

## THE HITTITE LANGUAGE.

(1.) *Method of Study.*

SINCE the publication of Altaic Hieroglyphs, I have devoted time to the verification of the sounds proposed for Hittite words, by the aid of living languages, which serve to check the results of cuneiform study respecting the ancient Turanian languages of Western Asia. As the results have formed a lengthy MS., I propose to give an abstract of the more striking confirmations of the original thesis, which was to the effect that the Hittite language must have belonged to the same group to which the Akkadian, Susian, and Medic—the old Turanian tongues of Chaldea and Media—belong.

It appears to be now admitted that the Hittites were a Tartar people, and their language should therefore belong to the Turko-Tartar group. The Medic is pretty generally admitted to have been nearest to this group, but the Akkadian has generally been thought to be nearer to the Finnic languages. Lenormant, however, found that Akkadian grammar (especially that of the verb) was nearest to the Manchu-Tartar, which represents a very archaic condition of speech; and he also considered that the Ugrian languages were nearer than the Finnic to Akkadian. The geographical position of Chaldea would render this natural, and the fact that the Akkadian numerals are nearer to the Turkish and to the Tartar is another important consideration. After having compared nearly 400 Akkadian words with Tartar and Finnic roots, it seems to me clear that the Tartar are usually nearest to the Akkadian. I find also that out of about 220 known Medic words 60 or 70 are radically connected with Akkadian words, so that if Medic be regarded as a Turko-Tartar language, the older Akkadian belonging to a period when the various branches of Turanian speech were perhaps less distinguishable, should also probably be classed as Turko-Tartar. In modern Turkish I find nearly 200 words which may be compared very closely with Akkadian. Some of these are dissyllables like *beuluk* (Akkad. *Bulug*), "division;" or *Aka* and *Agha* (Akkad. *Aga*), "prince." But *Gwicuk* (Akkadian *Guk*), "blue;" *Pala* (Akkad. *Pal*), "sword;" *Ak* (Akkadian *Ak*), "white;" and the rest represent the more numerous class of ancient monosyllabic words common to Chinese, Mongol, and Tartar languages.

Taking for comparison the dead languages, Akkadian, Medic, Susian, and the dialect of Malamir, I have only accepted for use as a rule words common to two or more of these dialects. Among living languages I have placed first the Turko-Tartar dialects, second the Ugrian, and third the Finnic. I have also given attention to the Etruscan language, of which about 250 words are known, and which is comparable on the one side with Basque and with Ugro-Finnic speech, and on the other with Akkadian. Mongol and Chinese words are also in some cases valuable for comparison. As regards grammatical construction I have studied

the Akkadian, Medic, Susian, and Etruscan, and among living languages the Turkish, Hungarian, and Basque. It appears to me, therefore, that any objection that might be raised to the exclusive use of Akkadian for purposes of comparison will not apply to the present enquiry.

As regards the sources of information respecting the Hittite language, they consist in (1) the names of 30 Hittite Kings; (2) the names of 200 Hittite towns; (3) the sounds recoverable through the Cypriote and other syllabaries as belonging to symbols on the monuments of Syria and Asia Minor. The fact that the Hittite language is comparable to the dialects of Asia Minor, Cappadocia, and the Vannic region, has long been regarded as probable. In many striking instances the royal names of tribes in these regions are comparable with both Akkadian, Medic, and Turko-Tartar words of suitable meaning, and while I believe that the name Hittite should be confined to one tribe dwelling in Northern Syria, it seems to me clear that the Canaanites (especially in the north) belonged to the same stock with the Medes and Akkadians, and with the Asia Minor tribes who afterwards spread to Greece and to Italy.

### (2.) *Royal Names.*

As regards the royal names, there are several words which recur in these names and which are very distinctive of Turko-Tartar speech. Of these the most important, perhaps, is that occurring in the forms Tarka, Tarku, Tarkon, and Tarkhu. Thus we have—

Tarka tasas,	King of the Hittites.
Tarka nanas,	„ „
Tarku timme,	„ Erme.
Tarkon dimotos,	„ Cilicia.
Tarkhu lara,	„ Gamgami.
Tarkhu nazi,	„ Milid.

This word is known in the Etruscan names Tarkon, Tarchu, Tarchnas, Tarcnal, Tarchi, Tarcna (Dennis, "Etruria," ii, pp. 41, 44, 102), and is familiar to us as Tarquin. It is a regular Tartar word for "chief," as in the Uigur *Tarkhan* and Tschuwash *Targan* or *Torgan* (Vambéry, Root 182, p. 170), and is used as *Tarkhan* in Siberian (Taylor, "Etruscan Res.," p. 79). Vambéry would render it "chief of the tribe," from *Tar* or *Tur*, "tribe," and *Kha* or *Khan*, "chief."

The word *Tar* or *Tur*, however, itself means chief. It seems to occur in the names—

Tartisebu,	King of the Hittites.
Tatar,	„ „ „
Totar	„ „ „
Motur	„ „ „

It is indeed a very widely spread Turanian term, recognisable, according

to Vambéry, in the names Tartar and Turk and the Uigur *Töre*, "prince" (Vambéry, Root 197, p. 184), with the radical meaning of "foremost." In Akkadian *Dur* means "chief," and in Medic it is *Tar*. To the same root the word *Tara* or *Dara*, for "God," is probably to be ascribed, as in the Esthonian *Tara* and the Ostiac and Wogul *torim*, "heaven." The names of Tar and Tarku, deities of Asia Minor, the Akkadian Istar (Ashtoreth), the name Dara for the God Ea, and Dar for the God Asshur, may be compared with the Finnic *Tara* (see Donner, i, p. 127), for "God," and with the Etruscan Turan for the dawn goddess ("Etr. Res.," p. 134). There was a Hittite goddess called Antarta, or Astarta. In modern Turkish  $\text{درا}$  (*dara*) means "a prince." In Tschuwash *Tora* is "God."

Connected with this word is the word Sar, which occurs in the names—

Sap sar,	King of the Hittites,
Maurasar,	" " "
Kausira,	" " "
Khetasar,	" " "
Sarduris,	" " Van,

and many others. This word, though used in Semitic languages to mean "chief," can hardly be regarded as Semitic in the Hittite names, being affixed and not prefixed. In Egypt the word *Sar*, for chief, is traced back to the times of the ancient empire before the Semitic invasion ("Pierret, Vocab.," p. 515). It is used in Akkadian for "chief," and is represented by the modern title of Tzar or Czar, in Russia. It may be compared with the Samoyedic *Jeru*, "lord" (j and r being interchangeable in these languages), and with the Etruscan *Lar* (l and r being interchangeable). The form *lar* seems to occur in the name of the Gamgam chief, Tarkhulara. In Turko-Tartar dialects *Sar* or *Ser* means "strong" (Vambéry, p. 145). In Finnic speech *Ser* and *Sur* mean "high" and "great." Like the preceding words Sar appears, therefore, to be a widely-spread Tartar or Altaic word for a person of dignity and power.

The word Lel or Lul also seems to be recognisable in the names—

Sap lel,	King of the Hittites.
Sapa lului,	" Patinai.
Lalli,	" Milid.

This may be compared with the Akkadian *Lul* or *Lil*, "king," *Lala*, "ruler." The Hunns called their chiefs *Luli* ("Etr. Res.," p. 323), and since the word Sap means apparently a soldier (from the Tartar root *Sap*, "to strike" or "cleave"—Vambéry, No. 153, p. 142—also found in Finnic, Donner, ii, p. 100—and in the Akkadian *Zab*, "soldier," *Sapar*,

<sup>1</sup> There is another widely-spread word, *Tur*, for "son," and another *Tur*, for "camp."

"sword," and the Medic *Sabarrak*, "war"), it would appear that *Saplel* means "warrior king."

Another word which seems closely to connect the Hittite and the Akkadian is the name *Ispu* or *Esebu*. It occurs in the cases of—

Tartisebu,	King of the Hittites.
Akitisebu,	„ „ „
Ispuinis,	„ Van.

In Akkadian *Issep* or *Essebu* signifies "prince;" *Sib* also means "king" and "shepherd;" and *Sibir* means "harvest." These words seem to be explained by the Tartar root *Sab*, *Sjib*, *jip*, *jüp* (Vambery, No. 37, p. 35), meaning "to gather" or "bind," while in Finnic *Sap* means "to squeeze" (Donner, ii, p. 62). Thus the shepherd (*Sib*) is the gatherer, the king is he who gathers people like sheep, the harvest is the gathering of corn.

