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THE SO-CALLED NEO-ASSYRIAN “PHARMACEUTICAL INVENTORY” (KADP 36)¹

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1. Introduction

Among the texts found in Mesopotamia and Anatolia there are many inventories. One of the most peculiar ones is undoubtedly the so-called Neo-Assyrian “Pharmaceutical Inventory” (VAT 8903 = KADP 36; see Fig. 1), originating from Assur³ and published by Köcher⁴. This text may look like a simple list at first glance, but it will be pointed out that it is surely worth while having a look at it, not in the least because of the simple facts that it is a text without parallel⁵ and that it touches upon the very definition of “inventory”.

¹ I am very much indebted to Prof. dr. M.J. Geller (University College London) for his helpful comments on this paper. Abbreviations used are:

ADD = J.C.H. WALTER, *Assyrian Deeds and Documents recording the Transfer of Property*, 4 vol., London 1901-1924.

AHW = W. VON SODEN, *Akkadisches Handwörterbuch: unter Benutzung des lexikalischen Nachlasses von Bruno Meissner* (1868-1947), 3 vol., Wiesbaden 1965-1981.

AMT = R.C. THOMPSON, *Assyrian Medical Texts from the Originals in the British Museum*, London 1923.

BAM = Fr. KÖCHER, *Die babylonisch-assyrische Medizin in Texten und Untersuchungen*, 6 vol., Berlin 1963-1980; M.J. Geller, *Die babylonisch-assyrische Medizin in Texten und Untersuchungen*, vol. 7, Berlin 2005.

CAD = *The Assyrian Dictionary of the Oriental Institute of the University of Chicago*, Chicago 1956-.

CDA = J. BLACK - A. GEORGE - N. POSTGATE, *A Concise Dictionary of Akkadian*, 2nd ed. (Santag. Arbeiten und Untersuchungen zur Keilschriftkunde 5), Wiesbaden 2000.

CT = *Cuneiform Texts from Babylonian Tablets in the British Museum*, London 1959-.

EA = J.A. KNUDTZON - E. EBELING - O. WEBER, *Die El-Amarna-Tafeln mit Einleitung und Erläuterungen* (Vorderasiatische Bibliothek 2), 2 vol., Leipzig 1915.

ID = *Inscriptions de Délos*, Paris 1926-1950.

IG = *Inscriptiones Graecae*, Berlin 1873-.

KADP = Fr. KÖCHER, *Keilschrifttexte zur assyrisch-babylonischen Drogen- und Pflanzenkunde: Texte der Serien uru.an.na: maltakal, HAR.ra: hubullu Ú GAR-šú* (Deutsche Akademie der Wissenschaften zu Berlin. Institut für Orientforschung. Veröffentlichungen 28), Berlin 1955.

KAR = E. EBELING, *Keilschrifttexte aus Assur religiösen Inhalts* (Wissenschaftliche Veröffentlichungen der Deutschen Orient-Gesellschaft 28 and 34), 2 vol., Leipzig 1915-1923.

PBS = University of Pennsylvania. University Museum. Publications of the Babylonian Section, Philadelphia 1911-.

TCL = *Textes Cunéiformes du Louvre*, Paris 1910-.

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³ D. GOLTZ, ‘Mitteilungen über ein assyrisches Apothekerinventar’, in *Archives internationales d’histoire des sciences* 21 (1968), p. 97.

⁴ Fr. KÖCHER, *Keilschrifttexte zur assyrisch-babylonischen Drogen- und Pflanzenkunde: Texte der Serien uru.an.na: maltakal, HAR.ra: hubullu Ú GAR-šú* (Deutsche Akademie der Wissenschaften zu Berlin. Institut für Orientforschung. Veröffentlichungen 28) = KADP 36.

⁵ E. REINER, review of Fr. KÖCHER (see n. 4), in *Bibliotheca Orientalis* 15 (1958), p. 102; D.O. EDZARD - K. VEENHOF, ‘Inventare’, in *Reallexikon der Assyriologie und Vorderasiatischen Archäologie* 5 (1976-1980), p. 139.

