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THE CANADIAN JOURNAL.

NEW SERIES.

No. LXXXVI.—AUGUST, 1874.

THE SHEPHERD KINGS OF EGYPT.

[Continued from page 207.]

BY JOHN CAMPBELL, M.A.,

Professor of Church History, &c., Presbyterian College, Montreal.

III.—TRACES OF THE ASHCURITES IN THE TRADITIONS, &c. OF SO-CALLED SEMITIC AND SEMITO-HAMITIC NATIONS.

The Ashchurites belonged first of all to Palestine. This was the first great centre of population after the dispersion from Babel. With Palestine history begins.¹ In that land, embracing both sides of the Jordan and the region extending beyond the borders of Arabia Petraea, I hold that the principal families of the human race were to be found, either a short time before or during the period of Abraham's sojourn there. From Palestine many families went down into Egypt, which was, as I have already stated in a previous paper, the school of the world, and the place in which we are to look for the earliest authentic history of the race. From Egypt many if not all of the historical nations migrated through Arabia or Palestine, on the one hand, to Phœnicia, Syria, Asia Minor, Greece, &c., to Assyria and Babylonia, Armenia, Persia, India and China; or, on the other hand, through Northern Africa to Carthage, Spain, Italy and the islands belonging to it, with other parts of Northern Europe.

¹ I believe the principal reason why Palestine has been disregarded by students of Ancient History and Ethnology, and the track of migrating peoples moved far north of it, is, that the Bible, dealing with the early events which transpired in that land, takes no notice of, or at least refers obscurely to, the important facts of Gentile history, giving almost exclusive attention to the story of the Church.

These migrating peoples carried their traditions with them,—traditions which, most of them, refer obscurely to Egypt and Palestine, but which have been generally supposed to belong to the period of their settlement in the lands which, in the accepted historical period, bore their names and witnessed their more complete and isolated national existence. When, therefore, I find the names of ancient Ashchurites occurring in the mythology or early annals of Persia, Assyria, Greece, &c., I rightly judge that the peoples among whom these traditions are found were emigrants from Egypt and Palestine, and, in most cases, that the stocks from which they sprang descended, at least in part, from him who once gave his name to the town of Tekoa, and exercised sovereignty over Lower Egypt under the name of Usecheres the First. Traces of the family of Ashchur are found in Arabia, Assyria and Babylonia, Phœnicia and parts of Northern Africa. It will be remembered that reminiscences of the Horites also survived in these lands.¹ The Arabians were, as the word used to denote them is translated in Exodus xii. 28, “a mixed multitude,” numbering in their tribes representatives of almost every great family of antiquity. It is in Arabia, and not in the region of the Caucasus, that we must find the nearest approach to the conditions of an ancient centre of population. The rulers of Babylonia seem at first to have been of Horite descent, the supreme god Il or Ra being the great deity of the line of Shobal. Those of Assyria, however, were Ashchurite or Shethite. Phœnicia contained a mixture of Horites and Ashchurites, the latter chiefly in the family of Hepher. Carthage and other regions of Northern Africa indicate, in their traditions and geographical names, the presence of the descendants of the sons of Ashchur by Helah.

ARABIA.—The name of Ashchur occurs in the earliest annals of Arabia. He is Ashar, or Shar, from whom came the Shariin.² This tribe is also called Sachar, and is united with Jasm or Tasm, Wabar and Themud, as one of the oldest Arabian families. The Saracens took their name from Ashar, although many ingenious writers have endeavoured to connect this name with that of Sarah, wife of Abraham. In Arabia Petraea, the land of the Amalekites, and in Arabia Felix, many geographical and other traces of Ashchur are to be found.

¹ For this and many of the following facts in Arabian history, see Russell's Connection, Sale's Koran with Preliminary Discourse, Lenormant and Chevalier's Ancient History of the East, Palgrave's Travels in Central Arabia, &c.

There is little doubt that the tribe of Tasm gives us the descendants of Achuzam and the Azazimeh Arabs of the present day, as far at least as the appellation of the latter is concerned. The Tasm are the Shasu or Amalika of the Egyptian monuments, and in them we find the Hycsos. The names Djasim and Tasm denote the same people, and Hejaz, Kasseem, with similar geographical designations, refer to their ancient settlements. Another name for Achuzam, reminding us of the Achuzzath form, is Azd, of whom came the Amalika and Walid, the shepherd conqueror of Egypt. A remnant of this tribe founded the kingdom of Ghassan, in Syria Damascena. Azd is mentioned in the Koran under the name of Yasin, where he is made the father of Ilyas, whom an endeavour to identify traditional with Scripture characters has transformed into Elias. Himyar, whose true name was Ghazahadj (Achuzzath), is probably the same individual, as will be seen in the Persian connection. He was the first to wear a crown. Among the deities of Arabia some bore names that, from their connection with certain tribes and localities, indicate the presence of ancestor worship in the line of Ashchur. At Nakhla, a name which recalls Nechaliel and similar forms of Jehaleleel, the acacia was worshipped under the title of Al Uzza. We are compelled to recognize in this the continuance of that acacia adoration which has been already noted in the Palestinian and Egyptian connections of the family of Ashchur, which entered into the Eleusinian mysteries, and survives in the ritual of modern Freemasonry. Another deity, called Akh-es-Semain, may be Achuzam in fuller form, and may connect with the Athene Gozmoea of the Nabateans. The Khozaites, who were particularly addicted to idolatry, possibly preserved the name of the son of Ashchur who was thus deified. Yauk, the horse, a god of the Beni Murad, whose name at once recalls the Indian Maruts and their Asvin relationships, suggests a connection of Achuzam with the Mered, in the line of Ezra, who married a daughter of Pharaoh. The pilgrimages of the ancient Arabians to Mount Casius present us with another mode of paying homage to their great ancestor, who gave his name to this Egyptian mountain. As Azd, Achuzam has intimate relationship with the Amalekites, and this tribe, in Arabian tradition, is represented as containing within it the Shepherd kings. We shall also find in the Lacedemonian genealogies links to bind Amalek and Achuzam in one. The first mention of the Amalekites is in Genesis xiv. 7, and the only

person of this name who occurs in the Bible is a grandson of Esau. The Arabs, however, persistently call the Philistines by this name. No mention is made of the latter in the account given of the victories of Chedorlaomer, although the region in which Abimelech dwelt might easily have formed part of his line of conquest. The Halaks which lie about Beersheba and south of it are undoubted remains of the *Am*, or people of Lek. We have already seen that the Shasu or Hycsos and the Amalika are made the same. It may be that Achuzam had a son Lek, or, more probably, that in this word an extremely apocopated and altered form of Jehaleleel appears. I find no difficulty in associating the word Chadem, in the Sarbat el Chadem of Arabia Petraea, with the Pharaoh whose brother Hephher or Sephres has left his name upon its monuments. The term Saxon, by which the early Christian writers designated the Arabs, may possibly be another form in which the name of Achuzam descended, although it with other Arabian names and traditions may point to some connection of Jokshan, the son of Abraham by Keturah, with the Ashchurite line. The Katoorah of Arabian tradition are a branch of the Amalika; part of the stock of Midian we have already found in intimate relationship with the Shepherds; and Asshurim of Jokshan betrays the origin of the family. Keturah may have been a daughter of Achuzam, and sister of Jehaleleel. Under the Arabic form of Electra, which is simply Al Keturah, the Greek myth presents her as the mother of Jasion and Dardanus; but as these are Achuzam and Zereth, the sons of Naarah and Helah, this cannot be. She might be their sister, but even this I think hardly probable. The fact of her second son's name being Jokshan, a word not unlike Achuzam, is doubtless the cause of the confusion in the Greek story. The short record of the Midianites which is preserved in the Antiquities of Josephus³ exhibits them as taking part with the Egyptian Hercules against Antæus, and is quite consistent with the connections already formed for them in this paper, as it is with the Scripture statements that show them to have been the allies of the Moabites, who were united with the line of Sheth. I am not at all sure that Keturah belongs to the family of Naarah. There are many genealogical connections which favour the belief that she was a sister or daughter of Zereth, the son of Helah, one of the most important

³ Josephi Antiq. i. 15.

of which is the relation existing between Midas (Midian) and Gordius (Zereth) as father and son.