Other tolerably clear Tartar words recognisable in Hittite royal names are (1) *Aka*, "prince"—Akkadian *Aga*, Turkish *Aka* or *Agha*, Uigur *ige*, Cagataish *ege*, Jakut *icci*. (2) *Ir*, "man"—Akkadian *Eri*, Manchu *Eri*, Turkish *er*, Tschuwash *ar*. In Magyar *ur* means "lord;" in Medic *Ersa* is "great." (3) *Kal*, "strong," "big"—Akkadian *gal*, Susian *Khal*, Turko-Tartar *Khal*, *Khil*, *Khöl* (Vambery, No. 72, p. 67). (4) *Lab*, "brave"—Akkadian *Lab*, *Lib*, Susian *Libak*, Turko-Tartar *Lap* or *Lab*, "strong" (Vambery, No. 131, p. 120), Turkish *الب*, *alb*, "brave." (5) *Nazi*, "prince," as in Susian and Akkadian. (6) *Bakh*, "king"—Akkadian *Pakh*, Turko-Tartar *Baj*, *Big*, *Bik*, "prince" (Vambery, No. 205, p. 194,) Turkish *بك*, *bek*, "chief" *بك*, *pek* "strong." (7) *Pas*, "chief"—Turko-Tartar *bas*, *bash*, *pash*, "chief" (Vambery, p. 195), Turkish *پاشا* *pasha*. (8) *Sun*, "majestic"—Turkish *سان*, *san*, "dignity," Medic *sanu*, "powerful," *Sunku*, "ruler," Susian *Sunkik*, Malamir *Sunkip*, all from the same root. These, with a few others, enable us to translate nearly all the Hittite royal names in an appropriate manner.

It is to be noticed that these proper names often end in *s*, which was thus probably a personal suffix, as for instance, *Pais*, *Kalbatus*, *Samaritas*, *Kamais*, *Tarkatasas*, *Tarkananas*, *Zuazas*. The Cassite proper names, and a good many Akkadian proper names, have the same ending in *s*, as have many names from Asia Minor. The same termination occurs in Etruscan (e.g., *Truials*, "a Trojan," *Huins*, "a Hunn," &c.). In Akkadian we have the word *Sa*, "man," which is perhaps the root whence the third person singular in *s*, common to many Ugric and Turkic languages, is derived. In Hungarian (Singer, "Hung. Lang.," p. 84) *es* is a suffix for the agent. The termination in *s* thus agrees with the fourteen words above mentioned in indicating very clearly the Turanian and Tartar derivation of the Hittite proper names for chiefs.

(3.) *Town Names.*

The geographical lists of the Temple of Karnak furnish a yet larger number of non-Semitic names in the Hittite country for analysis. There are difficulties in treating this list since some of the names are pretty certainly Semitic, while in some cases the transliteration is doubtful and in others the name is defaced. A comparative study, however, enables us to recognise certain Tartar roots in this nomenclature, and it has long been the opinion of competent scholars that the language represented by the town names of Northern Syria was neither Semitic nor Aryan, but presented (as do the personal names) the preposition of the defining word which distinguishes Turanian tongues.

1. Perhaps the best instance occurs in the case of the root *ab* or *eb*, as in the names—

Terab.	Rutub.	Tatup.
Nautab.	Papab.	Letep.
Nirab.	Kharab.	Ganiab.

In these cases the word seems clearly a suffix, or the defined word to which a defining word is prefixed. It may be compared with the Akkadian *ab*, "abode," and *ub*, *ib*, "region;" the Medic *up*, "city" (Lenormant); and the Chinese *ip*, "region." In Turko-Tartar dialects *eb* and *ev* signify "a house," from a root meaning "hollow" (Vambery, No. 47, p. 43), and this is connected with the Turkish  $\text{ev}$ , *ev*, "house."

2. A cognate word *Ai* occurs in the names—

Aai.	Aiberi.	Aaitua.
Unai.	Khataai.	

This might be the Akkadian *Ai*, "mound," *E*, "house;" Medic *E*, "house" (Oppert, "Les Medes," p. 243); Malamir *E*, "temple" (Sayce, "Malamir," p. 103). In Turko-Tartar languages *oj*, *øj*, *ov*, *ev* mean "house." In Finnic languages *au*, *av*, *ou*, *oi* means "to excavate," having the same radical meaning as the Akkadian *E*, originally meaning a "hollow place," "cave," or "lair" (see Donner, ii, p. 91). From this root the name of *Ai* (Josh. vii, 2-5, Jer. xlix, 3) appears to be derived.

3. Another apparent root is *Ara* or *Ari*, as in—

Aari.	Aresa.
Aares.	Arinir.

This may be the Akkadian *Ari*, "flow," *Aria*, "river." In Turko-Tartar we find *Ir*, *ür*, *er*, "to flow" or "melt" (Vambery, No. 45, p. 42), whence the Yakut *ürak*, "stream." In Hungarian *ar* means "stream" (Donner, i, p. 104), and in Basque *ur*, *ura*, is "water." In Turkish  $\text{ایرمک}$ , *irmak* is "river."

4. Though only twice found, the root *Atr* is very distinctive, as in—

*Atriten.*

*Aternu.*

In Etruscan the word *Atrium* is derived from this root, which is the Turko-Tartar *Tur*, "abide" (Vambéry, p. 185); Esthonian *tare*, "hall;" Magyar *ter* (Donner, i, p. 135). In Akkadian *Tir* is rendered "seat."

5. The root *Un*, or *Aun*, appears in the names—

*Unai.*

*Aunuka.*

*Unpili.*

With these we may compare the Akkadian *un*, *unu*, *unug*, "city;" the Turkic *in*, Tcherkes *unneh*, Wogul *ion*, Etruscan *on*, "city" ("Etr. Res.," p. 348). In Finnish *huone*, in Esthonian *hõne*, in Lapp *huona*, in Hungarian *hon*, signify "house" or "home" (Donner, i, p. 95). This seems to be the Medic *ummanni*, Susian *umman*, "house" (Oppert, "Les Medes," p. 244).

6. The Egyptians not distinguishing *l* and *r*, it is doubtful if the next root should be *aul* or *aur*, *aal* or *aar*. Compare—

*Aarzakana.*

*Aarnir* (thrice).

*Aurpalna.*

*Aripenekha.*

*Aarta.*

*Aurma* (twice).

In Akkadian *ur*, *urra*, means "foundation;" *uru*, *eri*, or *alu*, is "city." The Cagataish *orun* means "place" (Vambéry, p. 57); Turk *اورو* *œuru*, "enclosure." In the Tartar dialects *l* and *r* are sometimes interchanged. *Aul* is a common Tartar word for "camp;" Tschëremiss *ula*, *ola*, "town;" Mongol *ordu* "camp;" Khitan *woolutu*, Turkish *آولو* *aulu*, "courtyard;" Etruscan *Vol*, *Vel*, "town" or "settlement" (Taylor, "Etr. Res.," p. 346).

7. The root *Ben* or *Ban* is also clear in the words—

*Anaubenu.*

*Sesban.*

*Atabana.*

*Aripenekha*

It is, perhaps, to be compared with the Etruscan *phanu*, a "fane;" or with the Akkadian *pin*, "foundation," *apin*, "city;" Chinese *pin*, "settlement."

8. The root *Beg*, *Bug*, or *Puk* occurs in the words—

*Sutekh-bek.*

*Pukiu.*

*Suki-beki.*

As the first of these words seems to contain the name of *Sutekh* or *Set*--a Hittite deity--*Bek* may mean a "shrine," like the Akkadian *ubigi* and the Malamir *bukti* (Sayce, "Malamir," p. 81). But, as already noted, the

Tartar root *Bek* means "strong," whence the Uigur *bekük*, "a fortress," and this may be the true meaning of the Akkadian and Malamir words.

9. The root *Kan* or *Gan* occurs as a prefix in two names, and suffixed two others—

Tepkenna.	Ganiab (or Kainab).
Shauraganna.	Kaniretu.

In Akkadian *gan*, *gin*, *gun*, *gina*, signifies "enclosure," perhaps the Tartar *jan*, "wall" (Vambéry, p. 112). It recalls the Semitic word for "garden," but where suffixed can hardly be a Semitic word.

10. The word *Kar*, "fortress," is also recognisable in the names —

Atakar.	Karkamasha.
Karmata.	Tsatsakar.

In Akkadian *Kar*, *Kir*, *Khär*, *Gar*, or *Khar* is rendered "fortress" or "enclosure;" Mongol *Hur*, "enclosure;" Etruscan *Cære*, "town." The Turko-Tartar *Khar*, *Khor*, *Kür*, *Gür*, mean "to surround" (Vambéry, No. 86, p. 81). The Finnic *Kar*, *Ker*, *Kir*, *Kor*, means "round" (Donner, i, p. 48). In Wotiak and Zirianian *Kar* means "town."

11. The word *Aker*, perhaps from the same root, occurs in—

#### Akershaua.

This recalls the Lapp *Aker* and Etruscan *Ager* for a "field" or "enclosure" ("Etr. Res.," p. 333).

12. The root *Khar* or *Khal* is probably connected with the two last. It occurs in—

Khalka or Khalukka (Chalchis).
Khalres or Khallis (Killis or Kharis).

It is perhaps to be compared with *Khal*, "town," as in Medic, Susian, and the Malamir dialects (Sayce, "Malamir," p. 105).

13. The word *Kur* occurs in Tamakur; Akkadian *Kur*, Malamir *Kurkha*, "mountain" (Sayce, "Malamir," p. 104); Basque *Kora*, "high;" Lapp *Kor*, "mountain;" Esthonian *Körge*, "high;" Tscheremiss *Korok*, Wotiak *Gurez*, Permian *Keros*, "mountain." (Donner, i, pp. 35, 36.)

