

## TEXTS AND DOCUMENTS

### TRANSLATION AND ANALYSIS OF A CUNEIFORM TEXT FORMING PART OF A BABYLONIAN TREATISE ON EPILEPSY

by

J. V. KINNIER WILSON and E. H. REYNOLDS \*

#### INTRODUCTION

The text which forms the basis of this study is represented by duplicate tablets deriving from two widely separated archaeological sites and belonging to different modern collections. The first of these documents, SU51/92+, was found at Sultantepe, near Urfa, in southern Turkey during the 1951–52 excavations of the British Institute of Archaeology at Ankara and the Turkish Department of Antiquities. It is written in the Neo-Assyrian script, and formed part of a collection of literary tablets whose colophons bear dates ranging from 718 to 612 BC. The second tablet, BM 47753, belongs to The British Museum's "Babylonian Collection". It does not originate from a controlled excavation, but there is nevertheless every likelihood that its provenance is Babylon. Beautifully written in the Neo-Babylonian script, it may be dated approximately to the middle of the first millennium BC.

Together these sources provide the nearly complete text of the Twenty-fifth or Twenty-sixth Tablet<sup>1</sup> of a medical diagnostic series known as *Sakikku*, or 'All diseases',<sup>2</sup> one of several Tablets hitherto missing from the reconstruction of the series published in 1951 by René Labat.<sup>3</sup> The series was complete in forty Tablets,

\*J. V. Kinnier Wilson, MA, FSA, Eric Yarrow Lecturer in Assyriology, Faculty of Oriental Studies, University of Cambridge, Cambridge CB3 9DA; E. H. Reynolds, MD, FRCP, Consultant Neurologist, Maudsley and King's College Hospitals, London, SE5 9RS.

The paper has been completed with the considerable help of Professor Marten Stol of the University of Amsterdam whose insights into the reading and meaning of the text has improved understanding at many points, and who will shortly further the study of epilepsy in Babylon with a monograph given under his own name. For permission to publish in this Journal photographs of the tablet, BM 47753, grateful acknowledgement is made to the Trustees of The British Museum.

<sup>1</sup> There is authority for both numbers, and it is not yet clear which has the greater claim for acceptance.

<sup>2</sup> For this meaning, now established by a medical commentary, cf. Hermann Hunger, *Spätbabylonische Texte aus Uruk*, Teil I, Berlin, Gebr. Mann Verlag, 1976, p. 48, note to 39: 9.

<sup>3</sup> *Traité akkadien de diagnostics et pronostics médicaux*, Leiden, E. J. Brill, 1951. The work is hereafter referred to by the standard abbreviation of "TDP".

and as is known particularly from a Catalogue discovered subsequently at Nimrud,<sup>4</sup> it was divided into six sections of which Tablet XXV/XXVI begins the fourth. Its entire concern was with “epilepsy” as this was anciently conceived and understood, a conclusion that follows at once from the many references to *antašubba*, a Sumerian term meaning suitably “the falling disease”, as does the Akk. *miqtu*<sup>5</sup> which translates it.<sup>6</sup> However, there are allusions to epilepsy in the Tablet following, and, according to the Catalogue, even the whole of Section IV had the title *Sakikku miqtu*, thus somehow relating its four or five Tablets—there is again a variant tradition—to epilepsy. It is for such reasons that, as indicated by the title of this study, the new text is seen as part of a larger whole, if no doubt the most important part. Quite certainly it represents the oldest written account of epilepsy so far known.<sup>7</sup>

To complete the documentation it may be mentioned that hand copies of the Assyrian tablet were published by O. R. Gurney shortly after the close of the Sultantepe excavations,<sup>8</sup> and the Babylonian tablet (plates 1 and 2) has been the subject of brief discussions by the first writer<sup>9</sup> and Franz Köcher.<sup>10</sup> What is now attempted in this Journal represents a first critical examination of the whole text. The transliterated text and additional philological material relevant to the study of epilepsy in Babylon will be given in the edition being prepared by Marten Stol.

#### THE ANCIENT APPROACH TO EPILEPSY

We may turn to a consideration of the contents of the new document, and here the first point to be made is that to Babylonian science, as to the Babylonian *āšipu*—the “doctor” and “scholar” most closely involved—it was clear that the manifestations of epilepsy were the work of demons and ghosts. The first line of our text is quite insistent in this respect, and there is evidence of a like kind from the times of the New Testament.<sup>11</sup> Associated with the demons was the concept of “possession”, Akk.

<sup>4</sup> Cf. J. V. Kinnier Wilson, ‘Two medical texts from Nimrud’, *Iraq*, 1956, 18: 130, also *idem*, ‘The Nimrud Catalogue of medical and physiognomical omina’, *Iraq*, 1962, 24: 52ff. A newly identified duplicate of the catalogue, BM 41237, will shortly be published by Dr I. L. Finkel of The British Museum.

<sup>5</sup> From *maqātu*, to fall”. The abbreviation “Akk.” stands for “Akkadian”, that is, Babylonian and Assyrian considered as a single culture or language.

<sup>6</sup> A more literal translation was *miqit šamē*, the “falling disease of heaven”, there being quite a strong tradition that heaven was the place of origin of certain diseases.