The name of Jehaleleel, the son of Achuzam, survives in the Alilaei of Diodorus,⁴ the Beni Halal of Bochart.⁵ The name indicates the moon as lord of the night, and appropriately connects with Ashchur or Shachar, the darkness. The deity whom Herodotus assigns appropriately to the Arabs of this family is Alilat.⁶ She was a female deity, and was worshipped, like Al Uzza, at Nakhla, which preserves the name in a different form. Kulal is the masculine god, or husband of Ilahat, and is sometimes called Ila. Dhu-Kolosa, Dhu-Kela or Il, represent a solar deity, who is Alvan the son of Shobal, the Dhu being doubtless a form of Div or demon, such being the title of the Horite leaders and princes. Seleyyel, in Central Arabia, must be a reminiscence of the son of Achuzam, who has himself left his memorial in Kasseem close at hand. I have already directed attention to Yasin as Achuzam among historical personages. His son Alyas is Jehaleleel. He is also Wayel, the son of Ghazahadj or Himyar, the same individual as Walid, son of Azd, who, at the head of his Amalekites, conquered Egypt, the latter form of his name giving the Alitis or Salatis of the Shepherds. Another Arabian name connecting with Jehaleleel is Mahlayel, called a son of Aram of Shem, the Aram being an interpolation, and the Shem a form of Achuzam, inasmuch as he also is made an Amalekite. We shall find in Persian history, which has necessarily much of Arabian tradition mingled with it, this name of Mahlayel or Mahaleleel reappearing as a form of Jehaleleel.

The eldest and principal son of Jehaleleel is Ziph. The region known as Tayf or Djouf, where Allat was worshipped, and which connects geographically with Seleyyel, Kasseem, Kheybar and similar Ashchurite names, with the divinities Uzza and Nakhla, commemorates him. He, and not Achumai son of Jachath, the Horite (whom I, by a somewhat natural mistake, identified with Cheops or Kufu), is the Kabus who follows Al Walid or Salatis. He is also Kabiya, the son of Mahlayel, from a child of whom Yathreb obtained its name. Yembua in Hejaz retains the memory of his nephew Anub, who is the Yanbu Shudh of Arab story; the Cush of Ham, who appears in connection with him, being really Coz of Ammon. This Anub is the Nabit of Dimeshki, whose ancestry is thus given. He

⁴ Diod. Sic. iii. 22.⁵ Phaleg ii. 19.⁶ Herodot. iii. 8.

is also the Nabat, son of Koud, of Mohammed Mustapha. While upon the line of Coz, I may state that Harum appears in the Nabathean Agriculture as Armisa, being there associated with one Aghathadimun, who is Achuzam, the eldest son of Ashchur. The Greek Agathodaemon is as much a true rendering of the original as is the "Petticoat Jack" of sailors, of the Acadian French "Petit Codiac." The Greeks found it necessary to give in their own language the etymology of all names, geographical and personal, whether these belonged to Hellas or to the Barbarian. The Yathreb who descended from Kabiya of Mahlayel, according to Arab tradition, must be Thriplis, the Egyptian goddess, said to be united with Khem, who gave her name to Athribis in the Delta.

Hepher, the second son of Ashchur, is represented by the region of Kheybar in Hejaz, which, like Yathreb in the same province, was founded by the Amalekites. From him also came the tribe Wabar, belonging to the same stock as the families already mentioned. Japhar, the Arabian monarch who follows Sacsac, might be Hepher after Achuzam, or Epher the Midianite after Jokshan. The first supposition is the most natural, although the order in which their names appear would agree better with the latter. My sources of information are too few to enable me to speak decidedly in regard to the descendants of this monarch, as their traces are found in Arabia and its history. I am in doubt whether in Mgnat, who was worshipped at Codayd, we have the names of Chathath and Meonothai in the line of Keuz, or of Jachath and Manahath the Horites.

Temeni survives in the Thimanei of Pliny, and the Buthemanei of Agatharchides, the Beni Temim of the Arabian geographers.⁷ They inhabited a great portion of Central Arabia, and seem to have included the Temanites who descended from Eliphaz the son of Esau.

Achashtari was no less celebrated among the tribes of the desert than among those of the Nile Valley. As Athtor, he answers to the Chaldean Ishtar and the Ashtar or Sheth of the Shepherds. His name likewise remained in the title of the planet Jupiter, Al Moshtari, in which we recognize the head of the Mestraei. The Sabians worshipped him under his abbreviated name, Seth, reverencing the Egyptian pyramids of Gizeh as the tombs of this patriarch and his sons Enoch and Sabi, the latter being the same as Sabus son of Idris, and, I think, the Jabez of Chronicles. Seth is also represented

⁷ Genesis Elucidated, by J. J. W. Jervis, A. B., London, 1852; page 393.

as at war with the Deevs of Kabil, in whom we have little difficulty in seeing the Horite line of Shobal, and the Devas of Siva. He is said to have married Noraea, who is really Naarah his mother.⁸

The sons of Helah are not unrepresented in the geography and traditions of Arabia, but I do not venture at present to trace them. I may state, in concluding this sketch of the Arabian connections of the family of Ashchur, that he is himself the god called Nasr, the Mizor of Sanchoniatho and the Nisroch of Assyria, who is made the same with Asshur; and that the Harut and Marut of the Koran are the Jered and Mered of 1 Chron. iv. 17, 18, whence came the Indian Rudras and Maruts, and the Arabian families of Hareth and Murad.

ASSYRIA AND BABYLONIA.⁹—The great god of Assyria was Asshur, by many identified with the son of Shem, who, according to the Scripture account, founded an empire about Nineveh. I receive implicitly the record of the tenth chapter of Genesis, but, at the same time, feel no hesitation in stating that the Assyrian god was not the son of Shem, but the father of Tekoa. According to Damascius, Assoros and Missare were the first pair in the Babylonian cosmogony or theogony. Missare is the same as Naarah or Nagerah, *ayin* being in this case represented by *s*, as in the Latin. The children of these deities were Anos, Illinos and Aos. Anos is Onam, and Illinos Alvan of the family of Shobal, but Aos is Achuzam. It is this Aos, in the forms of As and Khi, who has been taken to represent Asshur; Ashit, a name supposed also to belong to the god, being his son Achashtari or Sheth. Before Assoros and Missare, Damascius gives two elementary principles, Dache and Dachos. He also makes Dauke the wife of Aos. In these words I believe Tekoa lies. I do not imagine that Ashchur ruled in Assyria, but that some of his descendants were immigrants into that land, and carried with them the name of their great ancestor some time after their expulsion from Egypt. I thus agree entirely with Sir Henry Rawlinson in his statement that “the human intellect first germinated on the Nile, and that then there was, at a later age, a reflux of civilization from the Nile back to Asia.” The early Asiatic civilization, however, was un-

⁹ For the facts recorded under this head I refer to the works of Layard, Rawlinson, &c., upon the monuments of Assyria and Babylonia, as well as to the chapters written by Sir Henry Rawlinson for Professor Rawlinson's Herodotus, and the popular manuals of Bonomi and Lenormant and Chevalier.

