZI(D). KU (35) Fine-ground flour.
 (N). 40. Tîru (34) * Gum of Pinus Halepensis.
 (N). 41A. Šapru (25), kamantu (7) (= 32), Rhus coriaria, L.
 (N). 41B. NAMTAR (IRA) (32) * Mandragora officinarum, L.
 (N). 43A. Šumlalû (31), Nerium odorum, Sol. (?).
 (N). 43B. Kanaktu (31) * Opopanax.
 45. Ašagu (30), Spina, esp. Lycium, Rhamnus.
 46A. Suadu (29).
 46B. Kurkanû (29), Curcuma longa, Turmeric.
 48A. Siĥu (28), Artemisia.
 (N). 48B. Azallû (28) * Cannabis, Hemp.
 (N). 48C. Kan šalali (28), * * Conium maculatum, L.

① Part new. To Haupt must be given the credit
 of irrû

- (N) 51. Arganu (27) (a gum similar to Bariratu, No 50.)
 ***balsam or ***balm of Gilead
52. Gišimmaru (26), Phoenix dactylifera.
- 53, A. Kitû (25) Linum.
- (N) 53, B. Maštakal (25). Savin (?)
- 53 C. El(i)gulla, MUH-gulla (25)
- 56, A. ZIZ.A.AN (24), Triticum dicoccum, Schr.
- 56 B. Zibû (24), Nigella
- 56, C. Šamaššammu (24), Sesamum
- 56, D. ŠE.SA.A (24) parched corn.
60. Bariratu (23) (= also HUM. HA? No 99 B)
 * Sagapenum, * Ferula Persica Willd.
- (N). 61, A. Kurban ekli (22), Anthemis, Chamomila.
- (N). 61, B. Nušabu (16), Âr kaspi (3), Zîm kaspi (1), Âr
 hurasi (1), Iluru sâmu (1) (= 22), Anemone
- 63 A Kutru (21).
- (N). 63 B Supalu (21) (see Zabalum (4), Juniperus
 excelsa, M. B. 9 27) ***manna
- (N) 63, C. (21(D)). GÙ. DU (21) Tripnella foenum graecum, L.
- 66, A. (21(D)). GÙ. GAL (20), & lathyrus
- 66, B. Baltu (20), Capparis.
- 68, A. Azupiranu (18), Crocus, Saffron.
- (N). 68 B. GÛR. UŠ (= sarmadu) (18) * Papaver (see HUL.GIL
 No 33 A).
- (N) 68, C. AŠ (18) Asa foetida
- 71 Kursipti ekli (17), Urtica.
- 72, A. Jarhu (16).
- 72, B. Hašû (10), hašanu (6) (= 16), Thymus.
- (N). 72, C. Kankadu (16) γιγγιδίου (?)

X.

85.

- (N). 72, D. Imdu (16) Cupressus of the Cemeteries.
(N). 76, A. MI. TAK (15) Nerium oleander, L. (?)
(N). 76, B. U. GIR. GIL (15) (= dadanu) Gum Arabic (?)
(N). 78, A. Tiyâtu (14), Asafoetida.
78, B. Šurdunû, si. DI, gimgiru (14) Eruca.
78, C. Kiškiran burasi (14), **gum^{sw}, pitch^{sw}, tar.
78, D. Asu (14) Myrtus.
82, A. Haškuru (13), Pomus.
82, B. BAR. HUŠ (13)
(N). 82, C. Ankinuti (13) **Oenanthe.
82, D. Šiburratu (13) Ruta
86. Ašc (12)
87, A. Tuâmu (11)
87, B. Ša-niš or Ša-u-u (11).
(N). 87, C. Pukuttu (11) Carduus.
87, D. Urbatu (11) (etc.), Cyperus (etc.)
(N). 91, A. Iltakku, adaru (10) * * Citrus.
(N) 91, B. AT. KAN (10) * * Ricinus (seep. VII n. 10)
91, C. Dapranu (10) Juniperus drupacea, Labill.
(+) 91, D. LAL (10). ~~Cantianus tinctorius L.~~
91, E. HAR. HUM. BA. ŠIR (= bahrû) (10).
96, A. Sašumtu (9).
96, B. Šimeššalu (9), Buxus (?)
96, C. Lidrušu (9).
96, D. TU. LAL (9).
96, E. Annuhara (3).
101, A. GIŠ. ŠAR (8)
101, B. HUM. HA (= bariratu? No. 60) (8).
101, C. Šûmu (8), Allium.

- (N). 101, D. EŠŪ (8), *Acer, Maple.
 105, A. UR. PI. PI (7)
 (N). 105, B. Šalluru (7), Mespilus Germanica, L.
 (N). 105, C. ila Šamsi (7) *Anacyclus Pyrethrum, D.C.
 (N). 105, D. NAM. TIL. LA (7). Opium?
 105, E. BAT. TAR (7)
 105, F. GIL (= pagratum) (7), Gall-nuts.
 111, A. AŠ. PI. PI (6)
 111, B. Kamunu (6), Cuminum.
 111, C. Karašu (6) Allium porrum, L.
 111, D. ŠEMUŠ, ŠE. ŠIŠ (šaššugu) (6).
 111, E. Ma-eres-ma-la (or-ra). (6).

§ 6. ORDER.

An examination of the Plant-lists shews that the ancient botanists adhered in the main to a definite arrangement. The group of semi-medical plant-tablets of CT. XIV, 10, 42, 44 and S. 1701 (Meek RA, 1920, 181), etc., covers a wide field of plants which coincide in the order in which they are arranged. This order will be seen to be maintained in general in the plant-lists proper (CT. XIV, PLS. 18, ff : § 9); with this proviso, that the latter are far fuller and contain sections dealing with plants which are omitted in the former. At the same time, the two systems cannot always be reconciled.

It is an intelligent and methodical arrangement. The Assyrian botanist had a very

fair capacity for dividing his herbar into classes according to his needs. He begins, logically enough with the grasses.

But he does not appear to have arranged his plants according to our ideas of botany. He follows the grasses with rushes and Euphorbiaceae, reasonably enough: but he will group the Papaveraceae and Cucurbitaceae alongside each other because the names for the principal plants begin with the sign HUL. He scatters Compositae throughout his series.

All this is quite intelligible, and entirely in keeping with what we know of Assyrian method. It is the arrangement of a rather superficial, but laborious, cataloguer. But the more the subject is studied, the more obvious appears to have been the great knowledge possessed by the doctors and chemists of Nineveh.

The following is an attempted arrangement of the order of plants in CT. XIV, 10, 42, 44: S. 1701, K. 1920, 181: and similar texts. The arrangement cannot be said to be certain, but at least it forms a working basis. Indeed, ultimately it may be found that the tablets which appear to be duplicates are not really so. In S. 1701 and CT. XIV, 10 the det. is "tree" replaces "plant".

— Probable beginning: K. 4431, PL. 27: K. 4163, and K. 8807, PL. 42: ll. 1-7:—

1. " šu(?)	3. " mundinnu .	5. " šumuttum
2. " bi	4. " EL.	6. " inbu .

7 "kankadu (89BF, 428)⁸⁶

Possible continuation,

K. 4140 B, PL. 42:

K. 4152, PL. 44;

K. 4218 A, PL. 10;

K. 11386, PL. 42:

S. 1701, RA. 1920, 181.

U. 8-44.

8. "šukru

9. "NAM.TAR

10. "hašū

11. "ataktum (89D, 17)

12. "sahlū (89CO, 692)

13. "tarmuš (p. 276).

14. "hašū šAR^① (89CN, 682)

15. "kamun ibini

16. [u]..ku(?)-la-lum^②

17. [u]pukuttum (89AU366)

18. [u]nibi^③ i balti

(89AD, 249).

19. "GUR.UŠ^④ (89K, 93)

20. "GUR.DINGIR.BABBAR^⑤

21. "kazallu^⑥ (89C, 2, 10)^{XIII}

22. "išbaltu (89C, 8).

[K. 11386 begins, PL. 42]

23. "UB (between 89 AK-AL, see pp. 16, 261).

[K. 4140 B PL. 42, begins]

24. "šamu^⑦ šamu (89AQ)

25. ["GI.GIL arku only on K. 4218 A]

26. "mârat ekli (89I, 80)

27. "elat ekli (89BY, 592)

28. "anunutu (89D, 21).

29. "adumatu (89J, 86).

30. "urnû sâmu (89L, 97).

31. "zibû (89M, 112).

32. "arzallu.

33. "dadatu

34. "lapat armanni

35. "GI.GIL arku

36. "GI.GIL pišû (89P, 133).

37. "zim kaspî (89P, 147).

38. "zim hurasî (89P, 140?)

39. "edu (89Q, 3).

① S. 1701 ... LA ② Var. for i.U.LAL, K. 4218 A and S. 1701.

Re-ex. ~~//////~~ ~~|||||~~ ~~|||||~~ ~~|||||~~

③ K. 4218 A, and S. 1701, i-ni-

bi-? ④ Before this line K. 4218 A and S. 1701 add

(10) iGIR.*NAG.GA.ša VII šakkadipē-šu (11) iMUN.EME.ŠAL.

LIM. K. 4218 A reads i "GUR.UŠ.

⑤ S. 1701

šu ša-maš.

⑥ K. 4218 A kazalla

⑦ K. 4140 B

and K. 4152 šami.

40. ^ušibbur⁺ātu (89S, 171). | 55. [^uis]-pa-ri (89AQ, 342)
41. ^ukamunu (89T, 174). | 56. [^umārat?]ekli (cf. p. 262,
l. 24, with l. 20 isparu)
42. ^uanamešu (89U, 175) | 57. [^ui]NAM. TAR
43. ^uhaldappāku (89V, 186) | 58. ^ukalbanu (sis)
- [End of Col. I, K4140B | 59. ^uKU.MA.LAM (89AR)
- and K. 4152. The continuation] | 60. ^uimbu^a tāmti (89AŠ, 353)
- (as one would expect from ^uKUR. | 61. ^uazallū (89AT, 358)
- RA, see Pl. 28) may be Col. iii | 62. ^uKUR. [KUR] (89AV, 376)
- of K. 4163, Pl. 42, forming | 63. ^ukusibu
- ll. 44-49. | 64. ^ukūiātu
44. ^uKUR.RA (89Y, 214). | [S. 1701, col. ii begins]
45. ^ušguš[ti] | 65. ^upukuttu (89AU, 366)
46. ^uišbattum (89C8) | 66. ^ušasumtu (89AW, 389)
47. ^uGI.GIB ... | 67. ^usihu³ (89BA 404)
48. ^uhaškur a[bi]¹ | 68. ^ušamūšim (89BA 407)
- (see p. 13) | 69. [^u]suada (89BC, 411)
49. ^uGI.GIB ab- ... | 70. [^u]habšallurhu
- [The continuation may | 71. [^u]kurkanū (89BK, 477)
- be K. 274 and K. 14351, Pl. 42, | 72. [^u]hazalunū³ (89BL, 506)
- with S. 1701, forming ll. 50-80] | 73. [^u]puḫpuḫū (89BP, 506)
50. . . . ŠAR | 74. ^uamūšē (89BI 456)
51. . . . -te GIŠ.ŠAR | 75. A ^ueziaz (89BI, 453)
52. . . . [tu]m GIŠ.ŠAR | B ^uakdananu³
53. . . . GIŠ.ŠAR | 76. ^uKU. NIM⁴ (516)
54. [^uUA.PI].PI (see 89AP | 77. [^u]uḫulu³ karnanu (89BN)
- and p. 98). | 78. ^ušahlanu (89AP 836).

① This appears to confirm the position of K. 4163 here.
cf. K. 4216, Pl. 20, XI, ll. 7-8. ② S. 1701 si-i-[ku]. ③ S.
1701 ha-zal-lu... ④ S. 1701 omits ⑤ S. 1701 u-...

79. "UR.[PI].PI
 80. "al-[lum]-gu
 81^①
 [K.4140B, iii + K.14077
 PL.33: K.4152, iii: K.8828
 PL.26: possibly continue,
 forming ll. 82-113]
82. "še-[e-du]^②
 83. BAD GUD mu-
 84. "dam-ka-[tu]
 85. ŠER UR.BAR.RA
 86. ŠE.RÙ arbu [ululi](?)
 87. " AN
 88. " GAB
 89. " AN
 90. " KI
 91. " anê pl
 92. " šeri
 93. " šedu^③
 94. " damkatu^③
 95. "ŠE.RÙ GIŠ.MA^③
 96. [ŠE].RÙ arbu ululi^③
 97. "BAD.KA.KAL
 98. "KA.BI.DI.RA(?)
 99. "ŠE.RÙ
100. "bīnu
 101. "HUL.TI.[GI.LI] (89AN, 319).
 102. "ŠĀ.KUR.[RA] (89AN 320).
 103. "hi-ti-
 104. "TU.[LAL?]
 105. "su-a-[di?].
 106. "KAL.A.[BI]
 107. "inib šadi^① (89AA, 215).
 108. "hīl a- (89AB, 239?)
 109. [U]Š.F.EL[ŠAR] (89BK,
 499).
 110. " . . -gi- (cf. 89BN,
 520).
 111. "
 112. "
 113. "KA.LUM.MA
 [K.4140A, PL.28: K.
 4218A, iii, PL.10: aug-
 mented from S.1701,
 rev., and K.14060, PL.
 26, form a connected
 text, conceivably in con-
 tinuation].
 114. "in(?)
 115. "sah-

① Uncertain gap. ② Restored from l. 93, one perhaps being redundant. ③ Additional on K.8828, and perhaps redundant

116. "pi. [pi] (89 N, 116)
 117. "ka- ...
 118. "pu- ...
 119. "e-ti- [i-lum?]
 120. "iš-ki- ...
 121. "pu-ug- [lu] (89 BV, 570)
 122. "ša-gu [um-ti] (89 AW, 390)
 123. ① u^② l^③ lat ekli (89 BY, 592)
 124. "NUNUZ ekli^③
 125. "KAN.ME ekli (cf. 89 CC,⁶⁰⁸)
 126. "KAN.ME arku
 127. "KAN.ME agurru
 128. "šibutu
 129. "amarianu (cf. 89 I, 80)
 130. "KAK.KU.UŠ ...
 131. "AMA.A.[NI] (89 CH, 636)
 132. "TUR.A.[NI] (89 CH, 638)
 133. (u) UR.A.NI
 134. (u) ur batu (89 B, 2)
 135. (u) zir ur-b[a-ti]
 136. (u) kun- [gu] (89 B, 4)
 137. (u) šumru (89 N, 116)
 138. (u) šgu- u[š-ti]^④
 139. (u) gul-gul- [a-nu] (89 AG, 270).

[At some subsequent points, Col. IV(?) of K. 4140 B, (140) "ši-... (141) "ut-... (142) "ša-... ; and Col. IV(?) of K. 4152];

143. "KAK.KU.[UŠ?]
 144. "ni-bi- ...
 145. šēr sâmu ka(?)-...
 146. šēr sâmu kur- ...
 147. "su-na- [lu]
 148. i ti-ya- [ru]
 149. ili-ya- [ru]
 150. "ka- ...
 151. ka-za- ...
 152. lu- ...

(Cols. V-VI(?) not included here.

① Before this line K. 4218, A, adds i ar(?) - ga(?) - [ru?]: cf. K. 14054, PL. 26. ② S. 1701 i ③ K. 4218, A, adds a line i kurban ekli, K. 4140, A replaces "NUNUZ ekli by "kurban ekli, K. 14062 has both. The position of "NUNUZ ekli compared with 89 CB indicates rather that NUNUZ = kamti. ④ cf. "šgušti arku, KAR_A 303, IV, 61.

§ 7. MIGRATION OF ASSYRIAN PLANT-NAMES.

Many of the Assyrian plant-names will be seen to have found their way, doubtless through merchants, into the Western languages:

Assyrian or Sumerian	Meaning.	Western Language
ARMĀNU	"Apricot"	Armoniacæ
ARĀLU	[Crataegus	Ararolus ?]
AŠ	"Asa foetida"	Asas
ARUPIRĀNU ①	"Saffron"	(through Arabic)
AN. BAR	*"Liquidambar"	(through Arabic)
BALUHĪHU	*"Galbanum"	(uncertain)
BURĀBU ①	"Pine"	βράβου, Βratus
ZI.Z.A.AN ①	Triticum dicoccum	ζιβάνιου
MUL.NI.LI.GA	"Colocynth"	[κολόκυνθις ?]
NARUBU ①	["carob" ?]	(through Arabic)
KUDIMĒRĀNU	"Cardamom"	κάρδαμον
KAMUNU ①	"Cummin"	κύνινου
KANAKTU	*"Opopanax"	[όποπαναξ, πονάραξ ③]
[KUNGU	See p. 32-33	gongae of Berossus ③]
[KANKĀBU		γγυγίδιον ?]
KURKANŪ ①	"Turmeric"	κυρκμα
KARĀBU	"Cherry"	κέρασος
[KITŪ ①	"flax"	cotton ?]
LARĀBU ①	"Card"	κάρδος
LĀSIRBITU	Silphium	lasepitiūm
[MANGU ①	Phaseolus ?	Mungo ?]
MURRU ①	"Myrrh"	μύρρα.
MIŠ.MA.KAN.NA } MUSURKANU }	"Mulberry"	συκάμινος

① Long known or suggested.

Assyrian or Sumerian	Meaning	Western Language
NUHUATU	"Asa foetida"	[νάρθηξ ?]
NAMĀAR IRA	"Mandrake"	μανδράγορα
NUĒMU	*"almond"	[Nux ?] ②
PA. PA	"Poppy"	[papaver ?]
[PI. PI	"foetid"-plant	ΦΥ ?]
ŠARBATU	*"styrax"	[strobilus, styrax ?]
ŠAMAŠŠAMMU ①	"Sesame"	σήσαμον
ŠURMEHU ③	"Cypress"	[ταπέβινθος ?]
YARMUŠ ①	"Lupin"	θήρος

The following are the chief foreign words definitely explained as such in the Lists:—

- § 9AA ABITU: a thorn in Phoenicia (⌘⌘⌘⌘).
- § 9G. BULALU Opium-poppy (Šubari) (⌘⌘⌘ "confuse").
- § 90.AH3. BULALU * * Oenanthe, (Šubari) (⌘⌘⌘).
- P. 261 BU'ŠU * * Ricinus, (Ahlamê) ("the nasty drug").
- P. 264 IAPUTU Asa foetida, (Ahlamê)
- P. 261 MI-NU(?) -BIR * * Ricinus, (Akkad).
- P. 273 HARAZIAŠ Cardamom (Hatti).
- P. 264 KANZŪ Asa foetida, (Šubari).
- § 9J. KANAŠŪ Opium-poppy, (Persian Gulf).
- § 9AA KURBASĪ, a thorn in Šubari
- § 9AA []ŠAK(K)U and KUŠABKU, a large thorn (Phoenicia).
- § 9N PI. PI [fennel] for cough (hahi), Akkad
- § 9AA ŠAMTU, SAMTU Thorn (Egypt) ⌘⌘⌘.
- § 9E TULDI Fenugreek (Šubari) (⌘⌘⌘)
- P. 261 ŠAGABIGALZU * * Ricinus (Elam).
- § 9BC 2 TUŠKAR... * Sagapenum (Šubari)

① Long known or suggested. ② Cf. Iskander, Alexander

③ Uncertain.

On the other hand Assyrian appears to have borrowed certain words: budulku, bdellium; laḏiru (?attar of roses?), liaru (Juniperus Oxycedrus, L.), lardu (nard)

A study of the plant-names shews numerous variations from the equivalents in other languages, when the liquids l, m, n, r, are components: e.g., lardu (nard), ṣilurtu (Lilium), kunipku (κιννάμωδο?)^①, anameru (Anemone?)^①, liaru (Ar. 'ar'ar)^①, zabalum (Ar. lizzâb)^①, iltakku (*l t k k u)^①, nuṣku (Nardus?)^①, arzallu (azarolus?)^①, ṣalluru (Sallustia?)^①, kurkanû (curcuma), biṣru (Bischofia?)^①, ḥasar-ratu (Charitium?)^①, murrû (Murrum?)^①, sarmadu (Sarmadum?)^①, labiše (Labiata?)^①, saḡilatu (Sagittaria?)^①, uššurâti (Uššur?)^①, kullârû (Kullarum?)^①, balûḫku (*galbanum)^①, urkarinnu (Urkarinum?)^①, muṣku (Musku?)^①, kalluru (Kallurum?)^①, kudimeru (Kudimerum?)^①, pillû (Ar. luffah)^①, NAM.TAR.IRA (Mandrake?)^①, musukkanu (Musukkanum?)^①.

š is curious: ḥaṣḥuru, long known as h s h r u, would lead us to identify nuṣku with n u s k u, and antakṣum with a n t a k s u m, even if there were no other reason.

Sex in plants was recognized, but apparently only in the date-palm properly. But the term "male" is applied to ašlu (Cyperus), NAMTAR (mandrake), and "male" and

^① These are new identifications and will be found under their respective sections.

"female" is nikištu (liquidambar orientalis, and *qam.uš): the "male" ašlu may have been so specified when a particular kind of this rush was needed to plait in a charm. The mandrake has a fruit which leads the Arabs to call it "Devil's testicles", which explains the "male" definition; and, finally, we must see in "male" and "female" liquidambar the shape of its gum, just as frankincense is so defined in Pliny (see § 15).

A word should be said on the formation of the plant-names. A large number end with an additional -u (after the usual trilateral root): ararû, kurnû, urnû, hurnû, kanašû, namharû, azallû, alapû, as well as šurdunû and kurkanû. The addition of -anu often appears to mean a product of the plant, although it is not by any means certain: ~~ararianu~~, from ararû "poppy", šamrânu by the side of šimru (fennel), aštabelanu from aštabelu, dadanu from dadâ, barilanu from barilu; zibibanu by the side of zibû, azupiranu and azupiranitu from azupiru, and perhaps kursimanu from [ku?]ru-simati (§ 9 BQ, 551-552). In other cases the original does not occur, but we find šallapanu, šišânu, kanipanu, papânu, haldappânu, hisisânu, gulgullanu, zukikipânu, kakadanu.

Another form, not so easily explorable, ends in k: clammaku (wood of Elam?), ahulabaku (from the "ahulap-plant"), ašlukatu (a feminine

from ašlu), abukatu (a feminine from abu), haš-
kuraku ("lennin" from haškuru).

THE PLANT LISTS. The Plant-lists in CT.
XIV are divided into sections, giving synonyms
and explanations in double columns. Each sec-
tion as a rule is devoted to a particular plant
or series of similar plants, other plants being
sometimes included on more academic grounds.

Determinatives: ①

U, šammu is applied as determinative to plants,
but it has also acquired the meaning of "drug"
and almost "dye" (§ 10 A.1).

GIŠ, iqu is the determinative of tree or wood.

ŠIM is the determinative generally for aromatic
shrub or plant.

GI is the determinative for reeds, or apparently
jointed stalks.

Special words: -

HĪLU (A. DAN = "strong water"), Holma (KB
9) correctly: "gum". It is used of abukatu,
tiyātu and nuhurtu (both "asafoetida"), sarbatu
(* "styrax"), baluhhu (* "galbanum"), nikihtu
(* "liquidambar"), ušû (* "maple"): "Aš is des-
cribed as hîl hahtu (§ 10 W), and "hîl U. GIR
as "hîl šimtat[e] (§ 9 AB, l. 239).

Pm (arlu), ~~arlu~~ "tops" or "twigs" (^{juice} "juice", ②, as
the essence) which shoot forth (IT 7). It is used

① In the following pages for the purpose of brevity,
I have used " , i , 3 for the first three

② So used herein.

constantly of trees (fruit and otherwise) and plants. E. g., the "tops" or "twigs" of the palm are of no medicinal value: the "tops" or "twigs" of the poppy are hardly the seed-capsules, the reference being to the inspissated juice. It is used of medlar-tree, pomegranate tree, apple, fig, almond, *lemon (iltakifu). Also it must be the "juice" of the licorice which is indicated.

URKITU, "leaf", is used of karan šelibi (a solanum), lišan kalbi (arnoglosson), ninû (ammi), EL (elia), suadu, supalu, bînu (tamarisk), *LAM, NAM-TAR (inandragora), kan šalali (conium?), šašumtu, azupîru (saffron), šûmu (garlic). The peculiarity is that it occurs as urkit-su, following its plant.

INBU, "fruit" is used of HUL.GIL (poppy), karubu, nurmû (pomegranate), BARKUŠ, šušu (licorice), karašu (leek).

IŠDU, "root" used constantly.

MÊ, "water", is used of karan šelibi (a solanum), lišan kalbi (arnoglosson), kašî (rose), kukru (fir-turpentine), bînu (tamarisk), šunû (vitex agnus-castus), salippu (dates), nurmû (pomegranate), GESTIN (G. DANGA and G. BIL), sahlê (lolium), urnû. It would thus appear to mean "water + the plant" rather than the natural juice:

"Rose-water", "tar-water", "date-water" (not juice so much as water in which dates have been steeped), "pomegranate-water", "lolium-water" represent a more natural translation than "juice". "Water of urnû" is very near the modern "still-water".

ŠE.RÙ = 'nibi' (from ŠE.RÙ.NIM, which must surely be the equivalent of 'ni-bi' NIM, § 6, l. 18), or šitlu (v. 5445) = שִׁטְלוּ, a shoot (MA 1133), or pi'ru (SAI 5444), or zikpu (SAI 5441). "As the dead man passeth not the gate of life, as the untimely birth sucketh not the breast of its mother, as zér ŠE.SA.A (seed of hoost² corn) makes no ŠE.RÙ (shoot)" (CT. XXIII, 10, 16. ff.). It is used in AM of HUL.GIL, lišan Kalbi, dibbal(??), ašagu, baltu, Kasî, 'GIL, e'u, sunû, AT.KAN, Kan šaloli, in some of which, e.g. "rose-bud", "caper-bud" would appear to be the more exact translation.

Occasionally we find the writers of the plant-lists adding explanatory comments. The most important are those indicated by the word utliš.

Utliš is clearly an adverb from utlu "the lower part" = تحت, ΠΠΠ. An examination of the occurrences of utliš will shew that it means "vulgo, in the mouth of the common people," utlu being here paralleled by الرجل "men of the lowest condition:" e.g., "ararû utliš | "lululu"¹ sâmtu (§ 9 I, l. 83) "Poppy, vulgo red lululu-flower," just as any modern Arab will call any flower شجر "rose". Similarly [ušišnu utliš | "urbate"], "Butomus-rush, vulgo cyperus" (§ 9 AJ, l. 291): cf § 9, AG, l. 267: ib. 276: 9 AP, l. 326, 327: 9 AT, l.

¹ Lululu, § 10 G: 10, 8, footnote p. 41. Besides lâlâ used in India for poppy, Gerarde (305) says of the anemone that some are called "in Turkie toong" Lalâ benzedé.

365: abc, 2, l. 9: 9abc, l. 12. Other descriptions are:— the Colocynth, "like a ball" (§ 9H, l. 78); the opium-poppy "like mandragora. Children and women gather its juice" (§ 9J, l. 87, see p. 43); Cannabis, (binj) is "a drug for depression of spirits" (§ 9AT, l. 359); Ribus coriaria, sumach is "a drug for staining hides", and "for the appetite" (§ 9BG, ll. 440, 441). Descriptions by colour are also given, doubtless to facilitate identification: The "sîlum is "like the isbattu, its fruit green and hard"; in the preceding line the isbattum has been described as "like the gall apple" which seems to indicate *Salvia pomifera* (§ 9C, ll. 9-10; see p. 36). Another plant has a green fruit (§ 9F, l. 42); another has a flower "like the chamomile, small and dark blue" (ib. l. 43). One of the Solanaceae(?) is a "flower of the woods, with red fruit" (§ 9Q, l. 156). The description of *hyoscyamus as "heart-plant" indicates its intoxicating qualities.

Numerous foreign words from Šubari, Kašši, Egypt, the Persian Gulf, etc., are introduced (see ante).

§ 8. CRITICAL NOTES TO CT. XIV.

The following critical notes should be used to emend and augment my copies of the Plant-lists in CT. XIV. I have made a re-examination of several passages, with several "joins" as the result.

— TABLET "A". PL. 18, K. 4354, PLS. 19-20, K. 4256 are parts of the same 16-columned tablet. K. 4586 (PL. 31) + K. 4216 fills the left-hand gap on PL. 19. 82-5-22, 1777 (PL. 27) (part dup. K. 10126, PL. 39 and S. 1328, PL. 32, Meissner), and K. 8287 (PL. 39) are probably parts of the same tablet. Probable duplicate of the lost part, PL. 19, Cols. VII-VIII, end is Rm 356 (PL. 33). Similar texts, K. 271, PL. 35 and Bu 89-4-25, 112, PL. 43.

— TABLET "B". PLS. 21-22, K. 267, contents similar but in somewhat different order: + K. 4180B (PL. 32).

(obverse forms end of PL. 21, Col. I, after l. 22 (hiatus of 4 or 5 lines), and reverse, top of Cols. VIII, VII, the u being top line of Col. VIII). K. 4182 (PL. 34) belongs to the above, forming top of obv., Cols. III-IV (PL. 21) and bottom of Cols. VI-V (PL. 22). K. 14059 (PL. 26) may belong: K. 271 (PL. 35) doubtful.

— TABLET "C". PL. 25, K. 4398 (repeating part of end of "A") is part of K. 4345 (PL. 28). K. 9948 (PL. 37) belongs to the same tablet as the latter. K. 4412, PL. 24, rev. is part duplicate.

— TABLET "D". From the Colophon of "C", K. 4621 (PL. 27) is the next. + K. 10024 (PL. 32), l. 1 of the latter giving the end of l. 1 of K. 4621: + K. 4565 (PL. 34), l. 2, corresponding to l. 22 of K. 4621: K. 4417 (PL. 37) prob. forms rev., and is duplicate of III-IV of "E". It is a tablet of 2 Columns only. PL. 10, 82-5-22, 576 + PL. 31, K. 8249, "TU. UŠ. KNA op-posite u .. ina Šubari (l. 7).

— TABLET "E". PL. 24, K. 4412, dup. of K. 5424 B. (PL. 38), the latter + K. 11555 (CT. XVIII, 18), which fragment forms part of top of Col. ii, and completes part of Cols I-II of PL. 24. PL. 34, K. 4169, may belong to K. 5424, P. PL. 25, K. 4398 part duplicate.

— OTHER JOINS, ETC. PL. 26, K. 14047 + top right-hand of K. 4566, PL. 29. K. 14822 to K. 10466 (PL. 32) the last line, *dil*, opposite the last bat. PL. 32, Rm. 36 + may belong to Rm. 356 (PL. 33), and Bu. 89-4-26, 112 (PL. 43) PL. 33, K. 9182, joined and published with K. 4325 and 79-7-8, 188 (Langdon, RA. 1916, 33). PL. 35, 79-7-8, 186 belongs to K. 4187, PL. 36. PL. 36, 81-2-4, 267 + PL. 45, 81-2-4, 472, *ekli* of l. 1 of latter corresponding to l. 10 of former, "ša-mi mi-sir lib-bi. Rm. ii 412 practically joins K. 4187 in its present position, "kaman šelibi = ["ša-mi B]IL lib-bi ZI. (See KAR 203, VII, 28). Rm. ii, 497, PL. 41, prob. belongs. PL. 38, s. 8 may belong to K. 8791, PL. 41. PL. 42, K. 4140, B + K. 14077 PL. 33, the latter forming part of Col III, the " of l. 15 of K. 14077 being shewn in traces on K. 4140 B. PL. 48, K. 9684 (not in CT. XIV) prob. belongs to Rm 328.

— OTHER DUPLICATES. Many of the following were pointed out by Meissner in his critical article MVAG, 1906. PL. 10, K. 4218 A, dup. S. 1701, Meek RA 1920, 181; K. 14060, PL. 26, dup. Col. III; K. 14051 (PL. 40), dup(?) Col. VI: PL. 15, K. 240, and PL. 17, K. 4232. PL. 12, 93074

(read for 13074), duplicate of 38182 (CT. XII, 31).
 PLS 21-22, Rm. ii, 203, PL. 46, is part duplicate.
 PL. 23, K. 259, duplicate of KAR. 202. PL. 24,
 K. 4428B, duplicate of K. 9948 (PL. 37). PL. 25,
 K. 4429, duplicate of K. 4581 (PL. 31); K. 14060, dupli-
 cate of K. 4140A, Col. ii (PL. 28), and K. 14062 (PL. 42).
 PL. 27, K. 4431 duplicate of K. 8807 (PL. 42); K.
 4430 duplicate of K. 4180A (PL. 35). PL. 28,
 K. 4245, ll. 12-18, duplicate of K. 8829 (PL. 41) ll.
 1-6. K. 8667, etc., have been more fully done in
 CT. XIX, 50. PL. 31, K. 8846, rev. end, dup-
 licate of rev. of Rm. 364 (PL. 32), and S. 786
 (PL. 34). PL. 32, Rm. 364 belongs to the same
 tablet as Rm. 356 (PL. 33) and 89-4-26, ...
 112 (PL. 43): K. 4180, B is part duplicate of K.
 4419 (PL. 43): K. 4588 duplicate of K. 14053 (PL.
 31). PL. 33, K. 9160, part duplicate of PL. 45.
 PL. 37, Rm. ii, 479 possibly belongs to S. 8 (PL. 38).
 PL. 39, Rm. 352, duplicate of Rm. 328 (PL. 48).
 PL. 42, K. 874, duplicate of S. 1701 (Meek, RA, 1920,
 181); K. 14351, PL. 42: K. 4140, B, duplicate of K.
 11386 (ib.), and K. 4152 (PL. 44): K. 14062,
 duplicate of S. 1701 (as above), and K. 4140 B,
 (PL. 28): K. 4163, duplicate of K. 8807 (PL. 42).
 PL. 43, S. 60, probably duplicate of KAR
 203, VI, 25. PL. 44, K. 4152, duplicate of
 K. 8782 (uncopied) which adds a little new
 to Col. ii.

(1) The first part of the report deals with the general principles of the law of contract, and the various forms of contract which are recognized by the law. It is divided into two main parts, the first dealing with the formation of a contract, and the second dealing with the performance of a contract.

(2) The second part of the report deals with the law of tort, and the various forms of tort which are recognized by the law. It is divided into two main parts, the first dealing with the formation of a tort, and the second dealing with the performance of a tort.

(3) The third part of the report deals with the law of property, and the various forms of property which are recognized by the law. It is divided into two main parts, the first dealing with the formation of a property, and the second dealing with the performance of a property.

(4) The fourth part of the report deals with the law of succession, and the various forms of succession which are recognized by the law. It is divided into two main parts, the first dealing with the formation of a succession, and the second dealing with the performance of a succession.

(5) The fifth part of the report deals with the law of evidence, and the various forms of evidence which are recognized by the law. It is divided into two main parts, the first dealing with the formation of a piece of evidence, and the second dealing with the performance of a piece of evidence.

(6) The sixth part of the report deals with the law of procedure, and the various forms of procedure which are recognized by the law. It is divided into two main parts, the first dealing with the formation of a piece of procedure, and the second dealing with the performance of a piece of procedure.

(7) The seventh part of the report deals with the law of remedies, and the various forms of remedies which are recognized by the law. It is divided into two main parts, the first dealing with the formation of a remedy, and the second dealing with the performance of a remedy.

(8) The eighth part of the report deals with the law of crimes, and the various forms of crimes which are recognized by the law. It is divided into two main parts, the first dealing with the formation of a crime, and the second dealing with the performance of a crime.

(9) The ninth part of the report deals with the law of public law, and the various forms of public law which are recognized by the law. It is divided into two main parts, the first dealing with the formation of a piece of public law, and the second dealing with the performance of a piece of public law.

(10) The tenth part of the report deals with the law of private law, and the various forms of private law which are recognized by the law. It is divided into two main parts, the first dealing with the formation of a piece of private law, and the second dealing with the performance of a piece of private law.

THE ASSYRIAN LISTS.

§ 9. RM ii, 41 (PL. 40) appears, from its first line, to head a series:—

§ 9A.

		ŠAM	šam - mu
u		SULLIM ^①	di - šu
u	LI.	A	”
u	ŠAR.	RA	”
5. u	di -	šum	”
u		GUG	um-ša-tum
u		GUG	ru - ba - tum
u		GUG	”
u		GUG	el - pi - tum
10. u	GUG. A. BUR. RA		” me - e bur - ki
u	A.	GUG	” ”
u	GUG. ŠU. KIN		. . . . .
u	GUG . . . . .		. . . . .

CT XI, 45, i, 11-14, GUG = ku-nit-tum, ur-ba-tum, ru-pa-tum, el-pi-tum. CT XIV, 4, ix, 2 shows how GUG is placed early in a list: 14 gives “GUG. BUR. RA instead of “GUG. A. BUR. RA, this list being paralleled by K. 9182 (CT XIV, 33) + 79-7-8, 188 (CT. XVIII, 21) joined by Langdon (RA, 1916, 33).

Tablet “A” (PL. 18) (reads in first section) is probably to be placed next. (See § 9AK).

^① I am indebted to Prof. Langdon for this value.

§9B.

ū ur-[ba-tu]
 zir ū ur-ba-te
 ū ku-un-gu
 5. ū ha-ti-lu
 ū šal-la-pa-nu
 ū (gu-ug) GUG

ū si(?)-e(?)-... ①
 ū ku-un-gu
 ū gu-u-ru
 ū pa-pa-a-nu
 ū šiš-a-nu
 ū ši-iš-nu

9C.

ū iš-bab-tu
 ū iš-bab-tu tamšil
 10. ū ši-i-tum^③ tamšil
 ū ša-mi šeri
 ū iš-bab-tum[ekli]^④
 ū
 ū [iš-bab-tum]...
 15. ū GAL. ŠAR
 ū KI. DI

ū mal-lah^②-tu
 ū hoškur-abi
 ū iš-bab-tum inbu-šu
 ū iš-bab-tum larķu u ha-as
 ū si^⑤-sa-tum
 [ū iš]-bab-tum
 . . . rabûti^{pl}
 ū KANKAL
 ū KANKAL ma-a-a-al
ilu
AZAG^⑥

[Here add, for comparison, RMii, 479, PL.37:

§ 9C.2

[ū TIR
TIR
TIR
TIR
TIR]
 ū
 ū

āš — lum
 ur-ba-tu
 el-pi-tu

① Re-ex., sa-a-ru doubtful. ② V. lah, Bu 89-4-26, 112 (PL.43). ③ Re-ex., tum almost certain. ④ Traces PL.18 and 43 convincing. ⑤ R. from PL.43. ⑥ For part of these sections compare §§ 9AI, 9AK.

u	TIR	ki - li - lu
5. u	TIR	a - bu - ka - tu
u	TIR	aš - lu - ka - tu
u	TIR	a - bu - ka - tu
u LI.	TUR	aš - lu - ka - tu
u LI.	TUR	ki - li - li
u LI.	TUR	ka - zal - lu
10. u	ka - zal - lum	tu - bu - u
.	LUM	

also S. 8, a-b, PL. 38 :-

§ 9, c3

[u]	HI. ERI. IN	ditto
u	KUN. GAL	ditto
u	ŠIŠ. GAL	ditto
u	ŠAG. ILA	a - ra - an - tu
5. u	KUL. LA	iš - bab - tu
u	KUL. LA. LAB. BA	ditto
u	KI. A	ditto
u	KI. LAL	ditto]

TABLET "A" continues (PL. 18) :-

§ 9, D.

u	a - tir - tum	u ha - sa - ar - ra - tum
u	GI. GIL arku	u ha - sa - ar - ra - tum
u	a - ra - an - tum	u ha - sa - ar - ra - tum
20. u	kam - ti ekli	u ha - sa - ar - ra - tum
u	a - nu - nu - tum	u ha - sa - ar - ra - tum
u	a - tar : a - tar - tu	u ha - sa - ar - ra - tum
u	kašî am - ha - ra	u a - tu - ar - tum
u	lu - lu - tu	u a - ra - an - tu
25. u	kam - ti ereši	u ka - si - u
u	am - ha - ra	u ka - su - u

Add to above the variants K.271 (PL.35)
 left col. (1) "el-[pi-tu] | (2) "a-tar-tum (3) a-
 tar (4) "GI.GIL arku (5) "a-ra-an-tum (6) "u-
 kam-ti ekli (7) "a-nu-nu-tu, doubtless all =
 ["ha-sar-ra-tum] (8) "kasi am-ha-ra = "a-
 [tu-ar-tum] (9) zir "a-tar = zir "u... | (10)
 "u-u-tu (11) "a-nu-nu-tu (12) "ŠAG.ILA (13)
 "ŠAG.KAL (14) "PI.PI (15) "PI.PI.ŠAL.LA (16) "LID.
 TIR, all (10-16) = "a-ra-[an-tu]; (17) zir "u
 LID.TIR = zir "u... : Bu.89-4-26, 112 (PL.
 43) ll.10-14 "ha-sir-ra-tum, ,, ,, ,, "ka-
 si-i. L.15 traces "ša-am-ba-lil-ti.

TABLET "A" continues :-

89.E

["SULLIM] ŠAR ^①	|	"ša-am-[ba-lil-ti]
["zir]... ŠAR	|	"[zir ša-am-ba-lil-ti]

[The section of "šambalilti" is fully given
 on TABLET "B", PL. 21, and is appended here

- COL. IV, 20 :-

["SULLIM ŠAR ]	|	[ "ša-am-ba]-lil-tu
28 ["zir ... ŠAR ]	|	[ "z]ir " "
[.]		["] "

- COL. VI-V, 1 :-

30 "MUH. AŠ. AŠ	|	"e-ri-iš-tum
"NAM.TAB. BA.ŠAR	|	" "
"ŠIBIR, ŠAR	|	" "
["š]a-am-ba-lil-tu	|	"la-di-ru
"e-riš-ti kasi ŠAR	|	"la-di-ru
"tu]- di	|	" " ina šu-ba-ri ^③
"ŠIBIR ^② QUB. BA. ŠAR	|	us-su-uh-tu
"ŠIBIR ^② ŠUR. RA. ŠAR	|	ša ^④ hi-it-tu

① From CT x1, 45, I, 4.

③ After this line

K.8791. ④ R.8791 šī.

② V. "ŠE.MULU, K8791,
 "ŠE.MULU ŠAR=ki-si-ber-tru

u ŠIBIR ^① GIŠ.MI.ŠAR	šil ^② la-ni-tu
u ŠIBIR ^① HAR.ŠAG.ŠAR	a-zu-pi-ra-ni-tu ^③

A gap then follows in "A", partly filled by the left Col. of K.4586 (PL 31, + K.4216, PL.19); rt.-hand Col. - § 9F: (40)---[tu]m (41)---tu (42)... in[]u-šu arku^④ (43)... kima kurban ekli šiḫru u šalmu^⑤ (44)... Kaš šu-u (45)... subarti^{ki} (46) --- -ku (47)... ? (48)... -du-u (49)... ? (50)... ku (or šu) (51-54 uncertain). Then, perhaps after a gap, § 9G from "B", CT.XIV, 21, VII, 17 ff.

§ 9G,
60. [HUL.GIL] | []r-ru-u^⑥

Followed in rt. Col by []r-ru-u 6tt. and gap of one line; then:-

u (ša-mu [sâmu] ^⑦)	ur-ru-u?
zal-lu (nêši	| u ur(?) - [ru-u?])
70 zal-lu (nêši ša ina me-lul-ti i-[mu-tu].. ^u)	
u bu-la-lu	| u ,, [ina šu]-ba-ri ^⑧
zal-lu kalbi (šalmi ša ina mit-ḫu-ši [i-	
	| [mu-tu] zal-lu ^u HUL.GIL)
zal-lu a[melūti	| .. [zal]lu ^u HUL.GIL)

§ 9H
u [HUL] | [u]HUL.TI^⑨ [GIL.LA]
u [UL] | [mu-uš]-ri-t[u]

K.8791, b-c, PL.41. ① K8791 ŠE.MULU. ② K.8791 šil. ③ After this line "HAR.ŠAG.ŠAR = a-zu-p[i-ra-ni-tu]. CT.XIX, 50, 2-5 is a duplicate. ④ "Its fruit green". ⑤ "Like *chamomile, small and dark". Cf CT.XIV, 21, IV, 4. ⑥ § 10 G. I. ⑦ Traces, but? ⑧ Line omitted, K.4357. ⑨ Re-ex.

KAT	[^u HUL]TI.GIL.[LA]
^u [^u HUL.TI.GIL.LA]	[^u] - tu ①
^u [^u HUL.LI.LI.GA]	tam-šil a-ru-ni
^u [^u HUL.LI.LI.GA]	^u kiš-šu-u ša šu-ma-me-tu

[For this section cf. the equivalent passage in "B", K.267 (PL.21) + K.4180B (PL.32), VIII-VII, ll 5-16:-

HUL[ŠAR (Br.10887 SAB.8359)]	kiš - šu - u
HUL.T[UR.ŠAR (CT.XIV,4,IX,36)]	u - ba - nu
HUL	ša - ru - ru
ŠIR	ša - ru - ru
10. ZIR[HUL]	zir kiš-še-e
KAT	^u [^u HUL.TI.GIL.LA]
^u [^u HUL]	ru - uš - ri - tu
^u [^u HUL.LI.LI.GA]	[tam]-šil a-ru-ni
[^u HUL.LI.LI.GA]	kiš-šu-u ša šu-ma-me-ti
[^u HUL.ŠIR.GUD] (CT.XIV,4,IX,41)	[birj-ki al-pi
. . . . .	. . HUL.DINQIR.MER
. . . . .	. . . HUL.MEŠ

"A" continues —

§ 9, I: -

80 ^u mârat ekli	^u a - ra - ru . .
^u [ŠA.LAM.BITUR.R]A	^u a - ra - ru . .
^u [a - ra - ru]	^u ka-an-zi-ba-[tu]
[a-ra-ru ut-liš]	[^u]lu-lu-[tu sâmtu]

(K.267 spells it ^u[a-ra]-ru)

① K.267, VIII-VII adds three lines, to be included here:

32 ^u >> KUR.RA	ti-g[i-lat] šadi(i)
HUL.LI.LI.GI.ŠAR	šu-[u]
" KUR.RA	ditto . . šadi(i)

(Perhaps one or two lines more, K.267

("B") adds between ll. 81 and 82:

" AŠ. KA. GA	" [a-ra] - ru
" PA. PA. PA	" a-rat a-ra-ru
" a-a-ba SA	" "

Add here from "B", K.267, PL. 22 ---

89, J:

86. [" a-du-ma-tu	" ka-na-šu-u ina ^{mātu} Marra-tum
" ka-na-šu-u	tam-šil ^{du} NAM.TAR
atē ^{pl} -šu mārē ^{pl}	sinnisati ^{pl} ka-zi-ri išū ^{pl}
GAN.ZI.ŠAR	" ka-na-šu-u
90. ZIR GAN.ZI.ŠAR	zir " "
89, K. " GAN.ZI. - u	" sar- ma- du
ga-mul GAN.ZI	" sar- ma- du
" GUR. UŠ	mê šar- ma- du
" BAR, GUR. UŠ	" ①
95. " ka- su- u	" "
" HAR. HAR	" karan šelibi] ②

The order in 89 G shows urnû sâmu following adumatu, so that little is missing before the continuation of "A" (PL. 19) —

89, L.

97.	[u] ur- nu- u
.....	[u] ur- nu- u
.....	[u] ur- nu- u
100.	[u] ur- nu- u
.....	[u] ur- nu- u
.....	[u] ur- nu- u

①] IR.46,70 BAR-GUR.UŠ = sar-ma-[du] ② The first line of the next tablet, it does not appear to restore our present text.

8.

§ 9, L; § 9, M; § 9, N.

.....
 u

 105. u BÜR. SUN . . .
 u BÜR. DA
 šam šar- ti
 u kur-nu-u šamu
 110. u kur-nu-u ta-bali
 u hu-ur-nu-u

[^una]- ni- hu
 [^uur- ni-]e
 u ur- ni- e
 u ur- ni- e
 u ur- ni- e
 u ur- ni- e
 u kur- nu- u
 u kur- nu- u
 u ka- nu- u

§ 9 M.

u zi- bi- ba- nu
 u TIN. TIR. [MI]
 u TIN[?]. [TIR] . . .

u zi- bu- u
 u zi- bu- u
 u zi- bu- u

115 [LU]. UB ša kima HI. ŠAR u zi- bi- ba- nu⁽²⁾

§ 9, N.

u šim- ru
 u su. NU. uš
 u ša- mi ha- hi^{pl}
 u HA
 120. u HA : šim- ra- nu
 u HA : u HA. ZUN
 u HA
 u pa- ri- e
 . . . - la- a- nu- um⁽³⁾

u PI. PI
 u PI. PI
 u PI. PI in a^{matu} Akkadi^{KI}
 šam- ra- nu
 tam- šil u šim- rum
 u šim- rum
 u šim- rum
 u HA ša šadî(i)
 u šam- ra- nu

① Here begins the join, K. 4586, PL. 31.

② Cf. § B J, l. 470. Insert for comparison K 8791, PL 41.

2. u TIN. TIR
3. u TIN. TIR. UD. ŠAR
4. u TIN. TIR. MI. ŠAR
5. zi- bu- u

k[a- mu- nu].
 u ka- mu- nu]
 zi- bu- u
 ditto

③ Re-examined.

	§ 9 N : § 9 O : § 9 P.	9
125.	ekli(?)	išid "šam-ra-ni
.		išid "šam-ra-ni
.		šam-ra-nu
.		[šam]-ra-nu
.		[šam]-ra(?)-[nu?]

According to § 6 the gap following contains (§ 9 N2) "arzallu, (§ 9 N3) "dadaru, (§ 9 N4) "lapat armanni, and (§ 9 N5) "GI.GIL arku. § 9 O, one of these?

§ 9 O. —

130 "ŠUR . . . . .	. . . . .
"MULU.GIŠĜAL.LU	"a-ku(?)-[ši(?)]... ①

§ 9 P. (see pp. 254, 263).

"GI.GIL sâmu	"ra-tu-ut-tu
"GI.GIL pišû	"[ra]-tu-ut-tu
"GI.GIL sâmu	"ar-ti-tu
135. "bit . . . ekli ②	"ar-ti-tu
"GI.[GIL][pišû?] ③	"a-a-ar kaspi
"a-a-ar ④ kaspi	"nu-ša-bu
"a-ši-e	"nu-ša-bu . . .
"ki ⑤-la ⑥-ar kaspi	"nu-ša-bu . . .
140 "a-a-ar hurasi(?)	"nu-ša-bu . . . ⑧
"zi-im hurasi ⑦	"nu-ša-bu . . .
"illuru sâmu	"ri-zu
[u] illuru pišû	u
143. [u] illuru šalra	u
[u] illuru šalmu	u
"zi-im kaspi	"a-a-ar [kaspi?]

① Cf. PL. 26, K. 14059, 6 and K. 4185, 14. ② Re-ex. ③ From CT XXXVII, 30. ④ CT. XXXVII, 30 ia-ar. ⑤ Or dul or di ④ Or lu(?) or ku(?). See CT XXXVII, 30, l. 6. ⑦ CT. XXXVII 30 ut-liš here. ⑧ Re-ex. uncertain at end.

10.

§ 9 Q, 9 R, 9 S.

§ 9 Q. (Dup. CT xxxvii, 30, 4 10 ff).

"a-a-ab^①akali^{pl}"ša-mu tar-bu-u^②

130. "en-su-u

"el-li-bu

"el-li-bu

"ŠAR. GİŠ. TIR

"ku-ra-aš-ti

155. "e-ri-mu

"e-ri-mu

"illuru arku

"ma-az-ma-az

160. šam maš-ka-di

"a-a-ba šir'ani

"ŠE. RÙ . . .

"el-li-bu

"el-li-bu

"el-li-bu

"e-ri-mu

"G1.GIL ša^③kišti

"G1. GIL

"G1. GIL

"G1. GIL

"G1.GIL ša^③kišti

ša(!) inbu-šu šamu

"a-a-ab a-ka-li

"el-li-bu

"el-li-bu

"el-li-bu

"[el-li]-bu

(§ 6 gives the correct order (§ 10 Q 3), "edu, (§ 10 S) "šibbur-
 ratu, (§ 10 T) "šamunu, (§ 10 U) "anameru. These are found on
 CT xxxvii, 30-31 (for which see p. 26¹) and Rm 356, PL 33, the
 latter (restored from p. 160 and CT xxxvii 27²⁶⁻²⁷) running thus:

§ 9 R. ["ša-mi ka-ka]-ri

["ša-mi e-si]-e

165 ["šabiti e-si]-e

[. . .]

["su-pa]-lu

["ša-mi ra]-pa-di

["ša-mi šir]-pi

170 ["ša-mi sil]-ki

§ 9 S ["za-te]-ru

" (= "supalu)

" "

" "

" "

" mal-²⁷-tum

" ša-mi uk-na-a-ti

" "

" "

" šib-bur-ra-tu

① CT xxxvii ia-ab. ② ti. ③ Re-ex.

[^uLUH MAR]. TU
[^uLUH.MAR.TU.KUR]. RA

89 T. [^usi-mat] evesi
175. [^uAA] ekli
. -ni
. -li
. ekli
. ekli

180 [^ua-na-m]e-ru
[^ua-na-m]e-ru
[^ua-na-ri]e-ru

"A", K. 4216, Pl. 20, continues or restores here:

^u
^ua-n[a-me-ru]
185. ^ua-na-me-ru ut-liš

89V. ^uha-si-sa-a-nu^④
^uha-la-me-su
^uhal-dap-pa-a-nu
^uHAR. HAR

190. ^uTUR. RA
^uut-ti-mu^①
KU[?].KAR[?].IZ.ŠA.E . . .
^uKU.KAK ^uku-uš-ru
^uTU-uš-ru-uš^⑥

195. ^uki-iz-bat
šupur ameluti
^ua-a-ar sa-na-bu

^u " "
^u " sa-di-e
^uka-mu-nu
^ua-na-me-ru
^u "
^u "
^u " "
^u ["]

[ka-li-pu]
[^ula-ka]

.
[^uUR. PI. PI] . . .

^uhal-[dap-pa]-nu
^uhal-dap-pa-nu
^uKU^⑤.
^uhal-dap-pa-[a-nu]
^uhal-dap-pa-[a-nu]
^uhal-lu-la^②.a-a
^uhal-dap-pa-a-nu
^uku-zu-ru
^uku-uš-ru
^uku-uš-ru
^uku-zu-ru
^ua-a-ar tu-kul

① Re-ex. Last char. possibly šum. ② Re-ex. Perhaps ba.
③ Re-ex. Impossible to say. ④ CT XXXVII, 31 ^ume-si-
sa-[a]-nu. ⑤ CT XXXVII, 31, ^utu-lid[?] . . . ⑥ CT XXXVII šu

<p>§ 9W. u ŠIR u ŠIR 200 šer kalbi šinni kalbi GISAL. EN. NA. ŠAR U. ŠAR u^② ku-pi-... ŠAR(?)^① 205. u u . . du(?) . za(?) . . u . . ru . . ut-liš</p>	<p>u lišan kalbi u lišan kalbi GIR. PAD. D^① kalbi lišan kalbi li-ša-an kal-bi u lišan kalbi u lišan kalbi u lišan kalbi </p>
<p>§ 9X. u GAR . . . ekli u a(?) . . . ekli 210 u u ni-ti-³ ekli u inib ekli u zu-ki-ki-pa-a-nu</p>	<p>u [kurban ekli] u kurban [ekli] u kurban ekli u kir-ba-an ekli u kir-ba-an ekli u kir-ba-an ekli</p>
<p>§ 9Y. [u] ša-mi 'kirî 215 [u] ša-mi hi-in-ti [KUR. RA]. ŠAR </p>	<p>u ni-nu-u u ni-nu-u u ni-nu-u u ni-nu-u u ni-nu-u u ni-nu-u</p>
<p>§ 9Z. 221 </p>	<p>u a-la-mu-[u] inbu-šū</p>

Probably "KUR.RA.ŠAR" of § 6, 2, 44 is to be used here for restoring the sequence. The

① Re-ex. ② u is uncertain.

plants then are "guš[ti], "išbattum (§ 9c), "q1.gil..., "kaškur a-bi (probably to be identified in "A", K4216, PL. 20, XI, 7-8, its approximate position) "q1.gil.ab(?) ... possibly coinciding with the "q1.gil=[i]U.gir of "B", K.267, V, 15, PL. 21, since, from "A", K.4354, XIV-XIII, PL. 18, all the iU.gir groups of "B" (K.267, VI-V, 11ff) are probably to be inserted here. The following 2 sections from "B" are used to fill up the gap in "A", which then coincides (in "A.š1. A.š1, XIV, 2.3) with "B", PL. 22, VI-V, 30)..

§ 9, AA.

222	"i - gi	[u]a-ša-gu
	"da-da-a	"ab[še]-gu
	"ša-mi šadī(i)	[i]U. GIR
225	"inib šadī(i)	[i]U. GIR
	"q1. q1L	[i]U. GIR
	"a-ma-r[i-du]①	[u]a-ša-gu
	"	"i U. GIR
	"iU.gir. q1L	"da-da-nu
230.	"kur-ba-si	"ina šu-ba-ri
	"a②-bi-tu	"ina ki-na-ḫi
	[u]ku④-šak-ku	"rabū(u)ina ki-na-ḫi
	[u]sa-āḡm③-tu	[i]U.gir ina Me-luḫ-ḫi

§ 9, AB.

	[u]ERi③.TIL.LA	"ḫa-ru-bu
235	[u]ša-am da-da-a	[u]ḫa-[ru]-bu
	"AŠ. PI. [PI?]	"ḫa-[ru]-bu
	"ša-mi iU.gir	"ḫa-r[u]-bu
	"KUR. AB. DU	"ḫa-ru-bu
	"ḫil šim-ta-tē	"ḫil iU. [GIR]
240.	"zir iU.gir	KU TU. HU. [MEŠ]

① R. from II R. 23, 34, e. ② Rm. II, 203, var e. ③ R. from Rm. II, 203, PL. 46. ④ See p. 282

14. § 9, AC: 9, AD: 9, AE: 9, AF: 9, AG.
 Here K. 4354, PL. 18, probably continues

§ 9, AC.
 [u]
 u BAR(?) BAR(?)^①

§ 9, AD.
 u A. ŠI. A. ŠI [u bal- tu]
 u aš-ka-di [u bal- tu]
 245. u uš-šam-ri-hu [u bal- tu]^⑤
 u a-mu-meš-tu [u bal- tu]
 u a-tu-tu [u bal- tu]
 u UD.DA^② [u bal- tu]
 AL. E. GIŠ. NIM [ŠE.RU GIŠ. NIM]
 250. u GIŠ. NIM pi-ki-ni-tu [GIŠ. NIM pi-ši-tu]

§ 9, AE.
 Here "B" differs from "A". "A", K. 4354, continues (left col.) (251) "te-ir-".^③ (252) "HAR. H[UM BA. ŠIR] (253) "NIM. T[A. E] (254) " . . .
 | § 9, AF. (left col.) (255) "pu- (256) "a-b[a?]^④
 Then a gap of more than half a column (to be restored from § 6?).
 § 9, AG (cols XVI-XV of "A", K. 4354):

u PI^①. PI^①. NU. NU
 u -a-nu
 u KU. LUL. A
 260. u GAP. PUR
 u KA. NI
 u kišad nâri
 u KU. MA. LAH
 265. u KU. SA. A. AB. BA

 u
 u KU. MA. LAH
 u KU. MA. LAH
 u KU. MA. LAH
 u KU. MA. LAH
 šammi bi-nu-ut
 a - gi - e
 u mul tam-tim

① Re-ex. Characters doubtful. ② "B", K. 267, PL. 22, adds "ZIR. GIN = "bal-tu ③ Or hi-t[u]. ④ Perhaps su. ⑤ K. 267 "a-mu-meš-tu.

u KU.SA ia-a-me
 u a-hu-lap ut-liš
 u ka-ni-pa-nu ut-liš
 270. u gul-gul-la-nu
 u zir kul-kul-la-nu
 u ša-mi ra-pa-di
 u kul-ku-la-a-nu
 u a-a-ar si-kir
 275 u zir gul-gul-la-a-nu
 u ut-liš
 [u AŠ?]-PI.PI ut-liš

u mul tam-tim
 u pir-hi ŠAR ârê^{pl-su}
 mârê^{pl} sinnišâti^{pl} [ka-ziri
 u ha-lu-ub?)]... | išu^{pl} ①
 u inib ka-si šîri
 u ki-sa-at šîri
 u ka-si šîri
 u ki-sa-at šîri
 u a-a-ar ka² šir²
 u zir ki-sa-at šîri
 u nam-ha-ru-u sâmu
 u lišan kalbi
 -a

(Before continuing with the next tablet, include such sections of "B" as have not already been absorbed in "A" : K.267 + 4180 B, + 6069, PL. 21, Col. I. (K.4180 B, PL. 32, which I have lately joined to K. 267 follows after obv. Col. I after a hiatus of about 5 ll. Col. I of K. 267 is not worth inclusion here : K.4180 B³ runs:-

89, AH.
 u
 280. šer
 u hu-la-me-su .
 u imhur-pani ša [ekli]
 u imhur-ašra ša [ekli]
 u sa-ap-sa

.

① Lost char. perhaps MEŠ. ② ?Ka-šir badly written.
 ③ Part dup. K.4419, PL.43, of which Col. B is here added for comparison: (Left Col. only) (1) [ŠE.RÛ arku ulu], (2) ŠE.RÛ arku Tašriti, (3) ŠE.RÛ iNIM ša a . . . , (4) HAR.HUM.BA.Š[IR] (5) ar-zal-lum, (6) illuru arku, (7) illuru arku, (8) imhur-pani ša ekli, (9) imhur-ašra ša ekli, (10) ŠE.RÛ kan šalali ša ina igari . . . (11) hu-la-me-su . . . , (12) ka-z[al-lu], (13) K1.KU . . . , (14) u | (5) u

15.

§§ 9, AH : 9A, I : 9, AJ : 9AK : 9AL : 9AM.

285. "zir"
 "ša qišqal.lu"
 ŠE.RÙ KĀN ŠALALIŠA [i. . . 'igari...]
 "hu-la-m[e-su...]"
 "arku"

§ 9, AI.

290. "gūr .dinqir [BABBAR]
 "ma-š[u]"
 "NUNUZ"
 (5 u(?) to end of column)

K.267, Cols. III-IV, i.e. K.4182, Pl. 34, which, although it does not join, shows clearly ^① from rev. that it is the lost end of Cols VI-V, and top of III-IV. For the order of §§ 9C, 2B and Kazallu

§ 6, 2.21. Part dup. § 9B. § 9, AJ runs

[u šal] la-pa-nu	"šiš-[a-nu]
[u ša] l-la-pa-a-nu	"šal-la-[pa-nu]
300. [u ša] l-la-pa-nu	"šal-la-pa-nu]
[u ši]-iš-nu ut-liš	"ur-ba-tu]

§ 9, AK.

[u]	GAL	u
[u...] kil	GUG	u
[u]	TIR	u [ur-ba-tu:]
305 [u ur]-ba-tum	TIR	u
[u zir] ur-ba-tum		u
		u

Gap follows, until near end of Cols III-IV, prob. containing "kazallu", "išbattu", "UD.
 Then § 9, AL : (310) . . . " (311) . . . " (312)
 . . . UD.DU (313) . . . u MI (cf. § 9F, l.43), (314)
 . . . -tu | (315) (§ 9AM) . . . -e, (316) . . . -e, (317)
 . . . -e (318) . . . -u Then follow §§ 9, E,
 : 9, AA : 9, AB (q.v.) and we can go on to § 9, AN:

① Re-examined.

§ 9AN. "HUL.TI. GI. LI 320. ŠĀ. KUR. RA	hi-il- ba-ti šadî(i) hi-il ba-ti šadî(i) ①
§ 9AO. "kiš-ša-tu pir-ki-ša arik	u ku-[šab-ku.p.282] ② u ku-[šab-ku.p.282]
§ 9AP. "ša-mu salmu, dâmi širi salmi 325. "LUL ④. AZ	[u AT. KAN] ③ [u AG. UD] ③ u ša-ga-bi-gal-zu u-t-liš ŠE.RÙ(?) [u] ša-ga-bi-gal-zu u-t-liš ŠE.RÙ(?) u [u ša]-ga-bi-gal-zu u 330. [u .] -ar si-lu-ur-gu u [u .] -ti-gal-zu u [u .š] i. IM. BUR u [u .š] i. IM. BUR u BAR u
A small gap, continued by K. 4182, Pl. 34, rev. 340 -bu	u u-t-liš u

§ 9AQ [u ša-mu] sâmu ⑤	u [iš-pa-(r)u]
[u ša-mu] AŠ	u [iš-pa-(r)u]
[u ŠĀ.] PA	u iš-p[a-(r)u]
[u] LĀL	u iš-p[a-(r)u]
[u] GU. AŠ	u iš-p[a-(r)u]
[u .] za GIL	u iš-p[a-(r)u]

Column ends. Then K. 267, II, Pl. 21 + rev. K. 4180B, Pl. 32

① Cf. § 6, ll. 101, 102. ② Hrozný suggests ku-[na-šu] (Getr. 179). Presumably kiššatu is not ~~ku-ša-tu~~ "clodder" and pirki-ša arik "its fastening (bolt) is long" with ref. to the parasitic nature of the clodder.
③ See addenda, p. 261. ④ Perhaps read KA, see pt.
⑤ See p. 261 for these restorations. | xxxvii, 27, 16.

18

889AS : 9AT : 9AU.

u	[u] lš - [pa - (r)u]
ŠER	[u] lš - p[a - (r)u]
350. u	[u] lš - pa - [(r)u]
NIM. [šam mu] ①	šammu sâ[mu]

Then follow 89H, 9G. begins similarly to 89AG, which (with 86) shews that this is the next tablet in order:

89AR. u KA. NI	u ta - šil(?)
89AS. u ša-mi ki-rib tam-tim	u im-bu-u tam-tim
u KA. A. AB. BA	u im-bu-u tam-tim
355 u tãmtu rapãstu (tu)	KA. A. AB. BA
u KU. SA. A. AB. BA	u mul tam-tim
u KU. SA ia-a-me	u mul tam-tim

89AT u A. ZAL. LA	u a-zal. lu- u
u ša-mi ni-is-sa-ti	u a-zal. lu- u
360 u gur- gur- tu	u a-zal. lu- u
u GAN. ZI. TAR. NU	u a-zal. lu- u
u HAR. GUD	u gur- [gur- ru]
u har- mu- um	u gur- [gur- ru]
u A. ZAL. LA	bur-
365 u A. ZAL. LA ut-lis ①	u sãmu ①

89AU. u si- kur- rat ekli	u pu- kut- tu
u si- kur ekli	u pu- kut- tu
u um- mat ekli	u pu- kut- tu
u um- mat	u pu- kut- tu
370 u HA. HI. IN	u pu- kut- tu
u GIR. HA. AH	u pu- kut- tu
u UL. HA. AH	u pu- kut- tu
u pu- uk- da- tu	u pu- kut- [tu]
u GIŠ. GIL	u pu- kut- [tu]
375. u pu- kut- tu	u ša-mi su- [ba(?) - ti(?)]