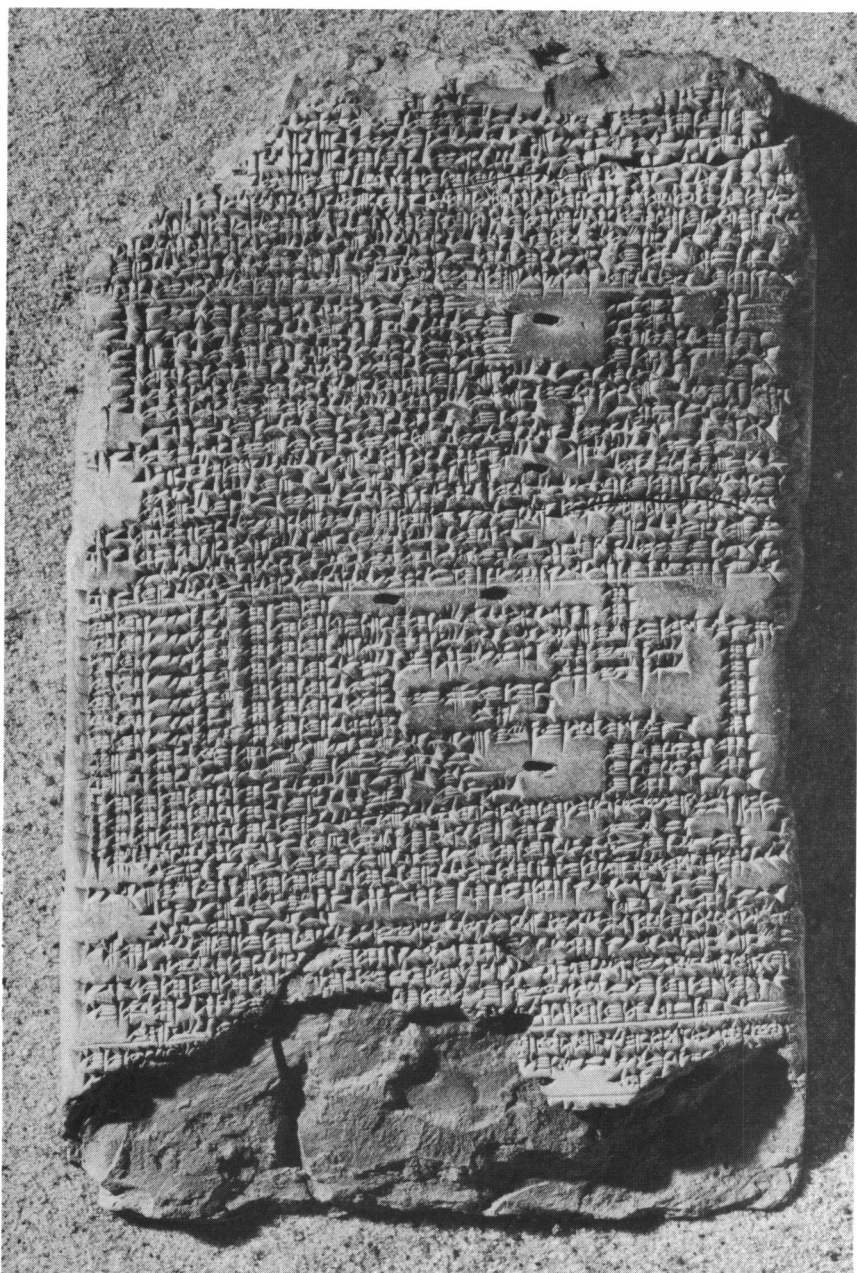
<sup>7</sup> The documents are copies and not originals, but date back to an edition of *Sakikku* which was compiled in the reign of the Babylonian king Adad-apla-iddina of the Second Dynasty of Isin, that is, between the years 1067 and 1046 bc. The subsequent story unfolds with the Hippocratic treatise on *The sacred disease*, which may be followed in the several modern translations of Hippocrates’ works or especially in Owsei Temkin, *The falling sickness: a history of epilepsy from the Greeks to the beginnings of modern neurology*, 2nd ed., Baltimore, The Johns Hopkins Press, 1971.

<sup>8</sup> Cf. initially O. R. Gurney and J. J. Finkelstein, *The Sultantepe Tablets I*, London, The British Institute of Archaeology at Ankara, 1957, text No. 91, and with improvements following the join of a small fragment to the tablet, O. R. Gurney and P. Hulin, *The Sultantepe Tablets II*, 1964, text No. 287.

<sup>9</sup> ‘Organic diseases of ancient Mesopotamia’, in Don Brothwell and A. T. Sandison (eds.), *Diseases in antiquity*, Springfield, Ill., C C Thomas, 1962, p. 202, and ‘Medicine in the land and times of the Old Testament’, in Tomoo Ishida (ed.), *Studies in the period of David and Solomon and other essays*, Tokyo, Yamakawa-Shuppansha, 1982, p. 351.

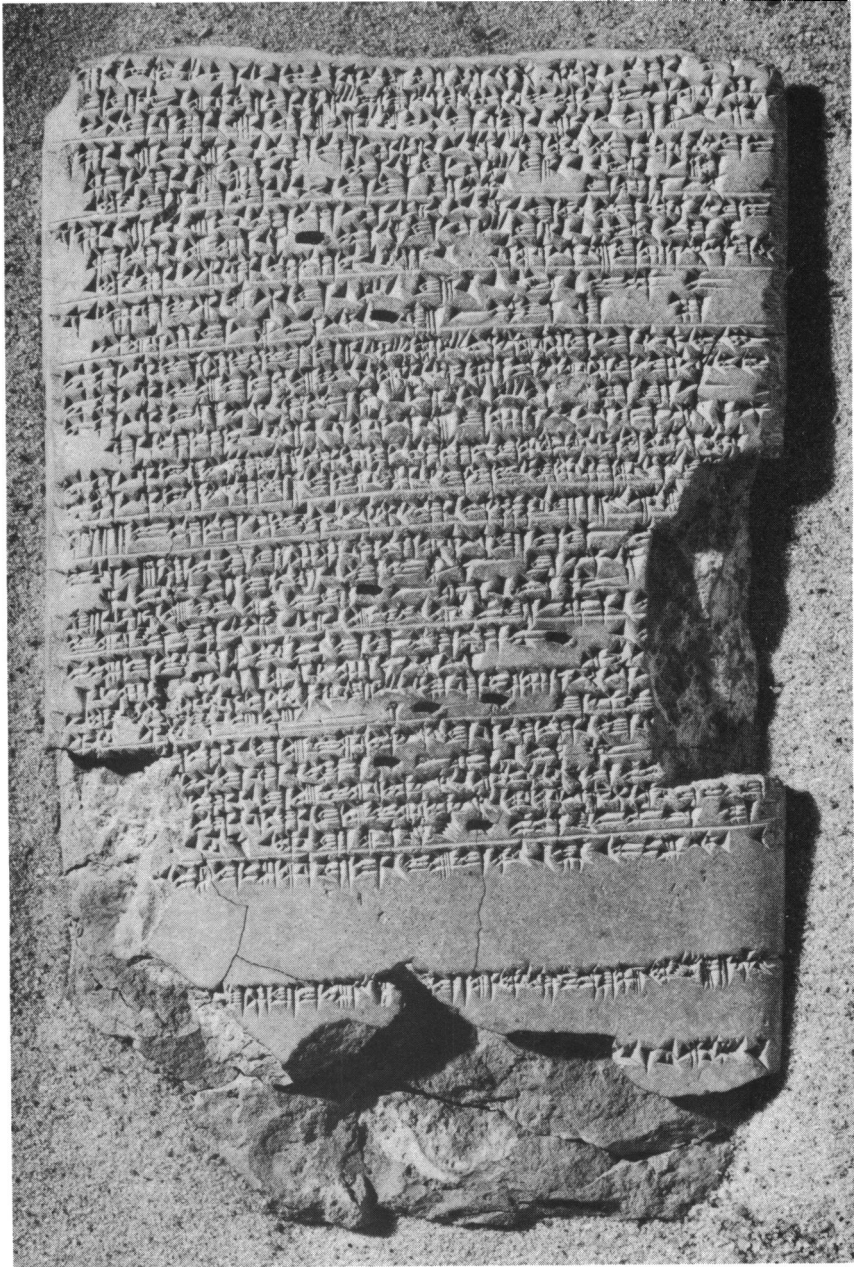
<sup>10</sup> ‘Spätbabylonische medizinische Texte aus Uruk’, in Christa Habrich, Frank Marguth, and Jörn Henning Wolf (eds.), *Medizinische Diagnostik in Geschichte und Gegenwart*, Munich, Werner Fritsch, 1978, pp. 28f. and note 84.

