

## *The Mystery of the Babylonian Notation*

by Curt Sachs (1881-1959)

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### Citation

[Sachs 1944] Curt Sachs (1881-1959). "The Mystery of the Babylonian Notation", *International Congress of Musicology*, contained in [Mendel 1944], 1944, pages 161-167. Archive.org ID [papersreadatinte00amer](https://archive.org/details/papersreadatinte00amer).

[Mendel 1944] Arthur Mendel (1905-1979), Gustave Reese, and Gilbert Chase (editors). *Papers Read at the International Congress of Musicology, International Congress of Musicology*, published by the Music Educators' National Conference for the American Musicological Society, New York, 1944, 336 pages. Archive.org ID [papersreadatinte00amer](https://archive.org/details/papersreadatinte00amer).

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Papers Read at the  
International Congress  
of Musicology

Held at New York

September 11th to 16th, 1939

*Edited by*

ARTHUR MENDEL, GUSTAVE REESE, and GILBERT CHASE

*Published by the*

MUSIC EDUCATORS' NATIONAL CONFERENCE

*for the*

AMERICAN MUSICOLOGICAL SOCIETY

Office of the Secretary

3 East 43rd Street, New York

L. F.

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Music 6

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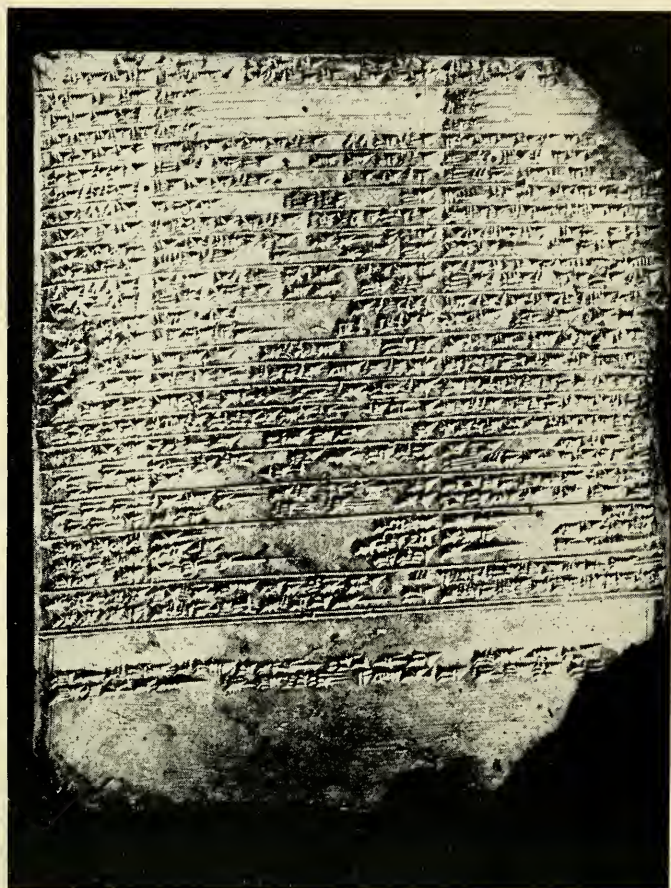
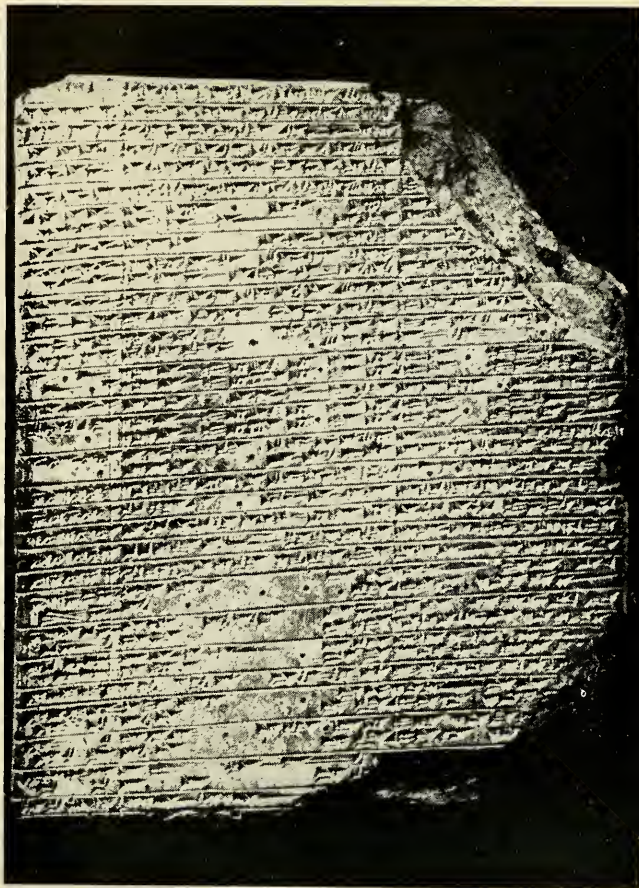
AS 238091