14. The syllable *Ma* occurs in—

Aama.	Mauraka.
Khatuma.	Matthi.
Letama.	Mashaua.
Aurma.	Akama.

Lenormant ("Magic," Engl. Ed., p. 272) says that *Ma* joined to a town name means the region near a town. Lenormant and Delitzsch give *Ma* as an Akkadian word for "country." Mr. Pinches informs me that it is a rare word. In Finnish *Maa*, in Vogul *Ma*, in Zirianian *Mu*, signify "country."

15. The word *Mur* occurs in—

Murlakhna.  
Kamurupa (?).

Compare the Akkadian *Muru* and *Murub*, "city."

16. *Pil* or *Pir* is recognisable in—

Piltau.  
Aunpili.  
Aubillina.

This is probably the Ostiak *Pel*, Andi *pil*, Mongol *Boldek*, Etruscan *Falæ* "mountain" ("Etr. Res.," p. 330). In Samoyedic *floio* means "high."

17. The root *Su* seems to occur in—

Buresu.  
Tsaresu.  
Tariunsu.

This is no doubt the Tartar *Su*, "water" (Vambery, No. 167, p. 154), as in the Tschuwash *Su*, "stream;" Turkish *سو*, *Su*, "river" or "water." The same root occurs also in Finnic languages (Donner, i, pp. 100, 157).

18. *Ta* as a suffix is recognisable in—

Tarita.	Abta.
Aarta.	Abata.

It may be merely a grammatical form like the Medic *ta*, Akkadian *da*, forming abstracts; but *Ta* is a widely spread Turanian word for "mountain," occurring as a suffix in names like Altai, Aktu, &c. In Etruscan it appears as *Te* ("Etr. Res.," p. 346); in Turkish as *Dagh* داغ. In Ostiak *tei* means "a peak" (Donner, i, p. 161).

19. *Tama*, a distinctive Tartar word, occurs in—

Tamakua.  
Aatatama.  
Taniakur.

In Khitan and Manchu *tama* means "enclosure" ("J. R. A. S.," xiii, ii, p. 124). In Cagataish *tam*, *tim*, is "a building" (Vambery, No. 179, p. 166). In Akkadian *Tami* is translated "shrine," or "building."

20. The root *Tar* seems clearly traceable in—

Tarebu.	Tarita.
Tariunsu.	Tarekh.

This is a common Tartar word for "narrow" or "gathering" (Vambery, p. 169). Compare the Turkish دере *dereh*, "valley."

21. The word *Tep* occurs probably in—

Tepkenna.

This is probably the Altaic *töbe*, Tchuwash *tübe*, "hill" (Vambery, No. 192, p. 178). Turkish *tepe*, "hill." It is also found in the Finnish *tüppära*, *tüpäle*, "a hill" (Donner, i, p. 150); and in the Mongol *dobo*, and Etruscan *Tepæ* ("Etr. Res.," p. 330).

## 22. Tur or Tul is probably to be found in—

Turmanna or Tulmanna.

Turbanda or Tulbanda.

In Akkadian we find *Tul*, "mound;" Hunnic *Teulo*, Etruscan *Tul*, "tumulus" ("Etr. Res.," p. 211); but if the word be *Tur* (which is equally probable) we must compare the Akkadian *Tur*, "abode," and the common Tartar and Turkish root *Tur*, "to dwell," whence the Turkish *طورمق* *dourmak*, "dwell," and the Siberian, Mongol, Tartar, and Samoyedic *tura*, "tent" ("Etr. Res.," pp. 23, 344). In Finnic the word *tur*, "tribe," is no doubt connected (Donner, i, p. 130), and perhaps the Esthonian *tare*, "abode" (p. 135).

These roots are not peculiar to Hittite, nor do they exhaust the possible Tartar words recognisable in the list in question. The words *Kur*, *Gan*, *Ater*, and many yet more suggestive (*Palanda*, *Atarna*, *Arna*, *Perk*, *Gurus*, &c., &c.), recur again and again in the names of cities in Asia Minor, in Etruria, and even in Iberian Spain, wherever the Tartar stock to which the Hittites belonged, spread itself throughout Western Asia and Southern Europe. (See Hyde Clarke, "Inhabitants of Asia Minor," 1865.)

(4.) *Grammar.*

Before proceeding further, it is necessary to consider for a few moments the probable grammar of the Hittite language, by aid of the hints obtainable from the preceding lists, and through a comparative study of the grammars of Tartar, Ugric, and ancient Turanian languages. Languages and writing grow together. The earliest stage, in which grammar hardly existed, would be expressed by picture writing. Agglutinative languages can be expressed by hieroglyphics, but this is not the case with inflected languages, which require syllabaries, and which are best expressed by the alphabet. Thus a hieroglyphic system belongs to an agglutinative language; and to such an agglutinative tongue the hieroglyphics of Syria and Asia Minor are properly ascribed.

The most distinctive features of Turanian speech are: 1st. Agglutination, or the absence of inflexion. 2nd. Post-positions, or the placing of the root before its agglutinated syllables (though this is not an invariable rule). 3rd. Vowel harmony in derivatives, the weak root or agglutinated syllable agreeing in vowel sound with the noun-verb root. This does not

apply, as a rule, to compound words. In Medic such harmony is suggested by Oppert ("Les Medes," p. 39), and in Akkadian it is clearly visible in the pronouns and post-positions (see Bertin, "L'Incorporation Verbale"). 4th. The distinctions of sound are much less precise in Turanian than in Semitic languages. Thus in Medic, Oppert only recognises eleven consonantal sounds, while, in the Tartar languages and in Basque, the interchangeability of various letters is equally remarkable. The peculiarities of the Cypriote syllabary seem to show that the sounds of vowels and consonants were also indefinite in Hittite.

The Medic and Akkadian differ in syntax from the living Turanian languages. The arrangement of the sentence, the position of the pronouns, and one or two other important particulars, show this difference; but the ancient and living languages agree in many equally important particulars, such as the position of the plural, the placing of the verb at the end of the phrase, and the use of post-positions.

In Akkadian, Sumerian, and Medic the order of the sentence is *object + subject + verb*, whereas in Turkish it is *subject + object + verb*. In the more certainly understood Etruscan texts the ancient order seems to be observed. In Hungarian the rule is very variable (Singer, "Hungarian Language," p. 87). In Basque the order is the same as in Turkish (Van Eys, "Basque Language," p. 49).

The use of "packets" in Akkadian, or, in other words, the rule that only the last word in an enumeration takes the case suffix is observable in Basque (Van Eys, p. 45), and it survives to a certain extent also in Turkish (Redhouse, "Turkish Language," p. 165).

The arrangement whereby the defining word (such as the genitive) precedes the defined word, is a distinctive mark of Turanian speech, but in the ancient languages the rule is not inflexible. In Akkadian we find the genitive both preceding and following, and the genitive affix is in the first case omitted, but added to the genitive when it follows (e.g., *Ma-ir*, "city of the ship;" *Damkina*, "woman of the earth," &c.). In Medic, also, it is found that the genitive may follow or precede, and when it follows, the genitive suffix is attached to it (Oppert, "Les Medes," p. 106). In Turkish there are four possible arrangements. The genitive with its suffix sometimes precedes (Redhouse, p. 163), and this is also the case in Basque (Van Eys, p. 46).

In Tcheremiss the genitive, without case affix, precedes its nominative, as in Medic. In Votiac it is placed indifferently before or after ("Magic," Engl. Ed., pp. 284, 285). In Hungarian the prefixed genitive without mark of case also occurs (Singer, p. 10).

In Hittite the genitive appears in some cases to precede without any case suffix (see *Kheta-sar*, "Chief of the Hittites;" *Khataai*, "House of the Hittites;" *Sutekh-bek*, "Shrine of Sutekh"). In other cases it seems to follow (as is clear from the bilingual boss), which may lead us to render *Aurpalna*, "City of the Chief;" *Turmanna*, "Camp of the King," the final *na* being the case suffix. In the cases *Tartisebu* and *Akitisebu*, the prefixed word appears to have an affixed particle, *ta* or *t*, which is

either a case ending or the sign of the abstract (*ta* in Medic, *da* in Akkadian).

The position of the adjective is also very variable in the languages under consideration.

In Medic the adjective follows its noun, but in the earlier Akkadian it appears sometimes to have preceded it. In Chinese the adjective precedes the noun (Max Müller, "Science of Language," 5th edition, p. 122), and Lenormant regards this as the more ancient Turanian structure. In Turkish all the adjectives precede the noun and remain uninflected (Redhouse, p. 68). In Basque, on the contrary, the adjective follows, and Lenormant has pointed out ("Magie," French Edition) that this archaic language much resembles Akkadian in structure. In Hungarian the adjective may follow or precede, but when preceding remains invariable (Singer, p. 26). Judging from the words *Gallu* and *Lugal*, it would seem that the prefixed adjective may also have occurred in Akkadian. The signs *a* and *ga*, and *li*, are adjective affixes in Akkadian, and in some living tongues, when the adjective follows the noun.