<sup>11</sup> Matt. 17: 14 and Mark 9: 14, as frequently cited in historical studies on epilepsy.



*Plate 1.* Tablet BM 47753, obverse. London, The British Museum, reproduced courtesy of the Trustees. Copyright British Museum.





*Plate 2.* Tablet BM 47753, reverse. London, The British Museum, reproduced courtesy of the Trustees. Copyright British Museum.

## A Babylonian treatise on epilepsy

*šibtu*, and the related verb *šabātu* means both “to seize” and “to possess”, in the passive also “to be possessed”. Such possession in the case of the major attack and the rationale behind it is relatively easy to understand. It began with the aura, continued through to the fall itself, and reached a climax at the end of the tonic stage—the ensuing clonic stage being already a release and the beginning of the demon’s departure from the body. At the end of this period the demon “let (the patient) go”, while a phrase which means literally, “he looks at the person who is holding him”, seems most probably to have been the sign that the patient was again fully conscious.

The latter phrase, not otherwise attested,<sup>12</sup> occurs five times in the text,<sup>13</sup> and may refer to help from a bystander or to a parent holding a child. Although there is no direct indication of the age of the patient on the Tablet, it is clear that some of the entries have a particular reference to children. At Obv. 14, for instance, the ascription of a disease to an unfulfilled “vow of the father” is found otherwise only in *Sakikku* Tablet XL, among the diseases of infancy. It is also probable that children are the main object of the several diagnoses that involve the demon *Lilû* and his wives *Lilîtu* and *ardat Lilî*, the “maid” or “slave-girl” of *Lilû*. A considerable literature has grown up around these demons who, childless themselves, were believed to look on human children and young brides with envy and spite, and to wreak their mischief accordingly.<sup>14</sup> However, it cannot be definitely established that childhood epilepsy was always attributed to these demons, or that a diagnosis which involved their names was limited solely to the young.

We may say a few words about the “ghosts”—without perhaps straying too far down the dark alleyways of strange arguments. Ghosts roam at night, or may do so, and it is directly clear from the text itself<sup>15</sup> that *šibit eṭemmi*, “seizure by a ghost”, and *qāt eṭemmi*, “hand of a ghost”, were (or, more accurately, could be) the ancient terms for nocturnal epilepsy.<sup>16</sup> In the light of this finding lines 37 and 40 of TDP 192 become newly understandable. They will translate: “If nocturnal epilepsy turns into diurnal epilepsy”, and “If diurnal epilepsy turns into nocturnal epilepsy”, the terms concerned being *qāt eṭemmi* and *miqtu*. Overall, however, the matter is not quite so simple, and references are to be found which run counter to the above definition<sup>17</sup> and require some other translation. One interesting example occurs in the therapeutic texts where *qāt eṭemmi* as either epilepsy in general(?), or indicating convulsions of whatever origin, is given as a possible sequel to “large worm (that is, tapeworm or

<sup>12</sup> But supported by a similar phrase in TDP 188, 4: “his forehead is seized but he remains conscious”, literally, “he looks at the holder of his head” (*mu-kil rēši-šu ina-ṭal*).

<sup>13</sup> Obv. 10, 40, 44 and rev. 9 and 14.

<sup>14</sup> The latest statement is that of W. Faber and E. Porada, ‘Lilû, Lilîtu, Ardat-lilî’, in D. O. Edzard (ed.), *Reallexikon der Assyriologie und Vorderasiatischen Archäologie*, vol. 7, Berlin, Walter de Gruyter, 1987, pp. 23–5. *Lilîtu* will be recognized as the “Lilith” of certain Hebrew and Aramaic texts; amongst the Mandaeans her name survives even today, cf. E. S. Drower, ‘Woman and taboo in Iraq’, *Iraq*, 1938, 5: 108.

<sup>15</sup> Cf. obv. 16, 27–34, and 46.

<sup>16</sup> Similarly, the observation of TDP 34, 13: “If his forehead is ‘seized’ and pains him without appeasement from sunrise to sunset, it is ‘hand of ghost’”, will suitably refer to nocturnal (or, specifically, early morning) epilepsy, with severe headache, as commonly, continuing thereafter throughout the day.

<sup>17</sup> Something of the difficulty and even confusion may be seen in the exhaustive list of Hand of ghost symptoms provided by Kœher, *op. cit.*, note 10 above, pp. 25–32. Cf. also M. J. Geller, ‘A recipe against ŠU.GIDIM’, *Archiv für Orientforschung*, Bht. 19, Horn, Austria, Verlag Ferdinand Berger, 1982, pp. 192–3. (ŠU.GIDIM is an ideographic writing in Akkadian of the phrase “hand of ghost”).

ascaris?) infection” of long standing.<sup>18</sup> Where the ghosts are related to the circumstances of the death of a person<sup>19</sup> we have little or no basis for proper understanding.

Other demons or evil spirits are mentioned in the text, but they are neither very closely defined nor greatly profitable for study. In one sense they may be regarded as the “labels” of the time; to differentiate between one aspect of epilepsy and another the *āšipu* had little option but to find differences in the causing entities. But despite the primitive nature of his causation theory, the observations themselves were of a high order. Admittedly there was little knowledge of internal anatomy or physiology, and Babylon was not Alexandria. But fleeting absences, deviation of the head and eyes, simple and complex automatisms, and many other such individual and distinctive “signs” were duly noted and written down and may be read in this account. Additionally, the number of seizures or possessions that might afflict the epileptic over a period of time, and whether one<sup>20</sup> or many or of a discernible pattern, was also of relevance to the *āšipu* and were summarily recorded.<sup>21</sup>

The concern of our text is not with treatment. In default of this and in some anticipation of a question which it would be natural to ask, it may be said that there is evidence from the therapeutic texts that every procedure was tried—medicines, ointments, amulets, enemas,<sup>22</sup> and necessarily also exorcism. While little of this may have been effective, familiar actions carried out along traditional and accepted lines will have brought their own encouragement and relief, and psychological factors are important in any age—for parents as for patients. Moreover, such are the vagaries of epilepsy that apparent successes may often have occurred. They would have engendered faith in the system, enabling it to continue succeeding.