① Restored from CT. XXXVII, 27, ii 32 (= GUG . . . , something bad?). ② Re. ex

§ 9, AV

u KUR. KUR	u at-ia(?) ^② . . .
u ša-mi šadi(i)	u at-ia(?)
u uznâ ^{II}	u at-ia(?) . . .
u lib- bi	u KUR.[KUR]
380. u uzun lib-bi	u KUR.[KUR]
u PI.PI. NU.NU	u PI.P[I]
u PI.PI. PI.TAK	u at(?)-ia(?) . . .

From § 6 "kustbu and "kuiâtu (§ 9, AV, 2) fill the gap which follows. Then (see § 6) K. 4345, PL. 28, continues the text of K. 4398, to which it belongs but does not join:

§ 9, AW.

.	u š[a]-s[u]-u[m]-tu
390	u ša-šu-um-tu
.	u ša-šu- ' - tu

§ 9, AX.

[K]A(?) . . . ZA(?)	u pi- ku(?)
[u-e-zi]- šUR	u pi-en-[du-u]
zu	u pi-en-[du-u] ^①

§ 9, AY.

395	u ša-mu SA[K? . .]
.	u ša-mu
.	u
.	KAK

Near here (if not actually coinciding) begins Col. III of K. 4398, PL. 25, with additions from K. 14087, PL. 38: -

§ 9, AZ: Left-hand Col. (399) u . . . (400) u . . .
 (401) u zir^② KI . . (402) u zir^② . . . (403) u zir^② SAG . .

§ 9, BA.

u š mar-qu-lu^③ | u si^④ [hu]^⑤

① This section r. from K. 14087, 1-3, PL. 38, and SAI 2642-44. But cf. M. '13, II, 27, where 'GUQ.BIR, 'zur.GUQ, 'BIR.GUQ = pi-en-du-u Re-ex. ② M. '04, 29. ③ 'mar-qu-lu, from Rm. 367 (re-ex), which has mar-qu-su in line following. My restoration from K. 14087. ④ From K. 14087. ⑤ § 6.

20 405 u mar. gu- nu ^① u ZA. LUM ^① [u ša-mu-ši-ru] ^②	u si- [hu] u si- [hu] u si- [hu]
u š ar- ga- nu ^① u ur-nu-uk-ku ^① 410. u Pl.Pl-nu ša šadi(i) ^①	u a[r- ga- nu] u ar- [ga- nu] išid u a[r- ga- ni]
89, BC u š [MAN. DU] u N[IM] u [NU. GI] [GI. ŠI. ŠAR]	[u su- a- du] [u su- a- du] [u su- a- du] [u su- a- du] ^③

① R. from K.14087. ② R. from § 6, and prob. 82-5-22,576 (+ K.8249), PL.40 [u ša-mu-ši-e-ri. ③ R. from K.8249 + 82-5-22,576, PLS.31 and 40, the order being correct from § 6. Preceding § 9 BC, K.8249 + 82-5-22,576, PLS 31,40, gives a somewhat different series: (cf. also K.8846, 21 ff. PL.31).

§ 9 BC 2. 5. . u . u tu - uš - kar u mar-gu-š[u] u ba-ri-la-nu ut-[liš?] 10. u ba-ri-ra- t[u]	[u ba-ri]-ra-tu [? u ša-mu-ši-e-ri [u mar-g]u-šu-ra-bi [u ba]-ri-ra-tu [u] » ina šu-ba-ri [u] » ina ku-te-e u » ina šu-ba-ri u ba-ri-ra-tu u ba-ri-ra-tu TUR.SAL.DANI(?) u ba-ri-lu
§ 9 BC 3. u na- ni- ku u ka-lu- u ut-liš? u. GIR ka-zi-ri NU.TUK inbu-šu kima | tar-ma-ti	u ka- lu- u u. GIR ka-zi-ri NU.TUK inbu-šu kima | tar-ma-ti

LL. 13-16 § 9 BC 4 as § 9 BC. Then left-hand col: 89 BC 5 (17) u BE.LA.GUR.DI, (18) u A.RIT.NI, (19) u A.LIT.NI | (20) § 9 BC 6, u NU.UG (21) [u](?) .TUR, (22) [u] . - UD.

After a gap, which must include ^uḥab-šallurḥu, comes K. 9948, PL. 37, belonging almost certainly to K. 4345. Hence add also its dup., K. 4438 B, PL. 24:— 889, BD, (chiefly rt. Col.) (420) ^u... (421) ^ukur-... | 889, BE, (422) ^ue-nir-[ru], (423) ^utu-ba-ku^③ (424) ^u... HU = ^uiš-sur-ri ^utu-ba-ku (425) ^u... HU = ^uiš-sur-ri ^utu-ba-tu (426) ^u[^utu-ba]-tu = ^uiš-sur-ri (427) ^utu-ba-ku | ^u 889, BF (428) ^ukam-ka-du (429) ^ukam-ka-du (430) ^ukam-ka-du (431) ... -su = ^ukam-ka-d[u].

Then K. 4345, rev., PL. 28, appears to connect at this point:—

432. ^u TA.	K[AM] ^u ③	^u kam-ka-du
^u KA. KA. KA		^u kam-ka-du
^u KA. KI. TAR		^u [kam-ka-du]
435. ^u ID. KA. KI. TAR		^u [kam-ka-du]
^u BAR. SAG. KI. IN. TAR. RA		^u k[am-ka-du] ^u ④

889, BG.	^u LID. GAB	^u k[a-man-tu] ^u ⑤
	^u ša-ap-ru	^u k[a-man-tu]
	^u ša-ap-ra-tu	^u k[a-man-tu]
440. ^u ša-la it-tu		^u k[a-man-tu]
^u ki-ip-ni		^u ka-[man-tu]
^u zir LID. GAB		zir ^u [ka-man-ti]
^u BAR. UD		zir ša-mi [a-ši-i]
^u zir ša-mi a-ši-i		zir ^u ...

889, BH ^u ⑥	^u ZAL. LU e-riš-ti	^u aš-šu-ul-tu
445. ^u ŠA. LAM. BI. TUR. RA		^u a-ra-ru-u
	^u šu-ul-tu	^u aš-šu-ul-tu
	^u šu-lu-tu	^u si-lam-mu
		^u si-lam-mu

① K. 4438 B omits. ② K. 4438 B makes one section.
 ③ R. prob. from K. 4345 and K. 4438 B. ④ R. from M '13, VI, 19-21. ⑤ 810 B A. ⑥ Dup. of K. 8829, 1-6 PL. 41 (Meissner)

§ 9, BI (part dup. K 4412, rev., PL. 24^①):

450. u a-tir-ti ekli še, AŠ, ME, ŠAR še, BAR, ŠAR u e-zi-zu	u a-tu-šu hu-ru-uš-šum " u a-tu-šu mar-tu u a-tu-šu u a-mu-šu u a-mu-šu u a-mu-šu u a-mu-šu u a-mu-šu u šu-nu-u mê uš-šu mê uš-šu
455. u a-tu-šu u a-tu-šu u u-tu-še u še, GIL u zir ^② la-bi-še	u a-tu-šu u a-mu-šu u a-mu-šu u a-mu-šu u a-mu-šu u a-mu-šu u a-mu-šu u šu-nu-u mê uš-šu mê uš-šu
460. u a-mu-šu u še, KUR, ŠAR A. GIL, ŠAR	u šu-nu-u mê uš-šu mê uš-šu

Rev. K. 4398 and K. 4412:

u še, GIL u zir ^② la-bi-še	[mê uš]-šul?) u ka-za-bu
--	-----------------------------

§ 9, BJ:

465. u ku-ni-bu u ku-ni-ip-hu u ša-mi HAR, MEŠ u mê uš-še u SAQ, DU I	u ku-ni-ip-hu u e-zi-zu u e-zi-zu u e-zi-zu
470. L'U, ÚB ša kina H, ŠAR še, AŠ, ME ^③ še, BAR u a-mu-šu u mê uš-še	e-zi-iš-šu " " e-zi-iz-zu u šu-nu
475. u mê uš-še še, KUR, ŠAR	u e-na-nu a-hu-šum

§ 9, BK. u sa-pa-al-gi-nu | u kur-ka-nu-u

① The order of § 6 differs.
u ku-nim § 6, ll. 75, 76.

Note "takdananu and
② Re-ex. ③ K. 4412 adds ŠAR

Obviously, from the preceding catch-line, Table "D" (K 4565 + 4621 + 10024, PLS. 27, 32, 34) follows. § 6 coincides.

§ 9, BK.

477.	u sa-ap-al-gi-nu	u [kur-ka-nu-u]
	u na-mul issuri	u k[ur-ka-nu-u]
	u TA. HU. ZA. AH	u ku[r-ka-nu-u]
480	u UH. TAR. [A]	u kur-[ka-nu-u]
	NI.DIN.*GAM.BA.ŠAR	u kur-[ka-nu-u]
	UŠ. E	u kur-[ka-nu-u]
	UŠ. E. U. SA	u kur-[ka-nu-u]
	u GIR. GAB	u kur-[ka-nu-u]
485	u LID. GAB	u kur-[ka-nu-u]
	u KA. [B]AD	u kur-[ka-nu-u]
	u KAK(?)	u kur-[ka-nu-u]
	u MAN(?) LUGAL(?)	u kur-[ka-nu-u]
	u en-ti si-kur [m]âti(?)	u kur-[ka-nu-u]
490.	u iliat si-kur [mâti(?)	u kur-[ka-nu-u]
	u LID. GAB ...	[u kur-ka-nu-u?]
	u KA. RU. *G[AM]	[u kur-ka-nu-u?]
	KIŠ. GAM. BA ...	[u kur-ka-nu-u?]
	u U. KA. NA(?)	[u kur-ka-nu-u?]
495.	u KUR. GI. RIN. NA	[u kur-ka-nu-u?]
	u GIR	[u kur-ka-nu-u?]
	u kur-ka-nam ša šadî [i] ①	
	u KUR. GI. RIN. N[A] ②	u PI. [RI. ZA. AH]
	UŠ. E. EL. ŠAR	i-šid [kurkani?]
500.	u PI. RI. ZA. A[H]	u kur-ka-nu-u
	u PI. IR. [HA]	u ,, . . .
	[u KU. RU. UŠ]	u ,, . . .
	[u e. li-nu]	u ,, . . .

§ 9 BL.

505.	[u ha-za-lu-n]a ③	u pu- . . .
	[u ka-šal-lu]-hu	u ,, . . .

① K. 8249 + 82-5-22, 576, PLS 31, 40, šadî(ma). ② R. from here onwards to l. 30 from K. 8249 + 82-5-22, 576.

③ v. nu § 6, l. 71.

889BM.	[^u pu-uh ₂ -pu]-hu	uša-mu . . .
	[^u . . .] MAH	uša-mu . . .
	. . . . -a[?]-ni	u » ina . . .
	. . . . -a[?]-ni	u » ina . . .
510.	. . . . -pa[?]-ri	u » ina ku-[te-e?]
	. . . . -šu-di	u » ina ku-[te-e?]

889, BN - BP, rt-hand. cols. only. :-
 889, BN (doubtless ^uELTEG in left-hand col.) (512) u-hu-[lu], (513) u-hu-[lu], (514) u-hu-[lu], (515) ^uki-il-tum : (doubtless left-hand col. ^uELTEG.SI), (516) ^u » kar-ni, (517) ^u » kar-ni, (518) ^uELTEG.SI. MES, (519) ^uELTEG.SI, (520) ^usa-gi-la-[u], (521) ^upi-ir kalbi | 889, BO (522) ^uman-gu (523) ^usa-me-tu, (524) ^uka-ku-lu, (525) ^uka-ku-lu, (526) man-gu (527) sa-me-tu (528) [k]a-ku-lu (529) . . . -tu (530) . . -šu-tu | 889, BP. (531) ^uku-di-me-[nu], (532) ^u » ina mātu Hat-[ti] (533) ^u » ina mātu Hat-[ti], (534) ^ušah-la-[nu]Ⓛ, (535) ^ušah-la-[nu] (536) ^ušah-la-[nu], (537) [^ušah]-la-[nu] . . .

In the gap which follows 886 indicates ^uUR. [PI].PI and ^ual-lum-zu, and possibly ^ušE . . . (^uSI.Ⓛ) belongs to 889, BU). The rev. of the preceding text is almost certainly K.4417, PL.37 (re-ex.). But K.4412, PL.24, and K.5424, B, PL. 38 + K.11555, CT. XVIII, 18, are more extensive duplicates at this point^③, and although K.4417 was not so full as they are, this is clearly the place to include their material:

889?	. . . . .	UŠ. GIL
550889BQ.	. . . . .	ru-si-ma-ti
	. . . . .	^u kur-si-ma-nu

① Re-ex. 886 and K.14059, S, PL.26 indicate this as certain. ② M.'04, 28 pointed out parallelism of K.4417 and K.4412

<p>§ 9BR GAR UT 555 -ru -su -su -DA ŠAR(?) 560</p>	<p>u sa - me - du u sa - me - du u sa - me - du u KUR. zi sa - me - du u sa - me - du sa - mi - du u sa-me-du gi₂tu</p>
<p>§ 9BS. SI</p>	<p>[u] . . - lam - bi - ru u . . - lam - bi - ru</p>
<p>§ 9BT. [u AMA?]. A. NI</p>	<p>u . . - zi - tu</p>
<p>§ 9BU (cf. Smith, CT xxxvii, 29, I, 31 ff.) [u S]I. DI ① 565. [u GAR]. GAN. GAN [u gin]-gi-rum -bu [u GIN?]. GIR [zir] sa₂-mi ②</p>	<p>u[šur-d]u-nu-u u šur-[d]u-nu-u u šur-du-nu-u u gin-gi-tu u gi-in-gi-tu zir u GAR.GAN.GAN ③</p>
<p>§ 9BV (cf. Smith, ibid., 33 ff.) 570 [u ŠA]. GI [u KA]. DIN </p>	<p>u pu-ug-lu u pu-ug-lu u pu-ug-lu u pu-ug-lu</p>

§ 9BW (cf. Smith, ibid., 37 ff.; and PL 32, K 4588, II).
 [u ŠE. BA. RA] u šu-
 578 [u ŠE. BA. RA] 4 [u šu] -

① S. S. Col. C., 7-8, Pl. 38: cf. § 6, 131. ② See my article PRSM, 1924, p. 18. ③ K. 8791, c-d, 12-14, Pl. 41 gives
 GAR. GAN. GAN | e-gim-[gi-tu]
 zir "ŠAR | zir ["]
 ŠAR | ka-r[a? - šu?]

Possibly an indication that CT XIX, 50 follows in order, especially as azupiranu precedes thereon (cf. K. 8791, c-d, 11).
 (4) Handl. 73 corn.

(For remainder of § 9BW cf. Addenda, p. 278).

K. 4412, PL. 24, and K. 4417, PL. 37 (Cols. III-IV): (2 ll. beginning "...):

§ 9BX.	"a(?) . . . . .	. . . . .
	"kak-[ka-da-nu]①.	. . . . .
585	"ša-šu-um-tu	"ša-
	"a-šu-ši-[im?] ^② šu imeri	"ša-
§ 9BY.	"A.MEŠ. ŠA. A	"a-la-[pu-u]
	"ŠA. A. A. MEŠ	"a-la-[pu-u]
	"išbaltu ⁱ kirû	"a-la-[pu-u]
590.	šammi nâri	"a-la-[pu-u]
	"ha-mi nâri	"a-la-[pu-u]
	"i-lat ^③ ekli	"a-la-pu[u]
	ha-am-mu ša be-ra-ti	e-la-pu-u ša A. [MEŠ]
	"AŠ. HAR. zu	"mi-ik-ti ha-am-mu-
595.	[u] ša GIŠ.MA	ha-am-mu] ša be-ra-ti ^④
§ 9BZ.	GI. KA. LUM. MA	"kur-šib-ti ^⑤ ek[li]
	ZIR GI. KA. LUM. MA	"kur-šib-ti ^⑥ ek[li]
	GI. KA. LUM. MA	"kur-šib-ta-[nu?] ^⑥
§ 9CA.	"GI. KA. LUM. MA	"e-pi-ta-a-tu
600.	"LAM. MA	"e-pi-ta-a-[u]
	"KIN. TUR	"e-pi-ta-a-t[u]
	"e-li-ku-nu	" » ina šu-ba-r[i]
	⑦ "ki-li-tu	" » ina šu-ba-r[i]
	"kul-li-tu	" » ina šu-ba-r[i]

① R. tentatively from § 9CJ. ② Re-ex.: perhaps room for it. Imeri at end is clear. ③ § 6, variants, i i[lat ekli] i. ellat ekli. ④ K. 4412 omits this line. ⑤ K. 4412, ta. ⑥ On K. 4412 and K. 5424 B, § 9CA precedes § 9BZ. ⑦ Here begins K. 5424 B, Pl. 38.

§ 9CB	u ¹ kam-ti ekli	u
	u šAR ekli	u
	u šAR ekli	u

§ 9CC (restored from Smith, CT. xxxvii 28 (IV, 1ff); see Addenda, p. 274)

	u ¹ [kam] - me ekli pišû(u)	u tak aš - har
	u [kam] - me ekli arku	u ditto
610	u ¹ [kam] - me šadi(i) pišû(u)	u ditto
	[u ¹ kam] - me gur.gur.r[i]	u ditto

§ 9CD. [u] šIM(?). RA | [u¹ ši - bu - ru?]

Here follow u¹ šiburu and u¹ tarmuš (ararianu); see CT. xxxvii, 28 (IV, 7 and 12) and Addenda, p. 276. Then K. 4412

(§§ 9BI: 9BJ) followed by

§ 9CE (restored from Smith, CT. xxxvii, 30, ll. 31-32)

620	[u ¹ KAK. Uš	u ¹ kal-la-ar za-bi-[tu?]
	[ditto?]	u ¹ KAK. KU. Uš (or kak-ku-uš)
	[u ¹ KAK. Uš. TUR. RA]	ša-t[?] (or [d]a) . . .
§ 9CF	u ¹ KU. NA(?)	[u ¹ sa]-ag ² gi-la-[tu]
	u ¹ iš. KAT ditto	[u ¹ sa-ag]-gi-la [tu]

Then (after a gap?) S. 8, PL. 38, a reverse, continues the order, according to § 6:— (Left Cols. only) (630) u¹ AR.

HAR(?) ZA.GAN.NA (631) u¹ LAGAR (632) u¹ LAGAR BAR. RA (633) u¹ šIM.

(634) u¹ NIM³ (635) u¹ NAM.TA.E⁴ (636), § 9CH u¹ AMA.A.NI (see p.

277) (637) u¹ AMA.A.NI (638) u¹ ša⁵ TUR.A.NI (639) u¹ ša⁵ TUR.A.

NI | § 9CI (640) u¹ šA...⁶ (641) u¹ A.ZAL(?) . . (642) u¹ A.Z[AL?] . .

(643) u¹ A.Z[AL?] . . (644) u¹ . . . | (Cols. A-B, ll. 1-8, § 9C3, p. 3).

① § 6 u¹ kam-me ekli, u¹ kam-me arku, u¹ kam-me a-gur-ru for this group. ② CT xxxvii sag. ③ § 9BC, l. 412, = u¹ suadu. ④ K. 4184, T. 1, PL. 46 = u¹ su-palu. ⑤ § 6 omits. ⑥ Cf. p. 17, l. 344 u¹ šA.PA, but hardly likely. CT xxxiii, 34, 25: AM 1, 2, 40 "seed of u¹ šA.PA".

§ 9, CT. 660.	u ZIR KU. LAL u KI. AN. ŠIŠ. KI u KI. AN. ŠIŠ. KI	u zir ka-ka-da-nu su - pa - lu a-šu-si-im-tu
§ 9 CK.	u MUR. DU. DU u AŠ. PI. PI	mu-ur-du-du-u aš-ta-be-lu
665	u GIŠ.MA + GUNU u GIŠ.MA + GUNU. GIŠ. GI	ka-aš-hu-ra-ku ka-aš-hu-ur-a-bi
§ 9 CL.	u u u NI(?) ELTEG(?)	[k]a-zal-lu
670	u AM.SI. ^① HAR.RA. ^{AN.} NA [u AM.SI]. HAR.RA. AN.NA	[pî-za-al-lu-tu] ^②
§ 9 CM.	[GA. RAŠ.] ŠAR ŠAR KIN. ŠAR	ka-ra- [šu] gi-ir-ša- [ti] pir-
675.	[ŠA(?) . KU] D ^③ DA. ŠAR [ŠA(?) . KU] D ^③ DA. ŠAR . . LAL. [GA. RAŠ.] ŠAR . . LAL. GA. RAŠ. ŠAR:	uš-šu-ta-a-ti ki-is-mu ši-ni-tu bi-iš-tu GAR.EŠ.ŠAR: bi-iš-tu
	[išid] GA. RAŠ. ŠAR	iš-di ka-ra-ši
680.	[ZIR] GA. RAŠ. ŠAR ZIR GA. RAŠ. ŠAR	iš-di ka-ra-ši zir ka-ra-ši

① Correctly emended by Meissner from my ŠIM. Re-ex.

② Langdon ka-ni-ib-tu (RA 1916, 33, 11). I prefer my old reading for the last two characters, lu-tu, which make the word ka-zal-lu-tu equiv. of (u)AM.SI.HAR.RA.NA and uznanatum (ibid.). ③ R. from 21-2-4, 271, PL. 26 (L. 7).

§ 9, EN

HI. IŠ. [ŠAR]	ti - as - šu ^①
HI. IŠ. TUR. ŠAR: g[u-za-zu]	HI. IŠ. TUR. ŠAR: [nu-ra-ru] ^①
" nu - ra - ru ŠAR.	[HI. IŠ. ŠIŠ. ŠAR: mar-ru-tu] ^①
685. HI. IŠ. IH ^② ŠAR: š[hu]	.
HI. IŠ. LIK. KU [ŠAR]	.
HI. IŠ. UR. BAR. RA. [ŠAR]	.
ZLY HI. IŠ. [ŠAR]	.
MUH. AŠ. AŠ. Š[AR?]	MUH. AŠ. AŠ. ŠAR

§ 9, CO

690. ŠAR	šu - [> (?)] ^③
. ŠAR	zir pa-ar-g[a]
[ZAG. HI. LI]. ŠAR	sah - k[u ^④ - u]
. ŠAR	zir sah. [lu-u]

§ 9, CP

[ki]- tu - u	zir KIT. ŠAR . .
695. UD	.
. ŠAR	.
. ŠAR	.

Perhaps still belonging to this Section is the continuation on the Reverse of S. 387:

. . . . .	. . . . ŠAR: ti(?) . . .
. . . . .	. . . . ŠAR: zi . . .
700. . . . .	. . . . ŠAR: ka-at-nu
. . . . .	. . . . ma(?) - šu - mi

§ 9, CQ

. . . . .	. ŠAR: ba-hu-r[u]
. . . . .	. da-nu- . . .
. . . . .	. ŠAR: tu-b[a(?) - ku]

§ 9, CR

705 . . . . .	. . . . -ru- . . .
. . . . .	. . . . -ru . . .

① From S. 1316, PL. 35. ② So, but S. 1316, ŠUD. ③ § 9 BW. ④ Re-ex.

30. § 9CS : 9CT : 10A.

The other side (called Obverse in CTXIV) may be Rev.

§ 9CS.

.
.
710.

nu-
a-za-[al-lu-u?]①
a-za-a[?lu-u?]②

§ 9CT.

.
.
715
.
.

an-tah-[šum]
an-tah-[šum]
an-tah-[šum]
šaḡ.šur: kar-[šum]
kar-[šum]
kar-šum šar: kar-...
si-ih-hi-r[u]
[pa]r-ri-? : kiš-...

§ 9CU

[NU.LUH.HA.ŠAR]
720.
.
.

[nu-hu-wi-[tum]②
[ti]-ia-a-tu
. . . . -ra-tu
. . . . -nu-u

The Rev. Col. of K. 8667 ends . . -tu, . . -tu, . . -mu,
. -tu, . . -tu, . . . , . . -pi-tu, . . -pi-tu

○
We can now discuss these plants in their ancient order.

§ 10A, L. 1. ŠAMMU = "PLANT, DRUG".
Like K. 500 (Kii 6), = "drug" (v. also Jastrow, PRSM, 19, VII, 153). This also includes dyes (§ 9R, AQ).

§ 10A, ll 2-5. "DIŠU (𒄩) = "GRASS".

From $\sqrt{dašû}$ "sprout", long ident. with § V/ST, Q6, 1/16, SULLIM (but see šam balilti, § 10E): 31, 6, 12, "SULLIM": "di-šum (84, 4, iii, 2): "di-šu (ib. 6) (53, iii 8)

① M. '04, 30. See § 9AT. ② M. '04, 31, based on K. 4581, Pl. 31. We may thus have to include zibû in § 9CU.

§ 10, A. 11.6-13: B. 11.2-7.

"URBATU (3), "ELPITU (2), "ŠIŠNU, "ŠIŠANU (1), "AŠLU (6) =
CYPERUS, BUTOMUS, and similar rushes.

— "URBATU: (a) Simply (2) (29, 3, 10, 12) stomach. EXT. to eyes (Scheil, RA XV, 75, urbatu fīmū^①); to womb (KAR 194, 11, 30).

(b) Root (1) peel, eat alone (92, 7, 6, snake-bite).

(c) Seed, bind on, (Kii II, II, 39).

Heb. 279.

IDENTIFICATION: ^② HWB 128, = 𒌦𒍪𒌦

"rush": urbatu^③ = urbanu (VR 47, 250), i.e., "urbanu (Klauber, Pol. Rel. 160). 𒌦𒍪𒌦 = البردي (PS 36) *Cyperus papyrus*, L. (Löw, 54) the rush of S. Babylonia, with edible root (cf. Hdt II, 92). Cf. Bu 89-4-26, 112, 4, PL. 43, "urbate III sippu-šu" "3-cornered *Cyperus*" (as Mr. Gambier-Parry suggested to me), for which cf. Pliny (NH XXI, 69) "another kind of rush of a triangular shape to which they give the name *Cyperos*." Shalmaneser (Mon. 77) speaks of boats of "urbate (as opposed to his "boats" of skins), i.e., the same ~~wood~~ rafts and skiffs as are made to-day in Mesop. (For urbatu cf. 𒌦𒍪𒌦).

[u]GAL = [u]urbatu i.e. "the great plant" (89AK, 289)

Diosc. (I, A) prescribes cyperus root for urine, scorpion-stings, and ext. to womb. (Cf. IMP II, 1357, roots of *C. rotundus*, L., as diuretic, emmenagogue, and diaphoretic in Ar. and Persian writers).^④

① Scheil translates "fat". ② VK 202 gives, for Cyperaceae: "generally growing in moist places ... stem a cylindrical or triangular culm (i.e., III sippu-šu)... the leaves sheathing (cf. šallapanu)... resemble the grasses." Ungnad (ZA 1917, 250) shows GUG.ŠE cultivated in old-Bab. times (BE VI, No 9, 1: 29, 1: 39, 8) which he regards as a kind of flax, comparing KU.GUG. = lubuštu. ③ "Rubatum 89AK, and rupatum (at end of 89AK) are obviously variants. ④ For a photograph of the *Cyperus*, see FTP, frontispiece.

"URBATU is thus CYPERUS.

— "ELFITU I compared to ŠDŠTI (PSBA 1906, 225). It is ŠDŠT ŠDŠTI, Schoenanthum. EXT., for eyes (Schoel RA, XV, 75; 8, called himû): as "GUQ (2), bound on feet (79, 1, 24), its root used (98, 3, 3). § 9 AUO, elpitum mé burki ① "rush for wine", hardly catheter, probably = "diuretic". Diosc. (I, 16) says the Schoenus is called Babylonian, the flower and root being used for menses, urine and wind. Gerarde (40) says the Schoenanthum has leaves like the Cyperus, C. Schoenoides, Griseb, grows in Syria (BFO V, 368) and C. longus, L. in Mesopotamia (Von Opp., II, 388).

— "AŠLU = Jwl (= Suaeda monoica, Forst., LXIV) = سدر, Löw 55. AM shows it as a pliant rush, e.g., "TIR (6) is plaited with white wool (19, 1, 24), and with sinew of gazelle, etc. (20, 1, 30 for temple). Cf. also 102, 24; 104, 1, 13; Langdon, FBE xxxi, 60, 5. The seed of aš-li Uš ("male") used for eyes (12, 4, 5; 12, 4, 7 fumigate, "TIR simply (100, 2, 10) ②

— "ŠIŠNU = ШШШ Butomus, junci genus (HKB, 87; cf. Löw 55) = Butomus umbellatus, L. In Russia the root of Butomus is used for hydrophobia (cf. urbatu for dog-bites) (HS 442). But šišnu is not quite urbatu, for § 9 AJ L. 291 shows ["šī]-iš-nu ut-liš = "w-[a-tu]; i.e., šišnu vulgo, urbatu.

— "ŠIŠANU (1) (8, 4, 8) obviously a variant. Zimmern "wohl zu hebr. šōšān" (AFS 8) is not entirely satisfactory. Cf. § 9 AJ.

— "ŠALLAPĀNU (1) (82, 3, 11) prob. šalāpu "draw (a sword)" from its sheath-like nature. Drink for lungs (SAR 203, 14, 26).

— "KUNGU (1), the "seed" of Cyperus, given also = "gūru, (possibly "kūru, Jensen, ZK II, 26; كرو "palm-marrow" from the top of the palm, of a pith-like appearance but firmer, which is eaten in Mesop.) in cataplasm (77, 1, 24): cf.

① Cf. "GUQ. BUR. RA, PL. 4, IX, 4. ② Cf. IMPI, 640, if seven pieces of Viburnum foetidum, Wall., are knotted with a thread of cotton picked by a virgin, the necklace thus made will cure scrofulous glands. ③ Cf. مترى = مشترى, Schoenanthum, Löw, 187.

“kun-[gu], § 6, l. 83). Interesting is a comparison with Iberosus, (Cory, Anc. Frag., 56) “and in the lakes [of Babylonia] were found the roots called gongae, which were good to be eaten”.

— “PAPĀNU, not “melons!!” (HKB, doubtless comparing 2909). Used to surround sick man's bed (Schul, RA XV, 75, 10, called *himū*); i. e., a magic circle (like flour or pebbles, of Sem. Mag., LIX). (Is there any linguistic connection between *papānu* and *nátrapos*?)

— “HADILU occur: in a list (Mook, RA, 1920. 161, K. 9092, 7, 6).

— UMŠATUM (§ 9A, l. 6), hardly *hermodium*, *Rumex acetosa*, L., or *צמר* *cicer* (HKB 61), since this is the group dealing with rushes. Cf. PL. 40, K. 14051, 3, 4.

— KUNITTUM must be a fem. from *kuninu*. Cf. MA A. V.; KAR, No 185, iii, 15: CT XIV, PL. 47, 47379, 14: GI. GAR. ŠUR. KA = ka-nu-u ku-nin-na-a-tu: PL. 48, 36331, 7, GI. BAR. NUN = ka-nu-u ku-nin-na-tu: PL. 49, 36481, 7, ... ku-nin-na-tu. Cf. XA 30 “reed-work”.

— KILILU (= “TIR”, § 9C). Perhaps = “crown” *šš'šš*, or cognate to it, “*urbatu*” being a plant rush.

§ 10 C. 2. LI.TUR, LI.TAR, LI.TUR, “ABUKATU (45)

(a) Hil “gum” (always with LI.TUR (19), LI.TUR(1), LI.TAR(9), and 4tt. out of 6 with *abukatu*. EXT, 32, 5, 4, 7: eyes (9, 1, 30: 12, 4, 13): amount (97, 4, 16): bind breast (26, 3, 4): chilblains (32, 5, 12): allanur (43, 1, 8): wash (94, 2 ii 10). INT. (Kii III, III, 1: III, IV, 3): stomach (39, 1, 43: 40, 1, 48, 50): urinary (66, 7, 14). Fumigate (80, 6, 5: 99, 3, 6): Enema (94, 2, 4).

(b) “Gum of, LI.TAR *šadi*(i) (1) (83, 1, 5), and “gum of *abukatu šadi*(i) (1) (14, 7, 6).

Except in lists, the det. “ is found only with *abukatu*, and even then not always. “*Ašlukatu* is an equivalent. (§ 9 C 2, 116, 8).

IDENTIFICATION. Important is its affinity to rushes,

34.

83 10 C. : 10 C. : 10 C. 3.

in 8 9 C, and with "kazallu, ib 10 (cf. 8 9 CL, L. 667), the latter occurring in AM(2) (apply feet, 74, 1 iii, 3) ①. The "sweet-scented rush" of Pliny (NH XII, 18, Bostock) is thought to be an Andropogon, distinct from Acorus calamus, L. On A. Schoenanthum see Sprengel, Diosc. II, 354. A. nardus, L. (India) gives Citronella oil, long considered nard by the older commentators: A. citratus, DC, gives lemon-grass oil. The grass-oils are carminative (FH 725).

8 10 C, and C. 3 : U. P. 16. Cf. 8 9 BY.

"İSBABTU (coarse grass, spinach): ARANTU (II) (aromatic grass, agrostis): ALAPU (hay).

These are so inter-related that they are best discussed together. A broad, but vaguely retained distinction is to be seen in 8 9 C, L. 11, "ša-mi šeri "desert plant", and 8 9 BY L. 590, šammi niri "river plant". The position so early in the lists after "grass" is some guide.

Philologically, isbattu may be connected with 5 10 Y "grass", with redupl. third radical (like alkaktu, ilkaktu, ernintu, aršasū ②). L. 11 shows that it grows in the desert; 8 9 BY, L. 589 gives "išbat-tu of the garden = "alappū". "GAL. ŠAK, 8 9 C, L. 15, indicates a "large" vegetable (cf. ["GAL, 8 9 AK, L. 292). "KANKAL, its equiv., = "arantu, which is a plant springing up in ruins (see Langdon, HRT, 6, 10, translated "thorns").

① In the same group in 8 9 CL, L. 670, [pizalluru], prob. masc. of "pizallurtu (2), used alone to anoint swelling (73, 1, ii 7) (pi occurring for ka, 90, 3 r 14), cf. pizalluru ša šeri = humlibittu (Weidner, ARSL, 1922, 198). ② Išbu is rare,

(cf. the tribute of Arabia, "gold, išbi šadē, horses, camels," (103 ii, 54, 27), and Harper, Letters, II, No 209, 7. "the weavers of the temple have not gathered their išbi." Here išbi can hardly mean rushes for mats, as a special staff would hardly be kept for mat-making. They may have been dyers, and išbi perhaps refers to special plants for dyes.

the same ideogram having the value also of *teriktu* (𒌶𒌷) = "green stuff", and *nidutu* (𒌶𒌷𒌵 "sprouting"), Br. 9761, 9759. ^①"KANKAL is *binut* Ú.ME "produce of the canal" (H. 65, IV, 18, quoted Tallqvist, *Maglû*, 25, n. 1: IVR 8, IV, 18): cf. *Maglû* III, 178 "like "KANKAL on the banks of atabbi (canal)," and K 235 (ib., note) "cleanse me like "KANKAL"; also *Maglû* I, 25 "I shall be clean like "KANKAL". "Arantu appears thus to be some plant which springs up in ruins, at the side of a canal, or, more probably (as often happens in S. Babylonia) is daily submerged by the tide amid the Palm-groves on the Shatt el-Arab (Lucerne, grass), and so "cleansed". "Arantu will therefore be either 𒌶𒌷 (if the text is right, cf. Löw, 61) "chamaeleon herba" (PS. 393, perhaps: ὀροβᾶνθη) or 𒌶𒌷𒌵 "grass", by metathesis of m and r, with a change of m to n before t like *pêntu* = 𒌶𒌷𒌵^②. The view that the "Arantu is periodically submerged is borne out by § 9 C, L. 16, "KI, DI = arantu, the Couch of the god AZAG", i.e., the Water-god Ea, who, by the daily tidal flow, appears to "take his rest" on the "arantu" (cf. of the *kiškanû*, *Kišsu-ša maialu ša ilû D.A.AN*, CT. XVI, 192). There would be no point in it if we saw in this merely the herbage at the side of a canal.

The coarse grass which grows amid the date-palms and is thus flooded daily is called in Basrah 𒌶𒌷𒌵 *seiir*. But "arantu" has a wide equivalence. In § 9 D, 19 it = "basarratum, "spurge" (which has a white milky juice: L. 24, it = "lulutu, "flower: § 9 C, 3, L. 4, it = "SAQ.ŠLA. In Sm. 122 (Langdon, RA 1916, 31) we find (3) *šom-ra-anu*: "a-ra-an-tu: "a-la-mu-u (4) *šamme* HA. 204, followed by (1) [Enuma ina biti?] "KANKAL: "a-ra-an-tum in-

① Fossey, *La Magie*, 90, sees in it *pitru* = 𒌶𒌷𒌵 = wild licorice, impossible here. Stommel, for arantu, suggested 𒌶𒌷𒌵

"laurel(?)" (PSBA, 1899, 136) obviously impossible. ② It can

hardly be 𒌶𒌷𒌵 *Hypericum crispum*, L., Mesop. (Von Opp. II, 374)

nammar, and then (l. 9), "a-ra-an-tum": "La-ar-du. In other words, fennel, arantu, alamû, are HA.ZUN plants: "HA = fennel: i.e., either odoriferous or umbelliferous plants": "arantu may appear in a house, when it = lardu (cf. the "ruins")."

"Arantu thus appears to be lucerne, green-stuff, grass, and even spurge or nard. "arandi in AM 33, 1, 38, is boiled with kukru and put in ears: Gwynn, prob. rightly (PSBA 1914, 243) translates "nard-grass". "Nard-grass" occurred in profusion in Gedrosia (Arrian, Exp. Alex. 6, 23, quoted Sprengel, Gesch. d. Botanik, 1817, 1, 10) ^①. It is probably the ^{سنبلیله} "nard" (Von Opp. II, 388: 13 1237) *agrostis verticillata*, Vill., a grass growing in Hauran and Mesop. (rivers), used as fodder (cf. Post, 865, sanbaleh).

⁷¹⁵⁰ "Mallaktu = ^{ملاکو} *Atriplex halimus*, L., a Syrian Spinach (Löw, 338: Post 683: BFO, IV, 916). At Carchemish I ate a kind of spinach ("حشيش برده", perhaps "ša-mi šari, unless this is *Salvia deserti* Dec.) Ainsworth (Assyria, 36) says that the Euphrates Expedition ate a kind of spinach. (cf. Diosc. I, 129) ^②

Still more interesting are ll. 9-10: "lšbaltu-herb like oak-galls, šitum (growth?) like "išbaltu, its fruit green and hard". *Salvia pomifera*, "the apple-bearing sage" certainly offers an explanation: "a native of various parts of the Levant. It is remarkable for being liable to the attacks of an insect of the *Cynips* genus, which produces galls upon their branches (PC. xx, 373).


"lšbaltum [akli], "i. [of the field]" = *sisatum*, surely from *sisu* "horse", i.e., fodder, lucerne (like *aspasti*, MB, 62, Meissner ZA VI, 296 = *asp-ast*). It cannot be ~~asp-ast~~ *mespilus*. KAR 203, 65 gives [u]išbaltum as "a drug for ašû."

"Alapû, perhaps ^{علا} *Poa multiflora* and *P. Cynosuroides*, a high, coarse grass growing near water (Lane, 628) ^③ Post (834, and Dictionary of Bible, IV, 212) gives *Cladium*

^① Nard is now identified with *Valeriana Jatamansi*, DC. For the Syrian equivalents (*V. Celtica*, etc.) cf. FTP. 166; Pliny, NH, IV, 27.

^② A *scorzonera* grows E. of Mosul (Ainsworth, Assyria, 36).

^③ *P. Persica*, at Kalah Skerghat (SM 83).

Mariscus, L., the "twig-grass", and Eragrostis cynosuroides, Roem. But, in view of its association with hami, hammu, and alabû, I think ḡL "hay" is the better comparison for alabû. "Hami nâri and hammu ša berati (= alabû ša mi^h)" (ll. 595, 593) must be referred to ~~grass~~ "hay", i.e., "hay of the river" and "hay of the pools". Mikti hammu... (l. 594) uncertain. Cf. II R 27, 58 a-b [Jumura  = a-la-puu (and Br. 10263)

in AM alabû (without det.) is reduced in fire (17, 1, 2; possibly 89, 1, 3 for eyes). Alapâ ša pânû (without det.) (1, 2, 17, 20) is used for samanu of head ①

To sum up, "iššaratu" appears to be vegetation larger and coarser than grass, including spinach and lucerne: "ARANTU" is akin, but shows aromatic properties; "ALAPU" is less the coarse poa-grass than hay.

§ 10, D, 11. 17-26. "KITTURUM", "HASARRATUM", "ANUNUTUM" (3) "KAMTI EKLI" (3) (87, 2, 2), "KASĪ AMHARA", Euphorbia helioscopia, L., Spurge.

This is distinct from "atirti ekli, Lethurus" (§ 9 B), (418) IDENTIFICATION: "ḡL ḡL arku "green(yellow) flower", "kamti ekli "fold-bane", and "kamti erāsi "cultivation-bane" give the clue. Euphorbia helioscopia, L., is a common weed with green flowers and an acrid milky juice, growing in cultivated and waste places (Benham, HBF, 458: HPP 148); seen at Kalah Shergat (Herzf. 32: SH 29). E. Gailardotii, Boiss., was seen between Mosul and Nisibin (called ḡL ḡL alā: "yellow bakla", Von Opp. II 387). The juice of both is poisonous, accounting for its rare use in AM. The syn hasarratum (v. hasurratum) is comparable to ḡL ḡL injuria affectit, and reappears by a change of r and s in the Ar. "Chorraesch".

① I was told the Ar. name of two water-weeds in Basrah: a sub-vinia (identified for me by Mr. Carter), called wafham; and a plant growing below the surface, šumbelân, eaten by cattle. The Ranunculus aquatilis, L., is called šlint.

E. articulata minor (Forsk. cxii), and عجوة *E. antiquorum* (β) minor (ib. 94) and in the Ar. of India "hirruseeah" (*E. helioscopia*, IMP ii, 1132). In India the juice is applied to eruptions; used for rheumatism: the seeds for cholera (with roasted pepper): the root as anthelmintic. The evidence that *hasarratu* = *E. helioscopia*, L., is so satisfactory that it is not worth while suggesting *ranunculus* as a possibility.

"ATIRTUM (v. "ATAR," ATAR, "ATARTUM," ATANTUM), possibly אֲתִירְתּוּם "crown", referring to the broad, leafy head, "Aturtum (l. 23) occurs in the equation "kasi amjara = a-tel?i-asu-tum = *hasarrat* (Langdon, RA 1916, 33). "ANUNUTUM, perhaps akin to אֲנֻנֻטָּא , used for butting in the noses of lambs to cause worms in their heads to drop out (Levy, NHW, 1, 83). "LULUTU, applied here to the spurge (as "red lulutu" is to Poppy) must refer to the flower (§ 7); "LULUMTUM (PL. 23, K. 259, +) applied to toothache. For "arantu, § 10, c: "amjara, "kasi amjara, and kasi, § 10, A G.

○

§ 10E, ll. 27-39: "ŠAM-BALITU, *Trigonella foenum-graecum*, L.

Ident. by Meissner (MB 63, *šam ba-lil-ti šAR*: MVAG'04, 3, 27, 39) שָׁמ בַּלִּיטִי , fenugreek. (= שָׁמ בַּלִּיטִי , the same, Meissner ibid.). Restore PL 46, Rm ii, 203, o. 2, "ša-mu ba-[lil]-tu, and cf. CT XI, 45, IV, 4. Ainsworth observed it (Assyria, 36, called "hulby"). The equivalence is proved by l. 34 "tuldi = "ladiru (i. e., "šam-balilti) in Šubari" i. e., שָׁמ בַּלִּיטִי fenugreek, Rm ii 203, o. 3, PL. 46 giving "tul-tu, nearer the Phoen. ΤΙΤΛΙΩ (Löw 317). It must not be confused with *šam tul-te* "anthelmintic" (CT XIV, 23, K 259, 7, presumably a special drug for worms).

"MUH. AŠ. AŠ = "eristum, i. e., strong smell, the seeds

① i. e., from its yellow flower and acrid properties. R. Asiaticus, L. and R. lomatocarpus, Fet M (Herz. 135, 136: SH 33). For other kinds cf Löw 258: BFO, I, 39, 57. +

88 10 E, U. 27-29: G, U. 60-73: H, U. 74-79. 39
 of fenugreek having a strong smell (cf. "MUH.
 AŠ. AŠ. ŠAR, 89 CN, l. 679, describing *Lactuca virosa*, L.,
 also a strong-smelling plant). "NAM. TAB. EA. ŠAR
 ("double-plant?"), perhaps from the flowers of the
 fenugreek set in pairs. For *ladiru*, 810 AG.
 "ŠIBIR. ŠAR = šam. Ga-lil-tum, CT. XI, 45, IV, 4. (cf.
 AM 98, 2, 10). K 8791, PL. 41, exchanges "ŠIBIR^{ŠAR} for
 "ŠE.MULU, ŠAR, = kisibirtu, i.e., kusibirtu ŠAR
 of MB 33, ident. by Meissner, ZA VI, 294 with ~~810 AG~~
Coriandrum sativum, L. The next four words are
 nearly the same in both, except that ŠIBIR is re-
 placed by ŠE.MULU. Since L. 39 gives "saffron",
 šillanitu (L. 38) must surely be some black powder,
 possibly *Xanthium strumarium*, L. ① "GIŠ.MI
 (CT. XI, 46, IV, 4-10) also = ku-ša-ru, ši-il-lu (šš),
 tim-mu-ša-tum (K 8791, tinctura), ka(?) -ma-šu,
 ku-bu-[u?], etc. Sahittu (šihittu), probably =
 šahintu = šahintu, from ~~CT. XI~~ "blacken".

○

810 G, U. 60-73, see 810 I. 810 H, U. 74-79
 KIŠŠŪ, CUCUMBER: UBANU, CUCUMBER OR Hibiscus
 ESCULENTUS: "HUL.TI.GIL.LA (5), MELON: "HUL.LI.LI.GA
 LILIGŪ, COLOCYNTH. = *S. olerus*?

Kiššū ~~𐎠𐎵𐎶𐎶𐎶~~ (see Jensen, ZK II, 424) "cucumber"
 Ubanu "finger", perhaps = ~~𐎵𐎶~~ "lady's fingers"
 hibiscus esculentus, plentiful in Mesop. (cf. vulg.
 Ar. ~~𐎵𐎶~~ "thumb"), but may be a cucumber. Šaruru
 (Jensen ZA, I, 53), ~~𐎶𐎶𐎶~~: "Gurkenshössling" (zim-
 mern, AF 58). But cf. šaruru = "poppy capsule", 810, 1
 which would probably indicate its shape as a cucumber.

Taking "HUL.LI.LI.GA (liligū) next, L. 34
 shows that there is a liligū of the mountains.

① I have seen this growing near Basrah (identified
 for me by Mr. H. G. Carter, of the Botanical Survey, India).
 I was told it dyed clothes black (see 810, AF).

40. § 10 G, ll. 60-73: H, ll. 74-79: H, 2, ll. 319-320.

The description, l. 73, *kisšû-ša sumamati* "cucumber of the desert", which is *tamsil aruni* "like a ball" (*aruni* from ארני "throw") is obvious to anyone who knows the desert. It is the *Colocynthis*, *Citrullus colocynthis*, L., which I have often seen in Mesop and the Sinai desert, a trailing plant growing wild, with a spherical fruit like a cricket-ball. It is probably the "gourds" of II KI. IV 39, תִּבְּרִיָּה (cf. אֲרָבִיָּה "ball"): cf. *pitkuti šAR* (MA 87), compared by Meissner, ZA VI, 297. Does "HUL. LI. LI. GA = KOLÓ-KUVØIS" philologically.

This being a *Cucumis* with a spherical fruit, we are entitled to see something similar in "HUL. TI. GIL. LA, the "melon". I have unfortunately lost my reference to the scholar who saw "Egyptian" in *Musritu*, presumably the watermelon. "HUL. TI. GIL. LA (= ... -bu) being "melon", "H. of the Mountains must be similar to those excellent melons obtained in Mosul from Al-Kash. "Tigilû = a drug for sickness of midri (PL. 43 S. 60, 4). In AM, "tigilû (i) (55, 4, 8): "tigilat šadî dyspnoea [drink] (59, 1, 36): "HUL. TI. GIL. LA (68, 1, 31): bind on seeds (52, 5, 15): juice used (68, 1, 7). In Diosc. II 162, leaves of οίκυς used EXT. for dog-bites: seed INT.: of the πέρων (ib 163), pulp for eyes, and as diuretic: juice and seeds EXT.

§ 10 M, 2 (= 10, AN), ll. 319-320. "HUL. TI. GIL. LA (i) "HUL. TI. GIL. LI. KUR. RA. KIL BALV: šadî, *Ecballium elaterium*, Rich.

Probably included here because *HUL* is a cucumber-like fruit, and placed after *šiš: NIM* because of *šiš* in its composition.

§ 10 H, 2, U. 319, 320: 10 G, U. 60-73: 10 I, U. 80-95 41

It is called ŠĀ. KUR.RA "stomach-enemy" (as opposed to ŠĀHUL.LA "stomach-comfort" of fennel, in the text published by Langdon, RA, 1916, 31 ff): its Assyrian name = "Gum of the pudenda-plant of the mountains".

IDENTIFICATION. All this agrees admirably with the *Ecballium elaterium*, Rich., the "Squirting Cucumber" of maritime Syria and the Caucasus (BFO, II 760), a powerful cathartic (P. 480), the part used being the sediment from the juice of the fruit. The ripe fruit, about 2 inches long, roundish, green, and fleshy, ejects the seeds with a mucilaginous juice (PC XV, 312). In Ar. *Kiththa el-homar* "dove-key's cucumber" has perhaps the Assyrian idea^①. (Post, 324). Diosc. IV, 155, describes the method of making *elaterium*. HUL.TI.GI.LI (1), 40, 5, 17, with others (including opium) in a prescription for a man suffering from kinikti KU.GI.G.

§ 10 G, U. 60-73: 10 I, U. 80-95. "HUL.GIL (40), "IRRŪ (1), "ARARŪ, ~~"ARRIYANU (1)~~, Papaver, POPPY, OPIUM.

Before we discuss the lost group of § 9 G, which occurs before the cucumbers and colocynth (which will presently be seen to be "HUL.GIL) let us take § 9 I, 9 J, 9 K. They, and the lost group contain

① Gutter-speech of Bārah gives, I believe "carrot" = penis. Major E. B. Soane says that خیار is used similarly in N. Persia

42. § 10 G, U. 60-73: 10 I, U. 80-95

the most important plant names in all AM.

§ 9 I, L. 80. "Daughter of the Field" = araru: L. 83. "araru in the language of the people is lulu sântu ("red flower)", ① obviously poppy. The red poppy (Diosc. IV, 64), doubtless *Papaver rhoeas*, L., is one of the beauties of the Mosul fields. ② More important is *P. somniferum*, L., whence opium is obtained. With the idea that we have now opium and the opium-poppy before us, we can discuss fully § 9 G, J, K, which are all closely allied.

"MĀRAT EKLI "Daughter of the Field", already discussed.

"ARARU "Poppy" (*arāru*, 𐎠𐎢𐎡 "curse", reappearing in another name "AŠ.DUG.GA, šammi arati tarā! (?) "drug for laying a curse", ③ perhaps parallel to 𐎠𐎢𐎡 "poppy" (= Assy. mamitu "ban"?). Frank's suggestion (ZA XXIV, 171), AŠ.A.GA = 𐎠𐎢𐎡𐎠𐎢𐎡, the "African" for *pastinaca* is untenable (Diosc. III, 73). "ARAT PA.PA

"Juice of PA.PA" suggests an origin for *Papaver*. "ĀBA ŠIR'ANI "Enemy of the Muscles" may refer to an overdose of opium. (see § 9 Q, L. 151). "HANZIBATU I cannot explain, but ~~emendation~~ emendation to "hanzilabu ~~emendation~~ to make it *hanzilabu*, is unnecessary.

In § 5 "ADUMATU, prob. "the red-brown drug", may be the little red-brown sticks of opium. This is "the Drug

① See § 7. Lāla is Indian vernacular for *P. Rhoeas* (IMP I, 76). ② Herzfeld saw *Glaucium grandiflorum* at Kalah Sherghat (OZ, Beih. II, 33: SH, 30). ③ Maglū V, 37 puns on this with *liruruši*: "like "HUB.GIL ŠAR may her sorcery curse her." In Num. V, 11 ff (the ordeal for adultery) the waters which the woman must drink are called 𐎠𐎢𐎡𐎠𐎢𐎡 𐎠𐎢𐎡 "Is there any connection?"

kanašû in the Persian Gulf," which in ll. 56-57 is "the drug kanašû (is) like the Mandrake: its juice children and women gather." ① The Assyrian botanist knew the narcotic properties of both poppy and mandragora (§ 51), and perhaps in this "gathering" he saw a derivation (~~v~~ is "gathered") for kanašû. GAN.ZI.ŠAR also = ka-na-šu-u (CT XI, 46, III-IV, 34), a section in which kunšu ša šarti occurs (ll. 31, 32). In this last, since 𐎠𐎢𐏁 = "sweep," we must probably see "hair-brush" ^{or wood-caddings} and hence "kanašû would be then "the brushed (scraped) drug." Curiously similar to § 9 J is VK 547: "Early in the morning old women, boys and girls collect "the juice by scraping it off the wounds [in the poppies] with a small iron scoope, and deposit the whole in an "earthen pot". Nothing seems to have changed in the collecting of opium.

GAN.ZI appears in the word GAN.ZI.TAR.MU (§ 9, AT, l. 561), Cannabis, hemp, wherein it is possible to see Skr *çana* "hemp"; but unsafe. Yet Sprengel (Diosc. Vol II, 60) quotes Bochart as seeing 𐎠𐎢𐏁 in the Phoen. *çingan* of Apuleius. Cf. ka-na-šu-ut-tum ŠAR (MB 61).

§ 9, K, "GAN.ZI-u (i.e., kanašû) = sarmadu, perhaps ~~𐎠𐎢𐏁~~ "flower" (general for particular, like 𐎠𐎢𐏁 "rose" for any flower), and so "poppy"? GAMUL KANAŠÛ perhaps ~~𐎠𐎢𐏁~~ "sweepings" (i.e., of the opium, the scrapings of the poppy). "GÛR.UŠ, the male GÛR-drug, = "poppy-juice", "GÛR being šakiru(?), CT. XI, 46, I-IV, 11, i.e., intoxicant: karpot GÛR = šakiru (CT. XII, 23, 93064, 5). iGÛR.UŠ = ki-šit [tum], ku-ši-... (II R, 46, 72-73, e), the latter perhaps being ku-ši-bi ŠAR of MB 51. ② "GÛR

① "Are the gatherers" (Kaziri for kaširi, cf akzur for aksur, kuzuru for kiššura, HWB 590, 591). Del. (ib. 124) is certainly wrong: "seine kleine weiblichen Blüthe".

② If kušibi ŠAR be a word for poppy, are we to see in the same group (l. 55) *çassu çaltum* = 𐎠𐎢𐏁 "poppy"?

44. § 10, G, U. 60-73 : 10, I, U. 80-95.

occurs both simply and with UŠ "male" in AM (= "ha-ra-zi UŠ ??, see PL. 41, Rm. II, 203, r. II, quoted further). Add here M. 713, VI, 49 : 'HAB (?) ŠAG. ĞUR. UŠ = KUR-ši-iš-... L. 95, "kasû "rose" as "poppy", again the Ar. use of 𐎠𐎢𐎡𐎢. Elsewhere are other equivalents, e.g., Langdon, RA, 1916, 33, 6-8 :-

U ŠAG (ŠA. LAM. BI) ŠAR	šad-da-ru	el-meš-tum
U " " " GU. LA	i-me-iḫ ka ru-ru	di-šar-ru: di-šu
U " " TUR. RA (V. TUR. RA) ①	a-ra-ru-u	aš-šul-tum

"ŠAG. ŠAR, "head-plant", on the analogy of "heart-plant," *hyoscyamus* (§ 10 AV, L. 379), must be some intoxicating drug. Since 'ararû = opium, or opium poppy, "ŠAG. TUR. RA (ŠA. LAM. BI. TUR. RA) "lesser headplant" must also be a word for opium, and "ŠAG. ŠAR will therefore be a more powerful narcotic. Aššultum, also occurring with ararû as equivalent of "ŠA. LAM. BI. TUR. RA (§ 9 BH, U. 446, 447) may well be allied to šultu, "šulutu (= "šilammu" U. 448, 449, perhaps ~~𐎠𐎢𐎡𐎢~~ "be quiet", i.e., a narcotic, "šilammu representing the mod. Ar. 𐎠𐎢𐎡𐎢 "be dizzy", again an intoxicant.

What, then, must "ŠAG. ŠAR, the "greater narcotic" be? Šaddaru, its equivalent, must be allied to 𐎠𐎢𐎡𐎢 "be confused", i.e., an intoxicant: elmeštum is a precious stone (like the fruit? cf. § 9 BC, 3, fruit of kolû like tarmanu). Surely it must be the very poisonous and deadly *Atropa belladonna*, L., with its round berries like jewels. The plant is found on the Giour Dagh, Amanus (Post, 569).

"ŠAG. ĞU. LA, imiḫ karuru (akin to karuru, 555 "go round", i.e., "be dizzy?": dišarru, well-known as 𐎠𐎢𐎡𐎢 *Aegilops* (Löw, 128); and dišu "grass" (cf. 𐎠𐎢𐎡𐎢, grass, 𐎠𐎢𐎡𐎢, which latter is azallû, § 10, AT, L. 358: for dišu cf. § 9 A, L. 2). (Is imiḫ karuru the correct reading for ni-ka-ru-ru, § 10, AG: PL. 30. 16: PL. 39, K 8287, A, 1?).

① Cf. PL. 33, K. 14046: CT. XI, 45, I, 17f: VR, 29, 27-29.

Add here §9BH, l. 445^①: "lipî erišti (= aš-šultu). It means "fat of perfume" (24, 1, 6) without det.): lipî erišti ša rubus kitt[um] "fat of perfume of excrement of kittum" (see §10AG, on PL30, 10)

For ŠA. LAM. B1 cf. Rm ii, 203, r7-13, PL 46, (and see also p. 276 on this)

"a-ra-ri-a-nu	"a-[ra-an-tu ?]
uša-mu mat-ku	u ["]
"a-ra-ri-a-nu	u MU[š] ②
uŠA. LAM. B1	u ni- ③
"ha-ra-zi-uš	. . . . .
"hi-ib-ri in-bi	. . . . .
"ta-ra-ta-ra	. . . . .

For "ararianu see p. 276.

Šamu matku "sweet drug"^④ (opposed to šamu marru, CT xxxvii, 33 "the bitter drug", opium). For "haraziuš cf. PL. 39, K. 8287, iii, 14, and CT xxxvii, 30, ll. 42-43 (p. 273) : for "hibri inbi, K. 8287, iii, 6, where it = "handab[tu], vulgo LAM. . . .", and l. 8 "handabtu = u ri-

We can now return to the lost plant of §96. Obviously from its position in this column (among plants beginning HUL) it should begin with HUL too, and even if l. 72 did not suggest it, the natural restoration here would be the common "HUL.GIL. But "HUL.GIL.ŠAR must have a Semitic equivalent from arari (Meissner rightly, SA 18373: '04, 3, 26); Maqlû V, 37 (kima "HUL.GIL.ŠAR

^①Cf Meek, RA 1920, p. 138, K4199 (4) [lip]î e-riš-ti (5) lipî riš-ti (6) lipî u-š-u-ul-ti (7) lipî a-bi-ik-ti ^②Cf. PL 27, 82-5-22, l. 5 "MUŠ.ŠA.TUR ^③Hardly ni[karuru]. ^④AM 40, 2, 5

46. § 10 G, ll. 60-73: 101, ll. 80-95, etc.
lituruši kišpuša) is definite. "HUL.GIL must there-
fore be the missing plant.

Now, as we are dealing with the root arāru, we must
restore -ru-u as ir-ru-u. Haupt (ZA xxx 60) in-
geniously on slender evidence made irru "opium" (cf.
Kü. p. 108), and, in spite of weak premises, he was right
as our araru here shows. It is thus clear, since a-
raru = "poppy" that "HUL.GIL = irru = poppy (opium), and
the old translation "stink-cucumber" (Lutz, AJSL, 1919, 74)
is untenable. HUL, of cucumber shape, must here refer to
the capsule. § 9 G gives "red(?) drug": "lion fat"
"fat of a lion which has died fighting"; "fat of a
black dog which has died fighting": "fat of" HUL.GIL
"fat of man". These, I suggest, are professional (or col-
loquial) names for the strong, milky juice. In Šul
it is called "bulalu, i.e., $\sqrt{\text{בבב}}$, בבבב "confuse" mental
This word bulalu is also used of "ankinute (= Oenanthe?, § 10
AM, 3). It can hardly be בבב "milk" or בבבב "fodder," im-
possible with poppies. Cf. AM 16, 3, 9.

These are the various uses of poppy and opium:

- (1) "HUL.GIL: (a) Simply (9): EXT., eyes (var. ŠIM.GIL 17, 4, 9), feet (74,
1, iii, 18), anus (57, 5, r. 7: 94, 2, ii 7): bind (asida, 75, 1, iv, 18): uncertain:
("sickness on his body" 44, 1, ii 18): (probably drunk) for constriction
of KU.GIG (40, 5, 17): INT., drink with *galbanum and mus-
tard in oil (and purge, Kü iii, iii, 2). Cf. "HUL.GIL ša IM.SI.DI on
anus (KAR 201 (2), 40). (b) JUICE (4): EXT., ease šiggati (blains
32, 5, 5, 7): bind (73, 1, 22): prob. ext. for šiggati (93, 2, 9):
INT. (PA "ir-ri-e) drink and apply anus (stomachic,
Kü ii, i, 12). (c) FRUIT (4): EXT(?) eyes (8, 1, 7:
13, 6, 20): INT.(?) stomach (48, 1, 8, 11).

- (d) SEED(3) urinary, dyspnoea (59, 1, 18): hair (4, 1, 26). INT., drink (stomach, Kü I, II, 29: II, III, 18: with seed of šumû (ib. I, II, 32)).
- (e) ŠE.RÙ (1): for flesh (69, 1, 13): [drink], stomachic (Kü. III, 1, 36)
- (f) "STONE" (i.e., hard opium) (4): EXT., bind (15, 3, 5): Cf. 16, 3, 9.
- (g) KU (powder) (1). EXT., bind (74, 1, 13).
- (r) Lipû (fat), i.e., milky juice. (5): EXT., bind (73, 1, 22): apply anus (40, 5, 10): [Kü II, I, 22: III, III, 12, 26].
- (i) ŠARURU (the capsule), Kü II, II, 15, Š. ša "KUL.GIL ušesû drink (2). "IR-RI-E (1) for mišitti am mîli (79, 1, 17)
- (3). "GÛR (14) Simply (8), when ki mišitti (76, 3, 3), sasakki (19, 1, 4) INT., drink (48, 2, 7: 87, 5, 12?). SEED (3) EXT., feet (74, 1, iii, 9): anoint (54, 1, 7). LEAF (1) for tooth or mouth (47, 4, 5). JUICE (1) (40, 5, 4).
- (4) "GÛR.UŠ (2) simply, for KA.DIB.BI.DA (78, 1, 29): for decayed teeth (alone, Meek, RA 1920, 181, s. 1701, dup. of Pl. 10). SEED (1) anoint temple (104, 1, 21). ROOT (?), eyes (14, 5, 9).
- (5) ["ARARÛ, anoint alone to remove bruise, KAR 203, 55] ①

For the use of opium cf. Diosc. IV, LXV, ff.
Culpeper (256) prescribes heads for sleep, colds: black seed in wine for diarrhoea and menses. Also hollow teeth



§ 10 L, ll. 97-111 "URNÛ (37), *Mentha, *MINT, less probably ammi: "NANIHU, *Mentha: HAMUK ŠAR, Ocimum basilicum, L., BASIL: "KURNÛ *Origanum.

"URNÛ (a) Simply, passim, EXT., bind (15, 3, 17: 98, 3, 11): for swellings (73, 1, 7?: 74, 1, 13): apply feet (74, 1, iii, 3): ears (on wool, 37, 2, 7, 14), eyes (9, 1, 40): nose (26, 1, 4: 26, 2, 5): foul breath (26, 6, 8), cleanse mouth (78, 1, 13, 33), for illatu (31, 4, 12, 22), mouth (28, 7, 12), for haemorrhoids (58, 2, 2, 9, KU.GI9). ENEMA (43, 6, 5: 56, 1, 5: Kü iii, ii, 21). INT. (83, 1, v, 13): drink (60, 1, 7: 87, 5, 13?: 89, 1, 7: 90, 1, 16, 20), for hand of ghost (76, 1, 9, 13)

① Since the publication of Smith, CT xxxvii, "ararianu (1) (drink, 55, 1, 13 "ariani: Kü iii, i, 33 stomach: iii, ii, 67): 1/2 shekel (var. mir-giranu, Kü ii, iii, 10, stomachic) and "matku (?) (1) (drink, stomachic, 48, 2, 5) have been properly assigned to "tarmuš (pp 45, 276)

18, 21). Uncertain (17, 5, 4, umṣati), (40, 1, 47, stomach). Quantities 2 shekels (90, 1 r. 8), 10 shekels (42, 2 r 6) (87, 3 r 6). 19 shekels (Kü III, 2, 21). (C) SEED (1) EXT. eye(?) (75, 1, IV, 6).