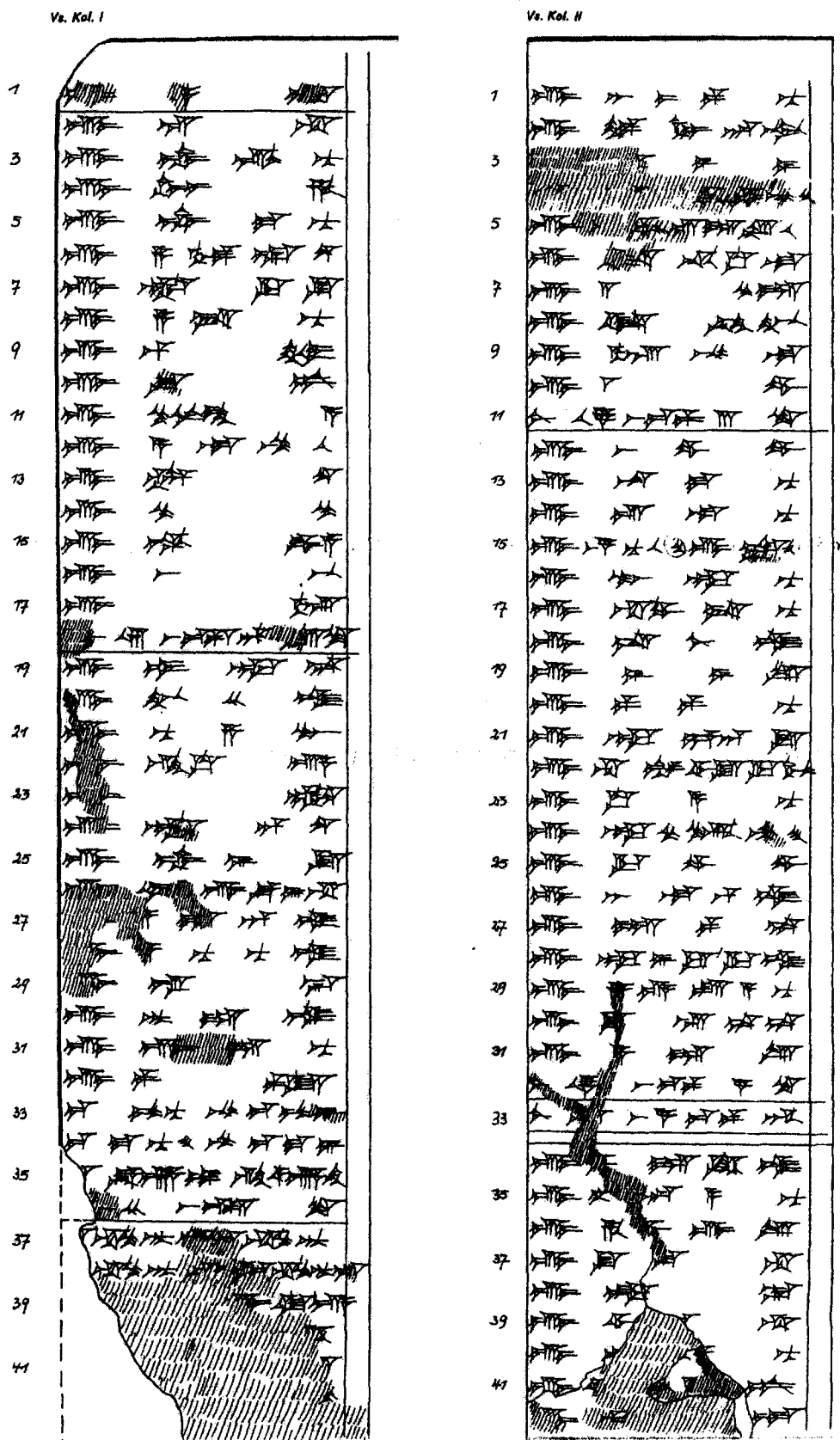


Fig. 1. The so-called Neo-Assyrian "Pharmaceutical Inventory", col. 1-2 (VAT 8903 = KADP 36, pl. 77).

A philological study of this text, which would require various collations, has not yet been undertaken. It is not the aim of this paper to present such a study. Rather I will present some notes on the character and function of this text.

2. Description of the various Sections

The tablet is quite well preserved and lists various medicinal plants. It is divided in six columns and contains thirteen sections, the borders of which do not necessarily coincide with the end of the columns⁶.

Most of the sections contain medicinal plants, the bigger part of which are unfortunately not (yet) identified. Some others were connected with modern plants, but it should be noted, however, that these identifications are everything but certain — the one of course is more certain than the other — and should therefore not be taken for granted⁷. Examples of such identifications are Hound's-tongue (*Cynoglossum officinale*, *lišān kalbi*; i 7)⁸, licorice (*Glycyrrhiza glabra*, *šūšu*; i 10)⁹, white hellebore (*Veratrum album*, *atā'išu*; i 14), meadow saffron (*Colchicum autumnale*, *kamkaḍu*; i 19), tamarisk (*Tamarix orientalis*, *bīnu*; i 33)¹⁰, mandrake (*Mandragora officinalis*, *pillû*; i 37), boxthorn (*Lycium depressum*, *šimaḥu*; ii 39)¹¹, saffron crocus (*Crocus sativus*, *azupirānu*; iii 2), chufa (*Cyperus esculentus*, *suādu*, iv 31), caper (*Caparis spinosa*, *baltu*; iv 42), cedar (*Cedrus libani*, *erēnu*; iv 26)¹², cypress (*Cyperus sempervirens* and *Cyperus horizontalis*, *šurmēnu*, iv 27)¹³, juniper (*Juniperus drupacea*, *ḍaprānu*; iv 28) and cumin (*Cuminum cyminum*, *kamūnu*; v 28).