⁸ Baring Gould's Legends of Old Testament Characters, 67.

historical and hardly worthy of the name, so that this reflux actually marks the beginning of true Asiatic civilization. Although Ashchur was the god of Assyria, the country was known by the name of the son of Shem, at least to the sacred writers. Yet it is well to observe two passages of Scripture in which Asshur and Moab are united, showing that the old Shethite alliances still subsisted after the family of Ashchur had removed to the east. These passages are Numbers xxiv. 17, 22, 24; Psalm lxxxiii. 8. Names which clearly present the distinction between the words Asshur and Ashchur are Sacchoris and Shagaraktiyach. The first of these is a Babylonian king mentioned by Aelian, who was the grandfather of Tilgamus, another monarch of the same country.¹⁰ The second is one of the recently deciphered names of Babylonian sovereigns who, at Sippara, where Xisuthrus laid up the memorials of his flood, built a temple. Kiprat Arba, the four races, as it is supposed, are connected with Shagaraktiyach and his family. It is hard not to find Kirjath Arba here, in relation to the father of the four sons of Naarah. I have already mentioned the Bushur Asshur of Assyria as presenting a name not unlike the Egyptian Busiris. The descendants of Ashchur certainly did reign in Assyria, which sustained a somewhat similar relation to Babylonia to that which the Shepherds sustained towards the Horite line in Egypt. It is instructive to read the series of Ashchurite names which Sir Henry Rawlinson has found in the inscription upon the black obelisk which stood in the centre of the mound at Niuroud. In Temen-bar, whose inscription it is, we have a reminiscence of Temeni or Timan-hor. He adores Assarac (Ashchur), H·si (Achuzam), and Set (Sheth), and calls himself King of Zahiri (Zohar).

Achuzam I have already identified with Aos, who is the same as the Husi of Assyria and the Hea of other monuments. Taauth, we learn, was the female reproduction of Ao, and in her name the Egyptian Thoth or Athothes, whom we have found to be Achuzam, again appears. The character and functions of this god agree in every respect with those of the Egyptian deity. He is the ruler of the abyss, the king of rivers, the regulator of aqueducts or it may be of drainage, the serpent, the source of all knowledge and science. In a form similar to that which appears in the words Dioscuri and Tasm, he is presented to us as Dhizan or Desanaus, confirmation of the

¹⁰ Aeliani de Animal. xii. 21.

identification being found in his alliance with Satrum or Achashtari, the founder of Sethrum. The Babylonian town of Is, now Hit, is one of his memorials, but I believe that the Assyrian region of Chazene furnishes us with another more perfect in form. I have not found any ancestral monarch either of Babylonia or of Assyria whom I can with any confidence connect with Achuzam. Many facts point him out as the father of Jehaleleel, under the name of Aos or Hea. He is termed the god of Khalkha, and his son appears as Khalkhalla, the brother of lightning, a name that shows intimate connections with the Roman Jupiter Elicius. This son is the Bel or Belus whom the Greek writers attributed to Aos and Dauke. Names like Ivalush may have arisen from that of the son of Achuzam. With the god who is called Khalkhalla the epithet Thibbi is connected. Sir Henry Rawlinson seems to identify this title with the Persian Giv and the Hebrew Zif. I do not doubt that it represents Ziph, the son of Jehaleleel, who may also have given name to Zop, the abyss, of which Hea was the chief. In the Persian Thura, associated with the Assyrian Thibbi, we may find Tiria brother of Ziph. Asareel is very like the later forms, Asshur-rish-ili, &c., among the monarchs of Assyria. Ninip, who is called the son of Bel and also of Aos his father, and who has moreover the titles Khalkhalla and Thibbi, must be Anub the son of Ziphah, the daughter of Jehaleleel, the son of Achuzam. Nabu or Nebo, also denominated son of Aos or Hea, may be the same person, or he may be Nebaiothi, the son of Ishmael and head of the Nabateans. I think that the former supposition is the most probable. Intimately related to Ninip is Nergal, the god of Cutha, who is plainly Acharchel, his designation of "the great brother" coinciding with the meaning of the word in Hebrew. Armannu, the tutelar god of Susa, may be his father Harum, although he is more probably Naram Sin, who, like Shagaraktiyach, of whom he is made the son, is lord of Kiprat Arba. The name Arba survives in Arabas, whom Pliny makes son of Babylon and Apollo, and the inventor of medicine.

I think it possible that Nipru, generally considered to be a form of Nimrod, may, following the analogy of Nergal and Nisroch, be Hephher, the second son of Ashchur. The temple of Kharris Nipru reminds us of the Nephchereres of the Egyptian lists. His name was certainly bestowed upon Sippara, in which Xisuthrus laid up the ancient records. Agana as a name of Sippara is doubtless a reminis-

cence of Kenaz, son of Hopher. Hopher's name also survived in the Chaboras or Aborras, which recall the Egyptian Chabrias and Avaris.

Temeni I have already connected with the historical name Temen-bar. In him also we must find the ancestor of the Thamanei, who dwelt near the Carduchi in Assyria.

Xisuthrus is Ahashtari and Sheth and Sesostris, as I have already indicated. The form of his name presents the original, with the simple absence of the letter *A*, which seems prosthetic. The story of the flood, the pillars or records at Sippara, the connection with Shagaraktiyach, who is sometimes taken for him, and other facts clearly establish his identity. He is the Sisit of Mr. George Smith's cuneiform inscription describing the Deluge, and the Ashit whose name at times is taken to be a mere variation of that of Asshur. As Sethos he appears, or a reminiscence of him, in the old list of Assyro-Babylonian kings. We have likewise found him, as Satrun, in company with Dhizan. In the inscription on the black obelisk of Nimroud already alluded to, he is called Set. As we have seen that Sesortasen I. intimately connects with Onnos, the Egyptian king of On or Heliopolis, so Xisuthrus appears as a successor of Oannes, whom, in my paper on the Horites, I identified with Onnos and Onam, the son of Shobal. This accounts for the frequent mention of Anu or Oannes along with members of the Ashchurite family. It need not be matter of surprise to discover the Shepherd line in Assyria, inasmuch as Nineveh and Heth are united on the monuments of the 18th Egyptian dynasty, where the enemies of that line are mentioned. With Ahashtari I have already united Ashtoreth and the Arabian Athtoret. I cannot doubt that in the latter names we have the Ishtar of the countries under consideration, and the wife or daughter of Ahashtari. She is moreover called Nana, and is mentioned together with Anu or Oannes, so that it would appear as if Ahashtari really married a daughter of Onam or Onnos as well as Hopher. This is strengthened by many facts in geography, mythology, &c. At Ashtaroth Karnaim, we learn from the Apocrypha, the goddess worshipped was Derceto or Atargatis,¹¹ who, as the fish goddess, connects with Anu, Oannes or Dagon the fish god, the An or Onnos of Egypt, whose symbol was a fish. She belonged to Ascalon, a Philistine city originally, and there it is said that she became the mother of Semiramis by Caystrus. Caystrus is a very

¹¹ II. Maccab. xii. 26.