(S) WATER (1) drink, stomach (76, 1, 16). (D) JUICE (1) EXT. 92, 1, r. 7: 88, 1 r. 22).

It occurs MBG (ur-ni-e šar) with nanahu šar, kamuk šar and kur-nê šar. In § 9 L it is found with "nanahu, "kur-nê, "kurnû, and "kanû... Pl. 32, Rm. 364, 5-11 is similar (see Pl. 62, 12)

["ur] - nu - u sâmu	"ur - nu - u
[" "] arku	" ["]
[" "] nâri	" ["]
["na] - ni - hu	" ["]
["k] u - un - di	" kur [na - u]
["kur - n] u - u sâmu	"
["kur - n] u - u ta - ba - li	"

§ 6, L. 3 puts "urnû sâmu between opium and nigella. The problem is to distinguish between nanahu (nanihu) and ninû (§ 10 Y), the latter occurring nearly twice as many times as "urnû. The first may be ~~mint~~ said to be Ammi^①, or it may be ~~mint~~ mentha (Löw, 259): the latter may be ~~mint~~ Ammi, or it may be ~~mint~~ mentha (= ~~mint~~). Which are we to accept?

Meissner, rightly I think, takes ninû as Ammi, and therefore nanahu will be Mint. But it is by no means certain. Yet kurnû^② would then be referable to the name "near other names for Origanum" (Löw, 229), which goes far to settle the urnû group. There are 2 kinds of urnû, "red", "green" (yellow), and "riverain". It is a "drug for the hair."

There are 2 kinds of kurnû, "red", and "of the dry land".

It is not easy to identify them exactly. Mentha viridis, L., the garden mint, has flowers of a pale rose: M. aquatica, L., must be the "urnû of the rivers".

① Ammi is an aromatic umbellifer called "Bishop-weed, from Candia or Alexandria (Bradley, Fam. Dict., quoted Murray, Dict., I, 283). Ammi Copticum, L. and A. majus, L., are found in Herop. (BFO II, 291). Cf. Pliny, NH XX, 58.

② Kur-ni-e, MB 12, was misread si-ni-e by Meissner.

Is the green urnû *M. piperita*, L., also cultivated in gardens?

"KURNÛ TABALI may be $\epsilon\tau\alpha\upsilon\rho\iota\sigma\alpha\iota\omega$, $\kappa\alpha\lambda\alpha\mu\iota\nu\alpha\theta\eta$, calaminant, or $\gamma\lambda\acute{\eta}\chi\omega\nu$, *M. pulegium* (Lew 329), the Kurnîtha of the mountains. "Red Kurnû" must be *Origanum vulgare*, L., marjoram with red flowers.

"URNÛ, as a drug for the hair, apparently takes the place of *Origanum* or the Rosemary.

HAMUK ŠAR, unknown outside MB, I take to be $\epsilon\delta\alpha\upsilon$ *ocimum basilicum*, L., Basil (Ar. "haebak", Forsk. EF cxiv). I heard (بازل) for Basil in Basrah, and was told that the Jews, but not the Moslems, ate the leaves.

"KUNDI may be $\epsilon\tau\alpha\omega$ (Brock. 327), *planta quaeadam*.

"HURNÛ, a reed-like plant (L. III), uncertain.

Origanum vulgare, Lebanon, Sinai (Post, 617): used in India for colic, diarrhoea, hysteria, menses, teeth, rheumatism, hair; oil, earache: infusion, EXT., fomentation (IMP. II, 1027). The use of "urnû" is certainly very close to this. *O. Maru*, L. (perhaps "hyssop" of O.T., Post, 617) is common in Palestine, the aromatic powder from the leaves, etc, is used as a condiment. $\epsilon\sigma\iota\varsigma$, the old Syr., reappears in the Ar.-Indian vernacular, murwo for *O. marjorana*, L. (IMP. II 1026). Is this "urnû" by a metathesis? Pliny (NH XX, 52) prescribes *M. sativa*, L., for 41 diseases, etc. *M. silvestris*, L., for rupture, convulsions, gripings; locally, lumbago, gout: juice, ears, and sores: to wash head. P. 769, menthol, antiseptic, carminative, local anaesthetic: EXT., headache, toothache, rheumatism, etc.

○

§ 10, M, U. 112-115. "KAMUNU (G) CUMMIN, *Cuminum Cyminum*, L.
"ZIBÛ, (2A) *Nigella*.

"KAMUNU ("TIN. TIR. ŠAR, CT XI, 45, 3a: "TIN. TIR. UD. ŠAR

"White TINTIR" as distinct from "black", "ZIBÛ, PL 41, 3):

(a) Simply (Š) EXT, feet (75, 1, 18), anoint, insects (KAR 203, IV, 20).

(b) Seed. (1), bind eyes (75, 1, 8). "Kamun šadî (drink alone, liver, Scheil RA, 1916, 38, 21). Long ident. with $\kappa\iota\sigma\alpha\varsigma$, Cummin, *Cuminum Cyminum*, L. (Kü. 83).

50 88 10, M, U. 112-118; N, U. 116-129.

In SM. frequent EXT. (insects, 69). Stimulating, carminative. (OMP No 134). Sanscrit authors recommend it for scorpion-stings (IMPI, 634)

"ZIBŪ ("TIN.TIR.MI.ŠAR "black TIN.TIR," PL. 41,4). Simply, always: EXT., ears (36, 1, 13, 14, 15): mouth (26, 6, 12): mouth, or tooth (36, 2, 3): eyes (8, 5, 4: 17, 4, 4: 19, 6, 15(?)): prob. hair (4, 1, 26): anoint (52, 3, 10: 52, 5, 13: KAH 203, 48). INT., drink (16, 4, 4: 36, 2, 13: 60, 1, 8: 64, 1, 35), stomach (Kü II, II, 17, 27). Fumigate (99, 3, 17) with 10 shekels. It is the "BLACK CUMMIN", i.e., *Nigella* (rightly Kü 85). *N. sativa*, L., "Fennel Flower", "Fitches", has black acid seeds used in medicine (FTP 13). *M. arvensis*, L., at Aintab; and in N. Assyria (BFO, I, 67).

"ZIBIBANU, U. 81, 84; is this 𐎗𐎠𐎢𐎵 or $\text{𐎗𐎠𐎢𐎵} = \text{𐎗𐎠𐎢𐎵}$ (Löw, 366). [L] ūš ša kimā HI.ŠAR, 889: "beans-like HI.ŠAR" is, however, against this.

Kamunu of 86, L. 43 is distinct from kamun 'bini (L. 15). In Harper, Letters, No. 367, 8 a writer says that kamunû has appeared in the court of Ê-Ani of the Temple of Nabû, and katarru on a wall. Cf Gwynn, PSBA 1914, 248, 93 "if in the house of a man in a pot of tâtati (vinegar) kamunu appears." Obviously it is a kind of lichen. Cf AM 85, I, VI, 11 ka-mun 'bi...



10, N, U. 116-129. "HA (30), "ŠIMRU (1), "ŠAMRA(N)NU (17), "PI.PI (3), *Foeniculum officinale*, All., FENNEL.

I. "HA (a) Simply (15) EXT. wash (head, 6, 5, 5: 49, 1, ii 8): bind (79, 1, 24): on neck (28, 7, 5): apply "HA... eyes (13, 4, 2). Fumigate ears (33, 1, 35). INT., drink (stomach) (48, 4, r. 10). Uncertain (guraštu 17, 1, iii, 1) (hiništi, 89, 4, 8). Quantity (? 3 ŠE, 13, 4, 2). (b) SEED (5), EXT. wash (head, 4, 2, 3): for head (64, 1, 19). Fumigate (?) (99, 3, r. 10). (c) ROOT (5) EXT., anoint (for ghost, 93, 1, 5: 97, 4, 12). Fumigate (91, 1, 8). INT. (dyspnea, 59, 1, 38). Cf III "HA, drink (urinary, 66, 7, 14).

2. "ŠIMRU (1) ("šim-ri, 85, 1, 9, not easily intelligible).

3. "ŠAMRA(N)NU (a) Simply (1) EXT., bind (52, 5, 15: 98, 1, 1)

apply feet (69, 2, 8): eye (?) (75, 1, iv 10): INT. (89, 1, 7). (b) SEED (2) EXT.

○ I owe this reference to a former pupil, Mr. McKnight, at Chicago.

feet (79, iii, 2). INT, drink (hand of ghost, 76, i, 25). (c)

Juice (3) EXT. (83, i, 26), apply feet (74, i, iii 12).

(4). "Pl. Pl (a) simply (-), for an apparently drown-
ed man (87, 6, 5): described as a drug ŠA.ŠA.HI (KAR
203, vii 33). (b) Juice (1) (5, 5, 13).

It is regarded as an aromatic (ⁱŠA = šamrû, M. 213, 2, 17).
Langdon rightly ¹compared ²Š 70 V Anethum Foeni-
culum, L. (Lew 382) "fennel", (from ^Tš 70 V "made to
flow", from the tear-like drops, cf. Pliny NH xv, 95) ²
This plant is common in the Mediterranean region (BMP
No 123). The problem is to distinguish between
šimru, šamru, and šamranu. Šimru and
šamranu are probably the same, or nearly, since
"HA is equiv. to both. Note, however, that the juice
of šamranu only is quoted, as against the root
of "HA only, but cf. 810 N, ll. 125, 126, which quote
"root of šamranu." If, however, we must find
some other umbellifer similar to fennel (in order
to maintain a distinction) there are anise, dill,
and caraway (cf. BMP. no. 123). But as dill is already
šibittun šAR. (š 70 V, MB 18, Meissner ZA VI, 293)
and caraway scarce in Asia Minor (BMP No 121),
the choice would fall on anise, Pimpinella anisum,
L., (in Theophrastus, FH 276). But really the only reason
for doubting that šimru = šamranu is that the
writers in AM should have troubled to write "šam-
ra-a-nu out in full. Šimranu (l. 89 "like
šimru") is prob. the -anu product of šimru.

Is "parê (as "šimru of the mountains") Pliny's
wild variety of fennel, "hippomarathon, perhaps
F. piperitum, D.C. (Post, 356). Perhaps it is "Pl.
Pl-nu ša šadi (see further). Pliny (NH xv, 95) says
that fennel-juice is applied as ointment, the seed
used for fevers, etc., and in wine for stings: the juice
for worms in ears: the root for convulsions, etc. Cf. Diosc. II, 74.

① PBE XXXI 72. ② Not "bristle up" ²š 70 V (Haupt, JH.C, 103, 89).

P. 540 "stimulant, aromatic, carminative," similar to anise; antispasmodic in intestinal colic of children.

"PI.PI is interesting but difficult. It occurs in compounds: "PI.PI-NU ša šadī (§ 9 BB, L. 410), "PI.PI.NU.NU (§ 9 AG, L. 257; 9 AV, L. 381), "PI.PI.PI.TAK (ib., L. 382), "PI.PI.ŠAL.LA, "UR(UR).PI.PI, and "AŠ.PI.PI.

Simple "PI.PI = šimru "fennel" (§ 9 N, U. 116, 117), Kanaktu *"opopanax" (§ 17, K. 4169, 14). ("ZAL.LU e-riš-ti, i.e. "fat of smell", i.e. of some kind, = "PI...., PL. 41, K. 8829, 7, as well as aššultu "opium", L. 3, see § 6: are we to restore "PI.PI?). "PI.PI = "a drug for ašī" (pain, PL. 29, K. 4560, 23) ①

Fennel and the opopanax-plant are umbellifers with a strong disagreeable smell (VK, 291, 585): opium and poppy are equally disagreeable (which perhaps explains "ZAL.LU e-riš-ti). The use of "PI.PI in AM to revive the drowned indicates a drug with a strong and pungent smell, in other words "PI.PI = "the drug with the pungent smell", PI.PI here being connected with PI = uzru "intelligence, brain". Hence in Akkad it is "ša-mi hu-hi^{pl} (i.e., ~~šamru~~ suspirium).

With this idea (recalling the φU of Diosc.) we can discuss its compounds. "PI.PI-NU ša šadī may be šamranu ša šadī (i.e., "paré, above, a fennel). "PI.PI.NU.NU and "PI.PI.PI.TAK are henbane (§ 9 AV), also a plant with a strong disagreeable smell. "PI.PI.ŠAL.LA (uteri odor?) = arantu, which has qualities similar to the fennel and the lardu (nard) (§ 10, c). "UR.PI.PI (γ) =

① Meissner (SAI 3963) has slipped in giving urnu(?) as an equivalent for "PI.PI of PL. 19, 5a. My copy gives šimru plainly.

u-[zu]-un lalé = uznanâtum^① = uznanu = šepa eriš-
ti, i.e., all perhaps indicating the -anu product
of "PI.PI, as a pungent-smelling plant (the last epi-
thet = "feet-smell" or "perfume for feet"). (a)
Simply, (4) tied on neck for venous disease
(PL. 23, K. 9283, 18): used for eyes (8, 7, 2): drink (75, 1,
IV, 13): (b) SEED, (i) Gird on feet (76, i, iii 9): (c) JUICE
(i) for swelling (74, 1, 19): (d) ROOT, feet (76, 1, iii 4).

"Aš.PI.PI, probably the (foetid) *Cynoglossum of-
ficinale*, discussed in § 10, W.

"PI.PI is thus presumably a strong-smelling drug,
having effect on the brain, twice used for um-
bellifers, and used in compounds. That it may
at times be distinct from šimtu is shown
perhaps by AM 3, 5, 5, where "PI.PI in one pres-
cription is paralleled by "HA in another,
not dissimilar, following closely.

○

§ 10, N, 2. "EL(31) } CRATAEGUS AZAROLUS, L.(?)
tak, u. ARZALLU } or other species of Hawthorn(?)

There is a doubt about the equivalence
"EL = "arzallu, a comparison suggested by Meiss-
ner (SAI 8547) from Pl. 15, 25 (tak EL = ar-zal-lu).
"EL and ..arzal-la occur in the same pres-
cription, 59, 1, 37 and 39, while in L. 33 (another
prescription) "ar-zal-lum is spelt out. It
is, however, possible that ..ar-zal-la should
be restored [tak]arzalla, the stone as distinct
from "EL, the plant, here, or that there is an
accidental duplication (cf. KA.A.AB.BA in the
same prescription as KA tam-tim, 98, 3, 9 and 10).
The identification is very attractive.

① See also § 9CL, note.

Use in AM. (a) Simply, "EL (19), EXT., apply neck (14, 8, 5), temples (14, 2, 6): anoint swelling (with cannabis, 73, 1, ii 8): for eyes (75, 1 IV 10). INT., 48, 2, 5: 48, 4, r. 10: 59, 1, 37: 87, 5, 11(?): 89, 1, 2). Uncertain use, venereal (?), 32, 1, 12.

"AT-zal-lu (3) EXT., anoint (93, 3, ii, 10(?)), temples (97, 4, 23). INT., drink (57, 1, 33: 75, 1, 26).

(b) tak ar-zal-lun. (la) (3): for mišbi (77, 5, 16). (c) Leaf of "EL (5, 2, 2, with *bellis for head): alone, stomach, drink (Kü ii, ii, 19): chew green "šb alone (ib., i, ii, 8). (cf. "ella, Index).

(d) seed of "EL (5, EXT., feet (74, 1, 36 and iii, 8): eye (?) (75, 1 IV 5, 6): blind (49, 2 r. 5). INT., drink (after drinking beer, etc., Kü ii, iii, 49).

(e) Juice of "EL (2?) [tooth, 28, 1, 8?]: mouth (24, 5, 8).

špō-u. EL. KUR. RA "mountain "EL-tree" occurs in Guča A, VIII, 10 (ISA 145) with LI (= burāšu), as one of the woods for burning ceremonially. It is not, as far as I know, used in building.

We may see in it a "white" plant (= EL = ellu) sometimes growing in mountains, useless for building, pleasant to burn, arzallu with a stone, "el with leaf, seed, and juice, all used in AM both EXT., and INT., so that it is probably non-poisonous. The nearest Semitic equit. which I can suggest is 𐤀𐤍𐤌 Crataegus Azarolus, L. This seems to reappear in the AT. 𐤀𐤍𐤌 which has the value of both Hawthorn and medlar. But this latter is so obviously similar in sound to šalluru that I have identified the latter with it as the medlar (9, 38): but 𐤀𐤍𐤌 cannot be so identified. Are we to consider 𐤀𐤍𐤌 as a kind of doublet from arzallu and šalluru, owing to a confusion?

The 𐤀𐤍𐤌 is described as the fruit of a

* Nearz still is NH 𐤀𐤍𐤌 = Hammock (?)

§§ 10, N, 2; N, 3; N, 4: N, 5: 10, 0. 55.

well-known tree, of two species, red and yellow, with a hard stone, resembling the نبق, now applied to the medlar (Lane, s.v.). BFO ii, 662 gives sarrou, Crataegus Sinaica, Boiss., or C. Azarolus, L., in Mesop. (see Löw, 229). The 195j, which I saw in Mesop., was certainly not the medlar: it had fruit about the size of cherries which ripened in winter and were edible. C. Azarolus grows in the hills in E. Anatolia, Mt. Argaeus, Mesop., Orfa, and Diarbekr (BFO, ii 662).

If arzallu = 195j, the infixed g is paralleled by azupiranu = زعفران. A comparison with 573 ~~of~~ hozel-nut is far less likely. The flowers of the hawthorn are sweet and used in infusions (GM 166).

§ 10, N, 3 "DADARU.

Perhaps connected with da(d)daru "stench" (MA 242). Cf "PI.PI, § 10, N. = OT. dārdār (Bastar).

§ 10, N, 4. "LAPAT ARMANNI (2)

Fumigate (99, 3, 11). See Laptu, Index.

§ 10, N, 5. "GI.GIL ARKU

Since the Anemone (one of the Ranunculaceae) is given in the next section, ^{but one} § 10, P, it may be reasonable to see in this "yellow (blossom)" the Ranunculus "Buttercup". For possible species see § 10, D, n. e.

§ 10, 0 "MULU.GIŠGAL.LU (1)
= "A-KU(?) - šī(?) "A bunch of "MULU.GIŠGAL.LU" (104, 1, 32).

56 810 P, U. 120-135

"NUŠABU (16), "ÂR KASPI (3), "ZIM KASPI (1),
"ÂR HURASI (1); "ILURU SÂMU (1), ANEMONE.

"NUŠABU: simply, passim: INT., drink, prob. all these cases, kinikti (16, 1, 12: 60, 1, 6, 7, 9, 13: 89, 4, 4, 11); dyspnoea (59, 1, 33, 37): kinikti KU. GIG. (40, 5, 18). Locally, apply tooth. (KA. DIB. BI. DA, 23, 2, 8, 9: 78, 1, 20, 21).

"ÂR KASPI, 34, 3, 11: Juice, (1) (Âr a-a-ar kaspi ša "nu-ša-tu MU.NI "juice of the Âr kaspi whereof the name is nu-ša-tu") drink for dyspnoea (59, 1, 32).

[ZIM KASPI (1), drink (39, 9, 2).

"ÂR HURASI (1) (87, 5, r. 10, VR 17, 2, 3 gives its equivalent as nu-ša-ti.

"ILURU SÂMU (1) for head (1, 2, 4): notice "el-lu-ra (with others) to be put in kurumu-beer and drunk by a woman, and nah-šatu ipparisa "the menstruation shall be stayed" (KA 194, obv. 28, cf 30 also to be drunk alone for the same trouble). "EL-luru, anoint in oil (ib. 204, 20).

IDENTIFICATION. The clue lies in the three colours of its blooms, red, white, and dark (purple) and in the names "zim kaspi "silver sheen", and "âr kaspi "silver brilliance. It is the Anemone.

"The flower which first strikes the eye in travelling through Palestine is the Anemone coronaria"

(FTP 2). Cf this description of Anemones (PC II, 11) "White or purple, or scarlet, or even yellow blossoms... As the

species generally grow on open plains or in high exposed situations, their feathery grains produce a singular shining appearance when waved by the breeze". The *A. coronaria*, L., is a native of the Levant (VK. 573): I have often seen broad scarlet patches of anemones near Mosul. The Ar. is شقيق النعمان (the Ar. for *Ranunculus Asiaticus* being شقيق النعمان الخشت) Herz. II, 35, Kalak Shergat.

The different Assyrian words mean SCARLET FLOWER (U. ¹³², 134, 142), WHITE FLOWER (133, 143), BLUE BLOOM (145, 146). "SILVER SHEEN" ^① (136? 137) and "SILVER ^② BRILLIANCE" (141, 147) refer to the "singular shining appearance", the "waving in the breeze", which must be seen in "ratuttu (U. 132, 133) and "artitu (L. 134, 135), for which cf. Syr. [ⓐ] and [ⓑ] = "trembling". "Bit-... [ⓐ] may conceal a parallel to [ⓐ] (anemone). "Nusabu [ⓐ] "plant"? Pl. 35, K. 11424, contains many of these names.

P. 972 gives *Anemone Pulsatilla*, L., for dysmenorrhoea, orchitis, epididymitis (as well as *A. pratensis*, L.). The French prescr. (16) gives "Bruised fresh flowers and leaves of *Pulsatilla*, 1: Alcohol (95 p.c.) by weight, 1". Cf. Fernie, HS, 22 ff. Gerarde (306) says the Anemone is used for eyes, ulcers, menses, etc. (cf. Diosc., II, ¹⁷⁶ ccvii). The extreme acrid properties (PC II, 11: GM 15) explain its use for toothache in AM.



① A-a-ar, hardly aru "juice" but probably [ⓐ] [ⓑ], ② Zimu, the same as Ziv, the month corresponding to Iyyar

58. § 10, Q, U. 148-162.

§ 10, Q, U. 148-162. "ELLIPU(ELLIBU)(O), "ERIMU(O),
"MASMAS(O).

Very difficult. "G. G. I., thrice (U. 153-155) points to it being a plant with a distinctive flower. L. 158 amplifies this with "GREEN(YELLOW) FLOWER" L. 152 "FLOWER OF THE WOOD": and L. 156 "FLOWER OF THE WOOD WHEREOF THE FRUIT IS RED." "Aiab akalip", L. 148, "ENEMY OF FOOD, (BREAD) (also L. 158) appears to suggest an emetic or poison: "aiba SA (= šur'ani) "ENEMY OF MUSCLE" (?), L. 161, may refer to cramp or paralysis caused by poison (cf its use in Foppy, § 2, note). What "šamu tarbû means I cannot say ("DRUG for INCREASE(?), SWELLING(?)"). "Ellipu appears to be distinct from "erimu (cf U. 152, 156).

We have to find two plants closely allied, each with a prominent flower, growing in woods, probably with a green(yellow) flower in both cases, and one with a red "fruit" (poisonous or emetic): never in AM, although in KAH, No. 186, III, 8, with narcotics. The following possibilities may be ignored: - (1) Such of the Solanaceae as have red berries, e.g., *S. Dulcamara*, L. (part of flower yellow), frequent in folk-medicine (FH 450. BMF No. 190: U. # 1, 179); *S. nigrum*, β , the "Red Nightshade", yellow anther in white corolla: *Physalis alkekengi*, L. (whitish flowers), diuretic, sometimes eaten (GM. 348, cf. *halicacabum*, scarlet berries, Pliny NH, XXI, 105). They were probably all included in "Karan šelibi, § 10, Q, 2, and are too frequently employed in medicine to coincide.

(2) *Tamus communis*, L., Black Bryony, small green flowers, scarlet berries: applied to bruises, emetic (MSP, 162; common in Palestine Post 778; used for rheumatism, Sowerby, Engl. Botany, 171),

or *Bryonia dioica*, Jq., Bryony (yellow-green flowers, scarlet berries, root poisonous (HPP, ib. 83: *B. multiflora*, Boiss., and *B. Syriaca*, Boiss. are Near Eastern representatives, BFO II, 761: Post, 325). Omit, as the flowers are not distinctive enough.

(3) *Iris pseudacorus*, L., although a striking yellow flower, does not coincide satisfactorily in the berries, and, besides, it grows in water. *Iris foetidissima*, L., which grows in woody places and has red berries, is not in Post. Moreover, if it were a question of Irises, the section would hardly have omitted the common little desert Iris.

(4) The least unsatisfactory comparison appears to be the Assyrian equivalents of *Arum maculatum*, L., with its definite green spadix and red berries, poisonous, causing cramps. Not in BFO, V 39 for Syria or Mesop, or in Post: but other *Arums* occur, *A. Dioscoridis*, S. et Sm., Syria, common:

A. detruncatum, G.A.M., Kurdistan, Palestine:

A. Palaestinum, Boiss.: *A. orientale*, M.B., etc.

(BFO V, 35 ff: Post, 817, ff). The Ar. is *lûf* (Post), = *لوف*, *A. maculatum* or *A. Orientale* (Löw, 240), conceivably *ellipû* by metathesis of the middle consonant.

^u*maškadi* (l. 148) may be either a drug for healing ulcers: Culpeper (81) says, of *A. maculatum*, that the green leaves laid on any boil or plague-sore draw forth the poison. ①

① Unsatisfactory Semitic comparisons are: *علق* fruit of the *عق* Acacia, like the carob, with seeds of a tawny colour (Lane 2132); *علس* *Rhamnus nabeca*, in Arabia (Forsk. EF, CVI).

810, Q 2.

"KARAN ŠELIBI (48), Solanum, "FOX-GRAPE."

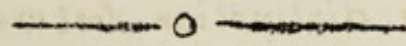
It is best to continue the Solanaceae here, since they were suggested for ellipu in the preceding section. "Karan šelibi has, unfortunately, hardly survived in the Plant-lists.

Its use in AM. (a) Simply, (26): EXT., anoint (7, 4, 19: 97, 4, 22: cf. KAH 203, IV, 11): for eyes (12, 6, 4), feet, (69, 2, 8): anus (53, 9, 10): alone anoint as a drug for TU.MEŠ (KAH 203, IV, 51). INT., drink (alone, for eyes full of jaundice, Kü. III, IV, 23), for stomach-ache (ib. II, 1, 2), for scorpion-sting (alone, PL. 23, K. 9283, 14), for hand of ghost (76, 1, 13, 18), dyspnoea (59, 1, 31, alone: 37, one of about 40 drugs), for difficult labour (57, 1, IV, 6) (alone, ib. 14): chew (83, 1, 13). Uncertain, ħinikti (60, 1, 6): kablitu (60, 1, 24): stomach (39, 1, 2). Enema (94, 2, 6). Doubtless by catheter (when inside of penis hurts, etc., fill inside of penis, alone, 62, 1, ii, 11)
 (b) SEED (3): drink 3 ŠE (for neuralgia? 90, 1, 21): for dyspnoea (drink? 59, 1, 43). Bind (7, 4, 16).
 (c) JUICE (4): anoint tongue (23, 10, 4): drink (48, 3, 2).
 (d) WATER (1): apply eyes (11, 2, 28).
 (e) LEAF (1): eyes (15, 5, 6).
 (f) Uncertain part: drink (48, 3, 3: 58, 2, 5 (KU. 919): 66, 7, 11 (urinary).

The above show that "Karan šelibi was not considered too deadly to be prescribed internally, that it was an analgesic used alone (seed, juice, etc). It was long ago identified with ~~fox-grape~~ "fox-grape" (M. 13, 2, 32), which is well known. It appears to represent some of the Solanaceae:

(1) *S. Dulcamara*, L., still called 'Inab-es-Sâlîb "fox-grape" in India, the dried fruit coming from Persia, used as diuretic, for syphilis, for rheumatism (IMP II 842). Common in Alpine regions of Palestine (Post 567: see FH 450: BMP. No 190:

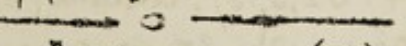
WP 179). The dried young branches are "not official" P.480. (2) *S. nigrum*, L. (equiv. of ~~𐤍𐤊𐤁~~ ^{𐤍𐤊𐤁}, Löw 296) used in India for fever, diarrhoea, eyes, etc. (IMP. 190). Called, with *S. villosum*, Lam., in âb ed-dîb "wolf-grape" (Von Opp., ii 381: both common in Palestine, Post 567). Cf. an unofficial analgesic from *S. nigrum*, *S. dulcamara*, and *S. tuberosum* (P.480). (3) *Physalis Alkekengi*, L., also included (Löw 296), Kurd Dagh, etc. (Post 568). Doubtless *Withania somnifera*, L. (Jordan Valley, etc., Post 568) should not be forgotten. The fact that these three are possible under "Karan šolibi" precludes "~~𐤍𐤊𐤁~~" from this category. Why it should be "NAR, NAR, § 9K" is difficult to say.



§ 10Q3, see p. 265 ("Aš = edu). § 10R, see pp. 267. ("supalu). § 10 R, l. 168 ff. "šami uknâti "šami uknâti looks like a dye: cf. (with HWB 58, which points out uknâtura as a dye) CT XVIII, 17, K. 4211, 5:

. . . . . | uk-na-a-tum	in-zu-ri- . . .
|	ar-ga-ma-nu
|	" ar-ku

Jensen (quoted Brock, 326) saw uknu in ~~𐤍𐤊𐤁~~ cyaneus; ~~𐤍𐤊𐤁~~ is its equivalent, with ~~𐤍𐤊𐤁~~ = *Isatis tinctoria*, L. "Wood". For ["ra]padi cf. § 9AG, l. 273 "šamirapadi = "kasi širi. Cf. AM 8, 1, 23.



§ 10S, U. 171-173. § 13BUURATU (13), § 13ŠU.ŠAR (0) Que. "šibburratu in AM: EXT., anus (? 24, 206). INT, for foul breath (26, 6, 9): drink for dyspnoea (57, 1, 39). Quantity, 10 shekels (42, 2, 6: 57, 7 ii 7). It must be ~~𐤍𐤊𐤁~~ *Peganum harmala*, L., "tuē". Used for stomach, urinary trouble, shortness of breath, sores (Pliny, NH

62 § 10, 5, ll. 171-173: T, 174: U, ll. 175-185: V, 186-197.

XX, 51): Hippocrates (quoted VK § 28) prescribes it as diuretic. Oil of rue is antispasmodic, stimulant, rubefacient, and used as enema for colic in children (P. 1029). In India the seeds of *P. Harmala* are used against retention of urine (IMP. I, 244) (For additional notes see p. 270).

Biššu ŠAR rightly identified with ~~𐎠𐎢𐎽𐎢~~ "rue" by Meissner (ZA VI, 294). A form ~~𐎠𐎢𐎽𐎢~~ exists (Gwynn PSBA 1914, 243).

§ 10 T, L. 174.

𐎠𐎢𐎽𐎢
"KAMUNU

It is curious to find this solitary instance of "KAMUNU" here, but it is in this sequence in § 6, l. 41. See § 10 M.

§ 10 U, ll. 175-185.

𐎠𐎢𐎽𐎢
"ANAMERU (1) RUE(?)

Seed used, cataplasma (15, 3, 5). Is it ~~𐎠𐎢𐎽𐎢~~ "rue"? Post (197, 199) makes the distinction between *Ruta Chalepensis*, L., mod. Ar "sendeb, sadhāt, kharmall", and *Peganum harmala*, L. "ghalqat-ed-dib, kharjil, haremlân, kharmall", which certainly lends colour to the possibility of a distinction between šiburratu and anameru. From p. 271 the latter would then be *Ruta graveolens*.

§ 10 V, ll. 186-197.

𐎠𐎢𐎽𐎢
"HAR. HAR. "HALDAPPĀNU (together 96), "HALLULAIA (1) Sinapis, MUSTARD.

(a) In AM always simply: "HAR. HAR. POSSIM, "HAR. HAR. (91, 4, 8): "hal-dap-pa-(a)-na (5). EXT., eyes (19, 6, 8: 96, 1, 12): swelling (73, 1, 19): cough (50, 3, 3): feet (69, 2, 8): ears (on wool, 33, 1, 24): alone (75, 1, 30): bind (27, 6, 4: 52, 3, 18): anoint (88, 2, 10: KAR. 203, 54). INT., drink (60, 1, 7: 83, 14, 18): 85, 1, 3: 87, 3, 13: 89, 1, 6: 93, 2, 12: 97, 6, 3): ears singing (35, 1, 8: 97, 2, 7): hand of ghost (76, 1, 12, 18, 20, 24, 27), stomach (42, 5, 5, 6: 76, 1, 16) jaundice (alone, Kü III, III, 22). Very noticeable is Kü I, II, 1-2 "when a man's inside eats him", it is to be drunk in beer with salt, or alone in beer or water (i.e. as emetic). Eat, (39, 1, 9: 83, 14, 14). Enema

(43, 6, 5). Used (saliva, 31, 4, 17); mouth-wash (23, 2, 7: 54, 1, r. 5: 78, 1, 12, 15, 19, 23). Urinary (66, 7, 14). dyspnoea (59, 1, 35), haemorrhoids (KU. GIG, 58, 2, 9). It can be paṣāti "pounded" (43, 1 II 2). Quantities, 2 shekels (1, 1, IV, 3), 1 shekel (85, 1, 5), 2 gur (12, 10, 3). (b) [ROOT, for toothache, CT. XIV, 23, K. 253, 13: KAR, 202, 12: and ŠĀ.MI (PL. 48, Rm. 328, IV, 11)]. (c) 7 KU (seven [measures?] of powder) bind, lungs (49, 6, 7, 2). (d) "HALLULAIJA (1)" (21, 7, 6): toothache, PL. 33, K. 259) ①

Important is its inclusion in the four plants used for staining hands (doubtless like the modern Arabs, yellow, two of the others being saffron and turmeric, PL. 48, Rm. 328, VI, 3).

Identification: a common yellow drug, sometimes powdered, drunk alone in water as an emetic, used as plaister for chest complaints, and for feet: with action on saliva, and the root used for toothache.

Obviously, Mustard, probably *Sinapis arvensis*, L. (y, S. Mesopotamica, BFO I, 395) ② I have constantly seen mustard growing in the cornfields round Mosul.

Used for Šitūniā of eyes (Diosc. II, 183): root for toothache (Culpeper, 221): mustard chewed relieves toothache, (Gérarde). Stimulant, sialagogue: EXT., rubefacient in bronchitis: emetic in water (P. 1079). Seeds of *Brassica nigra* swallowed whole act as laxative (IMP, I, 93). In India mustard is used in apoplexy, convulsions, poultice to feet, insanity, dropsy, cholera, coughs, and toothache (WBM I § 263).

"HAR. HAR: cf. Br. 8587, HAR. HAR = tēnu "grind", doubtless with reference to mustard powder: cf. even Forsk. EF 119, $\frac{\text{H}}{\text{L}}$ = *Sinapis harra*. "ḥasisānu, uncommon, doubtless ḥhasāsu, from its power of making itself felt; possibly as the -anu product of ① K. L. 96, "HAR. HAR = "karn šelibi, probably a mistake: cf. the prescriptions here with § 10 Q 2. ② Post (76) gives *S. juncea*, L.: *S. arvensis*, L., var. *genuina*, var. *Mesopotamica*, Boiss., var. *Orientalis*, Boiss., *S. alba*, L.

84. § 10, V, U, 186-197.

**hasisu* (with which cf. حشيش (grass, hardly, cannabis at this period, see Lane, 573)). Maglû V, 36 refers it punningly to *hasašu*, doubtless حشيش "make small", kima "HAR. HAR. ŠAR li-*has-šu-ši* "like mustard may her-sorcery grind her small." (cf. L. 177 "TUR. RA "the small"; cf. Matth. XIII, 31).

"*Haldappānu*, the -anu product of **haldappu*, may perhaps be حشيش, on the grounds that (a) *l* and *n* are frequently interchanged: (b) **haldappu* = perhaps an original (or derived) **habdalu* = **hardalu* (cf. 722 = ardu)^①. Conceivably λαψαυα, λαμψαυα (Löw, 178) "mustard" is a mutilation of this, or of "*halamesu* below.

"*Hallulain*. (see PL. 23, K. 259, 5) possibly *hal dibbaia*, ba being possible from a re-ex. of § 9 V, L. 178.

"*Halamesu* (v. "*halamesu*, § 9 AH, 268, 275, 10 and PL. 43, K. 4419, II, 11) = GIŠ.MEŠ.KI.IN.DAR(?) (Meissner, 713, 2, VI, 20), probably akin to GIŠ.ŠAḂ.KI.IN.DAR = *kankadu* (ib. 21)?

For "*uktimu* (?), "*kuzuru*, "*kušru*, "*rutub*-*rutub* or "*kizbat* I can suggest nothing. KU.KAK must be the powder.

Supur ameluti "men's nails" is clear. "HAR. HAR" is, as I mentioned above, one of the yellow drugs for staining hands (see Olivier, Travels, IV, 328: cf. ὀνύχιος of the crocus, Löw, 215).

"A-a-ar sanapu "sheen of sanapu" (whatever this may mean) comes very near σίανη^②. Theophrastus mentions mustard as ἄνυ, Diosc. as ἄνυ or σίανη (FH 61). Benfey (Hehn, Kulturpf., 206) conjectures the word σίανη to have been originally Sanskrit, but altered by Persians and Greeks. "A-a-ar takul I cannot explain.

Note Maglû V 4, ašapparakkima "HAR. HAR u šamaššammi "I will send thee mustard and

① Cf. ~~σάνη~~, Löw, 178. ② Hardly ~~šubbat šubbat~~, Pers ~~سبب~~, Löw, 178. HAR. HAR = *har haru*, PL. 47, 66.

③ So Slucken (with priority) *Astralmythen*, I, 5

"sesame". The modern mustard-poultice is made of powdered mustard and linseed (P. 1084) and doubtless sesame would have the same effect as linseed. Again, 52, 53, *anaku anaššakimma škukru išlu šadi*. "HAR. HAR ti-²-ut ma-a-ti" It is I who raise against thee the turpentine of fir from the mountains, [and] the mustard, the ti'utu (food, necessary, accessory?) of the land.

Restore "HAR. [HAR ŠAR], MB. 26?"

[The previous identification *Nerium Oleander*, L., was made on account of the superficial resemblance of *haldappānu* to *πόδοδάφνη*. Of the *Nerium odorum* Soland, "hardly different" from *N. Oleander*, IMP (II 801) says "all parts of the plant, especially the root, are recognized by the natives [of India] as poisonous... The Mahomedan physicians describe the root as... only to be used externally; taken internally, it acts as a poison upon men and animals."

○

§ 10 W, ll. 198-207. "LIŠAN KALBI (62) CYNOGLOSSON, more probably ARNOGLOSSON, : "AŠ. PI. PI (6).

(a) "Lišan kalbi, simply, passim: EXT., anoint (97, 4, 22); [swelling] (73, 1, 33). INT., drink (48, 2, 17; 87, 5, 12 (?); 88, 3, 4): drink for speedy accouchement (with ammi, 67, 1, IV, 15; with *karan šelibi* (a *solanum*) and "GAB. LAM, lb. 16; with "IN. NU. UŠ, lb. 17): for stomach (42, 5, 5, 7); dyspnoea (? 59, 1, 15); jaundice (alone, *Kū. III IV, 19*). Quantity, 15 shekels (59, 1, 7). It occurs as "green" twice.

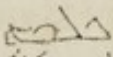
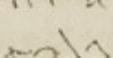
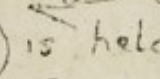
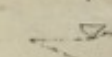

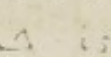
(49, 1, 11; 80, 1, 1). (b) SEED (18) EXT., (7, 4, 15), for eyes (75, 1, IV, 6), feet (74, 1, III 9), lungs (55, 1, 5), female organs (KAR 194, IV, 11); bind on head against *samanu* (I, 2, 10, 14). INT., (59, 1, 7, 40; *Kū. II, III, 27*). Uncertain method, *hinkiti* (89, 4, 8) dyspnoea (? 59, 1, 13; 60, 1, 4, 11), stomach or urine (63, 1, 5). Fumi-gate (91, 1, 8). (c) ROOT (4). KA DIB. BI. DA (78, 1, 21); urine (? 63, 1, 5): drink (*Kū. III, III 23*, alone for jaun-

dice: cf KAR 203, IV, 52). (d) [ŠE.RÙ(1) Kù II, II, 7]

(e) LFAF(1): for cough, boil its leaf kima LU.ÚB.ŠAR "like
*leaves" (see Index), mix with sweet melle and refined
oil. (f) WATER, (1) EXT., (11, 2, 8), INT. for hahi (KAR

203, IV, 38).

The plant is used as an amulet round the neck
for snake- or dog-bites (Scheil, RA 1918, 75). Lišan
Kalbi ŠAR occurs MB 60.

Properly its name indicates "hound's tongue", Cy-
noglosson (*C. officinale*, L.): but there is so much con-
fusion between this and Arnoglosson (*Plantago*
Psyllium, L.) that we may well hesitate about the
exact identification, although long ago its equival-
ence with  was seen (Kü.76).  (Pers. ) is held to be one or the other; in
mod. Ar. both *Cynoglosson* und *Plantago major*,
L., are called lišan el-kalb (Post, 535). 
 is properly *P. major* L., () entirely
different, is lolium, Löw, no. 130). IB, No. 207, explains
lišan el-kalb as either *P. major* or *Lapathum* (sorrel), or
another plant with leaves similar to *P. major*. Löw (243)
says Ascherson heard it used for *P. major* in the small-
er Oasis. Even Diosc. (II, 152) shews this confusion (see
Sprengel's Commentary to this, Vol. II, 465).

In Diosc. (IV, 127) *Cynoglosson* is given as aperient, and
its leaves ext. for baldness: *Arnoglosson* (II, 152) for dog-
bites (in the case of tumours, the root is hung on the neck,
like the Assyrian), for inflammation, ulcers, eyes, ears, etc.,
and int. against consumption, etc., and when cooked
like a vegetable (cf. the Assyrian) against dysentery;
and applied locally to the womb. The seed is drunk
for diarrhoea, the root for fever, or taken for toothache.

Arnoglosson is thus much more close to "lišan
kalbi" than *Cynoglosson*.

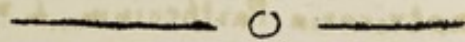
Today, in India the leaves of *P. major* are used

for bruises, the root and leaves as febrifuge, the seeds in dysentery, and in China as diuretic. In Tuscany the leaves are used as an eye-wash (IMP. II 1049). Of *P. ovata*, Forsk. (ib. 1052) the seeds are used in poultices, and a cooling lotion is made for the head from their mucilage. Of *P. Psyllium*, the seeds are used like *P. major*.

Of the other Assyrian equivalents, "šīr (U. 198-199) = "snake-drug". Does l. 200 "dog's flesh, dog's tooth, dog's bone, dog's tongue" (cf. p. 252) convey the idea of the old proverb "a hair of the dog that bit one"?

For § 9 AG, l. 277 ["Aš?] P1. P1, and its equivalence with "lišan kalbi, arnoglosson: PL 66, Rm 203 v. 6, "aštabelānu], § 9 CJ, aštabelu, and their probable equivalence *Cynoglossum officinale*, L., see p. 266 ff. For *kil hakkū* see p. 265 (and also šammu ia Aš). Note that in § 9 AB, l. 236 gives "Aš. P1. [P1?] = "ka-[ru]-bu.

"Aštabelu occurs once in AM, apparently for some venereal disease, with lišan kalbi, etc. (32, 1, 7: see also § 10 CK), which shows that it is not exactly the same as lišan kalbi



§ 10 X, l. 208-213.

"KURBAN EKLI, "KURBAN EKLI (22)
 Anthemis, CHAMOMILE: "DILBAT (43), Anthemis,
 bellis, CHAMOMILE, DAISY.

(1) "KURBAN EKLI, simply, passim. EXP., anus (iii ii, ii, 14): head (3, 5, 9, hair? : 5, 1, 6 : 5, 2, 8 alone): feet (7, 1, iii, 12). With maadrake, in some trouble

in which sleep is concerned) make into an allana (47, 1, 2). For uterus "when much water flows" (KAR 194, IV, 31). INT., drink (Kü III, IV, 12): for dyspnoea (59, 1, 37). Described as a drug ši-ki parasi(si) (Pl. 38, K. 4187, 13) "for stopping bile" ^①. Enema (56, 1 + 7: 94, 2, 9). Uncertain method when šašalli (shoulders) hurt (48, 6 + 6): when sickness breaks out on body (84, 6 ii 10). "Yellow" kurban ekli "apply to anus, when the anus ha-am-ti eppuš "makes a pustule" ^② (KAR 203, VII, 19). Perhaps restore PLS. 36 and 45 (81-2-4, 267 + 472), l. 11 [u kurban] ekli = ša-mi mi-sir lib-bi "drug for binding the stomach". Particularly noticeable is [u kurban?] ekli RI.RI (like "DILBAT RI.RI) 104, 1, 18.

"Kurban ekli "Gift of the Field" is, philologically strikingly like the Gr. kurban (post 434) ^③ "Chamomile".

"Nibi' ekli (v. nipi' ekli, Br. 2028) "shoot of the Field", and "inib ekli "Fruit of the Field" approach $\chi\alpha\mu\omicron\mu\eta\lambda\omicron\nu$ "Apple of the Ground".

The Chamomile (*matricaria Parthenium*, L. = *Chrysanthemum Parthenium*, Bernh., Common Feverfew) grows plentifully round Mosul. I well remember seeing the flowers of some form of chamomile carried past me one day in a basket. F. Jones (Memoirs, 396) quotes them as found in the Baghdad bazars. *Anthemis scariosa*, D.C. (the babunj) and *Chamaemelum praecox*, M.B., are found near Kalat Sherghat (Herz. 012, 32:

① ši-i-ku = šī. 616 (VA. 41c-d, 49) i.e., prob. liver trouble. Ši-ku lu-ku (6, 6, 11): "šir... (u ši-ku RAT ina GA imeri NAK (KAR 203, IV, 37). ② كربان pustule, or similar. ③ Cf. Pers. قربانفون "ox-eye". Other Ar. names are اقصوان : كركنش (Egypt) سجرة الكافور (Mosul) (IB. No 121).

(cf. BFO III, 326). The tops of *Anthemis nobilis*, L., *M. Chamomilla*, L., (wild chamomile), and *M. Parthenium*, L. (Feverfew), appear all to be used as "chamomiles" for stomachic remedies int., and fomentations ext. (see P, p. 167). They are a very old and well-tried remedy, and "Kurban ekli coincides well philologically, and in AM in int. and ext. use. SM follows AM closely in their use; pour on head (II, 38-40), pains in excretory organs (504-508), disease of uterus (374). The composition with mandrake in AM is paralleled by chamomile and poppies in P (158, 169). We must, of course, distinguish the "yellow Kurban ekli" as *Anthemis tinctoria*, L., with yellow rays, as opposed to *A. nobilis*, with white rays.

2. "DILBAT. This has undoubtedly striking claims to be considered similar, although not included in the section. There would be no *prima facie* objection to its being identified with chamomile, even though it does not occur in the Chamomile section. Moreover there are so many plants similar to the chamomile that exact identification is difficult (FH 314). Pliny (NH XXII, 26) speaks of 3 varieties of anthemis, white, yellow, and purple, the leaves, flowers, and roots all being used.

The name "Dilbat "Venus-flower" at once suggests "Daisy" for two reasons. First, the emblem of Dilbat, Ishtar, the planet Venus as represented on the monuments, a star in a ring, would allow us to presume a daisy-like flower. Secondly, the daisy was sacred to Venus; and this old tradition reappears in Christian times. Just as the characteristics of the Great Mother of the pre-Christian East were subsequently absorbed in the Virgin Mary, so was ܡܪܝܢܐ ܕܥܝܢܐ "Mary-tree" the *matricaria* in Andalusia (IB No 121); and "marybud" cannot be far distant.

"Dilbat in AM. (a) Simply (32): EXT., amount (3, 5, 5), bind, (79, 1, 12): apply eyes (8, 1, ^{9, 1, 9} 32: 12, 8, 11), head (5, 2, 2): rub feet (69, 1)
 ① Is ܕܘܪܢܘܪܝܢܐ of Diosc. III, 144 (*anthemis*) ܡܪܝܢܐ ܕܥܝܢܐ "Ishtar + apple" (Löw. 404)?

2,5: 70,7,10): wash (70,3,4: "D. RI.RI, 52,5,8): use for mišitti (77,8,10: 79,1,7): for swelling (100,3,12): INT., drink (48,2,5: 48,4,10, stomach).
 (c) SEED (?) : EXT., bind (70,7,4), eye (73,1 IV,5), apply foot (74,1,36: iii,8): use for mišitti (77,2,4). INT., drink 3 še (90,1,21). (c) JUICE (1), for haemorrhoids (KU.919.58,2,7) (d) [šē]. RÙ ?? (1) (92,6,3).

Its use is apparently distinct from "kurban ekli" the frequent use of the "seeds" being indicative. The prescription of such a small dose as 3 še would almost suggest a fear of poison; but from the very frequency of the use of "DIL.BAT", poison is not to be suspected.

At least seven equivalents are given for it on PLS.32 and 26, K.10466 lately joined to K.14822 (C...GA, ...LUH, ...GA(?)) In Johns, ADD 1042, K: 111714, ³DIL.BAT or "DIL.BAT is mentioned in lists with other drugs, with every indication of practical use (the det. ³ being indicative of fragrance). The Adjective RI.RI, applied to it above, as well as to the chamomile "kurban ekli, means "beaten", "pounded" "crushed".

Exactly with what flower it is to be identified is doubtful. The Milfoil (*Achillea millefolium*, L.) yields a penetrating, essential oil, possessing the peculiar flavour of the plant (VK.556); it has a pungent foliage (Sowerby, English Botany, V 58) and is used for healing wounds. It is found in E. Caucasus, Persia to base of Demavend (BFO III, 255). *Inula Heleniurn*, L., elecampane, another of the Compositae, is another medicine, but its root only is used, which rules it out. Bellis, the Common Daisy, is said in Gerardie (509-512) to have healing effects (eyes, joints, bruises, B. major being used, like "DIL.BAT for ulcers and eyes). Indeed, if we are to consider "chamomile" as an equivalent for "DIL.BAT", we might see in ³DIL.BAT the distilled oil, which has a strong pungent taste. There is no little force in the argument that chamomiles are as common near Mosul as "DIL.BAT is in AM. But it is not easy to distinguish between "kurban ekli and "DIL.BAT, and I suggest that "chamomile" may represent both.

From its obvious similarity in form, as "Sunflower," to the preceding, this is discussed here.

Called 'šāmaš (Gwynn, PSBA, 1914, 243, 32), it is suggestive of some daisy-like bloom^① (cf. the representation of the Sun on necklets on the monuments). It can grow on houses or walls (ib.). In AM it is used (a) simply: EXT., swelling (73, 1, 7, cf. 24): anoint scorpion-sting (91, 1 r. 9): probably used for snake-bite (PL 23, K. 9282, 6): umšati (presumed EXT., 17, 5, 6). In 74, 1, 25 it is prescribed for an affection of the feet as "the "AN.[U]D, of which the eyes (šīp) are turned to the west before the Sun (rises) thou shalt pull up, thus saying, etc. This use of "eyes" is paralleled by "daisy," "ox-eye," and oculus (cf. Diosc. III, 145, where the Parthonium is said to be called by the Romans solis oculus, and by the "Africans" thamakth (= šamaš?)). (b) Juice (l) with licorice, bind (feet not walking = paralysis?, 68, 1 r. 13). (c) [ROOT (l)], PL 23, K. 259, 6, locally for toothache. Is "root" to be restored for its use for the disease bennu, ib. K. 9283, 17, locally applied?]

IDENTIFICATION. A daisy-like plant with a very hot pungent root, with the juice used for paralysis: never drunk: small enough to grow on house-walls. The obvious identification is Pellitory of Spain, Spanish Chamomile, Anacyclus Pyrethrum, DC. It resembles a large daisy: is a native of Algeria, and a favourite remedy in the East. ^{used,} The root is chiefly ^{as} as sialagogue for relief of toothache, and occasionally as tincture (stimulant, rubefacient, FH. 342). Gerarde says (618) that the root is used for agues, palsy, and toothache.

① شمس was given me in Basrah as the name of the Sunflower. ② Post (428) gives the Palestinian representatives as A. radiatus, Loisel, and A. nigelloefolius, Boiss. The former, with yellow rays, still more nearly approaches "Sunflower".

72. § 10, Y, ll. 214-219. ^uKUR.RA, NINŪ ŠAR (100)

** AMMI, or similar Umbellifer.

(a) Simply, passim: "green" (88, 2 r. 8) EXT. Gind (30, 2, 3), breast (26, 3, 3): anoint (7, 4, 19: 19, 2, II, 6: 84, 4, II, 9 96, 4, 3: KAR 203, 43, 44): apply eyes (2, 1, 13: 10, 4, 5: 19, 5, 6, 7, 10: 25, 6, 7), feet (74, 1, III, 3), anus (53, 6, 9) teeth (21, 1, 4: 28, 1, 3): wash head (64, 1, 37). For foul breath (23, 1, 6, 9, 13: 25, 6, II, 11: 26, 6, 4, 6, 7, 12): cleanse mouth (26, 3, 1: 34, 3, 9): for mouth or tooth trouble (78, 1, 18, 19, 25, 30): mouth (36, 2, 3): when mouth spits yellow (31, 6, 7): when illatu comes in speaking (19, 5, 5): for nose (26, 1, 3). Enema (56, 1, 6: 57, 5, r. 4: 94, 2, 10 and II 4): as allan (43, 1, 3, 7: 57, 5, r. 6). Fumigate (78, 10, 2: 93, 1, II: 99, 3, II, 19 and r. 4), ears (33, 1, 34). INT., drink (36, 2, 12: 89, 1, 8), for bite (Kū. III, II, 14: KAR 203, 33, alone): for accouchement (with lišan kalbi, 67, 1, IV, 15), for stomach (48, 1, 9: Kū II, III, 12). Chewed (27, 2, 8). Quantities, 10 shekels (57, 7, II, 6): 5 shekels (57, 5, r. 4: 64, 1, 8): (b) KU. ^uKUR.RA (1 (?) ka 77, 2, 8). (c) [LEAF, for KU. 919 (KAR 203, VII, 9)]. (d) [ROOT, for cough (KAR 203, IV, 30)]. (e) A shrub ^uKUR.RA. DAN (?) GA = amudai exists (II R 44, 52 a).

L. 214 = "a plant of the garden": l. 215 [^u]šami hinti = either ~~šamti~~ (like hamti, § 10 X, note), or from hamātu "burn".

§ 10, L (q.v.) identifies urnû with mint, and ninû with ammi. For the use of ammi see note § 10 L. Ninû, of course, may be another of the allied umbelliferae, of which there are many used as carminatives in medicine. ①

§ 10, Z, ll. 220-221. ^uALAMŪ.

KAR 194, IV, 23 prescribes it EXT., for uterus. § Z shews that it has a fruit; PL. 37, 81-2-4, 269, 3, shews that its root is used. Johns ADD No. 1042, mentions it among other drugs (šašumtu, dil-

① ^uŠU.TAR.KU, stomachic, is an equivalent, KAR 203, VII, 34: PL. 43, S. 60, 14. Cf. AM 30, I, II, 6.

bat, etc. In § 10, c it is given with šamrānu "fennel" and "arantu", all = šamme MA.ZUN, thus doubtless an aromatic plant, and possibly an umbellifer.

○

§ 10 AA, ll 222-233. U.GIR, 'a.šagu(30), THORN, SPINA, especially LYCIUM.

(a). Simply, not common, but there are frequent references to "a fire of ašagi", and once (98, 1, 11) to bi-en-ti 'ašagi "charcoal of ašagi" which indicates a stout shrub.

(b) ŠE.RÙ(6), EXT., vint (92, 4, r. 4 : 98, 3, 10), used for miš-itti (76, 2, 10 : 82, 2, 5), Fumigate (91, 1, 5).

(c) ROOT (9), EXT., anoint (97, 4, 4), bind temples (102, 38) INT, drink, ayspnoea (54, 1, 24 (25?)) : illatu (root?, 31, 4, 22).

(d) 15 še si-ik-ti (1) (31, 4, 9).

(e) KU.KU (1) [bind] on head for samanu (1, 2, 18).

(f) HĪLU "gum", l. 239. Not elsewhere, as far as I know.

(g) [SEED, drink for woman's disease, KAR, 194, IV, 5].

The part-dup. of §§ 10 AA, AB, PL 46, Rm. II 203, gives:

4. U.ERI.TIL.LA	U
U ša-mu U.GIR	U
U kur-ba-si	U i [U.GIR ina šu-ba-ri]
U e-bi-tu	U [» ina ki-na-ki]
U sa-am-tu	U » [ina Ma-luh-ha]
U ku-šab ¹⁰ -ku	U » rab[ū ina ki-na-ki]
[U] kiš-[ša]-tu	U ku-[šab-ku?]
[U] hĪl šimṭate	U hĪl [i U.GIR?]

i U.GIR also = ittitu (Reisner, Hymnen, 114, 15 : M. 13, 2, 27, l. 21). Note AM 67, 1, 24, i U.GIR ša eli pitiketi usi "ašagu which springs up on a wall?" 102, 1, 38 "root of i U.GIR ša eli KI.MAH, ašagu which is on a grave?" 99, 3r. 15, i U.GIR ša ina eli KI.MAH azū "which springs up on a grave?" 88, 2, 8, i U.GIR ša ina tarammi azū, "which springs up on a tarammu?" 1, 2, 18, KU.KU. i U.GIR ša ina pitikli-šu irabū, "KU.KU of ašagu which grows on his wall." It may occur even in a house

○ Clear.

(Gwynn, PSBA, 1914, 242, 26) and so plentiful was it near Susa that Ashurbanipal compared to it the numerous corpses which filled the ground (VR, 3, 40).

IDENTIFICATION: Ittitu (cf. CT. XVIII, 4, VIII-VII, 3, e-ti-it-tum = it-ti-du), long identified with TISS, Rhamnus, Buckthorn. With ašagu Pick rightly compared 𐎶𐎵𐎲 Lycium (Assyr. u. Talm., 32) which IB 1602 also gives as Rhamnus. "Lycium", a thorny plant of Cappadocia and Lycia, has been identified with one of the numerous Berberidæ, (for which see IMP I, 62). ~~BE IV, 239 gives Lycium Europæum, L., found in Anatolia: L. Arabicum, Schweinfurth, Arabia: L. Barbarum, L., Mesopotamia. PC III, 262 quotes "Lycium" as common in Mesopotamia, and also mentions a "buckthorn," seen occasionally. In India a watery extract from the wood or root of several species of Berberis is used for eyes, and as febrifuge. The bark is tonic, antiperiodic, and diaphoretic (B.M.F. No 16)~~

Diosc. (I, 132) prescribes Lycium for ears, ulcered gums, pruritus, menses, dysentery, blood-spitting. IB (No. 1602) prescribes leaves of 𐎶𐎵𐎲 for children's eyes, and the juice EXT. and INT., and its branches in fumigation against venomous beasts. P. 242 prescribes the bark of the root of B. vulgaris, L., as a bitter tonic.

AM adheres fairly closely to this, and hence we may consider i.u.gir = Lycium. But its equivalence with ittitu, Rhamnus, shows that it is not necessarily only Lycium, a warning borne out by some of the words in §9AA.

"IGI is rather 𐎶𐎵𐎲 "thorn" than 𐎶𐎵𐎲 (𐎶𐎵𐎲) Alhagi maurorum, which possibly appears as agi on the Carchemish Tablet (see my chapter in Woolley, Carchemish, II, 139). in CT. XVIII, 3, VIII-VII, 33, e-gu = a-ša-gu.

"DADĀ, cf. §9AB, l. 235, "drug of dadā = ha[ru]bu"
I have tried to shew further that this is the Acacia (§10AB, 2).

"Plant of the Mountains" and "Fruit of the Mountains," may well refer to the Berberis. "GI.GIL" "flower," as an equivalent of "thorn" would seem to mean the thorny rose-bush (cf. ⁱGEŠTIN.GIR.RA = amurdiṅnu "rose" SA# 3413; Jensen KIB VI, I, 516), followed in L. 227 by "amaridu, also = 𐎠𐎢𐎧 "rose" (cf. CT. XVIII, 3, VIII-VII, 34, amaridu = 𐎠𐎢𐎧 (i.e. ašagu).

"SAMTU, " ⁱU.GIR in Egypt", i.e., the Egyptian thorn, = biw Acacia Nilotica (Meissner, OLZ, 1903, 266) ^①. Perhaps "hīl šimlato (= "hīl ⁱU.GIR) = gum arabic, the produce of the Acacia (see next section).

Rm ii 203 (above) rather suggests a doubt whether kur-basi, etc., are ⁱU.GIR or ⁱU.GIR.GIL, since samtu here is the same as the others, and yet on § 9, AA, 233 is ⁱU.GIR. The presumption is that they are all thorns of some kind. "Kurbasi, a thorn in Šubari, is barely possibly καρπύριον, ~~κρόβισι~~, an aromatic wood.

"ABITU, the same in Canaan, in which MA₁₂, sees 𐎠𐎢𐎧, a kind of thorn, but I prefer κρόβισι, the "Egyptian thorn" of Löw, 197 (PS 62). Cf. a-l-u-u = 𐎠𐎢𐎧 (i.e., a-ša-gu), CT. XVIII, 3, VIII-VII, 35. The larger variety, "kušakku = "kiššatu and pirki ša BU occur § 9 AO.?

Since we can find ⁱU.GIR as equal to Lucium, wild rose, and acacia, it is obvious that it may mean any kind of thorn.

○

§ 10 AB, ll. 234-240. "HARUBU, "HARUPU (2); "ERI.TIL.LA (1)
* CERATONIA SILIQUA, L.

Long identified with 𐎠𐎢𐎧, the carob (Meissner, '04, 28: '07, 44) which occurs in Iraq (PG III, 268), where I heard it and the Acacia called 𐎠𐎢𐎧 (Basrah). It demands discussion.

"ERI.TIL.LA (1) "Plant of the City of Life", its equivalent, possibly referring to ^①I heard a name šamut given in Basrah to what was apparently an Acacia. The Acacia is common there.

the City of Eridu, as representing S. Babylonia. *C. siliqua* L., grows, if my recollection serves, more in the hotter southern Mesop. regions, than in Assyria. In AM XI, 5, 4 [4?] RITILIA.

[4SA]-AM DADAA, to be restored thus (and not [A].AM (= ildaticu) as M, 04, 28): = "[Drug of the dadâ-thorn". "AS.FI.[PI?], restoration uncertain. "SAMI 'U.[GIR] "drug of the thorn". "KUR-AB-DU (or TOM?) uncertain. "HIL SIMTATE (𐎶𐎠 aromatic substance, may perhaps be thorn-gum, gum-arabic, or perhaps = šamut, in Basrah, see p. 75, n. ①. Gum-arabic, however, can hardly be called aromatic. ① "Hil simtate is a drug used for a hollow tooth (PC 23, K. 259, 14), and since it is used here in conjunction with myrrh, doubtless it is more as a gum for filling a cavity, like ivy-gum dissolved in vinegar for the same purpose in old medicine (FHS 264).

KU.TU.HU [MEŠ] "doves' dung", as equivalent of "thorn-seed" gives an explanation for the difficult passage in 2 Ki. VI, 25, of the famine in Samaria. Bockart (quoted W. Smith, Smaller Bible Dict., 136) says that the Arabs call a species of cicer "doves' dung" ②; here, however, we have a contemporary explanation, since the sweet fruit of the 𐎶𐎠 is eaten (Lane, I, 716). KU.TU.HU. MEŠ šu i gišimmari šadû UD.DU-ti, i.e., the real doves' dung collected from a palm-tree, is bound on the head for samanu (1, 2, 11, cf. 15).

Of "šarubu" itself there seems to be some little doubt. It doubtless can mean the carob: but 𐎶𐎠, grana Berberis, according to some (Bruck, 124; Ps 138!) must not be forgotten. Moreover it is curious that 𐎶𐎠 is the fruit of the 𐎶𐎠 (cf. šamtu) *Acacia nilotica*, which indicates a confusion between *C. Si-*

① There is a pulp from the carob-pods said to resemble manna (PC VI, 433). ② 1B, No. 538 gives, for

جوز جنم، خرو حبا

liqua and Acacia (Löw, 197) which reappears in قريب = Ceratonia, but قريب & قريب succus acaciae. IB No 66 says that قريب and قريب are of the bin from which acacia gum comes; but the Persian of Steingass' Dictionary, 457, gives kharnūbi nabatī "capers", and kh. hindi "cassia fistularis" ①! I might add that I submitted a specimen of "قريب" from Basrah to Mr H.G. Carter, of the Botanical Survey, Calcutta, and I have his note before me: "The vernacular name belongs to Ceratonia siliqua, but the specimen is probably near an Acacia." There appears, therefore, always to have been some confusion between the two.

[u] Iniv. ⁱU. QIR = "ha-[ru-bu](?) "fruit of the thorn", CT. XVIII, 36, III-IV, 25, ⁱinib U. QIR = a-bu-li-lu (M. 13, 2, 27, 32). In AM ^{ak}harubi "stone of carob" is used EXT. (15, 3, 5): [^{ak}] harubi, EXT. (95, 2 ii 13), and perhaps haru-[b]i (79, 1, 14).

○

§ 10, AB, 2. ^u ⁱU. QIR. QIL, ^uDADANU (15), GUM ARABIC (?)

(a) Simply, (S): EXT. alone (75, 1, 29). For dyspnoea a (prob. drink, 60, 1, 2; perhaps 60, 1, 21). Described as šam ašī (KAR 203, IV, 4). Quantity, 10-bur ⁱU. QIR... (83, 2, 11).

(b) SEED (7): dyspnoea (drink? 59, 1, 13, 43): for illatu in mouth (29, 5, 17). (c) JUICE (?) see 31, 7, II, 12.

(d) KU (powder) with KU of mandrake, drink in beer for dyspnoea (59, 1, 30).

Its chief use is, therefore, with lung-affections.

"Dadā must be the proper name of the plant and "dadanu the -anu product, in which we may perhaps see "gum-arabic". ⁱU. QIR. QIL, literally "thorn + flower" may well be referred to the acacia with its spherical yellow blossoms. Gum arabic, the tasteless, soluble gum from the bark, is used as a de-


① Lane (716) says that the Syrian قريب has a fruit like the Cassia fistula.

78. § 10, AB, 2: AD, ll. 243-250.

mulcent in coughs, and in combination with other medicines to correct their acrimony or suspend them in water (VK.557). Theophrastus (quoted FH 208) says that KOPHI comes from the Egyptian 'Kavθa. Diosc (1,133) says, of the Acacia, that some press a juice from the leaves, but otherwise he does not coincide well with the above. IMP I, 502, says of Acacia ferruginea, DC, (the Indian gum-Arabic) that it is a useful adjunct to other medicines in pulmonary and catarrhal affections.