The lists under consideration seem to show that in Hittite, as in Hungarian, both positions are possible for the adjective. *Khalukka* may mean "great town" (*ukka*, "great"), but *Galbatus* might mean "great ruler" (*gal*, "big"); *Aunpili*, "mountain town," may present an adjective, *pili* from *pil*, "a hill." *Tamakua*, "lofty building;" *Lalli* ("princely") and *Tarkhulara* are other possible instances of Hittite adjectives. When preceding the noun, we see, from what has been said above, that the adjective would probably present no affix, but consist simply of the root.

Gender, properly speaking, does not exist in the languages to be considered. Even the pronouns have no gender in Akkadian or in Turkish. There is no gender in Basque, Hungarian, or Turkish, or in Akkadian or Medic. The sex may be distinguished, in some cases, by a prefix, like the Hungarian male prefix (Singer, p. 82) for animals, or the Turkish female prefix *dishi* (Redhouse, p. 51). In Akkadian there appears to have been a male affix (e.g., *lu-nūt*, "sheep-male"), like the Hungarian female affix *ne* ("wife").

The position of the plural is the same in the ancient and in the living languages, but the words used for plurals are very various. In Medic the plural affixed to the root precedes the case suffix (*Ain-ip-irra* "of the Kings"), and the same order occurs in Hungarian and in Turkish (see Sayce, "Malamir," p. 72, Singer, p. 14, Redhouse, p. 51). I believe that this was clearly the case also in Hittite (see the second word on the first Hamath stone when the plural precedes the termination *lî*).

The position of the verb at the end of the sentence distinguishes the languages under consideration from the Semitic and from the Egyptian.

The root, properly speaking, appears to be the imperative, as in Turkish, and the noun may be either the root or may take an affix, such as *Ak*, *Pi*, *Es*, representing the agent or distinguishing the case. From one point of view there is no true verb in the ancient languages, and the

tense is said by some scholars not to be distinguished in Akkadian. In Basque the past tense is distinguished by an affixed *n* and the infinitive is unknown (Van Eys, p. 47). In the earlier languages the passive is represented by the auxiliary *du*, "come" or "become" (literally "go," as in many early languages—Max Müller, "Science of Lang.," 5th ed., p. 339), and the active by *ma*, "be." The auxiliary, with these exceptions, precedes the verb in Akkadian, which is not the case in the later living languages. A reduplication of the root is said by Max Müller to be frequently used for the past. Such re-duplication occurs in Akkadian (e.g., *gamgam*, *dudu*, &c.), but does not seem to have been recognised as a mark of tense. The adverb and the adjective are the same in Turkish (Redhouse, p. 73), and were no doubt indistinguishable in the ancient languages. The periphrastic construction, which Lenormant considered a striking peculiarity of Akkadian ("Magic," Engl. Ed., p. 278), occurs in other languages of Turanian origin, as, for instance, in the Basque (Van Eys, p. 34).

The syntax of the verb and the positions of the pronouns are of special importance to our enquiry.

In the more modern languages the verb is conjugated, the personal suffix following the root, but in the ancient Akkadian this is not the case. The pronoun there precedes the root, just as it does in Basque, without personal suffix. Lenormant remarks that the old structure, with a simple verb root, preceded by the governing pronoun, still exists in Mongolic and in the Manchu-Tartar.<sup>1</sup> In Chinese, also, the governing pronoun precedes ("Magic," Engl. Ed., p. 285).

In Medic, we find the order of the transitive verb to be governing pronoun + governed pronoun + verb (*U-ir-halpiya*, "I him killed"), which is the same as in Akkadian. In Basque the order would be "him killed I," and in Turkish "I him killed-I." In Etruscan the order is not so clear, but appears to have been "himi I killed." In Hittite we may expect the pronoun to precede the simple verb root, and the governing pronoun probably preceded the governed, as in Akkadian or Medic.

The pronouns are very constant parts of speech in these languages. Being originally nouns the words came with the advance of language to be used as demonstratives, and then specialised as pronouns. M. Bertin has shown this in the case of Akkadian ("L'Incorporation Verbale"), and it is also noted in Medic and in Basque (Van Eys, p. 16). The possessive pronoun is affixed to the noun in Akkadian and in Medic, just as in Turkish, in Hungarian, or in Basque.

The position of the numeral is very constant. It precedes the noun, and the ordinal, &c., are distinguished from the cardinal by affixes.

The use of post-positions instead of prepositions is one of the distinctive features of the languages under consideration. These words, as will

<sup>1</sup> Dr. Oppert conjugates the Medic verb. Dr. Sayce disputes this ("Malamir," p. 77). The Basque retains the old structure in the intransitive verb, which has no personal suffix (Van Eys, p. 31).

appear later, are wonderfully constant in the various languages. There are, however, certain preposed syllables (such as *gik* and *pir*) in Medic which appear to be intensitives. These are to be compared with the Turkish intensitive prefixes to adjectives, and are said by Lenormant to be also traceable in Ostiak, Hungarian, Lapp, and Esthonian. The pre-cative or exclamation is also preposed. The conjunction naturally is not.

Two preposed syllables in Akkadian and Medic are regarded by Lenormant as unknown in later languages. One of these is *It* or *Id*, supposed to mark locality; the other is *ki*, which is apparently nearest to the English "as" or "who." In Turkish *ta* and *ki* are suffixes of a somewhat similar character. In Hungarian *az* prefixed is the definite article.

These notes give us a fair idea of the probabilities of Hittite grammar, and it will appear that the evidence of the texts quite agrees with the general principles laid down.

#### (5.) *The Syllabaries.*

The sounds belonging to the Hittite emblems are to be recovered mainly from the Cypriote and other allied syllabaries. This is generally admitted, but a few general remarks may be necessary.

The syllabary as a rule gives us only one sound for one emblem. Now as regards at least the strong or noun-verb emblems in the Hittite, it is evident that they would have been connected (just as is the case in cuneiform) with more than one sound. It is improbable that the language could have been so poor as to possess only one word for any object, and indeed the evidence of the lists just consulted proves that this was not the case. It is pretty clear, therefore, that more than one sound may have survived in syllabic forms derived from a hieroglyph, and the case will be considerably strengthened by the discovery of two or more syllables having a common origin. Thus the Cypriote *pi* has the same form as the Carian *s*, both being derived from an emblem which appears to have been a personal suffix in Hittite.

On the other hand, more than one emblem is used for certain sounds in the Cypriote. There are two forms of *Le*, of *Pe*, and of *Pi*, which it is almost impossible to regard as derived from one original hieroglyph. The reason is found in the well-known fact that in Tartar languages, as in Chinese, roots of very different meaning have often the same or very closely similar sounds.

The Cypriote syllabary as at present known consists of fifty-four open syllables (*i.e.*, single consonants followed by single vowels), to which it has been proposed to add four closed syllables—*nos*, *man*, *gon*, *ros*. The existence of these four last appears to me to be more than doubtful. In the use of the syllabary by the Greeks double consonants are not represented (*ll* is *le*, *mm* is *me*, *gk* is *ke*, &c.), whereas closed syllables would have enabled the writers to overcome this difficulty. In many cases the *n* is omitted (*A-to-ro-po-se*, for *Anthropos*, &c.), and it will be noted that

three out of the four supposed close syllables include this letter. They may, therefore, I believe, be quite as properly read *os* (or *so*), *ma*, and *go*. As to *ros*, its existence is still problematical.

The sounds of the syllabaries are as indefinite as were those of the language originally represented. K, C, G and Kh are not distinguished, nor are T and D, or P and B, or M and V, while there is good reason to suppose that L and R were occasionally interchanged. All these sounds are equally indefinite in Akkadian and in Medic, as also in the living Tartar dialects. The vowel sounds appear also to have been indefinite. Thus the emblem *Mi* had also the sound *Me* or *Ma*, as we see clearly from its use to spell the Semitic word Melek or Malak.

In Cypriote the inverted vowel sound is not found, but the original hieroglyphs—at least in the case of the weak roots—probably possessed such inverted sound. Thus, in Akkadian, the third pronoun appears as *Na*, *Ne*, *Ni*, *In*, *En*, *An*, in accordance with the law of phonetic harmony, while such words as *Um*, “flame,” and *Mu*, “burn,” give a similar inversion. So in Tartar languages the inversion is commonly found.

The final *n* and *m* are weak letters very often dropped in both the ancient and the living languages. Hence, even in spelling Greek, we find these letters dropped as finals. They may often have belonged to the original hieroglyph, and in certain cases, such as the short *a*, *e*, *i*, which are used also for *an*, *en*, *in*, it is legitimate to restore the *n* to the hieroglyph.

The Hittite system appears to have consisted of about 120 emblems, and the syllabaries would thus allow of our recovering about half the sounds. The other half may have been closed syllables, or even polysyllables, which would account for their disuse in a late syllabic system.<sup>1</sup>

The emblems may be divided into strong and weak roots or noun-verbs, and attached grammatical forms. I have already pointed out that the suffixes on the texts are generally smaller than the noun-verbs, and the packets indicated by single emblems and by phrase dividers. The sounds may be taken in order as follows:—

#### (6.) *Weak Roots.*

These prefixes and suffixes are more valuable than the nouns, because of the greater frequency of their occurrence and because of the grammatical indications recognisable in their relative positions.

