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**Words for loss of sensation and paralysis  
in Assyro-Babylonian medical texts:  
some considerations<sup>1</sup>**

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**Abstract:** Loss of sensation and paralysis can be caused by severe nerve injury or disease, and in some cases might be the consequence of strokes or seizures. In Assyro-Babylonian medical texts various words are commonly used to indicate loss of sensation and/or paralysis, such as *šimmatu*, *rimûtu*, *mišittu*, and *kasû*, *kamû*, *hamû*, *himîtu*, *kabālu*, etc., which have been translated in many ways by modern scholars. The purpose of this paper – part of a wider project concerning terms and expressions describing individual suffering in ancient Mesopotamia – is to analyse these words by examining different types of medical texts, so as to obtain a clearer idea of the illnesses and problems indicated by them.

### INTRODUCTION

In Assyro-Babylonian medical texts there are many words related to paralysis and loss of sensation, from the most common *šimmatu*, *rimûtu*, *mišittu*, to the less frequent *hamû*, *himîtu*, *kasû*, and so on.

Regarding their interpretation, modern scholars have developed various hypotheses, which in some cases differ greatly from one other. It is, of course, well known that the study of Assyro-Babylonian medical texts is very problematic. The meanings of verbs and nouns used to describe signs (objectively observable by others) and symptoms (subjective, observed by the patient) related to ancient pathologies are particularly difficult to understand.

In general, in the words of E. Robson: “Mesopotamian medical writings are full of technical terms for the afflictions suffered by patients. Leaving those terms untranslated can render the texts virtually meaningless; yet attempts to find translations can run into major methodological problems”.<sup>2</sup> Furthermore, trying to identify ancient pathologies with modern diseases can suffer from the problem of retrospective diagnosis. As N.P. Heeßel states:

“The difficult situation is well known: diseases change over time, some vanish, some come into being, descriptions of symptoms are not systematic enough for a differential diagnosis, diseases are categorized differently over time and space, names of diseases can change over time or the same name denominates different diseases, diseases that originate in a specific area are transmitted to more distant regions and finally and most importantly modern diseases are defined on micro-bacteriological or pathological-anatomical grounds whereas in ancient times were defined solely on a symptomatological basis”.<sup>3</sup>

Taking note of these problems, after a brief description of how modern medicine defines loss of sensation and paralysis, in this article I will analyse some of the words listed above, examining different types of medical texts, so as to obtain a clearer idea of the illnesses and problems they refer to, and also of what Assyro-Babylonian medical professionals used to observe in cases of paralysis.

Moreover, it should be pointed out that this study – part of a wider project concerning terms and expressions describing individual suffering in ancient Mesopotamia – is work in progress. Here, I discuss some preliminary results of this analysis, which will be completed in the near future.

### LOSS OF SENSATION AND PARALYSIS

Loss of sensation and paralysis can be caused by severe nerve injury or disease, and in some cases might be the consequence of strokes or seizures.

According to modern medicine, loss of sensation means that one or more of the five senses are impaired

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<sup>1</sup> This article is a revised version of a paper presented at the 63<sup>rd</sup> RAI in Marburg, in the session organized by the BabMed Project (24-28<sup>th</sup>, July 2017); it has greatly benefitted from the many useful comments and advices of Prof. Annie Attia. Of course, all remaining mistakes are my own.

<sup>2</sup> Robson 2008, 461.

<sup>3</sup> Heeßel 2004, 6.

(one type is called numbness and concerns only the loss of the sense of touch). It can be partial or complete, and it is usually a symptom of some underlying disease, acute or chronic.

Paralysis is identified as lack of movement (but not necessarily of the capacity to feel), which may affect an individual muscle, but usually affects an entire group of muscles. It is caused by diseases or nerve injuries.

In general, we can say that paralysis (lack of movement) might be: 1) permanent; or 2) transient. Both of them could be: i) spastic (a chronic pathological condition in which the muscles are affected by persistent spasms and exaggerated tendon reflexes); ii) flaccid (an abnormal condition characterized by the weakening or the loss of muscle tone).<sup>4</sup>

## ASSYRO-BABYLONIAN TERMS FOR LOSS OF SENSATION AND PARALYSIS

### *Šimmatu* and *šamāmu*

Both verb and noun – which, according to the dictionaries, are usually understood as “paralysis” (“Lähmung, Paralyse”)<sup>5</sup>, and “to paralyze, to numb” (“lähmen”)<sup>6</sup> – might be found in therapeutic texts and in incantations, describing affections concerning the body as a whole or some of its various parts.

Here are some lines from BAM and SA.GIG containing both the verb and the noun:

- (1) DIŠ NA *hu-uš-ša* GAZ ŠÀ TUKU.TUKU-*ši* m[*i-na-tú-šú* DUB.DUB]  
 EME-*šú it-te-nen-biṭ* EME-*šú ú-na-a[š-ša-ak]*  
 GEŠTU<sup>II</sup>-*šú GÜ.GÜ-a ŠU<sup>II</sup>-šú i-šam-ma-ma-šú* b[*ir-ka-šú kim-ša-šú*]  
*i-kàs-sà-sà-šú* SAG ŠĀ-*šú it-ta-n[a-az-qar]*  
*ana* MUNUS DU LAL *hur-ba-šú ŠUB.ŠUB-su i-[kabbir ibahḥu]*  
 ÚḪ *ina* KA-*šú it-ta-na-ad-d[i]*  
 NA BI *ina* NINDA *šu-kul ina* KAŠ NAG *ina* Ì Š[*EŠ*]  
 “If a man continually has heart-break,<sup>7</sup> his limbs are continually limp, his tongue is always swollen, he bites his tongue, his ears buzz, his hands **are ...**, his knees (and) legs cause him a gnawing pain, his epigastrium continually protrudes, he is not able to have intercourse with a woman, cold tremors continually afflict him, he is in turn fat and thin, he continually salivates from his mouth, [...], that man was given (bewitched) bread to eat, (bewitched) beer to drink, was anointed with (bewitched) oil, [...].”<sup>8</sup>
- (2) DIŠ L[*Ú S*]ÍG UGU-*šú iz-[za-az ...]*  
 NUNDUM-*šú ú-šab-ba-ta* G[*EŠTU<sup>II</sup>-šú išaggumā (?)*]  
 ÚḪ-*su il-la-ka [...]*  
<sup>na4</sup>KIŠIB GÚ-*šú ŠÌG.ŠÌG-su* DU<sub>8</sub>.MEŠ-*šú* GU<sub>7</sub>.[*MEŠ-šú (?)*]  
 SA.GÚ-*šú šag-gu ŠU<sup>II</sup>-šú u* G[*İR<sup>II</sup>-šú*]  
*ú-šam-ma-<ma>-šú ú-zaq-qa-t[a-šú]*  
 ŠĀ-*[šú] e-te-né-la-a la i-a[r-ru]*  
 [*zu-mur-šú šī*]*m-ma-tum ú-kal*  
 [*mi-na-tú-šú it-ta-na-áš-pa-k[a]*]  
 [...]  
*a-na* ZI-*e na-za-az-zi* DU<sub>11</sub>.DU<sub>11</sub> *mu-uq*  
 [NA BI *ki*]*š-pi ep-šu-šú-ma*  
 [*ina* NINDA.MEŠ *š*]*u-kul ina* KAŠ NAG  
 “If a ma[n, his ha]ir sta[nds up, ...], his lips are seized, [his] ea[rs buzz], his saliva runs, [...], his cervical vertebrae causes him a throbbing pain, his *piṭru*<sup>9</sup> de[vours him], his neck muscles are stiff, his hands and [his feet] **are ...** (and) stin[g him], [he] continually heaves (but) he cannot vomit, [his body] af[flicts him] with *šimmatu*, his [limbs] continually falter, [...], he is slow to get up, to stand up, to speak, [wit]chcraft has been performed against [this man], and he has been given (bewitched)

<sup>4</sup> For further analysis, cf. the website “medical-dictionary.thefreedictionary.com”.

<sup>5</sup> CAD (Š3, 7); AHw (1238).

<sup>6</sup> CAD (Š1, 295); AHw (1154).

<sup>7</sup> For a general analysis of the expression *hūšša ḥīp libbi* cf. Salin, “Anti-Witchcraft Rituals Against Depression in Assyro-Babylonian Therapeutic Texts”, (forthcoming). Among others, cf. also Stadhouders (2016).

<sup>8</sup> BAM 445//AMT 64, 2, 47-53. Cf. also Abusch/Schwemer (2011, 157, Text. no. 7.7).

<sup>9</sup> The word *piṭru* seems to denote a part of the body, but it has not been identified yet.

- bread to eat (and bewitched) beer to drink.”<sup>10</sup>  
 (3) DIŠ ZI SAG.KI TUKU-*ši-ma* ŠU<sup>II</sup>-šú u ĞİR<sup>II</sup>-šú *i-šam-ma-ma-šú* ŠU GÍDIM  
 “If he has throbbing temple, and his hands and feet **are** ...: ‘Hand of a ghost’.”<sup>11</sup>

About the translation of these words, many are the interpretations given by modern scholars, such as the recent hypothesis offered by JoA. Scurlock:

“The best translation appears to be ‘numbness’ (i.e., loss of sensation). The parts of the body affected by this finding make more sense as numbness as paralysis, the conventional translation”.<sup>12</sup>

Her suggestion is based on the fact that in some cases *šimmatu* is described as the consequence of a scorpion sting (or of a snake bite), as we can see in the following lines from the therapeutic texts AMT 91, and in particular from the 8<sup>th</sup> tablet of the ritual of rubbing (*Muššu’u*), in which *šimmatu* is described as affecting the flesh and muscles, the arms and feet, it is accompanied by fever and pain, and it might afflict the young as well as the old people:

- (4) DIŠ NA *šim-mat* ĞİR.TAB GIG (...)  
 “If a man is sick with *šimmatu* due to a scorpion sting (...).”<sup>13</sup>
- (5) ÉN *šim-m[a-t]um* [*šim-ma-tum*]  
 [*šim-mat*] UZU.MEŠ *š[im-mat] šér-a-ni*  
*šim-mat* [Á<sup>II</sup>] [*šim-mat*] ĞİR<sup>II</sup>  
*šim-mat* MUŠ *šim-mat* ĞİR.TAB  
 [*šim-mat m*]u-ti tab-ba-ni-i i-na [zu-um-ri-šú]  
 [ta-’-al-di] i-na UZU.MEŠ  
*tu-ša-bi-ti bur-ki-šu*  
 [tu-šam-ri-šu kin]-ši-šu  
 [tu-uš-ši]-i UZU.MEŠ-šú  
 [tu-šar-ri-pi ší]r-a-ni-šú  
 (...)  
 KÚM [ù ší]m-mat UZU.MEŠ *tal-tak-niš-šu*  
*am-mi-ni rab-ša-ti-ma t[a-k]a-li* UZU.MEŠ [ta-kaš-ša-ši] UZU ĞİR.PAD.DU-šú  
 (...)  
 [am]-mi-ni [GURUŠ u] KI.SIKIL *tu-šab-bi-ti*  
*tu-dab-bi-bi ši-i-ba*  
*tu-šar-’-i-bi* [ša-aḥ-ri]  
*taš-šu-ki ši-ra-niš*  
*ta-az-[q]u-ti zu-qa-qí-pa-niš*  
*ta-am-ḥa-ši ina qar-ni-ki*  
*tu-šar-di-i ina šim-ba-ti-ki*  
 GURUŠ *ina su-un* KI.SIKIL *tu-še-li-i*  
 KI.SIKIL *ina su-un* GURUŠ *tu-še-li-i*  
 (...)  
 “Incantation: ‘*Šimmatu šimmatu!*  
*Šimmatu* of the flesh, *šimmatu* of the muscles,  
*šimmatu* of the arms, *šimmatu* of the feet!  
*šimmatu* from a snake (bite), *šimmatu* from a scorpion (sting),  
*šimmatu* of the death, you were engendered in his body,  
 you were born in his flesh,  
 you seized his knees,

<sup>10</sup> VAT 13644//VAT 13609+VAT 13665//K 3394+9866. Cf. Abusch/Schwemer (2011, 263, ll. 1-13), BAM 56, rev. 9, and Salin (2017, 38).