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*Printed in the United States of America*

THE WILLIAM BYRD PRESS, INC.  
RICHMOND, VIRGINIA



Obverse and Reverse of Tablet of about 800 B.C., from Assur on the Tigris, with notation

Now in the Berlin State Museum. From F. W. Galpin, "The Music of the Sumerians, Babylonians and Assyrians". By Courtesy of The Macmillan Company, agent for the Cambridge University Press

# The Mystery of the Babylonian Notation

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## I

NEARLY THREE THOUSAND years ago, about 800 B.C., a priest in the Assyrian town Assur on the Tigris wrote a strange document which today is preserved in the Vorderasiatische Abteilung of the Berlin State Museum under the number VAT 9307 while the British Museum keeps a fragmentary duplicate under K 4175-Sm57. The priest took a small clay plaque six inches high and five inches wide, and divided in into three columns. In the middle column he scratched, in tiny cuneiform symbols, a mystic legend in the Sumerian language, which actually might have been much older than the plaque: "When Heaven and Earth had been made, the gods wondered what to do next and decided to slay two among themselves and to create man out of their blood that he might till the soil and serve the gods." In the right column the priest wrote an Akkadian, i.e. Semitic translation, and at the end he put the solemn formula: "Secret. The initiated may show it to the initiated."

The London fragment was published by Carl Bezold in "Proceedings of the Society of Biblical Archaeology", X (1888), p. 418, the Berlin text by Erich Ebeling in the first number of his *Keilschrifttexte aus Assur religiösen Inhalts* (1915) and, in the following year, in the *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, Vol. 70, pp. 532 ff., in transcription and German translation.

Untranslatable, however, was the content of the left column. Each of its lines, which follow those of the Sumerian text line by line, presents from two to six syllables in cuneiform writing.

*me me kur kur*

*a a a a*

*ku ku lu lu*

*maš maš maš*

&c. &c.

These sixty or seventy symbols are enigmatic; they do not make any sense and cannot be interpreted as parts of either a Sumerian or

an Akkadian text. So it came about that in a critical review of Ebeling's first publication, in the *Orientalistische Literaturzeitung*, XVIII (1915), p. 333, Bruno Meissner suggested that the characters in the left column might be musical symbols, and Ebeling agreed with him in his second publication.

## II

However, no attempt towards a solution of the problem had been made when, in 1923, Assyriologists encouraged me to venture deciphering the symbols from a musical standpoint. Some months later I proposed a *possible* solution, which was logical in itself and in accordance with the knowledge I had of ancient West Asiatic music. Presuming a notation for harp, I interpreted the open syllables, such as *me*, as notes in a pentatonic system, and the closed syllables, such as *kur*, as ligatures of two syllables (i.e. notes).

This interpretation was presented to the Prussian Academy of Sciences by the late Carl Stumpf and published in its *Sitzungsberichte der Philologisch-historischen Klasse*, XVIII (1924), and, more in detail, as *Ein babylonischer Hymnus*, in the *Archiv für Musikwissenschaft*, VII (1925), p. 1-22.

My attempt, however, was a mere experiment, not an authoritative solution. At the end I put a big question mark: "We cannot be certain that the script is a musical notation."

Eight years later, the *Archiv für Orientforschung* published, in its *Beiband I* (Berlin, 1933, pp. 170-178), a paper on *Die angebliche babylonische Notenschrift*, in which Benno Landsberger haughtily decided that the syllables in question probably were *uralte Spruchformeln*, i.e. magic formulas, often connected with alphabets, and that they had nothing whatever to do with music; musicologists should keep their distance and leave Assyriology to "the initiated"; taking the syllables for musical signs would mean a "rationalization" of things sacred.

Landsberger did not stress the fact that the musical suggestion had originally come from "the initiated"; he did not know that all over the world magic texts and in India even alphabets are chanted, and that notation was invented just for keeping magic texts from deterioration and consequently from inefficacy; and he forgot to mention that I myself had undertaken the deciphering of the syllables as a tentative laboratory test and had expressly declared that I was not certain of their musical character.

## III

Assyriological suggestion, musicological test, Assyriological rejection—it seemed that things had been brought to a close and that music history was no longer concerned with the Babylonian syllables, when four years later the problem unexpectedly returned to life. In his book on “The Music of the Sumerians, Babylonians and Assyrians”, Cambridge, 1937, Dr. Francis W. Galpin presented a second musical interpretation, based on my first suggestion that the script might be a notation for the large angular harp of Babylonia, but this interpretation was entirely different from mine. The following is a short abstract of his train of thought in his own words.

