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# Encyclopaedias and Commentaries

**Abstract:** This paper looks at how empirical knowledge was assembled and interpreted in Babylonian academies and investigates two Neo-Assyrian plant lists: KADP 2 and KADP 4. These two lists are not simple collections of scholastic information but represent examples of theoretical botany and pharmacology. It is suggested that KADP 4 is a kind of proto-commentary, in which glosses represent keywords for hermeneutical elaborations. The paper concludes with an annotated transliteration and translation of KADP 4.

## 1 Introduction

The theme of empiricism (or better pseudo-empiricism) poses major challenges for Mesopotamian science, since it remains unclear how Babylonian scholars actually gathered data, with the exception of astronomical observations. Every recipe – and by this I mean medical recipes, cooking recipes, glassmaking recipes, mathematical riddle-problems, magical rituals, and even grammatical rules – all leave us in the dark about the processes which lead to the particular formulations which are found. We can posit some kind of haphazard trial-and-error process extending over millennia,<sup>1</sup> out of which mostly bogus notions of causality emerged, but this was true of Greek science as well: we know about arguments, analogies, and logic, but little about how empirical data were collected and sorted.

One potential new avenue of inquiry is to examine this problem from a somewhat different perspective, to see how empirical knowledge as such was assembled and then later interpreted in Babylonian academies, at a time when commentaries were becoming an established genre; the underlying assumption is that the lists provided some kind of hermeneutic function beyond being collections of data.

This quest is somewhat constrained by the norms of the discipline, in which terms such as ‘school texts’ and ‘scribal schools’ are used, without differentiating between primary schools and advanced institutional training in higher academies

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<sup>1</sup> See Nutton 2004, 148, for the use of trial and error within the Empiricist school of Greek medicine. See also Bottéro 1974, 193, in which he concludes that sophisticated scientific thinking in Mesopotamia paved the way for Greek science, by arguing for analytical deductive logic in Babylonian divination. Nevertheless, despite Bottéro’s extensive and comprehensive treatment of divination as representing scientific thinking, it is difficult to escape from the *post hoc ergo propter hoc* fallacy judgment which always comes to mind when one reads the omen literature (see Bottéro 1974, 165).

of learning, if such institutions indeed existed.<sup>2</sup> Although the extant cuneiform record represents the work of pupils in scribal schools copying ‘lexical texts’ as expressions of rudimentary lexicography or *Listenwissenschaften*,<sup>3</sup> it is more difficult to form a picture of the ‘learned men of the country’, to use Jack Goody’s phrase, who composed works of ‘lexicography and grammar, encyclopaedias, divination, mathematics, medicine, as well as jurisprudence’.<sup>4</sup> On the basis of present evidence, it may be reasonable to assume that Babylonian *Listenwissenschaften* lacked the logic of Greek scholarship, even in periods when Babylonian and Greek *savants* were contemporaries.

Nevertheless, there is certainly need for some revision here. The term ‘school texts’ should be revised to ‘academic texts’, since many exhibit high standards of scholarship, as we will see. As for the key role of ‘lexical lists’ within an oral academic culture, these should rather be regarded as ‘keywords’ or ‘lemmata’, as the bases for discussion or recall of information. If we think of the lists in this way, and then consider the enormous breadth of subjects they encompass, from grammar to philology to lists of *realia*, legal forms, etc., this brings us closer to the idea of an encyclopaedia, namely an orally transmitted collection of information which tries to define *all* knowledge, or the totality of what is known.<sup>5</sup> The structure of the lists or lemmata divides itself into various categories, but the actual logic within each category is rather free and associative, as is typical of an ancient encyclopaedia. In this respect, the Babylonian Talmud serves as a relevant model, as an essentially orally related collection of academic learning organised into six fixed subject headings (agriculture, festivals, women, torts, cultic practices, and purity laws), but within which the actual logic of the internal discussions was free and even somewhat random. Fortuitously, the Talmudic discussions were recorded, after a fashion. In Babylonian schools, while the main curriculum texts were written down, the commentaries and exegesis were mostly oral, and only in later periods do written commentaries appear and these often only containing the keywords behind the oral hermeneutics.

Let us look at an example of how this system would have worked by examining a rather banal extract, chosen at random, from a lexical list, Hh V, giving various

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<sup>2</sup> Jack Goody (1987, 75) has brought Bottero’s discussion of the ‘mandarins’ who invented Mesopotamian science into a broader arena; Goody (1987, 75) gives the following translation from Bottéro (1982, 426): “These mandarins, grouped together in schools and academies around palaces and temples, began very early to interest themselves in a certain range of phenomena, to study them and to compose works that one can hardly call anything except ‘scientific’.” Goody adds that these texts “were copied, studied endlessly, adapted, enriched and republished until shortly before the beginning of our own era”.

<sup>3</sup> Veldhuis 1997, 137–142; Gesche 2000, 81–146.

<sup>4</sup> Goody 1987, 75.

<sup>5</sup> Again Bottéro grasps the point (1974, 101), describing divination as “une sorte d’encyclopédie divinatoire par les aléas de la vie quotidienne, centrée sur l’homme et ses conditions de vie, urbaine, sociale, familiale, son environnement, ses travaux et ses jours”.

terms for ‘plough’. What could be more basic than a ‘plough’ (Akk. *epinnu*)? The text at first glance appears to be aimed at younger students.

LTBA I (= Hh V) col. iii

5' <sup>giš</sup> apin	<i>e-pi-[in-nu]</i>	‘plough’
6' <sup>giš</sup> apin zu	<i>mu-še-<sup>r</sup>lu<sup>7</sup></i>	‘winnower’ (plough)
7' <sup>giš</sup> apin zu-zu	<i>mu-še-lu-<sup>r</sup>u<sup>7</sup></i>	‘winnower’ (plough)
8' <sup>giš</sup> apin zu	<i>tal-mi-[du]</i>	‘learner’s’ (plough)
9' <sup>giš</sup> apin zu-zu	<i>tal-mi-[du]</i>	‘learner’s’ (plough)
10' <sup>giš</sup> apin šu	<i>ga-di-<sup>r</sup>bu<sup>7</sup></i> (var. <i>agadibbu</i> )	‘hand’-plough