§ 10 AD, ll. 243-250. GIŠ.NIM, "BALTU (20), Capparis spinosa, L., CAPEA.

(a) Simply, not common; for dyspnoea (59,1,25): mixed in oil (4,6,9). (b) JUICE, (3) EXT., feet (69,7,9): assuages hands and feet (93,3,18). (c) ROOT, EXT., 99,2,2: bind temples (102,1,38). "The Root of the "white baltu", "which when thou uprootest it hath not seen the sun" applied in a pounded state with oil to a broken tooth (PL.23, K.259,10). (d) ŠE.RÙ (nibi'), EXT. bind (92,4,4; 98,3,10); for mišitti (76,2,10). Fumigate (91,1,5). (e) SEED (1) for illalu in mouth (29,5,17).

In 1903 I identified baltu as the Caper (Devils, I,137), Bala, balla, baltu, and amumeštu are synonyms (§ 9 AD and CT.XVIII,3,VIII-VII,31-32); PS 527a gives  = medicamentum quoddam, sc. radix capparis spinosae. The plant grows plentifully at Basrah: Hertzfeld (Otz, Beih. II) also noticed it at Kalah Sherghat. There are two capers, C. sodada, R.Br. (BFO I,420, in S. maritima Persia), quoted in Post as tundûb: and C. spinosa, L. (Post, el-asaf). The latter is a low bush, blooming in summer with a delicate white flower, turning presently to a fleshy, red trefoil, the three carpels of which curl backwards, exposing an offensive-looking, red interior, on which are a few black seeds. Arab children gnaw this red pulp.

§ 10 AD, ll. 243-250 :: 10, AE, ll. 251-254, 79.

Ashurbanipal (VR, 3, 40) filled the ground of Susa with corpses "like the *i baltu* (caper) and *i u.gir* (thorn)" doubtless influenced in his simile by the appearance of the local flora. An omen is drawn from the "white *baltu*" springing up in a field in a city (Boissier, DA, 76, 18).

"*Baltu* = "plant of (female) pudenda" (perhaps suggested to the Babylonian mind by the appearance of the flower, see p. 78). The caper has always been considered an aphrodisiac (cf. אֲבִיבָה, Eccl. xii, 5). Cf also l. 248 "UD-DA" "drug for begetting", *banû*, and "ZIR.GIN" "seed-setting". ~~אֲבִיבָה~~ *šī* must be compared to A.ŠI.A.ŠI = *ahu-la-baku* (Thureau-Dangin, RA, 1919, 169, xxi). A.L.E. *GIŠ.NIM* = "caper-buds" (= *šē.rû*; it should be noted that *šē.rû* and *zerû* "seed" are distinct in AM).

The caper stirs menses, and the root eases toothache (Diosc. II, 204). It is used for lumbago, and paralysis; the root for liver, chewed for toothache; a decoction in vinegar for ulcers of mouth; the root-bark for spleen (Pliny, NH, xx, 59). Gerarde (748) describes two kinds of caper-plants, giving not dissimilar uses. In SM (II 658) its leaves in vinegar are smeared with human blood on scabies. In India *C. spinosa* (root and root-bark) is used for palsy, dropsy, and gouty and rheumatic affections; the fresh juice kills worms in ears: Of *C. Aphylla*, Roth, the top shoots are powdered and used as a blister, and when chewed relieve toothache (S.M.P., I, 106, 108).

○

§ 10, AE, ll. 251-254 "HAR.HUM.BA.ŠIR (10) [BAHURŪ].

"HAR.HUM.BA.ŠIR in AM simply, EXT, 70, 2, 15: 92, 4, 10: an ointment on scorpion sting (with others, 91, 12, 5): 101T, drink (79, 3, 6: KAR 193, 712f). Used for *maška* hurling (31, 1, 7): A "stone" ① of "H. exists, Pl. 10, vi, 23: 15, 6: 17, 6: and cf.

① As Meissner (Supp. 59) shows that a *mu-ši-il-tum* stone exists, we must read *mu-ni-tu* as *mu-šal-ti*. See p. 30.

So § 10, A.E. U. 251-254: A.G., U. 257-278.
K. 4325 (PL. 3) III, 27: 4368 (U. 5) IV, 19 whence it will be seen
tak bahrî = tak u. = tak musaltu. This seems to show con-
clusively that "u. = the plant bahrû, and that it
has a stone (used AM 105, 1, 1). "HIM.TA.E on § 27 =
"supalu, where "NAM.TA.E has the same value. "NAM.
TA.E occurs § CG, l. 635: This must therefore explain
a property of the plant.

§ 10, A.G., U. 257-278. "KU.MA.LAH (1); "MUL.TAMTIM.
"KULKULLANU (1), *CASSIA: KASÎ ŠAR (181), ROSE.
This is a difficult occasion which has every appear-
ance of being an amalgamation. In § 9, A.G., for
instance, the well-known "A.AB.BA is included
with "mul tamtim, but "KA.NI is in the previ-
ous section. Again PL. 30 (quoted below) puts kul-
kulanu at the end of a section, which does
not contain any word similar to those in § 9,
A.G.; it would be well, therefore, not to consider
all § 9, A.G. as containing the same plant.

"KU.LUL.A = "fox-dung", equivalent to "KU.
MA.LAH = "sailor's dung", which is apparently
a plant of the river-bank (l. 259), and is call-
ed "plant offspring of the flood", i.e., the river.
From "KA.NI (l. 281) it evidently belongs to § 9
AR also. ^① What it is, except that it is a water-
plant or-weed in all probability, I cannot sug-
gest. In AM 49, 4, 8: it is described in KAR 203,
50 as a drug for removing a blister or inflamma-
tion, anointed in oil. "Mul tamtim, "full-
ness of the sea", or perhaps "kakkab tamtim,
"star of the sea", repeated in § 9, A.G. It might
well be a water-weed of the great lagoons,

^① Zir "KA.NI (KAR 185, III, 17) in a group of ma-
gical plants: $\frac{1}{3}$ še of zir "KA.NI to drink, 90, tr. 20.

which were called "the Sea" in Babylonian, possibly *Ranunculus aquatilis*, L., (Ar. \check{s} Lint), which grows thick on the pools at Basrah: or *Salvinia*, sp. near natans, (identified for me by Mr. Carter), floating on the surface of pools at Basrah (Ar. \check{w} ah \check{h} am). But quite doubtful.

It is curious that a "popular" plant-name should follow, unless indeed "ahulap" is an equivalent for "mul tamtim", which seems very unlikely. Again, perhaps, we can have recourse to the "appendix" theory.

"Ahulap, the "How-Long" plant, "vulgo the pirhi whereof the juice children and women collect," like opium, § 10 G, I. Note ahulabaku = A.š1. A.š1 (Thureau-Dangin, RA, 1919, 109, XXI), uA.š1. A.š1 being the baltu "caper" (§ 9 AD, L, 243). If this group for "ahulap" were by itself, "caper" would be the obvious translation: pirhi would be \check{s} TI \check{h} š, said to mean the caper, of which the buds are picked. But the baltu-group (§ 9 AD) contains neither "ahulap" nor pirhi ŠAR, so that there is every reason to consider this plant something else. At present, however, I can suggest—nothing satisfactory^①. In AM $\frac{1}{3}$ ka pirhi ŠAR (6, 3, 8): the seed of pirhi ŠAR (2) (45, 5, 4: KAR 205, obv. 6: for feet, ext., (74, i, iii 10).

"Gulgullanu and kulkullanu have been supposed with reason to be \check{J} älö (\check{s} TI \check{h} š \check{s} šöš) Cassia tora (Τράγον (?)) Kü. 73. The Cassia of the ancients must not be confused with senna, which, according to C. Martius (Versuch. einer Monog. d. Sennerblätter, 1867, FH 191) cannot

① It can hardly be agallochum, \check{s} TI \check{h} š

82.

§ 10 AG, 257-278.

be traced earlier than the 9th-10th cent. Cassia, קסיה , and probably קסיה in late cuneiform contracts (cf. 18 ka kasia , Strassm. Nabd., 269, 3, 5, etc) is a bark related to cinnamon. ^① Post (Hastings DB, I, 358) considers it highly probable that the Cassia of the OT is the *Cinnamomum* Cassia, Blume. Actually this plant comes from China, but there are other kinds which probably afford Cassia and Cinnamon (BMP No. 223), e.g., *C. Tamala*, Nees, with a wide range from E. Himalayas to Burmah, and also Queensland. The medical properties of Cassia are similar to those of cinnamon, and as a spice Cassia buds have been known in Europe since the Middle Ages (ib). Post (loc. cit) quotes Rev. XVIII, 13, of cinnamon coming from Babylon. Two pounds of קסיה and also of cinnamon were part of an offering made by Seleucus II (FH 467). Galen says the finest cassia may be substituted for the lowest quality cinnamon.

On the whole there is great probability of קסיה , cassia tora (Forsk. EF ex 1, 86). But there are two other possibilities: קסיה a plant with an aromatic seed, black and very hard, from which קסיה , a medicinal, is made. Razi mentions a plant of this name known in Irak, where they eat the cooked seeds, and make clothes of the branches; it appears to be something like hemp (Dozy, Supp. II 398): or קסיה *Dolichos cuneifolius*. Its rarity in

^① Schoff, JAOS, 1920, 263, must be wrong when he says that cassia leaves are clearly senna in the Babylonian records. ^② Löw (348) makes קסיה a form of *C. Zeylanicum* var

AM is in keeping with the probable difficulty of obtaining cassia. Its seed with leek, etc., anointed, prevents grey hair (4, I, 24). Is this really the seed, or, as does happen, merely one form of the product? Its leaf is used for teeth (PL. 23, K. 259, 3). The root is applied to the uterus with five other drugs for too much fluid flowing (KAR 194, IV, 31). In more modern times Cinnamon-water has been used for the ill-odours of carious teeth (HS 358): the bark for uterine haemorrhage (BMP No 224). Cassia bark contains tannic acid, which, with a persalt of iron gives a decoction of blackish-green (ib. 225): perhaps the hair-dye of AM is referable to this.

It occurs PL. 10, VI, 28: 40, K. 14051, 3. PLS. 36 and 45, 81-24, 267 + 472 (which I have lately joined) gives [u^{ku}l]-kul-la-nu, šammu ša... u^{ku}l parasi (si) "a drug for stopping..." "Gulgulla, PL. 39, K. 8287, II, 10.

Its equivalents (U. 270 ff) "kīsat širi^① and "kasi širi look as though the writer knew a value kasi, and was punning on it: "snake-bindi") But I can find no use of cassia or cinnamon as an anthelmintic. "Šami kapadi, 797 serpēt, but doubtful. It can hardly mean a creeping plant: cf. § 9R, L. 168. "Nam harû šamu, possibly from mahâru, indicating something pierced or slit (equivalent to ~~šamû~~ ~~šamû~~ = "cassia"), "the red slit (stripped) thing" (= bark), but doubtful. As for "kanīpanu it would be ridiculous to compare the word cinnamon with it. L. 264, "Hound's tongue", seems to bear out the "appendix" theory for this column.

Now, since kasi has occurred here it will be well to discuss the very common, but entirely different kasi šAR here.

① Sayce, ZK II, 215, connected kīsat with a word kīšili "kind" (IR. 19, 87).

KASĪ ŠAR, spell ka-si-ri, entirely distinct from ka-si širi and ki-sa-at širi. Its very frequent use in AM is something of an argument against cassia, which is not in too common use. The plural adjectives applied to it in the prescriptions (thus indicating it as a plural, as distinct from ka-si širi and kasīa), are perhaps more numerous than to any other drug.

Moreover PL 30, 2ff., (mutilated, it is true) does not include kasī in the same section as "kisat [širi] coinciding in this omission with § 9 AG:—

2. " . . . BA	"
" NU. ŠE.GUB. BA	" un-
" AN. ZU. ZU	" ha-
" ša- ra- nu	" ku-r[u(?) . . .]
" i-ši-in ekli ^①	" um-
" kul-kul-a-nau	" ki-sat [širi]
② " ku-li-la-an-na	" pat-ra-
" šA. šA. DA	" gir-
" e-di-e-na	" ["]

We can now consider the use of Kasī ŠAR in AM: (a) Simply, passim (approximately half the total): EXT. for swelling of "wind in the heel-muscle" (73, 1, 19, cf SM II, 683, "wind" of the legs, dust of oven with oil of roses as liniment): for head (1, 3, 8: 4, 2, 5), eyes (8, 1, 22: 8, 6, 3: 15, 6, 8: 10, 11: 16, 1, 8: 19, 6, 7, 10, 15: 25, 6, 7: 36, 1, 12), mouth (79, 1, 6), illatu (? 29, 5, 5), ears (38, 4 ii 12), anus (57, 5 r. 7), feet (74, 1, 33): wash (? 49, 1 ii 8), bind (93, 2, 3). Apply (alone first to penis, in urinary trouble, 62, 1 ii 9). INT. drink (80, 1, 2: 83, 1 r. 20: 89, 1, 5), in milk for dyspnoea (59, 1, 21): eat in oil and honey (80, 1, 5). Fumigate (64, 1, 28: 99, 3, 16), ears (33, 1, 31: 35, 1, 7: 38, 2 r. 10). Enema (56, 1 r. 7: 94, 2, 9). Uncertain method, unšatum (17, 5, 9),

① Once in AM (74, 1, 15), apply alone to swelling.

② These 3 entries inserted here for completeness.

"hand of ghost" (93, 1, 15), misik: (76, 5, 7), stomach (39, 1, 31; 43, 6, 7; 79, 5, 2). Described as šamnu HI. TAR. HU (KAR 203, IV, 57). Prepared thus: RAT ("pound", 53, 4, 6, etc.): in milk RAT (15, 6, 11): boil in water (54, I, r. 10): parch (ta-kal? (Br. 939) - lu) it like ŠE.SA.A (36, 1, 7; 38, 4, ii, 3). Quantities, 1 bur (91, 6, 4); 5 bur (24, 4, 2); 1 shekel (41, 1, IV, 17; 49, 4, 17; 81, I, ii, 14); 3 shekels (64, 1, 8). The adjectives applied to it are (always in the plural), šalute, parched, dried (5) (28, 8, 8; 38, 4, ii, 12; 44, 1, ii, 6; 80, 1, 2; 98, 2, 8); hasluti "crushed" (2) (11, 1, 23; 80, 1, 2); pa'zutum (80, 1, 5).

(b) "WATER OF KASĪ" (passim, as a medium in which to steep drugs): EXT., bind (3, 5, 9; 20, 1, 37; 74, 1, 33), head, (1, 2, 12), temples (20, 1, 20), eyes (or apply, 8, 1, 12, 14, 15; 16, 3, 3): wash (5, 5, 9; 22, 2, r. 8; 62, 1, ii, 2, 10) head, after washing with cow's urine (5, 5, 12): cleanse mouth (24, 5, 3): for KU.GIS (ext.? 58, 2, 6), for breast (51, 12, 7). INT., drink, (59, 1, 27): stomachic (38, 1, 9). Quantities: $\frac{1}{3}$ ka (38, 1, 9); 10 bur (59, 1, 27); 5 ka (49, 4, r. 5). Adjectives applied: sikruti (11, 2, 41), sikruti [6]ahrute (20, 1, 16), sikruti Bil-ti (= ešše-ti? or bašlu-ti?, Kü 1, 11), Bil-ti (62, 1, ii, 10).

(c) SEED (3), headache (64, 1, 22), ħinik... (59, 1, 13), ħinikti (89, 4, 9).

(d) ŠE.DU, buds (1) (51, 5, r. 4)

(e) KU (powder) (2) 8, 1, 14; 34, 5, 4.

(f) In composition kasī amhara (1) (31, 4, 20, for illatu). This = "atuartum and "hasarratu (29 D. l. 23), q.v., apparently Euphorbia holiocopia, L.

Its equivalences are peculiar. "ka-si-u = "kam-ti ereši (89 D. l. 25), "ka-su-u = "am-ka-ra^① (l. 26), and " (= "sarmadu) 89 I, l. 95. But since "kamti ereši is probably the Euphorbia, and "sarmadu the poppy, we must see in "kasū a word which will apply

① "Amhara (32, 6, 6): with styrax apply to uterus (KAR 194, IV 9): for insects, anoint (KAR 203, IV, 13): the seed to be drunk with others, after drinking (too much) beer (Kü ii, ii: 4a)

to both, and yet, at the same time, have its own distinctive meaning. Cassia tora will not help us here.

Now, the Arab would describe the poppy by the general word >>g "rose", and it may very well be that kasû, thus describing at least two flowers as, presumably, a general word, and at the same time indicating a special flower, may well be similarly the rose, and also any similar globular flower.

Much in AM bears this out. Its "water" is constantly quoted, as distinct from other plants in AM, where, even if their "water" is used, it is but rarely. The adjectives applied to kasî (a plural, to which they are always plural) "dried", "crushed", etc., indicate a diversity of use, which is clearly applicable to roses and rose-petals. The small quantities of kasê-water prescribed perhaps indicate its value. Its use in AM is consistent with roses and rose-water.

It must not be forgotten that it is not Mesopotamic, which is the rose-growing country, but Persia. The rose, except in gardens in Mesop., is a rarity.

The word hitherto normally connected with the rose in Assyrian is amurdinnu (= >>g, Jensen, KB, VI, 1, 516); >>g must, I believe, also be seen in "amaridu" (§ 9 AA, l. 227).

The rarity of the rose in Mesop. may perhaps account for the lack of a definite section devoted to the rose in these plant-lists: but it will be admitted that it would be an extraordinary thing if so beautiful and fragrant a flower, with so valuable an attar, in such frequent use in the East, should not be almost the commonest ingredient of the

medicines in AM. It must surely have been customary to import the dried flowers and the attar from Persia. But the temples of Mesop. appear to have made the rose-water (since kasî occurs

in an early temple list with grain, salt, ammi, lolum, etc. ①

PL. 30, 11 ff. is the nearest to a section dealing with it.

11. " eriš-ti kasī šAR
 " kal mar-hu
 " mur - ra
 " zir šIM. šiš
 " NE. A
 ["NI"]. KA. RU. RU
 šAB
 - gu
 - tu(?)

" la - di - [ru]
 " šu - šu - . . .
 " GEŠTIN. [GIR. RA]
 " ZIR GESTIN [GIR. RA]
 " PI. [PI]
 " ni - ka - ru - ru
 " sab - lu : ku - ta - ru [m?]
 " pa - ti - lu - t[um]
 " šu - . . .
 " ka - di - šo - ru
 " pu - tu
 " sa - me - nu
 ["]ur - ši - tum
 - tum

L. 11, ladiru (from § 9 E, L. 34) = also fenugreek, a strong-smelling plant (16.33). Erišti kasī must mean "Scent of the kasī" (erišu, "smell", MA 106), and occurs in AM once (1.3.11). Cf. lipū erišti ša rubus, kit-[um] "Fat of perfume of excrement of kitt[um]" (24.16: cf. § 10, I). Can kittum be kittum = 𒀭𒌷𒍪 "cat", i.e. civet? § 9 E, L. 30 ff. give "erištum = "MUH. AŠ. AŠ, "NAM. TAB. BA. šAR and "šIBIR. šAR, the former being also applied to a lettuce (Lactuca virusa, L.,?, a strong-smelling plant § 9 CT. I. 689. CT. x 11, 34 IAS, discussing DUK = erišu, "smell",

gives "MUH. AŠ = i-riš-tu šam-mu, i.e. "smell drug".

L. 12, "kal mar-hu (doubtless 𒀭𒌷𒍪 "anoint") i.e. "all unguents". "šušu - perhaps connected with 𒀭𒌷𒍪 "flower", but doubtful.

L. 13 "GEŠTIN. [GIR. RA], šAI

① Pinches, Amherst Tablets, No. 69, a reference which I owe to the kindness of Professor Langdon. For the commerce with kasī in later times, cf. Clay, BE, X, No. 4, 7R: ^{am} šIM. GAR² ^{am} ki-ba-ab-i-ni u ^{am} ku-tal-la-a-tu i bi-in-na-šu šō 25 gur salup¹ ina ma-ši-hu rabū(u) GU. RAB danmu-tu "kasī šAR i bi-in-na-šu ar-ki ^m i^u g^u HEIL - šum-iddin iš-me-o-šu-na-ti salippi GU. RAB "kasī šAR it-toš-šu-na-ti.

3413: M. 13, 2, 14, L. 15. The introduction of this word (= a-murdiannu, the rose, the Sum. meaning "thorn-vine") is conclusive that "eristi kasi šar" = "scent of the rose". It occurs in AM twice, -hasšallat iGEŠTIN.GIR (72, 2, r. 5) and iGEŠTIN.GIR (104, 1, 18). L. 14, that "myrrh" and "seed" (product?) of myrrh are equated with "rose" and "seed" of rose is due probably to the fragrance of the two. L. 15 "PI.[PI], cf. PL. 34, K. 4167, 13, 14.

In § 10 N it = a strong-smelling plant. L. 16 for ni-ka-ru-ru, are we to compare imil karuru, § 10 I? L. 17, "šabbilu may be connected with the root of ~~šablu~~, ear of corn, and then nard, either from its spikes or its smell. L. 18, "patilul[um], ~~šablu~~, Bramble-bush, which I have seen at Mosul, Jebel Judi, and Baqubah. The other words will presumably be similar thorny plants.

"Kasû occurs simply on PL. 27, K. 4162, 6-7.

FH 233 says that the ancients did not make attar proper. The "rose-oil" of Diosc. was a fatty oil in which roses had been steeped. This statement in the face of our frequent mē kasi (if this "rose-water" be the attar) is a little hard to reconcile.

Theophrastus (quoted ib. 230) gives many kinds of roses. Gerarde (1082) prescribes water of roses for the eyes, and an infusion to make the belly loose. In India the buds are cephalic, cardiac, tonic and aperient: ext., the petals are astringent: the stamens are thought to be hot, dry, and astringent.

Of *R. centifolia*, L., the petals are mildly laxative (IMP I, 526). The oil or attar is used to disguise the unpleasant odour of certain ext. applications (ib.).

For the "dried roses" (cf. AM), cf. Diosc. I, 130, where he prescribes the liquor of dried roses cooked in wine for pains in the head, eyes, gums, Rectum, uterus, etc.

§ 10 AG, U. 257-278: AH, U. 279-286. 89.

The method of making attar in Roumelia nowadays is to gather the flowers before sunrise, put from 25 to 50 lbs in a copper still, and then return the first runnings to the still. The second is kept at not less than 60° F. for a day or two, by which time most of the oil will have risen to the surface (FH. 235).

The evidence all appears to point to *kasû* being "roses". The rarity of *kasû* in the lists (which naturally describe Mesopotamian plants rather than foreign ones), the peculiarity that this plant which occurs so rarely in the lists should be so common in AM, the frequency of "*kasû*-water" (i.e. "rose-water") in AM, the very phrase "*eristi kasû*" "rose-perfume" as we should use it, are cumulative evidence. Hence vanishes "*Cassia*-water" to be replaced by "rose-water."

I can, however find no satisfactory Semitic equivalent.

Kasû, however, appears to mean both "rose" and in a more general way, "flower" of a rose-shape or colour

§ 10 AH, U. 279-286. ^o *IMHUR-PANI* ("šī.šī") (114) a "heliotrope", **MARIGOLD*, **Calendula officinalis*, L., (less probably *Heliotropaeum Europaeum*, Benth., barely possibly *Chrysanthemum segetum*, L.).

^u *IMHUR-AŠRA* ("šī.MAN(68)) probably a plant similar to the above.

^u *TARMUŠ* (62) **LUPIN*, *Lupinus termis*, Forsk.

^u *ARABIANU* (1) see p. 276.

§ 9 AH also seems to be an amalgamation like § 9 AG. ^u *Hulamesu* (akin to "*halamesu*, § 9 V, 187, mustard?) occurs in a tree-list ("*MEŠ.KI.IN.DIR*(?) = *mēsu* and *hulamesu*, M. 13, 2, 21, U. 30-31) where it may have been

① *Maqlû* V, 34, kima "*kasû* *likusuši* *kišpu-ša* connects it punningly with *kasû* "to bind"

90. § 10, AM, U. 279-286

wrongly included owing to the similarity of the last two syllables with *mêou*. Again, "Imhur-pani ša ekli and "Imhur-ašrâ ša ekli are two distinct flowers, while šan šalali refers to none of these.

To Ebeling (Archiv XIII, 136, n. 2) is the credit of the correct reading for "šī.šī and "šī.MAN. They occur spelt out in AM "TAR.MUŠ "im-hur-šī "im-hur-aš-ra (42, 5, 6); ("im-hur-šī (alone, 13, 7, 6; 59, 1, 30): (im-hur-aš-ri, pl. 27, K. 8827, I, 2). As "TAR.MUŠ is a frequent concomitant with them I add it here.

"šī.šī is used with "šī.MAN 47 tt. out of its 113 occurrences: both are often mentioned with "TAR.MUŠ. In the following list a = "šī.šī, b = "šī.MAN, and c = "TAR.MUŠ.

EXT. — Anoint a: 16, 4, 13: 29, 1, 4, 5: 52, 4, 4: 65, 2, 4: 64, 1, 22: 87, 1, 6: 92, 4, 11: 96, 4, 4: ~~92~~; 29, 1, 4: 92, 1, 4: 96, 4, 4: (alone) 52, 5, 12. b: 29, 1, 5: 52, 5, 12 (alone): 92, 1, 4: 95, 2, iii 10: 97, 4, 14.

— Anoint scorpion sting a; alone 91, 1, 12: PL. 23, K. 9283, 15: with 2 others including c 91, 1, 8.

— Apply head, a: 4, 2, 3 (wash): 5, 2, 7: 6, 5, 5 (wash). b: 4, 2, 3 (?). c: 4, 2, 3.

— Apply ears, a: b: c: 33, 1, 24.

— Apply eyes, a: 13, 7, 6: 14, 3, 4: 17, 1, 4 (alone). b: 14, 3, 4: c 8, 1, 32.

— Apply KA.ŠIB.ŠI.DA (mouth or toothache), a: 23, 2, 8. and 78, 1, 20 (both with anemone only): 78, 1, 12.

— For bu³šanu (foul breath), c: 23, 1, 7.

— Apply anus, b: 53, 9, 10:

— Anoint, for hand of ghost, a, b: 94, 2, ii 14.

— Apply (?) for KU.ŠIŠ, a, b: 40, 7, 20: a, c: 40, 7, 16.

INT., Drink b: - alone, jaundice. Kū III, III, 15.

— for snake-bite, a: alone 92, 7, 8.

- for MA : a : alone, Kü i, ii, 9.
 — for TUP^l : a : b : c : KAR 203, IV, 52 (a), 53 (b) 54 (c).
 — for stomach, a : alone, Kü ii, 1, 17.

— Drink, with others : a : 29, 5, 10 : 57, 5, 10 : 60, 1, 19 : 87, 1, 5, 10 : 88, 3, 4 : 90, 1, 17 : 93, 2, 12 : 97, 6, 2 : b : 29, 5, 10 : 57, 5, 11 : 87, 1, 11 : 89, 1, 1 : 97, 6, 2 : c : 29, 5, 10 : 57, 5, 10 : 87, 1, 5, 10 : 89, 1, 1 : 97, 6, 2.

— for stomach, a : 39, 1, 42 : 42, 5, 6 : 43, 6, 2 : 57, 5, 10 : Kü, 1, 1, 32. b : 39, 1, 42 : 42, 5, 6 : 43, 6, 2 : c : 39, 1, 42 : 42, 5, 6 : 48, 4, r. 9.

— for dyspnoea : a : 59, 1, 15, 26, 30 (alone), 33, 35 : 60, 1, 9, 13 (?) : KAR 203, 25 (alone) : b : 59, 1, 33, 35 : 60, 1, 9, 13 (?) . c : 59, 1, 33, 35.

— for menses : a : alone, KAR No 194, obv. 37.

— for hand of ghost : a : 76, 1, 8, 12, 15, 17, 20, 23, 24, 27 : (cf. 97, 6, 5 : 101, 4, 8). b : 76, 1, 8, 12, 16, 18, 24, 27 : cf. 97, 6, 5 ("šī. KI (!)).

— for ghost seizing, a : c : 14, 5, 3.

Fumigate : a : b : c : 99, 3, 10.

Uncertain method of use : Venereal (?), a : 32, 1, 12 :

66, 1, 11 : b : 32, 1, 12. Pain in kaḥlâti^{pl}, a : b : 62, 6, 7. Mišitti a : b : 77, 2, 6 : Maška, a : 31, 1, 6.

Umsati, b : c : 17, 5, 4.

Quantity : $\frac{1}{3}$ ka, a : 60, 6, 13 : 7še, a, drink and introduce by anus, Kü i, i, 32. Išu, c : 41, 1, iv, 26.

...shokol, c : 89, 4, r. 3.

An "Imhur-pani ša ekli and an "Imhur-ašrâ ša ekli exist (Pl. 43, k. 4419, b, 8-9).

IDENTIFICATION — "Imhur-pani is far more common than the other two. All are used EXT, INT, and in fumigations. "Imhur-pani is used alone for scorpion stings, toothache, and int. for snake-bite, and as stomachic, and for menses, for which the other two have no power alone. It is obvious that they are less powerful and not

so acrid as "imhur-pani.

"Imhur-pani, ~~but~~ "It-Presents-the-Face" (as of one giving favourable and pleasant assent) is thus a very common plant with a "face" flower, with one of its kind growing in the fields. It probably represents that much-discussed plant, the *ἡλιοτρόπιον*.

The Marigold, *Calendula*, seems to fit it very well. It is a peculiarity of the marigold to open its face during certain hours of the day: the flowers, the only parts used, are prescribed in P. 295 for sprains and bruises, and int. for amenorrhœa. In older medicine (FHS 301 ff), it is used for stings, bites, ear-trouble, sores, and ulcers, bilious disorders, menses. Gerarde (604) prescribes it for toothache.

Calendula officinalis, L., was seen at Masjid-i-Bar-di: C. Persica, C.A.M., at Kalah Sherghat (Herz., OLZ, Beh. I; SH, 28). I well remember the marigolds in the Mosul gardens. Post (443) quotes *C. sinuata*, Boiss., *C. Palaestina*, Boiss., *C. Persica*, C.A.M., etc. Doubtless "I. ša ekli" is *C. arvensis*, L. (also Post).

Pliny's "heliotrope" (NH, xxii, 29) is very close to marigold, one of the old identifications with it. There are two species "triccocum" and "helioscopium": the latter in decoction is purgative, a good gargle, with cummin disperses calculi, and plant and root thus prepared with the leaves and suet of a he-goat is good for gout. Helioscopium in wine or hydromel is an antidote against poison of snake or scorpion: the leaves are applied for convulsions, and the juice with oil of roses is for headache.

There is, however, another possibility, but one less likely. *Chrysanthemum segetum*, L., grows in Palestine ("enormous masses", FTA 10: cf. Post

437: also Ch. Myconis, L.: Ch. coronarum, L.: Ch. viscosum, Desf.): it has been supposed to be the *Helichrysos* of Pliny (NH. xxvi, 55, note 61: xxv, 96), but Pliny says (loc. cit) that it grows in shrubberies (which looks more like the *calendula officinalis*) and is used as a diuretic and emmenagogue, and drunk also for stings of serpents, and for pains in the loins: externally for burns. The leaves stay the menstrual discharge. But the objection here is that there is nothing markedly "heliotropic" about it.

Possibly "imhur-ašrā" is one of the above: at all events, it is probably some similar flower, probably yellow (on the principle of the doctrine of signatures) since, like "imhur-pani, it is used for jaundice. Until ašrā is translated it is difficult to suggest anything. ①

"Tarmuš" has long been identified with ترمس "lupin", the Greek ἔρπος (*Lupinus termis*, Forsk.). I was long sceptical about this, since the - lupin is of little use in medicine, and also it seemed equally probable that the Arabic might have come from the Greek. But now that it seems obvious that the "tarmuš" is a drug of little value, though of common use, and also since such plant-names as mandragora were certainly taken over by the Greeks from Babylonia, I am more inclined to agree. ②

① *Heliotropæum Europæum*, Benth., is less satisfactory, although it is used in India as an emetic, and for snake-bite, scorpion and bee stings. (IMP. II 683).

② Indeed, if we are to believe tradition, in the case of the lupin it is all the other way. Löw (394) quotes Chwolson (*Alt-babyl. Lit.*, 87, Anm.) that لُيُيُور ("a kind of corn") was brought by an "old Babylonian king" from the land of the Ionians. This may account for its rarity in Syllabaries

94. § 10 AH, 279-286.

The lupin is prescribed by Pliny (NH xxii, 74) chiefly ext. against ulcers, etc., and in fomentations: a decoction of the root acts as diuretic.

§ 10 AH 2, L. 287. GI. ŠUL. ŠAR, KAN ŠALALI (28)

***Conium maculatum*, L.

(a) Simply (13), EXT., hands and feet (98, 3, 18), neck (14, 8, 5): rub feet (69, 2, 5): bind (79, 1, 12): wash (52, 5, 8: 98, 3, 3). (b) SEED (1), bind (95, 3, 5).

(c) ROOT (2), for simmati (92, 6, 2). (d) ŠE. RŪ (4), hands and feet (82, 2, 5), feet (74, 1 iii, 3). Drink (one of 32; 89, 1, 7). Fumigata (91, 1, 6). (e) JUICE (2) for swelling (73, 1, 12). (f) LEAF (1) (23, 4, ii 6).

IDENTIFICATION: A plant defined as "reed," fairly frequently used (seed, root, buds, juice, leaf). It may spring up on a wall (PL. 43, K4419, ii 10: cf. PL. 32, K. 4180, B, 9), i.e., it can grow in S. Babylonia on a mud-wall: or in a field in a town (Boissier DA 76, 31): a special one grows in Makan (Arabia) (PL. 46, 79-7. d, 21, 4).

That it can grow on a wall or in a field shows at once that it is not a water plant. Moreover if it had been allied to *urbatu*, it would surely have been included in § 9, B. We must therefore find some plant to which the definition *kanû* will apply, often used ext., but rarely drunk, and not a water plant.

The best suggestion I can offer is the hemlock (*Conium maculatum*, L.). Water-hemlock (*Cicuta virosa*, L.) or Hemlock water-dropwort (*Oenanthe crocata*, L.) are ruled out on account of their connection with water (see "ankinute," next section). Hemlock is common on waste ground, with a stalk hollow and jointed (see WK, 549) "jointed like a reed" (Pliny NH, xv, 95).

"The most powerful hemlock is that grown at Susa" ① 95
 I do not remember having seen it in Mesop., but it is common in Palestine (Post, 335). Pliny gives the use of hemlock as ext., to cool stomach, check defluxions, and in eye-salves. Conium maculatum, with care, can be used internally (BMP No 118) as sedative and anti-spasmodic. Philologically, šalali might be compared to شال "a stain" (not common), (Lane, 1591: Freytag, Dict. II, 445), i.e., maculatum.

§ 10 AH, 3 "ANKINUTE, "ANKINUŠI (13).

: ** WATER-DROPWORT, Oenanthe, (or similar poisonous umbellifer of the ditches), perhaps Oe. pimpinelloides, L.

K. 10126 + 79-7-8, 350 (PL. 39), S. 1328 (PL. 32), and 82-5-22, 1777, (PL. 2) admit of the following text being made up (see M. 204, 3, 33):

"GI. GIL. GI. SUK	"an-ki-nu-še
[u] ... A. GI. SUK	" "
[u] ... GAR - UN. NA	" "
"GI. GIL. GIŠ. GI. SUK	" "
"bu-la-lu	" ,, ina šu-ba-ri
"a-a-am ^② ku-pu-ut šadi(i)	" ,, ki-ma lam-me

This must = illur buginni "(reed)-flower of the pool". "Bulalu is used of irrû "opium" in § 10, G1 (also in Šubari); and there I have explained it as "confusing (the senses)", i.e., a stupefying drug, narcotic. The last word "še-en(?) of kuput of the mountains" might perhaps contain ~~on~~ cytisus(?) but it is unlikely. In its equivalence "ankinute like lamme" the latter word must surely be ~~an~~, ~~ku~~ "eloquent", ~~ku~~ "to stammer", i.e. a narcotic poison which causes incoherent

① Sprengel, however, Diosc. II 609, emends this.

② Za-a-am appears to be correct in the duplicate.

speech^①

In AM it is used, always simply: EXT., for hands and feet (98, 3, 2²): bind (45, 1, 1): anoint (52, 4, 5: 74, 1, iii 7: 75, 1, IV, 4: 94, 2, ii 12: 95, 2, ii 9), temples (104, 1, 21): "when a man goes to his wife and ... to another woman goes ..." (66, 1, 9): INT., for ghost seizing (14, 6, 4), dyspnoea (59, 1, 37).

We have thus to identify a reed- or cane-like water-plant with a narcotic poison, producing delirium, rarely used internally, more often as an anodyne (?) externally, and in some venereal question. Everything would point to the water-hemlock, *Cicuta virosa*, L., or similar water-plant, except that *C. virosa* does not occur in the East (L6w, 429, and it is wanting in Post).

But four species of *Oenanthe* occur in Syria (Post, 355): *angulosa*, Griseb.: *media*, Griseb.: *pimpinelloides*, L.: *prolifera*, L. (the second and fourth being in FTP 12). Most of the species ^{of *Oenanthe*, including} *Oe. crocata*, which, however does not occur in Turkey (BMP, No. 124) found in Great Britain and the United States are poisonous, but some are innocuous (BMP ib.): GM 210 quotes seven species, of which it says that all plants of this kind are poisonous, although it is said that of *Oe. pimpinelloides* the roots are eaten.

Oe. crocata is similar in many ways to the water-hemlock (VK 549, 94), the latter being a tall plant with a hollow stem, frequenting ditches, the most poisonous of the umbellifers, producing vomiting, convulsions, stupor, death. In smaller doses the water-hemlock may be used internally; and ext. the Greeks and Arabs used it for tumours etc. (VK 549: HPP 93). Under *conium* Diosc. (IV, 79) speaks of a poisonous kind of *conium* or *cicuta*, an anodyne. Of the *Oenanthe* Pliny (NH XIII, 5) says the ash is used in eye-salves.

Oe. pimpinelloides appears to have been the οἰνύθη of Theophrastus and Diosc. (PC XVI, 403).

① Unless it is *Lamme*, see § 47.

§§ 10, AH 4 : 10 AN 5.

97

§ 10 AN 4 GI. ŠAR, KANŪ TABŪ (63), ** *Acorus calamus*, L.

Insert here for comparison. (a) SIMPLY, passim: INT.

ointment (40, 5, 7 : 96, 2, 8); pound with oil and apply (alone), ears (33, 1, 25): apply feet (69, 2, 10): 70, 7, 11: 98, 3, 18): wash (82, 5, 6: 94, 2, ii, 10): bind (cough, 50, 3, 8). INT., drink (51, 7, 6). Fumigate (91, 1, 14), ears (33, 1, 31, dup. of 35, 1, 7). Enema (43, 6, 6: 96, 1, 4, r. 6, 10: 94, 2, ii, 9). In certain use: lungs (58, 1 r. 2), cough (80, 1, 19), fi-ma Ši. GAB (31, 8, 4). Quantity, 10 shekels (84, 1 ii 3): 2 shekels (41, 1 iv, 13): 8 bar (10, 2, 3). (b) "oil" (šamnu) of šanu tabu (8): alternative for NIBARGA, as medium for mixing (84, 3, 5). Apply head (35, 2, 5). (c) KU (1) (19, 8, 4). (d) Haskallatu (1) (72, 2 r. 5).

It is the כַּלְמִיּוֹת of Jer. vi, 20. Löw says, with Sprengel that it is *Acorus calamus*, L. (Gesch. d. Bot. 1817, 1, 14). Theophrastus (EPIX, VII) speaks of καλῆσπος beyond Libanus, doubtless the "sweet-floried reed" of Chesney, in Syria (I, 537). Post (DB IV, 213) says that *A. calamus* is not indigenous to Palestine or Syria (it came from a far country, Jer vi, 20), nor can it be identified in the Lake of Homs or swamps of the Upper Orontes where Pliny seems to place it.

A. calamus is a common bazaar medicine in India for fevers, dyspepsia, or dysentery (Waring, Bazaar Medicines of India, 1907, 8, 10).

§ 10 AN, 5.

GI. BU.

= malilu "flute" (13 r. 25 ii). It may have had a sweet juice (Johns, ADD, 1042, 4 = PA. GI. BU?). An omen is derived from its springing up in a field in a town (Boissier, DA 76, 27). If it were not for the "sweet juice" *Arundo donax*, L., would probably coincide.

98 §10AJ-AP, ll. 298-334 : 10AQ, ll. 342-347
(For §10AJ, §10B : for §10AN, §10HZ : for §10AO, §10AA).

§10AP, ll. 323-334. "ŠAQABIGALZU (2), "ŠAMU ŠALMU,
"LUL(=KA?)-AZ, (→ "AG.UD (48), p. 190, and "AT.KAN (10), p. 193)
Total (60) = * * RICINUS, * * CASTOR OIL.

I had at first thought that "black dye" indicated *Xanthium strumarium*, L. (see §10B and p. 275). But Smith, CT XXXVII (see p. 261) added as equivalents "AG.UD and "AT.KAN; and as "AG.UD seems almost certainly *Ricinus* (p. 190), the same is indicated for "šagabigalzu (the name in Elam (p. 261, l. 18; see 271). The synonym in Aḫlamê (261, l. 17) "bu'su "the nasty (-smelling) drug" is most convincing; and this appears to be repeated in the [UR].PI.PI of p. XIV, No. 54 and p. 256, l. 31, the one restoring the other^①. PI.PI is a general term for foetid plants (p. 52, p. 266, and for "UR.PI.PI as the foetid rue, cf. p. 271). "Hi-nu(?) -bi is * * ricinus in Akkad.

In AM "šakabegalzu is one of 40 used for dyspnoea [drink] (59, 1, 36): "ša-ga-be-gal-zu is drunk when Tu^l are sick (KAR 203, IV, 49). "Drink without a meal" (28, 9, 6). For "UR.PI.PI see p. 53.

"šamu šalmu must refer to the bluish-green leaves of the ricinus plant (VK. 541).

§10AQ, ll. 342-347. "ŠAMU ŠAMU, "LĀL *Carthamus tinctorius*, "Red drug" is definitely either *Rubia tinctorum*, L. (Madder), *Ancusa tinctoria*, Desf. (Alkanet), or *Carthamus tinctorius*, L. (Safflower). The AT. for Safflower is ~~šam~~ which at once indicates "isparu as the correct restoration of §9AQ; in spite of CT. XXXVII, 33, ll. 20, 23^②; a very definite confirmation is found on p. XIV, no. 58 [".is]paru, apparently in due order.

"LĀL, "šamu šalmu, and "isparu will all, therefore, be *Carthamus tinctorius*, L. (but "LĀL is probably distinct from "LĀL, see p. 99, l. 4). The flowers (Egypt, Levant) are like ^{saffron to the}

^① The order in §6, p. XIV, Nos 54, ff. appears to coincide with §9AP, AQ and probably onwards. ^② The text of this tablet is not above suspicion: see p. 260.

eye (PC VI, 328), containing two kinds of colouring matter, ⁹⁹ yellow and red, but the latter is the only one used.

~~ph~~ is cultivated in Assyria (Ainsworth, 76).

Tiglath-Pileser II obtained the "LAL" from mar-duk-bal-iddina of S. Babylonia with "šiš-a-nu (II R, 67, 28). The Semitic for this, ^{word} besides ~~ispana~~, is [u] - kul(?) - la - lum (see § 6, L. 9). In AM "LAL" occurs 10tt: (a) simply (9) EXT., anoint (82, 3, 9, with šamma "LAL... : 93, 1, 2 : 96, 4, 6 : 97, 4, 15), ghostr (93, 1, 7). INT., drink (87, 5, 15). Fumigate (91, 1, 9).

(b) šamma "LAL (1) see (a).

PL. 27, K. 4162, 4-5, places it between [hīl] baltī'adi and "kašī.

○

§ 10, AS, ll. 353-354. "KA.A.AB.BA, IMBŪ TAMTIM (47)

Fucus(?), SEAWEED(?), KELP(?).

Use simply : EXT., anoint (29, 1, 2 : 41, 4, 3 : 52, 4, 6 : 87, 1, 6 : 92, 4, 5 : 93, 1, 2 : 94, 2, ii 12 : 97, 4, 3, 18 : 104, 1, 21), scorpion-sting (91, 1, 6), anoint or bind "hand of ghost" (93, 1, 7, 15 : 94, 2, ii 18) ; bind (98, 3, 10) temples (102, 1, 61 : 104, 1, 15) : apply (footsoles, itching? 75, 1 iv 25), neck (4, 6, 7) ; temples (4, 6, 4 : 20, 1, 14, 15), fingers (14, 6, 2), eyes (ext.? 14, 3, 3). Locally to uterus (alone, KAR 194, IV, 15). Fumigate (4, 6, 2 : 91, 1, 9, 2 : 92, 4, 2, 2 : 99, 3, 11), ears (33, 1, 33, 36). INT., drink dyspnoea (59, 1, 16). Quantities, bur (can hardly be oil, Kü ii, iii, 70), [2 shekels], (62, 1 iv 2).

Lit. "sprout of the sea" (𐎶𐎺𐎠, like imbubu, 522, HWB 442); defined as "drug from the middle of the sea": "drug from the broad sea" (ll. 333, 335). I can see no alternative but fucus, algae, "sea-weed", and Sayce was therefore right (EK ii 205). (cf PL. 34, K. 4169, 5 "drug of the sea").

Almost all the common sea-weeds may be used for 'kelp' (for glass or soap). They are cut from the rocks, partially dried, and then put into a hole

in the sand, where they are burnt, more being added as the weed is consumed. The result is a soda mixed with many impurities (VK. 187). The value of such a drug can hardly have been overlooked in Babylonia. Iodine is one of its products, an antiseptic used ext. as a solution, ointment, etc., or int. in chronic rheumatism (P. 666). Formerly "burnt sponge" was administered, doubtless for its iodine (VK 186).

§ 10 AT, U. 358-365.
L., "GINJ", HEMP.

(a) Simply (18): EXT., bind temples (102, 1, 39), anoint (52, 4 r. 4 : 73, 1 ii 8 : 94, 2 ii 12): wash (70, 3, 4). INT., drink (41, 2, 7 : 87, 5, 15(?) : 89, 1, 5 : 97, 2, 4(?)), for "hand of ghost" (76, 1, 21). Fumigate (91, 1, 10 : 99, 3 r. 4).

Quantity, $\frac{1}{2}$ bur (91, 6, 2). (b) SEED (2), drink 3 še for neuralgia(?) (90, 1 r. 20): mixed with others drink in beer for female ailment (KAR 194, IV, 1).

(c) JUICE (1) (53, 4, 20).

IDENTIFICATION: L. 359 = "a drug for nissati, (sorrow, grief), i.e. an intoxicant to cheer the spirits.

"Azalkû must come from $\sqrt{\text{𐎠𐎢𐎽}}$ "to spin", i.e., the plant used in spinning. "Gurgurru, cf.

MA 232, Giš.MA.GUR.GUR = ŠU-rum (= gurgur-rum), cf. 𐎠𐎢𐎽, in Hitpo. used of a twist-

ing(?) dust-devil, or $\sqrt{\text{𐎠𐎢𐎽}}$ "a cable", $\sqrt{\text{𐎠𐎢𐎽}}$ (modern) "to wind a stein", i.e., gurgurru is a twisted ship's cable. ① In "GAN.ZI.

TAR.NU, the GAN.ZI may well be the same as the GAN.ZI = "opium" (§ 10, I): TAR.NU (cf. SA1, 2254, 2257) must be some form of burrumu, apparently originally "to weave" (as well as its more usual significance of variegation), e.g., Surpu

① Rather than $\sqrt{\text{𐎠𐎢𐎽}}$ "to drag". šlas ...-ga-ru-u = "a-zal-lu-[u] any connection here (PL. 37, 81-2, 4, 269, 7)?"

V-VI, 115, mār amīšpari ana šubati la ubarramu
 "(as) no weaver shall weave (this wool) into a garment."

The evidence thus indicates a plant proscribed
 in AM in very small doses, used in spinning and
 rope-making, and at the same time a drug used
 to dispel depression of spirits. Obviously it
 is none other than hemp, *Cannabis sativa*, L.
 (in Persia, BFO IV, 1152). In that case cf for "gur-
 gurru $\sqrt{\text{g}}\sqrt{\text{r}}\sqrt{\text{g}}\sqrt{\text{r}}$ *Cannabis sativa* (Löw 324), a
 word which may well have been taken over from
 Assyria. GAN. 21, too, might conceivably be
 connected with Skt. *gana* = binj.

Of the other words "HAR.GUD must be the same
 as HAR.GUD = imrū or ballu "fodder." "Har-
 mum (presumably Semitic) may be connected with
 $\sqrt{\text{h}}\sqrt{\text{r}}\sqrt{\text{m}}$ "net" (rather than "the forbidden thing"); cf
 Pliny (NH XIX, 56) "the best hemp is that of Alabanda
 which is used more particularly for making
 hunting-nets". L. 364 bur-... must
 surely -ve some form of burrumu "weave".

Hdt (IV, 74, 75) says that the Thracians made
 garments from hemp, and used the seeds on
 red-hot stones for intoxication: "The Scythians
 transported with the vapour, shout aloud" (cf also
 I, 202). (It can hardly be the $\alpha\gamma\alpha\lambda\lambda\alpha$ or $\epsilon\gamma\gamma\alpha\lambda\lambda\alpha$
 used for recurrent fevers, quoted Pauly-Wis-
 sowa, Realencycl. VI, 207). A Chinese herbal
 (c. 5th cent.) notices two kinds: *Susruta* on
 Hindu medicine. (B. c. ?) mentions B'hanga
 as a remedy (FH 491 ff.).

P. 315 gives *Cannabis* as sedative, anodyne,
 used in menorrhagia and dysmenorrhoea.

A word $\sqrt{\text{k}}\sqrt{\text{u}}\sqrt{\text{u}}\sqrt{\text{n}}\sqrt{\text{n}}\sqrt{\text{a}}\sqrt{\text{p}}\sqrt{\text{u}}$ occurs on a tablet dated
 Nebuchad. 31, which Scheil thinks (RA XVIII, 97) = *Cannabis*.

§ 10, AU, U. 366-375. "PUKUTTU (11), "HAKIN (1), Carduus, THIS. LE.

(a) Simply (5), for *hiniteti* (60, 1, 4, 13, 15): one of 14 for *hiniteti* [drink] (60, 17), and as one of 7 for *hiniteti* (89, 4, 11). Some part applied with mandrake root, etc. to a tooth (28, 1, 5).

(b) *šēd* (4): bind on (15, 3, 5): drink with 9 others (59, 1, 33) or about 40 others (59, 1, 39) for dyspnoea.

IDENTIFICATION. MA 823 and HWB 535 translate this word "thorns" or "thornbush" or similar^① which misses the most striking clue provided by III R 43, IV, 5, quoted by both authorities: *ilu Adad lameratišu limilâ pukutta* "May Adad fill his fields with *pukutta*". Adad is god of the wind, and what he is invoked to carry to fill the enemy's fields is obviously Thistle-down. Cf. III R, 41, ii 33 *kimu ilu Nisaba pukutta lihnuhi* "instead of corn may thistles spring up". I have myself seen the fields at Bakubat full of tall thistles.

"*sikurrat ekli*, "*sikur ekli* "lock of the field", "*urnmat ekli*, "*ummat* "host of the field", "host," aptly fit the serried ranks of deep-rooted thistles.

"*Hakin* occurs with seed of "*As*, fox-grape, *hyoscyamus*, etc. (60, 1, 24). "*GIR.NA.AN* and "*UL.NA.AN* refer (by *GIR* and *UL*) to the prickles, and doubtless these three last names have something in common with *ḫitt* "thistle". In CTXVIII, 4, VIII-VII, 2 *pukuttu* = *gabgabū*.

"*pukdatu* allows us to settle the third radical as *d*. "*gīš.gīš*, perhaps "flower of wood", referring to its downy white head. "*šami šubati* "plant for clothes(?)", is so doubtful that it is hardly worth while quoting *Dipsacus fullonum*, Mill., used for combing and dressing cloth. (BM. 238, FMS 512). Ascherson (Löw 267) says that this does not occur in Arab lands.

Carduus Marianus, L., *Silybum Marianum*, Gaertn., grows in Syria, Babylon, and Persia (BFO III, § 56; Löw 293). The seeds were formerly thought to cure

Hydrophobia, and, in Germany, jaundice (a tincture from the root and seeds) (FHS 510). *C. benedictus* (ib. 510) stimulates the liver; *Carlina vulgaris* (511) is diaphoretic and purgative. In AM its use in toothache is probably to provide thistle-down instead of wool to bind the medicaments in a coherent mass.

910 AV, ll. 374-382. "KUR.K:šre. (šAMMI LIBBI) (87)

* *Hyoscyamus*.

Simply, only. EXT., anoint (16, 4, 13; 87, 1 r. 6), "hand of ghost" (94, 2 ii 14; cf. 76, 1, 2; 97, 6, 5); ašû ("pain", 64, 1, 22; cf. KAR 203 64 = šam ašû); bind (98, 3, 11, one of 23); apply anus (94, 2 ii 7), eyes (10, 3, 25; 13, 3, 7; 19, 6, 5, 7, 10); put on neck in wool (14, 3, 10); in ears in wool (33, 1, 24) - for foul breath (26, 6, 6); bind on mouth and nose (28, 8, 8); KA.DIB. BI.DA (78, 1, 12); much ūlatu in mouth (31, 4, 12). INT., chew (27, 2, 8), drink (60, 1, 7; 83, 4, 7; 87, 5, 15; 89, 1, 6; 99, 5, 5), for "hand of ghost" (76, 1, 8, 10, 20, 27), stomachic (39, 1, 42; 42, 5, 6; cf. 39, 1, 36; 40, 1, 49), urinary (66, 7, 8), dyspnoea (59, 1, 35); alone in beer for difficult labour (67, 1, 14, 21); alone in beer followed by purging (Kū ii, 1, 48); Uncertain method, alone in kidney-fat (45, 2, 9). Fumigate (57, 3, 9; 91, 1, 13; 99, 3, 5, 10, 8.3; 101, 3, 11, 17), temples (20, 1, 13), head [2, 1, 18, 22]. Used in some way for kablitu (60, 1, 25), cough (80, 1, 20), and as allan (43, 1, 7). Quantities, $\frac{1}{2}$ ka (86, 3, 3), $\frac{1}{2}$ shekel (41, 1 iv 15), 15 shekels in enema (Kū iii, ii, 21).

LL. 376, 377, especially "the plant of the mountains". "At-ia(?) - uncertain. L. 379 "Heart-plant", in this case not a stomachic, but as "uznâ (L. 278) and "uzun libbi (L. 380) show, a drug for the mind, or affecting the wits, uznâ being often used this way. So important is the "Heart-plant" in medicine, that a poem about it is extant (Kū 9): - "The Heart-plant sprang up in Makan and the Moon-god; the Sun-god brought it down from the mountains and [planted it

in?] the earth: its root filled the earth, its horns stretched to heaven.... It seized on the heart (mind) of the Moon-god in the clouds, it seized on the heart of the ox in the stall, [it seized on the heart of the goat] in the fold" and so on, until ["it seized on the heart of N.], son of M." (i.e. the patient). In my Devils and Evil Spirits, II, xv, I identified the "Heart-plant" with the *Hyoscyamus muticus*, L., which I had seen growing in the Sinaitic Peninsula. Makan appears to mean Arabia or Sinai: or, at all events, a latitude in which this plant is described as growing. Its high shoots are doubtless the "horns" of the poem. I see no reason to alter this view, except that "KUR.KUR" is probably any form of *hyoscyamus*.

Its use for fumigation in AM survives in a parallel use of the berries of *Withania somnifera*, L., for fumigating the teeth in toothache: the berries, I was told, (like "KUR.KUR") had been brought down "from the mountains" (PSBA 1906, 78; Sem. Mag. XLIV).

H. muticus, L., occurs in Malatia, S. Persia, Kerman (BFO IV, 293; Post, 570): known as "mountain hemp" in Baluchistan (IMP II, 919). *H. niger*, L. (BFO, IV, 294) in N. Persia: *H. aureus*, L., at Safa, called سفا: (Von Opp. II, 383): *H. pusillus* (in Post, 16): *H. reticulatus*, L. (Kalah Sherghat, Herz. OZ, Beth, II).

The evidence of AM points to an anodyne, ext. and int., a laxative, with effect on saliva, in difficult breathing, urinary trouble, frequently used for eyes. This must indicate *Hyoscyamus*, or less probably *Belladonna*.

In P 644, *Hyoscyamus niger*, L. (leaves, branches, tops) is given as similar to *Belladonna* but milder, a sedative, anti-spasmodic, used in insomnia: to diminish pain, and allay irritability of the bladder, to prevent griping of purgatives, (while it increases peristaltic action): for visceral neuralgias and asthma:

§ 10 AV, ll. 376-382; 10 AV, 2; 10 AW, ll. 389-391, 105.
to prevent convulsions; PC XII, 410 says that it causes dilata-
tion of the pupil.

P. 223 describes *Atropa Belladonna*, L., (leaves, branches,
root) as anodyne, to check saliva, painful spasm of the
bladder; for dysmenorrhoea; asthma, and acute bronchitis;
for epilepsy; habitual constipation; nocturnal incontinence
of urine. Its use for eyes is well known.

Both plants have a powerful, unpleasant smell, which
is doubtless referred to in ll. 381, 382, "PI.PI.NU.NU (or
nu-nu, "fishy"?) and "PI.PI.PI.TAK (see § 10 M). But while
Hyoscyamus is frequently used in SM, belladonna ap-
pears to be entirely absent, except in a vocabulary (II, 719).
Both are deadly poisons if used improperly, and produce
delirium. VK 551 says that the Greeks probably knew
of the belladonna, but their descriptions are not minute
enough for us to identify it. The *Hyoscyamus* was
prescribed in mild doses by Dioscorides; Pliny (NH XXV
17) says the seed, root, and juice are all used, and that
the leaves will affect the mind. FHS (sub voce) says
that a poultice of the leaves is used in neuralgia,
and even that a henbane necklace is hung round
the neck for convulsions (cf. AM, above).

§ 10 AV 2, "KUSIBU, "KUIATU, see Index.

§ 10 AW, ll. 389-391 ušāšumtu, "šāšuntu, "šāšutu (9).
(a) Simply, passim; described as "ša-mi TAB.UD.DA
"a drug for taking away a bruise" (mišsu), or blister
(šamašu); drink and apply alone (KAR, 203, 49): cf.
PL. 36, 73-7-8, 22, 2. Drink and apply (ŠD, 279). EXT.
Apply in oil for insects (alone, KAR, 203, IV, 19): bind on
head (2, 1, 20). Use for "hand of ghost" (97, 6, 12, 13, 16):
described as a "drug for ašī" (pain, KAR, 203, IV, 3).
Fumigate (78, 10, 2; 99, 3, 14). (b) LEAF(?) in salve,
(ŠD, 2, 7). (c) mentioned Johns ADD, No 1042, 5.

§ 9, 10 AX gives as variants "kāk-[ka-da-nu?]", and "a-su-si-[im?]-tu imeri^①. § 9 CJ gives "aḡuṣimtu and "supalmu as equivalents for "KI.AN.ŠIS.KI. Dimdamûn is the Arab. for Sambucus Ebulus, L., (the Elder), Lebanon to Amanus (Post 378), but although it is certainly used in medicine, esp. ext. for bruises (FHS sub "bruises"), abscesses, etc, and int. as a cooling drink as stimulant and sudorific (BMP 138) the philological comparison is not attractive.

Cf. the woman's name "𐎠𐎢𐎡𐎢𐎠

§ 10 AX, ll. 392-394. "PIKU(?), "PINDU(?)

Doubtful, obscure. G13. GUG.DIR = pi-en-du-u (M. '13, 2, 27, l. 85). "pi-in-sur.. occurs AM 44, l. ii 15.

§ 10 BA, ll. 404-407. i š A.LUM, (i)(u) šIHU (28),

Artemisia, WORMWOOD

Sihu is variable in its determinatives ' or u, and hence (since these are interchangeable)^② we need not concern ourselves with 'sihu as a variant of 'šihu.^③

Simply, only: bind (70, 7, 5: 74, 1, 13), swellings (73, 1, 13, 31, prob. ii 4): anoint (96, 1, 14) "hand of ghost" (94, 2, ii 16), and, presumed ext., eyes (8, 1, 4) cough (50, 1, 7), mišitti (79, 1, 8, 20: 82, 2, v. 10), constriction of lungs (53, 4, 16), "hand of ghost" (? 52, 1, 3). For washing (48, 5, 4: 52, 5, 5; prob. 49, 1, ii 7). Drink and anoint (88, 2, v. 9): in one of maš-kiati (41, 1, iv 3). Fumigate (99, 3, 6, 14). Quantity, 5 shekels (84, 1, ii 3). A bitku is prescribed (41, 1, iv, 16).

S. 1701 (RA 1920, 181, iii, 3) gives 'si-i-[hu].^④

It is the ~~Ku~~ Artemisia Judaica, Worm-

^① Meisner would read this imeru as tum, as also the dup. K. 4417, pl. 37. I have examined both again, and the present text is as I have given it in CT. XIV. There is, however, barely room for im, but the ut (= tu) appears certain. Note § 9 CJ, l. 660 "zir KU.LAK = "zir kāk-ka-da-nu.

^② Cf. 74, 1, 13: 73, 1, 13. ^③ Distinct from šihu, M. '13, 2, ii 36.

wood (Fonahn, OZ, 1907, 640) which occurs in Arabia Petraea (BFO III, 371: cf. Löw, 78f.: FTP 15). The *Ar* شينج = A. Herba-alba, Assa. (Post 440). Xenophon mentions a plain full of absinthium about 9 stages below Thapsacus (Anab. I, v)

An equivalent appears to be "šamūšuru" (§ 9 BA, l. 380, note) which must obviously be ← *šm* (← *šm*) A. vulgaris, L. (Löw 82, seen in Mesop., BFO I 371), thus proving the meaning of *šihu*.

šihu, *arganu* and *bariratu* are frequently used together, which is a clue to these latter. ll. 404-409 u *š* *margulu* and "margunu" appear to be given as equivalents, the latter perhaps connected with *arganu*, ז. א. "smell sweet".

Prescribed by the Rabbis for sickness of head and to kill fleas (Löw, lb.). IMP I, 702 says that A. persica, Boiss. (vernacular *šlikh*) is used in India as a tonic, febrifuge and vermifuge.

§ 10 BB, ll. 408-410. "ARGANU and "BARIRATU.
(see § 18). ①

§ 10 BC, ll. 411-414 "SUADU" (see § 19).

§ 10 BE, ll. 422-427. "ENIRRU
Uncertain. Tubaku, cf. marratu-bird = *isšur* tubaki (PL. 4, a 38 and 6, 15), the shrub in which it is to be found.

① Following the *bariratu* section in the note to § 9 BC comes "nanilcu" = "kalu", in the common speech (?), a thorn with none to gather (the fruit), its fruit like *tarmanu* (a precious stone = SAG. GIL. MUT, MA 1194).

108. 38 10, BF, ll. 428-436: 10 BQ, ll. 437-444: 10 BK, ll. 477-503

§ 10, BF, ll. 428-436. "KAMIKADU, KANKADU.

(a) Simply, passim: EXT., bind (15, 3, 16: 79, 1, 21), swelling (73, 1, 29: 104, 3, 2): anoint (29, 2, 5): for feet (70, 7, 4), ea. (36, 1, 3), beard or cheek (26, 8, 13), eyes (8, 1, 17: 11, 2, 36: KAA 203, IV, 54, alone). INT., drink (stomach, one of seven, 48, 4 r. 10). Drink and apply for PA. GIŠ. MIR, doubtless a wound or a bruise (PL. 23, K. 9283, 12). (b) SEED (2). EXT. (16, 4, 2), feet (74, 1, III, 2).

It occurs (Langdon, RA 1916, 31) "if in a field in the middle of a city kankadu appears" where it is equated with "kudkuddu. This may be the כַּנְקָדָדָא of SM I, 562, 9, "pull out the k, which containeth a medicine for the eyes, and take the great vein which is in it and that hath moisture in it, and lay it on the [aching] tooth". (Cf also Boissier, Chor., II, 2).

The similarity of $\gamma\iota\gamma\gamma\iota\delta\iota\omicron\nu$ (Diosc. I, 166; Pliny, NH 16) must not be overlooked. The latter says it grows in Syria, like the $\sigma\tau\alpha\phi\upsilon\lambda\iota\nu\omicron\varsigma$, a kind of carrot or parsnip, beneficial to the stomach; the former says it is diuretic. The carrot is certainly used in old medicine for sores and ulcers (FMS 81); Culpeper (56) says that wild carrots provoke urine and menses. *Daucus Carota*, L., is used ext. in India for burns and ulcers (IMPI, 635). $\gamma\iota\gamma\gamma\iota\delta\iota\omicron\nu$ has been taken over in our *Daucus Gingidium*, a wild carrot (said by Löw, 427, not to grow in the East). Löw 38 makes $\gamma\iota\gamma\gamma\iota\delta\iota\omicron\nu = \text{Lepidium Latifolium}$, L.

If "kankadu" be the wild carrot, there might be some reason to see horse-radish, armorica, in kudkuddu, כַּדְכַדְדָא , the Syrian being obviously a strong counter-irritant. Unfortunately, Post does not give it as existing in Palestine.

§ 10 BQ, ll. 437-444: § BK, ll. 477-503.

"HAR. ĪG, azupiranu (18), crocus sativus, L., SAFFRON.

(§ 9 E, l. 39): "KURKANŪ (29), *Curcuma longa*, L., TURMERIC,
 (§ 9 B K, ll. 477-503): "LID. GAB, ŠAPRU (25), KAMANTU,
 (7) *Rhus cotinaria*, L., SUMACH.

I have included all these plants here because of certain similarities. PL 42, Bm. 328 r. 2-4, defines four drugs. ["MU.]UH.HA, "kurkanū, ["^u]haldap-pānu and "azupirānu as ID II PL ŠI + DUP PL, i.e., for staining hands, according to the custom in the Near East today (a red, orange, or yellow colour). "Kurkanū, long identified with 𒌷𒍪𒍪 (Stueken, *Astralm.* I, 5) "saffron" must thus be distinguished from "azupirānu, i.e. 𒍪𒍪𒍪⁽¹⁾ "saffron". Ll. 437-444 show also that "LID. GAB = "šapru (and in § 9 B K, l. 485, of. 491 = "kurkanū), so that we must see 𒍪𒍪𒍪 "yellow" in šapru and include the plant here.