*Aa*, *Ya*, *Au*.—Emblem, a vase. In Cypriote it has all three values. In Carian it stands for *a*. In Akkadian *a* means “water.” Susian, *a*. Vogul, *ya* or *ye*. Zirianian, *yu*. The emblem occurs more than forty times in Hittite texts, and may at times be a noun, at times an affix. So in Akkadian the emblem *a*, originally representing water, is used not only for the noun but also for the participle termination *a*. In twenty cases the emblem on the Hittite texts appears to be a prefix

<sup>1</sup> Thus in the Medic and other simple systems we find about half the emblems to be open syllables and half closed.



“curve” (Vambery, No. 31, p. 27). There are fourteen known cases on the texts. In one the emblem is a prefix, in the rest apparently a suffix. In Akkadian *ga*, *gi*, *gu* is an exclamation—prefixed; as a suffix *ga* forms the adjective (Sayce, “Assyr. Grammar,” p. 20, No. 227), like the Medic *iki* and Susian *ak*.

*Ka*.—The emblem is called a *shaduf* by Sayce. It appears to be a suffix of case occurring sometimes at the close of an enumeration, or “packet.” At Hamath there are thirty instances, but only twelve on other monuments. From some texts it is entirely absent. In Akkadian *Ku* means “to” or “towards;” Medic *ikki*, “to;” Susian, *iki* or *ki*, “with.” In Turkish we have the dative *ke*, *ga*, or *ge*; in Hungarian the suffix *ig*, “as far as;” in Basque *ko* or *go* means “from,” and *ka* “with” or “at.” At Ibreez the text by the god’s head begins *Ka-ne*, or *Kan*, recalling the Etruscan *Ken*, “this,” which commences inscriptions, and the Akkadian *gan*, “this.”

*Ke*.—The emblem has a phallic appearance, recalling the the Akkadian *Uk*, “male,” from which root the affix of the agent common to so many Tartar and Finnic languages may be derived. In Basque the affix of the agent is *-k*, and many Turkish nouns have this termination. It is also observable in Susian and at Malamis (Sayce, “Malamis,” p. 74). There are about forty cases on the Hittite monuments, in three of which it seems to be clearly a prefix, recalling the peculiar Akkadian prefix *Ki* already mentioned. It also seems to occur re-duplicated in twelve cases, to be read *Keke* or *Kek*, recalling the Akkadian *Kak*, “to make.” In three cases we find a suffix *Me-ke* or *Mak*, recalling the Turkish *mak* or *mek*, which forms the infinitive, the patient, and the participle. In Medic the termination *meske* seems to be of similar value; at Malamis, also, we find the suffix *mak* (Sayce, p. 74). The combination *Ke-ti* occurs once (and perhaps thrice), perhaps the Akkadian *Kit*, “with,” Medic *Kutta*, “also.” We also find *Ke-ga* apparently as a prefix, like the Medic intensitive *gik*, the Turkish چوق *chok*, “much.” The emblem is often suffixed to emblems apparently nouns, such as *Tarake*, *Anake*, &c., on the Hittite texts.

*Lu* or *Li*.—This appears to be a yoke. Compare the Akkadian *lu*, “yoke,” perhaps the Tartar *Il*, *ol*, *ul*, “to bind together” (Vambery No. 42, p. 39). It is always an affix, like the Akkadian *li*, said by Lenormant to represent action done by a person (“Magic,” Engl. Ed., p. 272). In Turkish, *lu* and *li* is the termination of adjectives of possession. In Yakut *li* is the adverbial suffix. The nearest English word appears to be “with.” In Hungarian *ul* is an adjective ending (Singer, p. 86). This emblem in Hittite occurs more than once repeated in an enumeration, apparently of adjectives or adverbs governed by a case-ending *ka*. There are more than fifty cases of this emblem. In seven cases it is preceded by the plural *ne* representing a plural adjective. In four cases we find *ne-li*,

perhaps like the Etruscan *nal*, meaning "he with," as a termination of proper names.

*Me*.—The emblem consists of four strokes. Its value is derived from the bilingual. It cannot represent the number 4 because it is not a prefix, and it is very improbable that No. 4 should occur frequently on texts where no other numbers are represented. I believe it to form the plural (as in other hieroglyphic systems) like the Susian, Akkadian, and Malamir *me*<sup>1</sup> (Sayce, "Malamir," pp. 40 and 75). There are about thirty known cases on the texts always as a suffix. The combinations *meke* and *meli* are mentioned previously. In two or three cases we find *Me-ti* or *Met*, perhaps like the Turkish *meh*,  $\text{𐎎𐎗}$ , which terminates names of actions.

*Mo*.—The emblem might represent the *Kteis*,<sup>2</sup> recalling the Turkish  $\text{𐎎𐎗}$  *dm*; Tartar *Am*, *Em*, "female;" Akkadian *um* or *umu*. This emblem occurs both prefixed and suffixed, and seems to be the personal and possessive pronoun "I" and "me." In Akkadian it is found as *Am*, *Im*, *Um*, *Ma*, *Me*, *Mi*; in Medic *U* or *Vu*, "I," and *mi* "my;" Susian *Ma* or *Va*, "I;" Malamir *mi*, "mine;" Etruscan *ma*, "I" ("Etr. Res.," p. 284); Ostiak *ma*, Zirianian *me*, Samoyed *me*, "I." It is the Turkish  $\text{𐎎𐎗}$  (-*m*), "my," but in Basque it becomes *ni*, Finnish *ma*, Esthonian *ma*, Lapp *mon*, Tcheremiss *min*, Mongol *bi*, Manchu *bi*, and old Japanese *wa*. There are forty-eight known occurrences on Hittite texts, in most of which the emblem is a suffix. Texts occur, however, without a single occurrence which would agree with its use as a pronoun. Thus it is not found in the descriptive texts at Ibreez, nor is it known on seals (except Schlumberger, No. 18). The combination *mu-ne* occurs thrice, perhaps for "I him" or "me he," or perhaps the verbal termination—Medic *van*, Tartar *men*, Turkish *men*, Hungarian *van*, Akkadian *men*; but where it may be prefixed it recalls the frequent Akkadian prefix *mun*.

*Ne*.—This seems to represent the phallus, and it is the commonest of all the Hittite emblems. There are at least ninety-three occurrences, in twenty-four of which it is clearly prefixed. Thus, at Ibreez, it begins the text behind the King's head. The original meaning "man" or "person" survives in Turkic and Ugric speech (see the Etruscan *enna*, "Etr. Res.," p. 339). In fourteen cases this emblem is prefixed to the heads of animals on the Hittite texts, but these heads also occur without it. In Akkadian *ni* is often prefixed to the subject (Bertin, "J. R. A. S.," xvii, Part I). There are sixteen cases of *ane* as noticed already, four cases of *neli*, and one case of *nake*. This latter recalls the Etruscan *nak*, Hungarian *nak*, Ostiak *nak*,

<sup>1</sup> *Me* and *Mes* are both plurals, the second perhaps personal.

<sup>2</sup> It also closely resembles the cuneiform determinative for "female" in its oldest form, which had the value *Muk*, among others.

meaning "to" ("Etr. Res.," p. 309). In this instance *Zu-nák* appears to mean "to thee"—see the Hungarian *nak, nek*, "belonging to" (Singer, pp. 9, 12). Also occurs in Akkadian.

In Akkadian *Na, Ne, Ni, Nu, An, En, In, Un*, are forms of the pronoun "he," "him," and (as an affix) "his." While the post-position for the genitive or ablative is also *na*. In Etruscan *na* is the genitive suffix. In Basque *-n* is the ablative and the demonstrative or relative pronoun (Van Eys, pp. 15, 16). *N* is the dative in many Turkic languages, and in Finnic signifies "belonging to." In Turkish it is the genitive, and forms the third personal pronoun. In Susian we have *na*, "of," and *ni*, "his;" and in Medic *ni*, "of." The emblem also occurs prefixed to signs of action, as in Akkadian we have *Nigin*, "surround," from *gin*, "enclosure." There can be little doubt that the emblem in Hittite has the same force as in the other languages of the same class, and we have already seen that *na* appears to have been the Hittite genitive case ending in the names of towns.

*No* occurs only once, and resembles the sign of opposition in cuneiform and in Egyptian. It is a prefix—the proper position of the negative.

Akkadian *nu*, "not;" Medic and Malamir *inne*, Turkish  $\text{đ}$  *ne*, "nor."

*Pi* or *S*.—The first is the Cypriote, the second the Carian value. There are sixteen or seventeen occurrences always beneath larger emblems, apparently nouns. The emblem seems to represent a pair, and might represent a dual or plural. Compare the Tartar *áb*, "pair" (Vambéry, No. 32, p. 29), the Akkadian *bi*, and the Basque *bi*, "two." The value *S* would also agree, since *S* is a Finnic and Tartar plural probably also recognisable in Akkadian, derivable from a root meaning "to cleave," as is also the dual *áb*. In Akkadian *ib* and *bi*, *es* or *se*, are personal affixes, and *ba, be, bi, bu, ab, eb, ib, ub* is a pronoun, "that one" (Bertin, "L'Incorporation Verbale," p. 3), which Lenormant says forms the absolute case ("Magic," Engl. Ed., p. 274), like the Lapp *b* or *v*, for the accusative, Tcheremiss *p*, Samoyedic *p*.