complete form of Achashtari. The children of Xisuthrus, according to Berosus, were Zervan, Titan and Japetosthes. The last of these is Jabez, who comes several generations after Achashtari, yet seems to be related to him in some way which I have not yet discovered. Zervan is the same word as Zirpanit, a name connected with Nana and the epithet Serbonian, applied to the bog or marsh of Lower Egypt near Casius, Avaris and Sethrum. Zirpanit also is made the wife of Bel, the son of Aos and Dauke, whom we have seen to be probably the same as Jehaleleel. El Khalil, the name of the temple of Nana at Borsippa, seems also to indicate that she was the wife of Jehaleleel. Her name is lunar in its associations, like that of the son of Achuzam, and the geographical connection indicated favours this relation. It is also confirmed, as we shall see, in the Greek mythology, which presents her under the name Proserpine as the wife of Pluto. The Italian legend of Kasutru and Paltuce warring with Kaluchasu is a reproduction of the Babylonian, in which Titan and Japetosthes oppose Zervan.¹² In either case a sister interferes,—Turan in the former, Astlich in the latter. Kasutru of the Etruscan myth is Caystrus, Achashtari and Xisuthrus. Kaluchasu might be Jehaleleel, but Paltuce resembles the forms Balot, Philitis and Pluto, under which he has been found. Nothing could be more natural than the marriage of a son of Achuzam to a daughter of the house of Achashtari. In *Vara* and *Bel Vara* we may find Beor and Bela his son, as Baal Peor or Belphegor.

The sons of Helah are not without their record in Assyria and Babylonia. The Carduchi, Gordyans or Kurds, in whose territory Xisuthrus is said to have landed, are the Cherethites, whom we have already derived from Zereth. Zaretis, a name of Astarte, likewise connects him with the family of Ashchur in the east. Strabo informs us that the Gordyans derived their name from Gordys, son of Triptolemus.¹³ The latter word is a form of Dar Bethlehem, and is connected with Gordys or Zereth, because, as I shall show when I come to treat of the line of Salma, father of Bethlehem (1 Chron. ii. 51), Helah, the mother of Zereth and wife of Ashchur, belonged to that family.

The name of Zochar survived in the Zagras mount and river of Assyria as well as in Zahirî, an ancient appellation of the same country. He may also be represented by Zikar Sin, one of the oldest monarchs of Chaldea.

¹² Guigniaut, ii. 1082.

¹³ Strabon. Geog. xvi. 1, 25.

Yetnan, the land sacred to Husi, a name afterwards transferred to Cyprus, gives a probable Assyrian notice of Ethnan, the youngest son of Helah. Such forms as Asshur-dayan can provisionally be regarded as arising from a combination of his name with that of his father.

Assyria, Mesopotamia and even Babylonia are full of geographical names which refer to Ashchur and his family, such as Sekherieh (Ashchur), Satra (Achashtari), Alalalis (Jehaleleel), Masius (Mesha, father of Ziph), Zab and Sapha (Ziph), Zagora (Zochar), which go far to prove that these lands were once held, at least in part, by the descendants of the father of Tekoa.

PHŒNICIA, CARTHAGE, &c.¹⁴—We have already had before us Isiris or Mizor, who was the father of Taautus according to Sanchoniatho. He is also the Chusorus, whom Mochus makes the first ruler of the world. The Dioscuri, who went to sea at Mt. Casius, are the Ashchuri. Aser, the Punic god, is the same person, as are perhaps Macer, the Punic Hercules, and Bochoris, the deity of the Moors. Utica is a form of Tekoa. Sydyk and Typhon belong to the line of Mizor. The Assyrian lake, which was the home of the family before it was transferred to Phœnicia, was, as Kenrick and others have clearly shown, the Dead Sea, the region about which is unmistakably the scene of Sanchoniatho's history. In Tyndaris of Marmarica we find a settlement of those Tyndaridæ, who first dwelt in the Egyptian Tentyra, of which Peschir Teuthur was the god.

Achuzam has been already identified with Taautus. As such he is Esmun and Casmillus, names which approach more closely to the original. He rightly connects with the Cabiri, named after his brother Hephher, as well as with the Dioscuri, bearing his father's name. He may be Sanchoniatho's Usous or Moloch Mars, answering to the Arab Ais, who is Dhu el Karnaim—a title, however, which I believe belongs to his brother Achashtari, lord of Ashtaroth Karnaim. The Phœnician name Ashmunazar unites him with his father, and answers in form to Zereth-Shachar. Casius, whence the Dioscuri went to sea, has already been shown to be a corruption or partial rendering of the name of Achuzam, who is also commemorated by the Ahsi, Axius or Typhon river, and the adjoining region of

¹⁴ For the facts recorded under this head see Kenrick's *Phœnicia*, Movers' *Die Phœnizier*, Davies' *Carthage*, Fragments of Sanchoniatho, &c.

Cassiotis in Syria. Movers rightly holds that the Hycsos passed along the north of Africa and became Numidians and Mauretanians. Besides Usous and Taautus, Sanchoniatho mentions a Cassius, who named the Egyptian mountain, and in whom we must also find a tradition of Achuzam. Sousim, the sacred horses of the Carthaginians, derive their divinity from the same connection.

Hepher is probably Hypsuranius, the brother of Usous according to Sanchoniatho. He is also the lord of the Cabiri. Cinyras, Adonis and similar names commemorate his descendants in the line of Kenaz and Othniel, and many localities in Phœnicia preserve his memory. Timan or Mas Timan, a god of the Moors, like Temen-bar and Timan-hor, at once refers us to Temeni.

Achashtari still appears the most famous of the sons of Ashchur. In the Phœnician theogony he is Sydyk—not Mizor, as Guigniaut has supposed, but the principal son of Mizor. He is the head of the Shethite line of Egypt, who worshipped the god Soutech. Sanchoniatho gives him Asclepius for a son. I do not know who this is. It may be Chelub the brother of Shuah, or, as probably, finding Asclepius in Esmun, the Shimon of 1 Chron. iv. 20. I need not apologize for the well-known connection of the names Caleb and Æsculapius. The maritime associations of Sydyk accord strikingly with the story of Usous as the first to venture out to sea, although I believe it is among the sons of Helah, the Shairetaan and Tocchari, that we must look for the earliest navigators, rather than to Achashtari and Achuzam, whom these names represent. Still, as we have in part seen, and shall yet see more fully, the name of Achashtari is generally associated with the first ship, and with the deluge which rendered it necessary. Xisuthrus, Satyavrata, Tashter and Sadurn unite the Babylonian, Indian, Persian and Celtic legends with the Phœnician in this respect, and the fleet of Sesostris is a remnant of the same story. The Cassiterides or tin islands derived their name first of all from the Phœnician deity, although the Greeks applied the same term to iron, in the form *sideros*. Tysdrus, in the Roman province of Africa, is a word like Tashter and Tvashtar, commemorating the same son of Ashchur. The two-horned Astarte of the Phœnicians is plainly the Ashteroth Karnaim, which we have already more than once connected with Achashtari.