#### THE TRANSLATION

A translation of the new text may now be given. When complete the text consisted of 59–60 entries,<sup>23</sup> and the 55 of these that are well preserved form the basis of this account and of its examination in the Commentary.

Normal conventions have been followed. Square brackets enclose restorations, round brackets supply explanatory or other words not present in the text, and italics are used for Akkadian words and to express uncertainties. All headings are modern and as proposed by the writers; in some part they replace the rule-lines that may be seen on the Plates. A symbol “R” is also used. It takes the place of the “word-divider” sign which introduces variant readings or comments on what was evidently an older

<sup>18</sup> Text of Franz Köcher, *Die babylonisch-assyrische Medizin in Texten und Untersuchungen*, vol. 5, Berlin, Walter de Gruyter, 1980, No. 471, ii, 3–4, and duplicates cited. A further reference to a text from this series (cf. note 22, below) is cited under the abbreviation “BAM”.

<sup>19</sup> As in obv. 8, 10, 16–18, 39, 48, and rev. 16–17.

<sup>20</sup> For a modern position on the matter cf. recently E. H. Reynolds, ‘A single seizure: likely to recur’, *Br. med. J.*, 1988, **297**: 1422–3.

<sup>21</sup> Cf. in this connection obv. 1–9, also 36–38, and 41.

<sup>22</sup> Text of BAM 189, i, 1–12. Although administered similarly, the enema was more properly an internal lotion or washing, the actual purpose being possibly to wash away the after-effects of the “possession”.

<sup>23</sup> The numeral “59” is written clearly on the colophon of the Babylonian tablet; “60” derives from the left-hand margin of the Nimrud catalogue.



*A Babylonian treatise on epilepsy*

and more original text, but occasionally faulty or in need of improvement. “*R*” as thus defined stands for “Redactor”, in the belief that editorial additions and corrections are thus involved.

OBVERSE

I TEMPORAL ASPECTS OF EPILEPSY

1. If epilepsy falls once upon a person [or falls many] times, [it is (as the result of) possession] by a demon or a departed spirit.

*a. One symptom entries*

2. [If an epilepsy demon has fallen once(?) upon him and] his eyes are red and yellow (from suffusion or ecchymosis)—hand of *ardat Lili*.

3. [If an epilepsy demon has fallen once(?) upon him] and he cries, “It is he again!”, an encircling *bennu*-demon<sup>24</sup> has possessed him. His life will be spared.

4. [If an epilepsy demon falls from time to time upon him and] he has a fit two or three times during the day, if he is flushed in the morning and pale in the evening, it is *miqtu*.

5. [If an epilepsy demon falls many times upon him], possessing him two or three times during the day and the condition has become chronic,<sup>25</sup> he will die<sup>26</sup> in a state of epilepsy.

*b. Longer entries with prognosis*

6. [If an epilepsy demon falls many times upon him, and on] a given day<sup>27</sup> he seven times pursues and possesses him, his life will be spared. If he should fall upon him eight times his life may not be spared.

7. [If an epilepsy demon falls many times] upon him, and for one year *when he falls* (the patient) has the fit at the (same) precise time, the situation is critical. *Miqtu* draws closest to a man at midday and it is then most serious for him.

8. [If an epilepsy] demon falls (many times) upon him and on a given day<sup>27</sup> he seven times pursues him and he has a fit with loss of consciousness, and if when (the demon) has let him go he . . . . ,<sup>28</sup>—hand of the departed spirit of a murderer. He will die.

9–10. [If an] epilepsy demon falls again and again upon him, his eyes are suffused with blood—*R*: and he blinks his eyes;—if his lower (*var.*: his upper) cheek areas twitch<sup>29</sup> and his hands and feet are extended; if when the exorcist comes to see him *hope is perishing*<sup>30</sup> that he will ever regain consciousness,<sup>31</sup>—hand of the ghost of a murderer. (He will die).

<sup>24</sup> On this demon cf. also below, rev. 25. From Akk. lexical and omen texts, *bennu*, as both a disease and the demon causing it, appears to have a meaning either close or complementary to that of *miqtu* and the terms are often found together.

<sup>25</sup> The text is here read as *i-ri-ik īrik-ma*, the verbs being from *arāku*, “to be long (of time)”.

<sup>26</sup> *GAM* = *imat* is read on the Babylonian tablet, the Assyrian text being emended accordingly to \**i-mat*.

<sup>27</sup> Lit.: “on that day”.

<sup>28</sup> A difficult verb *edēpu* with life-threatening implications is here involved but the precise meaning is not clear.

<sup>29</sup> On the variant reading at this point, cf. further in the Commentary, under obv. 9.

<sup>30</sup> Hypothetical translation. An unusual verb and form is involved at this point.

<sup>31</sup> Lit., “look at the person who is holding him”, cf. above, p. 187.

II GELASTIC EPILEPSY

11. [If at the] time of his epilepsy he laughs loudly for a long time, his legs—*R*: “his hands and legs”—being continuously flexed and extended,—hand of *Lilû*.

III MAJOR SEIZURES AND DIURNAL EPILEPSY

a. Paired entries

12. [If at the time] of his fit he loses consciousness and foam comes from his mouth, it is *miqtu*.

13. [If at the time] of his fit he loses consciousness and his arms and legs bend round to the same side as his neck, it is *miqtu*.

14. If at the time of his fit . . . . takes hold of him and foam comes from his mouth, an (unfulfilled) vow made by his father has seized him. He (the child) will die.

15. If at the time of his fit after it has taken hold of him foam comes from his mouth,—hand of *Lilû*.

b. Entries not structurally related

16. If at the end<sup>32</sup> of his fit when his limbs become relaxed again his bowels are sometimes seized and he has a motion, it is “hand of ghost” (nocturnal epilepsy).

17–18. If at the end of his fit his limbs become paralysed, he is dazed (or, dizzy),<sup>33</sup> his abdomen is “wasted” (*sc.*, as of one in need of food) and he returns everything which is put into his mouth . . . ., —hand of a ghost who has died in a mass killing. He will die.