Next to medicinal plants and trees, most of which are nowadays still used for medicinal purposes, there are other materials mentioned. The sixth section has only one plant, next to minerals such as alum, sulphur, gypsum, some salts and perhaps some mineral substances, such as oven slag and soot from a cooking pot¹⁴. The eleventh section is also remarkable, since it lists medicinal vehicles, i.e. means by which the medication is administered to the patient, such as butter, honey, etc. Finally the last section is a list of medicinal preparations: powders, suppositories, bandages, potions, etc.

⁶ GOLTZ 1968 (see n. 3), p. 97.

⁷ Sometimes identifications are accepted because of the related languages. A good example is *suādu*, "chufa" (CAD S, p. 339). This meaning is based on Syriac *su'dā*, Arabic *su'd*, both meaning "chufa". Nevertheless it is possible that the Syriac and Arabic equivalents still designate another (related) plant than the Akkadian word, due to the increased specialisation, categorisation and study of plants.

⁸ See AHW, p. 556.

⁹ See CAD Š/3, p. 385-386.

¹⁰ See CAD B, p. 329.

¹¹ See CAD Š/3, p. 1.

¹² See CAD E, p. 274.

¹³ See CAD Š/3, p. 353.

¹⁴ REINER (see n. 5), p. 102, describes *ḥaḥû ša utūni* ("oven slag", iii 37) and *ummanu ša diqāri* ("soot from the cooking pot", iii 38) as magic preparations, because they are used against witches in incantations (e.g., Maqlu iii 116). Yet they occur also in normal medical texts and probably represent minerals, not necessarily magical preparations.

3. Some Aspects of KADP 36

3.1. The Completeness of the Text

One of the relatively conspicuous aspects of the text is the fact that some plants are mentioned twice, while others, very frequently used in Babylonian medicine, are not included at all¹⁵. The names of the plants mentioned twice are either synonyms or the Sumerian and Akkadian denotations of the plant. Examples are ^UPA.PA-nu / ^UTAR.MUŠ (Akk. arariānu; ii 20 and iii 3), ^Uazupiranu / ^UHUR.SAG (iii 2 and v 24), ^Ušašumtu / ^UPI.ZIR (i 6 and iv 21) ^Ukamkadu / šurnû (i 19 and ii 15) and ^Ukurkânû / ^UKUR.GI.RIN (iv 40 and v 25), which are most likely synonyms¹⁶. Plants that are surprisingly not included in this text are ankinutu, nurmû and the tijatu-plant¹⁷.

Not only the mere plant-listing sections are inexhaustible, also sections 6, 11 and the last one are incomplete. In section 6 some very important minerals are not mentioned, e.g. mil'u and the mûšu-stone. The section on the medicinal vehicles lacks some of the most frequently used ones, such as oils, beer and wine. An explanation, however, for this may be that these products were at all times available in any house and/or that some of the non-mentioned products could not be stored because of their short storage life¹⁸. The last section of the text will be discussed later (part four).

It can thus be asserted that we are dealing here with an embarrassingly incomplete inventory. Possible reasons for the incompleteness of this inventory are (1) a not recognizable classification system which excludes the plants not mentioned or (2) inaccuracy of the scribe.

3.2 Internal Classification System

Nowadays inventories mostly are designed following some classification system, i.e. an internal system according to which the articles and items are arranged. Mesopotamian inventories are not an exception to this rule, e.g. metals may be listed beginning with the most valuable and ending with the least valuable. Yet not all inventories have a system that is recognizable for modern scholars. In such cases the researcher assumes the existence of such a system, but is not capable of retrieving it. In the case of our text such systems could be the medicinal purposes of the plants, the size and/or height of the plants, etc. In any case the arrangement of our text does not correspond to any other known Mesopotamian plant-list¹⁹.

The quest for such a system in KADP 36 is hampered by the uncertainty regarding the right identification of many of the plants. For that reason it is difficult to look for classifications based on any physical aspect (colour, size, height, etc.) of the plants. Nevertheless the order of the identified plants does not tend to unveil such a classification system.

¹⁵ GOLTZ 1968 (see n. 3), p. 104-105.

¹⁶ See THOMPSON, *A Dictionary of Assyrian Botany*, London 1949, p. 164. GOLTZ 1968 (see n. 3), p. 105 n. 34 adds some examples of plants occurring more than once in the text, but two of her examples should be discarded. The Sumerogram ^UAŠ, occurring twice in the text (iii 16 and v 23), may refer to more than one plant and therefore does not necessarily denote the same plant in both passages. Finally, Goltz confuses the two plants named kamûnu in Akkadian (a kind of mushroom, iv 8-9, and cumin, v 28).