However, after a closer inspection, the picture changes. The *apin zu(-zu)* or *mušelû* type of plough literally digs (or ‘raises’) things up. But Akk. *mušelû* also designates a profession, e.g. one who ‘winnows’ (lú.še.bal, lit. ‘one who digs up the barley’), or alternatively a ‘lower-order winnower’ (lú.še.bal.ki.ta), or even a ‘doorkeeper’ (sukkal i.du<sub>g</sub>), who keeps out (‘winnows’) the riffraff. The Sum. term lú.še.bal, also translated by Akk. *mušelû*, may in fact refer to a person involved with trade or loans, being terms which employ the same Sum. expression; perhaps the lú.še.bal is one who ‘raises’ the price of things through loans and trade.<sup>6</sup> A *mušelû* can also bring up ghosts and hence defines the ‘necromancer’ (lú.balag.gá / bulug.ga). Equally intriguing in the Hh V passage above is the *talmīdu*-plough, unconvincingly rendered by the dictionaries as a ‘learner’-plough. The point is that these definitions in Hh V are quite sophisticated, since they can be expounded in either direction (from Sum. to Akk. or vice versa): a good *talmīdu* or student, for instance, is one who ‘ploughs’ his tablets, raising important questions, winnowing out the banal and incorrect data. Whatever the case, we lack the brilliant or perhaps fanciful hermeneutics of the local *ummānu*, whose job it was to explain these seemingly dry lifeless texts. In essence, without the exegesis, our texts are skeletons without flesh, but at least we should be aware of what we are missing.

## 2 Reconsidering the plant lists

Let us now consider another brand of *Listenwissenschaften*, namely plant lists, for which we still impatiently await Franz Köcher’s edition of Uruanna, although many

<sup>6</sup> Based upon a literal meaning of Sum. še.bal, to ‘exchange barley’. Cf. Nabn. xvi 104–106 (MSL 16 106), which has the following entries:

bal = *šu-pe-lu ša sal* (= *mimma*) (‘exchange’ of whatever)  
 šu.bal = *min ša sal* (= *mimma*) (‘ditto’ of whatever)  
 še.bal = *šu-pel-tum* (‘exchange, trade’)

years have already passed since his death. What interests us are two Neo-Assyrian plant lists coming from the famous *Haus des Beschwörungspriesters* in Assur. One text, published by Köcher as KADP 2, is a 6-column tablet in which each column is subdivided into two lists of plants, while the second tablet, published by Köcher as KADP 4, is a single column tablet which can easily be held in the palm of the hand; in fact these two tablets were probably written by the same scribe. Both plant list tablets exhibit the normal pattern of such texts, i.e. a plant name in the left column corresponding to a plant name in the explanatory right column, although this is not always the case, as we shall soon see.

The thing about plant lists is that they always look so uninteresting. KADP 2 is a case in point: duplicate names for plants, with some designated as coming ‘from the mountains’,<sup>7</sup> while other plants are clearly of foreign origin, judging by their names; the right-hand column informs us that these plants are Kassite, Subaraean, and Guti plants,<sup>8</sup> even though these geographical designations were not current at the time this tablet was being copied and read in Assur. Noteworthy is a little gloss on the final plant, from Marhaši, which says that the plant is ‘not known’ (*la idû*), but to whom? One would ideally like to know for whom this gloss was intended.

The second smaller tablet, KADP 4, which can be held in the hand, is full of such little glosses throughout. An initial glance at the glosses in KADP 4 invites one to believe that the scribe was a young inexperienced student who needed to crib before reading his tablet out in class. But after collating the tablet, things look rather different.

A closer look at the glosses shows that some are purely phonetic,<sup>9</sup> such as in ll. 5 and 6, in which the same logogram URU is normalised with either *iri* or *ru*, depending upon whether the word is to be read as Akkadian or Sumerian.<sup>10</sup> Many of these phonetic glosses appear to be banal, but not always, e.g. the úkuš-cucum-

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Cf. also Nabn. 17: 82–84 (MSL xvi 82–84):

šu.lá = *qi-ip-tum* (‘loan’)  
 šu-pe-el-lá = ”  
 še.bal = ”

7 KADP 2 i 5–8

‘ú’ *e-li-lu* ú min *šá kur-i*  
 ú *ugu-kul-la* ú min *šá kur-i*  
 ú *in.nu.uš* ú min *šá kur-i*  
 ú *sikil* ú min *šá kur-i*

8 KADP 2 i 31–35:

ú *ha-ši-bur* (*hašimbar*) ú min *Kaš-ši-i*  
 ú *ka-bit-ti-gal-zu* : ú min min  
 ú *su.ug.su.ug.bar* : ú min *Su-bar-ri*<sup>7</sup>  
 ú *til-la-a-kur-ta* ú min *Gu-ti-i*  
*za-mar sa-mu* : min *ár-qu* : ú min *šá Mar-ha-ši* (gloss: *la i-du*)

Note the gloss on the last entry above.

9 See KADP 4 i 30 (coll.).

10 KADP 4: 5. See also Uruanna I 183.

ber is glossed as *akšû*, an unexpected variant.<sup>11</sup> Similarly, the reading of the stone name <sup>na4</sup>sal.la is confirmed by the phonetic gloss /sa/,<sup>12</sup> although other possible readings of this stone name could be <sup>na4</sup>gal<sub>4</sub>.la or <sup>na4</sup>šal.la, both ruled out by the gloss.<sup>13</sup>

More intriguing, however, is the gloss *šumeru* repeated throughout, indicating that an entry is to be read as Sumerian and not normalised as Akkadian. It at first appears that the scribe was so new to this game that he had to remind himself that simple words, like *gir.pad.du*, were Sumerian logograms,<sup>14</sup> and he glosses *nam.lu.u<sub>18</sub>.lu* as *amēlūtu*, ‘mankind’,<sup>15</sup> which any beginner ought to know. But later in this text, the same logogram *nam.lu.u<sub>18</sub>* is glossed as *šumeru*, while in the explanatory right-hand column *Sum. lú* is glossed with *amēli*, ‘man’.<sup>16</sup> The best clue to what is actually happening comes from glosses on the plant name *níg.gidru*, a term which is commonly rendered in Akkadian as *hatti re’i* or ‘shepherd’s crook’-plant, but it is clear from the glosses that the plant name is to be read as a logogram, perhaps as the *niggidrū*-plant,<sup>17</sup> and not as *hatti re’i*. In other words, the gloss *šumeru* is not elementary or naive, but gives a judgment as to how the plant name is to be read, whether to be normalised into Akkadian or to remain in its Sumerian logographic form.