19–22. If at the end of his fit his limbs become paralysed, (the demon) “pouring out” upon him so much that he loses control (of his functions); if when he thus “pours out” upon him his eyes are red and his face *expressionless*;<sup>34</sup> if his *šer’ānu*-vessels (*mod.*: “arteries”) pulsate at a quickened rate and he cries<sup>35</sup> although the tips of his fingers and toes remain cold; if when the exorcist asks the sick person to repeat (a prayer) he repeats what he says to him, but after (the demon) has let him go he does not know what he said,—hand of *Lilû-la’bi*.<sup>36</sup>

23. If before<sup>37</sup> his fit a half of his body is “heavy” for him and pricks him, and afterwards he has a fit with loss of consciousness and he loses control (of his functions), it is *miqtu*. At midday it will be most serious for him.

24–25. If before his fit he suffers from frontal headaches and is emotionally upset, and afterwards he . . . [ . . . ] his hands and feet, (and) rolls from side to side (*on the ground*) without *deviation* (*of the eyes*) or foam(ing at the mouth), it is a fall—*R*: due to emotional shock, or “hand of Ishtar”. He will recover.

<sup>32</sup> Lit., “at the time of”, as also in the two entries following.

<sup>33</sup> A difficult compound expression in Akk. lies behind this translation, which adheres to the traditional interpretation “to be dizzy”, or, “to have dizzy spells” (or, “vertigo”), as substantiated by the dictionaries. Cf. also rev. 12.

<sup>34</sup> As it stands the text reads: “if his eyes are ‘bound’ and his face red”, but “*R*” follows this with the word *suhhuru*, “to turn round”, or “to be turned round”, and the translation interprets this instruction as meaning that the position of the verbs in the two phrases should be interchanged.

<sup>35</sup> Possibly an indication of the young age of the patient.

<sup>36</sup> Cf. also rev. 9, below. The most suitable translation is “hand of *Lilû*-of-the-fevers”, which would mean that *Lilû* himself might bring fever or the like to the bedside of the young epileptic.

<sup>37</sup> Lit., “at the time of”, as also in the entry following. Cf. above, note 32.



## *A Babylonian treatise on epilepsy*

26. If when he has his fit (the fallen person) is looking sideways<sup>38</sup> or the whites of his eyes deviate to the side, and blood flows from his mouth, for female (patients) it is *Lilû*, and for male, *Lilîtu*.

### IV NOCTURNAL EPILEPSY

27. If his seizure (or, possession) always takes place in the evening, it is the seizure of a ghost (nocturnal epilepsy).

#### *a. Two symptom entries*

28. If ditto, he has a feeling of distention in his epigastrium and “his legs are lifted up” (i.e., he sits motionless(?)),—seizure by a ghost.

29. If ditto, he has a feeling of distention in his abdomen and is restless until the middle of the night (*sc.*, when “relieved” by his fit),—seizure by a ghost.

30. If ditto, his eyes become cloudy and his ears hiss,—seizure by a ghost.

#### *b. One symptom entries*

31. If ditto, and his ears hiss,—seizure by a ghost.

32. If ditto, and his ears (or, hearing) become “paralysed”,—seizure by a ghost.

33. If ditto, and his forehead aches,—seizure by a ghost.

34. If ditto, and at the time of his possession he is hot and from the evening watch until the middle watch he remains awake (waiting) for him,—seizure by a ghost.

35. If ditto, and at the time of his possession he cries, “It is he again!”,—hand of *ardat Lili*.

### V CHRONIC EPILEPSY

#### *One symptom entries*

36. If the possessing demon has been possessing him again and again, and as a result of his possession his eyes become red and yellow (from suffusion or ecchymosis),—hand of *ardat Lili*.

37. If the possessing demon has been possessing him again and again, and as a result of his possessions his hands and feet become yellow (or, pale),—hand of *Lilû*.

38. If the possessing demon has been possessing him again and again, and as a result of his possessions he is constantly wiping clean his hands and face, the ghost of a person who died in water has possessed him. At midday it will be most serious for him. *R*: A demon from the river has smitten him.

### VI TYPES AND VARIETIES OF THE POSSESSION

39–40. If the possessing demon . . . . ., and at the time of his fit he *clenches* his hands as (tightly as) though rigor (or, rigor mortis?) had seized him, and, with legs extended, is greatly convulsed; if then the seizure abates, and he begins to regain consciousness,<sup>39</sup>—hand of the *e'ēlu*-demon.

<sup>38</sup> Lit., “to his hands”, meaning to his right- and left-hand sides. A similar phrase occurs in TDP 88, 5: “if he keeps looking (anxiously) from side to side”.

<sup>39</sup> Lit., “looks at the person who is holding him”, cf. note 31 and the reference cited.

41–43. If the possessing demon possesses him many times during the middle watch of the night, and at the time of his possession his hands and feet are cold, he is much “darkened” (and unresponsive?), keeps (involuntarily) opening and shutting his mouth, is brown and yellow as to the eyes and . . . . ,—hand of *ardat Lili*. It may go on for some time, but he will die. R: For female (patients) it is *Lilû*, for male, *Lilîtu*.

44–45. If (the demon) possesses him during his sleep, and, while he is still conscious,<sup>39</sup> continues to “pour out” upon him until he loses consciousness; if when they rouse him he is in a state of fear,<sup>40</sup>—R: (or), if at the time of his being roused he is in a state of confu[sion],—hand of *Lilû*, . . . . *Lilîtu*. In either case he will recover.

46. If his possessing demon begins to possess him in the late afternoon, and at the time of his possession he has . . . . ,<sup>41</sup> his forehead and his eyes oppress him and he has internal (or, stomach) pains,—hand of ghost.

*Two entries fragmentary and two or three missing  
in break at bottom of tablets*

#### REVERSE

1–3. If at the time of his possession, while he is sitting down, his (left) eye<sup>42</sup> moves to the side, a lip *puckers*, saliva flows from his mouth, and his hand, leg and trunk on the left side jerk (or, twitch) like a (newly)-slaughtered sheep, it is *miqtu*. If at the time of the possession his mind is consciously aware, (the demon) can be driven out; if at the time of the possession his mind is not so aware, (the demon) cannot be driven out.

#### *Paired entries*

4–6. If at the time of his possession he cries, “my heart, my heart!”; if he blinks his eyes, has hot *flushes*, rubs (involuntarily) the tip of his nose and the tips of his fingers and toes are cold; if you try to get the sick person to speak and he does not answer,—hand of *Lilû*.

