

E., S.E., S., and N.W.; in August the most prevalent was S.W., and the least were N., N.E., E., and S.E.; in September the most prevalent was S.W., and the least were N.E., E., S.E., and S.; in October the most prevalent was S.W., and the least was N.; in November the most prevalent were S.E., S., and N.E., and the least were N. and N.W.; and in December the most prevalent were S. and S.W., and the least prevalent were N. and N.W. The most prevalent wind for the year was S.W., which occurred on 97 different days in the year, and the least prevalent wind was E., which occurred on only 13 times during the year.

The numbers in column 29 show the mean amount of cloud at 9 a.m.; the month with the smallest is August, and the largest in both January and April, which were of the same value. Of the cumulus, or fine weather cloud, there were 60 instances in the year; of these 18 were in August, 11 in September, and 9 in July. Of the nimbus, or rain cloud, there were 57 instances; of these 14 were in December, 13 in January, and 8 in both February and March, and only 4 from May to October. Of the cirrus there were 46 instances. Of the cirro-cumulus there were 59 instances. Of the stratus 23 instances. Of the cirro-stratus, 10 instances. Of the cumulus-stratus, 6 instances; and 104 instances of cloudless skies, of which 17 were in October, 14 in May, and 13 in September.

The largest fall of rain for the month in the year was 5·74 ins. in January, of which 1·83 inch fell on the 16th. The next largest fall for the month was in December, 5·22 ins., of which 2·12 ins. fell on the 15th. No rain fell from the 2nd May till the 14th of November, with the exception of one day, viz., the 12th of September, when 0·08 inch fell, and so making two periods of 132 and 63 consecutive days without rain. In 1880 there were 168 consecutive days without rain; in 1881, 189 consecutive days; in 1882, there were two periods of 76 and 70 consecutive days without rain; in 1883, 167 consecutive days; in 1884, 118 consecutive days; in 1885, 115 consecutive days; and in 1886, 171 consecutive days without rain. The fall of rain for the year was 17·06 ins., being smaller in amount than in any of the preceding seven years by 11·62 ins., 0·43 inch, 5·03 ins., 13·00 ins., 1·67 inch, 3·00 ins., and 3·03 ins. respectively. The number of days on which rain fell was 43. In the seven preceding years, viz., 1880, 1881, 1882, 1883, 1884, 1885, and 1886 rain fell on 66, 48, 62, 71, 65, 63, and 66 days respectively.

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A HITTITE PRINCE'S LETTER.

THE majority of the Tell el Amarna letters have now been published. Whether the kings to whom they are addressed are to be identified with Amenophis III and Amenophis IV, or with invading Babylonian monarchs who had reached Egypt and there ruled for a brief space, and to whom the Princes of Mesopotamia, and the Babylonian Governors set up in Syria and Phœnicia, were writing, may be doubtful. It is

highly improbable that native Egyptians, acquainted with the simpler hieratic script, would have used the clumsy Cuneiform; and it is indisputable that the letters were written, not in Egypt or by Egyptians, but in Syria and Mesopotamia, and by Asiatics. The names of the monarchs addressed are read as *Nimutriya* and *Khuri*. The first has been supposed equivalent to Ra-mat-neb (Amenophis III), and the tablet with his name bears the Egyptian character *nuter* on the back. The second is supposed to be the Oros of Manetho, and connected with Nofer-Kheperu-Ra (Amenophis IV). The name of one of the messengers sent with a letter to *Nap-khu-ririya*, King of Egypt, is Pirizzi, and this is also that of a messenger from the King of Mesopotamia mentioned in the Egyptian docket on the back of another letter from the same writer. This letter mentions the Egyptian Queen Thi, and it appears that the author (Dusratta, King of Mitani) was father-in-law to the King of Egypt. Naturally he uses the cuneiform script, but the docket is in hieratic writing. *Nap-khu-ririya* seems pretty clearly to be Amenophis IV, which gives the date of the letter. (See "Proceedings" Bib. Arch. Soc., June, 1889.)