But does this scribe know Sumerian? More intriguing is KADP 4 15, in which the explanatory right-hand entry is *murrar ša šatturi*, a bitter plant for the womb, but the tiny gloss, explaining the actual use of this plant, reads: *numun tu dumu*; although not very transparent, the scribe was being clever in abbreviating the Sum. phrase *nu.mu.un.tu dumu*, ‘(a woman) who cannot bear a child’. There is little doubt that the scribe understood at least rudimentary Sumerian.<sup>18</sup>

So these glosses show the text to be more than just a simple list, which in any case contains allusions to other texts. One example is the equating of the yellow-green *illuru* plant with *šumuttu*-plant, described as a ‘plant against haemorrhage’.<sup>19</sup> In fact, this description probably comes directly from rectal disease texts, which equate anal bleeding with menstrual bleeding; the same word *nahšātu* ‘haemorrhage’ is used in these recipes, with a principal drug against haemorrhage being *šumuttu*.<sup>20</sup>

11 KADP 4 39: ú.úkuš (gloss: *ak-šú-u*) rather than the usual reading of the logogram /úkuš/ as Akk. *qišsu*, ‘cucumber’.

12 KADP 4 52.

13 See Schuster-Brandis 2007, 442, ‘die Lesung des Steinnamens is bislang unbekannt.’

14 KADP 4 29.

15 KADP 4 25.

16 KADP 4 56. See also MSL 9 38.

17 KADP 4 11 and KADP 4 29.

18 The same orthography of /numun/ as a verbal prefix also occurs in late Graeco-Babyloniaca texts, cf. Geller 1997: 76, No. 11: 5.

19 KADP 4 14: ú<sup>ur</sup>ninda<sup>7</sup> sig<sub>7</sub> = úš<sup>u</sup>-mut-tú ú šá na-ah-šá-te.

20 See BAM VII No. 22 iii 14. Another rectal disease recipe recommends *šumuttu* for haemorrhaging (*nahšātu*, cf. BAM VII No. 35, 19–23, 36: 2–7).

Citations from other texts within this plant list are equally illuminating. The expression *zamar sāmu zamar aruqu*, ‘suddenly red, suddenly green’ (KADP 4 8), referring to colour changes in plants under unspecified conditions, occurs in therapeutic recipes.<sup>21</sup> This chameleon-plant is identified as the common garden-variety <sup>ú</sup>*aktam*, but the list then specifies that ‘they also call it *turazu*-plant’.<sup>22</sup> This latter phrase looks similar to commentary phraseology, which is hardly surprising because of the similarities between certain kinds of *šātu*-commentaries and lexical lists.<sup>23</sup>

Some of the more interesting entries in KADP 4 describe a plant on which a gecko is lying in the bright sun, and we are then given the plant’s name and told that it is good for a barren woman (see the edition of KADP 4, lines 36–37 below); two other types of plants are also described as sought out by geckos and crows, presumably as favourite haunts (see KADP 4, lines 38–39 below). These entries have parallels in the longer six-column tablet (KADP 2), which provides supplementary data.<sup>24</sup> It is clear that these lines are explanatory and do not quite fit the standard two-column layout of the plant lists, and in fact these phrases read rather like a citation from Šammu Šikinšu, an explanatory list which describes general botanical characteristics, with reference to a similar plant, and then gives the plant name.<sup>25</sup>

A list of stones in KADP 4 looks fairly standard until one notices stones which turn out to be calculi emitted from human bodies and subsequently used as *materia medica*. One such ‘discharge’ (*mušu*)-stone (l. 54) is glossed as ‘female’ (Akk. *sinnišu*), while the same stone is later given as coming from the penis.

One point now seems clear: a boring plant list is it anything but. The real question is what is behind the relationship between these two texts: KADP 2 and 4.

<sup>21</sup> AMT 86, 1 ii 12

<sup>22</sup> KADP 4 8: <sup>ú</sup>*za-mar sa*<sub>5</sub> (gloss below: *sa-a*) *za-mar sig*<sub>7</sub> (gloss above: *a-ru-[q]u*) = <sup>ú</sup>*ak-tam tur-azu du*<sub>11</sub>.ga.

<sup>23</sup> See generally Frahm 2011, 48 ff.

<sup>24</sup> KADP 2 v 36': *šam-mu ina muh-hi-šú a-ri-bu ra-ab-šu ú ak-tam šam-mu-šú*, ‘the plant on which the raven settles and the name of which is *aktam*'. In l. 40, we find a closer duplicate to the sun-bathing gecko, but with a more descriptive context in KADP 2 v 40'–45':

*šam-mu ina muh-hi-šú muš.dím.gurun.na*

*ra-ab-šu* : *ú ša-hat eme.ur.gi<sub>7</sub> ina* <sup>ṛ</sup>*muš*<sup>ṛ</sup>

*a-na šà.zi.ga sig súd ina* *ì šéš-šú*

*šam-mu ina muh-hi-šú muš ik-ta-na-a-nu*

*ú aš* <sup>ú</sup>*pi-in-zi-ir mu-šú*

*a-na pu-luh-ti sig<sub>5</sub> súd ina* *ì šéš-šú*

‘The plant on which the gecko settles: the plant of “a dog’s awe before a snake”, good for impotence, pound it and rub (it on) in oil.

The plant on which the snake coils, its Deckname is *pinzir*,

it is good against angst, pound it and rub (it on) in oil’.

<sup>25</sup> See Stadhouders 2011.

On one hand, the six-column tablet (KADP 2) comes from an Assur archive, not a library; the tablet was probably for the private use of an Assur scholar, either for teaching or study purposes. One might conclude that this large tablet is part of a compendium of plant-lore, which associates one kind of plant with another, perhaps as if they shared some of the same properties. KADP 2, however, does not appear to represent a mechanical copy of a standard or canonical Uruanna plant list, since many of the entries are explanatory and differ from other texts of this genre.<sup>26</sup> What is most striking is that these are not the plants which usually appear in therapeutic prescriptions or were used in the actual practice of medicine. It is surprising how few of the plant entries match the usual *materia medica* encountered in medical texts and how unfamiliar most of the plant names of KADP 2 and 4 are to therapeutic medicine. Both tablets consist of mostly exotic plants, some imported, which describe theoretical botany and pharmacology, but these tablets were not actual inventories of healing drugs. So these lists raise many more questions that only the *ummânu* could have answered, as part of his orally transmitted encyclopaedia of plants and minerals.