<sup>11</sup> SA.GIG 4, 124. Cf. also Labat (1951, 42), Scurlock/Andersen (2005, Text no. 15.22), and Scurlock (2014, 40). Very similar are also AMT 20, 1, obv. i 36 and 38 (dupl. BAM 11, 32).

<sup>12</sup> Scurlock/Andersen (2005, 289).

<sup>13</sup> AMT 91.1 r. 4. Cf. Scurlock/Andersen (2005, 289, Text no. 13.37).

you made his calf sick,  
you confused his flesh,  
you burnt his muscles.

(...).

You afflicted him (with) fever and *šimmatu* of the flesh.

Why are you lurking and eating (his) flesh? (Why) do you gnaw his bones?

(...)

Why do you seize the young man and the young woman,

(why) do you harass the old man,

(why) do you make the children tremble,

(why) do you bite (like a) snake,

(why) do you sting (like a) scorpion,

(why) do you hit with your horn,

(why) do you bring down with your tail,

(why) do you take away the young man from the young woman's lap,

(why) do you take away the young woman from the young man's lap?

(...)."14

If we consider the diagnostic and therapeutic texts, *šimmatu* seems to have some of the characteristics described in the incantation:

- (6) DIŠ SAG.KI-šú DAB-su-ma SU-šú *šim-ma-tú* ú-kal u IR NU TUKU ŠU GIDIM<sub>7</sub>  
“If his temple seizes him, and *šimmatu* afflicts his body, but he does not have sweat: ‘Hand of a ghost’.”<sup>15</sup>
- (7) DIŠ NA IGI.MEŠ-šú GÚ-su u NUNDUN-su *šim-mat* TUKU.MEŠ-a ù ki-ma IZI i-ḥa-am-ma-ṭa-šú  
NA BI MAŠKIM mu-sa-a-ti DAB-su (...)   
“If a man, his face, his neck, and his lips continually have *šimmatu* and it burns him like fire, the *rābišu* of the lavatory afflicts him (...)”<sup>16</sup>
- (8) DIŠ NA ĞIR<sup>II</sup>-šú *šim-ma-tú* TUKU GU<sub>7</sub>.MEŠ-šú SA ĞIR<sup>II</sup>-šú sa-ag-gu-ma ĞIR<sup>II</sup>-šú BAL.BAL-šú  
(...)   
DIŠ LÚ ĞIR<sup>II</sup>-šú *šim-ma-tú* ú-kal-la KÚM-ma TUKU-a ù a-na a-tál-lu-ku DUGUD-šú (...)   
“If a man, his feet have *šimmatu*, (and) it continually devours<sup>17</sup> him, the muscles of his feet are stiff so that his feet continually shift (under) him, (...)”   
If a man, *šimmatu* afflicts his feet, they are feverish, and it is difficult for him to walk, (...)”<sup>18</sup>

In all the examples above proposed *šimmatu* is described as something painful; considering the signs and symptoms here listed, it might be suggested the connection to what is called, according to modern medicine, “dysesthesia”. This condition is defined as an abnormal sense of touch,<sup>19</sup> which may often include: 1) an itching and burning sensation; 2) pain; 3) tingling feelings; 4) pins and needles sensation; 5) a sensation or feeling of hitting the funny bone or mild muscle spasms; 6) electric shocks; 7) sharp, stabbing pain; 8) pain or irritation, even from minor or no touch. Moreover, dysesthesia might occur with hypoesthesia (diminution of sensitivity) and with various types of paralysis, depending on the aetiology.<sup>20</sup> Besides, by reading in particular example no. 8, it might be suggested that *šimmatu* could be interpreted as a “(spastic?) paralysis”,

<sup>14</sup> *Muššu'u* VIII, 1-10, 17-17a, 29-37. For a translation of the whole incantation cf. von Soden (1974, 341), Böck (2007, 299), Böck (2010b, 150). It is also worth mentioning the text published as BAM 398 r. 17', in which *šimmatu* is described as a disease devouring and gnawing young and old people, men and women: *am-mi-ni šim-ma-tum GURUŠ u KI.SIKIL ta-kas-sà-si* “Why, *šimmatu*, do you gnaw the young man and the young woman?”

<sup>15</sup> SA.GIG 4, 19. Cf. also Labat (1951, 34), and Scurlock (2014, 34).

<sup>16</sup> SpTU 1.46, 6-8. Cf. Scurlock/Andersen (2005, 290, Text no. 13.38).

<sup>17</sup> The verb *akālu* is usually understood as “to hurt”, but personally I would rather translate it literally, i.e. “to devour”, since it describes a pain that eats one or more specific parts of the body.

<sup>18</sup> BAM 122, obv. 8-10//AMT 70, 7, ii 7'-8', BAM 122, obv. 16-17. Cf. also Scurlock/Andersen (2005, 291, Texts nos. 13.48, 13.267, and Text no. 19.351), Böck (2010a - TUAT NF 5, 103, Text no. 2.11.6), Scurlock (2014, 567).

<sup>19</sup> From the Ancient Greek “dys” (“abnormal”) and “aesthesia” (“sensation”).

<sup>20</sup> Cf. for instance the descriptions of the following websites: <https://www.medicalnewstoday.com/articles/319700.php>, and <https://en.wikipedia.org/wiki/Dysesthesia>.

or perhaps as a “spasm”. This involuntary contraction of a muscle (or group of muscles) might be accompanied by intense pain, and furthermore its main characteristic is that it makes impossible any kind of voluntary movement. Interestingly, all these signs and symptoms are very similar to those caused by a scorpion sting; according to the modern medicine description of its consequences, scorpion’s venom – which includes neurotoxins – might cause a very intense pain, numbness and tingling, paralysis, and in the worst hypothesis hypotension (heart failure, and therefore death for pulmonary edema).<sup>21</sup>

As a consequence, the translation suggested by JoA. Scurlock of *šimmatu* as “numbness” is not completely suitable; indeed, according to the incantation and the therapeutic texts offered above, numbness might be just one of the signs and symptoms occurring. Analysing their descriptions, *šimmatu* seems to be a very complex syndrome, which might include several aspects with no equivalent in our medical vocabulary.