7–9. If at the time of his possession he cries, “my heart, my heart!”; if he blinks his eyes, has hot *flushes*, rubs (involuntarily) the tip of his nose and the tips of his fingers and toes are cold; if he remains conscious<sup>39</sup> but when you try to speak with him he acts strangely (or, like a strange person),—hand of *Lilû-la’bi*.

#### VII PRE-POSSESSION SYMPTOMS

10–11. If by day a sleep pours over him and his fingers and toes begin to twitch, it is *miqtu*. It may take hold of him in fallow ground or in the corner (of a house).

12. If his limbs jerk or *move erratically* and he has spells of dizziness,<sup>43</sup> it is *miqtu*. At midday it will be most serious for him.

<sup>40</sup> The same observation as at the end of the sentence regarding the recovery of the patient is inserted in the text at this point, and has been omitted as anticipatory.

<sup>41</sup> Text not understood. A new expression appears to be involved at this point, possibly having some connection with speech.

<sup>42</sup> The inserted word “left” has been added from the indication of left side involvement mentioned lower down in the entry.

<sup>43</sup> On this rendering cf. above, obv. 17 with note 33.

## *A Babylonian treatise on epilepsy*

13. If his limbs are “paralysed” (*sic*) and/or prick him and he has spells of dizziness, it is *miqtu*. At midday it will be most serious for him.

### VIII POST-POSSESSION SYMPTOMS

14–15. If when his limbs become at rest again like those of a healthy person he blinks and begins to regain consciousness,<sup>39</sup> and when you try to speak with him he acts strangely (or, like a strange person),—hand of *Lilû* (or) of a messenger of his god.

16. If when his limbs become at rest again like those of a healthy person his mouth is seized so that he cannot speak,—hand of the ghost of a murderer. *R*: hand of the ghost of a person burned to death in a fire.

17. If when his limbs become at rest again like those of a healthy person he remains silent and does not eat anything,—hand of the ghost of a murderer; alternatively, hand of the ghost of a person burned to death in a fire.

### IX THE EPILEPTIC CRY

18. If he cries “*u’āyi!*” or utters a sound (like an animal), saliva flows from his mouth and his neck is pressed down to the left, it is *miqtu*.

### X FEAR AND CONFUSION IN POST-ICTAL OR OTHER STATES

#### *Entries arranged in groups of three*

19–20. If he keeps going into and out of (his house) or getting into and out of his clothes . . . . or talks unintelligibly a great deal, does not any more eat his bread and beer rations and does not go to bed,—hand of Ishtar . . . .

21. If ditto, and (additionally, the demon) makes his eyeballs to protrude, a demon bent on killing him is standing at the head of his bed. He will die.

22. If he has panic attacks (or, becomes more and more fearful) and (the demon) causes his eyeballs to protrude, a demon bent on killing him is standing at the head of his bed. He will die.

23–24. If, in a state of fear, he keeps getting up and sitting down, (*or*) if he mutters unintelligibly a great deal and becomes more and more restless,—for a female (patient) it is *Lilû*, for a male, *Lilītu*. In either case he/she will recover.

25. If during (or, between) his illnesses he is sometimes fearful and sometimes elated, on one occasion it will be *ardat Lilī* on another it could be *Bennu*.<sup>44</sup>

26. If he is sometimes fearful and sometimes restless in his bedroom,—hand of “*Urtilli*” (= *ardat Lilī?*). *He will recover.*

27–28. If a death-wail sounds forth for him and (at each wail) he himself responds to it, saying as the wail sounds forth, “Who are you” (*sc.*, “O dying one, that men are wailing for?”)—a . . . *muttillu*-demon<sup>45</sup> has affected him or become involved with him. When he stands at the head of his bed, he will die.

29. If a death-wail sounds forth for him and (at each wail) he himself responds to it, rising and falling onto his knees, a demon from the desert has possessed him.

<sup>44</sup> If correctly understood, a new grammatical construction is involved in this line.

<sup>45</sup> Emended text, following a suggestion of M. Stol.



30–31. If a death-wail sounds forth for him, and as each wail sounds forth he himself responds to it, rising to his feet or trying to get up and *falling back* again or getting up and falling to his knees, he will be saved from (the effects of) his illness. A wandering demon has possessed him.

#### COMMENTARY

It is the aim of the notes that follow to interpret the foregoing text in a simple and direct way from the standpoint of modern neurology and modern concepts of epilepsy, and further to clarify the text in ways not already discussed in the introductions and footnotes. In neither case would it be appropriate to prolong the arguments overmuch; the text is already long, and deserves to remain as the centre-piece of this study. The Commentary is therefore written with a certain economy of reference. A short statement at the end attempts to summarize the essential points.

#### OBVERSE

1. The beginning of the line is preserved in the Nimrud Catalogue, and as restored with the fragmentary assistance of the main sources appears to represent a kind of rubric, suitably introducing the whole treatise. A similar line is obv. 27 which introduces the section on nocturnal epilepsy.

3. "It is he again!" implies an aura; the patient had received some warning of the impending attack. A similar line is obv. 35, but the diagnosis given is there different. Generally it is not easy to have much faith in such diagnoses, and the study of them, with some exceptions, is often unrewarding.<sup>46</sup>

4. "If he is flushed (lit., 'red') in the morning and pale in the evening", is a strange observation by modern standards. Elsewhere in the treatise (TDP 166, 90ff.) one reads: "If he is hot in the morning and cold in the evening", and individual parts of the body were also contrasted as to their colours, e.g., in TDP 90, 10ff. The phrase seems therefore to have belonged to a diagnostic stereotype which conveyed meanings in its time beyond present knowing, but it is of doubtful medical significance.

6. That frequent fits are life-threatening, especially after the onset of status epilepticus, is not in dispute, but the numbers "seven" and "eight" of this entry belong only to ancient ideas on the matter (possibly more literary than scientific). In the word "pursues" (used also in line 8), which represents an action of the demon before the actual possession, the text will probably be referring to the prodromal period of an epileptic attack.

7. "At midday". Strangely, the text on five occasions mentions midday as being an especially anxious time for the epileptic, the other four being obv. 23 and 38, and rev. 12 and 13. Although the significance of this is elusive, diurnal patterns do occur in epilepsy.

8. The reference to "seven times" and the prognosis "he will die" suggests that the concern of the entry, in modern terms, is with serial fits deteriorating to status.