On the other hand the smaller tablet (KADP 4) from the same archive is full of minute glosses, as if commenting on the larger tablet. We must remember that we are back in eighth-century Assur, before commentaries became a well-established academic genre, and that KADP 4 is a type of proto-commentary in which glosses represent keywords for hermeneutical explanations which we otherwise lack. This same system of glosses was later expanded into commentary texts but with a similar idea, that keywords systematically alluded to longer and more detailed explanations and comments.

Encyclopaedias and commentaries: we recognise these genres later on the Babylonian Talmud and elsewhere. It would be a good idea to begin to put this data together, to see how Babylonian *Listenwissenschaften* reflect the orally transmitted process of assembling, sorting, and explaining the world around us.

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<sup>26</sup> We will know better when Köcher's edition of Uruanna is finally published.

## Appendix

### KADP 4

#### Transliteration

	col. i		col. ii
1	[údu]h <sup>tu</sup> -lâl <sup>l</sup> 27		úmaš-ta-kal
2	ú <sup>r</sup> e <sup>r</sup> -li-la		ú min šá kur-i
3	úina. <sub>tâl-lî</sub> úš		úmaš-ta-kal
4	úan.ta.ki.ta		šá-ki-ru-u <sup>28</sup>
5	úuru <sub>i-ri</sub> -ia-nu <sup>29</sup>		úur-ṭu-u
6	úuru <sub>ru</sub> .ti.la <sup>30</sup>		úha-ru-bu
7	úa-ri. <sup>bu</sup> hu <sup>31</sup>		úillu šar-bat
8	úza-mar sa <sub>5</sub> sa-a za-mar sig <sub>7</sub> <sup>a-ru-[q]u</sup> 32		úak-tam tur-a-zu du <sub>11</sub> .ga <sup>33</sup>
9	úhab-ši-lu-ur-ga <sup>34</sup>		úmin nim. <sup>e-lam5-</sup> ki <sup>e</sup>
10	úti-la-a-kur-ta <sup>35</sup>		ú min Gu-te <sup>1e</sup> 36
11	ú sa-sam- sa <sub>5</sub> <sup>ru</sup> mu <sup>37</sup>		úníg šu-me- gidru <sub>ru</sub> 38

27 Not *iškūru* wax (the usual reading) but *tuhlu* / *tuhlam*, cf. KADP 2: 1–3 (= Uruanna I 3f.):

[ú in.nu]. <sup>r</sup> uš <sup>r</sup>	ú mal-ta-kal (coll.)
ú kur.ra <sup>r</sup>	min (also KADP 2: 5, <sup>r</sup> ú <sup>r</sup> e-li-lu      ú min šá kur-i)
ú <sup>r</sup> tuh-la	min (also KADP 2: 7, ú in.nu.uš      ú min šá kur-i)

28 This plant also occurs in KADP 2 11–15, but together with other plants identified as *šakirû*:

ú <sup>d</sup> šá-maš	ú šá-ki-ru-u
ú ár-zal-lu	ú min
ú ár-za-zu	ú min
ú an.ta.ki.ta	ú min
ú šakira	ú min

29 For the plant *iriyannu* corresponding to *urṭû*, and subsequent plants, cf. KADP 2 24–27:

ú a-ra-ri-a-nu	ú ur-tu-u
ú <sup>r</sup> e <sup>r</sup> -ri-a-nu	ú min
ú uru.til.la	ú ha-ru-bu
ú a-ri-hu	ú illu šar-bi-te

30 Cf. Uruanna I 183. For the meaning of the gloss, see the discussion above.

31 Cf. Uruanna I 225. The gloss may suggest an alternative reading of a plant *ar'ibu* (Uruanna II 116).

32 The final sign of the gloss (*qu*) actually appears in the right column. Cf. AMT 86,1 ii 12 f., which provides an example of this same phrase within a prescription.

33 This is a single explanatory line rather than two separate entries.

34 Cf. Uruanna III 102.

35 The plant *tillaqurdu* also appears in KADP 2 I 34 (= ú min *Gu-ti-i*).

36 The final e is written smaller as a gloss, and the *te*-sign is written over an erasure.

37 The gloss seems to imply a writing of 'sesame'. Another possibility would be to read the gloss as *sa-ú-mu*, thereby associating this plant with a rare plant name *sa'u*, only known lexically. The plant name could be also be read *sāmu* (for 'red' plant), as glossed in l. 24 below, and in KADP 2 36:

ú sa-mu = ú níg gidru.

38 Cf. KADP 2 36 (ú sa-mu = ú níg gidru), and see the discussion above.

12	ú <sup>l</sup> lu-lu-un <sup>ú</sup> -tu <sub>4</sub> <sup>39</sup>	ú <sup>a</sup> -r <sup>r</sup> -tu <sub>4</sub>
13	ú <sup>š</sup> i-ib-ru	ú <sup>z</sup> i-bu-u
14	ú <sup>r</sup> nínda <sup>r</sup> 40 sig <sub>7</sub>	ú <sup>š</sup> u-mut-tú ú šá na-ah-šá-te <sup>41</sup>
15	ú <sup>r</sup> bu-ša-nu <sup>r</sup> hab	ú <sup>m</sup> u-ra-á[r šá šà.t]úr <sup>numun.tu dumu</sup> 42
16	r <sup>ú</sup> -[i-ru] muš	ú [em]e.[muš] <sup>43</sup>
17	r <sup>ú</sup> ki-ru-u kiri <sub>6</sub>	ú n[i-nu-u]
18	r <sup>ú</sup> maš-ka-dù <sup>44</sup>	ú <sup>el</sup> -r <sup>li</sup> -[bu]
19	r <sup>ú</sup> um-mat <sub>pi</sub> a.šà <sup>45</sup>	ú <sup>pu</sup> -qut-tú
20	ú <sup>h</sup> a-hi-in	ú min
21 <sup>46</sup>	min ú <sup>h</sup> i-me-ti	ú <sup>ni</sup> -nu-u
22	min ú <sup>q</sup> é-reb a.ab. [t]um- ba <sup>ra</sup> 47	ú <sup>ka</sup> im- a.ab. bu- ba 'u ti-am-ti
23	min ú šal mi <sup>48</sup>	ú <sup>š</sup> akira
24	min ú sa-mu sa <sub>5</sub>	ú <sup>d</sup> i-ik-me-nu
25 <sup>49</sup>	nu ú in-bu gurun	kúr aš šir <sup>š</sup> ir nam.lú.u <sub>18</sub> .lu a-me-lu-tú