In order to complete the analysis of *šimmatu*, the following paragraph will examine the noun *rimûtu* – another word usually interpreted as “paralysis” or “numbness” – with which it is often listed together.

### *Rimûtu and ramû*

For this noun too (and the related verb *ramû*), many divergent hypotheses have been proposed. The dictionaries translate it as “numbness, paralysis”<sup>22</sup> and “eine Art v. Lähmung”<sup>23</sup>, while for instance JoA. Scurlock, and J.V. Kinnier Wilson and H. Reynolds render it, respectively, as “limpness” (from the verb *ramû* “to limp”)<sup>24</sup>, and its synonym “flaccidity”, i.e. “a limp or relaxed state of the muscles”<sup>25</sup>.

- (9) DIŠ NA (...) GAZ ŠÀ-*bi* TUKU.TUKU-[š*i*] DUG<sub>4</sub>.GA NU ŠE.GA *sa-su-u la ap-pa-lu i-zi-im-tú* KA UN.MEŠ *hi-a-[tu] i-na* KI.NÁ-š*ú* MUD.MUD-*ud ri-mu-tu* TUKU-š*i* *a-du bi-nu-te-šú ana* DINGIR *u* LU[GAL] ŠÀ-*bi-šú ma-li mi-na-tu-šú* DUB.DUB-*ak pi-qa la pi-qa i-pár-ru-ud ur-ra u* GI<sub>6</sub> *la NÁ-lal MÁŠ.GI<sub>6</sub>.MEŠ pá-r-da-a-ti* IGI.DU<sub>8</sub>.A.MEŠ *ri-mu-tu* TUKU.TUKU (...) “If a man (...) continually has heart-break, speaking (but) no (one) listening, calling out with no (one) answering, not achieving his desire, he is frightened in his bed, he **has rimûtu** as regards his shape, he is filled with anger against god and king, his limbs are continually limp, sometimes he is so frightened that he cannot sleep by day or night, he continually sees troubled dreams, he always **has rimûtu**, (...)”<sup>26</sup>
- (10) DIŠ UB.MEŠ-š*ú ir-mu-ú* *u* MÚD *i-te-ez-zi* EGIR-*ta<sub>5</sub> ŠIG-iš* GAM “If his limbs **are ...?** and he excretes blood: he has been hit from behind. He will die.”<sup>27</sup>

It seems to me that the interpretation of both verb and noun as “voluntary state of inertia/inactivity” is to be preferred to “numbness”, especially if we consider example no. 9. Indeed, in a case of what we call depression usually the whole body is inert/inactive, in a sort of voluntary paralysis (that is to say, lacking a physical cause); here, the state of mind influences bodily activity, making the body passive and inactive.

Now, some of those texts in which this noun follows *šimmatu* will be analysed:

- (11) DIŠ ZI SAG.KI *šim-ma-tú u ri-mu-tú* TUKU.TUKU-š*i* ŠU GÍDIM “If he has a throbbing temple, *šimmatu* and *rimûtu*: ‘Hand of a ghost’.”<sup>28</sup>
- (12) (...) *di-kiš* U[ZU.ME]Š *šim-mat ri-mu-tú* [...*ar-ta-n*]a-š*u-u* UZU.MEŠ[-*ia*] MURU-*a-a bir-ka-a-a* [.....] *ki-ša-la-a-a up-ta-na-ša-ra* [*ana te-bi-i uzuzzi*] ù D[U<sub>11</sub>].DU<sub>11</sub> *mu-qa-ka* Z[I.MU] *ik-te-ner-ru-*

<sup>21</sup> Cf. for instance the website <https://www.mayoclinic.org/diseases-conditions/scorpion-stings/symptoms-causes/syc-20353859>. According to A.S. Gilbert (1995: 172), the “Near Eastern species that pose sufficient danger to human to be classified as ‘medically important’ include the fat-tailed scorpions (*Androctonus australis* of North Africa and *Androctonus crassicauda* of the Levant, Turkey, and Iraq), the common yellow scorpion (*Buthus occitanus* of North Africa and the Levant), and the yellow scorpion (*Leiurus quinquestriatus* of North Africa, the Levant, and Turkey)”.

<sup>22</sup> CAD (R, 363).

<sup>23</sup> AHw (987).

<sup>24</sup> Scurlock/Andersen (2005, 292).

<sup>25</sup> Kinnier Wilson/Reynolds (2007, 70-71).

<sup>26</sup> BAM 234, 1, 4-8. Cf. also Stol (1993, 29), Ritter/Kinnier Wilson (1980, 25-26), Abusch (1999, 85), Scurlock/Andersen (2005, 371, Text no. 16.20), Couto-Ferreira (2010, 31). An in-depth analysis of the lines 6-8 is that offered by Buisson (2016 – JMC 28, 60-65).

<sup>27</sup> SA.GIG 22, 38. Cf. Heeßel (2000, 260), Scurlock/Andersen (2005, 292, Text no. 13.51), and Scurlock (2014, 187).

<sup>28</sup> SA.GIG 4, 125. Cf. also Labat (1951, 42), and Scurlock (2014, 40). Very similar are also AMT 20, 1, obv. i 36 and 38 (dupl. BAM 11, 32).

*u*] *ir-ti* [... MAŠ.SİL-*a*]-*a* GU<sub>7</sub>.MEŠ *e-ta-na-áš*-[šá-šú ...]

“(...) I have *dikiš šīrī* (= stinging pain of the flesh?),<sup>29</sup> *šimmatu* (and) *rimûtu*, my flesh, my hips, my knees [...], my ankles continually slacken, I am slow to rise, to stand up and to speak, [...], I am continually short of breath, my chest [...], my scapulae devour me, I am afflicted, (...).”<sup>30</sup>

- (13) DIŠ *šim-ma-tim* ù *ri-mu-tim* *ni-ri šal-mu-tim ša pi-ri-is* GU.MEŠ *ana 3-šú* TAB-*ip 3* KA.KEŠDA KEŠDA

“For *šimmatu* and *rimûtu* you twine three times black strings from cut-off threads, (and) tie three knots.”<sup>31</sup>

- (14) DIŠ NA MURUB<sub>4</sub> UGU-šú SAG.KI.MEŠ-šú TAG.TAG-[*ut*] GEŠTU<sup>II</sup>-šú *i-šag-gu-ma liq pi-šú i-ta-na-[bal]* *šim-ma-tú ri-mu-tú* TUKU.TUKU-šī (...)