Only two substances can be considered possible equivalents: for "azupirānu and "kurkanū: (1) Saffron, the dried stigmas and tops of the saffron crocus, *Crocus sativus*, L., used to-day for giving colour (P. 457): (2) Turmeric, *Curcuma longa*, of which only the root is used, today chiefly for dyeing.

There is little difficulty in deciding. "Azupirānu = 𒍪𒍪𒍪, and is the substance from "azupiru (PL 35, K. 4180A, 27; cf. MB 32), amplified by "yellow azupiru" (KAR 203, 26, 47). It has a doublet azupiranitu (§ 9 E, l. 39; Scheil, RT xxxiv, III) and is erroneously spelt azukirana (33, 3, 7; dup of 96, 4, 10, correctly written), azukirani (Kü II, II, 9). The Sumerian name "HAR. ŠAG. ŠAR = "plant of the mountains". "ŠR. MULU. HAR. ŠAG. ŠAR (§ 9 E, note) (= "powder(?) of the azupiru") and ŠIBIR H. (ib. l. 39), must be the saffron powder itself. In AM azupirānu is used (a) simply, passim: EXT. biad (70, 7, 5), anoint (95, 2 ii 9), for ghost (33, 3, 7, dup. ⁽¹⁾Meissner (ZA VI, 294) connected it with 𒍪𒍪𒍪, which Zimmern (AF 56) continued. But see § 10 A Q.

110 8810, BG, U. 437-444: BK. 477-303

of 96, 4, 10: cf. 100, 2, 8): apply anus? (2, 2, r. 7). Enema (56, 1, r. 8: 96, 2, 10, ii 4). Fumigate (99, 3, 14, r. 4). INT., drink and anoint (88, 2, 8). "Yellow asupiru" drink for dyspnoea (KAR 203, 26), and anoint for ...-bati (ib. 47). Quantity, 10 shekels (57, 3, r. 7: cf. 42, 2, r. 7). (c) LEAF, anoint (88, 2, 7) (c) [SEED of "azukitani, Kü ii, ii, 9]. (d) "1 šu of root of "HAR. ŠAG. ŠAR (41, 1 iv, 27).

"Kurkanû, on the other hand is used in AM thus:

(a) Simply, passim: EXT., anoint (97, 4, 17): for eyes (12, e, 8), mouth (28, 4, 5), hands and feet (98, 3, 18): alone for insects anoint in oil (KAR 203, IV, 18). INT., drink (83, 1, 11), for dyspnoea (59, 1, 36, cf. 44), jaundice (alone Kü. iii iii, 10). Fumigate (80, 8, 5: 91, 1, r. 2: 92, 4, r. 2: 98, 1, 4), ears (38, 1, 3) nose (64, 1, 21): "kurkanû of the mountains, fumigate (101, 3, 17). Quantities, $\frac{1}{3}$ shekel (50, 3, r. 4), 3 bur (10, 2, 8): cf. "2 shekels" (Johns ADD, ii 1074).

(b) ROOT, a drug alone on goats' hair, for ... di 2: (KAR 203, oI, 36). In magic (IV R. 26, 6, 42-43) the root is to be pulled up and used with pure salt, pure alkali, and grease from a cock brought from the mountains, to rub on the patient's body ①

As the evidence all points to زعفران = azupirānu = crocus, we must see turmeric in kurkanû.

The leaf and seed of the former are used in AM, which is hardly referable to turmeric: the root of crocus sativus is prescribed as a diuretic by Diosc. (I, 25) who recommends the drug also for eyes and ears. Saffron was formerly used as antispasmodic and emmenagogue (Post B, IV, 352), and in many complicated medicines (EB, xxiii, 999). Turmeric, on the other hand, is the drug from the root of turcuma: hence the magical directions for kurkanû.

① The idea that turmeric is beneficial ext. still holds good in Basrah: I was given in explanation of the use of turmeric on the hands, يبيد البثور.

The use of "kurkanû" alone for jaundice is paralleled by the use of turmeric root "at one time much employed in medicine, chiefly for obstructions of the bowels and liver" (VK. 519). In India it is used ext. for pains and bruises, leech-bites, etc., and eyes in conjunctivitis: int. for jaundice. Fumes of burning turmeric cause copious mucous discharge, and are used in hysterical fits (IMP II, 1281). (Cf also Waring, Bazaar Medicines of India, 8390). The fact that ~~كركم~~ "kurk' ma root" in Syr. is *curcuma longa*, turmeric, and not saffron is conclusive. Indeed, in Ashar (Basrah) ~~كركم~~ = turmeric, in the bazar. ①

The equivalents of "kurkanû" in § BK are:

L. 477 "sapalginu, compared by Meissner (204, 29) to ~~كركم~~ which has been translated somewhat doubtfully "elecampane" (Löw 281). The cuneiform, if it does not make the meaning certain, increases the doubt about "elecampane".

"UH. TAR. RA = "drug for stopping saliva". "KA. BAB (?) possibly "drug for mouth bleeding" or "drug for stopping blood" (KA = parsu?, SA I, 408). UŠ.É and UŠ.É. U. SA, probably with reference to the curious phallus-like roots of ~~كركم~~ turmeric. UŠ.É. EL. ŠAR (L. 499) as the "root of [Turmeric]" confirms this, probably a compound like ŠÉ. EL. ŠAR, something similar to garlic (§ 10 CM). "TA. HU. ZA. AH (L. 479), comparable to "PI. RI. ZA. AH (L. 500). L. 495, if "KUR GI. RIN. NA means "cock's comb", the simile is from the curious flowers of the turmeric which "grow in loose scaly spikes ... of a yellowish red colour" (VK. 518, where the picture might be said fancifully to recall the cock's comb). "Namul issuri may perhaps be referred to the same idea; inamullu is a wooden object (MA 682), possibly ~~نامل~~ (cstr. ~~نامل~~) "web (weaving), loom", and if so, perhaps by extension, namullu might be the comb used in weaving. But very doubtful.

Finally we may discuss "LID. GAB, sapru.

① Forstål (EF, CII) gives kurkum = *Curcuma rotunda*, in Arabia.

* not possible; ~~نامل~~ is the actual web, not the loom. (JHester)

112. §§ 19 BG, U. 437-444: BK, U. 477-503

(a) Simply (17): EXT., bind (15,3,16: 52,3,6: 70,7,4: 79,1,22), anoint (27,3,4: 55,8,5: 96,4,5): apply anus (101,3,5): swelling (100,3,13): ointment in oil for insects (KAR no. 203, p. 95, 18). "LID. GAB tapas ... tuballal, anoint in a ritual for MAŠ.TAB. BA (twins?), alone (64,1,32). Described as šam ašû (i.e. for pain) anoint in oil (alone, KAR 203, 62): use in some way for quraštu (17,1 ii, 2): cough (80,1,20). (b) SEED (5) EXT., feet (bind) (74,1 iii, 10), anoint for ašû (pain, 55,8,5: 64,1,22: cf. § 9 AV, L. 78). Use in some way for temples (20,1,14). INT., drink as a drug for "having seed" (KAR, 203, p. 93, 18).

IDENTIFICATION: "šapru, since it = kurkanû "turmeric", can only be from $\sqrt{\text{šax}}$ "yellow". But it is distinct from kurkanû; cf. ["KUR.GI]. RIN.NA "LID. GAB in a prescription (78,7,9). LL. 437 ff. ka-man (or niš) -tu, 7 bb. in AM: a drug for ašû (PL. 29, K. 4566, 1, 5). EXT., for feet (69,7,4,9), bind temples (4,6,2), anoint for ašû (16,4,3). That it is the correct restoration here is clear from the duplicates 4, 6, 8-12, and 96,4,1-6, where it varies with "LID. GAB. It is quite possible that kamantu = 𒌦𒌶 , 𒌦𒌶 "colour", although kaništu being possible, we might have compared 𐎧𐎠𐎢𐎡𐎹 (𐎧𐎠𐎢𐎡), a Persian word for an alkaline herb for washing. ①

From "ša-la it-tu it will be seen to be a colour. This ("ša-la it-tu) is obviously similar to ID II PL ŠI+ DUP. PL (quoted above, from PL. 48, Rm 328, m 4 " [drugs) for marking hands". This must then be "a drug for marking šala", and the obvious comparison is 𒌦𒌶 "a hide, corium".

We have thus a drug, yellow like turmeric, used for staining hides. It can only be the sumach, the *Rhus coriaria*, L., one of the best known products of N. Mesop., where dyeing

① Note PL. 40, Rm ii, 41, 3-4 KUR.GI. [RIN.NA], ka-ma-[an-tu]

§§ 10, B A, ll. 437-444 : 10 BK 477-503 ; BH-BJ. 113
leather yellow and red is a staple trade^①.

But there is a most interesting confirmation that "L13, GAB = *Rhus coriaria* . . . "Ki-ib-ni, its equivalent in L441, must be 𐎠𐎢𐎡, fames: it is "a drug for hunger, appetite". PC XIX, 485 (1841) says of *Rhus coriaria*: "it is extensively used for tanning, and it is said that all the leather made in Turkey is tanned with the bark of this species of *Rhus*. The fruit is acid and astringent, and the seeds are often used as tonics for exciting the appetite." VK 520 says "the seeds are used in Aleppo to provoke an appetite before meals."

Pliny (NH XXIV, 54) prescribes it for bruises, and ulcers of the rectum, and also internally.

§ 10, BH, ll. 445-449, "ZALLU ERİŠTI, etc. See § 10, G I.

§ 10 B I, BJ, ll. 450-476, "ARUŠU, "AMUŠU, "KUNIBHU, etc., *Viciae*, *Lathyrus*, *VETCHES*, etc.

These two long sections are obviously closely connected. The plants contained are not used in medicine, but one (*Kunibhi ŠAR*) is cultivated (MB 7).

"Atirti ekli" indicates a field-plant. Holma (KB 58) rightly compared 𐎠𐎢𐎡 *Lathyrus*, which occurs as *L. Hirsutus*, L., at Kalah Sherghat (Herg. OLZ, Beih. II, 33 : SH 31). Note, however, "atirtum, § 9 D, L. 17, = *Euphorbia*.

For reasons to be considered subsequently, it must be the *Lathyrus* here: the two sections seem clearly to contain many of the *Viciae*, including *Pisum* (pea), *Vicia* (vetch), *Ervum*, *Lens* (lentil), *Lathyrus*, *Orobus*, *Faba* (bean), and *Cicer*.

Beginning then with "atirti ekli" "field lathyrus" we can see in it as Holma did, *L. hirsutus*, L., a cornfield weed growing amid crops in Mesop. (BFA 609)

^① On this see my chapter on the Carchemish Tablet, Woolley, Carchemish.

§§ 10 BK, ll. 477-503: 10 BL, ll. 504-505 etc. 115.
§ 10, BK, ll. 477-503 "KURKANU", see § 10, BG.

§ 10 BL, ll. 504-505. "HAZALUNU", "KASALLUHU".
Possibly "hazalunu" might be compared to the form
𐤀𐤆𐤏𐤍 (the purple mussel), but it gives no botanical
comparison. Post (824) gives a word henzalūd, Rup-
pia rostellatus, Koch, a ditch-grass. Not probable.

"Kasalluhu" occurs PL. 31, K. 8846, r. 20. Possibly the rt-
hand col. "pu-..." is to be restored from the next section.

§ 10, BM, ll. 506-511 "PUHU" (2?)

Possibly "𐤏𐤅𐤅" was fragrant. In AM (40, 2, 5[1]: 91, 6,
4). Is it ~~𐤏𐤅𐤅~~ Portulaca oleracea, L.?

§ 10, BM, ll. 512-521. "UHULU" (2): "UHULU KARNANU" (74),
uncertain (51: Salsola kali, L., Salicornia, LYE, ALKALI.

(a) Uhulu simply: cleanse mouth (with ^{tak} KUR.RA and
*styrax (60, 1 v. 9): enema (56, 5 + 23). Quantities, 1 shekel
(41, 1 v. 18), $\frac{1}{2}$ ma(na) (56, 5 r. 2-3).

(b) Uhulu karnanu (twice U.K. ŠAR, 98, 1, 2: 99, 3, r. 20),
and once the adj. kalate "burnt" is appended (7, 7, 4).

EXT., eyes (9, 1, 20: 16, 1, 2: 17, 4, 4, 9: 19, 6, 12): anus (53, 9, 11: 57,
5, 12[1], r. 2(?)): temples (2, 11, 16): assuage šiggati (blains?)
32, 5, 5, 3): bind on swelling of heels (73, 1, 16): wash patient
(94, 2 ii 9): wash rit-ti (98, 3, 3): wash head (5, 5, 9). Bind
on sualam (cough, 60, 3, 3). For KA. ŠIB. ŠIDA (mouth or
tooth (78, 1, 30), Fumigate (93, 1, 11: 98, 1, 2: 99, 3, 17, 19).
Enema (56, 1, 14, r. 7: 57, 5, r. 2: 94, 2, 4, 7, 9). Uncertain use
for frigidity (57, 10, 6): stomachic (39, 1, 35: 40, 1, 28): fi-
nikti (constriction, 60, 1, 5): drink(?) (89, 4 r. 1). Quantities
 $\frac{1}{2}$ mana (56, 1, 14): 3 še (9, 1, 30): 1 shekel (89, 4, r. 1): 2 shekels
(5, 7, 5): 10 shekels (99, 3, 17). LA occurs (55, 5, 5), and possibly
[5] M. u. k. (12, 8, 3).

Long identified with ~~𐤏𐤅𐤅~~ "lye, alkali" (HWB, 43).

116. § 10, BN, U. 512-521.

which = القنبل (Löw, 42), described by Chesney (Exp. I, 574, cf. 593), speaking of "sheiran and alkali," the soap-plants found in the deserts E. of Palmyra, EL-Asha, and Nejd, the Arabs still obtaining lye from their ashes (cf. Von Opp. II, 386, between Damascus and Palmyra). Post (686) gives ushnan, khurusah, khimâm, and khênân, as the equivalents of *Arthrocnemum glaucum*, Del.

U. karni and karnanu "horned" (cf. HWB, 43, SAI 2980⁽¹⁾) are clearly descriptions of a soda-plant, either *salsola kali*, (whence alkali is obtained in Palestine (FTP 27)), or better, *Salicornia*, the name of two species of *Chenopodiaceae* abounding in soda ("the name is from the Latin sal, salt, and cornu, a horn, from the alkaline salt in which it abounds, and the horn-shaped branches," C.A. Johns, *Flowers of the Field*, 530).

U. Kiltum must be قلى *Salicornia herbacea*, L.

U. sagilatu (prob. distinct from "saggilatu (2), § 9 cf and prob. PL. 24, K. 4412, p. 24, cf. 25: AM, 5, 5, 14 and prob. 43, 17) must be الشيح (الشيح) the name of an alkali plant. It certainly cannot be الشيح *Cyperus* (Zimmern, AF 58). Finally U. Pir kalbi is perhaps the equivalent of the mod. *fiss el-keleb* (for *Chenopodium album*, L., and *murale*, L. (Post, 678, 679).

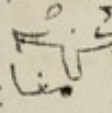
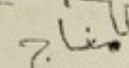
Carbonate of soda is prescribed ext. for eczema (p. 1107) and "dried" unofficially in baths (p. 1109). Gerarde (429) recommends *salicornia* for provoking urine, and bringing forth a dead child from the womb, and the ashes for removing scabs.

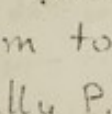
Alkali is made in India from *Salicornia brachiata*, Roxb., *Suaeda fruticosa*, Forst., and *S. monoica*, Forst. The sun-dried plants are burnt in pits, and the fused alkali collects at the bottom, becoming "barilla" ready for

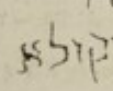
(1) For karnanu cf. B+ 1204, 1205. كروان, of the poppy (Löw, 203)

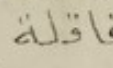
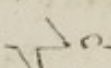
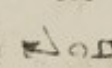
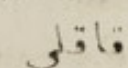
export (IMP. 1069). In Basrah I saw a grey powder from the š'nân called julu or jilu. The š'nân, as sold in the bazar, was in ½ inch pieces, and was said to have dried on the bush. It is gathered thus for soap at Sulš esk-Sheyukh. Herzfeld (SH 33) gives *Salsola auriculata*, Mg. T. (at Tabus on Euphrates), *S. spissa*, M. B. (at Rusafuh on Euphrates), and *S. vermiculata*, L., at Qalat Jabar, and others.

10 BO. ll. 522-530. "MANGU, "KAKULU, "S(Š)AMETU, (= *salsola fruticosa* L.), various soda plants.

CT. XI, 45, ll. 6-8 gives these three as equivalent of "EL-TEG, which sign must be restored here (cf. 8 9 BN). Mangu =  (Meissner, ZA. VI, 293), *Phaseolus Mungo*, L.,  "a sort of green peas" the Mungo of Clusius (Dozy, Supp. II 617). It occurs MB 12 (man-ga ŠAR) with šitû ŠAR, lahlahi ŠAR, šukurtu ŠAR, and kakullu ŠAR. In PS it is given as the equiv. of julo "pulse" (Löw 245), the mod. equiv. being "vetches".

At the same time, tempting as this equivalence is, it is hard to reconcile either with the sign ELTEG or kakulu, šukurtu, and šametü, all of which seem to indicate soda-plants; that is, if  is really *P. Mungo*. It is possible that "mangu is the (Arab?) mârjo, soda, kali (plant), *suaeda fruticosa*, Forsk., given Dozy, Supp. II, 578.

For kakulu Meissner (ZA VI, 293) suggested the obvious , which he accepts as Cardamom. Actually, however, in this word we have to deal with two possibilities: (1)

 *Cardamomum* or *Nasturtium*, a sort of Cress eaten by the poor (Jastrow, DT. 1409) which is  *C. vulgare*, doubtless the *κάρδαμον* of Diosc. (I, 174) (of which he says "the best is Babylonian"), supposed to be the *Lepidium sativum*, L., found in Persia as far as Isfahan cultivated everywhere (BFO, I, 354): and (2) ,  *Salsola*

118 § 10 BP, ll. 522-530; 10 BP, ll. 531-537.

fruticosa, L. (= *Suaeda fruticosa*, Forsk.) in Iraq, (PS 3710: Dozy, Supp. ii 296), which, says IB (No. 1725), is eaten with milk, resembles soda, and its leaves are like cultivated cress; in India (IMP II, 1069) it is used as an emetic. In view of the definite value ELTEG = uhulu, alkali-plant, this is obviously the right equivalence, and we need not concern ourselves with cardamom.

But *Suaeda* is properly the Ar. سوس, the soda-plant, or سوس Chenopodium maritimum, L., also a soda-plant (Dozy, Supp. I, 699). In this we can clearly see our s(š)ameṭu, i. e., saweṭu. The form of the word, esp. in its variable s-š, points to its being foreign. (For issur samedi, see § 10 BR). At Basrah I was shown a plant called suéd (September, 1915).

Again, šukurtu is probably شقر الحار, *Chenopodium botrys*, (Forsk., EF CVIII), one of the soda-plants.

Šitû, unknown. Laḥlaḥi is comparable (but only philologically) to سلاج *Silybum Marianum*, Gaertn. (Dozy, ii, 521).

§ 10 BP, ll. 531-537. (1)^u KUDIMERU, *Cardamum*, *Lepidium sativum*, L. (2)^u SAHLANU (1), *Cardamom*, L. *sativum*, L.

(1) In CT XIV, PL. 23, K 259, 8, prescribes it for a hollow tooth.

From § 10 BR, ll. 532-533 it existed in Syria.

(2) *Sahlanu* may well be σάβανον, κάρδαμον, *Lepidium sativum*, L.; used for eyes AM 8, 6, 6 (alone). *Cardamom* is used ext. in India in all the diseases in which mustard is used (IMP I, 97), the seed being regarded as a more satisfactory rubefacient. That is, it can be used for toothache like *Kudimeru*: Diosc. ii 205 says that the root of the *Lepidium* is so used.

There seems therefore every probability that ^uKudimeru = ^uSahlanu = *cardamom*. Surely then we must see in *Kudimeru* the origin of the word κάρδαμον, by a usual metathesis where m and r are concerned.

§§ 10 BP, 2: 10 BQ, U 550-552 10 BR U 553-560. 119

§ 10 BP 2: "ALLUMZU (1), "ALLUZU (1)

Drink without a meal (22, 57): the root of "alluzi is used with mustard-root for teeth (PL 23, K. 259, 13: KAR 202, 12); its juice (62, 3 & 5). Obviously some hot, pungent plant. (Cf. PL 48, Rm. 328, V, 12)

§ 10 BQ, U 550-552 "KURSIMANU Not identified.

§ 10 BR, U. 553-560. "SAMEDU, "KUR.ZI

Maḡû V, 33, kima "KUR.ZI ŠAR lisammušī kišpuša "like the "KUR.ZI plant may her sorcery blind her," a bad pun on "samedu. "KUR.ZI, PL. 39, Rm. 352, r. ii 14.

L. 560 shows that there were two kinds, a greater and a less. The dikdikku-bird is called "bird of the samedu" (PL. 4, iii, 40, like others, such as išsur hurri, išsur kisi, išsur ašagi, and išsur tubaki, in which the habitat of each is specially described). Perhaps asmida ŠAR is a form of it (M 13 31)?

§ 10 BS, U. 561-562 ["..."] LAMBIRU Not identified

§ 10 BT, L. 563 ["AMA?"] A.NI, "..."-ši-tu

For the latter see § 10 CH, U. 636, 637.

§ 10 BU, U 564-569. "SI.DI (8), "GAR.GAN.GAN (5), "GIR(MN)GIRU (1), "EGIMGIRU, "ŠURDUNŪ, Eruca sativa, L., ROCKET.

-"SI.DI: (a) simply (2); (b) SEED (6), EXT, bind (30, 2, 3) use for KU.GIG (58, 2, 4): cough (80, 1, 19) INT, drink (60, 1, 8).

Fumigate (91, 1, 10).

-"GAR.GAN.GAN (a) simply (3): apply tooth (36, 2, 3): drink (88, 3, 4).

(b) SEED (2), bind (55, 1, 7): apply, eye (8, 1, 26).

-"Gimgira, simply (1), apply eye (12, 6, 5). "Gingirû (KAR 203, VII, 15) is šam KU.TAB "a drug for swelling on the anus" to be drunk and applied: it is also šam KU.GIG "a drug for sick anus" (ib. 6): šam KU.ŠA.TUK, "a

120. §10 BU, ll. 564-569 : §10 B2, ll. 596-604.

drug for (some anus trouble); to be applied (ib. 14). That "egim-giru is an equivalent is clear from PL. 35, K. 4180A, ll. 33, 35, 38, 48, and §9 BU, footnote. This latter text shows its close connection with Karlašu "garlic", and hence Holma's ~~egim-giru~~ ~~عجيم~~ *Eruca sativa*, L., is correct (K1367). Egingirri SAR occurs MB 34, with saffron and coriander.

The use of *Eruca* in medicine is due to its hot seeds (GM 34). Its properties are similar to those of water-cress and cuckoo-flower, acrid, and used for purposes similar to mustard in India (IMP2, 95): "used instead of mustard", Diosc. (ii 169).

§10 BV, ll. 570-573. "PUGLU (1) *Raphanus sativus*, L., RADISH. = ~~𐎧𐎠𐎢𐎡𐎢~~ (Del. Proleg., 84, m 2). In MB 42 with turnip, etc., so that this ident. is more probable than Ar. ~~𐎧𐎠𐎢𐎡𐎢~~, *Portulaca oleracea*. 12 AM reduce and anoint in oil and beer (1, 3, 10).

§10 BW, ll. 574-575. "ŠU". See §10, C.

§10 BX, ll. 585-586. "ŠAŠUMTU". See §10, A W.

§10 BY, ll. 587-595. "ALAPU". See §10, C.

§10, B2, ll. 596-604. "GI.KA.LUM.MA (16): "KURŠIBTI EKLI (1); "EPITĀTU (0): Urtica, NETTLE.

"GI.KA.LUM.MA : (a) SEED (6), EXT., anoint (20, 2, 5): apply eyes (10, 3, 32), anus (94, 2 iiy : 101, 3, 5). INT, drink, for cough (80, 1, 10).

(b) ROOT, (2). EXT., anoint (88, 2, 8): for KU. 919 (48, 1, 9).

(c) JUICE (6) EXT., eyes (13, 1, 4), swellings (74, 1, 17, 18).

Some form of the plant for eyes (6, 1, 20): mastka (45, 6, 11) Kur-šib-ti ekli, for eyes (13, 6, 17).

IDENTIFICATION: Zimmern rightly ~~reads~~ ~~egim-giru~~ "nettle" (AF. 58). In SM the nettle is drunk (II 421), or applied, for a cough (670); the seed is drunk for pains in throat (204), liver (342, 400) stomach (410), and used in plaster (441). FHS 351 f. gives its use for aqua, internal bleeding, itch (esp. of anus), and ext. for burns. Gerarde (568-571) prescribes dead nettles for wens and "whites", and stinging nettles for bleeding, stone, urine, chesi tumours, breath, serpents and scorpions. Diosc (ii, 92) gives

nettle for gangrene and menses, and the seed as aphrodisiac and for lung inflammations.

“Epitâtu, entirely uncertain. Sayce's ingenious comparison with 𐎠𐎢𐎩𐎠𐎫, part of the palm, is improbable: the word means a definite plant, and there are 3 equivalents from Šubari (where the palm is rare). SP III 6 (Pinches, PSBA, 1894, 309, 4) gives GI.KA.LUM.MA = ku-u-ri

§§ 10 CB, U. 605-607. “KAMTI EKLI, “ŠAR EKLI

For the former, see § 9 D, l. 20. “ŠAR EKLI probably = “NUNUZ ekli (§ 6, l. 124, note). The seed of “NUNUZ used for feet (probably ext., 69, 2, 8).

§ 10 CC, U. 608-611. “KAMME (not “KAN.ME), see p. 274.

Discussed on p. 274, where its various forms, yellow, white, growing in fields or mountains, gurgurri (of the metal workers, not “rope”).

§ 10 CD 2 “ŠIBURU (5) ŠIBARU, ALOES, see also p. 276

Always simply; INT., drink (22, 5, 7), for dyspnoea (59, 1, 36), stomach (Kii iii, l. 35, 36). Cf its description (Scheidt, RA 1916, 38, 18) šam marti | RAT ina kurunni tašatti “a drug for bile, bray, drink in kurunnu”. Long identified with 𐎠𐎢𐎩𐎠𐎫, Löw (426) says sabbarah in Syria is only the Opuntia cactus: but Lane (1645) “of which the leaves are like the sheaths of knives” can only be aloe.

The form šibaru occurs (Bezold, PSBA XI, 54) “if the hair of his head stands erect like šibari”. 18

① Correct my text Pl. 10, VI-V, § from imeri to arku.

② From this latter I had thought at first that it might be mallow, as one of the fibrous plants used in making cordage. Several of the Malvaceae might have fitted, esp. the yellow Sida. Ainsworth (Assyr. 36) mentions Malva rotifundia, Ar. kubiisi. Post (178) gives Ar. as khubvâza, khubbaizi, and for M. Nicaenensis, All.; raqmeh. But mallow, in the face of p. 274 is obviously impossible.

122 § 10 CD 2 - 10 CK, ll 620-666.
says (1328), of ܚܫܘܪ, that it evacuates atrabile, and is
good for melancholy and dyspnoea (see Schoff, JAOS, XLII, 171).

§ 10 CD 3 "AARIANU, see pp. 45, 276. § 10 CE, ll. 620-

622 "HALLAM ZABI[TU?]. Uncertain. § 10 CF, ll. 623-624

"SAGGILATU, § 10 BN, l. 520. § 10 CH, l. 636 "AMA.A.NI

§ 10 CJ, ll. 660-662 "supalm, § 27, p. 159, and p. 268. "ASU-
SIMTU, § 10 AW. _____ O _____

§ 10 CK, ll. 663-666. "MURDUDŪ(2) ("ASTABELU(1), see § 10 W, and
p. 266): "HAŠHURAKU, "HAŠHUR ABI(4) ** GALL-APPLE.

"Hašhur abi, lit. "apple of the (reed)-thicket.

"Haššuru has long been identified with ܚܫܘܪ (§ 39)
which is thoroughly well proven. "Apple of the
thicket" must have a special sense, like the Syr. use
in pomae mandragorae, and for poppy-heads, and

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pomus sylvestris (Ps 1339). The first
question is, What exactly is abu "reed-thicket"?

It undoubtedly means the reed-beds of S. Babylonia;

but the Broken Obelisk (IV, 23, Annals, 141) speaks of

"swine of the abu", in a connection which appears
almost entirely mountainous, and not S. Babylonia ①.

Can we extend the meaning of abu to "thicket" in
general, esp. by the river-side (as opposed to "kištu" "wood")?

If we limit "hašhur-abi to a product of the
reed-bed, I can suggest no equivalent except the
"knops" or "rough burs" of the "burre reeds, Spar-
ganium" of Gerarde (41), good for venomous bites when
drunk.

But if we may see in abu the
wider sense of "thicket", "apple of the thicket" may
well be the gall-apple of the oaks (which grow plen-
tifully on the hills, although not on the flats) ②. That

① The wild-pig of Mesop., of which there were at least two va-
rieties, inhabit the Tigris valley for much of its length. I
shot at one by a watercourse in the hills some days
N. of Mosul in 1904, and was told that they were
also to be found in the Hawiga-thicket opposite Mosul.

② There are also gall-apples of Tamarix Gallica, L., and
T. Orientalis, Vahl (WPI 39).

4H
salot
acom
(T)

this was a staple trade in old days as it is today round Aleppo and Harran cannot be doubted: the great estates of Beluṭ-trees (med. ~~by~~ dwarf oak) round Harran is known by the texts published in Johns' *Liber Censualis*, as I pointed out in my chapter in Woolley, *Carchemish*, I, 137. I need not repeat here what I have said at some length there about the ancient and medieval trade in gall-nuts and tanning.

Gall-nuts in medicine are astringent, to suppress bleeding, lessen mucous discharge, and are used in ointment for painful haemorrhoids (P. 550), and tannic acid from nut-galls as styptic, local astringent, and int. for haemorrhage (P. 25).

In AM ^uhašhurabi is used for KA.DIB.BI.DA. (mouth trouble) 18, 1, 19, and prob. 23, 2, 6). Restore PL 36, 79-7-8, 22, 3 [^uhašhur]abi = ^uša-mi dāmi parasi(ri) "apple of the thicket," a drug for stopping blood! INT. drink for TU.MEŠ (KAR 203, IV, 50, cf PL 29, C. 4566 + 26, K. 14047, 12, a drug for TU.MEŠ): PL 48, Rm 328, n. ii 7, one of the drugs for ŠA.MI: drink (?) (87, 5, 14).

PL 32, S 1328, and its dup. PL 39, K 10126, giv⁹

[g⁹ MAŠ GURU G⁹].G⁹

^uha-aš-hu-ra-[ku] (v. ^ubašhurabi)

[P^u a-pi-š]a-nu

" " ina šu-ba-ri

I offer the restoration apizanu (gall-nuts or gall-oaks) very tentatively from the Carchemish Tablet quoted above, which deals with the question of rights over apizanu (gall-nuts), etc. Šubari would certainly extend to Carchemish.

^uHašhuraku is made up of hašhuru + ku, perhaps like ielammaku from elammu, and possibly abukatu, ašlukatu, feminine forms from abu, ašlu + k (see § 100C). It must, if so, mean "produce of the apple", i.e. tannin.

^uMurdudu (2) (87, 5r. 9): bind head (2, 1, 20) uncertain.

^uaštabelu. § 10, W.

① Meissner (Bab. Ass. 208) uncritically accepted Johns' value "vines" for Beluṭ, which has obscured the true value of these interesting documents.

② A part of the body.

124. § 10 CK, ll. 663-666: CL, ll. 667-671: CM, ll. 672-681.

In discussing the probability of "haškurabi" = "oak-galls, tannin", the description of "išbaltu, § 10 C, must not be ignored: "like haškurabi" followed by "šitum (so read) tamšil išbaltum (exerescence(?) like išbaltum) fruit green and hard", for which I have suggested *salvia pomifera*. A form "ša-mi Giš.GI" "drug of the thicket", probably the same as *haškurabi* is [drunk] for dyspnoea [59, 1, 36].

§ 10 CL, ll. 667-671 ["KAZALLU, see § 10 C; 2. ["AM.SI].
HAR.RA.AN, anoint (14, 6, 3)

§ 10 CM, ll. 672-681 ^o "KARAŠU(S) LEEK: "BISRU ONION, etc.

L. 672, *karāšu* כַּרְשׁוּ, *Allium porrum*, L., "leek" (Meissner ZA VI, 292), in MB 3. In AM, simply, slit (36, 2, 11): in KAR 203, VII, 37 = "šE.MULU.ŠAR (kisibirru) so that his sick eyes do not hurt him". Drink in milk with buttatī (presumably (?) Ar. buttatī, A. Sinaiticum, Foster 789) as stomachic (Kū ii, 1, 19). Its fruit used (Kū ii, iv, 30) and seed (5, 5, 4: 27, 6, 11) against grey hairs (4, 1, 24). Giršati (l. 673) is another form.

The same division in MB (1-4) gives ŠE.ŠAR, i.e., šūmu, long identified with שׁוּמ, *Allium sativum*, L., "garlic". ŠE.EL.ŠAR, for which no Semitic equivalent is certain, must be something similar ("shallot," A. Aescalonicum, L., or possibly onion, but cf. § 9 BW, ll. 31 ff). Mirga ŠAR may be מִרְגָּא, some kind of Spring cabbage.

šūmu (8), chew (85, 1, 1), and fumigate (99, 3, 12); BAR šūmi ("half a clove of garlic"?) (14, 2, 14: 47, 3, ii 10). Drink for dyspnoea (KAR 203, 28), bile (Kū iii, i, 14). Its "green" is prescr. (Kū ii, ii, 8).

ŠE.EL.(LA).ŠAR (4), "when eyes are sick of tabilam (8, 1, 11). Garlic, ŠE.EL.ŠAR, and leeks, are forbidden in certain stomach trouble (Kū i, ii, 29).

In India garlic is used as carminative, diuretic, stomachic, etc. EXT. the juice is applied to

§ 10 CM, ll. 672-681: 10 CN, ll. 682-689, etc. 125 ears, and to hair to prevent greyness (IMP II, 1294) (see a similar remedy from the leek). Uššurati may perhaps be ~~juic~~ Urtinea scilla, Steinh., Squill. Bism is 𒌶𒌷 onion (Holma, KB 66).

§ 10 CN, ll. 682-689. [○] HAŠŠU ŠAR(2?), Lactuca sativa, L., LETTUCE.



= 𒌶𒌷 lettuce (Meissner, ZA, VI, 293). Its seed with cummin bound on sick eye (?) (As 1, iv, 8). The narcotic principle of lettuce has long been known.

Since the Sumerian word for guzazu means "the small lettuce", we shall probably be right in seeing in it the Cabbage Lettuce as opposed to the upright ^{Cos.} lettuce. The muraru "bitter lettuce" (cf. 𒌶𒌷) and Syriac hasmerare, Zimmern AF 57) must also be a small variety; it is distinct from marrulu in l. 97, "endive", Syr. 𒌶𒌷 kept distinct in a different division of MB from the lettuces. Šihu-..., some related plant. MUH, AŠ, AŠ, ŠAR, § 10 E.

§ 10 CO, ll. 690-693 [○] "ŠU" (○) SPELT, "PAR... (○?) "SAHLĒ (134), Lolium temulentum, L. "ŠU" occurs § 9 BW: presumably, but not certainly we may restore it here. Hrozný (Getr. 88) compares it to 𒌶𒌷

126. § 10 Co, ll. 690-692.

Spelt, as distinct from šēu "corn", and shows from the frequency of its occurrence with sesame in Johns' ADD 1002 ff, how important it was. ①

It is difficult to suggest a restoration for l. 691. I had thought g[a] possible, i.e.  is "millet", but in face of BULUQ, § 73, if for no other reason, this is improbable. Besides, Mr. Sidney Smith, who has kindly re-examined the tablet says that the character  does not favour ga.

With "Spelt" in this section, my restoration sahlû would, if correct, provide us with a cereal. It is a most important word, hitherto, I think, wrongly translated. Sahlû, sahlê, ZAG.HI.LI (šAR); sa-ah-li-i (Landsberger, OLZ, 1922, 243): sah-lu-u (16,1,26: 39,1,43), sah-li-e (15,6,10): not kit-ni-e (Meek BA 43): Maqlû V, 32 confirms this: kima ZAG.HI.LI.šAR lišhulusi kišpuša. That ZAG.HI.LI = sahlê is clear from duplicates (16,4,4 and 64,1,35)

In AM (a) Simply, passim: EXT. (19,5,5?: 29,5,5: 31,2r,6: 44,1ii6: 49,4,2,4: 98,3,9: 72,2,11: Kû ii, i, 18): on temples (20,1,19, 20,37), ears (33,1,24: 3r,1,37), eyes (8,1,14,17: 8,5,7: 12,8,8: 16,1,1, 6: 19,6,5,7,12,15(?)), nails (100,3r,10), teeth (21,1,15) feet (68,1,79: 69,7,9: 74,1,33), anus (42,2r,7(?): 53,9,7), bind on heels (73,1,16), on stomach (Kû ii, i, 20), maška (27,2,13): for cough (50,1,7: 80,1,20). For KA. DIB.BI.DA (23,2,11: 78,1,13,18,17, 20,29,30): cleanse mouth (78,1,3): for yellow saliva (31,6,7). Fumigate ears (33,1,36). Enema (94,2,6). INT. (80,1,5): drink (1,3,12: 16,4,4: 26,6,12: 36,2,12: 64,1,25: 81,1,4: 83,1, 7, 20: for stomach (39,1,43: Kû ii, i, 23). Uncertain use (2,3,5: 39,1,33: 40,1,45-47: 45,6,10: 58,2,3: 79,5,2). Quantities: 1 še (26,6,12): 7 še (91,4,11): 8 gur (23,4,ii 3): $\frac{1}{3}$ ka (41,3,2): $\frac{1}{2}$ ka (15,3,18), 10 shekels (20,1,19: 64,1,6).

① Hrozný, ib. 55, gives lahrû, kurāšu, bušuttum, di-šiktakku and alabpau as its equivalents

Next, in support of this, cf. ... sahlê itti GAR.ZIZ.AAN ikkalu^I (34, 1, 16) ... -ma sahlê ŠAR GAR.ZIZ.AN.NA buḫram saluppu ikkalu^{II} (35, 1, 9) (i.e., eat sahlê with wheaten bread): hi-ib-za ina sahlê ikkal (105, 13) "bread in sahlê he shall eat" (šibza = خبز). Also, sahlê forms a regular part of the daily diet: cf. Strassm., Nbn., 925, "2 pi of ŠE.BAR (corn), 2 pi 18 (ka) of dates, salt, sahlê, as the food for Tebat šamaš-iddin, the boatman of the brick-barge, has received". Neb. 491 (ib.) speaks of -bīt tabilu (a pepper-pot?) and 10 sahlê, both obviously condiments.

Both *Lolium perenne*, L., and *L. temulentum*, L., are common in Palestine (Post 896: cf. BFO, V, 681). *L. temulentum*, in spite of its definitely narcotic effects (Bentham, H, 597) has been frequently used in making bread: the grain "is poisonous, both to man and animals; but by no means always, for bread has been made out of it, and eaten with impunity ... The effects of eating bread containing flour of darnel grains are described as resembling those of intoxication" (HP 179). "According to Christison, darnel when mixed with flour and made into bread, has been known to produce headache, giddiness, somnolency, delirium, convulsions, paralysis, and even death. ... a case is on record of a small farmer near Poitiers in France, having killed himself by persevering in the use of darnel flour for making bread." (PC. XIV, 1839, 99).

IB No 1370 says that its grain has nothing harmful in it, but it is used ext. to produce a narcotic effect. Post (HDB, IV, 678) says that there are four species in Palestine, and that they are not eaten except by fowls. Culpeper (85) says of the darnel that it is not without some vices, but has many virtues: its meal stays gangrene and sores, and with salt and radish roots it cleans the skin of leprosy, etc.; with water and honey it is used to bathe sciatica. In a poultice it will draw forth splinters.

It would seem therefore that *L. temulentum* was

§ 10 CQ, U. 674-693; 10 CP, U. 694-697; 10 CQ etc. 123.
 used in medicine frequently, doubtless partly on account of its
 narcotic effects: that, in spite of the danger arising from its
 use as a food, it was customary to use it in bread-making.
 If I am right in identifying it with sahlû, as there seems
 every reason to do, we can see this use both in medicine
 and bread-making reappearing in the cuneiform texts.

§ 10 CP, U. 694-697. KITÛ (linum, FLAX.

(2) Simply, KAT, iKAT, uKAT (3).

(b) KU.KAT (9) i.e. "KAT-cloth": in applying poultices, K.K.
 lasappir (28, 3, 7, var., besipir, 16, 5 ii 6), tapattu (25, 6 ii 10, for
 bu'sanu in mouth and nose, 90, 2, 18), takattamsu (90, 1, 7);
 sprinkle K.K. with oil (for bu'sanu, 27, 1, 4): in K.K. bind
 (84, 4, 8). (c) SEED (13) EXT., (32, 5, 10), oint (94, 2 ii 12

96, 1, 3): "like a rabiki" (61, 2, 6): bind šiggati (blains?), 32, 5, 5): ana
 SA kabiti lubbuki (69, 8, 15). INT., drink (55, 2, 2: 90, 1, 17).

Used for lungs(?) (54, 1, 5). Quantity, $\frac{1}{2}$ ka (51, 10, 2: 77, 1, 11).

It has long been known as providing a kind of cloth (MA
 455), and Scheil (RA XVIII, 52, ii 30) was right in his suggestion
 that it is flax or hemp. But "hemp" I have already iden-
 tified as azallû, § 10 AT, and it would hardly need the
 frequent connection of kitû with lubulti birme, calling
 to mind the "purple and fine linen" to settle it as flax.

Linseed poultice ext., and linseed int. for catarrh,
 dysentery, diarrhoea, etc (P 729) coincide well with AM

The form كَان, KĀN may be an -an derivati
 perhaps occurring as ka-at-nu in 6700.

§ 10 CQ, U. 702-704 BAHURU. Is this البفور,
 Lignum aloes?

§ 10 CT, U. 711-718. ANTAHŠUM (5), PRUNUS, PLUM:
 KARŠUM, CERASUS, CHERRY: SUPURGIL, Cydonia, QUINCE.

(1) Antahšum: simply, always: eat alone with honey and
 butter (83, 1, 19): eat, MW.LUH (unwashed?, 81, 3, 1). With kukru
 (fir-turpentine) (81, 8, 9): In 83, 1, 8, one of 27 drugs For the e
 (1) ext. oint. RA XV 75), in MB 5, : 6A antahšum (17, 7, 6).

Antahšum occurs frequently in Johns' ADD, e.g., 1024 (l. 8) DUK.KA.ZAK hi-i-li (l. 9) DUK.KA.ZAK an-tah-še DUK.KA.ZAK su-pur-gil (l. 10) DUK.KA.ZAK sir-di 'sa-ab-lu qa-am-ri. (cf. 1003, 8, ff.: 1005, r. 2 ff., 1007, r. 8 ff.: 1009, 5 ff.: 1010, r. 9 etc, where the same groups recur). Supurgil is given as su-par-gil-li 10:3, 2. 3: sir-di ends a line, 1015, 7.

Now the DUK.KA.ZAK is a vessel which holds oil or honey (Zimmerm, Rituel, 67, 9, 10: 68, 14), so that we may expect the contents in ADD to be of a similar nature, thick or sticky. But antahšum is to be eaten in AM: it must therefore be a fruit from which a thick, sticky substance is to be obtained. It is hardly native Assyrian, being quinqueliteral.

It can hardly be anything but انجاس, انجاس, plums in Mesop. (pears in N. Africa), a foreign word (see Lane sub انجاس). It becomes a certainty if we recognize in DUK.KA.ZAK a pot of conserve or, more likely, syrup, with supurgil as سفرجل "quince".

Returning now to § 9, CT; since antahšum is "plum", karšu must surely be some similar stone fruit, and the obvious comparison is cerasus, cherry, taken over(?) in كرز. Sargon (VIIIth cent.) mentions the karšu with šumlalû ("a pleasant fragrance") growing on the mountains of Sinahulzi and Biruatti, probably to the East of Lake Urmieh (Thureau Dangin, Une Relation de la Huit. Camp., p. 9, l. 28). Since the cherry was introduced into Europe from Asia Minor, there is every reason to suppose that it brought its name karšu with it, now the German Kirsch. VA. Th. 721, quoted Meissner, ZA. VI 292, "two ka of honey, five ka of karšum ŠAR, five ka of pine" is obviously not "leek", but cherry (-gum).¹ PL. AD. Rm. 328, VI, 8 it is a drug for aḫḫazi.

Parri' may be the same as tak parrum (PBE xxvi, 62, 1, 2)

¹ Cherry-gum is the best of the gums yielded by the Prunus genus (VK 316)

for which Lagden suggested a kind of hard fruit, perhaps the stone of the juniper-fruit. But it is doubtless nearer one of the genus *prunus*.

Returning to the quotation from ADD. *Ṣamru* also occurs in John's Assyrian Domesday B., No. 3, 1, 6, 8, ii 5, iii, 3, from which we may gather that the *ṣamru* grew in orchards round Harran, often as many as 300 "kanni" at a time, with 150 *ṣarbutu* (*styrax*) and *ulupu*-trees, and sometimes distinguished by the adj. "green, yellow". Here in ADD a "basket" of the fruit is quoted. It is thus a small(?) fruit, especially Syrian, regarded in ADD as a delicacy(?).

The explanation seems to be the Jujube. *Ssamur* is the mod. Ar. for *Paliurus aculeatus*, Lam. (Post, 201) common in A. Minor, with a broad brown fruit (PC xvii, 168). But there is another of the Rhamnaceae, *Zizyphus*, of which *Z. vulgaris*, Lam., the common jujube, is a native of Syria, with a fruit blood-red or saffron in colour, sold in great quantities in Constantinople; a syrup is made of it, and when dried the fruit forms an agreeable sweetmeat. It is easily propagated by cuttings of roots or by suckers, and it grows to a height of 20 or 30 feet (PC xxvii, 789). The fruit of *Z. Spina-Christi*, L., is also much eaten in Egypt and Arabia. Properly the *Z. jujubi* is *Ennâb* in Ar., and *Z. Spina-Christi* is *Naba*, or *Sidr* (Post) but probably they are sufficiently near to the *Paliurus* for us to borrow its name *ssamur* for *ṣamru*. John's translation "shoots" for *kanni* was probably right.

Sirdi must be the *ṣaman si-ir-di* of AM 33, 3, 7, and 96, 4, 11, and the *si-ir-di* of 1, 2, 19. In Sennacherib Kuy. 4, 37 (quoted MA 783) *si-ir-du u rikke rabiš iimuhu* "the sirdu-tree and aromatic shrubs were very fragrant". Senn. also says *rikke u si-ir-di a-na ba-u-li az-ku-up* (King, CT. xxvi, 29, 21): and also Kuy. 4, 41 (Del HWB 511) *ṣaman sirdi u hibisti*. It is obviously a tree which is not a

native of Assyria; was introduced into the Royal Parks; noted for its oil, used sparingly in medicine, and carried in flasks (DUR. KA. BUR). I thought at first that it was the olive, for which no Assyrian equivalent is known^①. But there is a much more probable solution in ^{ti}ri^{ti} "bitter almond"; the change of sibilant might easily occur in a word borrowed at a late period as *sirdu* must have been. The "bitter almond," a variety of *Amygdalus communis*, L., provides an essential oil which from the large amount of prussic acid it contains, is a powerful poison. But confectionery is flavoured with "Almond flavour", spirit of almonds (HRA 79). The medicinal properties of almond oil are emollient, demulcent and laxative, and in enema (P. 150).

§ 10 CU, ll. 719-722. ^oNU. LUH(Y), ^oNU. LUH. HA.
 "NUHURTU (74), ^oTIYĀTU (14), all = ASAFOETIDA.

There are at least two possibilities for the restoration of l. 720, [ti]-ia-a-tu or [ku]-ia-a-tu. The latter (§ 10 AV 2) may be safely omitted. Nuhurtu and tiyātu must thus be almost the same, for besides their occurrence in the same section, both have a gum, and several of the prescriptions containing them are similar. But that they are not exactly the same is shown by 85, 1, 5 and Kü ii, 1, 34, wherein they are prescribed together (a connection paralleled by arganu and barivatu, § 10 BB, BC 2).

Tiyātu, having a Semitic equivalent, is easier to identify. It is spelt ^oti-ya-a-tu (76, 1, 3).

(a) Simply, passim: INT., for a betwitted man, with mustard, nuburtu diritu, etc. (85, 1, 5): "hand of ghost" (Seizure, 76, 1, 9, 13, cf. 3). Method of use uncertain: for ^ohinitē --- (dyspnoea?, probably: 59, 1, 13).

^① It must be remembered that the olive does not grow in the ^{lower} Assyrian-Babylonian ~~districts~~ river valley, ^{lower}.

sick stomach (52,1,8): with cannalis (29,2,4).

(b) Hil "tiyatu (1), "gum" applied to eyes with others (17,4,9).

IDENTIFICATION: correctly compared to 𐎠𐎢𐎩𐎠 (see Kü 85), but the meaning ranunculus, given in Löw and uncritically accepted by Assyriologists (e.g. Zimmern AF 58) is wrong. Ranunculaceae are plentiful in Syria and Palestine, but are so frequently acrimonious and even poisonous, that it is unlikely that they would be prescribed indiscriminately to drink, although use has been made of them as purgative and emetic (GM 10). The ranunculus (buttercup) is not in SM at all. Moreover, the "gum" definitely precludes any such identification.

𐎠𐎢𐎩𐎠 = "buttercup" is a mistake. According to Levy, (Neuh. u. Chald. Wörterb., IV, 639), quoting Maim. "the 𐎠𐎢𐎩𐎠 is said to be the root of the 𐎠𐎢𐎩𐎠, (i.e. Asafoetida). Asafoetida is a gum-resin obtained from the root of *Ferula foetida*, Regel, and probably others. It grew near Babylon (IB No. 158): in Persia (BMP No. 126). It is laxative, carminative, used for flatulency, hysteric paroxysms, chronic bronchitis, and as enema in infantile convulsions. (P. 196): cf. the Assyrian for "hand of ghost".

We must thus see in "tiyatu a form of asafoetida: and what is more interesting, hil tiyati was obviously taken over bodily in 𐎠𐎢𐎩𐎠 which has been incorrectly pointed.

"Nuhurtu must be similar.

"NU.LUH.NA (= "nuhurtu) is the common form, but (4) NU.LUH occurs 3tt. alongside it (55,2,6: 83,1,7, r. 18), so that the two (if the text is correct) may be distinct, although doubtless similar, plants.

"NU.LUH.NA occurs in AM: (a) Simply, passim. EXT., apply eyes (19,6,7). For mouth (30,13,3), ulatu (31,

134.

§ 10, CV, ll. 719-722.

4,12), KA.DIB.BI.DA (cleanses mouth, 78,1,13). Bind (98,3,9). As
 allanu (43,1,8-57,5 r. 6,11). INT., drink (Kû i, ii, 8, alone:
 KAR 203, IV, 36 alone): (48,2,6: 83,1 r. 18: 85,1,3,6: 89,4 r.
 2?): alone in beer for dysmenorrhœa (KAR No 194, obv
 32)①; for cough (KAR 203, IV, 29,36, alone: 81,8,5): jaun-
 diced eyes (Kû iii, iv, 23, alone): hand of ghost (76,1,9,
 14): with tiyâtu only (stomach, Kû. ii, i, 34: cf 52,1,8).
 Uncertain method of use: lungs(?) (54,1,4,6): kinikti (60,
 1,5,12, 21(?): 89,4,8): for umṣati (17,5,3): kiṣirtu... (53,
 4,8). Prob. ext., "... shekels kalû (IM.MAL.LI), 1 she-
 kel myrrh, 5 shekels "NU.LUH.HA di-ri-tu" for when
 minata-šu DUB.DUB ID II-šu kinṣâ-šu u bitka-šu
 ... (21,1,2). For N. diritu cf. 85,1,6. Enema (56,
 1,6: 94,2,5,9). Quantities: 5 shekels (31,1,2: 89,4 r. 10).

(b) ROOT (6): INT., drink (89,1,6): "hand of ghost"
 (76,1,21): umṣati (17,5,7). (c) SEED (1), ears (38,4 ii 10).
 (d) "STONE" (1) anoint (90,1 r. 5). (e) HĪLU "gum",
 (1) EXT. (55,1,4): INT., drink (KAR 203, IV, 43 alone).
 Alone for dyspnoea, drink, anoint, and introduce up
 penis by tube (KAR 203, 21). (f.) "KU.NU.
 LUH.HA, 1 shekel (41,1 IV, 18).

"NU.LUH, INT. drink (83,1 r. 18): (87,5,12 drink?):
 eat (81,3,1), (60,1,15, diritu).

Consider the following. Maqlû V, 38, kima "NU.
 LUH.HA.ŠAR littahhira šaptê-ša "like nuhurtu
 may her lips be pierced (slit, destroyed)" and
 VI, 109 [kima "NU.LUH.HA-ma unahhara kal kišpiki
 "[like] nuhurtu I pierce (slit, destroy) all thy sorcery". Obvious-
 ly a play on the root nahâru, the slitting being the
 method used to obtain the gum.

In IB no. 158 under asafoetida will be found two forms:
 "𐎠𐎢𐎩, the gum, and "𐎠𐎢𐎩𐎠 the root. Everything

① Nahšâti ipparasa, which must be 𐎠𐎢𐎩𐎠 (EJ, XVI, 36).

thus points to ^{نُحْرُوت} being nuhurtu, by some change of m and n. Nuhurtu, as "the slit plant" looks like an original form. In nuhurtu and tuyātu we must see either (1) the root as distinct from the plant (respectively): or (2) the names of two different species of ferula (as in P. 196), *F. foetida*, Regel, and *F. Narthex*, Boiss. Are we to see nuhurtu as the original from which $\nu\acute{\alpha}\rho\eta\xi$ is borrowed (with ξ final, like $\sigma\acute{\upsilon}\rho\alpha\xi$, $\delta\acute{\omicron}\mu\acute{\iota}\alpha\nu\alpha\xi$, etc)?

To obtain asafoetida in Persia the gatherers, after preparing the living root, slice it transversely, collecting the juice which flows. This they do three times, after which the roots are left to die (PC X, 242).

I am baffled by the use of ...[L]UH.HA on PL. 48, Rm. 328, VI, 2-4 (which must surely be "NU.LUH.HA), one of the four plants for staining hands. Asafoetida, it is true, has an essential yellow oil, but I have no knowledge of its use for this purpose. Gamboge is of course, also a gum (essentially yellow), but there is no question of gamboge here; except that it might provide a parallel (but add p. 287).

The "stone" in (d) is perhaps the stony asafoetida, the name given to "balls of sand... made with the liquid gum-resin" (P. 196).



With the completion of the Plant lists, § 9, we can now continue with the Gums, and Aromatic Substances indicated by ŠIM.

§ 11 $^wUD = \hat{H}IL \acute{I} \acute{S}ARBATI (= storbus)^*$, STYRAX OFFICINALIS, L. (see p. 261).

AM 40, 5, IV 3 explains ... $^wUD \acute{s}a A \acute{I} TU.GAB.LI\check{S}$ (= şarbata) şum-şu " wUD , whereof the name (mean-

-ing) is Water of 'šarbatu". Hîlu of 'šarbatu is more common than simple A "water" (KAR 203, IV, 32: 5.22, Meek RA, 1920, 179, 15, etc) and ~~we are therefore entitled to see~~ UUD as ^{the} gum of the 'šarbatu.

In AM: (a) UUD. Simply, passim: EXT., eyes (8, 1, 27: 8, 2, 1: 9, 1, 34: 11, 2, 42: 12, 6, 5: 16, 1, 8, 23: 17, 4, 7: 19, 6, 12), with poppy seed (8, 1, 7): with alum and rose-water, etc.? (15, 6, 8): with alum and "Akkadian salt" (16, 1, 10): blow into eyes with myrrh and "Akkadian salt" (9, 1, 38), or with "gum" of copper (9, 1, 39), or with *mint (urnê, 9, 1, 40). For ears (36, 1, 12): foul breath, mouth, and nose (23, 1, 10: 25, 6, 11: 26, 6, 8): teeth (28, 1, 4: mouth, 36, 2, 3): clean teeth, when powdered takKUR.RA and soda are added (54, 1, 9): nose (26, 2, 6: 39, 6, iv, 3): anus (94, 2, ii, 7: cf. 57, 5 r 8): feet (alone, 74, i iii, 1): blow up urinary passage with oil (59, 1, 23): Wash (94, 2, ii, 9). For šiggati (blains? 132, 5, 4). INT., drink: alone (53, 10, 5), stomach (alone, Kii ii, i, 31, 48, and ii, iii, 61): with others, urinary (66, 7, 15): KU.GIG and dikša (58, 2, 5): dyspnoea (59, 1, 21): alone, jaundice in eyes (Kii iii, iv, 17): cough (80, 1, 14: 80, 7, 10: KAR 203, IV, 32). Fumigate alone, jaundice (Kii iii, iii, 17). Hîl šar-ba-te, drink, dyspnoea (59, 1, 35): 'šarbatu, simply, misitti (70, 2, 13). Quantities: 1 šu (41, iv, 26): 5 še (apply eyes, 8, 1, 30): 1 ka BIL, apply with 1 ka BIL of "ambhara to uterus, in female ailment, KAR 194, r. IV, 9): ½ shekel (8, 1, 27: 17, 4, 7): 2 shekels (58, 6, 1).

(b) JUICE (3) (cf. Kii ii, iv, 31). (c) 5 ŠE LA "UD, apply in curd, 92, 8, 8). (d) (SEED) mentioned PL 41, Rm 497, 4.

Cf. Boissier, Div. ii, 36 šumma zîr 'šarbatî ikul, limuttu-šu ippatîr "if he has eaten the seed of the s., his pain will be assuaged".

The 'šarbatu grows in groves (VR 2A, g-h, 19). It was particularly common in the north-west, near Harran: in Johns' DB 43 an estate is mentioned as bearing 150 'šarbatu and 'ulupu, amid which grew 300 kanni samri (probably "jujube" § 10 CT). (The form 'A.TU.GAR LIŠ is also used in Johns' DB).

But it also grew solitary: *kima šarbatu edī ina kibri ušemanni*
 "like a solitary, šarbatu on the river-bank he hath set me"
 (Reisner, Hymn, 10, 130). Cf. also CT. xv, 27, 42 (831) "in a šarbatu-tree he
 lies, sated with woe" Gudea planted one in his city in Baby-
 lonia; "a fair šarbatu; it spread its shade (ISA, 165, xxii, 18).
 Noticeable is it that "UD = "the white plant" (~~see~~ p. 261).

Its characteristics are, therefore, that it was grown plentifully in
 N. Mesop., but was a rarity in the south; it was cultivated near
 Harran, doubtless for its produce. It grew thickly in groves or
 solitary by rivers: was tall and shady. It had a gum in
 common use in AM called "UD, for ext. or int. use: fruit
 not mentioned but seeds edible: probably a "white" tree.

Meissner ('13, 261: Bab-Ass 208) suggested mulberry, and
 Holma, with better philological reason, the elm (~~→~~ ~~→~~), but
 neither have any really important medical value, and both
 can be ignored. In Woolley, Carchemish II, 139, I pointed
 out the similarity of šarbatu to the *strobilus* or *storbus*
 of Pliny (NH, xii, 40), an odoriferous gum from Harran, which
 he says the Arabians import from Carmania (Kirman), using it
 in fumigations, especially to induce sleep, and that Harran was
 the great entrepôt for it. ~~→~~ is an Ar. word for
 a red gum (Lane 1674), said by some to be the gum of the
~~→~~ acacia, by others the ~~→~~ species of mimosa. But
 whatever its identification, ~~→~~ would certainly coin-
 cide well philologically with šarbatu.

The similarity between the characteristics of šarbatu-
 gum and *Styrax* (*S. officinalis*, L.) cannot be ignored. Post
 (HD 13, IV, 20) says *S. officinalis* is a shrub from 6 to 20 feet
 high, growing on dry hill-sides, bearing numerous
 snowy-white flowers resembling orange-blossoms, and
 a green drupe-like berry (for a picture, see Hannah Zel-
 ler, Wild Flowers of the Holy Land, No. 11). Official storax is
 the inspissated juice of the inner bark, with a vanilla-like o-
 dour. He considers that the Heb. ~~→~~, with the authority of
 the Ar. *luban*, *S. officinalis*, may be considered

certainly to be the Storax rather than the Poplar. This essential characteristic of whiteness coincides well with *UD.

The habitat of the garbatu agrees well with that of the Storax. Besides what has just been said, Pliny says of storax (NH viii §6) that it grows in that part of Syria joining up to Judaea, above Phoenicia. FTP 33 says it is abundant on the lower hills of Palestine. PCXXIII, 121, says that Asiatic Turkey supplies all that is now met with in commerce; and that the "tears" aggregated into masses constitute styrax albus; and (ib 470) that it is grown in [Syrian] gardens.

Medicinally, Diosc. (I 79) says that storax is good for coughs and colds, for the womb and menses, and the ointment assuages headaches. Pliny (xxiv, 15) says of storax (Amygdalite, so Féé, Bostock V, 11) that it is used for cough, the fauces, chest, uterus: in drink or as pessary for an emmenagogue: for ears, and as scurfous swellings.

Conceivably στυράξ might be a mispronounced garbatu, but in that case we should have a doublet with storax. At the same time compare Byblus, Gebal: πινυκίς, kanaktu(?): "akulap, ἀγκυλοχόρον(?).

A note on 'ulupu should be added. Is this the ^عع, the fruit of the ^عج mentioned above? Improbable.

o

§ 12.

We may append here a vocabulary of plants allied to the above (the text is in M. 13, ii, 26, 62 ff).

62.	GIŠ. A.TU. GAB.LIŠ	gar- ba- tu
	GIŠ. A.TU. GAB.LIŠ. KUR.RA	ki-min šadi(i)
	GIŠ. A.TU. GAB.LIŠ. LĀL	ti-ia-a-lu
65	GIŠ. A.TU. GAB.LIŠ. A.ŠAG.GA	ki-min
	GIŠ. A.TU. GAB.LIŠ. LĀL	gir-gi-šu
	GIŠ. BIL. A.TU. GAB.LIŠ	ki-min
	GIŠ. BIL. A.TU. GAB.LIŠ	kul-lar-ru
	GIŠ. MÈS. A.TU. GAB.LIŠ	kap-ta-ru
70.	GIŠ. KUL. A.TU. GAB.LIŠ	za-an-za-li-ku
	GIŠ. GURUN	ki-min

GIŠ. BU

GIŠ. MÈS. BU

hi - li - lu

su - lum ki - min

(63) i.e. "mountain storax": (66) girgišu, ~~𐎶𐎵𐎶~~ ^{𐎶𐎵𐎶}, arbutus unedo, L. (Holma KB, 67; cf. a note in my article *PSBA*, 1908, 149). It is a native of the Mediterranean region (C.B.G., 96). (70) Zanzaliku, ^{𐎶𐎵𐎶} ^{𐎶𐎵𐎶}, Melia azeder, Forsk. EF, LXVI (ident. by Ružička, BA V, 48; Holma, KB 70), sometimes called the Persian Lilac (PC XV, 80). (69) Kaptaru = 𐎶𐎵𐎶, compared by Zimmera GGA, 1898, ⁸¹⁸ "knob" or "bull" ornament, doubtless a fruit. (68) Kullaru ^{𐎶𐎵𐎶} must surely be ^{𐎶𐎵𐎶} ^{𐎶𐎵𐎶}, lotus (Löw 283) or mespilus (288).

§ 13. ŠMURRU, (85) myrrh, MYRRH.

(a) Simply: EXT., anoint (94, 2 ii 13): for head (2, 1, 22), temples (20, 1, 14) mouth-wash (21, 4, 5, and 26, 6, 9), nose (24, 2, 6), ears (33, 1, 26: 36, 1, 14, 15: 37, 2 v. 14), eyes (9, 1, 28: 9, 6, 10) "hand of ghost" (94, 2 ii 17), ghost seizing (33, 1, 20), KU. GIG (42, 2, 1: 52, 2, 11), šiggati (blains(?) 32, 5, 8: 51, 4, 7), chilblains (?) (32, 5, 12, 13), mikit irri (62, 1, 6): wash (94, 2 ii 10). INT., drink (dyspnoea 59, 1, 34, 39, 45(?) ; hinikti (60, 1, 9): (60, 1, 19): Enema (56, 1 r 6, 7: 94, 2, 9). Fumigate ears (33, 1, 31: 38, 1, 7: 38, 2 r. 9).

Described as "u KU. ŠA. TUK (drug for anus trouble), put on anus" (KAR 203, VII, 12): as a "drug for dyspnoea, drink in beer, anoint in oil, [introduce] by a tube up his penis." (KAR 203, 22). One of seven for hinikti (89, 4, 9, 12), of nine (89, 4, 5). Quantities 1 šu (41, 1 iv 24), 1/2 bitki (ib. 16), 1 shekel (31, 1, 2).

(b) OIL, (3) for KA. ŠIŠ. ŠI. ŠA (mouth or teeth, 78, 1, 32), temples (33, 1, 6). This was one of the gifts from Tushratta (Knudtzon, TA, 25, IV, 51); i.e., from Mitanni, north of Syria. From him also came ŠBUR = bašmu = ^{𐎶𐎵𐎶}, 16, 22, 3, 33.

(c) SEED, PL. 30, 79-78, 19, 14. In l. 13 "murra = "GEŠTIAN[GIR. RA] (see § 10 AG). In medicine (KAR, No 108, iii 16)

(d) a "Murru of the mountains" is prescribed for anus (KAR 203, VII, 12-13): perhaps the "murra šadi(i) (doubtful) of Ku" iii iii, 9, drunk alone for jaundice.