A syllabic sign could be applied to an alphabetical series by the principle of acrophony. It would appear that a priest of some Mesopotamian temple who was conversant with Semitic, perhaps his mother-tongue, applied the sounds of the cuneiform syllabic signs to the ordered arrangement of this Semitic alphabet. So he evolved a notation which denoted the note of each string of the large upright harp. Twenty-one letters represent the twenty-one recognized sounds used in Sumerian as expressed by the phonetic values of the signs *a*, *e*, *i*, *u*, *b*, &c. The scribe had to omit *h*, which did not exist in Sumerian. He had also to employ *aleph*, *waw*, *yod* and *ayin*, to represent the Sumerian vowel sounds. Thus the musician was provided with a definite series of letter-signs adapted to the compass of his instrument. Taking these twenty-one acrophonic signs for the twenty-one strings of the harp, they are as follows: *a*, *b*, *g*, *d*, *h*, etc.

As ancient melodies generally descend at their close, we may well consider *a* as representing the longest string. But what sound? Here we turn to the flute scale explained in the first section of this chapter. It appears on the twenty-one stringed Mesopotamian harp in three diatonic series, each with a tritone fourth. The scale, compass and notation are therefore as follows . . . In the full score of the hymn we have ventured to restore the voice-part . . .

This reasoning is a fanciful train of assumptions and imputations. The foundation is laid by several of these, based upon an “it would appear” or a “perhaps”. But, after the first tentative phrases, the deeds of the hypothetical priest with a Semitic mother-tongue are narrated as facts without any further restriction. “He evolved a notation”, “he had to omit” certain signs, “he had to employ” others, and “thus he was provided”, etc. Finally we learn that the Mesopotamian scale was based on a tritone fourth. Why? Because Canon Galpin found four notes forming a tritone on a modern facsimile of an ancient flute—from China.

## IV

Galpin's interpretation has attracted some attention even beyond the esoteric circles of initiated persons, simply because it was unprecedented in English-speaking countries. To confine myself to one example: a year or so ago a singer wrote me a letter, announcing that he intended to frequent the schools all over the country from coast to coast and perform *The World's Oldest Music* before the youth of the nation. Thus there may be danger in my keeping silence; I do not like to oppose the venerable Canon Galpin, but it must be emphasized that, even if the Babylonian symbols are a musical notation, his interpretation is entirely arbitrary.

As the musicological problem itself is not touched upon in any history of notation, it seems advisable to point out the fundamental mistake that both Dr. Galpin and my former Ego committed in approaching the Babylonian syllables, no matter whether they were musical symbols or not. The false supposition from which we started was that the syllables meant notes, i.e. definite steps of the scale. The trouble, then, was how to deal with some sixty syllables, which at the least would cover the unacceptable range of more than five chromatic octaves. The solution of this problem is given by two musical scripts now in actual use, which have almost entirely eluded the attention of music historians.

The first one is a peculiar system of notation used and kept as an arcanum by Ethiopian priests. Villoteau, the musicologist in the French expedition that explored Egypt during the Napoleonic conquest (1798-1801), met Abyssinian priests in Cairo and, seizing the rare and unexpected opportunity, extracted from them as much musical information as possible. The most important fact he learned was that church singers used a secret notation ("Secret. The initiated may show it to the initiated") consisting of syllables written above the sacred texts. The syllables were either single, like *he, le, ma, re, se*, or double, such as *lama, lana, raba, rara*, or even contracted: *hal, las, man*. The Ethiopian priests explained forty-seven of these symbols to Villoteau.

Some decades later, the French orientalist Hermann Zotenberg found no less than one hundred and sixty-eight of these symbols in a liturgical book at the National Library in Paris. A complete list of them is published in his *Catalogue des Manuscrits Ethiopiens de la Bibliothèque Nationale*, Paris, 1877, p. 76.



## V

Unfortunately the meaning of Zotenberg's one hundred and sixty-eight symbols is unknown; our knowledge does not go beyond the forty-seven definitions that Villoteau was able to give. And even this fragmentary information is not fully reliable; communication and understanding between the French musicologist and the Abyssinian priests was rather difficult, linguistically as well as musically, and Villoteau may have been mistaken in some details. Still, the essential quality of the Ethiopian notation was doubtless made clear: it indicates intervals, ascending or descending, plus intercalated notes; it even includes grace notes. *There are no signs for single notes.* The syllable *se*, to give a few examples, prescribes a descending half-tone; *ka*, an ascending tone; *wā*, an ascending tone with a trill on the second note; *wa*, a minor third with an intermediate tone; *we*, a leap to the fourth, or an ascent to it by indeterminate degrees having no relation to a formal scale structure; *zēza*, a jump to the fifth, or an ascent by the same sort of indeterminate degrees; *re*, a final cadence.