Manchu *be*, and Turkish  $\text{bu}$  *bu*, "this one." In the Malamir dialect and in Medic, *pi* is supposed to be the relative (Sayce, "Malamir," p. 91), like the Akkadian *aba*, "who." In Finnish *pi* is the verbal pronoun, Esthonian *b*, Tcheremiss *be*, Yakut *by*, Yenissei and Samoyedic *ba*, "he who." The value *S* may be compared with the adverbial affix, Akkadian *as, es*, Tcheremiss *-s*, Lapp *-s*, Votiak *sa*, Mordvine *-z*. In Hungarian *as* or *es* is an adjective termination, and also stands for the agent (Singer, p. 85).

We have already seen that Hittite and other proper names often end in *s*.

*Po*.—This appears to represent a crook turned the opposite way to *ga*. Compare the Tartar root *Boy*, "to be bent" (Vambéry, No. 227, p. 210).

There are not more than twelve cases, in two of which it may be prefixed. It is perhaps to be compared to the Turkish *bu* بۇ "this one," or the Medic *appo*, used for the relative (Oppert, "Les Medes," p. 277).

*Ra* or *Er*.—The value may be derived from the bilingual. There does not seem to be any clear occurrence at Hamath, and it is absent from some other texts. The emblem looks like a cord or whip—compare the Tartar *ör*, a "rope," "twist," or "pigtail" (Vambéry, No. 32, p. 28). There are about fourteen instances on one text (J. I.), and about twenty in all, in which this emblem appears infix or suffixed.

Compare the Akkadian *Ra, Ri*, "to," "of," or "towards," incorporated in the verb. In Medic *Ra, Ri, Ir*, forms the adjective, the accusative, and the possessive (Oppert, "Les Medes," pp. 51, 279, 280). It occurs also at Malamir (Sayce, p. 102), and *Ir* means "him" in Susian and Medic. The case meaning seems to be connected with the old verb *Ra*, "go," the personal meaning would be from the root, *Er*, "man." In Basque, *ra* means "towards," and in Hungarian *ra, re*, means "upon ;" on the Hittite texts we find the verbs, *In-tu-ra*, "gives to," and *In-du-ra*, "goes to ;" also in four or five cases, *Ti-ra* or *Ter*, and once *Termu*, perhaps the Malamir *Tar* and *Tarma*, "all" (Sayce, "Malamir," p. 110).

*Sa*.—This comparison is due to Professor Sayce. The Hittite emblem seems to be a hook or sickle. *Sa* is a common Turanian word for a cutting instrument, as in the Abase *Sa*, "sword," Tcherkess *seh*, "knife," from the root *az* or *aj*, "to cleave" or "open" (Vambéry, pp. 1, 26 ; Taylor, "Etr. Res.," p. 335). There are some fourteen or fifteen cases of occurrence on the Hittite texts, in none of which it is clearly prefixed. *Ti-sa, li-sa, ne-sa, sa-li, sa-ne* all occur. In Akkadian, *sa* means "in ;" Chinese *sa*, "interior ;" Tartar *is üs*, "within ;" *tis* means "interior" (Vambéry, p. xii., and No. 38, p. 35). In Basque, we find *-z*, "with" or "by." The participial ending in *s* is common to Hungarian, Tartar, and Turkish, and occurs in the Etruscan *as*. This seems to be a case ending in Hittite, *ne sa*, meaning "with him." *Tisa* may be compared with the adverbial ending *Thasa* or *Thas* in Etruscan ("Etr. Res.," p. 287) ; and *sa ne* might be compared with *isne*, "then," in Medic (Sayce, "Malamir," p. 104).

*Ti*.—There are two emblems very like yet distinct in Hittite, one an arrow, the other perhaps a spear. The arrow occurs ten times, five occurrences being as a prefix. The spear twenty-five times, eleven probably as a prefix, eight apparently infix, and six affixed. The Tartar root, *At it*, means "to shoot" (Vambéry, No. 28, p. 25), which agrees with the form of the emblem.

In Akkadian and in Medic the syllables *It, Ta, Ti*, occur prefixed and affixed with a locative meaning. Akkadian *ta*, "at," "out of,"

“by” (Bertin, “L’Incorporation Verbale,” p. 3; Lenormant “Magic” Engl. Ed., p. 273). *Id* is a localising prefix in Akkadian; *It* or *Iz* in Medic; Etruscan *Eth* a localising prefix (“Etr. Res.,” p. 327), and *Th* an abstract termination in Etruscan; Medic *ta*, Akkadian *da*. In Turkish, the locative suffix *ta*, “as far as” or “so that,” still exists (Redhouse, p. 156), and *da* is the sign of the locative case “in” (p. 52). The combination, *Ti-ka*, on the Hittite texts may mean “all” or “only,” and *ti-ke* might be compared with the Basque *tik*, “of” (Van Eys., p. 10).

It would seem that *Ti* prefixed is a locative, infixed it would form the abstract (compare the Medic *hal-t-ik*, “enmity,” from *Khul*, “evil”). Affixed it may be the case ending meaning “in,” “at,” or “from.”

*Zu*, or *So*, or *Os*.—The sound is not very clear. The value *nos* may be rejected for reasons already given. There is, however, a Cypriote *nu*, which is also similar to the Hittite.

This emblem always appears at the top of the column. When it occurs it is often repeated, but it is entirely absent from whole texts. Both these indications point to a pronoun. There are fifty-eight cases, all occurring in six texts. It is not found at Ibreez, or at Hamath, or on the seals. At Tyana there are twelve instances in four lines, and at Jerabis five instances in four lines, in one text, and ten in four lines, in another text. It appears twenty-two times on the Merash lion, and five times on the Babylonian bowl. There are six known texts from which it is absent. The Babylonian bowl is allowed to be a dedicatory text or invocation, and if so, this emblem might well stand for the second person singular.<sup>1</sup> There are two cases in which it is re-duplicated, which might be the second person plural.

In Akkadian *za*, *zu*, means “thou.” In Basque, *zu* is the plural “you” (Van Eys., p. 23), in Finnish *sa*, Esthonian, *sa*, Mongol and Manchu, *si*. In Turkish we find *shu* شو “this” سن *san* “thou” سز *siz*, “you.” The latter may be compared with the re-duplicated *zu-zu* (or *s>-so*), of the Hittite texts. As in other languages so in Turkish “you,” the plural, is often used for “thou,” the singular, as a mark of respect (Redhouse, p. 82).

These fifteen signs, the values of which I first determined from the Akkadian, are therefore apparently supported by a further comparative study of the living languages, and it appears to me that, taken with the

<sup>1</sup> Applying the rules here detailed to the Babylonian bowl, I obtain the following approximate rendering: “O may the spell make the God (Ea?) come nigh . . . to thee alone thou King above, thou . . . called enlightener Creator . . . Tammuz . . . fire God the (memorial?) made for thee invokes thee.”

evidence of royal names and town names, they serve to make a very strong case for the proposed decipherment.

(7.) *Strong Roots.*

By this term I mean the noun and verb emblems to which the preceding are attached, using a term which is already accepted, and which

STRONG ROOTS.

	①	全 三 正	si	𐎗 𐎗 na	13	𐎗	𐎗 𐎗 𐎗 𐎗
2	☆ ☆	* a, un	𐎗 𐎗 𐎗	𐎗 𐎗 𐎗	𐎗 𐎗 𐎗	𐎗 𐎗 𐎗	𐎗 𐎗 𐎗
3	𐎗 𐎗	𐎗 𐎗 𐎗	pe	𐎗	𐎗 𐎗 𐎗	𐎗 𐎗 𐎗	𐎗 𐎗 𐎗
4	𐎗 𐎗 𐎗	𐎗 ko	𐎗 (ku)	𐎗 16	𐎗 ?	𐎗 𐎗 𐎗	𐎗 𐎗 𐎗
5	𐎗	𐎗 𐎗 𐎗	le	𐎗 𐎗 𐎗	7	𐎗 𐎗 𐎗	tar tar te dar
6	𐎗 𐎗	𐎗 𐎗	𐎗 x 𐎗	18	𐎗	𐎗 𐎗	𐎗 𐎗
7	𐎗	𐎗 ma	𐎗 90	19	𐎗 𐎗	𐎗 𐎗 𐎗	𐎗 𐎗 𐎗
8	𐎗 𐎗 𐎗	𐎗 ma	𐎗 100	20	𐎗 𐎗	𐎗 𐎗 𐎗	𐎗 𐎗 𐎗
9	𐎗 𐎗	𐎗 𐎗 𐎗	me	21	𐎗	𐎗 𐎗 𐎗	𐎗 𐎗 𐎗
10	𐎗 𐎗	𐎗 𐎗	mi	𐎗 22	𐎗 𐎗	𐎗 𐎗 𐎗	𐎗 𐎗 𐎗
11	𐎗 𐎗	𐎗 𐎗 𐎗	na	23	𐎗 𐎗	𐎗 𐎗 𐎗	𐎗 𐎗 𐎗
12	𐎗 𐎗 𐎗	𐎗 𐎗	re	24	𐎗 𐎗	𐎗 𐎗 𐎗	𐎗 𐎗 𐎗

<sup>1</sup> No. 16 on the 1st plate occurs more than 30 times on the monuments as a suffix usually. In 7 cases it follows *Ne*, and in 5 cases or more it follows the

answers to the Chinese distinction of "full" and "empty" roots. The arrangement of the emblems in Hittite is just the same as in the earliest cuneiform, except that the words are not divided by vertical lines of separation. The texts are boustrophedon, the emblems usually facing the commencement of the line. The strong roots have much larger emblems than the suffixes. The "packets" are indicated by single case emblems, which follow. The word often occupies two columns in the line. A slanting stroke shows the end of a word or clause. The words do not end always with the line (as is easily proved), which is also the case in Medic and at Malamir, but is said not to be so in Akkadian texts.