“If a man, the middle of his head (and) his temples continually touch him, his ears roar, his palate is continually dry, he has *šimmatu* (and) *rimûtu* (...).”<sup>32</sup>

The interpretation given in the article “On stroke and facial palsy in Babylonian Texts”<sup>33</sup> by J.V. Kinnier Wilson and H. Reynolds for the pair *šimmatu rimûtu* “as hemiplegia”<sup>34</sup> – i.e. the total or partial inability to move one side of the body – is, in my opinion, not right. Indeed, there is no evidence to indicate that these are cases of hemiplegia, since there is no mention of the involvement of the right or left side of the body. Reading examples nos. 11 - 12 - 13 - 14, it seems to me that *šimmatu* might indicate lack of movement *sensu lato*, while *rimûtu* might be interpreted as “inert condition”, which might be caused by: 1) a subjective state (for instance depression – example no. 12), or 2) an objective state (such as disease – example no. 14). The difference is that in the first case the patient (i.e. the subject) does not want to move, while in the second, he is not able to. So, it might be concluded that the ancient medical professionals used these two words together in order to emphasise their meaning of immobility, or perhaps by intending *šimmatu* as a sort of spastic paralysis, and *rimûtu* as a flaccid paralysis.

Thus, while for *rimûtu* a reliable translation seems to be possible and relatively clear to define (“inertia” and/or “flaccid paralysis”), for *šimmatu* the situation is more complicated. If together with *rimûtu* this word might be understood as “paralysis” or “lack of movement” *sensu lato*, when it occurs alone it might be intended in different ways; indeed, it has been said that in some cases it may be connected to what we call “dysesthesia” or “abnormal sense of touch”, sometimes followed by the indication of a “spasm” or perhaps a “(spastic) paralysis” (cf. in particular example no. 8). In conclusion, even though a precise interpretation for *šimmatu* (and *šamāmu*) is very difficult, for it seems a pathology with numerous and various features – with no convincing equivalent in our vocabulary – in my opinion it may be stated that it could describe the concepts of: 1) in general, “(spastic?) paralysis” (in association with different kinds of pain); 2) in some cases, “(a painful) spasm”.

### ***Mišittu and mašādu***

“In medical texts the verb *mašādu* denotes a severe stroke, which usually causes paralysis, i.e. an ictus (or apoplectic stroke)”,<sup>35</sup> which may be caused by either haemorrhage (rupture) or embolism (blockage). The dictionaries translate it as: “to strike with palsy”<sup>36</sup> and “schlagen; walken?”.<sup>37</sup>

This verb is rather frequent in diagnostic and therapeutic texts, often accompanied by the noun *mišittu*<sup>38</sup>,

<sup>29</sup> *Dikšū*: CAD (D, 137), and AHw (169). The latter translates it “Ausbauchung, Schwellung”, followed by Labat (1957-1971, 231), Köcher (1978, 38, note no. 94), and Abusch (2015, 59, l. 64). For an in-depth analysis of the term, cf. Salin (2017, 44).

<sup>30</sup> VAT 13609+VAT 13665//K 3394+9866. Cf. also Abusch/Schwemer (2011, 265, Text no. 8.2, ll. 65-69).

<sup>31</sup> BAM 194, iv 6. Transliteration and translation are mine. Cf. also the *muššū’u* ritual of rubbing against paralysis-*šimmatu*: “Demons and their corresponding diseases were believed to be caught by knots, bands, threads, strings, or amulets that were fixed around those parts of the body possessed by the evil spirit” (Böck 2003, 13).

<sup>32</sup> LKA 88, 1-3. Transliteration and translation are mine.

<sup>33</sup> CM 36, *Disease in Babylonia*, 2007, 67-99.

<sup>34</sup> Kinnier Wilson/Reynolds (2007, 70-71).

<sup>35</sup> Salin (2015, 329).

<sup>36</sup> CAD (M1, 351).

<sup>37</sup> AHw (623).

<sup>38</sup> CAD (M2, 125), AHw (660).

derived from the verb itself. While J.V. Kinnier Wilson and H. Reynolds translate it as “paralysis”,<sup>39</sup> Assyriologists like M. Stol,<sup>40</sup> N.P. Heeßel<sup>41</sup> and JoA. Scurlock,<sup>42</sup> usually render *mišittu* as “stroke”. The latter, in particular, states that this word “(...) has a range of Sumerian equivalents including ŠU.ÛR (to rub) and RA (to strike). What was envisaged was that a demon, usually the *rabišu*, had literally rubbed or struck the patient on the affected part, making *mišittu* an almost exact equivalent of the English term ‘stroke’”.

- (15) [DIŠ NA] *mi-šit-ti pa-ni ma-šid-ma ta-lam-ma-šú i-šam-ma-am-šú KIN mi-šit-ti GIG*  
 “[If a man], a **stroke strikes** his face (= he has a facial palsy), and his torso is paralyzed: he is sick with **attack of stroke**.”<sup>43</sup>
- (16) DIŠ *mi-šit-ti im-šid-su-ma lu 15 lu 150 ŠIG-iš MUD Á-šú NU pa-tir ŠU.SI.MEŠ-šú NIR.NIR-aš ŠU-su ú-šaq-qá u NIR-aš ĞIR-šú i-kan-na-an u NIR-aš NINDA u KAŠ NU TAR-us DAB GIDIM<sub>7</sub> ana EDIN <U<sub>4</sub>>.3.KÁM NI.ŠI*  
 “If he **has been struck with a stroke** and he has been hit on either his right or his left side, his shoulder is not released, (and) he can stretch out his fingers, he can rise and stretch out his hand, and he can flex and stretch out his foot, he is not off his bread and beer: affliction by a ghost of the steppe. After three <days>, he will recover.”<sup>44</sup>
- (17) [DIŠ ZA]G AD<sub>6</sub>-šú *ka-lu-šú-ma tab-kát mi-šit-ti MAŠKIM EGIR-ta<sub>5</sub> ŠIG-iš*  
 “[If the right side of his body is limp in its totality: **stroke** (caused by) a *rabišu*-demon: he has been hit from behind.”<sup>45</sup>
- (18) DIŠ NA *mi-šit-ti pa-ni i-šú IGI-šú i-šap-par ur-ra u mu-šá ip-ta-na-at-ti la it-ta-na-a-a-al ina LÁL Ì.NUN.NA IGI.MEŠ-šú ka-a-a-nam-ma muš-šu-du la i-kal-la ʽIN.ÚŠ ba-lu pa-tan GU<sub>7</sub>.MEŠ TI*  
 “If a man has a **stroke** on the face (= he has a facial palsy), his eye squints, day and night it remains open (so that) he cannot sleep, he should not cease to constantly rub his face with honey and ghee, (and) he should continually eat the *maštakal*-plant on an empty stomach. He will recover.”<sup>46</sup>