## VI

The Abyssinian notation shares its essential features with a certain musical script of South India.

India, "the country in which nothing gets lost", has preserved the psalmodic melodies of those verses from the Vedas which from time immemorial the priests have sung at sacrifices. It has been possible to preserve this collection, called the *Sāma Veda*, because oral tradition has been supported by certain symbols recording the melodies of the past, which may not be altered lest their magic force be impaired. To this end, North India uses figures, and the South, syllables taken from the ordinary alphabet, such as *ka*, *ki*, *ko*, *ku*, *kai*, *kau*, and many other consonant-vowel combinations. Only a few of them indicate single notes: *ta* means the fourth note of the descending scale; *na* demands a ligature of the first and the second note and the prolongation of one of them; *cho* indicates the second, third, and fourth notes in succession; *ke* stands for a group of not less than seven notes. Two hundred and ninety-seven such indicatory syllables are known.

Once more a syllabic script, taken from the current alphabet, accompanies religious texts; once more it stands for sacred inviolable melodies; once more it designates stereotyped groups of notes. The

only difference lies in the position given to the symbols in the manuscripts: here they are set right within the text, after the first syllable of a *parvan* (or, let us say, measure) and also, but rarely, in the middle. Both positions are illustrated in the beginning of the first *saman*, which follows, "ta", "cho", and "na" being musical symbols:

*o ta gna i*

*a cho ya hi na vi ito i*

To this form, discovered by A. C. Burnell and discussed in his edition of the fourth book of the Sāmaveda (*The Ārsheyabrāhmaṇa*, Bangalore, 1876, Introduction), Richard Simon was able to add another in his *Notationen der vedischen Liederbücher*, published in the *Wiener Zeitschrift für die Kunde des Morgenlandes*, XXVII (1913), p. 346. There, each *parvan* of the text is followed by the melody, e.g. [text:] *barhā-iṣā auhovā* [music:] *ta khā śi ri*.

Burnell calls the foundation of the *saman* melodies "unquestionably very old". Some of the Vedic texts are supposed to go back to about 1500 B.C., if not to a still earlier period; they doubtless were sung from the very beginning, not recited; and, in spite of variants unavoidable in four thousand years and an immense area, the main trend of the melodies will scarcely have changed. Again, Burnell avers: "The S. Indian letter-notation is the oldest", i.e., older than the figures used for the same purpose in North India. To his philological reasons a general fact may be added. Many archaic features, lost in North India, which again and again was exposed to conquest and immigration on a large scale, are carefully preserved by the Dravida, the dark aboriginal population of India, pushed back by the invaders and today inhabiting the South. The old civilization that they carried southward must not be conceived of as isolated. In his book "The Dravidian Element in Indian Culture" (London, 1924), Gilbert Slater writes: "In so far as this Dravidian civilization was derived from outside sources, its origin is to be traced to Egypt and Mesopotamia, linked up with India by sea commerce." Certain musical facts confirm the Western influence: the strange South Indian stick-zither, the *kinnari*, for example, shares its name with King David's so-called "harp", the *kinnor*, and the frame drum *tambattam*, so important in Dravidian life, was known in ancient Babylonia under the Akkadian name *timbutu*.

## VII

To sum up: scripts consisting of a great number of detached syllables have been used in two oriental countries, Ethiopia and South India. In both they belong to musical notations or, more accurately, to vocal notations that are used in connection with religious texts and that indicate, as a rule, stereotyped groups of notes. They provide evidence of that particular ornamental style that we roughly call "oriental", and that persisted to the period of the German Meistersinger. This style did not originate in language; its trend was not derived from speech melody, nor was it syllabic in the sense that each syllable of the text was given one note. In a strong emotional effusion, melody flowed along almost independently of the text, and the syllables of the poem were sung on ornamental melismas rather than on single notes. Emotion that once had drawn the curves of these melismas cooled down, and certain melodic turns, recurring again and again, that had resulted from spontaneous creation, froze into stereotyped patterns of stationary, ascending, descending, or undulating groups. Out of these patterns, in ever changing combinations, melodic lines were composed, much as mosaics are set together out of single cubes. Eventually, when these mosaics ran the risk of sinking into oblivion, written symbols had to back tradition.

Babylonia would not have badly suited this type of music; indeed, we cannot think of any other style in which her temple singers might have chanted the sacred texts. She formed the northern end of the Semitic area of which Abyssinia was the southern end; and the South Indian civilization was under the strong influence of Sumer and Babylonia.

Still, we leave it to the Assyriologists to decide whether or not their secret syllables indicate melodies, as do the similar syllables of Ethiopia and South India. Musicology is scarcely interested any more in their answer: even if they decide in favor of music, syllabic notations that symbolize certain conventional combinations of notes cannot be deciphered. The Babylonian syllables will remain as secret as the ancient priests could have wished.