Among this mass of Semitic documents there is one letter in another language, addressed to *Nimutriya*, and this has been partly translated by Dr. Hugo Winckler and by Dr. Sayce.¹ They both have come to the conclusion that the language is that of the Hittites; but the difficulty which remains is that, as the text for the most part is ideographically written, it is only possible to obtain the sounds of the language in a few cases with any certainty.

The reasons for supposing the letter to be Hittite are: 1st. That the name of the sender is *Tarkundarais*—a Hittite name. 2nd. That he ruled apparently in Syria. 3rd. That the Prince of the Hittites is mentioned in the letter.

The heading of the letter is supposed to be Assyrian, it is as follows:—

"To *Nimutriya* the Great King the King of Egypt of *Tarkundarais* King of the Land of *Arzapi* the letter."

The more certain phrases of the letter itself are as follows:—

" . . . me peace to my houses my wives my sons my great men my army my horses my lands . . . may there be peace.

" . . . may there be peace to thy houses thy wives thy sons thy great men thy army thy horses thy lands may there be peace

"The Prince of the Hittites ruling at the Mountain of *Igaid* . . . of gold by weight, twenty *manas* of gold, three *Kak* of ivory, 3 *Kak* of . . . , 3 *Kak* of . . . , 8 *Kak* of . . . , 100 *Kak* of lead (or tin) 4 . . . , 100 *Kak* of . . . , 100 *Kak* of . . . , 4 *Kukupu* stones . . . , 5 *Kukupu* stones of a good kind, 3 . . . , 24 plants of the

¹ Dr. Winckler's paper was read at the Royal Academy of Berlin, on December 13th, 1888. The text is published by Dr. Sayce ("Proc." Bib. Arch. Soc., June, 1889.)

. . . tree, 10 thrones of ushu wood from the White Mountain
10 . . . , 2 ushu trees. . . ."

The more obscure part of the letter to be mentioned afterwards is supposed to refer to a demand for the hand of an Egyptian princess.

The importance of this letter for the study of the Hittite language is very great, and it is satisfactory to find that in the opinion of specialists it presents many marks of relationship to the Akkadian. In the absence of bilinguals it is one of the best means of furthering our knowledge which has come to hand. The following remarks occurred to me on first reading it.

Tarkhundarais.—The last syllable is doubtful, but the name presents us with the familiar Tarkhun, which I have already shown to be a Turko-Mongol word meaning "chief" Dara is an Akkadian word for "prince," and, as I have previously shown, is also Hittite, and found in Altaic languages with the same meaning.

Igaid may probably, as Dr. Sayce suggests, be the Ikatai of the "Travels of a Mohar," which, as is clear from Chabas' commentary, was in the neighbourhood of Aleppo. Thus the Prince of the Hittites appears in the Hittite country, where alone we know of this tribe—in northern Syria.

Mi is the possessive pronoun, first person singular, as in Akkadian, and in Altaic languages generally. (See my previous paper on the "Hittite Language" in the *Quarterly Statement*.)

Ti is the possessive pronoun, second person singular. This no doubt recalls Aryan languages, but is also found in Altaic speech, as in the Hungarian *te* and Zirianian *te*. It is a dialectic variation of *si*, which is the commoner sound in Altaic speech (Mongol *si*, Akkadian *Zae*).

Plural.—The sound is not supposed to be certain, but the emblem is that which has the sound *mes* in Cuneiform. The tacking on of this emblem to those for "house," "wife," &c., &c., seems to indicate an agglutinative language.

Khuuman-kuru-in, "may there be peace," is a precative form, which Dr. Sayce admits, to remind us of Akkadian.

An-na, rendered "lead" by Dr. Sayce, seems, perhaps, to be phonetic. In this case it recalls the Akkadian *anna*, Hungarian *on*, Armenian *anag*, for "tin."

Arzapi, the country ruled by Tarkhundarais, is thought to be Razaffa of the Assyrian inscriptions, the Rezep of the Bible (2 Kings xix, 12). If so, this prince with a distinctively Hittite name ruled the mountains of Ikatai, from a town supposed to be near Nisibin. It is not a well fixed site. One place so-called was on the road from Rakkah to Homs, west of the Euphrates; another was near Baghdad. The Syrian Reseph may fairly be supposed to be the place intended; the emblem *Ki* attached to the word is probably the genitive.