**39** The ú-gloss suggests a phonetic reading (*luluttu* or *lulútu*).

**40** See l. 28 below, glossed as *illüru*.

**41** Cf. KADP 2 ii 13–16:

ú nínda sig <sub>7</sub>	: ú šá-ki-ru-u šam-mu ni-šik ur.gi <sub>7</sub>
ú min	ú min šam-mu ni-šik muš
ú min	ú šu-mut-tú šam-mu na-ah-šá-ti

The parallel text gives this plant as a remedy against dog and snakebite as well as haemorrhage.

**42** KADP 2 ii 19 (= Uruanna 400). See however CAD M/2 218 and 220, suggesting an alternative plant *murrānu* (equivalent in lexical texts to ú.šà.tur), but *murrānu* actually has other logograms (<sup>giš</sup>ma.nu, etc.) not relevant to this context and the designation ú.šà.tur probably refers to its gynaecological applications.

**43** CAD Š 150 cites Uruanna I 469 f., which adds another entry, *lišān kalbi*.

**44** This entry also appears as *aškadu*, a thorny plant.

**45** Another type of thorny plant (*ummat eqli*). The gloss is clear with no shading necessary (as in the copy) and provides an alternative reading, *ummat pi eqli*, ‘weeds(?) at the entrance of the field’.

**46** This and the following lines (22–27) begin with a gloss notation (not in Köcher’s copy), either min (2) or nu (‘not available’). These glosses probably represent the numbers of *Vorlage*-texts which the scribe had use of with these particular entries, ie. either multiple copies or no copy at all. Otherwise, no notation was necessary.

**47** The gloss appears to give *tumru*, ‘ash’, as the opposite of ‘sea’, perhaps suggesting that the algae also look like floating ash. Cf. Uruanna I 664, ú šá-mi qé-reb tam-ti = ú im-bu-u tam-ti.

**48** The šal sign is small, like a gloss, giving the option of reading šal-mu ‘black’, or Sum. <sup>sal</sup>ge<sub>6</sub> ‘black’ with a phonetic gloss šal.

**49** Lines 25–29 represent *Deckname* for *Dreckapotheke*, in this particular case human testicles, human bone, or various types of insects listed, which are all actually secret names for ordinary field and garden plants, as elsewhere in Uruanna III. The gloss /kúr/ on the /aš/-sign (usually interpreted for *pirištu* ‘secret’) could stand for *ahû*, ‘non-canonical’, but this is not certain. This passage will be discussed in a forthcoming PhD dissertation from Maddalena Rumor.

26	min ú <i>eq-li</i> lag.a.šad <sup>(1)</sup>	aš <i>gal-ga-al-ti šá</i> kur-i <sup>50</sup>
27	min ú <sup>giš</sup> kiš <sub>16</sub>	aš min <i>šá hal-li</i> an[še] <sup>51</sup>
28	ú <sup>il-lu-rù</sup> nínda	aš <i>i-šid bu-k[a-ni]</i>
29	ú níg.gidru <sup>šu-me-rù</sup>	aš <i>gir.pad.du</i> <sup>šu-me-rù</sup> [lú]
30	ú <sup>i</sup> gi-lim	ú <sup>b</sup> búr <sup>pa-šir</sup> [kiš-pi uš <sub>11</sub> ] <sup>52</sup>
31	ú útul <sup>1</sup> (text: áb) <i>ar-za-nu</i> <sup>si-ih-pu</sup> <sup>53</sup>	ú[.....]
32	ú <i>aš</i> <sup>áš</sup> - <i>har</i> <sup>ha</sup> zu <sup>ár</sup> <sup>54</sup>	ú <sup>m</sup> [ <i>i-iq-ti ha-am-mu</i> a.meš] <sup>55</sup>
rev.		
33	ú <sup>pi</sup> - <i>ia-pi-ia</i>	ú <sup>r</sup> pi- <sup>γ</sup> x [.....]
34	ú <sup>ul</sup> - <i>mu-a-ru</i> <sup>56</sup>	ú <sup>u</sup> <sub>4</sub> <sup>1</sup> [.....]
35	na <sup>4</sup> <i>hu-ú</i> <sup>ub-</sup> <sub>gir</sub> - <i>ba</i> <sup>numun</sup> <sup>57</sup>	<i>ina</i> sag <sup>qaq-qa-</sup> l[ú <sup>du</sup> gar]
36	ú <i>ina</i> ugu-šú muš.dím.gurun.na <i>ir-tab!-bi-š</i> [u <sup>58</sup> <i>ina</i> ] <i>šá-maš</i> <sup>gi duh</sup> <sup>59</sup> <i>na-me-rù</i>	
37	ú <sup>eme.ur.gir</sup> <sub>7</sub> <sup>šu-me-rù</sup> mu.ni <i>ana</i> munus <sup>sin-niš-tú</sup> nu <sup>la</sup> ù.tu sig <sup>5</sup> <sup>da-me-eq</sup> <sup>60</sup>	
38	ú <sup>sag</sup> [ <sup>i</sup> pi-l-ti] <sup>buru</sup> <sub>5</sub> .meš <sup>61</sup>	uš.meš-šú <sup>re-du-ú-šú</sup>

**50** There may be a pun here on *galgaltu*, ‘hunger’, which might suggest a picturesque name for an insect causing ‘hunger in the hills’.

**51** Another insect, as above?

**52** Cf. Uruanna II 404, ú *kiš-pi pa-šá-ri* = ú *igi.lim*, cited CAD P 237 (with no reference to another source). KADP 2 40 has ú *im-[h]u-ur lim* = ú [...]. This description of the popular *imhur-lim* plant as ‘anti-witchcraft’ may simply confirm its use as a panacea.