It is worth noting that in these cases the medical professionals observed not only the area of the body affected (nos. 15 - 18 the face = facial palsy; nos. 16 - 17 half of the body = hemiplegia), but also the duration of the signs. In examples nos. 16 and 18, for instance, we can see the description of what we call a transient paralysis – indeed, the prognosis are: “After three days, he will recover” and “He will recover” – while in nos. 15 and 17 we might perhaps suppose cases of permanent paralysis, since the duration of the illness is not specified.

### Other Words Relating to Paralysis

In addition to the words examined above, there are many other terms relating to paralysis or its signs in medical texts. Significant among these are *kasû*, *kamû*, *hamû*, *himîtu*, and *kabālu*.

#### *Kasû*

This very rare verb might be understood in different ways depending on the context: while in letters and in administrative texts it can be translated as “to bind”, often in the meaning of “to arrest (a person), to put someone in fetters”,<sup>47</sup> in medical texts it might be used to denote a kind of paralysis (“to paralyze limbs and parts of the body, to bind magically, etc.”). The patient’s body (as a whole, or various parts of it) might be

<sup>39</sup> They comment that when “*mišittu* is associated with specific parts of the body, namely, the cheek, neck, hip, trunk, arm and leg, (...) ‘paralysis’ is appropriate while ‘stroke’ is not” (2007, 70). Furthermore, they add that: “the precise term for stroke in Akkadian was *šipir mišitti*, perhaps literally ‘attack of paralysis’, following G. Meier’s ‘Anfall’ for *šipru* (in ZA 45: 208)” (Kinnier Wilson/Reynolds 2007, 69-70).

<sup>40</sup> Stol (1993, 74ff).

<sup>41</sup> Heeßel (2000, 301).

<sup>42</sup> Scurlock/Andersen (2005, 327-328).

<sup>43</sup> SA.GIG 27, 1. Cf. also Labat (1951, 188), Stol (1993, 74), Heeßel (2000, 301), Scurlock/Andersen (2005, 330, Text. no. 13.241), Kinnier Wilson/Reynolds (2007, 87), and Scurlock (2014, 208).

<sup>44</sup> SA.GIG 27, 5-7 (dupl. AMT 77, 1, i 2-4). Cf. also Labat (1951, 188); Stol (1993, 75), Heeßel (2000, 301), Scurlock/Andersen (2005, 328, Text. no. 13.227), Kinnier Wilson/Reynolds (2007, 87), Scurlock (2014, 208).

<sup>45</sup> SA.GIG 27, 10. Cf. also Labat (1951, 188), Stol (1993, 75), Heeßel (2000, 301), Kinnier Wilson/Reynolds (2007, 87), Scurlock (2014, 208).

<sup>46</sup> AMT 76, 5, 11-13+//AMT 79, 4, 1-4//SpTU I, 46, 16-19//AMT 35, 6, 5'-7'. Cf. also Kinnier Wilson/Reynolds (2007, 81), Scurlock/Andersen (2005, 329, Text. no. 13.233).

<sup>47</sup> CAD (K, 250); AHw (455) – “binden”.



bound, impeding movement.

In the following examples from therapeutic texts it designates one of the symptoms of witchcraft (in the first case, followed by *šimmatu*, it perhaps indicates a spasm):

- (19) DIŠ NA SAG.DU-*su iṣ-ša-na-bat-su šit-t[um ...]*  
 MÁŠ.GI<sub>6</sub>.MEŠ-šú *pár-da ina šit-ti-šú ig-da-n[a-lu-ut]*  
*bir-ka-šu ka-si-a ba-ma-as-su šim-ma-[tum ú-kal]*  
 UZU-šú *ru-ṭi-ib-[ta] im-ta-na-al-lu-u*  
 LÚ BI *ka-ši-ip (...)*  
 “If a man, his head continually seizes him, sleep [...] his dreams are frightful, he is continually ter[rified] during his sleep, his knees **are bound**, his chest [afflicts (him)] with *šimma[tu]*, his flesh is full of ‘humidity’:  
 this man has been bewitched.”<sup>48</sup>
- (20) [DIŠ NA] ŠÀ-šú *ik-ta-na-su-šú ŠÀ-šú i-ḥa-áš*  
 DU<sub>8</sub>.MEŠ-šú IR Š[UB-ú DAB-i]t ŠÀ TUK.MEŠ-ši  
 SAG ŠÀ-šú ÚḤ TUK.MEŠ-ši NA BI *k[a-šip]*  
 “[If a man], his abdomen **continually binds him**, he retches, his *piṭru* secrete sweat, he continually has seizure of the abdomen, his epigastrium continually has phlegm: this man has been bewitched.”<sup>49</sup>

If in the first example the verb refers to a paralysis of a man’s knees, in the second it concerns a sort of binding in the abdomen, probably caused by numerous impulses to vomit, and perhaps indicating a sensation similar to what we call blockage of the stomach or of the intestine.