It appears, therefore, that as far as at present deciphered, the letter in question confirms my view that the Hittite language was one closely connected with Akkadian.

The following appears to me to be the correct translation of the main part of the letter of which only a few words have been previously read :—

“ My great Chief, the Lord Irsappa, the Envoy, who is of my family, my brother, I am sending to fetch thy daughter, O my Rising Sun, as a wife. My brother has a son of noble appearance. He brings, therefore, to thy city a bag of gold as a present. Let my brother bring my gift to thee from this place. These my . . . thus he brings, afterwards to give thee, in order that thy servant the envoy from thee with this one of mine whom I am sending may take her afterwards to the young man. Thy (servant ?) I cause to fetch, to fetch from far (if) thy daughter receives the envoy with favour, thy envoy shall go as far as the house of the great fortress, before the young Princess, as she goes through the countries . . . Let her come to (our ?) palace. The Prince of the Hittites, ruling in the mountains of Ikatai, sends therefore 30 *tu* of usu wood, as appointed. Irsappa will weigh the weight of the bag of gold.”

The expression “ Rising Sun ” as a title for the King of Egypt, occurs in many of the Tell el Amarna texts as well as in Egyptian.

The inscription so rendered gives us at least seventy Hittite words some of which, however, being written “ ideographically,” that is, by a single emblem, may be considered of doubtful sound ; but the rest, amounting to more than fifty, are syllabically written, and may thus be considered of known sound.

Out of this total there are twenty-five words which I had previously fixed as belonging to the Hittite language, being found either on the Hittite monuments, or by analysis of the names of Hittite towns and of Hittite Princes. The number of such words, which I have previously published, amounts to about 100, so that a quarter of these words are confirmed by this new and independent evidence.

The words so confirmed are as follows :—

<i>A</i> = participial affix.	<i>Me</i> = “ to be.”
<i>Ar</i> (or <i>Er</i>) = man.	<i>Mes</i> = plural.
<i>Ata</i> = “ Chief.”	<i>Mu</i> = “ me,” “ my.”
<i>Du</i> = “ go.”	<i>Ne</i> = “ he,” “ of,” “ to.”
<i>E</i> = “ house.”	<i>Neke</i> = “ belonging to.”
<i>Enu</i> = “ Lord.”	<i>Papa</i> = “ young man ” and “ father.”
<i>Ga</i> = “ Oh.”	<i>Sa</i> = “ with,” “ in.”
<i>Gal</i> = “ great.”	<i>Sar</i> = “ Chief.”
<i>Gan</i> = “ this.”	<i>Si</i> = “ eye,” “ see.”
<i>Kar</i> = “ fortress.”	<i>Tak</i> = “ stone.”
<i>Kal</i> or <i>Khal</i> = “ town.”	<i>Tarku</i> = “ Chieftain.”
<i>Khat</i> = “ Hittite.”	<i>Ti, Ta</i> = “ to,” “ at.”
<i>Kur</i> = “ mountain.”	

The words not previously connected with the Hittite language require further notice for their identification :—