**53** The term *sihpu* is synonymous with *quliptu*, ‘barley husk’ (see Hh XXIV 163a–163b, MSL 11, 83). It is likely that the áb-sign here is an error for útul (KAM), a designation of a soup (*ummanu*). Eating barley groats soup (útul ar.za.na) was a topic in dream omens (cf. Oppenheim 1956, 315: 4–8), but also featured in medical recipes (e.g. BAM 123, 5) and barley held a prominent place in Hippocratic regimen, cf. Jouanna 1999, 163–164, both as a soup and cakes.

**54** Uruanna II 341 has ú *aš-har* zu : *mi-iq-ti ha-am-mu* a.meš, cf. CAD M/2 104, presumably referring to an obstruction of a pond or waterway. The glosses *áš*, *ha*, and *ár* are phonetic (for *ašhar*).

**55** This is an explanatory phrase rather than a separate plant entry.

**56** KADP 2 v 30 reads ú *ul* (gloss: *mu*) *a-ru* (coll.), perhaps to be understood as a plant ‘not to be vomited’, with the problematic *mu*-sign kept as a gloss.

**57** The gloss is intended to read *numun kiš<sub>16</sub>*. The second entry is an explanatory phrase defining *hubbu*. Cf. also KADP 2 v 34’–35’:

ú ugu-kul-la      šam-mu a-na ka-šú sig<sup>γ</sup>  
ab-nu hu-bu ina sag.du ‘lú’ gar-an

According to this variant, the *hubbu*-stone is used with the *elikullu*-plant, here described as good for the mouth (or teeth).

**58** See KADP 2 v 40’–41’: *šam-mu ina muh-hi-šú* muš.dím.gurun.na *ra-ab-šu*, but a more detailed description is given in this parallel text.

**59** An altar (*paṭiru*) for incense.

**60** Note that the gloss *šumeru* rejects the reading *lišān kalbi* for the plant name ú.eme.ur.gir<sub>7</sub>, while the remaining glosses normalise all the logograms as Akk.

**61** Perhaps an intended pun on the plant *šēp āribu* ‘crow’s foot’, which may have a variant *lipištu* (Hg. D 215–218 [commentary to Hh XVII] = MSL 10, 104–105).

39	úúkuš <sup>ak-šú-u</sup> muš.dím.	gurun.na uš.meš-šú <sup>62</sup>
40	giš <sup>h</sup> a.lu.úb pi-ṭi-ir <sup>63</sup>	<sup>d</sup> 60 ina id kana <sub>5</sub>
41	giš <sup>g</sup> geštin min	<sup>d</sup> nin.giš.zi.da
42	<sup>r</sup> giš <sup>ṭ</sup> [pè]š min	
43	úsa- <sup>r</sup> ap-šu <sup>64</sup>	ú a-ri-hu mat-qu <sup>65</sup>
44	úninda <sup>r</sup> sa <sub>5</sub> <sup>r</sup> sa-a <sup>ṭ</sup>	úa-ba-at gur- <sub>kur</sub> rú
45	útál <sup>tal?</sup> -tál- <sup>r</sup> la-an-nu <sup>ṭ</sup>	úú- <sup>r</sup> ra <sup>ṭ</sup> -nu
46	na <sup>4</sup> kala.ga <sup>ṭ</sup>	min na <sup>4</sup> pi-i ka gal <sub>4</sub> .la <sup>66</sup> : na <sup>4</sup> níg.sa <sub>6</sub> .ga
47	na <sup>4</sup> ki.nam.an.na <sup>na4-er-rù 67</sup>	na <sup>4</sup> har. ha-ar-mu-nu lum.ba.šir : na <sup>4</sup> šal-ša-at-tú tú
48	na <sup>4</sup> rkišib <sup>ṭ</sup> dše.tir <sup>68 ršá pu-ṭu<sup>ṭ</sup></sup>	na <sup>4</sup> ka-ra-ri <sup>69</sup> na <sup>4</sup> šu-u
49	na <sup>4</sup> zabalam <sup>ki</sup>	mu <sup>70</sup> na <sup>4</sup> šuba sig <sub>7</sub> : babbar-u
50	min [zabalam <sup>ki</sup> ].gal	na <sup>4</sup> a-ni-bu bur-ru-mu ana šu-kut-tú <sup>71</sup>

62 Cf. KADP 2 v 52'–53': ú na áš (?) [aš muš.dím.guru]n.na  
re-du-šú tur-[ár súd] <sup>r</sup>a<sup>ṭ</sup>-na min

63 The expression an.kud = pi-ṭi-ru ša šá-[me-e], which resembles our passage, occurs in a lexical fragment only preserved at Emar (Arnaud, Emar VI.4, 567, 5'); the Emar lexical fragment contains other such terms, e.g. an-dím = il-di šá-me-e 'horizon' and an-a-šâ-ga = qé-re-eb šá-[me-e], 'midst of heaven'. The rubric for this section (7') is [a]n-dagal = ša-mu-u r[a-ap-šu-tu], 'broad skies', which does not explain one entry which differs from the other in this context (6'): an-kud-kud = al-lu-ta-nu, 'crab-like', perhaps referring to a plant.

The translation is provisional and speculative, based on the idea of the 'cleft' of Anu referring to some body part, e.g. buttocks or bottom, and this is transferred to the natural world in which the 'bottom' of heaven is hidden by a river, presumably at the horizon.

64 The reading *sapšu* or *sabšu* for this plant is a *lectio difficilior*, perhaps derived from *šapāšu*, 'to twist', with the meaning partly derived from a lexical equation with Akk. *egēru*, 'to twist' (see CAD Š/1, 449a). A different reading can be found in KADP 2 VI 21: ú šá mu-šu = šam-mu mat-qu, (plant) 'of discharge' = 'sweet plant'.

65 See Uruanna I 682 (cited only in CAD A/2 232) in which ú a-ri-hu mat-qu occurs, but as 'sweet arihu-plant', as an alternative to *arariānu*. The *arihu*-plant occurs above in l. 7.

This and the subsequent line have interesting variants in KADP 2 vi 21'–23':

ú šá mu-šu šam-mu mat-qu  
ú i-lu-ur sig<sub>7</sub>ú šá-ki-ru-u  
ú min sa<sub>5</sub> ú a-bat a-gur-ru

The term *abattu agurri* probably refers to a species of flower.