Long known as Myrrh (MA 585). ŠIM. ŠIŠ = the bitter aromatic (^{𐎶𐎵𐎶}, šiš = mara[ru] and marru (SAI 4582, 4583) šiš = šam-ri-nu (Meissner, Suppl. 27, 82 f. 12, 874, 8), ^{𐎶𐎵𐎶} "made

to flow", the same root as šimru "fennel". It is the Balsamodendron Myrrha, Nees, from Arabia: used int. for amenorrhoea, leucorrhoea, bronchitis, dyspepsia, and locally for aphthous sores (BMP 59, 60).

§ 14. ³HAL, BALUHHU (92), *GALBANUM.

i.3. HAL = ba-lu-hu (M. 13, 17, ii 28) so that the old suspicion of ³TAR (~~BA-PA-PA~~) as a mistake for ³HAL, is justified (JAI 3532, 3576).

(a) Simply (35): EXT, bind (52,3: breast and maška, 51, 8, 2): for head (2, 1, 14): for hands and feet (90, 3, 13): šiggati (blains?) 51, 4, 7: mouth (or tooth) (28, 1, 7): illatu in mouth unstopped (31, 4, 19). INT, drink, (85, 1, 3). Enema (94, 2, 7). Quantities, 10 bur (90, 2, 13), $\frac{1}{3}$ shekel (50, 3, r. 3): 5 shekels (17, 2, 5). In the same prescription with hîl baluhhi

"gum of b." (10): EXT, anoint (42, 2, 1): wash (94, 2 ii 10): constriction of lungs (49, 6, r. 2): šiggati (blains? 32, 5, 4, 7, 12, 14). INT, enema (94, 2, 4).

... ³HAL, for decayed teeth (PL 23, K. 259, 15). Pliny prescribes the seed of Euphorbia with wax for hollow teeth (NH XXVI, 39)

(b) Hîlu, GUM (46): besides those in (a), EXT, bind (24, 5, 12, mouth: 40, 5, 10: 84, 4 iv, 4). eyes (17, 6, 1): apply head (5, 2, 3), mouth (tooth, 28, 1, 4), anus (53, 9, 11), ears (105, 1, 16, 20). INT, drink for dyspnoea (59, 1, 32, 41). Enema, 59, 1, 11. Fumigate (58, 8, 2: 62, 1, 5, mikil irri: 64, 1, 20, nose, 21 nose). Boil alone with M. BAR. GA and blow by tube up urinary passage (dyspnoea, 59, 1, 22). Quantities, 10 bur (49, 6, r. 2): 1 šu (41, 1, iv, 24) 3 še (15, 3 r 8), 2 $\frac{1}{3}$ shekels (66, 7, 19).

(c) OIL (in ears, (36, 1, 4). (d) ŠIM. HAL. ZUN (9, 1, 31).

It will be seen that ³HAL and hîl ³HAL occur frequently in the same prescriptions, an important point in identification.

HAL = gararu "to turn", and nuhuru (cf. "nuhurtu, § 10 cu) "slit" (B 78, 83), and, taking hîlu "gum" into consideration, ³HAL must be some tree slit to allow the gum to exude. The obvious suggestion would be Galbanum, $\eta\lambda\lambda\beta\alpha\nu\eta$ (which may well be an inverted form of baluhhu (cf. $\eta\lambda\lambda\eta$ = lahru ① Galbanum is either Ferula Galbaniflua, Boiss., in Demavend

① Of course kalbanu must not be forgotten (§ 6, L. 57) compared to \leftarrow by Scheil, RT XXXIV, III.

and certain high parts of Persia (BFO ii, 988), or *F. Galbanifera*, Koch, in the Caucasus (ib. 997). Two principal varieties are recognized, the Levant and the Persian (P. 549)^①. The *šig*, a name for galbanum, has the form of a *Ferula*, and grows in Syria: is prescribed for poison of serpents and scorpions, plaisters on wounds, for headache, earache, haemorrhoids, obstructions of the reins, stone, and, by fumigation, to facilitate birth (B. 124). Modern, it is prescr. int. for catarrh, amenorrhoea and rheumatism, and ext. as plaster (BMP N. 128; P 548). P 549 offers a good explanation for *šHAL* as distinct from the gum: the Levant galbanum occurs in two forms (1) small, yellowish tears, probably from the stem: and (2) a tough, pasty mass, evidently from the root. The Persian kind occurs similarly in two forms: (1) a turpentiney, sticky mass: and (2) a treacly liquid, often containing fruits of the plant. The *šilu* is probably the latter.

It must obviously be distinguished from *bdellium*, since the Assyrian lists once give *budulhu* for this (Pl. 33, 8.796, 11, noted Meissner, *Bab. Ass. I*, 243), preceded by *šIM.BAL* and followed by *ladunu* (*ladanum*). Neither *budulhu* nor *ladunu* occur in AM: they are prob. foreign words.

It is true that some of the forms given for "*bdellium*" by Diosc (I, 80) and Pliny (NH xii, 19) — *brochon*, *malacha*, *malakon*, *madelicon*, *bolchon* — bear a greater resemblance to *baluhhu* than to *budulhu*, but with this latter word in existence, *baluhhu* has no claim at all to *bdellium* (unless galbanum = *bdellium*).

Bdellium was used for opening the womb, for stone, urine, cough, and the bites of mad beasts (Diosc. I, 80).

Ladanum is still used in Cyprus for catarrh and rheumatism (BMP No. 24).

§ 15. *šAN.BAR*, *šAN.NIN.13*, *MIKI3TU* (68), **LIQUIDAMBAR ORIENTALIS*, Miller.

(a) Simply, passim: EXT., head (20, 1, 7), temples (20, 1, 15: 104, 1, 15): eyes (14, 3, 2), neck (28, 7, 4), ears (37, 27, 8), hands and feet (98, 3, 13), footsoles (74, 1 IV, 25). *šinil3ti* KU. 919

① For details see BM No 128

142.

§ 15.

(40,7,18): (ind. (72,2,6: 98,3,9: 28,8,9, mouth and nose); anoint (52,8,13: 70,2,19,22: 90,1,5: 92,4,4,5: 93,1,5,7: 96,4,6,7,10: 97,4,8,14) fingers (14,5,2), temples (103,21). Fumigate (94,2,12: 99,3,5), temples (20,1,13), ears (33,1,30). Used for too much saliva (31,4,17). INT., drink (91,5,8). Quantity, $\frac{1}{2}$ shekel (41,1 iv, 14). $\frac{1}{2}$ ka (60,3,14).

(b) "nikibtu male and female" (8), EXT., anoint (93,1,2): (or temples (2,1,18): put on neck (4,6,6). Fumigate ears, 33,1,29: 35,1,5: 38,2 v, 1).

(c) "nikibtu male" (1) (29,1,5, anoint).

(d) "oil of kîlu (gum) of nikibtu" (1) (34,1,5).

(e) Stone of AN.BAR (5).

Two "great trees of nikibtum" were sent by Šubitulumu, of Hatti (Anatolia) as a gift to Huria, King of Egypt (Knauff, ZON, TA, No 41, 43).

IDENTIFICATION: A large tree of Anatolia, producing a gum, which is often called "male and female"; not native to Egypt (it would hardly be sent as a gift if it were), and little to shew that it grew in Assyria. Its use is almost entirely ext., often in fumigations.

The probability is that it is the *Liquidambar Orientalis*, Miller, a handsome umbrageous tree resembling a plane, 30 to 40 feet high, forming forests in extreme S.W. Asia Minor, and growing near the Orontes, and (believed) near Alexandretta. From its trunk comes Styx, praeparatus; said to be expectorant, stimulant, useful in bronchial affections, and scabies ext. (FH 271: p 1170). In the Arabic سبب we may perhaps see a descendant from ³AN.BAR^①.

vouskoupat in Phoen. is supposed to be πούκαλλος, Euphorbia (Low, 193). Theophrastus speaks of a "male" lithymallus for bites and snake-bites (EP IX, XI). It is impossible to say with any certainty whether vouskoupat = nikibtu.

The curious use of "male" and "female" is paralleled by Pliny (NH XII, 32), on frankincense, the gum being shaped like testicles or breasts.

① Zimmern (AF 58) applied the word liquidambar to ⁵amru. ~~But~~ Also see Holma, PLZ, 1913, 495. #

§ 16. ²BAL, ³MUMS, BALUKKU (44), ⁴FERULA COMMUNIS, L.
 (a) ⁵balukku, passim: ⁶l. (2): ⁷l. (1), simply. EXT., bind (49, 1, 18) for cough (50, 3, 8) (prob. 80, 1, 19). Anoint (45, 1, 10, 11: 94, 1, 3). Apply feet (89, 2, 10), eyes (12, 6, 1: 13, 7, 10); head, for ear, alone (105, 1, 9). Used ana SA kabiti lubtuki (69, 8, 17). Fumigate (64, 1, 20: 99, 3, 16), ears (23, 1, 31: 34, 5, 6: 35, 1, 7: 38, 2, 10). Unema, after boiling in kurunnu (94, 2, 4), beer (56, 1, 13), oil and beer (56, 1, 6). (Cf. 56, 1, 4: Kü i, ii, 17). In one of 3 maškiāti (41, 1, 14, 2, 13). Quantities, 10 shekels (79, 5, 5), 2 shekels (41, 1, 14, 13)
 (b) "OIL of ⁵l." (2) Apply ears (27, 2, 9), head (105, 9).

In the contract quoted in § 25 it is noted "8 mana of gums, 1 mana of balukku, 18 ka burāku, for the censer of the Sungod" Rm. 145, 8 (Kü 76), kanē balukku "reeds, stalks of ⁶l." points either to its being a Ferula, or to the custom of collecting similar gums in reeds, as in the case of "calamite" storax, storax thus collected (VK. 559). It is thus a gum in common use, almost always (if not always) in ext. use and in fumigations, esp. in temples. It is soluble in warm alcohol and has an oil.

IDENTIFICATION.: Previously with ⁸l., Nerium oleander, L. (Holma, K 1379: Ebeling, Arch. XIII, 9, with a query). Untenable: the oleander is a plant which has some medicinal value, but it cannot be put in the same category as the important drug balukku.

The obvious Semitic comparison is ⁹l. Ferula communis, L., growing in Galilee (BFO ii 991), waste places and dry hills of Palestine (Post 359). "Giant fennel" (Löw 163) with a synonym ¹⁰l., which agrees almost with kanē balukku quoted above.

The word ¹¹l. "sonbol" (= nard, 13 No. 1237) looks suspiciously like ¹²M. BAL (but cf. ¹³M. BIL, § 17). V. Opp (ii, 308) gives ¹⁴l. as = Agrostis verticillata, Vill., growing in the Hauran and Mesop. (rivers and water), used as fodder: Post (365) gives the form as sanbaleh

§ 17. ¹⁵GIG, KANAKTU (31), ¹⁶Opopanax Chironium, Koch.

(a) Simply, passim: EXT., bind (49, 1, 8), for constriction

144.

8,17

of lungs (49,6r.2), eyes (16,1,23; 50,1,30); apply, anus (43,1,3): for šiggati (blains?, 51,4,7). Exoma (56,1,11). INT., drink, for urinary trouble (66,7,17). In one of three maškiāti (41,1iv,15). Quantities 2 shekels (ib.): 13 gur (49,6r.2). (b) OIL, (6)

(c) ZAL.LU "fat" (6): EXT., eyes (8,1,17: 13,3,7: 19,6,5). For KU. GIG (58,2,4). (d) KU škanakti, i.e. powder, 1 ka (77,5,18)

PL.34, K.4169, 8 gives

u šu - uk - lu
u li - bu - u

10. zir šGIG
šŠAL. ŠAL
i|ku - lu
š BIL
u pl. PI

15. u a-da-ma-tu

šammu ša lib šGIG
zir šG[IG]
šammu zir šG[IG]
ka - nak - [tu]
ka - n[ak - tu]
ka - [nak - tu]
k[a - nak - tu]
[?]

L. 6 in the same text as the above gives ^[u]šuklu = šammu ša lib-bi šere^{pl} "drug from flesh" i.e., adeps, the same root as in ~~šurru~~ (clarifier, trainer? Brock. 385). "Lib(p)u = ZAL.LU "fat" (MA 469). Clearly the drug from the škanakti is of a fatty nature.

i|kulu, uncertain if read correctly, but since the det. is "tree", not "drug", it probably represents the tree from which the kanakti comes.

u pl. PI seems to indicate a strong-smelling (umbelliferous) plant (8 10 N).

The sum. šGIG ("aromatic plant for sickness"), coincides with škanakti by comparison with ^[u]šuklu "healed".

IDENTIFICATION: In many ways it seems to coincide with Opopanax Cheironium, Koch, a native of A. Minor, one of the Umbelliferae, which, when wounded, flows with a milky juice which hardens. The use of ZAL.LU "fat" is comparable to the milky juice of opium (8 10 G, I). "The tears are globose or angular,

fatty to the touch ... the odour is strong - its constituents are resin, gum, and volatile oil" (PCXVI, 457). IB (No. 459) describes جواشبير as the juice from the stem and root, laxative, purgative, used in epilepsy, for uterus, and ext. for plasters. Diosc (iii, 48) prescribes it for urinary trouble, and ext. for eyes, etc.

Πανაკις, equally with ἄγις and Kanaktu, conveys the idea of "all-healing". It is conceivable that the Greeks mispronounced the word Kanaktu, which was used by the Oriental merchants for this particular commodity, partly from a desire to pun on its meaning. For similar interchange (b. and g.) see § 11, end.

§ 18. u, i, i + š
 * BARIRATU, Ferula Persica, Willd.,
 * SAGAPENUM: u, i, i + š ARGANNU (similar) * BAL-
 SAM, * * BALM OF GILEAD.

Both occur side by side in the same prescription; but in face of Rm. 367 (further), it is clear that they cannot be easily distinguished. But this similarity is not maintained in CTXIV.

Bariratu is used in AM:

Simply, only: EXT., frequently with arganu and sihu: bind (70, 7, 6: 74, 1, 13: 75, 1 iv 2: 98, 3, 11), feet (74, 1, iii 6); anoint (94, 2 ii 16: 96, 1, 15) - used for mišittum (76, 3, 4: 82, 2 r. 10), swelling (73, 1, 13), ŠAK.KI.DIB.BA (19, 1, 28). Fumigate (62, 1, 6: 99, 3, 7). INT(?) (drink, if uzuriratu, Kü ii, iv, 27, is to be read "bariratu).

Arganu is used in AM:

Simply, only: EXT., bind (15, 3, 14: 75, 1 iv, 2), feet (74, 1, iii 6); anoint (88, 2 r. 9: 94, 2 ii 16); wash (48, 5, 4: 49, 1 ii 7?); used for mišittum (76, 3, 4: 79, 1, 29, 28), swelling (73, 1, 13, 31). INT., drink (88, 2 r. 9). Particularly noticeable is its use with HUM.HA to revive a man rescued from drowning (87, 6, 6).

The difference in use between the two is slight, the former being used in fumigations, the latter not. Rm. 367 (ed. Meissner, Suppl., a text which I have re-examined) gives:

i š	ar-gan-nu	šu (= arganu) ¹
i š	mar-gu-nu	šu
i š	mar-gu-šu	šu
i š	ba-ri-ra-tu	šu

This restores § 9 BC, 2.

The det šIM makes it certain that we have an aromatic here. Langdon (PBE xxxi, 1914, 73, n⁵) correctly compared $\bar{K} \bar{i} \bar{i}$ Ferula Persica, Willd., Sagapenum, with bariratu, a plant growing in Ghilani (BFO ii, 991). In SM (occurring 5 ÷) EXT, eyes (ii, 94, ~~also 95~~), nostrils (148, ditto), as plaster (436, ditto, 469, ditto), INT, drinkzoughs (272, ditto) purgative (145, ditto) (419, ditto).

Bariratu šAR occurs MB 47-50, in the same section as iakukanu šAR, iarkanu šAR, and kinnat andi šAR.

In § 9 BC, 2, l. 2 might be restored [uša-mu-š]i-ri, but not probably: this is properly the "šihu, Artemisia, § 10 BA. "Margušu (2), fumigate (101, 3, 10), and in KAR 202, ob. 15, is "a drug for mouth (tooth) ... [to cleanse the mouth, without a meal cleanse his teeth"

Arganu, an-anu product of 2755, probably \bar{z} "exhale perfume", a meaning evident in the synonym for its root, L. 55, "PI.PI-nu ša šadî (i) ("of the mountains"), since "PI.PI = odoriferous plant, § 10 N. Conceivably it is Amyris Gileadensis, or A. opobalsamum, Balm of Gilead, or of Mecca; VK 561 quotes of the latter that "the smell is at first violent, and strongly pungent, giving a sensation to the brain, like that of volatile salts". At all events it must be something of this kind to restore the apparently drowned. Since bariratu is used in fumigations and arganu is not, it will not be injudicious to assign Sagapenum (agum) to the former, and some

① Rm 367, r. 1 gives i š MAN.NU = arganu

Balsam, such as one of the two quoted (not to be used in fumigations) to the latter. That arganu can be drunk is comparable to the other balsams (of Peru and Tolu, P. 214 ff).

§ 19. ŠIM.MAN.DU, (u) ŠMAN.DU, i.MAN.DU, ŠDU(?), uSUADU.
 (a) Simply, passim: EXT., bind (55, 1, 8): for feet (69, 2, 11), mišitti (76, 5, 7: 79, 1, 9): to ease šiggati (blains? 32, 5, 5): ana SA kablitu lubbu-ri (69, 8, 17): wash (94, 2 ii 10, with oil and beer): for illatu in mouth (29, 5, 16): alone, to remove eyelashes (irru, 16, 1, 2): with the gall of a black ox (or, of a snake), gall of a scorpion, gall of a pig, punpultu, .. suadu (use) these five against white hairs (4, 1, 4). Enema (56, 1, 4). Quantities: 10 shekels (84, 1, 2): 2(?) bur (42, 1, 2)

ŠIM.MAN.DU is used for mišit irri (some eyelash trouble, 62, 1, 4), and ointment against "hand of ghost".

(b) "OIL" (1) (c) SEED (2), boiled in oil and beer for enema (56, 1-5). (d) LEAF; KAR 203, VII, 8, for KU. GIG]. (e) KU (powder) (2). Quantity $\frac{1}{2}$ ka (77, 5, 8).

It has been identified with ~~ku~~ cyperus (Zimmern AP 58), but I am in doubt whether this is satisfactory. It surely must be distinct from the Cyperaceae, since it is not included in § 9 ~~ku~~, urbatu, etc. On the other hand, § 9 B C gives three other values "NIM", "NU.GI", and GI.ŠI.ŠAR, the latter perhaps indicating a reed.

When considered in its connection as a black hair-dye, it might be compared to agw "black". It is worth noting that Nardostachys Jatamansi, DC., is used in India for growth and blackness of hair (IMP, I, 665). The KU indicates it as a powder.

§ 20. (i) ŠGAM.MA (v. ME), ŠUMLALŪ (31) Nerium odoratum, Sol. (?)
 OLEANDER (?)

ŠGAM.MA, passim: ŠGAM.ME (2): [uGAM. UŠ, 12, 6, 4: 82, 3, 13]. EXT. bind (49, 1, 8: 55, 1, 8: 72, 2, 6: 98, 3, 9), mouth (24, 5, 7, 12), cough (50, 3, 8): apply anus (? 42, 2, 9): anoint (94, 2, ii 16): assuage šibin mišitti (82, 2, 13), constriction of lungs (53, 4, 14). Enema (94, 2, 5). In one of three maškiâti (41, 1, IV, 2). Quantities, 10 shekels (42, 2, r. 9).

Its use is thus (almost?) entirely external, and the plant is thus probably poisonous.

The karšu ("cherry", § 10 CT) and the šumlatû are mentioned by Sargon (VIIIth century) as growing on the mountains of Sinahulzi and Bircatti, prob. E. of Lake Urumieh, "a sweet fragrance" (Thureau-Dangin, *Une Relation de la Huitième Camp.*, p. 9, l. 28). One of the most striking plants of the Kurdish hills is the Oleander with its beautiful rose-coloured flowers; ~~I don't remember~~ ~~having~~ seen it ~~anywhere~~ on the lower valleys of the Tigris. *Nerium odorum*, Sol., is the usual species growing in Persia (Hertzfeld, at Fars, *DLZ*, Beih. ii, 34: Ascherson, in *Löw* 422, not *N. oleander* in Persia, but *N. odorum*). Its sweet-smelling leaves (obvious from its name *N. odorum*) aptly fit the "sweet fragrance" of Sargon. It is poisonous: in India the root is used in skin diseases and inflammations, and chancres; the bark of the root and sweet-smelling leaves ext., a decoction of the leaves for swellings, and fresh juice of the young leaves for eyes.

If this is correct, has šumlatû any philological connection with شجرة, Oleander?

§ 21. ŠĀL, ŠĪMESŠĀLU, BOX(?), Buxus(?).

Rare in Assyrian medicine. In CT XXIII, 37:12:45,7 (10 shekels). Also in a list of aromatics (Johns ADD No 1074) (one shekel). Holma (KB 54) identifies it with 𐎧𐎺𐎠, Buxus. PC VII, 75 says that great quantities of boxwood were imported from Turkey, and that the leaves have been employed as a tonic. See *Urkarinnu*, § 32.

§ 22. ŠBURAŠU, ŠIMDU, ŠURMĒNU, ŠKUKRU, AŠUHU, ŠTIRU, ŠĪHU, ZĀBALUM, SUPĀLU.

It is difficult to distinguish exactly between many of these trees. In order to identify them as closely as possible, it will be well first to see

what the possibilities are.

Post (747 ff.) gives the following coniferae as inhabitants of Syria or Palestine, with their Ar. names:

1. CUPRESSUS SEMPERVIRENS, L. (šerbîn, saru), with a variety which grows in cemeteries. ~~(There is another species, C. horizontalis, which Post does not admit).~~
2. PINUS, the varieties being P. PINEA, L.; P. HALEPENSIS, Mill., P. BRUTIA, Ten. (Ar. šnaubar).
3. JUNIPERUS DRUPACEA, Labill. (difrân).
 JUNIPERUS MACROCARPA, S. et S.
 JUNIPERUS EXCELSA, Mill. (lizzâb).
 JUNIPERUS FOETIDISSIMA, Willd.
 JUNIPERUS PHOENICEA, L.
 JUNIPERUS OXYCEDRUS, L. (šar šar)

4. TAXUS BACCATA, L.

5. CEDRUS LIBANI, Barr. (Arz Lubnan: Arz-ur-Rubb: 16kul: Trûb).

6. ABIES CILICICA, Ant. et Ky. (šurû)

FOR OUR PURPOSES add five not coniferae (Post 206):—

7. PISTACIA VERA, L. (fišuk), the pistachio.

PISTACIA TEREBINTHUS, L. (butm), the terebinth.

(VAR P. PALAESTINA, Engl.)

PISTACIA MUTICA, Fisch. et Mey.

PISTACIA LENTISCUS, L., (mastik), the mastich.

8. FRAXINUS ORNUS, L. (dardar), the ash.

§ 23. šŪRMĒNU (49), Cupressus sempervirens, L., CYPRESS:

(a) Simply (25): EXT., bind (55, 1, 8): quantities, $\frac{1}{2}$ ka (55, 1, 11),

$\frac{1}{2}$ shekels (41, 1 IV, 12), $\frac{1}{3}$ mana (56, 5, r. 3).

(b) OIL (21): EXT., ears (34, 1, 3: 37, 2, 6, 9): anoint (42, 5, 10: 92, 1, 5). INT., drink (83, 1, 16). Enema, (56, 5, r. 3). Uncertain, breast, (51, 5, r. 8): "hand of ghost"? (39, 1, 7).

(c) JUICE (2)

(d) Uncertain (1).

IDENTIFICATION: Long with شربين, in mod. times definitely the equivalent of *Cupressus sempervirens*, L. (Post, 748: *cupressus*, Forskal EF, LVI). (In 18 No. 1317, it = cedar, with "a fruit like cypress, but smaller": in PS 4327, ~~šurman~~ has various meanings from *šlātā* to cypress. In Löw 388, it is said to be the *Juniperus Oxycedrus*, L., or *κυπάρισσος*. Clearly the exact tree has been at times doubtful).

Adhering, however, to the modern Ar. equivalent "cypress" for šerbin, as the most reasonable course, we can accept the same value for šurmēnu.

Gudea brought *šū-ur-me* "from above" (in contrast to the willow) (Cyl. A, XII, 5). ii R. 51, a-b, 5-6 gives the habitat of *šUR.MAN* as the Lebanon and *mātu* *šūandū*; and as the Cedar of Lebanon is soundly identified with *erinu*, Cypress again seems the correct equivalent. The *šUR.MAN* was frequently used in building.

The Cypress produces a resin but no turpentine (EB VII, 693) which perhaps accounts for its being used only a quarter of the times in which *burašū* occurs. The leaves contain an essential oil and tannin (Fée, quoted BPV, 7): Pliny (NH XXIV, 10) says that they are good for serpent-bites, hernia, sunstroke, swollen testes, pains in feet and sinews. In India the wood and fruit are regarded as astringent (IMP II, 1226). The "excrescences", Pliny says (l.c.), are drunk for stings of serpents, hernia, etc., and applied to gatherings: and, pounded with the seed and mixed with oil, are used for the eyes. The root, bruised with the leaves and drunk, is used for strangury, etc., and the shavings of the wood, when drunk, act as an emmenagogue.

It would be tempting to see *τεπέβινθος*, *τέβινθος*, *τέβινθος*, *τέβινθος* in šurmēnu. But, if so, we must accept a mistake in the true source of turpentine.

§ 24. *šIMDU*, *ENDU* (16), "CYPRESS OF THE CEMETERIES," a form of *C. sempervirens*, L.)

It is a Semitic word, as the different forms ⁱim-du (39, 4, r. 8), ^šim-di (95, 3, 4), ⁱen-di (41, 1 IV, 25), shew.

(a) Simply, passim: EXT., bind (95, 3, 4: 77išilti, 79, 1, 24): apply swelling (73, 1, 4): anoint (40, 8, 7): Quantities, 1 šu (41, 1 IV, 25): 1 shekel (41, 1 IV, 14), 1 mana (49, 2, 5). (b) OIL (4, 1, 5: 41, 1 IV, 30)
(c) Uncertain. ... imdi, anoint eye (15, 3, 3): ... ^šimdi, drink (78, 1 IV, 15).

IDENTIFICATION: hitherto unidentified. The clue lies in AM 4, 1, 5 and 9, where an oil of ^šim-di ga-ab-run and ⁱim-di ga-ab-ri, i.e., "imdu of the grave" occurs. The only aromatic tree probable in this connection is that form of the Cypress, *Cupressus sempervirens*, L., always associated with cemeteries from the earliest classical times, and to be seen thus in the East to this day (v. Chesney, Exp., I, 379). "In Turkish cemeteries the cypress is the most striking feature, the rule being to plant one for each interment" (EB VII, 694). Post (748) speaks of the "compact variety" (of *C. sempervirens*) "with a cylindro-conical conus", everywhere cultivated under the name of Saru in the cemeteries.

Imdu, like Т.Т.О.У, a pillar, from Т.О.У "to stand", obviously refers to the erect character of the cypress, like the Lombardy poplar. It was apparently not used in Assyrian buildings, perhaps on account of its funereal associations.

With the elimination of the two cypresses which Post allows for Palestine, we can proceed to the difficult burašu and kukru.

§ 25. ^šLI, ⁱBURAŠU (202), Pinus, PINE, PINE-TURPENTINE.

(a) Simply, passim (ⁱburašu Att): EXT., eyes (12, 4, 8, 11, 14, 3, 3), ears (34, 1, 5, 13: 38, 4 ii 8), feet (69, 7, 4: 74, 1 iii, 2, 8: 75, 1, 18), breast (26, 3, 3) cataplasms, various (49, 1, 7: 50, 1, 8: 72, 2, 4: 73, 1, 26: 98, 3, 9: Kü ii, iii, 62), temples (102, 1, 41), swellings (73, 1, 18), mišilti (77, 8, 9: 79, 1, 18), swollen muscles (SA. MEŠ. 21. MEŠ), of hands and feet (98, 3, 16), sualu (cough, 50, 3, 2, 8: 80, 1, 20, ⁱLI, 80, 27)

"hand of ghost" (seizure, 93, 1, 12, 15): apply anus (48, 1, 3: 94, 2 ii 7: 101, 3, 4). INT., drink (39, 6, 9 for kidneys), jaundice (Kü iii, iii, 8, alone), seminal complaint (drink?, 58, 6, 5): eat (27, 2, 9): Enema (43, 6, 6: 58, 1, 4, 10, 14: 94, 2, 4, 7). For illatu in mouth, unstop- ped (31, 4, 9), Kt. Dis. Bl. Du (78, 1, 28). Fumigate ears (33, 1, 31: 34, 5, 6: 35, 1, 7: 38, 2 r. 9)

Niknalku $\frac{1}{2}$ LI, more rarely $\frac{1}{2}$ LI, not uncommon.

Quantities: $\frac{1}{2}$ mana (81, 8, 10), $\frac{1}{3}$ mana (88, 1, 14, cf. 43, 5, 9), [10 shekels] (57, 3, 7, 10), 15 bur (49, 6, r. 1), 1 shekel (40, 1, 62), $\frac{1}{2}$ ka (73, 1, 8)

(b) SEED (5) EXT (32, 5, 9): hinitti KU. 619 (40, 5, 18): eyes (0, 1, 17: 19, 6, 9, 10). (c) Oil (4) (35, 2, 10: 48, 1, 7: 87, 1 r. 9, 12). (d) KU (powder) (1) (96, 1, 9, dissolved in alcohol, used as plaster): KU. 3E (1) (54, 1, 8, fumigation).

IDENTIFICATION: the commonest drug in the Assyrian Pharmacopœia. Already long identified with 𐎶𐎵𐎺 , "pine" or "cypress". The Phœn. $\square \text{W} 2 \text{ } ^{\circ} \text{X}$ ($\square \text{W} 72 \text{ } ^{\circ} \text{X}$) = $\text{Πηρουσων$ "Isle of Pines" (Robertson Smith, Prophets, IV, n. 20) is indicative. Pliny (NHXII, 39) says that the bratus (= $\beta\rho\delta\theta\upsilon$, $\text{W} 172$) grew in the Zagros mountains, and the wood was imported from the country of the Elymaei (Elam), and that it was like the Cypress, with a wood which emitted a pleasant smell when burnt. The locality agrees exactly with the Assyrian statement that Hana (in the mountains E. of Baghdad) was celebrated for its burasû-trees (II B, 57, a-b, 10). Sargon (VIIIth century) speaks of the mountain of Mallau (in the neighbourhood of Van) as šad šburasî "the mountain of -burasû." (Thureau-Dangin, Une Relation, 29, 169). Diosc. (I, 106) says that there are two kinds of $\beta\rho\delta\theta\upsilon$, one with leaves like the cypress, the other like the tamarisk. The burasû is well known in Assyrian buildings.

The problem is to settle whether it is Cypress, Pine, or Fir.

it must surely rule out the Cypress as already settled by *šurmēnu* and *imdu*: the only question then is, which of the two, *burašu* or *kukru*, represents the products of pine or fir.

One point is distinct. Besides ${}^iL1 = \textit{burašu}$, we have also ${}^iL1.UD = \textit{šihu}$ or $\textit{šihu}$, "white *burašu*". On the other hand we have *kukru* (as will be seen in § 26) the product of *ašuḫu*. $\textit{šihu}$ (M. 13, 2, 17, ii 20) = 𐎶𐎵𐎶𐎠 (ib. p. 36) translated by ἐλάτη (Septuagint, Ps 2610) = زغيب (Dozy, 798, pin, sapin) = the modern *šuh*, *abies* (Post).

We are thus faced with this problem: Assyrian provides two definite kinds of *L1* trees, a white one and another, as well as an *ašuḫu*: but the Assyrian word for one of these *L1* trees (the ${}^iL1.UD$) is apparently the equivalent of the mod. Ger. "fir".

But Post gives only one species of *fir* for Palestine, and three *pin*s. We must therefore accept the probable equivalence.

Now ${}^i\text{ŠE.L1.UD}$ is definitely given as *kirkiran buraši*, (SAI: "5558"), which at once throws doubt on ${}^iL1.UD$ as a "fir". Again, $\textit{šihu}$ is given as the equivalent also of $[ER]IN.SUD$ (M. ib., 21, 43), which again makes "fir" suspicious. We shall be justified, therefore, in accepting iL1 and ${}^iL1.UD$ as of the same species (*pinus*), and *ašuḫu* (§ 26) as *fir*. In this case we may see in زغيب a descendant from $\textit{ašuḫu}$ ^①.

^①A curious point is whether the iL1 , which is by far the most frequent of the substances burnt religiously, is the wood or the gum. A tablet of Cambyses' reign (Strassm. 126, 2) mentions "8 mana *rikke*, 1 of *ballukku*, 18 ka of *burašu*" for the Censer of the Sun-god. From the comparatively small quantity, it can hardly be the wood. Notice also "2 ka of honey, 8 ka of *karšu* (cherry-gum), 5 ka of *burašu*" (VA Th. 721).

After $\check{S}E.LI$ we must discuss $\check{S}E.LI$ (doubtless the same as $\check{S}E.SIM.LI$ in (e)) = *kirkiranu*, and $i\check{S}E.LI.UD$ = *kirkiranu buraši* (SA 13557, 3558). *Kü* ii, ii, 34, doubtfully translated "cypress-apple" $\check{S}E.LI$ (I) (59, I, 26) drink, and (*Kü* iii, iii, 7) drink alone for jaundice. Now *kirkiranu* may either be a spherical thing, like 𐎧𐎢𐎠 , i.e., the pine or fir-cone, or it may mean something that rolls, a drop: or, accepting *kiskiranu* as its more correct form, less probably an *-anu* form from *kiski(r)ru*. $\check{S}E$, often used as "corn" and so, a small measure, occurs similarly in $i\check{S}E.Ü.KU$, which on the analogy of $i\check{S}E.LI.UD$, must be the $\check{S}E$ of the $Ü.KU$ (= *ašuhu*, lammu, a conifer, see § 26). But $i\check{S}E.Ü.KU$, $iAN.NA.Ü.KU$, and $iPA.Ü.KU$ all = *šipatu* (M. 13, 2, 17, 8 ff) (see on this passage § 26). *šipatu* must surely be 𐎧𐎢𐎠 "pitch", which presumably clears up *kirkiranu*. This must be the 𐎧𐎢𐎠 gum, in tears, or perhaps 𐎧𐎢𐎠 tar. $i\check{S}E.LI.UD$, 14 lb. in AM, is prescribed EXT. for anus (94, 2 ii 7): INT. drink (83, I, 16), and alone in beer for a motion (*Kü* ii, i, 45). In one of 3 *maškiāti* (41, I, IV 3), with $\check{S}E.LI.UD$ and $\check{S}E.LI.UD$ in *sursumme*... (82, 2, 8) shewing that $i\check{S}E.LI.UD$ is distinct from *burašu*. Quantities, 2 shekels (90, I, m. d), 3 shekels (41, I, IV, 15).

These drugs may therefore be summed up:
burašu is, I think, certainly "pine" (not cypress)
 $i\check{S}E.LI.UD$, a white species of pine, most probably *P. Halepensis*, Mill, which is known in French as "Pin blanc" (GM, 456). *kirkiranu* would appear to be 𐎧𐎢𐎠 gum, pitch or tar.

§ 26. $iAŠUHU$ (?) *abies*, FIR: $i\check{S}E.GAM.GAM$,
KURRU, FIR-TURPENTINE (193): $i\check{S}E.Ü.KU$ (I)
 (= *šipatu*) PITCH (86, III, 4).

① Can we see a reduplicated form of 𐎧𐎢𐎠 in *kirkiranu*?

Kukru, the second commonest drug (after burāšu), is constantly compounded with burāšu in the same prescription. It has been translated, I think erroneously, and a little ridiculously, "chicory", from the similarity of sound (Jastrow, Trans. Coll. Phys., Philadelphia, 1913, 380: Ebeling, Archiv. XIII, 7: Meissner, Bab-Ass., 211).

ŠGAM.GAM (=kukru) occurs (a) simply (almost always with the dot. ŠIM, though ū "drug" does occur (38,4 ii 11).

Passim: EXT., bind (2,1,22: 15,3,13: 22,2r.11: 25,4,6: 29,5,6: 37,7,4: 49,1,7: 52,3,3: 54,1r.7: 72,2,6: 73,1,26: 84,4iv,2:

96,1,18: 98,3,8), on head (93,1,15): temples (4,6,2): breast (26,3,3): lungs (49,6,7: 53,4,11: 55,1,8): sualam (cough, 50,3,8): anus (43,1,3: 101,3,4): mouth (or tooth) (24,5,7:

28,9,4: 78,1,28): ears (33,1,24,38): eyes (12,4,11: 14,1,70: 14,3,3: 16,1,15: 19,6,5): swelling on heel (73,1: 18): mi-

sitti (76,5,7,9: 77,8,9: 79,1,6,18: 82,2,8): šiggati (blains?, 32, 5,8,10,12). In unguents (74,1 iii,7: 75,1 iv,4: 94,2 ii 16: 96,4,5):

eyes (17,6,4: 19,6,8,12): feet (69,2,10: 69,7,4: 74,1 iii 2: 75,1, 18).

Fumigate, ears (33,1,31: 34,5,6: 35,1,7: 38,2 r, 9) wash patient (94,2 ii 9). INT., drink (4,4,4? : 45,1, 6: 89,1,5). For foul breath (26,6,11: KAR 203,67): to stay

illatu in mouth (29,5,6: 31,4,19). In Enema (43,6,6: 66,1,10,14,7: 94,2,7,9: Kū ii, iii 7). Quantities, 1 šu

(41,1 iv 25), 1/5 bur (49,6 r.1) 1/3 ka (17,8,3), 1/2 ka (53,4,11). [10 shekels] (42,2 r.9: 57,3 r.9) 1/3 ma (na) (43,

5,9). (b) SEED (1) ears, (38,4 ii 11).

(c) "WATER" (=tar-water) and dates (43,1, ii 9).

(d) KU (powder, =resin) cataplasm (96,1,9).

(e) OIL (4) (22,2 r.8: 45,1,3,7: 76,2,7).

There are three forms in Sumerian: i š KÙ.KÙ (SAL 3538), i š MIR.MIR (SAL 3553), i š GĀM.GĀM (SAL 3555): once written in Assyrian ku-ku-ru (CT. xvii,38,39).

The clue to its identification lies in Maqlû VI,35 ff: (35) šiptu. š Kukru š kukru (b) š kukru

... ina šadâni^{PL} elliti^{PL} kud-du-šu-ti (37) mârê^{PL} tir-
 hu ša e-ni-ti (38) mârê^{PL} i šē.ù.ku^{PL} ša. lca-aš-da-
 a-ti : "Incantation: O kukru, kukru, kukru! -- in
 the pure, holy mountains children thou hast spawn-
 ed of an enitu, children the tar of the high
 ones?)" ^① As I shewed in § 25, i šē.ù.ku is the šippatu,

𐎠𐎢𐎡𐎠 (pitch, tar) of the conifer ù.ku = ašuhu^②,
 which is 𐎠𐎢𐎡𐎠 (Ball, PSBA 1887, 127). The ašuhu is
 a tree growing in groves (M'13, 2, 20, 7): Gudea cut
 them down in the mountain of Ibla with zabalum
 trees (= juniperus excelsa, see § 27) and tulubum
 (platanus), using them for buildings (ISA 109: cf.
 151, where they are mentioned with cedars and
 cypresses: and 155). PA i a-šu-ḫi (52, 5, 9) and
 PA i ù.ku (36, 1, 19) indicate the "juice", i.e. gum.

i ašuhu (𐎠𐎢𐎡𐎠) is supposed to be some kind
 of cedar, but the true cedar is erinu. It is much
 more probably one of the other conifers (see § 25).
 From this we can proceed to define kukru.

Kukru, from the passage in Maqlû is clearly
 closely connected with i ašuhu: the det. i.š shows
 it to be an aromatic tree: the frequency of kukru
 in AM (as second commonest drug) shows it to
 have been common and easily obtainable.
 Its frequent connection with, and proximity to, burasû,
 would suggest its similarity: and an examination
 of the drugs, which have been identified with
 the different trees, will shew that the fir is
 the tree of high importance for which no equi-
 valent has been found. The equivalence
 ašuhu = fir, abies, seems most satisfactory;
 kukru will then be its turpentine or similar product.

^① Parallel to "Earth, Earth, Earth!" (ib. I, 37). i Enitum = i MA.NU
 (ii R, 23, 20, e: = murranu, 29, and gišnû 30), or it may mean "princess".
 Cf. 𐎠𐎢𐎡𐎠 = حب الصوبر (Löw 58) ^② Or lammu, ii R, 23,
 20 f. Juice of i Lam-me in wine (69, 1, 18).

Is there an echo of kukru in κόκκαλος?

Next, $\check{S}GAM.GAM$ must surely survive in the $\mu\kappa\kappa\alpha\kappa$ of IB No. 143i, 1573, supposed to be terebinthine, although, according to him, some say it is the gum of the Lentiscus (*P. lentiscus*, mastic), others its bark. It may survive in the $\kappa\alpha\lambda\gamma\kappa\alpha\mu\omicron\nu$ of Pliny (NHXII, 43) a gum-resin. Everything points to our being on the right track of the meaning of kukru. We can eliminate the value P, terebinthus for $\check{S}GAM.GAM$, since this is the equivalent for $\check{L}AM.MAR$ (§ 36).

Next we have $i\check{S}GIL = \check{t}i(?)\text{-ru}, \check{t}u(?)\text{-ru}$ (SAI 3568, 3570: M/3, 18), which, under the form $u\check{S}GIL = \check{S}ammu\check{S}a\check{L}ib\check{S}E.LI.U\check{D}$, "drug from the midst of the Pinus Halepensis" (PL. 34, K. 4169, 7). Tiru is confirmed from iiR 41, 24 $\check{S}\check{t}i\text{-}ri = \text{ditto (i.e., urkitu) a-}\check{S}u\text{-}u$. $\check{S}GIL = \check{S}ahatu, \text{turu, CTXII, 25, 466, 456}$. $\check{S}GIL$ is used in AM thus: —

(a) Simply, passim: EXT., bind (39, 1, 4: 54, 1 r. 7: 707, 4: 84, 4, IV, 2): ears (34, 1, 15 (almost certain), 34), mouth (24, 5, 7) eyes (8, 6, 6: 16, 1, 15), $\check{S}iggati$ of cold (chilblains?, 32, 5, 13) [swelling] (73, 1 ii 2). Fumigate (64, 1, 21: 99, 3, 10). INT., drink (57, 6, 4). Quantities, $\frac{1}{2}$ $\check{G}ik\check{K}i$ (41, 1, IV, 17), $1\check{S}u$ (ib. 14). (b) $ZAL.LU\check{S}GIL$ (40, 5, 10) on anus with $ZAL.LU$ (fat) of opium and gum of $\check{S}HAL$.

Boil $\check{S}GIL$ in water (hyoscyamus being given in a gloss as an alternative, 54, 1 r. 3); boil alone with honey (31, 8, 13): "when a man's asida^① purrur
① For asida cf. ib. 19, enumer. NA asida- $\check{S}u$ lu-ut-ta-a, for which earthworms are to be mixed with oil and bound on (cf. my article PSBA 1910, 292, for worms steeped in oil to be rubbed on rheumatism, in Anatolia): ib. 23 enuma NA asida- $\check{S}u$ $\check{G}HAA$ marša, to which urine is to be applied (an old soldiers' remedy for blistered feet). Ebeling; "Mittelfußknochen, Spann." probably correct (Arch. XIII, 132).

šGIL UD.BU GAZ ina URUDU. [UN.DU...] ina mē kašî labak LAL," i.e., it is to be pounded and treated with rose-water, and then bound on (75, 1, 14, 17)

In IB No 1421 g is said to be the lentiscus, and the gum is like that of the terebinth and called g (probably, as I mentioned above, our šGAM.GAM). The common people say it is a terebinth. g today is the lentiscus (mastic). If g = g , as is probable, it appears that the only difference is in the former being Pistacia lentiscus (or perhaps terebinthus), the latter (as šGIL, the aromatic wood) being from the gum of the L. UD (Pinus Halepensis). Turu (g) can hardly be the g of Löw 191 (M. '13, 2, 36).

We may sum up these two sections 25 and 26 in the equivalences: L (burašu) pine in general,

šburašu, pine-turpentine, L. UD , Pinus Halepensis, šš.L. UD, gum or tar from the same; ašuku , fir, šGAM.GAM fir-turpentine, ① šš.Ü.KU gum or tar from the fir: šgila = g , gum of the P. Halepensis, or, if the Arabic be followed rather than the Assyrian, mastic, or the gum of the terebinth.

It is unnecessary to say that turpentine and similar drugs are obtained, not only from the pine, but also from other conifers (as well as Pistacia terebinthus, § 36). For convenience I add here the modern uses of turpentine, etc (obtained from the pine, P. 308, 1006, 1199).

Turpentine oil is antiseptic, haemostatic, diuretic, anthelmintic: antispasmodic in hysterical affections and hiccup: said to dissolve gall-stones: inhaled in bronchitis: enema with castor-oil: (much used in India (WBM § 395)). Ext., rubefacient, liniment in rheumatism. Tar is somewhat similar in its medical properties (cf. the great vogue of "tar-water"). Resin is antiseptic, slightly stimulant,

① In the time of Nebuchadnezzar a shekel would buy 20 $\frac{1}{2}$ ka of šburašu, and only 10 of kukru (Scheil, RA XVIII, 97).

used in plasters and in strapping wounds: ointment for ulcers: not used internally (but IMP 1233 gives the resin of *P. longifolia*, Roxb, as stomachic and for gonorrhoea). In older medicine (FHS 627, ff.) turpentine is used for bleeding of the lungs, congestion of the kidneys, cough, and epilepsy.

§ 27 (cf. § 9 C5, 10 C5) ⁱZABALAM (4), ⁱZABALUM, *Juniperus*
P. excelsa, M. B.: ^uGIL (18), ^uSUPALU (8) ⁱSUPALAM.

Since both ⁱZA.BA.LUM (Gudea, ISA, 150, XII, 5, etc) and ⁱZA.BA.LAM occur, it must obviously be a Semitic word. Gudea brought these trees from the mountains for use in building, along with *šivanu* (cedar), *šurmōnu* (cypress), *ašuku* (fir) and *lulubu* (plane). Obviously it is the Ar. *šizāb* *Juniperus excelsa*, M. B. (Post 749) by a common metathesis of l. It grows in alpine and sub-alpine regions.

Noticeable, however, in A19, is the ~~great~~ difference of use between ⁱZA.BA.LAM (4) and ^usupalu (3). The former is bound on (12. 113.5: 15, 3.13): for *mišitti* (77, 2, 1). The juice is used (3, 7, v5). But ^usupalu is ordinarily used int., (although it is used for *mišitti*, ext. 1), and ⁱsu-pa-lam is bound on, 98, 3, 8): drink (18, 4, 4: 21, 4, 2: 36, 2, 15: 56, 4, 2): for dyspnoea (59, 1, 36, 44?) stomach (39, 1, 63). Used for foul breath (23, 1, 28), constriction of KU.GA (40, 5, 17), for *maška* (31, 1, 6); ^usupalu in oil (277). Quantity $\frac{1}{3}$ ka (6, 3, 17). 2 shekels of ^uGIL *urkiš-su* (its leaf) for foul breath (25, 6 ii 9). Curious is ^uGIL *šal*? kalbu ^uNIN:G: 21. BAR.RA ?-tu-u *hi-bi* (KAR 203, VII 20), to be continually drunk in kurunnu and oil (alone): occurring as ^uGIL *ša kalbu* ^uGu-.

use "gum" seems more satisfactory. *Esî* may be a tree: cf Meissner's restoration e(?)... for *'SAG.DU* (SAL 2318, CT. XIX, 42, 10, and cf. § 9 CJ, l. 584 "zîr kaka-danu).

3. "IN.NU.UŠ, see Index sub "maštaka"

4. "GIL, presumably distinct from *'GIL* (§ 28), and *˘GIL* (§ 20). *'GIL* = pagratum = "gall" from the dwarf-oak. But this oak of Kurdistan also provides a manna: is this *˘GIL*?

R. 1. *˘NAM.TA.E*, and "NIM.TA.E (r6), probably the same. *˘NAM.TA.E*, § 9 CG, l. 635. The "E" perhaps refers to something coming forth, an exudation.

R. 2. *˘KI.AN.ŠİŠ.KI*, cf. *˘KI.AN.UD* and *˘KI.AN.MER* (SAL 7213, 7214). It = *˘ašušimtu*, l. 586.

R. 3. *˘NIGIN.ŠAR*: bind on, with others, "top of stomach" (Kü ii, iii, 21).

R. 4. *˘Gabbula*, so strikingly like *گابولا* "dough," that there may be some connection. A common Persian sweetmeat is wheat-flour kneaded with manna into a thick paste, and round cakes made ^{partly} from manna from *Astragalus florentulus* are sold in the bazars (EB, xvii, 587).

§ 28 (= 9 CJ, 2) *'GIL*(7), PAGRATUM, galla, GALL-NUT

(a) Simply (4): for too much saliva (31, 4, 11): use for "construction" (60, 1, 11): apply eyes alone (46, 1, 4)

(b) SEED (1) (26, 1, 4).

(c) ŠZ.AU (1) (69, 8, 9).

As was mentioned in § 27, this appears to be distinct from *supalu*. *'GIL* = pagratum = "gall-nut" (Zakaria-Dangin, RA 1920, 27 ff.), in receipts for tanning with alum and "pagrati" of cultivators of the land of Hatti" (cf. my chapter in Woolley, *Carchemish*, II). Galls in India are used for diarrhoea, dysentery, prolapsus of rectum,

piles, gleet, throat and fevers (WBM § 187).

§ 29.A. iMA.NU, 'ERU (𐤀𐤓𐤅) *Laurus nobilis*, L., BAY-TREE.

- (a) Simply (7): fumigate ears (33, 1, 35: 38, 2, 1). Drug for KU.GIG (KAR 203, VII, 2). (b) SEEO (21): anoint (76, 4, 4), "hand of ghost" (94, 2 iii 5): apply eyes (12, 4, 5: 18, 7, 3?): bind on temples (102, 239): bind on (52, 5, 15). Fumigate (91, 1, 7), ears (33, 1, 28: 38, 1, 5), eyes and temples (12, 4, 7). INT., drink (76, 1, 13, 21, 25, 27) hand of ghost, stomachic (76, 1, 16) and some female ailment (KAR 194, T. IV 8). Use uncertain, pain in kablati (52, 6, 7). (c) 𐤀𐤓𐤅𐤁 (4), EXT., feet, etc., (74, 1 iii 5): eyes (13, 6, 2). (d) [šē.r]ū (1) (92, 6, 6). (e) ROOT (2), anoint (73, 1, 4): fumigate ears (33, 1, 30). (f) iPA ša iMA.NU "a stick of exi (101, 2 iii 8).

It has been identified with 𐤀𐤓𐤅 "tamarisk".

But there is every probability that iGinu = tamarisk (§ 31), and the two appear to be unconnected.

The vocabularies keep eru and ginu distinct: išiniš = iGinu, igumalu, ikipuvalu (Br. p. 131), as distinct from iMA.NU = ieru, ierinnu (Br. p. 208).

AM gives prescriptions in which the two are side by side: "[juice of] Gini juice of ieri" etc for eyes (13, 6, 2); "seed of Ginu, seed of ieri" etc. (4, 6, 10).

The distinction is similarly kept in omens (Boissier BA 76, U. 22, 22).

It is most suggestively written i-e-ri (M 13, 2, 20, 9), which at once suggests that the alternative identification with 𐤀𐤓𐤅 "laurel" is the correct one. The use of *Laurus nobilis*, L., coincides with AAA: the leaves and fruit are aromatic and stimulant: it is a reputed narcotic, the leaves being said to be diaphoretic. An oil is made from the berries. It was formerly used for colic and amenorrhoea (BMP No. 221). The shrub is found in Gilead, Carmel, Tabor (FTP 113), Palestine (Post 700), A. Minor (BMP 16)

§ 29 B i šiwig, 'BĪNU (106), Tamarix, TAMARISK.
As 'eru has been identified with tamarisk, it
is, as well that this should follow it.

'Bīnu in AM (a) simply (26): EXT., bind (98, 3, 8: 50, 3,
2, for cough): apply (mišitti 77, 8, 10), swelling (100, 3r, 13):
rub feet (69, 2, 5: 70, 7, 10). INT., drink (76, 1, 16: 89, 1, 2: 97, 6, 3).
It glosses 'BAR. HUS (16, 1, 5). 'Bīnu, for mišitti (76, 5, 9:
bind 3, 1, 12).. (b) SEED (43), EXT., anoint (92, 1, 3: 95, 2,
ii, 10: 97, 4, 11: alone in beer and oil, 29, 1, 8: kam! of ghost
94, 2ii 14): apply eyes (14, 5, 7: 18, 9, 3?): feet 74, 1 4):
bind (79, 1, 27, mišitti), temples (102, 1, 39: 104, 1, 16). For mouth
and illatu (29, 5, 19: 31, 4, 11). INT., drink (89, 1, 2) for sto-
mach (38, 1, 8: 76, 1, 16), "hand of ghost" (76, 1, 13, 20, 23, 25),
jaundice (alone ki iii, iii, 16?), dyspnoea (alone 69, 1, 20:
with about 40 others 59, 1, 38). Fumigate (94, 2, 12:
99, 3r, 6, 9, 13: eyes and temples 12, 4, 7). Quantity,
2 shekels (90, 1r, 8)

(c) JUICE: EXT., mouth (24, 5, 8), foot (75, 1, 20), head
(1, 2, 19), swelling (73, 1, 12, 33): venereal, by tube in penis
(58, 6, 7): appar. venereal (32, 1, 12). INT., drink (91,
5, 5). Uncertain use, stomach (45, 6, 8). Quantity,
½ ka (53, 4, 4). (d) LEAF (4): eyes (7, 1, 32).


(e) ŠE.RÙ (1) fumigate (91, 1, 7). (f) "WATER" of
'Bīnu, as medium for mixing (14, 5, 4): for
washing eyes (14, 3, 8). A hīl 'bīni exists, the
"gum", apply alone to neck (KAR 203, 39). ①

(g) ROOT, for gurastu, with root of 'BAR. HUS and
raw meat (17, 1ii 6). (h) "2 šuhuru (SA 1 6521)
ša 'bīni ša 'PA ša 'MA NŪ" (101, 2iii, 8). M 204,
203. (i) "In a Giš, Liš of 'Bīnu let him
drink" (89, 1, 10) (j) "In a fire of 'Bīnu (37, 10, 2).

① Hdt VII, 31 mentions the city of Callatêbus, where
honey was made out of wheat and tamarisk-fruit.

The length of one *i būnu*-pole is given as 6 *ammātu* (cubits), contrasted with 12, 11, and 7 cubits of *šašuku* poles: *i. e.*, the *i būnu* averages $\frac{3}{5}$ the height of the fir (De la Fuye, RA 1919, XVI, 4). It is possible to interpret IV R 27, a. 5 (*i būnu ša ina mušarē mé la ištu* "būnu which hath not drunk water in a garden") as indicating that it was not planted in gardens, or XV, 27, 42 (Zimmern, *Sumbab. Tammuz-Lieder* 235) "in a *šarbatu*-tree (*styrax*) he lies, with woe is he sated in a *šiniq. A* (*i būnu*)-tree he lies, with sorrow is he sated," presumably in the shade. Magli IV, 39 prescribes that little figures be made of *i būnu*, *erīnu*, and *zaklu*.

It is thus a tree, $\frac{3}{5}$ the height of the fir, not growing in gardens(?), used for fires (i. e. plentiful locally in Assyria, and of no value for fruit), from which a *Biš. kiš* could be made. It provides a drug very common in AM.

The old comparison  which is given the value of tamarisk (although a little doubtfully, Löw 71) seems to fit admirably. *T. Gallica*, L. (Arab. *شجرة* ①) common throughout India, yields galls, used internally for dysentery and diarrhoea, and locally for ulcers. It has also a manna. *T. Orientalis*, Vahl (Ar. *Jil*) produces smaller galls, and is astringent, its bark bitter (WPI 29), and grows from 10-20 feet high in Persia and Arabia (PC XXIV, 24). The twigs of *T. dioica*, Roxb., are astringent (IMPI, 140). In Mesop. the tamarisk grows in copses, never very tall; in the E. Sudan the branches are the height of a camel-rider. Culpeper (21) speaks of the tamarisk being used for toothache.

① Cf. Assyr. *šarpi'u*, Meissner *Bab. Ass.*, 211.

§ 30. ⁱERIANU, Cedrus Libani, CEDAR OF LEBANON (148).
 (a) Simply, frequent: EXT., bind (55, 1, 8), apply head (1, 2, 7: 35, 5, 8): ears (34, 1, 13: 36, 1, 13): anoint (92, 1, 5, limbs) for hand of ghost (94, 2 ii 17: ? 33, 1, 7): chilblains (32, 5, 13): wash (8, 3, 3). Fumigate ears (33, 1, 31: 35, 1, 7: 68, 2, 9). Used for kurara (5, 5, 8): cough (80, 1, 19).

Quantities, $\frac{1}{3}$ ma (43, 5, 9): 1 shekel (41, 1 iv 12), 4 shekels (10, 2, 2): 10 shekels (57, 3 r. 11: 79, 5, 5).

(b) "BLOOD" (BAD, DĀMU), frequent: EXT, ear: (33, 1, 40: 35, 3, 4: 37, 2 r. 4): head (1, 2, 16): temples (103, 1, 17). Fumigate (91, 1, 16: 99, 3, 13). (c) OIL, frequent: EXT., head (4, 2, 5: 5, 1, 4: 105, 1, 13): temples (4, 6, 5), ears (37, 2, 6, 9): eyes (10, 3, 30: 14, 1, 2: 16, 1, 24): nostrils (26, 1, 4: 26, 2, 3): rub feet (69, 2, 5: 70, 7, 11). Fumigate nostrils (54, 1 r. 9).

(d) KU (powder = resin) (2) ears (24, 5, 4).

(e) "Fire of erinu-wood" (21, 3 ii 6: 75, 1, 21).

(f) JUICE(?) (68, 1, 11).

IDENTIFICATION: long with ~~§ 30~~ cedar (not Pistacia vera, as Von Oefele thought, ZA xv, 111). Large forests exist on Taurus and Anti-Taurus (EB V, 595): its ancient habitat, from ii R 51, a-6, 3-4 was on Amanus and in mālu Hasur, the latter place also given in Šurpu IX, 42 ff (Dhorme, RT, 1907, 125), where it is said that its perfume fills the land.

The resin of the cedar is similar to mastic, and the manna is a sweet exudation from the branches (EB, ib.) Pliny (NH xxiv, 11) speaks of an oil extracted: IMP ii, 1237 says that Cedrus libani, Loud, is closely allied to C. Deodara, Hook, which yields a coarse, very fluid turpentine (probably the "blood" of AM), used in India for ulcers and skin diseases. The wood is pounded and applied in headache.

Two groups spelt with the same ideogram occur in Assyrian: (1) ⁱERIN.BAD, in AM simple, EXT.

Hands and feet (98,3,13): Blains (P) Siggalu, 32,5,14: wash (94,2, ii 10). Fumigate (9,1,14). Enema (56,1,5). It does not occur in grammatical lists, and it may well be that it means no more than "old cedar", not improbable in consideration of the great size and age of these trees.

(2) 'ERIN.BABBAR. RA "white cedar", = liaru (CT. XVII:38,39), not in AM. Liaru, obviously curious as a Semitic word, must surely be the Assyrianized form of Ar. 'ar'ar, Juniperus Oxycedrus, L., which yields "cedar-oil", official in most European pharmacopœias (EB XV, 557). Since 'ERIN.BABBAR. RA also = ti-ia-ar (ii R 23, 24f), liaru must also = tiyaru. Add. also (ib 23) 'ERIN = ti-ia-yum.

§ 31. (1)(4)(5) DAPRINU, DUPRANU (10) JUNIPERUS DRUPACEA, Labill.

(a) Simply (5), in one of three maškiâli (41,1,IV,1): for breast (51,5 r. 8). Quantity, 1 shekel (41,1,IV,12).

(b) OIL (2) ears (35,2,6). (c) SEED (1), fumigate ears (33,1,28).

Long identified with the Arab difrân (see MA 264). Found in Lebanon, Akher Dagh, and northward (Post 748). Its fruit and oil are carminative, stimulant, and diuretic (IMP II, 1227).

§ 32 iš'ar, 'ASU, (14), Myrtus communis, L., MYRTLE.

(a) Simply, passim: EXT., fomentations (49,6 r. 2: 98,3,9). : INT., drink (83,1,16). Fumigate ears (34,5,6). Use for mouth and illatu (29,5,16). Quantity 15 bur (45,6 r. 2). (b) OIL (98,2,7).

IDENTIFICATION: long with ~~ASU~~ Myrtus communis, L., common on the hillsides of Palestine (Post, 319), Mediterranean region (EB XIX, 115), Fars (Herzfeld, Beih. ii, 34). Gives a transparent aromatic oil, which appears to lessen expectoration (cf AM above, 29,5,16): in ancient times the branches and berries were

infused in wine (EB loc. cit.) In SM about 1% (e.g. fomentations (i, 433, 684). In India the leaves are used in dyspepsia, for stomach and liver, and a decoction as mouthwash (IMP, I, 551).

Doubtless, although it is not definitely expressed the oil is indicated in AM (like *burāṣu*)

§ 33A. *URKARINNU*, BUXUS, BOX

= *𐎠𐎢𐎡𐎢𐎠* (Ball, PSBAXI, 143). Used by Gudea (ISA, 109, Cyl. B, V, 33) for building, from Amanus: half the height of cedars: (a box-tree on the Lebanon is quoted as being 20 feet high, FTP 38). It is mentioned by Sargon (VIII th cent) as a product of Muṣasir (between L. Urumieh and L. Van, Thureau-Dangin, Une Relation, 53, 353). Tushratta of Mitanni (N.W. Assyria) sends an object made of the wood as a gift (Knudtson, TA, 25, IV, 23, 25). The wood is diaphoretic, the leaves purgative, and a tincture from the bark febrifuge (IMP II, 1134). See also *šimeššalu*, § 21.

§ 33B. *TULUBU*(j), PLATANUS, PLANE.

Long identified with *𐎠𐎢𐎡𐎢𐎠* "plane" (see MA 1161). Used by Gudea (ISA 109, ident. by Jensen, quoted by Thureau-Dangin in letter), for building, from *!blā*. In AM, sap of *tulbi*, wash (52, 5, 8). Sargon (VIII th cent.) mentions it (*idulbu*) as growing with *šurafu* about *Ulhu* (N.E. of L. Urumieh) (Thureau-Dangin, Une Relation, 35, l. 206).

§ 34A. *KAL*, *ESŪ* (2), *USŪ* *OCER, *MAPLE.

Use: (a) Simple (2): EXT., anoint (82, 2, 10).
 for *šiggati* (blains? 93, 2, 9). (l) SEED (3); EXT.,
 alone, anoint for *ašū* (pain, KAR 203, 63). INT., drink
 dyspnoea (59, 1, 39): put alone in rose-water and milk
 (similar texts "in middle of penis", 62, 1, ii 8).
 (c) gum, (1) (84, 4, 10). (d) *KU.KU*, apply head (5, 5, 7).

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§ 34 A: § 34 B: § 35.

It is spelt ... e-šū-u (73,1,29).

- It grows by the sea (Maqlū iii, 179): comes from Cyprus (Sargon, Khors, 148), Mediterranean Coast (Ashurnasirpal, II, 8), and from it were made chariots (IVR 12, obv. 23-24), and doors (Neb. IX, 11). It also came from Karduniyash (Bezold-Budge, Tell el-Amarna, No 4, 28), and Muṣaṣir (between L. Van and L. Urumiek (Thureau-Langin, Une Relation, 53, l. 353).

There is little doubt that this is the Maple. Several species are indigenous to Asia (Post, 204, gives three, the generic Ar. name being qaiqab). VK 437 says that A. pseudo-platanus is well adapted for situations near the sea, and, since it is not apt to warp, is suitable for saddle-trees, wooden dishes, founders' patterns, etc. It has a sweet juice. Acer creticum is found in Crete, and doubtless might equally well have existed in Cyprus. In the same section in M. 13, 14 (ll. 2-6) are the trees samullu, ḫaluppu (willow), šakullu and lanadū.

§ 34 A 'HA.LU.ÚŠ, ḪULUPPU (5), WILLOW.

(a) Simply, (2); prob. EXT, feet (69, 2, 7). (cf. 6e, 2, 19).

(b) JUICE (3). (c) SEED (1) (Kü ii, IV, 30).

= ~~KA~~ "willow" (Populus Euphratica, Oliv, M. 13, 2, 31). 'HA.LU.ÚŠ MĀ.KAN.NA = ru-ti-tu Gudea obtained ḫuluppu from Gubin "the Mountain of HA.LU.ÚŠ" (ISA. III, L. 45).

Salicine, from bark and leaves of Salix and Populus, for internal use in rheumatism (P. 1035)

§ 35 'ŠENA.A, ŠUNŪ (56) ^① vitex agnus-castus, L., "CHASTE TREE"

(a) Simply, (8) EXT, feet (69, 2, 7). INT. (4, 4, 3? : 60, 1, 8).

^① Once "šū-nim for the more usual 'šū-nim (57, 1, 38). "šū-un" occurs 60, 1, 18;

Enema (56, 1, 8).

(c) "WATER" (19) usually for washing, i. e., 31, 5, 3 : 43, 5, 15 :

53, 1, 11 : 54, 1, 12 : 57, 1, 2 : 58, 2, 6 : 61, 1, 8 : 90, 1, 7 : 101, 3, 10,

16 : in "water of fresh šunû" (26, 4, 9 : 83, 1, 21) : rub

patient in water of fresh šunû (79, 1, 15) : rub in water

of šunû for a bruise (dikis bšt) from a chariot

(96, 1, 17). For mouth (24, 5, 12) (c) SEED (10)

EXT. anoint (29, 1, 2), bind (2, 7, 5 : 98, 3, 8), on libû: P^t (40, 5, 11),

lungs (56, 1, 5) : apply to head (5, 5, 13). INT. for dyspnoea

(u šunim, with about 40 other drugs, 59, 1, 38), with nuhurtu

(asafoetida) and turpentine for some female ailment

(KAR 194, IV, 4). (d) ROOT (2) : alone for kaḥi, drink

(KAR 203, IV, 46) ; for cough, drink (ib. 31).