*An* or *Is*.—This emblem, which appears to represent "Deity," I have long supposed to be a conventionalised eye. It is quite possible that it may have had both sounds. The word *An*, for God, is found in Akkadian, Susian, and Medic; perhaps the Turkish  $\text{U} \mid \text{Ana}$ , "Saint;" Etruscan *An*, *Un*, *Uns*, "God;" perhaps the Tartar *An*, "being." The Eye is an Egyptian divine emblem. The value *Is* or *Si* would recall the Akkadian *Si*, "eye" or "see;" Chinese *Si*, "eye;" Akkadian *Es*, *Is*, *Issi*, "brightness;" Medic *Siya*, "to see;" Tartar *jis*, *is*, "bright" and "light" (Vambery, No. 135, p. 124), this root is much used to signify deity. It occurs in Finnic languages (Donner, i, p. 20; ii, p. 31, 32). The Etruscan *Æs-ar* (plural), the Siberian *Asa*, Yenessei *ais*, *eis*, *es*, signify "God" (Taylor, "Etr. Res.," p. 145). Castren says that *Es* is the word for supreme deity among all Altaic peoples. Altogether there are thirty-two known instances on the Hittite texts, always as a prefix. In one of these it appears to be re-duplicated like the Akkadian *An-an*, "gods."

*An* or *A*.—Emblem a star. It occurs on seals only as yet. In one case it replaces, on a seal, the last-named emblem in the name of a god, which is a strong argument that the preceding *An* means "deity." The cuneiform *An*, "god," is also from a star hieroglyphic.

*Be*.—The arm and dagger. Only found nine times, in six cases with the foot (probably for the passive) following. See the Akkadian *Be*, *Bat*, "slay," "die;" Tartar *ub*, "strike," *Bet*, "cut" (Vambery, Nos. 153, 217, pp. 142, 203).

*Dim*.—On the bilingual. Much resembles the cuneiform *Dim*.

*Ko* and *Ku*.—Two forms of Tiara. There are more than twenty occurrences. On the bilingual, the tiara has the meaning "king." Another possible value is *Uu*, as in Lycian. In eight cases the emblem is re-duplicated. In one case we find *Tar-ko* (apparently for the name of a god); in another two cases the tiara precedes a king's head, as if equivalent to the re-duplicated tiara. There is also a seal with a king's figure accompanied by a re-duplicated tiara, and there can be little doubt as to the meaning of the emblem.

altar. I believe it to have had a simple vowel sound, and to be perhaps a conjunction. It is sometimes absent from a whole text. Medic conjunction, *ak*, Akkadian *ua* (Lenormant), Turkish *ve*, "and."

As regards the sound, the existence of a word *Ku* or *Ge* for "prince" is admitted by Pinches, Bertin, Fox Talbot, and others, in Akkadian (*See* No. 462 in Sayce's "Assyrian Grammar," p. 40, *cu*, "prince," "precious"); Norris and Lenormant also admit the word in Medic, though Oppert prefers to use other synonymous words. The words *Ak*, *Uk*, *Aka*, are also rendered "king" by various students, the latter occurring in the name of the Hittite king, Akitisebu, and in the Turkish  $\text{آقا}$  *Aka*, "prince." The re-duplication may be compared with the term *Khakhan* applied to the chiefs of the Khozars, west of the Caspian. *Ku*, in Akkadian, also means "high," "bright," "silver," "precious." In living languages we may compare the Tartar *ag*, *eg*, *ök*, "Lord" (Vambéry, No. 30, p. 27), and "high" and "strong" (pp. 6, 9); *ege*, "prince," and other words, from the same root, meaning "bright," "precious," "white," "silvery." In Finnic languages the same root occurs as in the Ostiak *Khu*, "long," and the root *Koi*, "bright" (Donner, i, pp. 1, 9), is perhaps connected with *Ku*, "fat" or "thick," and the Basque *Goi*, "height." In Chinese also we find *Kok*, "high." The syllable in Cypriote has the sounds *Ko*, *Go*, *Kho*; and perhaps *Kha*, "prince," in Akkadian, may also be compared (the common Tartar *Khan*, Chinese *Kon* or *Kan*). As regards the value *Uu*, compare the Akkadian *U*, "Lord." Tartar *uu* or *ou*, "important" (Vambéry, No. 8, p. 9).

*Le*.—The bull's head. This emblem occurs fourteen times. In four cases *Ne* is prefixed, and in two it follows. Once we have *ā ne* following, and once *er* or *ra*. In Akkadian *Le* is "bull." Other common words are *Gut* and *Khar*, both meaning "bull" in Akkadian. *Gut* is "bull" in Chinese, perhaps connected with the Tartar *Güt*, "mighty" (Vambéry, p. 104). *Khar* is the Finnish *Kirjo*, Vogul *Kar*, *Khar*, *Ker*, *Kher*, *Kir*, "ox;" Tunguse *Sar*, Mongol *uker*, Hungarian *ökör*, "ox." If, as is very probable, this word existed in Hittite, the head may spell the words *Kharra* and *Kharrane*, meaning "high" or "heavenly."

*Lo* or *H*.—The first is Cypriote; the second, Carian. The emblem is the Cross, which in Chaldea and Etruria was a sacred emblem, and is held in the hand of a god on the so-called Hittite cylinders. It is usually supposed to be a sign of "life," like the Egyptian *ankh*. It only occurs twice. Compare the Akkadian *lu*, "man;" Zirianian *lō*, "spirit;" Tartar *ol*, "to live;" and for the second value the Akkadian *Khi*, "good;" Turkish  $\text{ای}$  *eei*; Tartar *Khai*, "good."

*Man* or *Ma*, or *Gon*.—The hand with a sceptre. It only occurs twice. Perhaps connected with *Man*, Akkadian for "king;" also probably Etruscan. It is the Tartar *Mañ*, whence the Yakut *Mana*, "leader;" Finish *Vana*, "elder." *Gon* would mean the same.

*Ma(n)* or *Va(n)*, or *Ma* or *Va*.—This is a rare emblem, perhaps another kind of tiara.

- Me.*—This is a much conventionalised emblem, perhaps a hand. There are thirteen clear cases at Hamath, and one at Ibreez; but at Jerabis it seems to be replaced by a well drawn hand, occurring with the same group of emblems. As it is generally found at the end of texts or phrases, it would seem to represent a verb root. There is no case as yet in which it is prefixed. Compare the Akkadian *Ma*, “be;” Tartar *am, em, im*, “existing;” and the Turkish *de me*, for names of actions.
- Mi, Me, or Ma.*—As already noticed, this is a common Turanian word for “country.” Its existence in Akkadian is acknowledged by Lenormant, Delitsch, and Pinches. (See Sayce, “Assyrian Grammar,” No. 291, p. 25, *ma*, “to dwell,” “plain,” “country.”) There are as yet only three clear cases of occurrence, one being on the bilingual, where it stands for “country.” The emblem represents two mountain peaks.
- Ra.*—There are only two cases. The emblem occurs also on cylinders, and as I pointed out some time ago, this emblem, frequently found in Phœnicia, seems to be akin to the Egyptian ankh.
- Re.*—This emblem occurs about fifteen times. Perhaps to be compared with the root *Ri*, “shine” or “bright,” in Akkadian representing rays of light descending, or as in cuneiform and Egyptian emblems representing “rain,” from *Ri*, “flow.”
- Re.*—A much rarer emblem seems to represent water dropping or pouring. Compare the root *Ri*, “flow;” Tartar *er, ir, ur*, “to flow,” as already mentioned in Section 3.
- Ri.*—This emblem, which I have supposed to be perhaps the fire stick (*bil* or *bilgi*<sup>1</sup>), occurs on the Babylonian bowl as the name of a god. Compare the Akkadian deities *Ri* and *Ira*. It only occurs five times, in four instances of the same word, and in the case just mentioned. In Akkadian *Ar, Ir, Ur*, means “light,” “fire,” “heat;” the Tartar *yar, or, uor, ör*, “to gleam,” “burn,” “shine” (Vambéry, No. 128, p. 117), and *Ri* means “light” or “brightness” in Akkadian.
- Se.*—The hand. There are only a few cases. Akkadian *Sa*, “put,” “give,” “have;” *Saa*, “favourable;” *Se, Si*, “give.” Tartar *aja*, “the open hand” (j and s being convertible); *aj, ej*, “favourable;” *es*, “lucky” (Vambéry, pp. 1, 3, 4), *saa, sau*, “to take” (p. 157).
- Su.*—There are only four cases. An arm holding some kind of stick or cord. Perhaps to be compared with the Akkadian *us*, “king;” Tartar *ös*, “lord;” *us*, “great;” *us*, “master” (Vambéry, pp. 27, 57, 62).
- Tar.*—This emblem of the deer’s head stands for Tar, or Tarku, on the bilingual. In Akkadian *Dar* or *Dara* means “deer.” In Finnic we find *sordv*, “stag,” from *sor*, “horn.” There are about ten occur-

<sup>1</sup> *Gi* means “flame;” compare the Finnic *keo*, “hot,” *kaila*, “flame,” Tartar *köö*, “burn.” *Bil* I propose to compare with the Tartar *bil*, “to rub” (Vambéry, p. 198), so that *Bilgi* would mean flame made by rubbing with the firestick.

rences of this sign, once as the name of a deity (Tar or Tarku) on the Merash lion.