1. *Agga*, "strong"; Akkadian *Agga*, "strong"; *Akku*, "great"; Medic *Ukku*, "great."
2. *An-na*, "tin"; Akkadian *an-na*, Hungarian *on*.
3. *Bi*, "he," "it"; Akkadian *Bi*, "he"; Medic *Ap, up*; Turkish *bu*, "this"; Samoyed *ba*; Finnic verbal pronoun *pi*; Estonian *b*; Tcherkess *be*; Yakut *by*.
4. *Bi-bi-pi*, "the which" (pl.); Akkadian *aba*, Medic *upe*, "which," with the plural in *pi* as in Medic.
5. *Dam*, "wife," as in Akkadian (ideographic).
6. *Egir*, "afterwards" Akkadian *egir*, (ideographic).
7. *Guskin*, "gold"; Akkadian *Guskin* (ideographic). This word is probably connected with the Tartar *kin*, "gold"; Manchu *chin*; Chinese *kum*.
8. *Gar* (in *Khalugari* "haste-maker"); Akkadian *gar*, "to make" or "cause," perhaps connected with the Aryan root *KAR* or *GAR*, "to do"
9. *Ki*, "as." I have already proposed this as possibly a Hittite word. Akkadian *ki*, "as"; Hungarian *ki*, "so."
10. *Ku* (or *Kuin*) "dawn" or "bright"; Akkadian *ku*, "dawn" or "bright"; *kun*, "dawn." Compare Livonian *koi*, "the dawn," Finnic, *koi*, "bright," Basque *eguna*, "day."
11. *Kurn*, "peace," as in Akkadian (ideographic).
12. *Kala*, "city." See "Transactions Bib. Arch. Soc.," ii, p. 248, where W. A. I. ii, 30, 14, is quoted as the authority for the word  *Kal*, or *Kalla*, being an Akkadian word for "town." According to the known rules of change in sounds this would be the older form of the later *val*, *vol*, or *aul*, a well-known Tartar word for "city," or "camp," found also in Etruscan. In Susian the form *khal*, "city," is well-known. It may be but a variant of *kar*, "fortress," the Votiac and Zirianian *kar*, "town."
13. *Kuis-tu*, "as far as," or "up to"; Medic *kus*, "until."
14. *Kukta*, "favourable"; Medic *kukta*, "favouring." For these and other Medic words the authority is Oppert's "Les Mèdes."
15. *Ku-ku-pu*. Probably the plural of *ku-ku*, which is the intensitive of *ku*, "bright," "precious"; the word is preceded by *tak*, "stone" (Turkish *tash*), and *tak-kukupu* would thus mean "precious stones," which are enumerated among the presents.
16. *Kur-ra*, "horse," as in Akkadian. There is no very evident reason for regarding this as ideographic.
17. *Khal*, "haste" (in *Khalugari*, "haste-maker") as in Akkadian, e.g., *Dara khal-khal*, "the very swift (or 'bounding') deer." It is the Votiac *zal*, "swift"; Altaic *yel*, "swift."
18. *Là*, "gift." This appears to be an Akkadian word, and to occur in Medic as *Lu*.
19. *Lal*, "weight," as in Akkadian (ideographic).
20. *Li-il* appears to be the Akkadian suffix *lal*, "possessing"; *si-liil*,

- "appearance possessing," being thus the Akkadian *si-lal*, "aspect."
21. *Muk* or *Vag*, supposing the sign to be read as in Medic, means "to bring," "carry," "carry oneself," "travel."
 22. *Nin*, "Lady," as in Akkadian. In Chinese we find *neung*, "Lady"; in Turkish *nene*, "mother," a term of respect.
 23. *Nitakh*, "man," as in Akkadian (ideographic).
 24. *Num*, "high," "noble," a common Turanian root; Samoyed *num*, "high," "heaven." In Akkadian, *Num*, *Nim*, *Enim*, is "high"; *Nu*, "Prince," is probably from the same root.
 25. *Pi*, "to cause"; Medic *Pe*, "to do."
 26. *Pir*, "army," as in Akkadian; compare the Medic *Pirra*, "battle."
 27. *Pu*, "young." In Etruscan we find *Pu* and *Puia* for "daughter" or "child"; Hungarian *fiu*, "son"; Vogul *pu*; Votjak *pi*, connected with *pu*, "little." This word is also Aryan for a child, whence *pu-er* and *pu-ella* in Latin. The gender is not distinct in Akkadian.
 28. *Ra*, "towards," as in Akkadian. In Buriat Mongol *r*, "to"; Medic *ra re*, "to"; old Turkish datives *ra ru*; Basque *ra*, "towards." This particle I had already supposed to occur on the Hittite monuments.
 29. *Sak*, "son"; Medic and Susian *Sak*; Etruscan *Sech*. It survives in the Lapp *sakko*, "offspring." It is also known in Cassite.
 30. *Sa-as-sa*, "ruling," apparently the causative from *Sa* and *Assa*; Akkadian *Sa*, "ruling" *Issi*, "master." This is very common, e.g., Etruscan *Isa*; Yakut *us* and *icci*; Altaic *us*, Finnic and Esthonian *issa* or *isä*, meaning "master." *Khate-sa-assa* means, I think, clearly "Ruler of the Hittites."
 31. *Sade*, "mountain," as in Akkadian (possibly ideographic). *Sad* appears to mean a mountain chain (from a root meaning "long"). The word was adopted in Semitic languages.
 32. *Sari*. In the Medic texts of Malamir we find *sar* in the sense of "appoint."
 33. *Sis*, "brother," as in Akkadian (ideographic).
 34. *Su-kha*, "bag." In Akkadian *sugga* is rendered "baggage." Compare the Hungarian *zsok*, "bag."
 35. *Si* "face," "appearance," cf. *li-il*.
 36. *Tik*? "in front of," as in Akkadian.
 37. *Tsil*, *Tsilva*, apparently the Akkadian *Tsil*, "to raise," "put."
 38. *Tur*, "child"; Akkadian (ideographic). Compare Yakut *ödör* Tunguse *edör*, "young"; Etruscan *etera*, "child"; Mordwin *Tsur*, "son."
 39. *Tur-rak*, "daughter," as in Akkadian *Rak*, meaning "female."
 40. *U*, "relation" or "blood," as in Akkadian (ideographic).
 41. *U*, "I"; Akkadiau *U*, *Vu*; Medic *Hu*.
 42. *Ud*, "sun," as in Akkadian (ideographic); Buriat Mongol *ude*, "day"; Chinese *yat*, "sun."