(e) JUICE (12), EXT., bind (52, 5, 14 : 68, 2, 1 : 72, 3, 8 : 83, 1, 1,

25, 32). Alone with kimi ḥašli in rose-water as poultice

(Kū II, I, 18) : alone for ... šadani, anoint in oil

(KAR 203, 40). Uncertain use, for KU. 919 (58, 2, 7),

constriction of lungs (53, 4, 19), breast (51, 12, 6) all

prob. ext.

(f) ŠE.RU (1), fumigate (91, 1, 6).

= ~~RU. 919~~ Vitex agnus-castus, L. (Kū 93). Pliny's

prescriptions (NH xxiv 38) admirably coincide

with AM. There are two trees of this kind : the

seed is constantly used ext., acting as sudorific

if the body be rubbed with it mixed with oil ;

or as fomentation, it cures headaches ; with barley

meal for tumours ; with honey for ulcers of

the mouth : also diuretic, emmenagogue.

"The produce of the tree" removes flatulence.

As a liniment against spider bites. The

blossoms and young shoots with oil of roses

allay ^{drunken} headaches : the seed and leaves ext. for

gout and diseases of sinews.

It grows near Jebel Hamrin (Mesop., Herzfeld, Beih.

No. 176), called سوزبان : at Safa, called سيمبان

(Von Opp. II. 383). See Forstål. EF. 134. This word long recognized as the Assyr. šisbanu, occurs as "šisbanam" (1), with → chamomile (48, 3, 7). Cf. Kü II, i, 3.

§ 36 A. ⁰
 i LAM. MAR, 'ALLANU (1) Pistacia terebinthus, L., OAK ("allanu (2)).

i LAM. GAL 2, i BOUTUTTU, P. vera, L., PISTACHIO.

i LAM. HAL, 'LUPANU → P. Lentiscus, L., *MASTIC

i LAM. TUR, MAR(ASIP), → P. Lentiscus, L., *MASTIC

In this group, all beginning LAM, it is clear that we have the genus Pistacia.

'Allanu is 𐎠𐎢𐎽𐎢𐎠 "oak" (MA 48), the terebinth oak Pistacia terebinthus, L., whence came some of the turpentine in early times: "the true primitive turpentine, ῥητίνη, τερπινεῖον, was celebrated as the finest of all analogous products" (FH 164). SFO ii 6 gives the habitat as Peloponnese, Macedonia, Crete, Cyprus, etc.: in Mediterranean district, extending as P. Palaestina to Syria and Palestine (EB xvii, 481; see Post 206).

𐎠𐎢𐎽𐎢𐎠 al-la-an, applied to uterus (KAR 194, iv 13): 'allanu, drunk for bile with (or, as) gall-plant (Kü iii, i, 23): "allanna (1) anoint with others (9e.2 ii 12).

i LAM. MAR KAK-uš | šamni dap-ra-ni (ta) tasallah | ana KU-šu tašakan .. (KAR 203 VII, 10), a phrase occurring in 43, 1, 4 (cf. 10, and 53, 9, 7), al-la-na KAK-uš šamni sur-man tasallah ana KU-šu tašakan (an). Allana KAK-uš also occurs 5, 7, 6: 43, 1, 11, 6; 47, 1, 2, 3: al-la-na KU.GIG (52, 9, 3, 8(?)).

That 'allanu = 𐎠𐎢𐎽𐎢𐎠 "oak" is reasonable: but allana KAK-uš would appear to refer (judging by the drugs mentioned in the prescription previously) to some kind of Cataplasm. Allanu in this sense occurs 43, 1, 13; 50, 6, 6; 53, 11, 7; 57, 5, 2, 9; 81, 9, 6; 96, 2, 2. (Are al-la-...

51, 12, 2, and "al-la-an... [to drink] for dyspnoea, to be included here?).

For convenience we can discuss "al-la-an-ka-niš (3) here: it is described as "ditto" (i.e., *hinit* + Br. 830 | RAT ina *kurunni NAK*) (KAR 203, 27), re-appearing in 67, 1, IV, 23, as *allankaniš* ina *pī-ša umarrak* (alone) for speedy birth in travail; and with *NU.LUH.HA* (*asafoetida*, 83, 1, 7) it occurs PL 27, s. 1846, 6, and its dup. KA 180A (pl. 35), l. 28. Its reading is assured from *allakani* (Tiglath-Pileser, VII 18), the king having planted them in Assyrian gardens with cedar and box. The 12th century thus marks its introduction into Assyria. ii R 51, 1, 9 gives *mātu Bibbu* as the land whence it came.

— The next *Pistacia* is the *i* *Bututtu*, not to be confused with *ŠE* *bututtu* of Hrozný (Getr. 68)①

Obviously, since *i* *LAM.MAR* is *P. terebinthus*, L., Hrozný (Getr. 70) was correct in identifying *i* *bututtu* (= *i* *LAM.GAL*, "the great *LAM*") with the *Pistachio* tree. *Butnu* has long been identified with 𐎢𐎠𐎺, the pistachio, the *P. vera*, L., (which rises to 30 feet) whence come the *Pistachio*-nuts (see MA 151). The fruit is *bu-ut-na-nu* (one shekel, ADD, 1074, 9): *butnana* ŠAR, MB 39, with rue, hyssop, and thyme; with a "stone" (i.e., the nut, PL 16, 93084, 3). Cf. *bu-ut-nu šihrāti* P^l, PL 40, 82-5-22, 576, v. 14.② (95, 1, 11).

i *LAM.GAL* in AM, bend (72, 2, 11). "Butnanu (4) is a drug for the lungs (chew, KAR 203, IV, 24). drink (?) for dyspnoea (59, 1, 44).

— Lastly we have to identify *P. lentiscus*, L., from which the mastic comes. Mastic is the gum

① In AM (2) *bututu* 49, 4, 2 and 21 (D) *bututti* (6, 1, 8), = emmer. ② Or is this mastic? see further.

which exudes in small round, yellow tears, which the people chew constantly, but is not of much use in medicine (see VK. 562). It is a native of S. Europe and the Levant. This may either be 'LAM.TUR "the little LAM" ("the son of the physician(?) in Assyrian), or it may be 'LAM.HAL " = lupanu, the HAL, like the HAL of baluku, indicating its gum. If so, are we to see in lupanu the -anu product of the lupu, perhaps a shortened form of 'uluku, the tree cultivated so much round Harran with *styrax (§ 11). Mastic was known to Theophrastus (FH 142)

§ 36B. 'HUM.HA (8).

Use, simply. Drink for dyspnoea (59, 1, 34); use for mešitti with 'sihu and 'arganu (79, 1, 20), for lungs (55, 1, r. 8, with mustard and "AG.UT), both probably EXT. pitku is the "quantity" (41, 1, IV, 16). Especially with 'arkannu, for one rescued from drowning (87, 6, 6).

It must (from the last instance) be a plant with a pungent smell. 74 ii, 20, a dup. of KAR 192, has "bariratu as a variant for "HUM.HA. "Bariratu is a very usual compound with 'sihu and 'arganu, and obviously in some of the above instances (as well as the variant) 'HUM.HA can take its place. Probably, therefore, 'humha = "bariratu.

§ 37A. "GIŠIMMARU (26), Phoenix dactylifera, L., DATE - PALM.

(a) Simply (9) "of the left-hand" (north, prob. referring to some peculiarity of the rare palm in the north, the palm not growing satisfactorily above Tuz Khurmati), (63, 2, 9) Its "clean heart thou shalt chew (lehipi) in thy mouth"

(11,1,8). The inside of the very top of the palm — trunk is edible, having the colour and consistency of celery heart. I have eaten it in Basrah. Xenophon (Anab. ii, iii) mentions it, saying that the soldiers ate the crown of the palm and were surprised at its appearance and peculiar flavour.

Gisimmaru is used for eyes (8,5,3) and to wash (52,5,8). The "dung of doves of a palm of the mountains" is to be bound on the head against samanu (1,2,11); it is a little difficult to decide what is meant by a "palm of the mountains" (or of the East?); the probability is it means the wild palm. A "palm of the north" is mentioned in a recipe for a woman's hair (3,2,7).

(b) JUICE (5) of a palm ša ina(m)zuzu ("which is growing") (20,1,24,26), ša ina NU.M inamzuzu (for the head, ib. 9) ša IM.SI.ŠI ša ina NU.M inamzuzu (103,1,25,34). The sap of the palm is obtained by cutting off the head of the palm, and scooping out a hollow in the top of its stem, where the sap can gather. After six weeks the trunk becomes exhausted, and is then cut down (PC xviii, 104). Herein, perhaps, lies the explanation of the "palm from the north". The Khurmati is the highest point at which the palm flourishes: above this the palm is practically worthless as a fruit-tree. Down in the south, where the palm is cultivated for its fruit, this wasteful method would hardly be employed.

(c) Daldallû (not a drug) (1) pollen (10,1,iii,11)

(d) Root of male palm (1) (13,6,18)

(e) Subuššu (8) "the little palm" EXT., bind (79,1,12), feet (ib. 28), rub feet (69,2,5).

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§37A:31^{is}

Its JUICE, (1), for swelling (1, 12).

(g) Ukuru "the heart of the palm" (1) put on "front" (59, 3, 7, pudu). (= \leftarrow \leftarrow \leftarrow Jensen ZK ii, 26).

(h) Ukuru of the "small palm", applied feet (75, 1, 19).

(i) "sisini (to be included here?) (1) (58, 8, 3).

(For a long list of date-palms and the different words pertaining thereto, see M. 13, 2, IV, 22 (1).

§37B

SALUPPU (84), dactylus, DATE.

(a) Simply, (KA.LUM, 4), one sâmu?, 19, 1, 2: 10 bur (15, 3, 9: KA.LUM.MA (25), $\frac{1}{2}$ ka (42, 2 r. 4: 57, 1 v. 4, 5). EXT., bind (84, 4 IV, 2: 93, 2, 1: 96, 1, 9). INT. (? KU. 919, 57, 1 r. 4) · eat, for deafness (35, 1, 9, cf. 10). Enema (42, 2 r. 4: 56, 1, 6, r. 13: 94, 2, 8)

(b) Date-stone (7), bind (15, 3, 5), anoint on swelling in pig-fat (73, 1, ii 6), put on bubble (of feet, 75, 1, 17) (probably = date-stones ground up).

"powder of date-stone" (1) alone for eyes (8, 1, 12):
"water of date-stone" (1) (27, 2, 16)

(c) "water of dates" (9) drink when stomach will not retain food (38, 1, 9). Use for dyspnoea (59, 1, 21): for head (1, 3, 12). Quantity, $\frac{1}{3}$ ka (38, 1, 9: 50, 6, 9).

(d) Dates of Dilmun (6): EXT. (32, 5, 1, 6, 9)

(e) KI.KAL KA.LUM.MA (16): EXT., bind (49, 6, 7, 1, for construction of lungs) (55, 1, 9: 72, 2, 5, 8: prob. 51, 8, 9). INT., eat(?) with pig-fat (80, 7, 4). Uncertain, for breast (27, 7, 4): allana, for KU. 919 (47, 1, 4). Quantities, 2 mana (64, 3, 7): imana (50, 3, r. 5: 72, 2, 5): $\frac{1}{2}$ ka (49, 6 r. 1): $\frac{1}{3}$ ka (17, 8, 4).

In 98, 2, 7 a variant for KI.KAL KA.LUM.MA is GAB dišpi, the latter drug occurring more than 30 times as against about two and a half times as many, of various forms of honey

without GAB. Figures are made of GAB dišpi (81, 5, r. 5 : 86, 1, i, 4, 8 ; Maql. ii, 47), which would appear to indicate "wax". A GAB šamaššammi occurs (4), obviously from the sesame. Is KI.KAL the equivalent of 𐎠𐎢𐎣 cake, or lump, used of figs as application to a boil (2 Ki. XX, 7), one value for KI.KAL being dibiru(?) (SAI, 9382). KI.KAL occurs 53, 1, IV, 6, NA. B1 KI.KAL KU.GIG ..., which rather indicates a plaster. A plaster of dates is recommended in SMA ii, 372.

In India dates are considered expectorant and laxative, and are used for cough, gonorrhoea, etc. A paste of the seeds for eyes (IMP ii, 1314).

§ 38 𐎠𐎢𐎣 (7), *Mespilus germanica*, L., MEDLAR.

Use: (a) JUICE (5) : (b) hasballatu (1) (72, 2 r. 4).

𐎠𐎢𐎣 = salluru, 𐎠𐎢𐎣.KUR.RA = kameššaru (Holma. KB, 73, 𐎠𐎢𐎣𐎠𐎢𐎣 "pear"), 𐎠𐎢𐎣.GAL = marmahu (M. '13, 2, 18, ll. 48, 49, 53) : 𐎠𐎢𐎣.GAL = kameššaru (Rm. 367, Meissner, suppl., 23) : marmahu = šalluru (Rm. 356, CT. XVIII, 16, obv. 17 ; M. '13, 2, 18, l. 62). Cf. Peiser, KB IV, 243, No. 39. "3 gur of grapes, 30 (ka) 𐎠𐎢𐎣 on the tree, of the limitum in front of the Lion-gate" (10th year, Nabonidus).

We have thus a fruit-tree, bearing a fruit similar to a pear. The similarity of the Ar. 𐎠𐎢𐎣 is obvious. This may be either the Medlar (*Mespilus*) or the *Crataegus azarolus*, L. (see § 10 N 2 : Löw 288). Šalluru must be 𐎠𐎢𐎣 "medlar".

Marmahu, its equivalent, has no little similarity to *μηλίμηλον*, Portuguese marmelo "quince", and so our "marmalade". "Honey-apple" is a poor explanation for *μηλίμηλον*, savouring too much of a "popular" etymology.

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§ 39.

§ 39ⁱ NU.UR.MA, nurmû (40) POMEGRANATE.

GIŠ MA + GUNU (14): APPLE

i. TITTU, (9) FIG.

ARMANU, (1) APRICOT.

Hitherto it has been customary to see in armānu the Heb. $\{ \text{רִמּוֹן} \}$ "pomegranate" (Meissner, MVAG XVIII, 2, 33). I cannot agree with this.

Nurmû is used in AM: (a) Simply, infrequent: bray, and blow into eyes by a reed (Kü iii, iv, 5).

(b) "WATER" (8), EXT, eyes (17, 4A): ears (33, 1, 20: 34, 1, 18(?): 35, 2, 2: 36, 1, 12: 37, 10, 5). Enema (Kü, ii, iii, 81). Quantity 1 shekel (35, 2, 2).

(c) JUICE (5), EXT, reduce and bray alone, anoint with fish-oil (swelling) (73, 1, ii 9). Bray and bind on one shekel in four days (75, 1, 26).

(d) LA (6) EXT, burn and apply swelling (74, 1, 16): apply, eyes (12, 6, 8): kappalta alone (74, 1, 21): anoint feet (74, 1, iii 16) (e) SKIN (1) - bind on swelling with others (73, 1, 20). cf. Kü, ii, iv, 30.

(f) FRUIT, Kü ii, iv, 30. (g) HISHALLATU (2), 32, 6, 8: 72, 2, 4. (h) BAB (1) (12, 6, 7). (i) stone mentioned, CT. XII, 48, 1c-d.

Uncertain parts used: applying eyes (12, 2, 7): bind (74, 13: 96, 1, 19): used for beard (appar. LA, 26, 8, 13): blow in ears (36, 1, 16).

Various species are given (VR 26, 21, 9: M 13, ii, 20, l. 10ff.).

GIŠ. NU.UR.MA	nu-ur-mu-u
GIŠ LAL. BAR	ditto
GIŠ.NU.UR.MA.KŪ.KŪ	a-la(?)-pa-an-nū
GIŠ.NU.UR.MA.KUR.RA	ditto
GIŠ.NU.UR.MA.KŪ.KŪ	ma-al-ku
GIŠ.NU.UR.MA.ZAG.GA	da-ša-pu
GIŠ.NU.UR.MA.ZAG.GAR.RA	ša-mi-is-tu
GIŠ.NU.UR.MA.BIL.LAL	en-šu
GIŠ.NU.UR.MA.DUG.GA	ba-a-tu

The "sweet (matku) nurmû" occurs in AM twice,

the skin ([S]U) being eaten with 'urziannu, "and his libbi" will be found" (95,3,12): and is described (105,1,8) *ša ina eli GIŠ.GAR zakpat mé tašša*, i.e. planted against the "šikittu of the house" (GIŠ.GAR). It occurs CT.XIV,41, Rm.362,8.

'nurmû is therefore a tree forming a group with tittu "fig" (ii R 23,7,4: CT.XVIII,2,3-5): but its "stone" excludes a meaning "fig(?)", suggested, Del. HWB 482. The frequent use of "water", juice, and skin indicate a fruit-tree, and one for which there are two possibilities, Lemon or Pomegranate. But 'nurmû-skin is used in AM to "bind the stomach": this is exactly the use of pomegranate-rind in India (with pomegranate flowers, both of *P. granatum*, L., IMF I, 569). The pomegranate-rind is constantly seen in Mesopotamian bazars.^①

Most indicative is Knudtzon, TA No 25, ii 4: "five nur[m]û of ^{ka} s[AG.KAL]", i.e., a decorative nurmû in an inventory of goods, which from the custom of imitating the pomegranate in decoration (rather than the lemon; cf. I Ki. VII, 42: Hdt. VII, 41). Cf. also ib., No 16 ii 47 "one nurimdu of silver."

If SM be compared to AM, it will be seen that the pomegranate is similarly used in both. SM gives the use ext. for eyes (ii 658, juice: 93, rind: etc), ears (115, rind: 116, extract: 665, juice): abscesses (178, juice: 359, rind): INT. (231, 677). Moreover, in SM both a bitter and a sweet pomegranate are mentioned, which coincides with the Assyrian list. There are actually three kinds in Syria, the sour, the sweet, and the very sweet (VK 355). In the Assyrian list matku is obviously the medium-sweet, and dašpu the "honey-sweet" kind, and there is also an engu. Now in SAI 3156 BIL.LAL

^① I was told in Basrah that it was ground up, mixed with water, and used for dyeing yellow.

= ensu, and in 3157 lâbâtu. In my forthcoming translations of AM in PRSM I have tried to shew that lâbâtu = "vinegar," which is borne out by SAI 3186 ensu, which must be ~~𐎠𐎢𐎽𐎢~~ be sour, ~~𐎠𐎢𐎽𐎢~~. We have thus all three kinds of pomegranates, the honey-sweet, the ~~𐎠𐎢𐎽𐎢~~, and the sour. Nurmû will then be ~~𐎠𐎢𐎽𐎢~~ ①

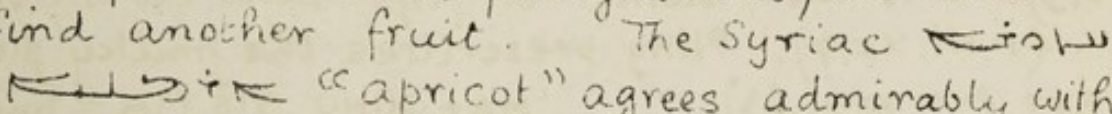
With nurmû settled as pomegranate, we must find a meaning for armânu, and to do this we must consider all the groups containing ~~𐎠𐎢𐎽𐎢~~ MA + GUNU.

~~𐎠𐎢𐎽𐎢~~ ~~𐎠𐎢𐎽𐎢~~ (SAI 2766) = hašhuru; (2767) tittu; i.e. apple, and fig respectively. ~~𐎠𐎢𐎽𐎢~~ ~~𐎠𐎢𐎽𐎢~~ ~~𐎠𐎢𐎽𐎢~~
 = hašhuraku (tannin?) ~~𐎠𐎢𐎽𐎢~~: ~~𐎠𐎢𐎽𐎢~~ ~~𐎠𐎢𐎽𐎢~~ ~~𐎠𐎢𐎽𐎢~~, iMA + GUNU, KUR.RA = armânu, and iarmannu = armânu (see SAI 2766-2772).

Now iMA + GUNU can hardly mean both "fig" and "apple", in spite of SAI, for ~~𐎠𐎢𐎽𐎢~~ appears in the same prescription as ~~𐎠𐎢𐎽𐎢~~ iMA, which has the value tittu "fig" only, so that iMA + GUNU is properly "apple". Moreover, in the legend of the Worm (CTXVII, 50, 11-12) the god says to the worm "I will give thee iMA bašilta, ar-ma-na-a iMA + GUNU", the first being obviously dried figs (in which small white worms are found). In the second group, armanâ belongs to iMA + GUNU, for the answer of the worm is "what are these dried figs to me, or (𐎠𐎢𐎽𐎢) armanâ iMA + GUNU?" The u makes this certain and we must keep the two distinct. It is clear to this extent that iMA + GUNU besides its proper meaning "apple", can be used, in some sense or way, as

① In place of armânu. ② Luckenbill, AJSL, 177, 116.

"fig" and even as the tree of the armânu-fruit. It would appear therefore, while meaning "apple" properly, to be used of similar round fruit (as also in hašhur-abi "gall-apple").

Since "pomegranate" no longer serves for armânu (indeed, it would be difficult to see food for worms in pomegranates) we must find another fruit. The Syriac  "apricot" agrees admirably with our armanâ hašhuri (iMA+GUNU). The Romans called the fruit Armeniaca, which led to the belief that the fruit originally came from Armeria. This view was combated by M. Regnier, on the grounds that snow is fatal to this early-flowering plant (VK. 333). I know of no satisfactory evidence which would make our word armânu into "the (fruit) from Armenia", and it seems probable that this, the earliest form of the word Armeniaca "apricot" yet known, bears out M. Regnier's contention.

Whatever its origin armânu is certainly the original of Armeniaca in Prunus Armeniaca, L., the Apricot. The Sum. for "apricot" is, as we have seen, iMA+GUNU.KUR.RA "apple of the mountains".

iMA+GUNU, the Apple proper, is found in AM (a) Simply (4), for mišitti (76,2,13): (b) JUICE (7), (+ juice of apricot (iMA+GUNU.KUR.RA (1) (68,1,16): mouth (24,5,9): venercal (58,6,7). (c) Hašhallatu, (1) (55,4,10). On the other hand ar-ma-nim "apricots" occurs (85,3,7). It should be added that the apple of Mesop. is a poor fruit compared with the apricot, which latter I have eaten in plenty in June in the rich orchards round Kerkuk. In the Legend of the Worm dried figs and

apricots are excellent pasture for such small white worms as the primitive mind has associated with the nerve in teeth.

To continue. ⁱMA = tittu, long identified with "fig", i.e. $\Pi \text{ } \overline{\text{H}} \text{ } \overline{\text{H}}$, is used in AM always as PA "juice" to bind oru (57, 6, 11(?) : 83, 17, 22, 31); wash stomach (52, 5, 9). It is the "lump of figs" laid on the boil (ii Ki. XX, 7). Pliny prescribes the milky juice EXT. (NH XXIII, 63). ⁱMA + GUNU. GIŠ. MA = tinanû (fig-tree), M. 13, 2, 16, 50.

The same section (ib. 40) containing ⁱMA + GUNU = [hašhu]ru gives the following: ⁱMA + GUNU. KUR. KA = ... -ru, ša-par-[ru], and arma[n]nu: l. 46, ff. gives ⁱMA + GUNU. A. AB. BA = tamû (one of the Solanaceae, such as the Egg-plant or Sodom apple?): 47, ⁱMA + GUNU. BA. AN. ZA = pi-is-su-u; 52, 53 ⁱMA + GUNU. BABBAR and ZIMBIR = šippitû.

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§ 40. ^uMIHRU : ^uDULBU, PLANE (see § 33 B) : ^uŠILURTU, PLANE : ^uHAHĦU, PEACH : ^uMUSUKANU GUKĦINOS, MULBERRY.

We can continue with the other trees of CT. XIV, 40, 82-5-22, 576, v. 2 ff.

The first section, u-2-7, contains [^u]MIHRU, for which M. 204, 3, 34, note^①, compares Harper, Letters, No 467, l. 25, and Kan mehri in CT. XIV, 47, 35503, 15 : and Harper, No. 455, 15.

^uDulbu "plane", § 33 B. ^uŠilurtu, Meissner
The Gaster
 composed
 NH
 7257 ZA XVII, 249 compares شیر "plane"

The second section contains the following fruits : [^u]a-ah-hu which must be خوخ "peach", followed by [^u]dišto rabû(u) "a large peach", some other variety.

[^u]Mušku is probably, by a metathesis

of *m*, the equivalent of 𐎢𐎠𐎫𐎠𐎢𐎽 *Ficus Sycomorus*, L.

"Musukanu, the well-known 'musukkanu or 'miskannu, 'Miš. MA. KAN. NA of the historical texts, properly the "Miš. tree of Arabia". Tiglath-Pileser (Th. 24) cut down the plantations round Sapiya in Babylonia: the tree was frequently used for making palace-doors in Assyria, and was sent as tribute. This large tree which grows in Babylonia, is also a tree with a PA "juice" (in Johns' ADD 1042, 3 where PA 'Miš. MA. KAN. NA is mentioned with PA of pomegranate, of grapes(?), of *lemon, etc.). As Meissner (13, 2, 38) says, it cannot be the palm.

It is obviously the mulberry, for which important tree no satisfactory equivalent has yet been suggested: an object of cultivation at a very early period in the Western parts of Asia, and believed to be native to Persia, Armenia, and the Caucasus (BMP No. 229: VK 343). It must be *Morus alba*, L., rather than *M. nigra*, L.: I have seen the white mulberry growing some distance S.E. of Mosul. It must be remembered that this fruit, as it grows N. of Baghdad, is not the luscious mulberry which we know: it is rather a poor, dry fruit, and I do not remember it as ranking high in Arab-estimation. The wood of the trees is admirable for carpentry; Tiglath-Pileser cut them down with the double purpose of destroying fruit trees, and supplying himself with wood.

Most interesting is its similarity to the Greek $\sigmaυκἀμινος$ "mulberry" for which no satisfactory Greek derivation has been

suggested^①. The Greek word *σुकάνινος* must have been brought with the tree from the East, and taken over by a metathesis of consonants (in *musukanu*) like "NAM.TAR.IRA = *μαυδράγρον*.

[4]šukdu = *שׁוּכְדוּ* "almond" (M.'08, 4, 31). It occurs as PA. *šikd: (68, 1, 18, "juice of almond" or sap).

[u]Nu-uš-hu, following it, must be *נוּשׁ* "almond". The *n* varies easily with *š*, and, more interesting is *šh* = *z* as in *hašfuru* = *חֲשׁוּרָא*.

*Hudhumu, conceivably to be compared with *חֲזִיזָא* *zizyphus*(?), in this connection: the fruit being eatable, but improbable. We should have expected walnut, the *גַּגְגַּ*, the other common nut of Kurdistan.

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§ 41. *ĪA.AM, ADARU, ILĀKKU, *LEMON.*

(a) Simply (2), prob. EXT., for feet (69, 2, 7): with pomegranate and fruit of *ĪŠAR* (77, 5, 11).

(b) JUICE (6), put on tongue (23, 10, 4): boil in water (6, 1, 74).

(c) *Mašallatu* (1) (72, 2, 1, 3).

Its Sumerian name might be translated "JUICE OF MIGHT." *Adaru* is reminiscent of Lev. xxiii, 40, *אֲדָרָא* *אֲדָרָא*, traditionally *Citrus medica* (LÖW, 46). *C. medica* is properly *אֲדָרָא*, *אֲדָרָא*, a foreign word which a due metathesis will make into *ilākku*.

A lemon-pip was found at Nippur (Meissner, *Bab. Ass.* 209). Pliny (*NH* xii, 7) says

① This seems to dispose of Lewy's theory (*Semitische Fremdwörter im Griechischen*, 23), which makes it *σ'α'β'β'ι*.

the citron grows nowhere but Media or [^]: *C. medica* abounded in Media (Theophrastus, EP, IV, 4).^① Trees of lemon (or lime) varieties are to be seen today in Mosul, the Baghdad district abounds in oranges, and excellent limes come from the Persian Gulf. But the lemon is said to have been unknown to the Greeks (FH 103).

The various species of *A. AM* are given by M. 13, ii, 19: Meek, RA 1920, 166:—

GIŠ. A. AM	šū (i.e. iltak)-ku
GIŠ. A. AM	a- da- ru
GIŠ. A. AM. KUR. RA	» šadî(i)
GIŠ. A. AM. BÚR. RA	ni - i [p- lu]
GIŠ. A. AM. BÚR. RA	zik - [pu]
GIŠ. A. AM. BÚR. RA	šit - [lu]
GIŠ. A. AM. AZAG. GA	» (?)
GIŠ. A. AM. ŠITA	» ma- [a- ti]

Niplu (= ŠE. RÙ, MA 707), zikpu, and šitlu (𐎠𐎢𐎡𐎢) all appear to be words for shoots (M. ib. 36). The last line should be compared with the description of the iltakku:—

iltakku ša ina rāti-šu la irišu
 iltakku ša išdanuš innašhu
 (IVR 27, a 9, 11) "a *lemon (-lime) which by its water-channel hath not been planted, a *lemon torn up by its roots"

Note *A. AM. TUR* = lam-... (M. 13, 2, 19, l. 69). Are we to see in this "little lemon" the lime, with lam-... as part of the Arabic *laimun*?

① For the full history of this fruit see Galesio, *Traité du Citrus*, 1811, epitomized by De Candolle, *Geogr. botanique*, ii, 863.

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§ 42: § 43.

§ 42. (u) GĪŠ.ŠAR (9).

(a) Simply, "GĪŠ.ŠAR (2), tatabbak (15, 3, 7); tašakan

(an) (15, 3, 8): GĪŠ.ŠAR (1), šimdi kiung[i]..

HA "GUG GĪŠ.ŠAR, apply to feet (79, 1, 25).

(b) JUICE (3) PAMES GĪŠ.ŠAR KAL.A.131
tekkki (ki) (68, 1, 20). Here probably "all
juices of the orchard."(c) FRUIT (3) i'binu "GAB.LAM "TIR(?) inur-
mû i'itakku inib GĪŠ.ŠAR u... inib GĪŠ.
ŠAR an-na-a ana libbitanadi(di) (77, 5, 11, 12);
with many others wash (52, 5, 10). Here
probably - fruit of the orchard. It occurs
as "GĪŠ.ŠAR, PL.4, 26.

§ 43. 'MI.TAK (15), Nerium oleander, L (?) OLEANDER(?)

Use apparently always ext. (a) Simply (1), EXT., for
feet (69, 2, 7). KAR 203, 53 prescribes it as šammuTAB.UD.DA, like šasumtu § 10 AW, and ["da]-da-nu
(PL.38, 79-7-8, 22), "for taking away a burn (blister)"(TAB = šamatu = ~~šamtu~~ "blister".(b) JUICE (10), EXT., with juice of licorice, juice of
i'etu, pine-turpentine, fir-turpentine, for feet (74, 1,
iii, 5): with chamomile and fennel-juice, for feet (ib. 12)
with others, for feet (15, 3, 2): eyes (?) (28, 10 ii, 4: 75, 1, iv, 10):
for mouth (24, 5, 9): for KU.GIG (58, 2, 7).(c) Doubtful parts (4): for ears (36, 1, 8): bind on (?)
(57, 6, 10).The Semitic equivalent may be giparu (Kü 79)
possibly 𐤒𐤍𐤐.From AM above it must be a tree, used chiefly
(and probably always) ext., and hence poisonous:
usually for skin-trouble. The oleander certainly
complies with these demands, but there are difficul-
ties in the way of identifying it thus (see šsumlû,
§ 20.). Cf the details given for N. odorum, § 20.

§ 44. ⁱBAR.HUS (13).

(a) Simply (3): apply head (3, 9, 6), for eyes (16, i, 5, where a variant gloss is given as ⁱbinu "tamarisk").

(~~1~~) Fruit (6): drink and anoint (88, 2, r. 8): anoint (95, 2, ii 9): Fumigate (99, 3, r. 10? : with hemp, mint, saffron, [etc.], 99, 3, r. 4). Quantity, 10 shekels (CT XXIII, 24, 14).

(c) ROOT (1) with root of tamarisk, etc., for guraštu (17, i ii 6). (d) JUICE (1) (37, 4, 6).

M. 13, VI, 40-44 gives ⁱHUS = kal-..., ⁱBAR.HUS = ditto, ⁱBAR.HUS = gi-..., ⁱBAR = ditto, ⁱBAR.BAR = ditto. II R 46, 68, 4, ⁱBAR.HUS = gi-i[?], ..., or with Zimmetn, gi-i[r-ru].

Uncertain: is it a narcotic, from (~~1~~), the berries being used, like *Withania somnifera*, L., or henbane in modern folk-medicine, for fumigating? (See § 8, 10 Q, 10 Q 2.

Are we to compare ⁱBAR-ar-sa-na (1) (10, 2, 6)?

§ 45. ⁱELAMMAKU (3)

KU.KU (5, 2, 7: 5, 5, 9: 40, 5, 6). Tushratta of Mitanni (N.W. Assyria) sends a gift made of it (Knudtzon, TA 25, IV, 64). Used by Sennacherib (Del. HWB, 74). The Gilgamesh Epic (Jensen, 75, 46) speaks of a dish of ⁱelamma[ku]-wood, which would suggest some species of beech.

§ 46. ⁱHUPÊ (SARGATE) (844, iii, ii).

§ 47. ⁱLAMMU (1); ⁱMESU, *Celtis australis*, L.

ⁱLammu, for limbs, in wine (69, 1, 18). ⁱLammu = ⁱU.KU = ašufu (ii R, 23, e-f, 20), i. e. "fir" cf. M. 13, 2, 28, u. 26-27, ⁱGI.ZU.KUM.MA = ⁱLammu and

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§ 47: § 48: § 49:

bušinnu (= ~~Pl. 300~~ verbascum, Meissner, ib., 42).

In M. 13, 2, 20, ll. 24, ff. ⁱMEŠ = mēsu, lammu, šulmu, šulum mēsi: and l. 28, ⁱMEŠ.MA.KAN.NA = musukanu, which I have identified with συκἀμινος, mulberry, § 41. Mesu Meissner rightly identified with the Ar. Mais, the Celtis australis, L. (Post. 729). It occurs in Gudea (ISA VI, 17).

Then follows another section, (29) ⁱMEŠ.ME.LUH.HA = šulum melukhi, (30) ⁱMEŠ.KI.M.DIR(?) = mēsu (and l. 31 = fulamesu) (32, 33), ⁱMEŠ.HA.LU.ÚB.HAR.RA.NA, and ⁱMEŠ.DUP.RA.AN = dupranu (juniper), (34) ⁱMEŠ.ĜAM = šaššugu, (35, 36) ⁱMEŠ.TU = kul-laru, kaptaru, (37) ⁱMEŠ.BABBAR = tiyâlu (38, 39) ⁱMEŠ.GIG = šulamu, šulum mēsi. P. 27, l. 74, ⁱMEŠ.BU = šulum ki-min (= kilibu).

§ 48 ⁱŠEMUŠ (SE.ŠIŠ), ŠIGUŠU, ŠAŠŠUGU (6).

(a) Simply (i) (34, 1, 23). (b) KU (2), for temples, (20, 1, 37). Cf. Harper, Letters, No. 566, 16.

M. 13, 2, 18, ll. 57-59, gives a section ⁱŠE.ŠIŠ = šaššugu, ⁱBIL(?) DU.KU = šar-ša-bā-tu, ⁱMEŠ.BIL(?) DU.KU = šulum (= šaršabitti), ⁱMA + GUNU. ŠIŠ = šigušu (ib., p. 15, l. 48).

§ 49. ⁱŠE.HAR (MUR) (2)

(a) JUICE, stomachic, with licorice juice and salt, (38, 1, 6): bind on for stomach one mana (Kü, II, i, 9). (b) Hasballatu, 72, 2, r. 2).

Include here (?) ⁱŠI.HAR (MUR), bind on juice for ku libbi (stomachic) (Kü i, i, 24); and ⁱŠI.HAR (MUR).TU (61, 4, 6). Perhaps read šemur(tu)?
It is clearly a fruit-tree.

§ 50. HAR, kiškanû

M. 13, 2, 14, ll. 7-13 is a section containing kiškanû, k. pišû, k. šalmu, k. šâmu, k. urku, sišpu, iṣu šalmu. It is therefore a tree, white, black (blue), red, green (yellow), and perhaps connected with sišpu and "black wood". It is the subject of the well-known incantation in CT. XVI, 46, 183, ff. (translated in my Devils I 201) where the kiškanû šalmu is said to grow in Eridu, its home is the couch of the river, and its shade spreads like a grove, and none enters in. It is then used in the incantation.

I wrongly identified it (loc. cit.) with the asirogalus. Albright (ASJL xxxv, 1919, 194) challenged this rightly, but the difficulty is to find any tree at all at Eridu nowadays with which to identify it (see my article, Archæologia, LXX, 106). Not a tree grows there now, and there is nothing larger than scrub for fuel.

iṣu šalmu may, however, be distinct, and if so, is probably "ebony".

§ 51. iNAMTAR. (IRA) ① (32), Mandragora officinarum, L., MANDRAKE.

(a) Simply, iNAMTAR. IRA (3): EXT., for toothache, apply to tooth (PL 23, K. 259, 1); INT., drink in beer and purging follows (Kü ii, i, 45); for jaundice (ib. iii, iv, 24).

(b) ROOT, (iNAMTAR. IRA (20), iNAM. RI. UŠ (42, 5, 57), iNAM. RI. ... (34, 1, 32), iNAM. TAR. RI. IRA (4, 6, 11); esp. of "male Namtar-plant of the North"

① M. Thureau-Dangin kindly pointed out this value for 𒀭𒀭 to me.

(67, i, iv, 12) expanded to "which does not bear fruit" (Kü. iii, iii, 9): EXT., alone on tooth (Pl. 23, K 350 2), and with mint-root, *styrax, etc., with thistle(-down) for tooth (28, i, 3): bind temples (103, i, 15), alone in beef-lard on feet (74, i, 24): anoint (96, 4, 5), anoint seven times the stomach of a woman in difficult labour with "root of Namtar-ira of the north" (67, i, iv, 12): wash (98, 3, 2): apply anus (57, 5, 14): use for KU.GIG (58, i, 9: KAR 203, VII, 5). Fumigate (91, i, 11). INT., drink as stomachic (42, 5, 5, 7: hü i, i, 17): for jaundice (alone, "N. of the north which does not bear fruit", Kü iii, iii, 9): with a "drug for bile" when suffering from bile (Kü iii, i, 25).

Esp. notice "When a man sleeps, and his sleep eli-šu DUG.GA zi-ma i-ka-šu-ušGUŠ ... ana balati-šu išid 'NAM.TAR.IRA' kurban ekli RAT ina ZAL.LU HI.HI al-la-na teppuš] ... i.e., cometh well upon him and ikašuš ..." then apply ext., bruised namtar-ira root and chamomile in lard (47, i, 1).

(c) KU (powder) of NAM.TAR.IRA (1), drink in beer with KU U.GIR.GIL for dyspnoea (59, 1, 30).

(d) JUICE of 'Namtar-ira (1) for eyes (16, 3, 5): drink (ib. 7): of 'Namtar (31, 7 ii 12)

(e) GROUND of 'Namtar (1), apply to kurara (5, 5, 13). (f). LEAF of 'Namtar-ira (1) (69, 5, 2).

'NAM.TAR, 'NAM.TAR.RA, 'NAM.IER.ZA = pi-lu-u^① (M. 13, 2, 27, v. 74-76), doubtless a form of pi-lu-u (Pl. 35, K 14030, written thus in the line preceding [zi]r 'NAM.TAR.

IDENTIFICATION: The drug Namtar, Assyri. pi(l)lū, picturesquely meaning "the Plague-

① Pi-lu-u also = 'GEŠTIN.KA (16, 14, 1, 16)

"-god Plant", or we might say, "Devil-plant.": frequently defined as male, used in some sickness where sleep is concerned, and esp. as an anodyne for toothache. Root, powder, juice, seed, and leaf are all used.

The obvious solution is the mandrake, *Mandragora officinarum*, L. Gerarde (280) describes it as male or female, the former having fruit like an apple, the latter like a pear. Diosc. (IV, 76) also says there is a male and female; it is used for eyes, menses and as soporific; the leaves for eyes and ulcers; the root for erysipelas and serpents' bites. Theophrastus says (EP IX, 11) the leaf is useful for wounds with meal, the root for erysipelas, gout and sleeplessness. The description "male" perhaps finds an explanation in SM II, 708, where the Mandrake is called the *kaḥinā* root: it was the firstborn of all the roots, used by King Solomon, a cubit high, with red blossoms, and, after the flower is dead, "there remain on the top thereof two little balls which are like the testicles of a man". One of the Arabic names for it is "devil's testicles" (Post, s.v.), a very close parallel to the Assyrian "male Namtar-plant".

According to Sprengel (Diosc. II, 604), the male is *M. vernalis*, Bertolon, and the female *M. autumnalis*. The drug is purgative, emetic, and narcotic (EB, XVII, 566). *M. officinarum*, L., grows in Cyprus, Syria, and Palestine, *M. autumnalis*, Spreng., in N. Africa (BFO, IV, 291).

Obviously, then, pi(l)lû is the Arab. *luffat* "mandrake", by an ordinary metathesis.

Out of this arises an interesting philological pedigree. Our word "mandrake" is

thus merely the Assyrian word "Plague-god Plant", slightly changed by the merchants who introduced the word into Europe as *Mandragora*; truly a very little way from 'NAM.TAR.IRA by a simple inversion of n and m.^① The change from *musukanu* to *ουκάμινος*, the mulberry, is similar.

○

VARIOUS PLANTS.

§ 52. ^uAG. UD (48)^{xx}, *Ricinus communis*, L.,
 * * CASTOR OIL. (Sep. 98).

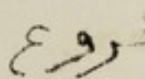
Simply, only. EXT. for *šiggati* (Blains[?]), 32, 5, 10: 22, 5, 5: 52, 4, 5: 92, 4, 10: 94, 2, 12: 96, 1, 3: 97, 4, 3: with *nikibtu* (*liquidambar) in cedar-oil (92, 4, 4): for feet (74, 1, iii 4): for swelling (100, 2, 20): one of 8 on wool in cedar-oil for ears (33, 1, 24), Wash (94, 2, ii, 9): wash head with alkali in fresh water (3, 5, 9). INT., (48, 1, 3: 83, 4, 10: *Kū* iii, iv, 3): alone, after a poultice drink in beer (18, 2, 7): stomachic (39, 1, 43): alone in beer (and purging follows) (36, 2, 10: cf. **styrax* alone in beer, same result, ib. 8). Use uncertain, stomach (39, 1, 31, 36: 40, 1, 47; 45, 6, 13): *kurari* (5, 8, 4): constriction of lungs (53, 4, 17): when

① I spoke of this in a paper to the Historical Section of the Royal Society of Medicine, April 18, 1923, and the details were given in the Times next day.

asida-šu luttá (75, I, IV, 21). Quantity, 1 šu (41, I, IV, 26).

Semitic equivalent unknown. The UD may indicate some white quality.

Now, since it helps alkali to make a compound which in water will wash the head (i.e., a soap) we must see in it some oil. Pliny (NH XXVIII, 51) speaks of soap made of tallow and ashes. In Palestine olive-oil is used with alkali for this purpose (Patrick, HDB IV, 558). As the olive is not ~~an Assyrian~~ ^{properly a Babylonian} plant we ~~must~~ ^{should} seek some other oil-bearing vegetable, especially one with a common medicinal value.

The inferior qualities of Castor Oil (*Ricinus communis*, L.) are thus used (BMP No. 237: FH 571). This plant is supposed to be a native of India, but it has the look of a native plant in the Mediterranean region (BMP, ib.). I have seen it growing near Mosul and Basrah, called . It is obtainable in Baghdad (J. F. Jones, Memoir, 396).

For EXT. use in medicine, cf. Pliny (NH XXVIII, 41), diseases of the joints, indurations, affections of uterus and ears, and burns. IB (771) prescribes it for indurations, the leaf raw or boiled for goul, and the seed pounded on a hot stone for cataplasms. On its presence in ancient Egyptian graves, see Löw 353.

It will be observed that in AM it is prescribed

with some pleasant scent for ext. use frequently: and in internal-use with beer, thus rather implying an offensive drug.

§ 53. ^uANNUHARA (9) (a stone fruit?)
 EXT., (89, 1, 13), lungs (85, 1, 7). INT., eat green with green
 maštakal, thyme, etc. (85, 1, 15). Used for KI mišitti (76,
 2, 11). Quantity, one shekel (49, 4, 18). The stone used
 for illatu (31, 4, 12). Ebeling (Arch. XIII, 7, n. 10) quotes
 a-nu-ha-tu (KAR 202, r. 1) and even ^unu-ha-rum.

§ 54. ⁱURTŪ (1), ^uURTU (3?)
 Anoint, for lice in head (1, 2, 7): ^uurtū "a drug
 that lice be not on a man's body" (CT. XIV, 43, s. 60,
 12, . KAR 203, VII, 33). [cf. ^uurtu "when a man ap-
 proaches his wife" (65, 7, 4), and urtim anoint
 (94, 2 ii (6, 20) perhaps not the same plant]. ⁱšURI
 = ⁱurtū (M. 13, 2, 17, l. 46) i.e., one of the aromatic
 shrubs. Meissner (ib. 36) thinks it comes from
 Uruarū on account of its ideogram.

§ 55. ^uAŠĪ.

In addition to the use of the phrase šam ašĪ
 "a drug against pain" (? ^ušūl "be afflicted") there
 appears to be a special "plant" called ^uašĪ;
 but mi-su ^ua-šĪ-i "some drug against pain"
 (16.3, 3) leaves it open to doubt. However, compare
^ua-šĪ-i as a gloss to 7 KU ^uHAR.HAR (49, 6+2):
 applied to eyes (8, 1, 3; 18, 10, 5): and used for

relief from witchcraft (87, s r. 8, with 30 others). 64, 1, 28 gives ...kasī, kukru, "ašī as a fumigation against seizure? by a-šū-u (pain?).

But that it has the meaning of "a drug against pain(? ašī)" and not necessarily a special plant, is clear from K. 4566 + 8651 + 14047 (new join) + 14136, PL 29, where 27 lines are devoted to plants defined as "a-šī-i".

§ 56. "AT. KAN (10) [○] Ricinus, p. 98.

(a) Simply (5); eyes (14, 1 ii 6): mixed with parched corn (61, 2, 11). (b) ŠEŠD (2) "a drug for having seed", applied to uterus with beer (KAR 203, 19): "a drug for sick lungs", drink (ib. iv, 25): drink (51, 7, 5). (c) ŠE.RÙ (2), bind on for cough (50, 3, 3).

§ 57 "BAT. TAR [○] (7).

(a) Simply, perhaps always (but... KU "BAT. TAR. ŠAR occurs 75, 1 iv 22, bind on): for mišitti (76, 2, 12); fumigate (78, 10, 3); drink (for dyspnoea 59, 1, 36); probably "when a man goes to his wife and ... to another woman goes" (56, 1, 11); use in enemas (Kii ii, iii, 7). K. 10126, (PL 39), and its dup. S. 1328 (ib. 32) shew that this plant precedes hašhuraku in order.

^① Not 𒀭𒀭𒀭𒀭 as Meissner (SAI 888). My copy gives (CT XIV, PL 16; 93084, 6) 𒀭𒀭𒀭𒀭𒀭, which should be 𒀭𒀭𒀭𒀭𒀭𒀭𒀭, i.e. BAT. TAR. 𒀭𒀭𒀭𒀭 is the Babylonian for 𒀭𒀭𒀭𒀭: cf. PL 12, 93074, r. 7 𒀭𒀭𒀭𒀭𒀭𒀭 i.e. TAR. LUGAL. HU.

§ 58 ' (u)GĀNU (1)

Bind (7,4,16). Drink, for *hābi* (KAR 203, IV, 44); probably for cough (ib. 34). A drug for *BIL lib-ti* (v. ŠĀ, ŠĀ) ZI, to anoint (KAR 203, VII, 28; CT. XIV, PL 36, K. 4187 added to Rm II, 412, is used like "fox-grape" *solanum*, § 10 Q, 2: CT. XIV, 43, s. 60, 6). It can hardly be the Kurdish word *guini* for an *astragalus* (BMP No. 73).

§ 59. "HAŠŪ (HAŠÊ) (10) 'HAŠĀ(N)NU (6); ZAMBURU ŠAR.
Thymus, THYME.

"Hašū (once "hašê UŠ, 75, I, IV, 11, when the next receipt has "hašê simply (l. 12), in AM simply only: eaten (85, I, 15): drunk (16, 4, 4: 75, I, IV, 13, 15). Hašê ŠAR (MB 38) was properly identified with 𒌷𒍪𒌷 "Thyme" by Meissner (ZA VI, 294) who also identified 𒌷𒍪𒌷 zamburu ŠAR in the preceding line with 𒌷𒍪𒌷 "Thyme". Conceivably we might see in this zamburu the word *thymbracum* (Pliny, NH, xx 91) by which *Sisymbrium*, one of the mints, was called (See Bostock, Pliny, IV, 293).

"Hašānu must bear the same relation to "hašū as "šimranu to "šimru. It is described as "a drug for the lungs" ^① to be chewed (KAR 203 IV, 22): "a drug for dyspnoea", to be drunk alone in oil and beer (ib. 203, I, 29). Drink (51, 7, 5): prescribed in fresh water with *kukru* for flatulence, etc. (41, I, IV, 35). Anoint for hand of ghost (94, 2 ii, 14). Quantity, 1 bur (91, 6, 3); 1 shekel, with 2 of turmeric, 1 of mastic, and 1(?) of *šalukku* (Johns ADD II, No

^① Cf. PL. 48, Rm. 328, 7, V, 2, "ha-ša-n[u], one of 9 for lungs.

1074, 10). Pliny (NH XXI, 89) says there are two kinds of thyme, used for coughs and the intestines: the smell revives an epileptic (cf. "hand of ghost," above). Thyme is also used for hardness of breathing.

Presumably, the two kinds are *T. vulgaris*, L., and *T. Serpyllum*, L. BMP 205 gives oil of thyme as a local stimulant, used for decayed tooth, rheumatism, sprains, etc. It is curious that we do not yet know the Sumerian.

○

§ 60. (1) GĒŠTIN, KARANU (87), VINE, GRAPE, WINE.

(a) GĒŠTIN (28) 4, 4, 6: 34, 3, 9: 39, 6 iii, 1: 40, 6, 4: 43, 1, 25 (plural): 48, 4 r, 11: 51, 3, 9: 56, 1, 6: 58, 4, 14: 59, 1, 26, 34: 60, 1, 8: 66, 7, 13: 69, 1, 10, 18: 69, 3, 12: 70, 8, 1, 4: 72, 2, 4: 76, 1, 10: 84, 4, iii 5: 87, 1, 12: 87, 5, 9: 88, 3, 7: 87, 1, 9: 90, 1, 6: 96, 1, 12: 97, 6, 4: PA GĒŠTIN (1) 39, 6 iii 2.

(b) — KĀBU (4). 2, 7, 7: 21, 4, 5: 49, 6, 8: 80, 1, 16.

(c) — ŠUR (RA) (16) 40, 4, 9: 40, 8, 10: 43, 6, 2, 8: 48, 2, 4, 5: 50, 5, 3: 55, 6, 6: 57, 1, 1: 58, 2, 6: 60, 1, 20: 63, 1, 13: 66, 7, 3: 82, 2 r, 11: 90, 2, 12, 13: 95, 1, 11.

(d) A. GĒŠTIN. NA (vinegar) (20). 7, 3, 1, 4: 9, 1, 44: 20, 1, 39: 23, 2, 12: 28, 1, 4: 28, 7, 7: 32, 1, 10: 49, 6 r 6: 50, 3, 5: 65, 5, 8, 15: 67, 4, 5: 77, 5, 7: 79, 5, 3: 89, 3 ii 13: 90, 1, 7: 96, 6, 2: Quantity $\frac{1}{3}$ KA, 41, 1, 14, 21: 66, 7, 19.

(e) — BIL (fresh (vinegar) (13) 5, 3, ii 13: 37, 10, 9: 92, 4, r 6: (GĒŠTIN BIL 55, 1 r 11 without A).

(d) GĒŠTIN. DAN. GA (dannu) (6) 59, 1, 42: 66, 1, 5: 66, 7, 7, 9, 22(?) : Quantity 57, 5 r, 3, $\frac{1}{3}$ KA.

(e) A. GĒŠTIN. DAN. GA ("strong vinegar") (5) 9, 1, 33:

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§ 60: § 61.

57,1,7: 58,1,12: 78,4,2: 84,17,5:

(f) GEŠTIN.AN.NA. 27,6,2.

Various: 14,7,4: 66,1,2: 94,2,2.

M. 13,2,15 gives the following in sections:
 ll. 14-18: karanu (vine), murdinu (rose), pilû^①,
 karan šelabê (one of the Solanaceae); ll. 19-21:
 ini alpi, šaktu (i.e., iGEŠTIN.ŠUR.RA) (= "ausgepresste
 Wein," p. 33, quoting Kü. 144), muziku ("mischwein")
 ("2 fügt die Zeile ein": iGEŠTIN.GAM.MA = ka-ra-an-
 li-e): ll. 22-25 (all iG.GAM.ME) karalanu (=
 karan lani, Meissner, 33), la-ra-la(?) - nu, kippat
 ikarani, dillat ikarani.

§ 61. LU.ÚB.(ŠAR) (lubbu?) (2), "LU-ub..(1), (90,1,
 18), *BEANS.

Once in some meat dish, LU.ÚB.ŠAR ar-ma-
 nim tábtu ellitu PAT šer kalîti, etc. (85,3,7). Otherwise
 in CT. XIV and AM for comparative purposes: [LU].ÚB
 ša kima HI.ŠAR = "zibibanu (§ 9 M, l. 115); LU.ÚB
 ša kima HI.ŠAR = ezissu (§ 9 BJ, l. 470). "When
 a man is sick of a cough (sualam), thou shalt cook
 leaf of arnoglosson kima LU.ÚB.ŠAR, like
 LU.ÚB" (80,1,18). It occurs as lubbu (Scheid RA
 XVIII, 60, VI, 130).

It is clearly a common culinary vegetable
 without much, or any, medicinal value. SU.LU.
 ÚB = lubbu (SAI 8212), a leather object, which
 helps us only so far as to suggest that LU.

① Meissner, 32, quotes CT. XVIII, 34,76: pilû ša karani.

UŠ.ŠAR is to be read lubbu. The obvious comparison is "لُبِّيَا", "لُبِّيَا" haricot bean, which I have seen growing near Basrah.

"Zibibanu (above) might be ~~be~~ philologically (Nigella, § 10 M), a little difficult to reconcile with "a *bean like HŠ.ŠAR"; ezissu, lathyrus, a vetch, is easier in a similar comparison. Arr: šisson (above) can be cooked "like *beans": the ~~most~~ dish given above is what the French would call a haricot: " *beans, apricots, clean salt, bread, kidneys ..." (it is hardly necessary to mention that fruit such as raisins is often cooked with meat in the East

§ 62. "LIDRUŠU

"Lidrušu (22, 2, 13): "lidruša (94, 2 ii 13).

Use: (a) Simply (6), EXT. anoint (94, 2 ii 13: by itself in oil, KAR. 205, o. 1): for temples, alone in oil, followed by hīl 'abuka [ti] ... (20, 1, 10): bind 52, 3, 4).

((a), or perhaps (b), for mouth, 79, 1, 7).

(b) SEED (1) with "sihu and "arganu for swelling (73, 1 ii 4).

In Harper, Letters, No 450, 8, directions are given for washing feet and hands in "Lidruša and Kulkulani.

§ 63. "MÁ. ERGŠ. MÁ. LA (6), Salvia(?), SAGE(?). Spelt in its second component PIN (= eyešu, 5, 1, 13: 6, 5, 14: etc.): NIN (PL 23, K. 259, 12): ETI +

NIN.LIL (KAR 203, 0.11: Kii ii, ii, 54); eri-^{is} (69, 2, 7). Last syllable LAL (= LA, 5, 5, 14), li-e (5, 1, 13). MÁ.NIN.MÁ.RA (60, 3, 13: cf. 2, 1, 9).

(a) Simply, for hollow tooth (PL. 23, K. 259, 12): KAR 203, 11): ext., feē (69, 2, 7): for grey hair in youth (5, 1, 13, with the heads of a black raven and a hawk, etc. in oil^①; similar to SM ii, 691 [against white hair]: "mix the fat of a black raven with ~~oil~~").

(b) Juice (Kii ii, ii, 54: 5, 5, 14): for head (?) (2, 1, 9). Quantity, $\frac{1}{3}$ ka (2, 1, 9).

(c) oil [drink], stomachic (Kii i, i, 19).

From its use in toothache, and as stomachic it would appear to have carminative and narcotic properties. Its use in hair dye is peculiar.

The Salvia (Sage) appears to fulfil the essentials; *S. sclarea*, L., found in Palestine (Post, 625), where it is a native (PCXX, 373): it has narcotic qualities. *S. officinalis*, L., is a stomachic.

Herzfeld (OZ, Bech. ii, 35) saw two kinds at Kalah Sherghat.

§ 64. "MAŠTABBA (11)

(a) Simply (9), ext., anoint (16, 4, 14: 37, 3, 4): for ašū (parr?, 55, 8, 5: 64, 1, 22): apply eyes (8, 1, 17: 19, 6, 5, 7, 10): wash dik[šī] (Gruise, 97, 5, 4).

(b) "SEED of BAR "MAŠ;TAB.BA", assuage šiggati (blains?, ext., 32, 5, 5).

① The "black raven" enters into Pliny's receipts for this (NH, XXIX, 34).

It is thus a plant, apparently with anodyne properties, not common, and used always ext.

"BAR.BAR (drink, 55, 2, 3), probably not to be included.

§ 65. "IN.NU.UŠ; MAŠTAKAL, MARTAKAL, MALTAKAL (25)

It occurs in the first line of the series to which K. 267 belongs (PL. 22, Colophon, 53) ... "ERI.AN.NA

= "mal-ta-kal, which must be the same as Del.

HWB, 434 "er-na-nu: "mal-ta-kul. SAI 2805

"IN.NU.UŠ = maš-ta-kal ("IN.NU.UŠ = supalu, § 27)

In Maqlû (iii, 177: vi, 76) it grows in a usallu. In Šurpu (ix, 9) it springs up in the apsu.

In AM (a) Simply: EXT., bind (98, 38): INT., drink (57, 6, 5: 75, i, iv, 13: 89, i, 3): with arnoglosson only, for speedy birth in travail (67, i, iv, 17): with flour of parched corn for some female ailment (67, i, 5). Chew green (85, i, 16). Used for saliva (31, 4, 11, 15). Quantity, 2 shekels (90, i, 9): 10 bur for su-alam (cough) and saliva (80, 2, 3). (b) SEED, (4)

anoint for hand of ghost (94, 2 ii 14), feet (74, i iii 1: 98, 3, 18?). Drink for "hand of ghost" (76, i, 25)

The curious similarity to Sabin (*Juniperus Sabina*, L.) must not be overlooked. The Sabin is "a compact, gloomy-looking bush" ... "found wild in the middle of Europe and the west of Asia, inhabiting the most sterile soil" (PC XIII, 147);

It is one of the Junipers: its leaves and tops have a disagreeable odour which depends on an essential

oil obtainable by distillation with water (VKib.); the fresh and dried tops are official (P. 1030). The use of Savin in medicine coincides with AM; it is ecbotic, emmenagogue (ib. 1338); a local irritant (P. 1030); used for ulcers etc. (Culpeper 225). Its action on the nervous system (GM 459) is perhaps paralleled in "hand of ghost" (seizure?).

In assessing its equivalence, it must not be forgotten that *IN.NU.US* = both *maštaka* and *supahu*, the latter equivalent to *zabulum*, another of the junipers (J. *Excelsa*, M. B., § 27). Equally *ernanu* would appear to be the -anu drug from *erinu*, cedar, not so far removed from the junipers.

§ 66. "NAM.TIL.LA (7) Opium, p. 262. but?

(a) Simply (4) EXT., apply anus (43, 1, 3). INT., drink (Kü iii, ii, 66). (b) ROOT (2): with *Marā...* "when a man approaches his wife" (65, 7, 5): for allana for KU.GIG (58, 9, r. 5). Its name "Plant of life", and its use in (b) seem to indicate some drug connected with conception.

§ 67. "ŠADANU (1)

$\frac{1}{3}$ Ka (41, 3, 5): a drug "that sickness shall not ... " (KAR 203, VII, 24); anoint (ib. 203, 45). The sibilant is against *šit* $\overline{\text{a}} \overline{\text{7}} \overline{\text{0}}$ *marrubium* (Löw, 269). Cf. ADD 1042, 4, where it is included

among juices of various fruits, etc. (see p. 252).

§ 68. "KUTRU or "KUTRU (21) (= "KI.AN.MER, SA.1.7314)
Spelt ku-ut-ru, CT XI, 45, I, 9): "ku-ut-ri (CT XXIII, 45,
21).

(a) Simply (5), EXT.: bind (25, 4, 6): INT., (drink) for
lungs (55, 4, 10). (b) SEED (11), EXT. (22, 2, 11: 72, 2, 18).
apply eyes (16, 1, 5): probably, bind on (27, 5). INT., drink
for dyspnoea (59, 1, 40). (c) SEED of "kutrate (?)
bind on, for stomach (39, 1, 3): head, for ku-
rata (5, 5, 11).

It can hardly be ק.ר.י.ל. , *Ricinus communis*, L.
(see "AG:UD). There is a wood ק.י.ד.ו. = ק.י.ד.ו.
a kind of י.ד.י.פ. cassia: or there is "kiteera"
 كثيراء tragacanth (Löw, 49). كثرب , *Trigonella*
monantha, C.A.M., and *Trifolium resupinatum*, L.,
were seen at Kalah Sherghat by Hertzfeld
(OLZ, Beih. II, 36).

§ 69 tak šA.U : "šA.U+U, and stone (11) :

šA.U+U+U, šAR

This seems to be the explanation of the
reading of "šA.MAN (MAN often written U+U).
40, 5, 21 prescribes "šA.ŠE.ŠE "šA.U+U, "šA.KUD.
DA KAR.AŠ [šAR]. On PL. 26, 81-2-4, 271, 6, 7 occur
["šA.ŠE.ŠE and ["šA.KUD.DA (see § 9 CM).

šA.ŠŠ (= U+U+U). šAR = ب.س.ت. "onion" § 9 CM,
l. 678.

"šA.U+U is used for KU.GIG (40, 5, 17), and

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§ 69; § 70; § 71

hinikti (89,4,6). 1 šu of tak u šA.U+U is prescribed (30,12,3).

§ 70. "ŠUMUTTU.

Simply: on anus(?) (42,2 r.8): dispel sorcery (67, 5, r.5) - fumigate (39,3,15) - Quantity, 10 shekels (57,3 r.8). Occurs Pl. 42, K.8807, 4-5 (dup. PL.27, K.4437, pointed out by Meissner): CT. XI, 45, 5, ŠU.MU.UN.ŠA | " $\frac{DUL}{DUL}$. ŠE.ŠAR | " du-u(?) - min - na-bi še-a " / šumut-tum.

§ 71. ŠE.RÙ.A, ŠŪŠU (42), Glycyrrhiza, Licorice.

(a) Simply, infrequent, EXT., for feet which cannot walk (68,1 r.9): feet (69,2,7). (b) JUICE (17) ("green juice" (1), for feet, 73,1,31). EXT. (54,7, 9: 57,6,10?): feet (69,7,9): bind (52,5,14: 83,1 r. 25): apply swelling (alone, 74,1,16). Apply to a pain (74,1 iii, 5). For KU.GIG (58,2,7), stomach (38,1,6: 39,1,1). (c) ROOT (5): long prescriptions (17,5,5: 22,2,2). Fumigate, one of sixteen (91,1,8). Drink alone, jaundice (Kü iii, iii, 15). Is "root of GIŠ.ŠE.RÙ", for excess of saliva, to be included here (31,4,17)? (d) SEED (3) [swelling] quantity [$\frac{1}{2}$ ka] (73,1,9). (e) FRUIT (1): anoint (88,2,10). (f) Uncertain part, drink, urinary (66,7,21).

Correctly identified (Kü.66) with Glycyrrhiza glabra, β violacea (BFOii, 202).

Pliny (NH xxii, 11) gives as wide a range of

prescriptions as AM. The root boiled down is for pessaries; pounded, as liniment for wounds. The licorice-powder is sprinkled on ulcers of the mouth, and films of eyes, and heals excrescences. Chewed and applied to wounds it stops bleeding. Theophrastus mentions a sweet Scythian root good for asthma, dry cough, and pectoral diseases (FH 156). SM shows a similarity to AM: applied locally (II, 56, 61, 677, 683).

Another word appears to be šillibanu (v. Behrens LSS II, 90. _____ ○ _____)

§ 72. ^uTU.LAL.

(a) Simply (5). EXT., bind for cough (50, 3, 2): used for swelling (73, 1 ii 5). Venereal (? 32, 1, 12, use uncertain). Drink (87, 1, 11). (b) SEED (1) fill penis (alone, 62, 1 ii 4). (c) JUICE (1) (101, 3, ii 6). Cf. Scheil, RA 1916, 37, I, 22: ^uTU.LAL PA išu bini | AN.BAR.ŠIR: "š1 | ditto. _____ ○ _____)

THE CEREALS, ETC.

§ 73. ŠE + BULUG (47) BUKLU, *MILLET.