¹⁷ According to GOLTZ 1968 (see n. 3), p. 104 the maštaka1-plant is not mentioned in the text. This is, however, wrong, since the plant is clearly attested in i 16 (^UINA.ŪŠ).

¹⁸ GOLTZ 1968 (see n. 3), p. 103.

¹⁹ Ibid., p. 106 n. 35.

Other possible classification systems do not help either. The plants are certainly not arranged according to their medicinal purposes, i.e. according to the diseases against which they were used, or to the way they were used (e.g. externally or internally, as a powder or in a bandage, etc.). The shape of the wedges is no criterion either. Aromatic plants and non-aromatic plants appear next to each other, woods and seeds of plants are not separated²⁰. The fact that there are twelve sections containing plants and twelve categories of medication in section 13 is pure coincidence. They could be classified according to their importance in medicine, but that too is not probable, since some of the plants that appear only late in the text belong to the most important Mesopotamian medicinal plants (e.g. cedar, cypress, myrrh, etc.).

Despite the fact that at first sight the text does not seem to be constructed along some internal system²¹, one may not simply deduce that KADP 36 is a master-example of a chaotic list. For example, the scribe did know some usual groupings of plants. Examples are:

1. Siḥu, arganu, barīrātu (i 2-4) are listed in the same order in other texts (e.g. AMT 22,2:11, BAM 168:7-8²²).
2. The combination of ṣaṣumtu, lišān kalbi, ṣadanu (i 6-8) and alamu (i 12) occurs in AMT 22,2:14-15. It also has a parallel in ADD 1042, where the sequence is ṣaṣumtu, ṣadanu, lišān kalbi and alamu close behind.
3. Maštakal and sikillu (i 16-17) also are sometimes mentioned together (e.g. CT 38 29:47)²³.
4. Erēnu, šurmēnu, dapranu and asu (iv 26-29) is a well-attested combination in medical texts (e.g. BAM 168:33,54, 482 iii 40)²⁴.

Moreover, it should be noted that there is sometimes some kind of system at work. Section 6 has especially (dyeing) minerals; section 9 consists for the larger part of non-Mesopotamian aromatic plants²⁵; section 10 begins with 9 drugs that come from the sea; section 11 enumerates medical "vehicles"; section 13 is focused on categories of medication.

Next to these faint traces of systematization mentioned above there is one aspect of the text — undoubtedly the most remarkable one —, which could point to an internal system being used in the text. The list gives us in some sections the way in which the plants were stored. Only sections 5-7 and the last section do not indicate how this happened, but here it should be mentioned that the last section does not need it, since the preparations were not stored as such.

Interestingly the fourth section also gives the total of the first four sections. This number is not preserved but can be restored by adding the four sectional totals: 15, 20, 17 and 16, which gives 68. This procedure is not repeated for the subsequent sections.

As a matter of fact this aspect denotes the only identifiable classification system in the text²⁶, although it is not known whether the scribe deliberately arranged the plants according to this system. The mentioning of the shelves and recipients may as well be purely

²⁰ Ibid., p. 106.

²¹ Ibid., p. 107.

²² THOMPSON 1949 (see n. 16), p. 363-364; CAD S, p. 242.

²³ CAD M/1, p. 391; CAD S, p. 244.

²⁴ CAD A/2, p. 343; CAD D, p. 190; CAD Š/3, p. 352.

²⁵ GOLTZ 1968 (see n. 3), p. 106.

²⁶ GOLTZ 1968 (see n. 3), p. 98. This scholar seems to contradict herself by indicating in the same article that the mentioning of the way the plants were stored points toward a classification system (p. 98) and that the classification system cannot be recognized with certainty (p. 107).

informative. Anyhow, if one adapts this system to the text, then the latter is divided in four parts:

Part 1:

- 1) Total: 15 (or 16) on top shelf no. 1.
- 2) Total: 20 on shelf no. 2.
- 3) Total: 17 on shelf no. 3.
- 4) Total: 16 on shelf no. 4 // [68] on four shelves.

Part 2:

- 5) Total: 15.
- 6) Total: 18.
- 7) Total: 15.

Part 3:

- 8) Total: 11 clay pans used for roasting, or: 11 plants, stored in clay pans.
- 9) Total: 19 clay pans used for roasting, or: 19 plants, stored in clay pans.

Part 4:

- 10) Total: 15 qabūtu-recipient, or: 15 plants, stored in qabūtu-recipient.
- 11) Total: 6 qabūtu-recipient, or: 6 plants, stored in qabūtu-recipient.
- 12) Total: 10 qabūtu-recipient, or: 10 plants, stored in qabūtu-recipient.