Zereth is the chief of the Punic divinities. Movers connects Zerinthia and Zaretis with Zohar or Zorus of Carthage, and Guig-

niant with Astarte. This is the old union of Zereth and Zohar, or of the Shairetaan and Tocchari, who are further combined as the Zorus and Carchedon who founded the famous African city. Zereth is Melcartus, the Certos or Curudes of Egypt. Besides Carchedon he is called Sardon, and is the son of Aser, being united in many cases with the Sousim, who are of his brother Achuzam. In these two names we find a reproduction of the Hebrew and Egyptian designations of the sons of Zereth, Cherethites and Shairetaan, Cretes and Sardinians. The union of Melcartus and Astarte, and the parentage which Cicero gives the former as a son of Jupiter and Asteria,¹⁵ serve to point out his relationship with the line to which Achashtari belonged. From Zereth came the African word Syrtis (coast of the Cherethites) and the name Tritonis, so extensively applied in Libya, where Auseans (Achuzam) and the Cinyps (Anub) region are found. The many uses of the root *Trit*, as it appears in the Sanskrit and other languages, agree with its derivation from this historical personage. We shall never find the true science of language until we learn that it is an historical and not a natural science. Triton, the trumpeter, is an application of the meaning of the word Tekoa, a blast with a trumpet. A similar application we find in the Egyptian law which forbade the sounding of a trumpet in certain districts because of its association with the braying of the ass of Sheth or Typhon. With Sardon, Iolaus is connected, and this, with similar historical facts, has made me question whether Jehaleleel, who is plainly this Iolaus, was the son of Achuzam or of Zereth.

Zohar is the Phœnician Hercules. He and Carchedon founded Carthage, and from him Tauchira of Cyrene derived its name. Tunes and Tanit the goddess may commemorate Ethnan. The geography of North Africa is altogether on the side of an Ashchurite migration along its coast. Assures and Tisurus, Tiges and Tigisis, Auzea, Igilgilis, Sibus and Sufes, Yabar, Zarytus, Thenae, Aggorsel, with many similar names, recall Ashchur, Tekoa, Achuzam, Jehaleleel, Ziph, Hepher, Zereth, Ethnan, Acharchel, &c. The Tangier inscription cited by Procopius, which describes the people of that region as refugees from lands in Palestine which had fallen before the arms of Joshua, is not necessarily a myth, although I by no means assert its substantial character. The origin which the Moors gave themselves as the descendants of the Sabeans of Arabia and of the sons of Abra-

¹⁵ Ciceron. de Nat. Deor. iii. 16.

ham by Keturah, is not at all at variance with an Ashchurite connection, inasmuch as we have found these families in union with that of the father of Tekoa.

Branches of the same great stock, starting from the Delta of Egypt, passed, the one westward at first and then north, along the African coast of the Mediterranean to Sardinia and Sicily, Spain, Gaul, Italy, &c.; the other eastward and north, along the sea coast of Palestine, Phœnicia and Syria to Asia Minor, Thrace, Greece and more northern lands; while a vigorous offshoot, passing to the east of Jordan, occupied successively Babylonia, Mesopotamia, Armenia, Assyria, Persia, India, and even China. Although we have found traces of the Ashchurites among peoples nominally Semitic or Semito-Hamitic, we are not to suppose that these were anything but Japhetic tribes.

IV.—TRACES OF THE ASHCHURITES IN THE TRADITIONS, &c. OF THE ORIENTAL NATIONS OF THE INDO-EUROPEAN STOCK.

Persia, India, Armenia, the countries about Caucasus, and the nations of Asia Minor, contribute to our knowledge of the remarkable family under consideration. I do not mean to assert that all the populations of these lands were Ashchurite. This would be to people the greater part of the world from the town of Tekoa. The Ashchurites, like the Horites, were a ruling class. At first their domination extended to Canaanite tribes of Hittites and others, afterwards to subject Mizraitcs, then to Arabian and Assyrian Cushites and Asshurites. With the exception of the Israelites, the Semitic races possessed little or no history, and the Hamites after Nimrod had none at all. The same may be predicated of many of the Japhetic families. It is, however, among the latter that we find the makers and transmitters of history. It was given to a few of them to exercise authority over their fellows, and, over a large portion of the earth, through many generations, to be kings of men. The three great families of royal men were and are those of Jerahmeel, Hor and Ashchur, and of these that of Ashchur has ever been incomparably the greatest. In many lands these families dwelt together, sometimes in peace, oftener in conflict, so that no history can be complete without some account of all three. The Horites I have in part already treated of; the Ashchurites I am now engaged upon; and the Jerahmeelites I hope soon to be able to introduce to the student of historical antiquities. I do not therefore profess by means of

Ashchurite connections alone to make plain the entire early history of the peoples among whom traces of this family are found. This paper is thus merely a contribution to the history of early civilization and the settlement of nations.

PERSIA.¹⁶—The history of Persia is the history of at least two ruling races. The Achaemenian family, as I have shown in a former paper, was purely Horite, and this fact misled me in regard to the parentage of earlier monarchs whose names have a place in the Persian records. Thus, while properly identifying Gilshah with Abimelech king of Gerar, I committed the grave error of making a Philistine ruler a son of Shobal the Horite. I was, for the same reason, tempted to find in Ormuzd an ancient Horus. It has been well proved that Ahura Mazda is the Sanskrit Asura or head of the Ashchurites; the Devs, who are of Siva or Shobal, being the evil spirits of his reign. The region in which Ormuzd or Ahura Mazda dwelt was Sakhter, an Ashchurite word. Nanaia was his daughter, and Zerouane Akherene connects with him. Now Nanaia is the Babylonian Nana or Ishtar, the Asura, who had a fane at Asshur, and the Greek Nana, daughter of Sangarius (Saggarios or Ashchur, the Sinkharib of the Mohammedan writers), who connects with Proserpine and Zirbanit, and with Saranyu, daughter of Tvashtar, in the Indian mythology. Zerouane is the Zervan given as son of Kisuthrus, and Akherene relates to Ashtaroth Karnaim, a word in which we discover a union of Saturn and Kronos. Oxyartes of Bactria, whose name Hyde makes Achshur, is very probably the father of Tekoa or Taoce, with which Dahak may have connections. Meshia and Meshiane, the first Persian pair, may probably represent the Scandinavian Ask and Embla, the former of whom is unmistakably Ashchur, while the Ribas tree out of which they came brings in the line of Arba. Sapandomad, united with them, being as a month the equivalent of the Assyrian and Hebrew Sivan, seems to point to Ziph or Typhon. Meshia might give Mesha, the father of Ziph, whose relations are not yet clearly established. Zohak or Ashdahak, whose name and Tasi relationships indicate Ashchurite connection, is nevertheless a son of Ulvanus or Alvan the Horite, and must, I think, be Jachath.

¹⁶ For the facts recorded under this head, see the *Shah Nameh*, *Dabistan*, *Chronicle of Mirkhond*, *Hyde's Religio Veterum Persarum*, with the *Manuals* referred to above; *Russell's Connection*, by *Wheeler*; and the *Supplementary Chapters in Rawlinson's Herodotus*.