(a) Simply (4); EXT., poultice ($\frac{1}{2}$ ka, KU II, 1, 11): wash (98, 3, 2): (tešikkir) X. ZIZ.AAN (83, 1, 10): (b) ZI(D) + X (15) EXT., apply KA (tooth or mouth, 21, 7, 4): bind (92, 4 x 5: 93, 2, 1), on head against samanu (1, 2, 11). As medium for mixing (18, 5, 8). Quantity, $\frac{1}{2}$ ka (15, 3, 18, 55, 1, 11). (c) IŠ + X (3), KU. IŠ + X (1)

- (d) A + X (5) (16, 2 r. 2, 3, 4 : 70, 7 ii 9). (e) KIL + X (6), EXT (32, 9, 10, for blains ?) : stomachic (40, 1, 61) : on aching tooth with B. U. S. A. and oil (25, 1, 2) Cf. CT xvii, 50, 25 (where read accordingly).
 Quantity, 1 ka (40, 1, 61 : 70, 8, 5 ?) (f) ZI(D).
 KIL + X (1) (82, 1, 8). (g) UŠ. KIL + X (1) (57, 7, 6). (h) BA. BA. ZA (puppasi) + X see Hrozný, Getr., 106 (i) UŠ + X (1, 2, 15, bind on head for samanu). (j) ZI(D). ZI(D) + UŠ + X (1) anoint and bind on feet which cannot walk (68, 1 r. 17). (k) U-ru-ul + X ŠAR (1) (68, 1 r. 2). (l) tap-pi + X (1) (96, 1, 2) anoint. (m) PA + X (1) (1, 2, 19). Uncertain forms : bind (52, 3, 4 : 96, 1, 9).

I cannot agree with Hrozný (Getr. 154) that this is "malt". Clearly from the above collection of instances it must be a grain.

Cf. MA 182 quoting Hommel, Sum. Les., 123-4, kima bukli lihašulka, hašalu being the regular word for beating out corn.

Millet is a common grain in S. Babylonia, and the comparison between BULUG and 𐎲𐎺𐎠 *Panicum miliaceum*, L. or, perhaps, *P. italicum*, L. (Löw, 101). The latter authority suggests $\text{𐎲𐎺𐎠} = \text{𐎲𐎺𐎠}$, a very probable comparison. If this is correct, it would seem that we have BULUG = buklu = $\text{𐎲𐎺𐎠} = \text{𐎲𐎺𐎠} = \text{Panicum} = \text{"Millet"}$. It might also be possible to see melica (= panic, Murray, Dictionary, vii, 1, 423) as a doublet from BULUG. See § 100.

I see that Geller, *Altor. Texte*, I, 7.344 takes it as Grütze.

§ 74. ŠE.GIG.(BA) (2) (= kibatu, Smith CTxxxvii, 29, 36),

Wheat (Hrozny, *Getr.* 8) : ZI(D).GIG.(BA) (35)

Wheat-flour (Hrozny, *ib.* 99) : ŠE.BAR (= uddatu or uttatu, Smith, *ib.* 35) (1) barley, sometimes corn

(Hrozny, *ib.* 208).

a) ŠE.GIG, 7 še (91, 4, 10).

b) ZI(D) GIG(BA), EXT. (32, 5, 10), bind (51, 8, 6 : 93, 2, 3 : 96, 1, 8, 15), for hand of ghost (93, 1, 15), for mouth (79, 1, 7). Quantity, 1 ka (45, 4, 3 : 56, 3, 2). BAR.ZI(D).GIG mentioned (63, 6, 7). A kan-kellu (53, 1, iv, 6).

c) ZI(D).ŠE.BAR (11, 2, 39).

As Hrozny (p. 8) points out, the equiv. of ŠE.GIG.BA is 𐤔𐤍𐤁𐤍 (Delaporte, *Épig. Araméens*, 86). Delaporte, 68 (BE IX, No. 108) on the other hand, shows 𐤔𐤍𐤁𐤍 = ŠE.BAR. But ŠE.BAR sometimes defines or interchanges with ŠE.GIG (cf. Hrozny, 208; *Lehnpfund*, BA I, 516; Johns ADD III s.v.)^①

I do not propose to discuss it further except by suggesting that it may = uddatu, 𐤔𐤍𐤁𐤍 the sharp or spiky (corn), rather than uttatu 𐤔𐤍𐤁𐤍.

§ 75. ZI(D).KU (35), fine-ground flour. (Hrozny, 117).

(a) Simply, always : EXT. (32, 5, 10), bind (84, 4, iv, 5 : 93, 2, 3) : eyes (8, 1, 9) : apply ears (36, 1, 6) : uncertain use : stomach "taking fire, mix with licorice in rose-water" (39, 1, 1) : breast (51, 12, 7) : cough (80, 1, 20). A medium for mixing (8, 1, 9 : 22, 1, 7 : 36, 1, 6 : 73, 1, 19, 23, 27 : 74, 1, 12 : 79, 1, 14, 22). Quantity $\frac{1}{3}$ ka (6, 3, 9).

① I am indebted to Mr. Sidney Smith for some of these.

806.

876 : 877 : 878

876 ZI.Z.A.AN(25) Triticum vulgare, Vill. (Hrozný, 54).

(a) Simply, frequently: "constriction of lungs" (53,4,18).
Quantity, 7 še (91,4,10). (b) ZI(D) (5): bind (98,3,11)

(c) ŠE (1) (91,4,2). (d) li'u (4). (e) bread (3).

T. vulgare, Vill., is used in India as a demulcent, the flour as a local application, and wheat-en bread as poultice (WPI 254).

877 ŠE.SA.A (24) parched corn

(a) Simply (6): EXT., bind (20,1,19), for swelling on heel (73,1,19). Uncertain use, for assuaging šibur mišitti (82,2,9). Quantity, 10 shekels (20,1,19). (b) ZI(D)

(17) EXT., bind (49,4,2 : 98,3,10), eyes (14,1,7 : 16,1,1), temples (20,1,20,37) : for samanu on head (1,2,19) : as a medium for mixing (13,1,5 : 79,1,25). Enema (94,2,8). INT., drink with "IN.NU.UŠ in oil and beer, female ailment (67,1,iv,5). (c) ZI(D), ZI(D) (1)

(37,7,3). On ŠE.SA.A = kalu šip, see Zimmern, ZDMG, LVIII, 951 : Hrozný, Getr., 98.

The equivalence is confirmed by 36,1,7
kašī kima šE.SA.A ta-gul (8r, 939) - lu
"roses like parched corn thou shalt
roast."

878 ŠE.IZ.NI, šamaššammu (24) Sesame

(a) Simply (4). EXT (19,2 ii 6).

(b) GAB (12) EXT., swelling (73,1,9). Uncertain use, mišitti mîti (79,1,18). GAB, ŠE.IZ.NI ud-du-tim (UD.DU.-tim) (6,9,9 : cf. 6,3,4). Quantity

$\frac{1}{2}$ ka (73,1,9 : 77,1,20). (E) ZI(D). GAB(3) : EXT., hands and feet (98,3,14). Quantity, 10 shekels (632,3). (d) SEED (1) (20,1,ii 8). (E) EPIRU "dust" (2), bind on head for samanu (1,2,11,14) "wax"

The GAB (as in GAB dišpi) may be the peculiar mucilage which comes from the leaves (BMP No 198) and is used for poultices (PC. XXI, 290).

§ 79 GÚ.DÙ (21) ^o Trigonella fœnum-græcum, L.
 For the plant see p. 38, and cf = "ditto = kak-ku-u for ŠE[GÚ].DU p. 278.
 (a) Simply (5), EXT., bind (84,4,iv 5), feet (74,1,33): on(?) head (3,6,ii 8): 7 ŠE (91,4,11). (b) ZI(D) "flour" (14) EXT., bind (96,1,8), head (3,5,9), breast (51,8,3): used for eyes (13,3,9): for samanu (probably scab, PRSM 1924, 3³) (1,2,19). With urnâ through a reed in mouth (Kii ii,iii,57). Quantity $\frac{1}{2}$ ka (15,3,18). (c) tak GÚ.DÙ (1) (60,1,5).

Ebeling (Arch. XIII, 16, n. 6) gives it = pu-li-li, but translates it "Linsenmehl(?)". But pulili must be ~~be~~ fenugreek, one of the leguminosae, which harmonizes well with GÚ.GAL = lathyrus (§ 80). It will be noticed that neither GÚ.DÙ nor GÚ.GAL are included in their equivalent sections § 931, 9E. In SM Trigonella and its flour are frequent: note SM ii, 693, flour for scabies.

§ 80 GÚ.GAL, HALLURU, 𐎶𐎵𐎲, a kind of Lathyrus.
 (a) Simply (3), EXT., bind (84,4,iv 9), on eye-bruise (96,1,12): 7 ŠE (91,4,11). (b) ZI(D) "flour" (16), EXT., bind (37,7,4 : 96,1,8), eyes (8,14; 13,3,9), breast (51,8,3): for samanu on head (scab, 1,2,19).

Hrozny, OLZ 1913, 52 = 𐎶𐎵𐎲, a certainty

208. § 80 : § 81 : § 82 : § 83 : § 84 : § 85 : § 86
when considered with the preceding section.

§ 81. ŠE.IN.NU.HA (2)
(a) 7 ŠE.IN.NU.HA (91, 4, 10) : (b) ZI(D) "flour" ŠE [IN.NU] HA (EXT. mišitti, 77, 8, 10) : (c) ŠE.RU ŠE.1[N?...] fumigate 99, 3, 11). "Probably a kind of barley" (Hrozný, Getr. 74). See ŠE.W.NU § 86., and p. 278, l. 50. = "[innun]nu."

§ 82. ŠE, ŠE'U (2) CORN, ^{BARLEY} (Hrozný, Getr. 156 etc).
(a) ZI(D).ŠE fumigate (101, 3, 10) : ZI(D).ŠE.MEŠ, ditto (ib. 16)
Is $\frac{1}{2}$ ka $\frac{1}{2}$ (D).ŠE demer to be included here? (77, 5, 6)?

§ 83. ŠE.BAR (1) See § 74. For an instance of ŠE.BAR = CORN in general cf. ŠEBAR ša sah-li-e, Demuth, BA III, 486.

§ 84. ŠEŠTU B (ŠE.GUB), ARSUPPU (2),
M. 13, 16, l. 49. ⁱMA + GUNU.GUB = arsuppu.
On arsuppu = ^{at kind of barley} see Ungvár, ZA 1917, 389

§ 85. ŠE.ŠAG (ŠE.LUČAL), IARAHHU. (1)
(91, 4, 2).

§ 86. ŠE.IN.WU (INNINNU) (1).
(91, 2, 5). See Hrozný, Getr., 74, and § 81

For other groups beginning ŠE see p. 278.

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- (1) ^uElkulla, ^uElgulla, ^uEligulla (9) (2) ^uMUH (= eli)-
 k(9)ulla (10), (3) ^uIrkulla (5). (4) ^uAN (= il)gulla (11)
- It is not easy to distinguish between these.
 For convenience all are placed here. (See p. 25)
- (1) occurs in the same prescription as (2)
 (59, 1, 38: 97, 4, 11). It is used simply to anoint a
 scorpion-sting with 8 others (91, 1, r. 7): anoint
 (95, 2 ii 10): 97, 4, 1, 15), temples (103, 21). Drink (89,
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- (2) occurs as above twice with (1). Anoint
 (97, 4, 12); temples (10^a, 1, 21). Drink for dyspnoea
 (59, 1, 38). Use when "spittle is not stayed in
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 —, altar of, water of xix, xxii, 158
 —, wild, 75
 Rosemary 49
 Rue X, 61 ff.
 Rushes 31
 Sabina ix
 Safflower 98
 Saffron ix, xvii, 63, 108 ff.
 Sage 197 ff.
 "Sailors' dung" 80
 Sarsin ix, 199
 Sea-weed viii, 99
 Senna 81, 82
 Sesame ix, xviii, ¹⁷⁵ 65, 206
 Sex in plants xix
 Shallot 120 f.
 Soda ¹⁰⁰ 116 ff.
 Soaps-plants 116
 Sodom apple 180

Sorrel 66	Tamarisk VII,	Vine 114, 195 ft
"Sprout of the Sea"	162 ff.	Vinegar 50, 76,
Spanish Cha-	Tannin ^{132 ff.} 178,	79, 178 195
momile 71	Tar X, ^ 158	Walnut 102
Spelt (Emmer)	--water xxii 155	Water-Hem-
IX, 125 ff. 127, 171	Tares ^{125 ff.} VII, 127	lock 96.
205 ft	Terabint [^] 149,	Wax V.
Spinach 36 f.	158, 170	Wheat 127, 205
Spurge 37 f.	Terbinthine 157	Wine V, 195 f
Squill 125	Thistle X, 102	Willow 150, 168
Squirting Cu-	Thorn VIII,	Woad 61, 98
cumber 41	73 ff 102, 107	Wormwood VIII,
"Star of the Sea" 80	--, Egyptian 75	106
"Stomach-comfort"	Thyme IX, 194 f	
41, 138: "- enemy"	Tragacanth 201	
Storax see Styra	Turmeric VIII,	(9) INDIAN
"Stink-Cucumber"	xvii, 63, 109 ff.	B'hanga 101
Styra X VII, xviii,	Turpentine,	Çana 101
115, 131, 135 ff.	VI, 158	
Sumach VIII, xxiv,	-- of Cedar 165	
109.	Vegetable drugs	
Sunflower 71	V	
	Vetch, 113, 117	

(10) PASSAGES FROM THE BIBLE. —

Lev. xxiii, 40 182	Num. V, 11 ff. 42
ii Ki IV, 39. 40	Jer. VI, 20 97
Ez. xvi, 36 134	Matt. xiii, 25. 127

ADDENDA

After almost all the preceding pages were ready for publication the British Museum issued the copies of two early Assyrian tablets of plant-lists in CT XXXVII by Mr Sidney Smith. These have now been incorporated in this monograph, either here in this appendix, or by re-writing some of the pages and emending others. Mr Smith's copies are admirable; he has been most kind in collating passages which I thought were doubtful, and his collation, as a rule, merely reiterates what is already to be found in his copies.


Plate 26 ff. No. 108859. Col. I, generally duplicate of K. 4199 (Meek, RA 1920, 138), whence I have added the variants in footnotes.

Col. I.

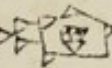
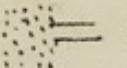
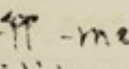
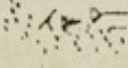
2	MAH ^①	. . . . .
3(a)	širi	"
(3(b).	ka-me-e	. . . . .
lipû huš-ti		② ka-bar-ti ka[ka-di?] ^③
lipû NAM.MUL.GIŠGAL.W.		④ "HUL.GIL.TAK(or UŠ)
lipû "su-ul-ti ^⑤		lipû "

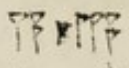

① v. širi ; ② v. ZAL... i.e., lipû ; ③ "Swelling of h[ead?]" ; ④ Opium, p. 5, l. 73. ⑤ Opium p. 21, l. 448.

. DA	"sa-me [du] ①
[lipî e]friš-ti ②	"aš-šu-ul- [tu]
[lipî] a-bi-ik-ti ③	pi-zal-lu- [ru]
[lipî nêš DIR. HI. HI	"MA. EREŠ(?) MA(?) LA(?) ④
10. " " meluṭti GAZ	ir-ru- u ⑤
[šêr?] širi	"ša-ki-tu-u ⑥
šêri kaḳkaš širi	u EL ⑦
[šêr] lišan širi	"lišan kalbi ⑧
[šêr] ⑨ širi ṣalmi	"ša-da-nu ⑩
15. [šêr] ⑪ MULLU. GIŠĜAL.LU	MUN. IEME, ŠAL.LIM ⑫
[. . .] ⑬ NAM. MULLU. GIŠĜAL.LU	mê lib-lib-bi ni (?)
[šêr] ⑭ LUL.A	KU.NIK. IŠ. ŠU. LAL ⑮
[A] šêr ⑯ LUL.A	A.RI.A NAM. [MULLU. GIŠĜAL.LU]?
[šêr?] UR. BAR. RA	. . . . .
20. A	. . . . .


For the sake of completion I add the remainder
of K. 4199, from Meek's copy:—
(10) šêr ra di  šu šêr sa . . .

- ① R. from p. 25, l. 558. ② Cf. p. 34, note ①, "pizallurti" being used for anointing swelling. Abikti may then = "bruise". Pizalluru also on Meek, RA 1926, 146, K 4605, ii, 7. ④ Or "šaḳ-la-nu(?) ⑤ Confirms my restoration ir-ru-u in ⑧ G, p. 5, and refutes me-tu-u CT xxxvii, 32, 25. ⑥ "šakitu = "GUR, apparently another form of poppy, or at least an intoxicant (⑧ G, and p. 43). ⑦ For "EL see p. 53. ⑧ Cf. p. 12, l. 200. ⑨ The restoration must be šêru and not dâmu, which would make it ricinus, p. 17, l. 324. ⑩ See


(11) šēr kil-li^①
 mašak kil-li
 šēr AL 
 = si-ma ni
 -me-ti



šēr a-ba-...
 mašak a-ba-...
 na-...
 ŠE.RU ub-bu-lu-maša a-nā...
 ku-da-ša 

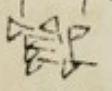
CT, XXXVII, 26 continued, Col. II: —

(Ll. 2-10 dup. PL. 41, Rm. II, 497, whence are taken the restorations in round brackets. There are similarities in  GAH, p. 15, ll. 280 ff.).

(zēr) šim. š[š]	zīt [GĚŠTIN.GIR.RA] ^②
(zēr ⁱ u). GIR	īku.tu [HU.MEŠ] ^③
zēr saḥ ^④ -mi	zīt ^u GAR.G[AN.GAN] ^⑤
zēr ⁱ u UD	zīt ⁱ [A.TU.GAB.LIŠ] ^⑥

p. 200, § 67. ^① Again, šēru ~~must~~ be the correct restoration, and not dāmu, for MUKI.EMIE.ŠAL.LIM "Salt of Akkad" (see my article PRSM 1924²⁶) must be white, not red. ^② See PRSM 1924, 26. ^③ Is this A.RI.A, "semen", i.e. [semen] of man = [male?; Uš, not ni?] fluid of offspring." Cf. l. 18, "Fox-meat" from K. 4199. ^④ See PRSM 1924, 14, and cf. PL, 37, K 14120, 2 in connection with the present text. ^⑤ R. from K. 4199, "water of fox-meat = [human?] semen." ^⑥ Hardly gilli  "tortoise" Restores
^② See p. 87, ll. 13-14 ^③ P. 13, § 9AB, l. 240 ^④ P. 25, § 9BU, l. 569 ^⑤ P. 25, § 9BU, l. 569. ^⑥ CT XXXVII, 32, l. 13.

5. (šupur) kalbi šalmi (šupur a-me} lu-te ([š]am a-me-lu-te) ^③ (. . UR ia-ta'-a) A (. - an-kul-la - [tu?]) ^④ 10. (. . HUL)	u HAR ① u tu-u-... ② zit u a-la-me-[e] NIP ^l zit ka-an(?) NIP ^l kašari ^⑤ IH ^{pl} u a-ma-ni-u
18 u	u šī.šī ^⑥ (= imhur pani) (TT six times in column) TT
20 ênâ ^{IV} [sa-a-(r)]i ⑦ ku-bar [URUDU... DIR] ⑧ u šu-[ul]-te ⑪ u hi-[nik]-ti ⑫ u P, II u kalamu ⑮ 25 u si- ^o -du ⑯	a-a-ar kurasi ⑧ a-a-ar ili ⑩ si-la-a-mu u ⑬ LAL- u KUR. KUR ⑭ u kasî ŠAR LA(?) i al-la-ka-niš

① Can this be u HAR. HAR on the analogy of šupur ameluti (p. 11, § 9V, l. 196)? ② Cf šupur amelute, as in note ①. For u tu-u ... cf CT xxxvii, § 1, l. 53, u tu-u(?) (or lid). ③ [š]am amelute, No. 108859 having here TT ditto. Cf. p 16, § 9AH, l. 286 and PL. 37, K. 14120, l. 4. "Drug of man = seed of u alamê". On u alamê, and on [u imhur aš?] rā ša ekli = u išid a-la-me-e, PL. 37, 81-2-4, 269, l. 3 see p. 72. ④ can hardly be u ilgulla, p. 210. ⑤  = kašaru, u wš fit, proper, i. e. an oil proper for lice. ⑥ p. 89, § 10AH. ⑦ For l. 19 cf. K14051, PL. 40, which I give here:

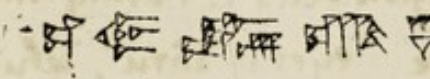
①	u ^u gab-lu-lu		u ^u su-pa-lum
	u ^u AN. ŠIR. LU		u ^u [ditto]
②	u ^u ha-šu-tu ša VII fakḫadi ^{pl} šu : u ^u HAR. . . .		u ^u AG. [UD]
	u ^u LUL ^③ AZ		u ^u ŠU-
30	u	"	u ^u UR. [PI. PI] ^④
	u		

(note ① from preceding page continued): B.14031:(1)
 (2) ²gul²-[uš-ti] (p. XVI, No. 138), (3) [u^u]gul-gul-la-[nu] (p. XVI, No. 139) / (4) [u^u]um-ša- . . . (5) [u^u]GIR : u^uum-[ša- . . .] (6) u^uil-luru . . . (7) u^ua-a-ar [ḫurāši] (8) Ênâ^{II}-sa-a-[ri] (9) u^u . . .
 (10) u^ulluru . . . (11) u^u . . .

Sâru is an animal mentioned alongside of gazelle, ibex, lion; see Hunger, MVAG, 1909, 86, who quotes Boissier's passage where the carcass of a sâru is mentioned as being found in Babylon in the pure seat of Bêl. Boissier translates "hyena", but the presence of such an animal in Babylon-city is hardly likely. It may be "cat"; the plantname "eyes of sâru", which = "golden bloom" indicates an animal with yellow eyes.

⑨ KU.BAR, occurring in a-gi-it-tu-u = KU.BAR.ŠIG (CT. XVIII, 9, K. 4233, obv. 33, described as šindu ša asî "bandage of a physician"). ⑩ Âr ili = "chamaeleon", for binding on head against grey hair (PRSM, XVII, 1924, 17). ⑪ P. 21, l. 448. ⑫ šam hi[ni]ḫti (drug for retention)? or "hi[ri]ti" (cf. p. XV, No. 103, esp. as u^uKAL. A. [B1] (= kalamu) occurs as No. 106, and is here in l. 24. ⑬ P. 99. ⑭ Hyoscyamus, p. 19, § 9AV, l. 378. ⑮ P. XV, No. 106: "all-plants" = rose, cf. p. 86. ⑯ Si'du, perhaps ST^u or a cosmetic. ŠU (or perhaps LA, but uncertain after re-examination of tablet) 'al-la-ka-niš, see p. 171. This tree was introduced by Tiglath-Pileser I in the XIIth Century. י'וסלס is a kind of nut; can it be amygdalus with the bare

(notes continued from preceding page).
 possibility that amygdalus, allakanis (^{perhaps} almond) have some philological connection. LA is a recognized product in AM; it is the astringent "kind" of the pomegranate, and the "shell" of the ostrich-egg (see p. 27^a). LA 'allakanis' = "si'du, a cosmetic, so that if LA can also mean a "nutshell," there is no little confirmation that 'allakanis' = "almond" in the statement in W. Smith, Smaller Bible Dictionary, 396, that "in Egypt the kohl is a soot produced by burning either a kind of frankincense or the shells of almonds".

② "Hašutu with seven heads", probably the equivalent of  (PL. 10, I, 7, dup. Meek, RA 1920, 181 (s. 1701) (see p. XIII, note

④). This latter plant occurs written out in full in AM at least three times: GIR.*NAG.GA.HU ša VII kakkadī^{pl}-šu (79, 1, 21) bind on: ... GIR.*NAG.GA.HU ša VII kakkadī^{pl}-šu (78, 2, 6): ... GA.HU ša VII kakkadī^{pl}-šu (88, 2, 9) oint. Twice (or three times) written short "GIR.*NAG.GA.HU 18, 7, 5: "GIR.*NAG.GA.HU (54, 1, 5) oint body: ... GA.HU (89, 4, 13) (a drug for hiništu): doubtful, "GIR.*NAG.GA.HU...], 18.5, 4 (+ K, 67, 73, 1), bind on. Its similarity in name to our "crowsfoot" may be accidental.

③ If ka-a is a gloss to LULA (rev. iii, 16), read this KA.AZ.

For 29-31 see ^{p. 92}④ Restore p. XIV, 54 ["UR].PI.PI from this.

NIM. UR. UR ①	IGUG
② Êântum rapaštum(tum)	KA. [A. AB. BA]
③ KI. A. ID. HAL. HAL.	ki -i [b-ri-tu?]
④ KI. A. ID. A. RAD	UH [nâri]
en-ti si-mat mâti	u
[u-ru-su qu-ru-su	. . . . .
. . . ni(?) ki šeri(?)	. . . . .
.

Col. III contains other material besides plant names, and we need discuss only a part here. It contains an echo of the order of § 9, ll. 272-453-448. LL. 3-4 "UD.DA, cf. ⁱbaltu, p. 14, § 9 AD, L. 248. L. 5, perhaps [GÜR]. DINGIR BABBAR, cf. p. XIII, l. 20, after l. 18 [u]nibi' balti, and 17. "pukuttum. The right-hand equivalent is nam-mu-u[š-]. L. 8, KU.MA [LAH. LAH?], cf. p. 14, § 9, AG, 259, following "baltu § 9, AD. L. 11, IM.TIG.

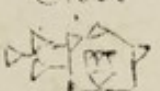
① Restores p. 18, l. 351, giving an alternative GUG.. (sâmtu) for šammu sâmu. ② P. 18, § 9 AS. ③ On KI. A nâri = kibin nâri, and kibritu, = sulphur see my article in PRSM 1924, p. 2, note 6; there it is especially "bank of Tigris." ④ "Bank of Euphrates", helping to confirm meerschäum, magnesite (PRSM ib. p. 14, note 5).

EN.NA = ha-a-pu, Its other value siknu ša nâru, "sediment of the river" (KIA, see Jensen, KIB VI (1) 476 shows that hâpu is probably 𒂗𒍪 "bank", and not 𒂗𒍪 "wash" (cf. the passage quoted, PRSM 1924, 14). It is difficult to identify the particular chemical in the mud of the alluvial rivers of Mesopotamia to which this refers.

L. 12, cf. p. 2, l. 6. L. 17, hašuru = [šur?]-me-nu, cypress. According to II R, 67, 76, cedar-beams are as fragrant as hašuru-wood. VR, 26 g-k, 18, the hašuru grows in groves. The mountain Hašur is the locality of the eruru "cedar", and since ZA 1916, 90 (Schroeder) speaks of "the water of the Tigris, the water of the Euphrates clear, which from the springs to Hašur flow," it must lie N. of Assyria. L. 24, [uša-mi] ra-pa-di = ka-si širi (p. 15, 89 AG, l. 272). L. 27 [u]e-zi-zu = a-ru-šu ma-ru (p. 22, 89 BT, l. 453 u]e-zi-zu = a-ru-šu mar-ru): L. 28 [u]šu-lu-tu = u]si-lar-mu (p. 21, 89 BH, l. 448, u]šu-lu-tu = si-lam-mu).

Col IV continues:

2. ① [G]1. ŠUL. ŠAR	|	KU
. . . NA. A	|	u

① [i U.GIR ša] eli KI.MAH elû ^š . . .
 5. . . . ša ina KI.SIR elû ^š
 [(2)] ša ina eli
 ^š
 u
 u
 10. ^u LAL ša ekli ③ zir
 ši ša ekli išid
 ^{pl} ša ina me ^{pl} ušâ(a) :
 [lipî kal] bi šalmi ša ina mit-hu-si iz(?) ④
 lupû ⑤ | ^u HUL. [GIL]
 15. ^u tar-mi-i ša ekli ^š KU.KU ^u
 -pi-nu ša šadî(i) išid
 -nu ša ekli | ^u šah(?) -
  | GISAL. ?
 RA ša ina me-lul-[ti imutu] ⑥
 -la ša
 amelûti(u-ti) A.RIA NAM.MULLI.GIŠGAL.[L]

BUR.MEŠ

AB.ŠAR

① p.73. ② It can hardly be right to read [^uNAM].TIL. LA here (= opium, CT XXXVII, 32, 28): šamru = fennel. But, in connection with p.73, we should expect i U.GIR instead of „šam-ru. ③ "^uLAL of the field" a species. For ^uLAL see p. 99. ④ Opium, p.5, § 96, l.72. ⑤ "Fat" = opium. See p.5, § 96. ⑥ Cf. p.5 § 96.

ADDENDA

No. 108860 is a tablet in which the scribe has made several obvious errors in his copy. The following are the more obvious:-

Col. I^① (p. 32), l. 25, "me-ru-u (me practically certain, and definitely not ir), error for "ir-ru-u (cf. p. 5, l. 60 ff.). ~~L. 12, "ku = šak-ku follows Rm. II, 203 (PL. 16) (re-ex., and certain) rather than [uku] šak-ku of K. 267 (PL. 21), Col. VI, 21, which seems to indicate a doubtful text, for a foreign word even in a Kouyunjik. tablet.~~

Col. II, l. 27, "su-pa-ru, error for "su-pa-lu (cf. p. 160, dup.). L. 31 "I.NU.UŠ for the "IN.NU. . . UŠ of the dup., p. 160. LL. 41, 47 must both be the "a-na-me-ru of p. 11, ll. 175 ff., but the characters appear to be as Mr. Smith gives them, or, at least, ^{certainly} not "a-na-me-ru. Na on this tablet is clearly $\Delta \Delta$.

Col. III l. 2 "salbaginu, obviously an error for "sapalginu (K. 267, pp. 22, 23, l. 477. L. 14, "TA.RI.ZA.AH for "TA.HU.ZA.AH (HU certain) on p. 23, l. 479. One is wrong. L. 25, "ha-tir-ti for "a-tir-ti, p. 22, l. 450, ~~be~~. L. 42 "ha-ra-zi-aš and "ha-ra-zi-un for the more usual "ha-ra-zi-uš (a Hittite word), perhaps reasonable

^①In spite of the shape of the tablet I believe what is apparently the obverse should be the reverse. There are eight double columns.

ADDENDA

26

No. 108360, Col I (IV), p. 31.

LL. 1-5 duplicate of 89E, p. 4.

LL. 6-12 part dup. 89GAA, AB, p. 13

L. 11 uka(?) - ša-ku, form for [ku] - ša-ku (L. 232), but perhaps my restoration [ku] is wrong. Ki-na-hi for Ki-na-hi.

L. 12, ~~ku~~ - šu-tum = uku-šab-ku, as on Rm ii, 203, I, 9.

LL. 13-14, restore p. 16, before L. 310. See p. 135 ff.

13	u	UD	u	hul	i	ATU.GAB.LIŠ
14	u	ša-mu	pi-šu-u	u		ditto

LL. 15-19 restore p. 17, 89AP.

15.	u	ša-mu	M1	u	at -	kan
	u	ša-ga-be-gal-zu		u	ditto	ina šlama(ma) ^{ki}
	u	bu -	šu	u	ditto	ina Ah-la-me-e
	u	hi-ru(?)	bir	u	ditto	ina ^{mātu} Akkadi ^{ki}
19	u	AG.	UD	u	at -	kan

LL. 20-24 restore p. 17, 89AQ.

20	u	ša-mu	DIR	u	iš-pa -	ru(?)
	u	ša-mu	AŠ	u		ditto
	u	GIR.PAD.DU	MULU.GIŠGAL.LU	u		AŠ
	u		ditto	u	iš-pa -	ru(?)
24.	u	ŠA.	PA	u		ditto

LL. 25-37 restore p. 5 ff. 89G, I.

25	u	HUL	GIL	u	me (sic) - ru -	u
	u	ša-mu	DIR	u		ditto
	u	na - at -	DIR	u		ditto

28	^u NAM.TIL.LA ①	u	ditto
	^u ŠI. ŠI ②	u	ditto
30.	^u im-hur ŠIŠIŠI	u	ditto
	^u bu-la-li	^u ditto ina Šu-ba-ri	
	^u a-zu-mu	u	ditto
	^u ša-mu marru	u	ditto
	^u m̂arat ekli	^u a-ra-[ru]	
35.	^u ŠA.LAM.BI.TUR.ŠA	u	....
	^u a-ra-ru	^u ha-za(?) - ba(?) - [tu]	
	[^u] a-ra-ru ut-liš	^u lu-lum-[lum] ŝantu	
LL.38-43 part duplicate of p.1, §9A:			
	[^u] um-sa-tum	^u el-pi-[tum]	
	.....	^u ib-.....	
40	..... tum	^u el-pi-tum šadi	
	[^u] l-pi-tum šadi	^u maial ilu ištari ⑤	
	[^u] sa ^② -a-mu	^u GIŠ.KU el-pa-te	
	[^u] ša-mu ŝantu	u	ditto
	[^u] GIL	^u kalamu ŠIŠIŠI	
45	[^u] ša(?) - da-nu	u	ditto
	.....	^u ša-mu šik ^{le}	

(In the above section [^u]GIL = "all plants ...": for "šadanu see p.200.

① A new equivalence but not above suspicion.

② Certainly not the opium (see p.89), nor the next line

③ Lulumtum settles the equivalence with lulutu (p.38).

④ ~~ŠIŠIŠI~~, but cf. §9, B, L.2, doubtless "^usa-a-[mu]" in rt hand column. Cf. p. 29, 28 of CTXXXVII, "^usa-a-....

⑤ Like ma-a-a-al ^uAZAG, §9C, 16.

ADDENDA

L. 46, cf. AM 59, 1, 37, drink "ŠIK.MEŠ ša šarġ (1) for dyspnoea: for stomach (Kii III, 1, 37).

Ll. 47-48 dup. of part of p. 3, 99, D.

47 tum	|	"a-ra-an-tu ①
. . . . .	|	"ka-sir-ra-tu

L. 49, probably dup. p. 12, 99W.

. . . . .	|	"lišan kalbi
-----------	--	--------------

L. 50, perhaps dup. of p. 14, l. 253.

⁵⁰
⁵¹ Ll. 52-54, duplicate of p. 7, 99J, ll. 86-88

52. ["ka-na-šu-u? | a-du]ma-tu ina ^{ma-tu} Marra-tu

53. ["ka-na-šu-u tam-šil ^{du}] NAM.TAR

54. [arē^{pl}-šu mārē^{pl} sinniātī^{pl} ka-zi-r] i išu

L. 55 follows in the order of p. 7, 99K, and then follows a duplicate of PL. 35, 79-78, 187 (for reverse read obverse):

55 [" HAR. HAR ]	|	["karan] šelibi
. . . . .	|	. . . . . ditto
. . . . .	|	. . . . . ditto
. . . . .	|	[i ina šu-ġa-ri

59 . . . . .	|	["ur - nu -] - u?
--------------	--	--------------------

. . . . .	|	["ur - nu] - u?
-----------	--	------------------

. "
-----------	--	-------------

62 . . . . .	|	. . . . . "
--------------	--	-------------

(see p. 7, 99, L.)

COL. II (III), pl. 30:

ll. 1-9, duplicate of p. 9, 99, P: L. 4 gives

ia-ar as variant for a-a-ar. L. 6, "ki(?)

-sal-lum-zi possibly explains or restores l. 139.

LL. 10-17, duplicate of p. 10, § 9Q, U. 148-162: L. 10, a-ab, variant for a-a-ab: L. 11, tarbuti for tarbû. L. 16 shows that the reading should be "ku-ra-as-ti in § 9Q, L. 154, a drug for what may be itch (see my article, PRSM 1924, 4, n. 3) of preceding page. L. 18-20, "ellibu in common speech is "NIGIN.ŠAR, its fruit red": cf. § 9Q, L. 156, and for "NIGIN.ŠAR p. 161. L. 19 "šu-u-ku must surely be the Ar. *كوكب* "thorn", but how it is to be explained in this connection is doubtful. Its left hand equivalent is uncertain.

LL. 21-50 bears out the order on § 6 (see p. 10) LL. 21-25 and U. 26-32:

Herein are discussed the important plant-names "AŠ (= edu, by comparison with § 6^{and} p. 10) and "supaleu.

u ša-mi ^{du(?)} šiš(p).GAL	u [AŠ]
u la-pu-tu	u AŠ[ina] Aš-la-mi
u ka-an-zu-u	u [u] ina šu-ba-rim
u ša-mi AŠ ^{pl}	u AŠ
25 u GIR.PAD.DU MULU.GIŠGALLU	u AŠ
u ša-mi kišti	u la-sir-bi-tu
u ša-mi KU	u su-pa-ru(!)
u ša-mi kaš-ka-ri	u ditto
u ša-mi e-si-a	u ditto
30 u 'hal-bi e-lu(!)-E	u [ditto]
u [!]- ^{NW} UŠ	u [ditto]
u si(!)-[ä-lu]	u mal-[ä-tum]

We can now discuss §10Q3 full. "Aš" = "edu" is thus a "single" plant, growing in Aḥlamî and Šubari (called "iaputu and "kanzi respectively). "A drug for Aš.pl (= tanukâti) must mean "a drug for screaming"; l.25, "the human-bone drug".

"Aš is used in AM (15lt) : (2) SIMPLY(7)EXT, bind temples (103,15), anoint (14,2,14; 94,21,15 [hand of ghost], 20: 95, 2119; 97,4,10); eyes (14,3,3). INT, drink (89,1,1), urinary (66,7,8). (6) SEED (6) INT, drink (89,1,1; 90,11,17), for dyspnoea (59,1,38,43(?)). Quantity, 1 šu (= 1 shekel(?), 41,11V,25). In Langdon, RA 1916,31,L.41, it is called - hîl haḥḥû "gum for coughing" (or similar) (not "food of the insect haḥḥû", and an omen is deduced from the appearance of šammu ša "Aš in a field (ib. 13). Most indicative is it that it has a gum

Everything points to "Aš being *Asa foetida* or some similar ferula. The name *Asa* comes from the Persian *aza* "maslich", which may represent "Aš". Its name "single" is comparable to Theophrastus, EP.VI,11, where he says that narthox (*asafœtida*) grows very tall and has a single stalk which is jointed (this last being referable to our "human-bone drug", doubtless from its similarity). In P *Asafoetida* is prescribed (p.196) for hysterical paroxysms (= "drug for screaming"? and chronic bronchitis (= "gum for coughing"). 1B 688 prescribes it for nerves, and as diuretic: Dioscorides prescribes silphion,

which is presumed to be of the same nature as asa foetida, for scrofula and eye-trouble (III, 84).

We have to consider, in identifying "Aš as exactly as possible, that asafoetida is already very satisfactorily identified with nuhurtu and tiyātu (p. 132 ff.). The plant lists give no indication that "Aš = nuhurtu; so that it may well be that "Aš is another kind of ferula giving a gum similar to asafoetida.

IB No 158 says that there are two kinds of andjodan (asa foetida), one white and sweet, the other, foetid and black. The root of the former is called mahrut to which I have compared nuhurtu. The gum of the andjodan is ~~...~~, i.e. tiyātu. In EIB II, 713 the sweet asa is the laser cyrenaicum.

With these two forms of asa, sweet and foetid, we must compare "Aš and "Aš.PI.PI ("foetid Aš", see p. 52 on the probability of "PI.PI = plant with disagreeable smell). "Aš.PI.PI (6), is prescribed in AM, anoint (95, 2 ii 9); drink (87, 1, 11 : 89, 1, 8); used for mouth and nose (28, 8, 11), and "when a man goes to his wife ... and to another woman goes", obviously an aphrodisiac, which, IB 680 says, asa is. 89 CT gives "Aš.PI.PI = aštabelu; and some common property exists between "Aš.PI.PI and "lišan kalbi,

for [ʷAšʔ].PI.PI utliš = ʷlišan kalbi (8.9AG, l. 277), i.e., [ʷAšʔ].PI.PI in common speech = arnoglosson, or more probably, in this case, Cynoglossum officinale, L., which is foetid (GM 345). Moreover, ʷaštabela[nu] = ʷlišan[kalbi] (PL. 46, Rm. 203, n. 6), which confirms the comparison. But the connection of [Ašʔ].PI.PI is only in the careless dialect of the common folk.

We have thus ʷnuhurtu (= √αρηνξ?), = tiyātu (תִּיאוֹת, תִּיאוֹת) asafoetida (p. 132 f), and ʷAš and ʷAš.PI.PI^① as the sweet and the foetid asa, something similar if not the same, perhaps σιλπιου or laserpitium. L. 26 (pl. 31 of CT xxxvii) confirms this admirably, in spite of the fact that it begins a new section:

"Drug of the woods = ʷla-sin-bi-tu, i.e. laserpitium.

But there appears to be some confusion in the later writers between the various forms. I propose, therefore, to translate nuhurtu and tiyātu as "asafoetida", and ʷAš as asa (dulcis) and ʷAš.PI.PI as asa (foetida).

We can now go on to ʷsupalu.

^①Note ʷAš + II (= ʷAš.PI.PI?), seed used (55, 47), and takAš + II (5).

The new texts allow us to continue the discussion on pp. 160-161, and to restore p. 10, § 9 R, 163-167. We have seen on p. 160 that *supalu* = 'ZA.BA.LAM, *Juniperus excelsa*: *erinu*, cedar; and is placed near *J. Oxycedrus* in a list. Consequently we may assume that it was a substance taken from different trees. The other equivalences (from the duplicates on p. 10 and p. 160 and CT. xxxvii, 31) shew that it is "a drug of flour" (KU), "a drug of the ground" (i.e., found on the ground?), "a drug of dough, paste" (*esi*, $\Pi\Phi\chi$ ^①, and *gabulu* גַּבְּלֻל), "gum of dough" (*halbi esi*^②) something like *IN.NU.US* (savin, or perhaps *tragaacanth*), something round, something which exudes(?), "Earth of the Moon-Crescent" (something which falls by night?). I cannot explain the equivalent "mal-lak-tum" (cf. p. 2, l. 8); it probably has nothing to do with מַלְלַקְתִּים .

Everything points, I think, to the correctness of the suggestion on p. 161 that *Manna* is the solution. Modern European manna (P. 759) is a concrete saccharine exudation from *Fraxinus Ornus*, L., etc.; Arab manna comes from the *tarfa* (*Tamarix gallica*), dropping on the sticks and leaves with which

① Not the tree *esi*, as I suggested on p. 161.

② I re-examined K. 4184, and Mr Smith has also collated his text with me. *Hal*, on the whole, appears to me to be the correct reading.

the ground is covered (= šami kakkarī, like the manna of Ex. XVI, 14 which lay on the ground), and must be gathered early in the day lest the sun melt it (like the passage Ex. XVI, 21; cf "Earth of the Moon-Crescent", doubtless the same idea as in Ex. XVI, 4 "behold, I will rain bread from heaven"). The Hebrew manna was small and round (= "gū) and was prepared for food by ^{seeking} or baking ("drug of dough"). Another tree, a kind of oak, provides a manna near Mosul which is made up into a paste (see my chapter, Woolley, *Archæomish II*, p. 139, quoting Chesney I, 123; Olivier, *Voyage IV*, 273). There is, therefore, good reason to consider that *supalu* is Manna.

Now, since "IN.NU.uš = both *supalu* and *maštakal*, we might perhaps see in the latter ^{the} flaky gum of the astragalus (i.e. *tragacanth*) as an alternative possibility for *Savin* (p. 199). *Tragacanth* has, however, little actual medicinal value except as a demulcent and to suspend powders in liquids. But, in spite of the fact that we have as yet no other candidate for the *tragacanth*, which is so common in the Levant, *maštakal* would seem to be ^{of} more value in medicine than *tragacanth*. If, however, this equivalence were correct *maštakal* (*waštakal*) would offer a plausible origin for the word *astragalus*.


LL. 33-36 restore p. 10, ll. 168-170, and augment what is said on p. 61, § 9 R. U₂knatum must be the blue dye of the Isatis: l. 34, "ša-mi šir-pi "drug for a dye" confirms this. "Ša-mi sil-ki in ll. 35-36 can hardly mean "vegetable for cooking", unless it was used as a colouring. Silki is more probably to be referred to سلق "cicatrice", سلاق "tumour", in accordance with Diosc. ii, 215, where Isatis is prescribed for wounds, Rapadi is, of course, another disease, probably external (cf. maškadu, MA 603).

LL. 37-39 restore p. 10, ll. 171, p. 11, 172-173, "zateru = "šibburalu", rue"; this must be زعتر, زعتر, زعتر "thyme", obviously (from the difficulty with the sibilant) a borrowed word, probably from the Assyrian. But Assyrian "thyme" is settled as zamburu and hašû, and we must therefore assume that the equivalence was changed when the word was taken over into Arabic. Obviously the meaning must be "rue"; 38-39 "LUH, MAR.TU "Syrian wash", i.e., the lye obtained from the rue, Peganum harmala, L. - I have often seen the women burning the rue for lye at Carchemish (see my Pilgrim's Scrip, p. 310). "LUH, MAR.TU.KUR.RA will then be Ruta montana, Clus.

① This line is on the tablet, but very faint.

LL. 40-50 restore p. 11, ll. 174-185.

LL. 41-50 give; with restorations from p. 11:

"zir(?) ekli	"a-na-me-ru
"inib 	" ditto
"ša-mi LU.WU(?) HI ZUN	" ditto
"ša-mi šup-[šū?]-hi imeri	" ditto
45. "ti-ni-... ekli	" ditto
"šAR ekli	" ditto
"a-na(!)-me-ru	ka-li-pu
" ditto	" la-ka- . . .
" ditto ut-liš	" UR.PI.PI[] . . .
50.	kma "

If "anameru be Još "rue" as suggested on p. 62, it will probably be R. graveolens, L, the fetid rue, since "in the common speech" it is "UR.PI.PI (PI.PI indicating a plant with a strong, and disagreeable smell).

LL. 54-61 duplicate of p. 11, § 9v. In l.

51 me is curious: 152 "hal-la-me-su:

L. 53 "tu-led(?)... : L. 54 "ša-mi LUH(?) (drug for washing?) = "ka-... : l. 55 "ša-mi ? =

"ru-[uš-ru-šū] : L. 56 "ru-uš-ru-šū = "zu.

L. 57 "ditto ut-liš = "šit... : l. 58 "ša-mi ekli

("drug of the field") : L. 59 "ki-da-... : L. 60

"ša-mi ... : L. 61 "IM.BU.

Cols. III-VI broken away. Col VII (II, p. 29) begins again with "šagabagalzu (cf. p. 17, § AP).

Ll. 1-4, part dup. K.8829, PL. 41. We must restore
 l. 2 ^ute-ri-nu or ^una-ri-nu. Are we to see in
 the ^uterinu, ^uinbu, and ^unarinu the equivalents
 of ^ušagabagalzu ^unicinus?

Ll. 5 ff. dup. K.8829, 12 ff. PL. 41

^u ti-bu-ti ekli arkitu	. . . . .
^u IB. NI. BAT ut-liš	. . . . .
^u me-sir(orsig-bu) UR.BAR.RA	. . . . .
^u ša-mi zi-me-te	. . . . .
^u KA.GIG.GA.GE	. . . . .
^u HAR.HUM.BA.ŠIR	. . . . .
^u NU. BU	. . . . .

Add here for comparison K8829, 12 ff (PL. 41)

^u tim-bu-ut-ti ekli arkitu	. . . . .
^u NI. NE	. . . . .
[^u] KI. AN. MER	. . . . .
. . . ša-šir-una ša šadî(i)	. . . . .

^uTibuti ekli "ring of the field", applied, KU. GIG
 (KAR No. 203, r. IV, 11); esp. "yellow". "Root of NI. NE-
 plant, drink in oil and beer for cough (ib. IV, 30): ^uNINE
 for -li³bi, anoint in oil (ib. I, 43). ^uMesir UR.BAR-
 RA "wolf-bond" almost suggests aconite, but the
 blue flowers do not coincide with "yellow" of l. 5.
 L. 9 "drug for toothache", with the "yellow" spe-
 cification, would suggest Celandine (Chelido-
 nium majus, L., for eyes and warts, P. 360, toothache
 Fernie, 84), but quite uncertain. For KI. AN. MER =
 kutru, see p. 201.

LL. 12-20, dup. p. 23., § 9 BK.

LL. 21-22, dup. p. 23., § 9 BL.

LL. 25-30, dup. p. 22, § 9 Bi, Bf in part.

LL. 31-32, dup. p. 22, § 9, CE.

LL. 33-34, dup. p. 22, § 9, CF.

LL. 35 ff, dup. p. 24, § 9 BN ff.

35	u	ELTEG	u-hu-	[lu]
	u	ELTEG	u ki-	[el-tum]
	u	ELTEG SI	u [hu-lu	[karni]
	u	SA, AT, GAL	u [sa-gi-la-tu?	
	u	ELTEG kar-ni	u [pi-ir	[kalbi?]
40	u	ku-di-me-ra-nu	u ku-	[di-me-tu]
	u	ditto	u "	[ina matu Hat-li]
	u	ha-ra-zi saš	u "	[ina matu Hat-li]
	u	ha-ra-zi-UR	u	[sa[k]-la-nu]
	u	kaš-ka-la ni-bat	u "	[. . .]
45	[u]	TU. UR. BA. E	u	[. . .]
			u	[. . .]
	[u]	UR. PI. PI	u	[. . .]
		... 21 ①		
		... TE(?)		

L. 40 gives us "kudimeranu for cardamom, and "harazi-s (= us, the Hittite nominative, with un in the next line, accusative) as its Hittite equivalent. "UR.PI.PI comes here, as I thought, on p. 24.

① "al-lu-zi? see p. 24.

Col. VIII (I), p. 28. P. 27 (8 9cc ff) and p. XVI (8 6, l. 125 ff) indicate an almost certain restoration of 8⁹cc from this present text, and conversely of Col VIII, 7 ff. from 8 6. Also PL. 35, 79-7-8, 187, proper rev. (called obv.) restores U. 7 ff.

[^ukam-me ekli pišû(u)]

^u tak AŠ. HAR

[^ukam-me ekli arku]

^u ditto

[^ukam-me šadî(i) pišû(u)]

^u ditto

[^ukam-me gur-gur-ri]

^u ditto

^u ditto

^u ditto in a Šu-ba-ri

With the equivalence of ^u tak AŠ. HAR "plant of arsenic" (see my article, PRSM, 1924, 25), it is clear that my reading ^u on p. 27 (^uKAN.ME) is incorrect, and should be kam-me, i.e. the kammu of PRSM 1924, 24, n²). In this latter passage I was wrong in translating kammu ša aškapi "gall of the shoemakers". It is, of course, the well-known "vitriol of the shoemakers", "shoemakers' black", chalcanthum of Diosc., for dyeing leather, "copperas-water", the small scales separated from molten copper by the application of water (Bostock's note, Pliny, NH, xxxiv, 32). The Ar. كبريت (Kibrīt) vitriol (which looks as if it were a better comparison for tak AŠ. HAR than hadira)

used for tumours when dissolved in vinegar (IB. 1313) which some say (IB. 1080) is the vitriol of Iraq زجاج العراق, known as vitriol of the shoemakers, according to some, green vitriol, to others yellow copper. The "vitriol of the shoemakers" is the Gk. $\mu\epsilon\lambda\alpha\upsilon\tau\eta\rho\iota\varsigma$ according to Ibn Djoldjol (ib.) and Leclerc remarks sub voce that the Arabs understand sulphate of iron and copper by زجاج. "Kamme gurgurri" = kamme of the metal-workers" (not the other gurgurru "rope" as I thought, p. 121) renders further proof unnecessary. The Semitic comparison is the neo-Syr. $\text{ܕܐܘܪܐܘܩܐ} = \text{ܕܐܘܪܐܘܩܐ}$, nigravit (PS 1751).

I was therefore again astray on p. 121 in suggesting "mallow" as the translation. We have to identify a plant called "White plant of vitriol of the field," "yellow (or green) ^{plant of} vitriol of the field," "white plant of vitriol of the mountain," "plant of vitriol of the metal-workers," all equal to "Plant of arsenic" (it being probable that agurru is a mistake).

Xanthium strumarium, L., (see p. 39) is not an improbable identification. It appears to have been used to dye things yellow: I was told in Basrah that it was used to dye things black. The *Xanthium* has green flowers, and *X. spinosum*, L., has white ^{on} the underside of its leaves (GM 312).

16	[u ...] ŠUR LI MU	u ... ši
	.. ..	u ditto
(small hiatus)		
20	.. GAZ ..	.. ..
	u ŠUR. ŠUR	.. ..
	u ŠUR. ŠUR	u
	u TIN. TIR. UD	u
	u ša-mi lam-ša-te	u
25	u ši-parb/ gi na ra	u
	u TUR. A. NI	u .. -la- ..
	u AMA. A. NI	u ši- ..
	u ur-ba-te	u sa-a- [rum]
	u zir ditto	u [ku]n(?) - glu]
30	u ku-un-gu	u [g]u - u - rum

L. 23 "white cummin, followed by "a drug for flies" is confirmed by Ebeling's text KAR 203, IV, 20 "TIN.TIR, a drug for NIM.NIM (=zumbé, flies), to be pounded and anointed in oil.

Ll. 26, 27 see p. 27.

Ll. 28-30, see pp. 23. L. 28

shows that my first reading for 𒌆 9B, l. 2 was probably right.

Ll. 31-34 restore p. 25, 𒌆 9BU, BV

35.	u ŠE ^① BAR	u ud- ta- tu
	u ŠE. GIG	u ki. ba- tu
	u ŠE. BA. RA	u šu- ' ,
	u ŠE. BA. ' . RA	u ditto

① K. 4588, PL. 32 and K. 8846, PL. 31 omit ~~u~~ down to l. 45.

	u ŠE. GÚ. ŠA. HAR. RA	u kiš-še-ru
40	u ŠE. GÚ	u kak-ku-u'
	u ŠE [GÚ] DÙ	u ditto
	u ŠE kak-ku-u	u(?) ab-ba(?)
	[u ŠE].GÚ. GAL	u[hál]-lu-ru
	[u]ŠE ap-šu <-an-gu	u[làl(?)]-la-an-gu
45	[u]ŠE làl(?) . la-an-gu	u šal(?) -me(?) -ru
	[u ŠE]. ŠIŠ	u . . . -su
	[u]ŠE. KUD. DA	u . . . -tu
	[u]ŠE ar.zik	u . . . -nu
	[u]ŠE. LI. A	u . . . -gu
50	[u]ŠE. IN. NU. KA	u [in-nin]-nu

(LL. 51-55, cf. K.8846, PL. 31, U. 9 ff.).

For "uddatu" and "kibatu" see § 74. For "šu" "spelt" see § 10 CO, p. 125. "Kiššenu, obviously ~~KLNS~~ viciae spec. impr. Ervilia (Lów no. 170), the Ar. kishna (v. nissoliana, Thuill.) of Ainsworth (Assyria, 35) prop. the Pers. of Lów, p. 228, (كشني) = ايسو (for the r with š, cf. 𐎠𐎢𐎽, kussu, 𐎠𐎢𐎽). "kakkû (if correct) might be 𐎠𐎢𐎽 "beans" (?), i.e. kakkum. Cf. 𐎠𐎢𐎽 erwum. For "halluru" see p. 207. "ŠE. LI. A cf. "LI. A = dišu, p. 1. "ŠE. IN. NU. KA see p. 208.

2. A Note on LA, ~~𐎠𐎡𐎢~~, and Lurmu^{ku}

LA is used (a) of 'nurmû, "pomegranate", being applied to eyes (AM 12, 6, 8), kabartum (74, 1, 16) : for umšatum (17, 5, 9) : otherwise (66, 6, 8 : 74, 1, 21, iii, 16). It must obviously be the rind or pericarp so much valued for its astringent properties (PC XIX, 129), frequent in SM (see Index II, 784).

But what, then, is LA ~~𐎠𐎡𐎢~~ G.A. ŠIR.HU (= lu-w. mu(?), SAI 4355)? It occurs 16 tt. in AM. It is drunk for kidneys (39, 6, 9 : 39, 9, 3), for dyspnoea (59, 1, 15, 16, 26, 34, 41 : 60, 1, 5, 7, 9, 12, 14, 19) : drunk (58, 4, 11) : uncertain use (31, 1, 6 : 2 shekels, 62, 1, IV, 8). Clearly

it means literally "rind (=shell) of the egg of the lurmu-bird", Thureau-Dangin (Rituels accadiens, 784) having shewn that ~~𐎠𐎡𐎢~~ = "egg". Obviously the hard rind (LA) of the pomegranate represents the shell of an egg in such a passage.

At first sight, however the medicinal use of bounded egg-shells — to assuage some breathing-trouble does not seem plausible and yet, thanks to Ibn Beithar (392) the problems were settled at once: "the shell of an ostrich-egg pulverized as it is, without burning, mixed with honey and taken as eclegma is good against pleurisy". From this, then, it is but a step to see "ostrich"

in lu-ur-mu(?)^{Ru}. CT XIV, 47, 35503, r.3-4 gives

karpatu A.ŠIK^①.GA.ŠIR.HU = "lu-ur-mu(?)

karpatu A.ŠIK^① HU = "iṣ - sur

i.e., the equivalent almost for egg-shell china.

The ostrich. The ostrich was common in Assyria (Xenophon, Anab., 1,5), and the shells of its eggs have been found on ancient sites (e.g., Bahrain, Bent, Proc Royal Geographical Soc., N.S., XII, 1 ff.).

With the equivalence *lurnu* = "ostrich" as very probable, we can reasonably see its philological counterpart in *לרנ* "ostrich". Initial *n* varies with *l* (*lardu*, *nard*); *r* varying with *ayin* we must attribute to the difficulty of pronouncing a borrowed(?) word.

LA thus means "rind", "shell" (of egg), "almond(?) shell." Cf. "ṣe of ^{rind?} shell (LA) of *styrax," apply (p. 136), the styrax fruit being a dry drupe.

Lipū LAMUN ("fat, shell (of?) salt) occurs 18,10,7

For an interesting use of *𐎶𐎺𐎠* "egg" cf. AM 17,5,2 *𐎶𐎺𐎠* *kinni ša ina irṣiti tab. ku* "an egg (from a nest) which has been laid (?) on the ground"

— 0 —

3. A note on Johns' ADD, IV, 35, *musagilâte*.

This indicates an area in identifying the estate in ADD I, No 383, l. 8. With our equivalence "*sagilatu* =

𐎶𐎺𐎠 an alkali plant (p. 116) it must mean "fullers", i.e.,

① the fullers' field as in *𐎶𐎺𐎠* Ki, 17.

② The Assyrian is unknown; is there any relation between A.ŠIK (after being taken into Assyrian?) and *𐎶𐎺𐎠* "testicles", parallel to Arab. *šū* "egg" and "testicle"?

- P. 32. "ELPITU: cf. ni-i-mu = el-pi-e-tum
CT XVIII, 3, VII-VIII, 36 and 16, Rm 346 obv 10.
One meaning for نيم is "wood of which arrows are
made".
- P. 53. "EL = "flesh of serpent's head", p. 252.
- P. 77. On the difficulty of identifying *fiarubu*, cf.
καίω κορά ὄσφρακτα, Löw, p. 139.
- P. 93, Last line: delete "This may account for its
rarity in syllabaries."
- P. 106. For pindû, cf. Holma, KB, 16, a skin affection.
- P. 117, l. 16 for lahlahi ŠAR read lahlahi ŠAR.
Possibly compare 𐎠𐎢𐎠𐎢𐎠 Portulaca oleracea.
- P. 137. Add to l 6 ("UD = the white plant), explained
on p. 261, l. 14 as "ša-mu pi-su-u.
- P. 145. ŠIM. GIG, CT. XVIII, 3, VIII-VII has also the values
(26) i-ta-ni-it-tim and (27) i-ti-ik-ni-tim.
- P. 175. For iKIB CT. XVIII, 3, VIII-VII, 21 gives u-ni-it-ku

ADDITIONAL NOTE TO iNURMÛ, p. 176.

Some time after I had satisfied myself that
nurmû and not armânu was "pomegranate" I
received definite confirmation from an unexpected
source. Mr. C. J. S. Thompson, the Curator of
the Wellcome Medical Museum (Wigmore St.),
kindly showed me a late Babylonian contract
(No. 16780) for a colla-rette, a rough picture
of the ornament being scratched on the reverse.
I was much pleased to find that the colla-rette

was composed of pendants obviously pomegranates. I append a rough sketch of two of these as the Babylonian owner ^{or scribe} had drawn them. The text at once proved my identification:

l. 2 mentions XLI nu-ur-ma hurasi, the "41 pomegranates" of gold on the collarette.

The pomegranate was a common form of pendant in Assyria: I add a sketch of Nos 32, 33 in Case

D, Room IV, (Assyrian) in the British Museum.



PP. 13, 17, 73, 75.

KUŠAKKU?

[Ku?]šakku, p. 13, l. 232 very doubtful. "Kušakku is certainly ^{almost} a due equivalent for the "great thorn of Canaan" (Pl. 46, Rm. ii, 203, 9). P. 17, l. 321 "ku[šakku] appears to be confirmed by p. 261, l. 12, (kiššutum)

P. 135.

NU.LUH.NA

Note in regard to the yellow dye that the Θάψιδ brought from the Island of Thapsos was used for dyeing yellow (Liddell and Scott, Dict., s. v.). The Thapsia of Diosc. appears to have been Thapsia Garganica (Pc. xxiv, 282): T. Silphium is another of the same order (Umbelliferae). See Löw, No 118.

OLIVE (= 'Elammaku?)



PP 132, 191.

A note should be added about the presence of the Olive in modern Assyria. Anah, and Taulk and Tuz Khurmati represent the farthest southern point in Mesopotamia (see Olivier, IV, 202 Ainsworth, Assyria, 495, etc.). E. S. Stevens, By Tigris and Euphrates, mentions them (p. 175, and cf. 180ff) after leaving Al Kosh on a journey from Mosul. But the olive is not common on the flats S. of Mosul, as far as I remember. It is possible that elammaku (= ἔλαιος ??) is the olive. See p. 185.




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LIST OF ABBREVIATIONS.

ADD = Johns, Assyrian Deeds and Documents.
 AF = Zimmern, Akkadische Fremdwörter.
 AJSL = American Journal of Semitic Languages.
 AM = my Assyrian Medical Texts. AY. =
 Arabic. Arch. = Archiv f. Geschichte d. Me-
dizin. BA = Beiträge z. Assyriologie.
 Bab.-Ass. = Meissner, Babylonien und Assyrien.
 BE = Babylonian Exped. of Pennsylvania.
 BFO = Boissier, Flora Orientalis. BMP =
 Bentley and Trimen, Medicinal Plants. BP =
 Bostock's Translation of Pliny. Br = Brün-
 now, List of Cuneiform Ideographs. Brock,
 = Brockelmann, Lexicon Syriacum. Chesney,
Exp. = Chesney, Expedition. CBG = Gilbert-
 Carter, Cambridge Botanic Garden. CT =
Cuneiform Texts from Babylonian Tablets.
 Culpeper = Culpeper, English Physician. Del.
 = Delitzsch, (Assyrische Handwörterbuch).
 Dict. = Dictionary. DA = Boissier,
Documents Assyriologiques. DB = Hastings,
Dictionary of the Bible. Diosc = Dioscorides,
 (ed. Sprengel). Div. = Boissier, Textes
Aurinatrices. D.T. = Jastrow, Dictionary
of the Targums. Dup = Duplicate. EB = Encyclopa-
edia Britannica, XIth ed. EF = Forskål, Flora Aegyp-
tica. EP = Theophrastus, Enquiry into Plants. EXT = external
 FH = Flückiger and Hanbury, Pharmacographia. FHS = W.T. Fer-
 nie, Herbal Simples. FTP = Temple, Flowers and Trees of Pal-
-estine, Forskål (see EF). Gerarde = Herball (1597). Getr. =
 Hrozny, Das Getreide. GGA = Göttingische Gelehrte Anzeigen

GM = Gillet et Mame, Flore Française. Harper = R. F. Harper, Assyrian and Babylonian Letters. HBF = Bentham, Handbook to British Flora. HDB = Hastings Dictionary of the Bible. Hdt = Herodotus. Herz(f) = Herzfeld, OLZ, Beihefte II. HKB = Holma, Kleine Beiträge. HPP = Henslow, Poisonous Plants. HRT = Langdon, Histor. and Religious Texts. HS = Fernie, Herbal Simples. HWB = Delitzsch, Assyrische Handwörterbuch. IB = Ibn Beithar (Leclerc, Notices des Manuscrits xxiii, xxv, xxvi). Ident. = Identification. INT. = Internal (ly). IMP = Kankoba Ranchoddas, Indian Medical Plants. ISA = Thureau Dangin, Inscriptions de Sumer et Akkad. JAOS = Journal of the American Oriental Society. JHC = Johns Hopkins Circulars. KAR = Ebeling, Keilschrifttexte aus Assur (Religiösen Inhalts). KB, Schrader, Keilinschriftliche Bibliothek. (see also HKB). Kü. = Küchler, Beitr. zur Kenntnis d. Assyr.-Babyl. Medizin. (i = K. 191. ii = K 71 B. iii = K. 61). Lane = Lane, Arabic Dictionary. Löw = Löw, Aramäische Pflanzennamen. M²⁰⁴, M¹³ = Meissner, in MVAG, 1904, 1913. MA = Muss-Arnolt, Assyrian Dictionary. Maglu = Tallqvist, Maglu. MB = the plants in Merodach Baladan's Garden (CT XIV, 50). Mod. = Modern. MVAG = Mittheilungen d. Vorderas. Gesellsch. (N) = New Identification. Neb. = Strassmaier, Inchriften Nabuchodonosor. NH = Pliny, Natural History (ed. Bostock). NHW = Levy, Neuhebr. Wörterbuch.

LIST OF ABBREVIATIONS

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O.T. = Old Testament. OLZ = Orientalische
Literaturzeitung. PBE = Babylonian Exp.
of Pennsylvania. PC = Penny Cyclopaedia.
P. = Squire, Companion to the British Pharma-
copæia, 1908 ed. PL = Plate number in CT, XIV.
Post = G.E. Post, Flora of Palestine. PRSM =
Proc. of the Royal Society of Medicine. PS =
Payne Smith, Thesaurus Syriacus. PSBA =
Proc. of the Society of Biblical Archaeology.
R = Rawlinson, Cun. Inscr. of W. Asia. RA = Revue d'Assy-
riologie. Re-ex. = re-examined. RT = Recueil
de Travaux. SAI = Meissner, Seltene Assyrische
Ideogramme. SH = Sarre and Herzfeld, Archäo-
logische Reise. Sem. Mag. = my Semitic Magic.
SM = Budge, Syriac Book of Medicines. S.V.
= sub voce. TA = Tell el-Amarna.
VK = Rhind, Vegetable Kingdom. Von
Opp. = Von Oppenheim, Vom Mittelmeer zum
Persischen Golfe. WPI = E.J. Waring, Pharmacopæia
of India. WBMI = E.J. Waring, Bazar Medicines
of India. ZA = Zeitschrift für
Assyriologie. ZK = Zeitschrift für
Keilschriftforschung.

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