The first place of storage is denoted by the logogram ^{giš}PA, which may correspond to two Akkadian words: ḥaṭṭu, “stick, sceptre”²⁷ or ḥuṭāru, “branch, stick; staff”²⁸, although all scholars choose the former possibility²⁹. It is also widely accepted³⁰ that ḥaṭṭu should mean here something like “shelf”, despite the general absence of this meaning for ḥaṭṭu in Akkadian³¹. The determinative GIŠ indicates that the shelf was made of wood.

The second form of storage is the ^{DUG}qālītu. The meaning of this word is well known. All dictionaries³² agree that this word denotes a vessel for parching.

The last recipient is the ^{DUG}qabūtu. One dictionary³³ has “Becher, Kelch”, while another³⁴ remains vague (“a bowl”). Fortunately elsewhere³⁵ the dictionary is more precise: “pitcher for pouring water into a basin”. The most precise definition is given by Leichty³⁶, who considers it to be a flask associated with the washing of hands, also used in rituals and

²⁷ AHw, p. 337; CAD H, p. 153-155; CDA, p. 112.

²⁸ AHw, p. 362; CAD H, p. 265; CDA, p. 123.

²⁹ B. LANDSBERGER, apud KÖCHER (see n. 4), p. 10; E.K. RITTER, ‘Magical Expert (= Āšipu) and Physician (= Asû): Notes on Two Complementary Professions in Babylonian Medicine’, in *Studies in Honor of Benno Landsberger on his Seventy-Fifth Birthday, April 21, 1965* (Assyriological Studies 16), Chicago 1965, p. 308; GOLTZ 1968 (see n. 3), p. 98; EDZARD - VEENHOF 1976-1980 (see n. 5), p. 139.

³⁰ RITTER 1965 (see n. 29), p. 308; GOLTZ (see n. 3), p. 98 n. 11; H. LIMET, ‘Croyances, superstitions et débuts de la science en Mésopotamie ancienne’, in *Oikumene* 5 (1986), p. 77-79.

³¹ B. LANDSBERGER, *Die Serie ana ittišu* (Materialien zum sumerischen Lexikon 1), Roma 1937, p. 174 was the first to propose a meaning “shelf” for ḥaṭṭu. He based his proposal on the expression ša ina ḥaṭṭu šunūlu, lit. “auf die Stöcke auslegen, to lay out on sticks”, concerning which he considers ḥaṭṭu to be some kind of wooden frame or rack.

³² AHw, p. 894; CAD Q, p. 60; CDA, p. 283.

³³ Ibid.

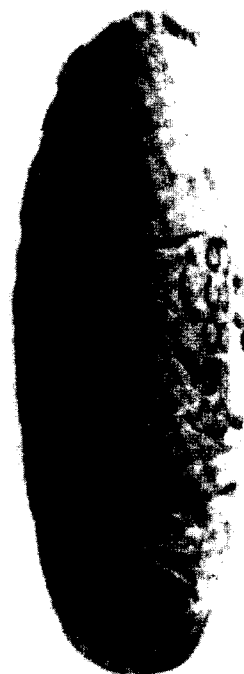
³⁴ CAD Q, p. 43.

³⁵ CAD M/2, p. 155.

³⁶ E. LEICHTY, ‘Qabūtu, šāhu and mê qāti’, in *Assyriologica et Semitica. Festschrift für Joachim Oelsner anlässlich seines 65. Geburtstages am 18. Februar 1997* (Alter Orient und Altes Testament 252), Münster 2000, p. 243.

sometimes used to hold fruits (apple) or other items (oil, honey). According to Leichty, who also gives an illustration of a qabūtu on a tablet edge (see Fig. 2), they are mostly made of metal, but wooden and clay exemplars are also textually attested.

Fig. 2. Illustration of a qabūtu on a tablet edge. The vessel illustrated here indicates that only fluids could be kept in it. Plants on their own are hard to keep in such a longneck recipient. (E. LEICHTY, 'Qabūtu, šāḥu and mē qāti', in *Assyriologica et Semitica. Festschrift für Joachim Oelsner anlässlich seines 65. Geburtstages am 18. Februar 1997* (Alter Orient und Altes Testament 252), Münster 2000, p. 243).



3.3 The Architectural Setting of KADP 36

The architectural setting of this text is unfortunately not mentioned and consequently not known, although it is quite obvious that there will have been some construction containing at least four shelves (the first of which is the upper one). The name “pharmacy” is conventionally mentioned in this regard, but the only justification for using this name are the contents of the text, i.e. medicinal materials, especially plants. One may, however, assume that only one room is involved.

3.4 Indication of Time

The text gives nowhere an indication of the time when or the reason why the inventory was made up. Mostly inventories are produced when property changes of owner, when a person dies or when a king adds new territory to his realm. This text, however, cannot be linked with any person (physician, priest, scholar, etc.), institute or moment of time, since it unfortunately has no colophon³⁷, which would automatically have provided us with more information on its background or the milieu in which it came into existence. It is thus impossible to know whether the plants belonged to one or more persons, or even to an institution.