- Ta.*—The hand holding a stick. This is a rare emblem. On the Hamath stones it occurs, followed by *ne*. Compare the Akkadian *Da*, “drive;” *Tan*, “power;” Chinese *Ta*, “noble;” *Tan*, “hero;” Uigur *ite*, “master;” Cagataish *tay*, “power;” Finnic *tan*, *tun*, *ten*, “strong. (Donner, i, p. 143.)
- Te.*—Emblem an herb. Compare the Akkadian *Ti*, *Til*, *Tin*, “life;” *De*, “move;” Tartar *at*, “move;” *Tin*, “life” (Vambery, Nos. 27, 39, 186, 189); Turkish *اتمك* *itmek*, “to sprout,” *اوت* *ot*, “herb.” There are about 13 clear cases on the known monuments never apparently prefixed. The group *Ni-te-li* at Ibreez may mean “living.” *Te ne* also occurs (Akkadian and Tartar *Tin*, “life”).
- To.*—The hand in attitude of taking. There are only six clear cases. Compare Akkadian *tuk*, Medic *Duni*, “take,” “give;” Etruscan *teke*, “give;” Tartar *Tek*, “touch” (Vambery, No. 173, p. 159); Finnic *Tuk*, “touch” (Donner, i, p. 109). The Akkadian *tu*, “make,” is a common Ugric and Tartar root no doubt connected.
- Tu.*—The hand pointing downwards. There are only two clear cases, Akkadian *Tu*, “down,” “descend,” “death;” Turkish *دون* *dun*, “down,” “below.”
- Vo.*—A head on a stalk. Dr. Sayce renders it “pray,” or “worship” (*kue*). It may have the value *gu*, and *Vo* (or *Mu*) as well. The emblem usually stands alone at or near the end of a packet, or of a text, so that it would seem to represent a verb. There are about 17 clear cases. As yet it is not found on any seal. Akkadian *Mu*, “name,” “call;” *Me*, “speak.” Tartar *oñ*, “cry” (the ringing *n* being often put for *M*. Vambery, No. 54, p. 49.) Akkadian *gu* and *ka*, “say,” “word” (the *K* and *M* are often interchanged.) Tartar *ig*, *iaru*, “cry;” *kui*, *kuj*, “voice” (Vambery, pp. 106, 129, 130). Finnic *kï*, “speech;” *juoi*, “call.” (Donner, i, pp. 58, 102.) The combination *voka* or *guka* occurs five times (“word for,” or “name for;” *Vo-me-ka*, three times (“words for,” or “crying to,”) and *Ne vo* (a verbal form), once, *Vo li* (or *gu-li*) the participle once, and *Mo-vo*, “I say,” twice.
- U or O.*—Emblem, the firmament. Dr. Sayce calls it the emblem of supremacy. The sound here given is taken from a Carian emblem. Other possible sounds would be *ub*, *Pa*, and *Pak*. There are about twenty known cases, in thirteen of which it is a prefix. On the new Gurnun text it seems to occur several times above the emblem for deity. Akkadian *u*, “day;” *ub*, “heaven;” *pa*, “sky,” perhaps the Tartar *u*, *w*, *up*, “curved”—the vault of heaven.
- Zi or Zo.*—Emblem, perhaps the lightning. The exact sound in Cypriote is doubtful. There are ten clear cases. In one instance it is the name of a god. Akkadian *Zu*, “live,” “grow;” *Zi*, “life,” “spirit,” “flow;” Tartar *uz*, “grow,” *Is*, *es*, *us*, *os*, “flow,” “fly,” “spirit.” (Vambery, No. 40, p. 37, and p. 57.)

These lists do not exhaust the notes of comparison which I have collected, but are sufficient for the present purpose of showing how the sounds of the Hittite language may be recovered and compared. From the name lists we here recover 34 words, and several indications of grammar and from the texts themselves 40 roots, without counting derived words or compounds. I believe at least 100 Hittite words in all are recoverable from the materials at our command. It appears to me that it is necessary for those who may feel inclined to criticise these results,<sup>1</sup> not merely to select a word here or there, but either to show some radical fallacy underlying the system, or to give some alternative comparison capable of being better adapted.

I have reserved for the present the results of a careful comparison with cuneiform and with Egyptian. I believe in 38 cases, Hittite and Egyptian emblems have the same form and meaning, and out of these in 12 cases the same, or very nearly the same sounds. In 38 cases also the Hittite and cuneiform form may be compared, and in 18 cases out of these not only form and meaning, but sound also is the same—the sounds being of course independently obtained.

I agree with M. Bertin, and other scholars, in supposing that Hittite, cuneiform, and Egyptian, had a common origin in an ancient picture-writing system, from which the Chinese also developed. I believe this to have originated somewhere near the Caucasus among Turanian tribes, and to have been adapted to an African language in Egypt, just as to a Semitic language in Chaldea; but since the "weak roots" have independent emblems in the three systems, I think they must have separated and developed independently from a remote age before the original language had advanced to the agglutinative stage.

I further believe the Semitic alphabet to be demonstrably derivable from the Hittite emblems, the chief reason being the use in Carian and Lycian, &c., of a transitional system; for it is contrary to ordinary palæographical experience to suppose (as scholars are now obliged to do) that a mixed alphabet can have existed derived from two distinct sources.

C. R. CONDER.

<sup>1</sup> The only criticisms as yet (by Dr. Sayce and others) have had respect to details. I have answered these fully in "Altaic Hieroglyphs" (second edition), and in *Palestine Exploration Fund Quarterly Statement*, 1887. I have modified former proposals in this paper in five cases, and have added nine new comparisons, increasing the number of sounds recovered from 31 to 40. Space does not allow of giving the lists which I have prepared, comparing Akkadian in about 400 cases with Tartar roots, in 200 with Turkish, in 70 with Medic, and in other cases with Ugric, Finnic, and Mongolic languages, and with Chinese and Etruscan. There are at least 150 Tartar words in Egyptian, and these, as a rule, occur in Akkadian also. My list of restored Hittite words exceeds 100 in all. The question of the comparison of the three hieroglyphic systems I hope to treat elsewhere in a separate paper. The question of the origin of the Alphabet is also published separately.

*Corrections and Notes.*

The proof of the "Hittite Language" having been submitted to various scholars for criticism, I have been favoured with their remarks on details, and add the results as far as they have reached me.

*Bulug*, "division," is regarded by M. Bertin and Prof. Sayce as a Semitic word. The root, however, is common in Turanian speech. *Zab*, "soldier," is also considered Semitic by M. Bertin.

*Nautab* is more correctly *Natub*, according to Rev. H. G. Tomkins, who also objects to *Kharab* (*Khalebu*), and to *Ganiab* (better *Kainab*). *Buresu* is otherwise read *Suresu*, but the inscription is here injured. *Tamakua* is perhaps more correctly *Tzemauka*.

*Li*, given by Lenormant as an adjective termination, is not accepted by M. Bertin; *U* or *Ua*, "and," is read *Sa* by Prof. Sayce, but this is still apparently doubtful.

As regards the termination *meti*, in Hittite, I may add that *meta* occurs, meaning "being" in Akkadian (Bertin on "Assy. Pronouns," p. 19), which strengthens my case.

There is of course a good deal of doubt about some of the words given as Akkadian on the authority of Lenormant, Delitzsch, and others. M. G. Bertin has kindly looked through these words, and doubts especially—*Pakh*, "king;" *Pis*, "hero;" *Zana*, "superior;" *alu*, "city" (probably Semitic); *us*, "King;" *Tu*, "down." He also reads *lu* for *le*, "bull," and queries other words; but by the system used in this paper the uncertainties of Akkadian are often overcome.

C. R. C.

## RECENT DISCOVERIES.

*Lejjân*.—At Lejjân, this ancient Roman place of the Merj ibn 'Amir (Plain of Esdraelon), the following Greek inscription was found, unfortunately not complete:—