Achuzam is geographically represented by the Cossaei of Chuz or Susiana, of which at one time a certain Alias was king, and in the north-east by the region of Oxiana, the Asoa which the Chronicon Paschale affirms was colonized from Egypt.¹⁷ The Ghizneh of the Shah Nameh is the same as Ghizeh of Egypt and Ghassan of Syria, and perhaps the Philistine Gaza. The Euacae or Persian cavalry of Arrian¹⁸ connect with the Arabian horse deity Yauk, the Indian Yakshas, the Punic Susim and the Egyptian Hycsos. The River Oxus at once recalls the Axius or Typhon of Syria and many similar names of streams in different parts of Europe, Asia and Africa. I cannot doubt that Ogyges, Oceanus and like terms, which have been associated with these names, originated with the eldest son of Ashchur. Poseidon, the god of the horse and of the sea, will yet appear as a member of the Tekoaite family. Among historical personages, Achuzam is Yessun Ajam, one of the earliest Persian monarchs. He founded the Yassanian dynasty, and his son and successor was Gilshah, who was called Ubul Muluk or Abimelech. He is Jehaleleel and Abimelech king of Gerar. His Ashchurite descent appears from his styling himself Uboo-Busheer, the latter word giving us back Busiris and the Bushur of Bushur Asshur. He was the inveterate enemy of the Devs or Horites of Shobal. Confirmation of the identity of Gilshah and Jehaleleel is found in the tradition given by Mirkhond, that his successor Houcheng was Mahalaleel, and in the statement of Tabari that Gilshah was the son of the same antediluvian. The truth lies between the two, Gilshah being, as Jehaleleel, this same Mahalaleel, the son of Achuzam or Yessun Ajam. An important point in history is given us in this identification, taken along with the fact that Ephron, the son of Zohar, ruled in Hebron or Kirjath Arba at the same period in the life of Abraham. We learn that Salatis, prior to his invasion of Egypt, was the contemporary of the Hebrew patriarch, and that the dawn of history commences some two generations earlier. The names Kaiomers and Hamyer, so often applied to this monarch, I have not been able to identify with any title borne by him, but I believe that their application in his case and that of his father is due to the same cause as that which gives us Electra for the mother of Jasion and Dardanus, or Achuzam and Zereth. Jokshan and Achuzam, as language became

¹⁷ Galloway. Egypt's Record of Time to the Exodus of Israel, 221.

¹⁸ Arriani Anab Alex. vii. 6, 3.

corrupted, were confused; and Zimran, the elder brother of Jokshan, who was the head of the Cymri, Smyrneans, Homeritæ, &c., and a great prince in his day, was confounded, in like manner, with Jehaleleel and Achuzam, who were, probably, his uncle and grandfather. The Persians, as Cepheneus, doubtless descended in part from Ziph or Cepheus, and the name of this son of Jehaleleel survives in those of the desert of Khiva and the Caspian Sea, with many more in other parts of the Persian Empire.

Of Hephher and his son Kenaz the names of Pecheng and Apheresiab may possibly be an inversion. The dynasty of the Ashkanees should belong to this line, and the Gabrs or fire worshippers might easily have taken their title from the head of a family noted for its devotion to the sun's disc. Khafr, in the province of Fars, must be a memorial of this son of Ashchur, and the old kingdom of Khawer, so often mentioned in the Shah Nameh and other records of ancient times, doubtless took its name from him long before it was given to Cyprus. His descendants in the line of Seraiah were the Chorasmii, or people of Chorassan, who in many ways may be proved to be the progeny of Joab, the father of the valley of the Charashim. To follow such investigations at length, however, would swell this paper to a large volume, without materially increasing the evidence for the Ashchurite connection of the Shepherd kings.

Temeni survives in Persian story as the giant Temendous or Temendonous with a hundred arms, whom Gilshah defeated and drove to Oman. This at once recalls the Arabian Thimanei. The fable of the Centimani we shall yet find to be intimately connected with the legends of the Ashchurites, the very Greek word *hekaton* coming from Achuzam, he being the original Aegæon to whom is sometimes given the name of Briareus, which is an Egyptian form of Jehaleleel.

We have already seen that the very word Achashtari is Persian, and denotes royalty in that language. Kisdar, Hashterkhan and Asterabad are names of places derived from it. Tashter is the mythological personage who represents the youngest son of Naarah. In the Bundehesch his story is that of Xisuthrus, and he is the son of Ahura Mazda. The Typhonian connections of Zohak and his relations to the Ceto or Dercetides (Hittites and Ashterathites) make it difficult to exclude him from the family of Ashchur, and in particular from that of Achashtari. Yet I cannot see my way to disjoin him from the Horite stock or dissociate his name from that of

Jachath, who, as Ichthys, is still son of Atargatis. In Zereth we may probably find the Zoroaster king of the Bactrians, who lived in the time of Ninus and Sesostris, or Onam and Achashtari. Even the later Zoroaster, who reformed the Persian religion, from the names of his ancestors, seems to have had Ashchurite relationships. The word Zareth Shahar sufficiently shows that Oxyartes, whom Hyde, as we have seen, makes Achshur and Zoroaster, may be the same person. I have found no representative of Zohar, but Jay Affram may be his son Ephron. Ethnan may be Tanaus, king of the Scyths, whom Justin makes a contemporary of Sesostris, Ninus and Zoroaster.¹⁹ I have not burdened these pages with geographical names, which a mere glance at the map of Persia, ancient or modern, will reveal as bearing upon them a well-defined Ashchurite stamp. There is great confusion in the Persian annals, and I must leave to those better versed in them the task of identifying the names of the First Book of Chronicles with those of their heroes. Shah Keleev is a Bible Caleb: Menoutchehr is Manahath and perhaps Meonothai, for there are two of this name; Feridun is perhaps Jered or Jordanus; Selm is a reminiscence of Salma, the father of Bethlehem. Ferud and Kai Khosrou, the sons of Siaveseck, are Proetus and Acrisius the sons of Abas; and Lohurasp or Aurvadaçpa is the later Horus of Egyptian monarchy. But these do not at present concern the line of Ashchur. Much light has been shed upon early Persian history by Indian mythology on the one hand, and the Arabian records on the other. It also sets forth certain facts, such as the position and relationships of Jehaleleel, more clearly than either of these. It is not to be wondered at that no history or mythology presents us with a complete account of the Ashchurites. This must be made up by a comparison of the different records of historic nations.

INDIA.²⁰—Many instances might be given of the original national unity of Indians and Egyptians. With these, however, as set forth by Sir W. Jones, Dr. Pritchard, Sir Gardner Wilkinson and other writers, I presume the reader to be acquainted. The legends

¹⁹ Justin, *Hist. Phil.* i. 1, 6.

²⁰ To save the labour incident upon reference to authority for every fact stated, and the perplexing effect of a large number of notes, I refer the reader to Muir's *Ancient Sanskrit Texts*, Wilson's *Vishnu Purana*, Pococke's *India in Greece*, Hardy's *Manual of Buddhism*, Guigniant's *Religions de l'Antiquité*, with the older works of Crawford, Maurice, Wilford and Sir W. Jones, and the *Journal of the Asiatic Society*.

relating to the Horites are principally those belonging to Sivaism. Those of Brahminism furnish materials for the history of the line of Jerahmeel. Ashchur's family must be found in those of Vishnavism and Buddhism.

Ashchur himself is Mahi Asura, the great Assur, as Shobal is Maha Deva, the great Dev. He and his Asuras were vanquished by the Devs of Siva and cast down to Onderah or Denderah, whence the name of Tyndaridae, applied by Sanchoniatho to his descendants. Wassakara is a name of his, and Visvakarman—the latter a title generally given to his son Tvashtar or Achashtari. Among monarchs he is Maha Sagara, with a son Makhadewa (Macedo, which we have already found to be a name of Achuzam); or Sagara, with a son Asamanya (Achuzam). The deity Sangara Narayana presents him, together with his wife ~~Asarah~~, who gives name to Nagara. He appears again as Buddha Soukra, identical with the Egyptian Ptah Soccari. His son Achuzam, however, and not himself, seems to be—I do not say Buddha, because I think Etam his father-in-law was the first to bear that name, but—the second and perhaps the chief of those who aspired to the Buddhship. Pococke has pointed out the relations of the region of Attock with the Greek Attica. The Egyptian Attikeh, the Carthaginian Utica, and the Palestinian Tekoa all connect with it. The whole of the vast region drained by the Indus and its tributaries is replete with Ashchurite names, which, for brevity's sake, and as I write for scholars, I forbear to enumerate.