3.5 Internal Discrepancies

At the end of each section a total is given, which — strangely enough — is usually not the same as the actual number of plants listed in the particular section. At least in seven sections the total of items does not correspond to the total listed. When this is the case, the listed total is mostly lower than the total of items³⁸. Only in section seven the total given is higher than the actual numbers of items.

³⁷ GOLTZ 1968 (see n. 3), p. 98.

³⁸ GOLTZ 1968 (see n. 3), p. 98 n. 10.

<i>Section</i>	<i>Total of items</i>	<i>Total given</i>	<i>Section</i>	<i>Total of items</i>	<i>Total given</i>
1	16	15/16 (?)	7	14	15
2	21	20	8	11	11
3	17/19+	17	9	19	19
4	21	16	10	29	15
5	27	15	11	10	6
6	22	18	12	10	10

In the first section 16 plants are listed, although the last line reads “Total: 15 on shelf one, the upper shelf”. It must be noted, however, that the number could also be “16”, since the copy indicates that the sign is slightly damaged.

The second section lists 19 plants and two times the seed of one of these plants (tamarisk and laurel). This is not in compliance with the total of 20, which is indicated at the end of this section. It also makes clear that the totals did not necessarily relate to plants only, but also to other materials.

Since part of the third section is lost and it is impossible to determine how much lines should be restored³⁹ one cannot see whether the total of 17 items is correct. It mentions at least 16 plants and two times the fruit of one of these plants. Yet, in line 39 another plant name certainly has to be restored. This brings the minimum to 17 plants. Section eight has twelve items and a given total of eleven. At first sight again a discrepancy, but if Limet⁴⁰ is right in assuming that ^UTI.IS.KUR and ^UḪAR.ḪU [] are synonyms, then the discrepancy ceases to exist.

A plausible solution for these discrepancies is hard to find. Several possibilities could be considered, but none of them does convince, at least not with regard to all sections.

1. Some plants were not stored, only mentioned. Yet that would be a little peculiar.
2. Some sections have synonyms, e.g. section eight.
3. The given totals do not refer to the number of plants listed in each section. They might refer to the weight of the plants, but if this were true, it would be more logical to mention the weight of each separate item, not of a at first sight deliberately composed group of items. On the other hand, the totals could refer to the bowls (qālītu and qabūtu) in which the plants were kept. In that case the translation of the last sectional line would be “x qālītu/qabūtu-recipients”.
4. The discrepancies are a reflection of some kind of internal system used by the scribe, but in that case the modern scholar cannot reconstruct this system. One of the possible systems implies that the totals mentioned refer to groups of plants (e.g. family, character, colour, etc.), but in that case the various groups are rather small and sometimes can consist of only one plant. Still this system might be useful concerning some discrepancies.

³⁹ LIMET 1986 (see n. 30), p. 78 believes that there is a gap of six lines, while the copy only gives indication of three missing lines (i 40-42). If Limet is right then the total of 17 is indeed lower than the number of at least 22 plants / seeds listed. The number of plants mentioned above, is based on the copy.

⁴⁰ LIMET 1986 (see n. 30), p. 80.

- Section two: if *šakirû* and *šakir* ^d*šamaš* are considered one group then the discrepancy disappears; Support for this is offered by the fact that the later plant is extremely rare and occurs only in plant lists in the immediate neighbourhood of the simple *šakirû*.
 - Section two: the alum (*im.saḥar.na₄.kur.ra*, *im.saḥar.babbar.kur.ra* and *im.saḥar.gi₆.kur.ra*) and the salts (*mun.kù.pad*, *mun.eme.sal-lim* and *mun a-ma-nim*) may be counted as units. This yields an actual total of 18, which corresponds to the given total.
 - Section 11: there are six lines of items. This could correspond with the given total of six.
 - This system is not valid for every discrepancy. In section seven one would expect that the *kamūnu* and the *kamūnu ša šadî* would be counted as one unit. This would give an actual total of 13, not 14.
5. Inaccurateness of the scribe may be the cause of the internal discrepancies. In that case, however, there are suspiciously many mistakes. Nevertheless the discrepancy in section 7 may well be the result of a scribal error, since it is the only occasion where the total mentioned is more than the actual number of items.

It looks like at least some of the systems mentioned here offer possible explanations for the discrepancies, although not all discrepancies can be solved by only one of the systems. Sections five and ten, the sections with the largest discrepancies, remain unclear. Perhaps their contents were also divided into groups (e.g. the sea-drugs in section 10), but the distinction between these groups remains unknown.

4. The last Section

Section 13 of the text does not list medicinal materials, but various ways how to prepare drugs: potions, fumigations, daubings, balms, suppositories, lotions, powders, ..., bandages for the kidney, bandages for the forehead, bandages for the nails. This list, containing different preparations, is not exhaustive⁴¹: nothing is said about pills, the eating of medicines or tampons and drops.