66 Akk. *biššūru*.

67 The gloss has an unusual orthography for *nīru*, 'yoke'.

68 The final tir sign is a ligature, and the gloss *ša pūtu* on the *pendū*-stone may simply be referring to a similar but rarely-attested stone (*pūtu*) which can occur in medical contexts (AMT 102 i 31, cf. CAD P 553a).

69 An error for *kašaru*, cf. MSL 10 69:8 (= Uruanna III 147), corresponding to na<sub>4</sub>.balag.gá = na<sub>4</sub>ka-ša-ri. See also Schuster-Brandis 2008, 405.

70 The mu-sign (coll.), situated within the column dividers, probably corresponds to the use of *aššu* in commentary texts, indicating an explanatory phrase.

71 Cf. MSL 69, 12.

51	na <sup>4</sup> <i>a-lal-lu</i> <sub>4</sub>	na <sup>4</sup> <i>mu-ṣal-ṣa-al tú</i>
52	na <sup>4</sup> <i>sal</i> <sup>sa</sup> .la <sup>72</sup>	na <sup>4</sup> <i>mul-ta-as-hi-ip-tú</i>
53	na <sup>4</sup> <i>šà.níg.kala.ga</i>	
54	na <sup>4</sup> <i>mu-ṣu</i> <sup>sin-ni-</sup> mí <sup>šú</sup>	na <sup>4</sup> <i>za-gi-id-du-ru-u</i> <sup>šir</sup>
55	na <sup>4</sup> <i>sikil nita</i> <sup>73</sup>	na <sup>4</sup> <i>it-ta-mir nu sig</i> <sub>5</sub>
56	na <sup>4</sup> <i>har zabar nam.lú.u</i> <sub>18</sub> <sup>šū-me-rù</sup>	na <sup>4</sup> <i>šà bir-ki lú</i> <sup>a-me-li</sup> <sup>74</sup>
57	na <sup>4</sup> <i>mu-ṣu šá ú-ru-ul-la-ti-šú</i> <sup>75</sup> :	<i>pap-</i> <sup>ba</sup> <i>pal-tu šá šir nam.lú.u</i> <sub>18</sub> <sup>76</sup>
58	<sup>na<sup>4</sup></sup> <i>ia</i> <sup>bu</sup> <i>-ra-hu</i> <sup>77</sup>	na <sup>4</sup> <i>šuba sa</i> <sub>5</sub> <i>sa-a</i> : na <sup>4</sup> <i>huduš</i> (TU)
59	<sup>na<sup>4</sup></sup> en.gi.sa <sub>6</sub> :	na <sup>4</sup> <i>ši-</i> <sup>še</sup> <i>gu-ga-ru</i> na <sup>4</sup> <i>ma-ah</i> : <sup>78</sup>
60	[ <i>lul-m</i> ]u <sup>r</sup> u <sup>r</sup> <i>ab-nu</i> :	<i>a-na-tú</i> : <i>an-ṣab-tú</i>
61	[ <sup>na<sup>4</sup></sup> <i>ši-i</i> ]k-ka-tu <sub>4</sub> : <i>im-bu-’u-u</i>	
	left edge: <sup>ú</sup> šá- <sup>r</sup> ra <sup>r</sup> -nu <sup>ú</sup> kur-s[is-s]u <sup>79</sup> [.....]	
	ka-a-a-[ma-nu] x ak x x šá x [.....]	

### Translation

1	wax	<i>maštakal</i>
2	<i>ēlilu</i> (‘purifyer’)	ditto, from the mountains
3	ina.uš (gloss: ‘you purify’)	<i>maštakal</i>
4	‘from heaven and earth’-plant	<i>šakirû</i> -plant
5	<i>iriyannu</i> -plant	<i>urṭû</i> -plant
6	uru.ti.la-plant	<i>harûbu</i> (carob?)

**72** See the discussion above.

**73** The evidence that this logogram refers to the *arzallu*-stone is uncertain, based upon as yet unpublished reconstructed readings and relying upon an equation between the *arzallu*-stone and the *itemir*-stone in Uruanna 164 and 167, cited CAD A/2 324.

**74** See MSL 9 35, 71 (Hg commentary to Hh XV, na<sub>4</sub>.har zabar nam.lú.u<sub>18</sub>.lu = na<sub>4</sub> *bir-ki lú*). The glosses in this line are discussed above.

**75** Cf. also KAR 92, 20 and BAM 444, 5', *igi nu níg.sila*<sub>11</sub>.ga *mu-ša šá lib-bi ú-ru-ul-la-ti-šú šés-áš*, ‘you rub the discharge of his glans over a dough-figurine’, with *pappaltu* in our list being synonymous for semen. It is likely that these phrases are cited from actual prescriptions and describe calculi.

**76** This same line occurs in a medicinal stone list (MSL 10 70, 32 Hh XVI Recension A/B) as well as in a list of body parts (Hg. commentary to the *uzu*-list Hh XV = MSL 9 35, 70): *uzu mu-u-šú = šá lib-bi ú-ru-ul-la-ti-šú = pap-pal-tu šá bir-ki lú*, which defines the relationships more precisely.

**77** The gloss provides an alternative reading *burāhu*, ‘shining’.

**78** The signs /ma-ah : / are an abbreviation for *mahrūtu*, cf. MSL 10 70–71, 36 and 62.

**79** This line is cited in a medical commentary (to BAM 311), CT 41 43, 12 (BM 54595), ‘ša<sup>r</sup>-ra-nu = *kur-sis*<sup>s</sup>-s[u]. The term *kursisu* refers to a field pest, and the full name of this plant is explained by its logogram *péš.še.giš.i.gu<sub>r</sub>e* (Hh XIV 192 = MSL 8/2, 22), which is also known from an OB omen apodosis (YOS 10 35, 29) *ku-ru-sí-sú še.giš.š* *ma-tim i-ka-al*, ‘the flax of the land which the rodent devours’. The remainder of the line, for which only barely visible traces survive, probably refers to how this plant was administered, as found in recipes.