43. *Ud*, "to appear," connected with the preceding.
 44. *Uppa*, "thus," "therefore"; Medic *uppe* or *huppe*.
 45. *Zi*, probably "to carry away," as in Akkadian. The word *an-zi* appears to be a verb. The preceding syllable forms the infinitive (cf. Medic *an-to*, "to go"; *in-paru*, "to arrive"; Akkadian *ni-gin*, "to enclose.") In each case the root is affixed.
 46. *Zi-in*, apparently "palace"; Akkadian *zi*, "building"; Medic *zi-yan*, "palace."

In addition to these words we have the personal name *Ir-sappa* for the Hittite messenger. Each of its constituents occurs in other Hittite names: *Ir* (in *Irkhulin*, the name of a King of Hamath) is apparently the common Turkic *er*, "man"; *Sappa* compares with *Sap-lel*, a Hittite Prince mentioned in an Egyptian papyrus.

Several doubtful words have not been noticed in this enumeration. They are as follows: *am* and *ma*, "this one" (as in Akkadian); *makh* "great"; *kak-ti*, "says"; *da*, "my" (as in Medic); *du-ukka*, "again"; *dusi*, "he is" (Medic *duis*); *kue*, "putting" (as in Akkadian); *daas*, "they are" (as in Medic); *ki*, "place"; *khuuduk*, "he may take"; *kidda*, "far" (Akkadian *gid*); *asmuis*, "she has received"; *ga-as*, "she comes"; *tu*, "weight"; *shi*, "horn." The following words are also of unknown sound, "servant"? and "country." The words *raat*, *khu-uz* (perhaps "slave"), *Kak*, *Istu*, are difficult, but *guza* seems to mean "throne, and *khir*, *gis*, *pa-na*, "plants of the Pan tree," recalls the Hindi name for the betel. *Gismestu* can hardly mean "thy trees" because of its position in the sentence; as repeated (lines 7 and 10) it might mean "to continue." *Khu*, "he," "this" (as in Akkadian and Medic) seems to occur in line 14, and *da* in line 18 "to give" (as in Akkadian). The new letter not only appears to show clearly that the Hittite language was a Tartar dialect akin to Akkadian and Medic, but it also materially increases our stock of Hittite words, giving a present total of about 150 in all. The grammatical construction of the sentence is exactly that which has been discussed in my previous paper on the "Hittite Language" in the *Quarterly Statement* for 1888.

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THE SEAL OF HAGGAI.

THE attached comparison may be of value as showing on what grounds this seal is supposed to be ancient. Col. 1—The Haggai letters. Col. 2—The Jewish Early Coinage (2nd cent. B.C.) Col. 3—The Siloam Text (supposed 700 B.C.) Col. 4—Late Phœnician (2nd cent. B.C.) In the test letters, *Cheth Yod Shin*, the Haggai character is nearer to the Siloam Alphabet.