It should also be noted that the preparations described in this list were not stored as such⁴². Two reasons can be found for this. First the vehicles (mentioned in section 11) cannot be preserved for a long time. This is illustrated clearly by the bandages. These actually are pulposus cataplasms, which as a result of dehydration lose their pharmaceutical effect (e.g. softening of the skin or the muscles) after a certain time of storage. Also butter (for ointments) or beer (for potions) did not have a long preservation time. The second reason is the way in which Mesopotamian physicians worked. Each medication was prepared for immediate and unique use, so it was not necessary to keep the ingredients for a long time.

⁴¹ GOLTZ 1968 (see n. 3), p. 110.

⁴² Ibid., p. 110-114.

5. The “Pharmaceutical Inventory” in a Wider Context

5.1. General Aspects of KADP 36

Let us sum up the main aspects of the so-called Neo-Assyrian “pharmaceutical inventory”. First of all it is generally incomplete. Not all medicinal plants, minerals, etc. are listed, not even all important ones.

Secondly its internal classifying system is problematic, unless the scribe arranged his medicinal items according to the manner of storage, being shelves, clay pans for parching or some kind of flasks. Nevertheless the scribe was no ignorant person. On the contrary, he had some knowledge of botanics and inserted some systematical parts in his text.

The architectural setting of this text is unfortunately not mentioned and there is also no indication of time when the inventory was made up. Finally the text contains some internal discrepancies.

5.2. KADP 36 versus Mesopotamian Plant Lists

It is certain that our text is different from ordinary medicinal plant lists. Such plant lists are found rather frequently in Mesopotamia and can be divided in four categories⁴³.

1. Lists mentioning only the plant names (e.g. CT 14 21-22 and passim).
2. Two-columned lists establishing relationships between at least two plants, in a defined pattern (plant x: looks like plant y; e.g. CT 14 22 VII 43).
3. Two-columned lists having the plant names and the disease or the organ, against which or for which the plant is used (e.g. CT 14 29 K.4566+; CT 14 36 267).
4. Three-columned lists. The first column gives the name of the plant; the second contains the disease or the organ, against which or for which the plant is used; the last column has more information on the preparation mode of the plant (KAR 203).

There is, however, one aspect about our text that distinguishes it from the other lists: the already mentioned possible internal classification system, as a result of which it is mostly indicated how the plants are stored: shelves, *qālītu*-vessels and *qabūtu*-cups. If one wants to consider this text a list, it certainly makes up a fifth category of plant lists.

In addition, KADP 36 is also distinct from some lists in its function. While some lists (the ones belonging to types one and two) are purely lexical, our text is clearly not.

5.3. KADP 36 versus the Mesopotamian and Delian Inventories

As already mentioned in the introduction excavations throughout Mesopotamia have yielded various inventories (see the article by A. Goddeeris in this volume). It might be useful to compare these texts with the text discussed here.

The text has similarities with but also differs from Mesopotamian inventories. This should not surprise us, since Mesopotamian inventories themselves are not uniform.

The hardest aspect to study is the completeness of inventories found in Mesopotamia. A spatial inventory should be listing all items that are present in one space. Yet it is hard to determine whether an ancient text really lists all objects in a particular room or belonging to a particular person. The inventory of the palace and the temple of Muṣaṣir only contains

⁴³ B. MEISSNER, *Babylonien und Assyrien II* (Kulturgeschichtliche Bibliothek. Reihe 1: Ethnologische Bibliothek 4), Heidelberg 1925, p. 295; GOLTZ 1968 (see n. 3), p. 96-97.

precious goods, but in all probability less valuable goods, which are not listed in the text, will also have been present in these buildings. The same goes for our text. Some frequently used medicinal plants are not listed. Does that mean they were not available in the room? Not necessarily.

Internal classification systems are found in some Mesopotamian inventories, although they are not always clear to us. An example is EA 14, in which metal objects are arranged according to the material they are made of. First the golden objects are listed, followed by the silver ones, bronze, etc. The inventory of Urad-šerūa, where chests are the basic storage unit, seems to use the same system as KADP 36, being the way the items were stored.

It is interesting to see that some younger Delian inventories (e.g. ID 3.1417, IG XI.2 287B: places within the architectural unit, esp. the prodromos) to some extent make subdivisions within one architectural unit. Others, however, go further and mention the places where the items were stored. Two such places are attested: rows and chests. The rows (στῖχος and ῥυμός; ID 2 442B, ID 3.1450, IG XI.2 203B24) are probably some kind of shelves, an assumption which is favoured by the Greek denotations, the second of which may mean "shelf". The chests (κιβωτός; ID 2 442B, ID 3 1417, IG XI.2 287B) are simple boxes or coffers.