Moreover, it is worth noting that the verb *kasû* is often used in the description of substitution rites.<sup>50</sup> Indeed, in anti-witchcraft rituals we might find not only guidelines for the preparation of figurines<sup>51</sup> representing warlock and witch, but also those regarding the actions the sick person (or the *āšipu*) should perform in order to hurt and humiliate them, just as they had previously done to the patient. These include that the victim should bind (or twist) the hands, arms and legs of warlock and witch behind their backs:

- (21) šá NU.MEŠ-*ia ib-nu-u bu-un-na-an-ni-ia ú-maš-ši-lu<sub>4</sub>*  
 KA-*ia ú-šab-bi-tú GÚ ú-tar-ri-ru*  
 (...) *a-ḥi-ia iṣ-pu-ku bir-ki-ia<sub>5</sub> ik-su-ú (...)*  
 “(Those) who have made my figurines, reproduced my facial features,  
 Seized my mouth, made my neck tremble,  
 (...)   
 Caused my arms to fall limp, **bound** my knees (...).”<sup>52</sup>
- (22) [DŪ.DŪ.BI ina IGI<sup>d</sup>UTU NÍG.N]A<sup>šim</sup>LI GAR-*an KAŠ.SAG BAL-qí 2 NU Ì.UDU 2 NU*  
 DUḤ.LÁL  
 [2 NU DUḤ.ŠE.GIŠ.Ì 2 NU ESIR DŪ]-*uš MU.NE.NE ina BAR.SÌL 150-šú-nu SAR-ár*  
 [g<sup>is</sup>DÁLA g<sup>is</sup>GIŠIMMAR *ana UGU-šu-nu te-re]t-ti ŠU<sup>II</sup>-šú-nu u GÌR<sup>II</sup>-šú-nu ana EGIR-šú-nu ta-kàs-  
 si*  
 “[Its ritual]: you place a [cen]ser [in front of Šamaš] with *burāšu*-juniper, you pour a libation of beer, (then) [you make] two figurines of tallow, two figurines of wax, [two figurines of sesame pomace (and) two figurines of bitumen]. You write their (= of warlock and witch) names on their left shoulder. [You inse]rt [a thorn of the date palm into their head(s)] (and) **bind** their hands and their feet to their back.”<sup>53</sup>

<sup>48</sup> AMT 86, 1, 19’-23’. Cf. Abusch/Schwemer (2011, 91, Text no. 2.3).

<sup>49</sup> BAM 5, 434, 40’-42’’. Cf. also Abusch/Schwemer (2011, 233, Text no. 7.10) and Scurlock/Andersen (2005, 357-358, Text no. 15.8).

<sup>50</sup> Cf. in particular Schwemer (2007, 205-208); Ambos (2010); Abusch/Schwemer (2011, 22-23); Verderame (2013).

<sup>51</sup> Cf. the interesting study on figurines and its use in rituals written by Verderame (2013).

<sup>52</sup> *Maqlû* I, 96-97, 101. See also Abusch (2015, 50; 2016: 41).

<sup>53</sup> K 8107. Cf. also Abusch/Schwemer (2011, 142, Text no. 7.6.5, ll. 9-12).

***Kamû***

Similar, but less frequent, is the verb *kamû*, which is generally translated “to capture or defeat an enemy, to overcome, to ensnare, to attach, etc.”,<sup>54</sup> and sometimes might be taken to mean “to bind”. Here follows an example from SA.GIG:

- (23) [DIŠ Š]U<sup>II</sup>-šú **ka-ma-ma** GÌR<sup>II</sup>-šú *šad-da* (...)  
 “[If] his hands **are bound** and his feet are taut (...).”<sup>55</sup>

***Ĥamû and ĥimîtu***

The verb *ĥamû* and the noun *ĥimîtu* are very infrequent. The dictionaries translate them as “to paralyze, immobilize”, “lähmen”<sup>56</sup>, and “a disease, probably paralysis”,<sup>57</sup> but their interpretation is problematic.

Here follow some examples from SA.GIG and from an incantation against witchcraft:

- (24) [DIŠ TA] A.MEŠ *ina* E<sub>11</sub>-šú AD<sub>6</sub>-šú **ih-mi-šu-ma** NIGIN ŠUB-*ut* MAŠKIM ÍD SÌG-*iš* [...]  
 “If when he comes out from the water, his body **is paralyzed?**, he has vertigo, and he falls down: he has been struck by the *rābišu* of the river.”<sup>58</sup>
- (25) [DIŠ UD LAL-šú] SAG.[KI].MEŠ-šú GU<sub>7</sub>.MEŠ-šú ŠÀ-šú GAZ.MEŠ-šú EGIR-*nu* ŠU<sup>II</sup>-šú *u* GÌR<sup>II</sup>-šú *ú-kap-pár* [BAL.BAL-*ut* UĤ] NU TUK : *it-ta-nag-ra-ár* ŠUB-*tu* : **ĥa-mi-tu**<sub>4</sub> ŠU <sup>4</sup>15 ZI-*bi*  
 “If (something) comes over him, his temples continually devour him, his heart is continually broken, afterwards he rubs his hands and his feet, he continually shift, (and) he does not have any saliva : (var.) he continually rolls over: *miqtu* : (var.) **paralysis?** : ‘Hand of Ištar’. He will rise (again).”<sup>59</sup>
- (26) *dal-ĥa-ku dul-lu-ĥa-ku la-a’-šá-ku par-da-ku ĥa-ma-ku da-ma-ku*  
 “I am disturbed, I am very disturbed, I am bothered, I am frightened, **I am paralyzed?**, I am in convulsions, (...).”<sup>60</sup>

Given the contexts of the above examples, finding a reliable translation for these words is not easy. It seems to me that in the last two cases noun and verb should be interpreted as a sort of inability to move voluntarily – indeed, the patient is described as continually rolling over (no. 25) or in convulsions (no. 26) – while in the first case (example no. 24) the meaning may be “paralysis”, even though the interpretation given by M. Stol and N.P. Heeßel as “gooseflesh”<sup>61</sup> might not be excluded.

***Kabālu***

This very rare verb might be found in medical texts and in *omina*, and it is usually translated “to be paralyzed, to be lame; to make immobile, etc.”<sup>62</sup>.