9–10. The situation in these lines is again close to status. Granted the translation, the text describes a series of partial seizures with focal twitching of the face, tonic seizure and loss of consciousness, but without Jacksonian features. With regard to the "twitching", the two tablets offer different words for the parts involved, one text having the term *īsu*, which expresses an area in the region of the jaw, and the other the word *usukku*, which was a part located between the cheek and the eye. The variants being difficult to explain otherwise, one is tempted to think that the original text incorporated both terms.

<sup>46</sup> Such an opinion was professed by William White, Jr., 'An Assyrian physician's *vade mecum*', *Clio Med.*, 1969, 4: 164, "It is our contention that little can be demonstrated from the attribution of one or another malady to a certain god."

## *A Babylonian treatise on epilepsy*

11. “He laughs loudly for a long time”. As indicated by the heading, gelastic epilepsy must be of concern. Following the proposal made earlier that the diagnosis of “hand of *Lilû*” may relate particularly to childhood epilepsy, it is appropriate to record that, although gelastic epilepsy is generally rare in children and adults, it is more common in children.<sup>47</sup>

12ff. The entries may be described as serial pathognomonic observations relating to *grand mal* seizures. The information appears to be arranged in a way that would be easy to commit to memory, consistent with the idea that the text, as indeed the treatise *Sakikku* as a whole, may have served in some parts as a training manual.

14. It is important for the interpretation that the phrase “an (unfulfilled) vow made by his father has seized him” occurs otherwise only in *Sakikku*, Tablet XL, which is concerned with diseases of infancy.<sup>48</sup> It would be suitable to the context if the vow that was made was contingent upon the child being born alive.

16. Bowel incontinence is rare in epilepsy, but, when present, does usually occur with nocturnal attacks. It is surprising that no reference is made in the Tablet to urinary incontinence, which more commonly occurs.

17–22. The two entries of these lines may be taken together since the paralysis that is mentioned is a feature of both. If the translation holds, if, indeed, the *āšipu* himself saw the matter aright, then what in both cases was observed may have been “Todd’s paralysis”, so named after Robert Todd following his *Clinical lectures on paralysis* of 1856.<sup>49</sup> Since the condition is unilateral the word “limbs” in the translation would require restriction accordingly. In the second case an element of confusion is seen to be an accompaniment of the paralysis. Being a post-ictal event, it will have been a requirement of the composition, and perhaps the principle of the “pairing of entries”, that brought the paralysis to the forefront of the syndrome in the latter case.

23. What the text describes as “heaviness” would seem, in modern terms to mean that there was some impairment of function in the parts concerned. The proposal here made that the Akk. *talammu* means essentially “half of the body”,<sup>50</sup> accords well with the medical evidence that such sensory symptoms as paraesthesia (the “pricking” sensation of the text) are usually unilateral.

24–25. The condition described was probably not epilepsy. Unless the translation deceives, it was hysteria or “simulated epilepsy”, and it would even seem that the *āšipu* himself had a certain understanding of the matter. It is seldom without risk that one interprets former times by the present, and the entry is here left without further development. Since Ishtar was the name of a Babylonian goddess, the “hand of Ishtar” (disease) would not have involved possession.

26. The deviation of head and eyes marks the attack (or attacks, that is, on which the entry is based) as adverse, the parts mentioned being forced away from the affected hemisphere of the brain. Of interest in the line is the phrase “and blood flows from his mouth”. Hardly anyone concerned could have been ignorant of the fact that, in such a case, the blood that was seen came from a bitten tongue or cheek, but it was evidently the discipline of the times to write down only what was seen.

27. Cf. note on obv. 1.

28–31. The epigastric aura of lines 28f., and the auditory hallucinations of lines 30f., are both features of temporal lobe epilepsy. “His ears hiss” would be a conservative writing. The range of sounds according to a modern statement include “buzzing, hissing, whistling, ringing, sea noises, and the sound of machinery”.<sup>51</sup>

<sup>47</sup> Cf., e.g., J. K. Brown, ‘Fits in children’, in John Laidlaw and Alan Richens (eds.), *A textbook of epilepsy*, 2nd ed., Edinburgh, Churchill Livingstone, 1982, p. 54.

<sup>48</sup> Cf. TDP 220: 20, also 228: 103ff. and 109, and 230: 113. For the interpretation of the phrase as suggested and for further examples reference may be made to *The Assyrian dictionary of the Oriental Institute of the University of Chicago*, (“CAD”), vol. 1/J, Chicago, The Oriental Institute, 1960, p. 65.

<sup>49</sup> See further and for discussion, Temkin, op. cit., note 7 above, pp. 311–13.

<sup>50</sup> The equivalent Sumerian term incorporates the element *maš*, “half”. In TDP 188: 1, the phrase “his *talammu* is paralysed” will indicate hemiplegia.

<sup>51</sup> C. D. Marsden and E. H. Reynolds, ‘Neurology’, Part I, in Laidlaw and Richens, op. cit., note 47 above, p. 105.

32. “His ears (or, hearing) become ‘paralysed’”. The entry suggests that, in the opinion of the observer(s), the patient was temporarily made deaf at the time, possibly because he did not answer when spoken to. Deafness does not occur in epilepsy.

33. “His forehead aches”. This may occur either before or after a fit.

34. “He remains awake”. Loss of sleep may itself provoke seizures.

35. “It is he again!” Cf. note on obv. 3.

36. The entry is little different from that of obv. 2, but possibly, as our heading suggests, the suffusion of blood into the eyes or eye region is now being presented as an aspect of “chronic epilepsy”.

37. The pallor of “hands and feet”, if really so confined, is not understood.

38. The Akk. verb *muššudu*, like its close synonym *kapāru*, appears properly to mean, “to rub or clean (parts of the body) with bread or dough” (sometimes also with oil). In fact the chronic epileptic is often much scarred and disfigured from his falls, but accident and injury was the concern of *asūtu*, another aspect of medicine, and *Sakikku* does not trespass into this domain. Without reference to the possession, and omitting the word “hands”, the entry occurs again in the treatise in Tablet IX, line 75 (TDP 78,75).

39–40. Behind the general statement of these lines one may see the clinical description of a tonic attack, there being no clonic features. “Such limited *grand mal* features are especially common in children and infants.”<sup>52</sup>

41–43. The probable meaning of the phrase left untranslated in this passage is “he inclines, or lowers, his hips (to the side)”, cf. CAD N/1 89, 1. If so, and apart from the possibility of injury to the hips as the result of falls, it is not clear what is meant. As to the patient’s “opening and shutting” of his mouth, this *may* have been a simple automatism of the kind known today as lip-smacking. Such actions are attended by amnesia, and are mainly associated with epilepsy arising in the temporal lobe. Not clear at present is the precise meaning of the mentioned “darkening” of the consciousness(?). What is certain is that the lines describe a serious state with many attacks at night.