Not all Mesopotamian inventories have an architectural setting and because of that it cannot be determined whether they are limited to one specific architectural space (e.g., the inventories in letters). Others clearly mention where the goods are stored: the Middle Assyrian inventory of Urad-šerūa (lower store room of the šaḫūru-building) and the Neo-Assyrian inventory of the Ḫaldi-temple in Muṣaṣir (TCL 3 351-367; Sargon II).

The Mesopotamian inventories are no exception to other inventories from the Ancient Near East or the classical world. Some, but not all Egyptian inventories have an architectural setting. Also various Delian inventories (e.g. IG XI.2 287B) and the Biblical inventory of the temple in Jeruzalem (1 Kings 7, 15-51) are confined to one architectural space.

A bigger difference between KADP 36 and the Mesopotamian inventories is the aspect of time. Most Mesopotamian inventories indicate the moment when the inventory is made up. Exceptions are our text and the Urad-šerūa inventory. Again these two are similar.

It appears that there are several types of Mesopotamian inventories. A classification of inventories could be made using the aforementioned criteria. If one wants to consider KADP 36 an inventory it would have to be listed under "Mesopotamian inventories", subcategory "architecturally limited, with internal system, not complete, no indication of time".

5.4. *The Function and Character of this Text*

Determining the real function and character of this text is not an easy task. It has become clear that KADP 36 is different from both the Mesopotamian plant lists and inventories inter alia because of its inclusion of the storage manner of the plants. Therefore one will argue that it is a true inventory, others will denounce this. This depends on what definition of "inventory" one prefers. If the general definition of inventory ("a catalogue") is preferred, then our text is certainly an inventory, but in that case many Mesopotamian lists could be labelled inventories. More rigid definitions of inventory (e.g. "list of present objects within an architectural space, made up at a certain moment, indicated in the list") exclude the text from the group of Mesopotamian inventories. All this proves that inventories were no separate literary genre in Mesopotamian literature.

Scholars have proposed several possibilities concerning the function and character of this text.

1. The tablet may be composed according to an already existing order of medications and served as a stocking tool⁴⁴. It is thus a real inventory of a real pharmacy⁴⁵.
2. It may be a memo for a collection of medications that has yet to be purchased⁴⁶. This would explain the lack of some frequently used medicinal vehicles, e.g. beer, since these materials were at all times available in the house.
3. Possibly our text was a private inventory of the collection of one physician, which can be supported by the fact that the text was discovered in a private house, in which various other medicinal and literary texts were found⁴⁷.
4. There were greater storehouses where medicinal plants were distributed to physicians who needed them. The existence of such institutions can be shown through some receipts for plants and medicinal ingredients received by physicians (e.g. PBS 2/2 107). The high number of plants listed suggests that the text was an inventory of such a greater storage place⁴⁸.
5. It is a text with a didactic character, some kind of guideline for the arrangement of medications. Possibly this guideline is based on a real example⁴⁹.

Some remarks can be added to these theories. The first theory is simply implausible since one would expect more details and at least a colophon. If the second hypothesis were right, it would explain why some plants are mentioned and others not. Yet again the text would probably have had some title, like for instance "list of things to purchase". The high number of plants contradicts the third possibility. That the list is not exhaustive may speak against Farber's theory (inventory of a greater storehouse) since one would expect all plants, certainly the frequently used ones, to be available in the storehouse. It is also not certain that the way of preserving the plants was the internal classification system.

Without offering absolute certainty concerning this text, I tend to believe the last theory. In all probability KADP 36 is an educational text, not based on any real example. The main argument for such an opinion is the incompleteness of the list, the fact that some plants are mentioned twice and the formulaic grouping of plants. The latter is the result of literary reasons, rather than pharmacological ones. The sequences probably reflect nothing more than the order in which the scribes learned the plants. Furthermore the scribe may have had botanical knowledge; but he was not an expert in it. This leads one to think the scribe was still under instruction and that KADP 36 is a school text. In that case we are dealing here with a text from the Faculty of Medicine of the University of Assur and not with a real inventory⁵⁰.

⁴⁴ GOLTZ 1968 (see n. 3), p. 98.

⁴⁵ This is mentioned as an improbable possibility by EDZARD - VEENHOF 1976-1980 (see n. 5), p. 139.

⁴⁶ GOLTZ 1968 (see n. 3), p. 98.

⁴⁷ This is mentioned as an improbable possibility by W. FARBER, 'Drogerien in Babylonien und Assyrien', in *Iraq* 39 (1977), p. 224.

⁴⁸ Ibid.

⁴⁹ B. LANDSBERGER, apud KÖCHER (see n. 4), p. 10; EDZARD - VEENHOF 1976-1980 (see n. 5), p. 139, who prefer this possibility.

⁵⁰ Consequently I propose that we cautiously stop to use the denotation "Pharmaceutical Inventory" and simply call this text by its publication number KADP 36.