- (27) [DIŠ N]A *tu-ĥar eq-bi-šu ka-bíl* IGI UZU.MEŠ-šú KÚR.KÚR GIG [... G]A DUGUD (...)  
 “If a man, the ... of the heel **is paralyzed?**, (and) his flesh keeps getting worse, the illness [...] is difficult (...).”<sup>63</sup>
- (28) DIŠ NA KA-šú NUNDUN-*su ana* ZAG/GÙB **kub-bu-ul-ma** *da-ba-ba la i-le-’i* (...)  
 “If a man, his mouth (and) his lips **are paralyzed** to the right/left (side), (so that) he cannot talk (...).”<sup>64</sup>

<sup>54</sup> CAD (K: 128).

<sup>55</sup> SA.GIG 11, 32. Cf. also Scurlock/Andersen (2005, 293, Text no. 13.60) and Scurlock (2014, 88).

<sup>56</sup> CAD (Ĥ, 72); AHw (319).

<sup>57</sup> AHw does not have this entry; it writes instead *ĥamātu*, and it links it to *sakallu* CAD (Ĥ, 191); AHw (319).

<sup>58</sup> SA.GIG 27, 25. Cf. also Stol (1993, 79), Heeßel (2000, 302), and Scurlock (2014, 209).

<sup>59</sup> SA.GIG 26, 28’-29’. Cf. also Stol (1993, 74), Heeßel (2000, 295), Scurlock/Andersen (2005, 290, Text no. 13.42) and Scurlock (2014, 199).

<sup>60</sup> VAT 13609+13665//K3394+986. Cf. also Abusch/Schwemer (2011, 265, Text no. 8.2, l. 76).

<sup>61</sup> Cf. Stol (1993, 79; 1998, 344) and Heeßel (2000, 302). It is worth noting the hypothesis of Stol (1998, 344), who argues that it is named after *ĥamîtu* “wasp”.

<sup>62</sup> CAD (K, 3); AHw (414).

<sup>63</sup> BAM 2, 124, I 50-51. See also Scurlock/Andersen (2005, 291, Text no. 13.44).

<sup>64</sup> BAM 523, iii 3’-4’//BAM 174, obv. 5’-6’. Cf. also Scurlock/Andersen (2005, 290, Text no. 13.43).

If in the first example it is hard to give a definite interpretation, whereas in the second one it seems to me that this is undoubtedly a case of facial palsy, and so the verb should be understood as “to be paralyzed”.

### *Amāšu*

The verb *amāšu* – attested only in the infinitive and stative forms – has been interpreted by the dictionaries as “to be cataleptic”<sup>65</sup> and “zusammenziehen”,<sup>66</sup> while it has been taken to mean “to immobilize” by JoA. Scurlock.

As far as I know it occurs in just a few cases, all of them from the diagnostic series SA.GIG.

- (29) DIŠ LÚ.TUR ŠUB-tu ŠUB-su-ma ŠU<sup>II</sup>-šú u GÌR<sup>II</sup>-šú **am-šá** IGI<sup>II</sup>-šú mah-ḥa ina GÌR-šú É AD-šú BIR-aḥ  
 “If *miqtu* falls on a child, his hands and feet **are immobilized?**, (and) his eyes are suffused (= covered ‘with tears’), the house of his father will be dispersed at his foot.”<sup>67</sup>
- (30) DIŠ UD.5.KÁM UD.10.KÁM UD.15KÁM UD.20.KÁM U.MEŠ ŠU<sup>II</sup>-šú u GÌR-šú **am-šá** aš-ṭa-a-ma BAD-a u GUB-za NU ZU-e ŠU<sup>II</sup> 15  
 “If (he has been sick for) 5, 10, 15, 20 days, the fingers and toes of his hands and of his feet **are immobilized?** and are so stiff, (so that) he cannot neither open or stand (on them): ‘Hand of Ištar’.”<sup>68</sup>

In my opinion, the best interpretation of the verb is “to immobilize”, but since the examples in which it occurs are scarce, it is not possible to give a certain translation of this verb.

### CONCLUSION

To sum up, the analysis of the words proposed above – even though incomplete – permits a number of considerations.

It has been observed that words usually understood to concern numbness – i.e. the specific loss of sensation regarding the sense of touch – should rather be interpreted as “paralysis”/“spasm” (*šimmatu* – *šamāmu*) and “inertia, inactivity” (*rimûtu*). Indeed, it has been explained: 1) that the occurrence of verbs describing pain suggests that “numbness” is just one of the signs and symptoms occurring in the descriptions analysed; and 2) that the various contexts in which both words usually occur indicate that in my opinion we may exclude such an interpretation.

It has also been suggested that when *šimmatu* and *rimûtu* occur together they should be taken to emphasise the concept of immobility, in the sense of lack of movement and inertia (be it due to depression or disease).

Furthermore, it has been noted that other less common words are used to indicate paralysis (such as for instance *ḥamû*, *kabālu*, and *kasû*).

Moreover, it has been remarked that ancient medical professionals used to observe very complex semeiotic (and symptomatology). For instance, they noticed that paralysis: 1) might occur in different areas and regions of the body (for example, distinguishing cases in which it afflicts half of the body – hemiplegia – from those in which it affects the face – facial palsy); 2) might be either permanent or transient; 3) might be caused by the “Hand of a god” or the performance of a ritual in which warlock and witch bind the limbs of the victim.

Considering all these aspects, the above reflections on the possible meanings of the words related to paralysis would benefit from integration with further studies, in order to extend the scope of this work. The present paper may be considered a first step in a more complex study involving the analysis of other words related to problems concerning paralysis. Basing such a study on the examination of all the texts in which these terms occur and recording all the characteristics described in these texts, will hopefully lead to a more complete view of the matter. This wider analysis will aim to clarify not only the meanings assigned to specific words – which might change depending on the context – but also the way in which these words were classified, opening the way to a deeper understanding of Assyro-Babylonian thought.

<sup>65</sup> CAD (A2, 28).

<sup>66</sup> AHw (42).

<sup>67</sup> SA.GIG 40, 111. See also Labat (1951, 230), Scurlock/Andersen (2005, 290, Text no. 13.39).

<sup>68</sup> SA.GIG 16, 59’-60’. Cf. also Heeßel (2000, 183), Scurlock/Andersen (2005, 290, Text no. 13.40), Scurlock (2014, 159).

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