7	<i>arihu</i> (var. <i>ar'abu</i> )-plant	poplar resin
8	'suddenly red, suddenly green'-plant = <i>aktam</i> -plant, also called <i>tur'azu</i>	
9	<i>habšilurga</i> -plant	ditto, Elamite
10	<i>tillakurtu</i> -plant	ditto, Gutian
11	'red'-plant, gloss: sesame(?)	'shepherd's-crook'-plant (gloss: Sum.)
12	<i>luluntu</i> -plant	<i>ara(n)tu</i> -grass
13	<i>šibru</i> -plant	black cumin
14	green <i>illūru</i> -flower	<i>šumuttu</i> , a drug for haemorrhage
15	hab-plant (gloss: <i>būšānu</i> )	<i>murāru</i> ('bitter herbs') for the womb (gloss: 'infertility')
16	'snake'-plant (gloss: snake)	['snake tongue'-plant]
17	herb (gloss: 'garden'-plant)	<i>nīnū</i> -plant
18	<i>maškadu</i> -plant	<i>ellibu</i> -plant
19	'thorny field'-plant	<i>puquttu</i>
20	'thorny'-plant	ditto
21	(gloss: 2) 'butter'-plant	mint ( <i>nīnū</i> )
22	(gloss: 2) 'midst of sea'-plant (gloss: ash)	algae (gloss: Akk.)
23	(gloss: 2) 'black'-plant	<i>šakirū</i> -plant
24	(gloss: 2) 'red'-plant (gloss: red)	'ash'-plant
25	(gloss: none) 'fruit'-plant	(gloss: other) Deckname: human testicle (gloss: mankind)
26	(gloss: 2) 'field'-plant (gloss: clod)	Deckname: mountain <i>galgaltu</i>
27	(gloss: 2) camelthorn ( <i>ašāgu</i> )	Deckname: ditto of donkey crotch
28	<i>illūru</i> (Akk. gloss)	Deckname: bedbugs
29	'shepherd's crook' (gloss: Sum.)	Deckname: [human] thigh-bone (gloss: Sum.)
30	<i>imhur-lim</i> ('it opposes 1000 [illnesses]'-plant 'spell-breaker' (gloss)	
31	barley-groats gruel (gloss: husk)	[.....]
32	<i>ashar</i> (phonetic gloss)	algae detritus on water
rev.		
33	<i>piyapiya</i> -plant	<i>pi</i> [.....]
34	<i>ulmuaru</i> -plant	<i>u</i> [.....]
35	<i>hubba</i> -stone (gloss: acacia-seed)	[placed] on the patient's head (gloss: head)
36–37	a plant on top of which geckos lie in the bright sun (gloss: an altar-table), its name is 'dog-tongue' plant (gloss: Sum.), good for a woman who cannot give birth (gloss: good for a woman).	
38	Sag (gloss: <i>lipištu</i> )-plant	which crows pursue,
39	colocynth (gloss: <i>akšū</i> )	which geckos pursue.

40	oak, Anu's 'clef' (ie. buttocks)	obscured in the river
41	vine, ditto	Ningišzida
42	fig, ditto	
<hr/>		
43	'folded'-plant	sweet-plant (gloss: <i>arihu</i> -plant)
44	red <i>illūru</i>	'baked-brick gravel' (-flower)
45	<i>taltallānu</i>	<i>urānu</i> -plant
<hr/>		
46	diorite	(gloss 2) 'vulva-opening' stones : 'beneficial'-stone (Sum)
47	yoke-stone (gloss: Akk. yoke) <i>harmunu</i> -stone (with gloss); 'quarrel'-stone	
48	'seal of charcoal'-stone (?)	<i>kararu</i> -stone: <i>šū</i> -stone
49	zabalam-stone	meaning: green : white <i>šubū</i> -stone
50	ditto, a large zabalam-stone	coloured <i>janibu</i> for jewelry
51	<i>alallu</i> -stone	gall-stone <sup>80</sup>
52	salla-stone	<i>multashiptu</i> -stone
53	'drum-heart'-stone(?)	
54	'female-discharge'-stone	lapis-stone
55	male <i>arzallu</i> -stone	not beneficial (for childbirth) <i>ittamir</i> -stone
56	'human <i>bronze bracelet</i> '-stone (-calculus) calculus from a man's genitals	
57	calculus of urethra	semen (lit. 'porridge') of human testicles
58	<i>jarahhu</i> -stone	red <i>šubū</i> -stone (gloss): <i>huduš</i> -stone
59	<i>engišsu</i> -stone	<i>šigugaru</i> -stone; previous stone
60	earring-stone	ring : (ear)ring
61	stone-jug	flask
	left edge: <i>šarānu</i> -plant, rodent-plant [.....]	
	left edge colophon: regular meaning [.....]	

## Bibliography

- Bottéro, J. 1974. *Symptômes, Signes, Écritures*. In: J. Vernant et al. (eds.), *Divination et Rationalité*. Paris, 70–200.
- Bottéro, J. 1982. "Le 'Code' de Hammu-rabi". In: *Annali della Scuola Normale Superiore di Pisa* 12, 409–444.
- Frahm, E. 2011. *Babylonian and Assyrian Text Commentaries. Origins of Interpretation* (GMTR 5). Münster.
- Geller, M. 1997. "The Last Wedge". In: *Zeitschrift für Assyriologie* 87, 43–95.
- Gesche, P. 2000. *Schulunterricht in Babylonien im ersten Jahrtausend v. Chr.* (AOAT 275). Münster.
- Goody, J. 1987. *The Interface between the Written and the Oral*. Cambridge.

<sup>80</sup> A pun on gallstone.

- Jouanna, J. 1999. *Hippocrates*, trans. M. B. DeBevoise. Baltimore.
- Nutton, V. 2004. *Ancient Medicine*. London.
- Oppenheim, A. L. 1956. *The Interpretation of Dreams in the Ancient Near East. With a Translation of an Assyrian Dream Book*. Philadelphia, 179–373
- Schuster-Brandis, A. 2008. *Steine als Schutz- und Heilmittel. Untersuchung zu ihrer Verwendung in der Beschwörungskunst Mesopotamiens im 1. Jt. v. Chr.* (AOAT 46). Münster.
- Stadhouders, H. 2011. “The Pharmacopoeial Handbook *Šammu Šikinšu*, an Edition”. In: *Le Journal des Médecines Cunéiformes* 18, 3–51.
- Stadhouders, H.. 2012. “The Pharmacopoeial Handbook *Šammu Šikinšu*, a translation”. In: *Le Journal des Médecines Cunéiformes* 19, 1–21.
- Veldhuis, N. 1997. *Elementary Education at Nippur. The Lists of Trees and Wooden Objects*. Groningen.