Achuzam's great memorial is in this region. With the Asuras the Yakshas are associated. They are the Hyksos. Chasas, Hayakes or Pheakes are names which Pococke gives to the Yakshas. The ancient Acesines was their river, and Cashmere, a later Cassiotis, their home. Achuzam, under the name of Vasu, is said to have ruled there in the time of Satyavrata, his brother Achashtari. His Yakshas moreover were found with the Kinnaras (Cinyrads) of Cuvera (Hepher) at Kailasa, or Alaka (Khulasa or Halak in the Geraritic region). In these names, with that of the Lokaloka mountains, we find corruptions of Jehaleleel. With the Yakshas, the Ashvins must be connected. One of them is Jishnu, who is Achuzam in a form like Yessun or Jasion. The Asvamedha, or horse sacrifice, properly belongs to these so-called Indo-Scyths. It is generally conceded that the Ashvins and the Dioscuri are the same. Achuzam is

plainly the Indian Desanaus of the Greek writers, whose daughter Pandaea at once suggests the Buddhist Pandoos. Vishnou, the god of the water, called Narayana, is another and grander representation of Achuzam, who is probably the chief of the Vaisyas or Vasus, as Vasu of Cashmere, his brother Achashtari being the ancestor of the Kshetriyas, and perhaps of the Sudras. In the Vayu Purana Vishnou ranks next to Iswara. He rides upon the eagle Garura and on the serpent Sesha. The former is Gerær, and a form of Jehaleleel, and the latter is Achuzam himself. Moudevi, a wife of Vishnou, rides upon an ass like Hestia, and this is the ass of Sheth or Typhon. He opposes Siva and his phallus worship. The relation of Vishnou, however, which first led me to associate his name with that of Achuzam, is that of the husband of Lakshmi or Sri, who is Ceres the wife of Jasion, the sister of Jezreel or *the sown*. I confess, however, that the fish incarnation of this god recalls the name of Onam or Dagon, and that his enmity to the giants or Hiranyas, Akcha and Casyapa, representing as these do the eponyms of Accho and Achzib, which are undoubtedly of Ashchurite origin, does not agree with his being the eldest son of the father of Tekoa. Vishnou, as we have seen, rides upon the serpent Sesha. This Sesha is the snake king, and the same with Ahi, whom Mr. Cox has well shown to be identical with Echidna and the Sphynx, already proved to be a reminiscence of Achuzam. The serpents are fitly connected with the Asuras and Yakshas, being the Takshak race that lorded it for a time in India. The story of Ajasat is that of Zohak, and furnishes an Achuzzath-like form of Achuzam's name. The snake or dragon and the horse Mr. Cox has shown to be united in many mythologies. It is hard to tell how these came to be combined with the memory of Achuzam, yet no other name so completely and satisfactorily unites their etymologies and connected traditions. Achuzam is one of the Buddhas. Gautama and Sommonokodom are rightly names of his, while Narrotama may present us with one taken from his mother Naarah. Kikata and Maghada are Buddhist regions, and Okkaka or Ikshwakoo sovereigns of the Buddhist line. In the latter there is, at times, a confusion of Achuzam and Coz the son of Ammon, which appears also in the Greek story that gives Ogyges, at times, as the son of Ashchur, and at others, connecting him with Thebes, plainly alludes to the ancestor of Jabez. That Buddha does represent Achuzam appears from the fact that his rites and the Eleusinian

mysteries, and those of the Egyptian funereal ritual, are the same. Poccoke has also with great wisdom associated the family of Buddha with the history of Troy or Ilium—a connection which has already appeared in the very names of Jehaleleel and his sons. But still more convincing are the facts that the son of Buddha is Aila or Paruravas (Nilus or Phururon, Jehaleleel or Aroeris), and that he, with his wife Ila, rules the Cabiri, as we have found Thoth or Taautus doing. Akuli, the Asura priest, may be Jehaleleel, who gave his name to Nagara or Jellalabad, and similarly named places. He is also the Salsala (Silsilis) whose statue accompanied that of his father Shahama, so celebrated among the Buddhists. From his town, Pelusium, came the Indian Pelasa, the Pali language, and the Pallis or shepherds who conquered Egypt. He is also Poulastya or Pluto, the same as Plutus (Philitis and Philistine), who is united with Cuvera or Hopher at Kailasa. Poccoke finds Ziph or Typhon in Thibet, a Buddhist region. Cophes and the Sibae, with Massogis for Mesha the father of Ziph, and a host of similar names, ancient and modern, attest the presence of the descendants of Jehaleleel in western India. Casyapa, a well-known name in Indian story, is likewise a memorial of Ziph, who is also Capesa or Capeyanas, that dwelt appropriately in Jwalamucha, and whose story is that of Cepheus the son of Belus. Anupa, Kusa, Marisa and a large number of connected names give us Anub, Coz, Mareshah and all that family, with Manu for Ammon. All the members of the line of Achuzam are to be found in Sanskrit mythology—often confused, but frequently arranged in harmonious order, according to the scheme set forth in the Egyptian connection.

Poccoke, to whose partial yet exceedingly valuable comparisons I owe much, has united the Cabiri with Cuvera and Khyber. We have already seen that the Yakshas are associated with him, and that he has a still more intimate union with the Kinnaras, who are of Kenaz the son of Hopher. Ganesa, Kansa and Chandra are names given to Kenaz in the Indian mythology. Dasaprayavadi, father of Ganesa, is a much supplemented form of Hopher, and Pouroo, father of Kansa and son of Buddha (this is making Buddha Ptah Sokkari or Ashchur of Tekoa), is an equally abbreviated one. The Prajapati Sthanu and the region of Sthanutirtha commemorate Othniel. In Babbhru, one of the Indian Typhon line associated with Setu and other easily recognizable Ashchurites, we find Hopher. This latter

form at once suggests the Greek or Egyptian word *papyrus*, which fitly takes its name from him after whom Sippara and Kirjath Sepher were called, and all the associations of whom are literary. Byblus is the Greek name proper for the papyrus, as well as that of a Phœnician and Egyptian city in each of which the rites of Adonis were celebrated. It may be that Byblus is Babbhru, the equivalent *l* as in the Septuagint taking the place of *r*, although I have already associated the word with the Horite Ebal, who named Gebalitis. Hephher will yet be represented by a Cephalus, and the Cabiri and Kobolds be united. The rat of Ganesa reappears in the connections of the Greek Apollo Smintheus. Its Hebrew names, Pherah and Chapharpherah, are not to be disjoined from that of the second son of Naarah. Surya, the god connected with Chandra, and Surya, king of Mathoura, connected in like manner with Kansa, are each of them Seraiah, the son of Kenaz. Crishna and the Charashim of Joab show intimate relationship. No other mythology gives a more complete account of the early history of the family of Hephher than that of India. A new interest must attach to the disc worshippers of Egypt, when it is found that they play so important a part in the Hindoo annals. Many names recall Temeni, the third son of Ashchur by Naarah, but I do not at present know enough of his history to justify me in stating tentative connections.