44–45. One important word is partly restored, as shown, but it seems nevertheless clear that the reference is to post-ictal fear and confusion in the case of a child patient.

46. In the absence of clear symptoms the entry is not properly understood.

#### REVERSE

1–3. Not doubtfully, the partial motor fit behind this entry represents Jacksonian epilepsy, although so far as the present document is concerned the spread or “march” of such a seizure through parts of the body was not also remarked by the Babylonian observers. Consciousness may or may not be impaired with Jacksonian seizures, depending upon the degree to which the brain is implicated in the attack, so that the statement concerning the demon and exorcism given in the second half of the entry may be interpreted accordingly.<sup>53</sup>

4–9. In the two closely parallel entries of these lines the translation “my heart, my heart!” is an approximation only, since in the somewhat primitive anatomy of the times the *libbu*—to use the word concerned—comprised all the “vital parts” of the body, especially the heart, stomach, bowels and womb, and not excluding even the “mind”. The phrase is of common occurrence in the *Sakikku* treatise, and Labat’s translation was always “mon ventre, mon ventre!” In fact, with temporal lobe epilepsy strongly indicated by the hot flushes (autonomic disturbance) and by the blinking and nose rubbing (automatisms), the aura of the *libbu*-pain is not difficult to define; it is likely to have been the “epigastric rising sensation” which features prominently in the condition, that is, “a feeling perceived in the epigastrium which sometimes rises up into the throat”.<sup>54</sup> The texts additionally describe fluctuating conscious awareness on recovery.

<sup>52</sup> *Ibid.*, p. 100.

<sup>53</sup> Except that “cases with preceding or associated grand mal or intense myoclonic jerks have an unfavourable outcome”, Jean Aicardi, ‘Epileptic syndromes in childhood’, in Euan Ross and Edward Reynolds (eds.), *Paediatric perspectives on epilepsy*, Chichester, John Wiley and Sons, 1985, p. 68.

<sup>54</sup> M. A. Falconer and D. C. Taylor, ‘Temporal lobe epilepsy’ in John Harding Price (ed.), *Modern trends in psychological medicine*, vol. 2, London, Butterworths, 1970, p. 349.



## *A Babylonian treatise on epilepsy*

10–13. The three entries of this section refer to prodromal symptoms and auras before the onset of *miqtu*, that is, the *grand mal* seizure or exceptionally in rev. 1–3, the Jacksonian seizure. In fact, if one should search for the scheme behind the presentation, it seems probable that the *āšipu*(s) recognized six kinds of event that might precede the seizure, these for instructional purposes being set down in three entries, two to each entry. In the order of the text the six are: sleepiness; myoclonic twitching of extremities; myoclonic jerking of limbs; dizziness, or vertigo(?); numbness (text: “paralysis”) of limbs; “pricking” (paraesthesia) of limbs. It may equally be noticed that the observation “(*miqtu*) may take hold of him in fallow ground or in the corner (of a house)” — that is, where he might go to be alone or to avoid the gaze of his fellow men — must apply not only to the first entry but to the whole section. Similarly, the statement, “At midday it will be most serious for him”, may also have applied generally; indeed, its repetition in line 13 from line 12 could well have been because the compiler could think of no new general statement to put in its place. We may thus see again (cf. above, on obv. 12ff.) that the ancient nosology was of secondary importance to the principle of balanced arrangement (supposedly, for ease of learning).

14–17. In some continuation of the above scheme, the three entries of these lines appear complementary to the three preceding. Their concern is with the after-effects of a generalized fit, the test of ability to speak being evidently of importance and failure to speak being the sign of a continuing “presence” within the patient. Post-ictal silence may be due to severe dysphasia or dysarthria, drowsiness, or psychological or physical exhaustion.

18. The sound of the epileptic cry, as here uniquely preserved, is written with four vowel signs, *u-a-a-i*, there being no *o*-vowel in Akkadian. “More often absent than present . . . it is at times shrill, at others of lower pitch, resembling a moan or groan rather than a scream.”<sup>55</sup>

19–20. The interesting automatisms of these lines are well represented in the medical literature. The entry associates them with confusion and dysphasia.

21–22. The protrusion of the eyes may have been either real or apparent. In extreme anxiety or fear the eyes, to an observer, may have the appearance of being protruded; accordingly true exophthalmos need not have been present.

23–34. Behind the repeated action of “getting up and sitting down” in this entry is the Akk. verb *tebû*, “to rise up and go”, used in an iterative form. Some walking (to and fro) may also thus have been involved. The text seems probably to be describing a case of inter-ictal confusion, with agitation and restlessness.

25. The uncertain phrase “is sometimes elated” involves a compound expression which is literally “to raise (or, lift up) the reins”. In view of the opposition to “fear” it seems likely that its actual meaning is “to lift up the spirits”. There was thus fluctuating mood between fits.

27–31. The death-wail, as here introduced, was evidently a wail initiated on behalf of a dying person to arouse the sympathy of the gods and to promote their intervention. It is likely to have caused a strong emotional reaction in the ears of many listeners. What accordingly one may propose is that the arousing effect of the sound would have entered the consciousness of a patient already comatose or confused(?), to result, in the different cases, in the actions observed. The explanation of arousal, as here given, is necessarily a reconstruction; but auditory or reflex epilepsy seems unlikely in the absence of fits.

### CONCLUSION

From what has been said above it will be clear that, while much has been recovered, some part, inevitably, has been lost. Where language is concerned factors of time and distance are often formidable. Much lies for this reason at the very “border-land” of Assyriology, or even in the desert of the unknowable.

But positive claims may be made. We have been impressed by the accurate and comprehensive description in the text of so many aspects of epilepsy. The list includes

<sup>55</sup> S. A. Kinnier Wilson, *Neurology*, 2nd ed., vol. 3, London, Butterworths, 1955, p. 1627.

*J. V. Kinnier Wilson and E. H. Reynolds*

prodromal symptoms, auras, descriptions of various types of seizure including the tonic attack, absence attack, complex partial seizures (temporal lobe), the Jacksonian attack, also post-ictal phenomena and inter-ictal emotional disturbances. Provocative factors such as loss of sleep and emotion are mentioned. Even noise-induced arousal would be of interest to the modern neurologist.

By any reckoning the text which has been described is a remarkable survival. It deserves to have an abiding place in the history of epilepsy.