Achastari is Ivashtri or Tvashtar, united with Asura, and called Visvakarman. With him are found the Rbhous (Rephaim of Ashteroth Karnaim) and the Ashvins. The daughter of Tvashtar is Saranyu, in whom we have the Zerouane of the Persian, and the Zervan of the Assyrian mythologies. She is made the mother of Yama, who is Achumai the Horite, and may therefore have married Jachath the son of Alvan or Reaiah. Thus Atargatis and Ichthys may be united, and Achumai combine two races. Tvashtar is Satyavrata, the same as the Persian Taschter and the Babylonian Xisuthrus. Before the flood he dwelt at Cashmere, where Vasu his brother Achuzam reigned, but in the time of the deluge he was at Critamala, the land of the Cherethites or Gordyceans, named by his half-brother Zereth, the contemporary of Achuzam. It is generally admitted that Satyavrata, Xisuthrus, Seth, &c., are the same. The statement that the flood was poured forth in order to help Gautama Buddha against the Assurs is a somewhat peculiar one, inasmuch as he was pre-eminently an Asura. However, the allusion may be to

the elder Gautama or Etam, who is Adima, and whom the Greek legends, under the names of Cadmus and Athamas, frequently confound with Achuzam. To Cashmere belong the Kshetriyas, who are unmistakably the descendants of Ahashtari, no other etymology for the name of the son of Ashchur being possible than that of the ancient Aryan word "Kshattra." The smiting of the Kshetriyas by Parasurama is the same story as that of the fight of Perseus with Ceto of Joppa, and both of these legends are but echoes of the historical facts which the monuments of Egypt afford, that Rameses, whose surcharge is the axe (Parasu), chastised the Shethites or Hittites of the line of Ahashtari in their Philistine home. The Kshetriyas, like the Persian Temendonus and the Greek Aegaeon or Briareus, belonged to the Centimani. Ahashtari's abbreviated name Sheth survives in the Indian genealogy of Typhon, in which Setu appropriately follows Babbhru. He must also be Yoodistheer, coming after Asoka, who is the great enemy of Duryodhana, the head of the Kooroos, in whom we have no difficulty in recognizing Dardanus or Zereth of Zarthan, the head of the Cherethites. The Satya *yug* and *loka* take their name from him, as the Dvapara from his brother Hephher.

I have already identified Zereth with Duryodhana, the head of the Kooroos. His name, like that of Dhrita in the line of the Indian Typhon, and Dhritarashtra, designates a family rather than an individual. Koorookshetra, on which the rival sons of Naarah and Helah or their descendants fought, combines the names of the combatants. The Krita and Treta yugs are, I think, the same, although it is possible that the latter refers to Jered, the father of Gedor, who may have descended from Zereth, for I am as yet ignorant of his family. The Krita and Satya ages are, however, made identical, showing the contemporaneousness of Zereth and Ahashtari. Many connections have presented themselves for Zohar and Ethnan; but as I know nothing definitely concerning them, I prefer for the present to leave them in abeyance.

A very important branch of the Ashchurite family, which finds abundant mention in the ancient Indian writings, is that of Ezra. Mered and Jered, who belong to this line, are the eponyms or ancestors of the Sanskrit Maruts and Rudras, Aditi being in all probability the Jehudijah of Chronicles, and the Ghandaras of the same stock, the families of Gedor; while the Sakyas or Scyths came from the Sucathites or people of Socho, of whom Heber was the

father. This pre-eminently Scythian family I leave for another paper.

ARMENIA.—The history of Armenia is so slender that it is impossible to say much concerning its connections. Were I to trust to mere verbal analogies, it would be easy to make a list of them. Haig, one of the earliest of Armenian monarchs, is said to be the same as Aectes of Colchis.²¹ The latter, I think there is little doubt, is Achuzam. The region of Phasiana with Ascura, the Taochi who dwelt to the south of Sacasene, with Gordyene, Sophene and many other places, are purely Ashchurite. As for Armenaeus, Aramaeus, Harma and Aramus of Moses of Chorene who follow Haig, they may, I think, represent Harum the father of Abarhel. It is not at all improbable that the Armenians are Jerahmeelite.

CAUCASUS.—This region, including the ancient Colchis, Iberia and Albania, was considered at an early period to have relations with Egypt, and particularly with its great ruler Sesostris or Ahashtari. Dioscurias and the Cyrus river commemorate Ashchur, while Taochir is either a form of Tekoa or of Zohar. The name Khevsours, which some of the modern Circassians give themselves, and that of their Neptune, who is Seozeres, indicate an Ashchurite ancestry. Adighen, the name of the race, recalls the Taochi and the people of Attikeh or Tekoa.

Caucasus itself is but a grander Casius, and is rightly connected with such words as Asia, the Coptic Os, Persian Ized, Babylonian Isi, and a host of other terms denoting royalty and deity, all of which point to Achuzam, the son of Esur or Ashchur. The Phasis flowing into the Black Sea, and the Casius into the Caspian, with Sacasene, present the same word. Aectes, although sometimes confounded with Jachath son of Alvan, the true solar hero, is Achuzam. His son is Aegialeus or Jehaleleel, and this is the same person as Salauces (Salatis), who, according to Pliny, defeated Sesostris, being also the son of Aectes. Phasis is allowed to be of the same origin as Caucasus, and I have already asserted that it represents Achuzam. There was a king Phasis, the son of whom was Colchos, the founder of Colchis, which is a reminiscence of the Arabian or Palestinian Halak, where Jehaleleel reigned. The Silsilis and Khalil of Egypt, Alaka and Lokaloka of India, Cilicia, Iolchos of Thessaly, and the

²¹ Guigniaut iii. 1050.

many places called Chalcis in different parts of Europe and Asia, are memorials of the same son of Achuzam. From him came the Greek *Chalkos*, copper, which in Latin was called *Aes* after his father, and *Cuprum* after his uncle Hepher. Chalkon, king of Cos, presents us with the names in union, unless Cos be a reminiscence of Coz, the son-in-law of Jehaleleel. The whole story of Jason and the Argonauts belongs to this family, Achuzam occurring under the names of Aeson, Aetes, Aegeus, &c., the other actors being similarly multiplied and confused, Colchis and Iolchos and Elysium being also the same.

Hepher appears in Hyperion, the head of the sun-worshipping race of Colchis, whose wife is Thea, answering to Taia, wife of the Egyptian Chebron Amenophis. There is a Neera in this family, and to it belongs, through Aurora, the line of Tithonus and Phaëthon, which contains Othniel and his descendants. Sirius the dog-star, Kenaz his father giving the *Kuon*, which in Aeschylus precedes it, is the representative of the solar myth of the Caucasus. Sybaris, a name of Aea, at once brings to mind the Sippara of Babylon, Sepher of Palestine, and Sephres king of Egypt. Aea on the Phasis is, of course, derived from Achuzam, the Babylonian Hea. The Acinasis river may preserve the memory of Kenaz.

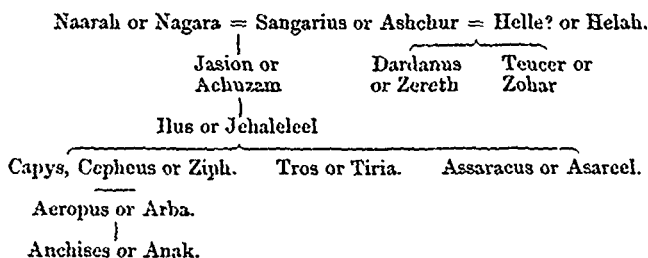
The Ossetinians of Caucasus may claim Sheth or Ashtar as their ancestor, or descend from Eshton the son of Mehir. It is worthy of note, however, that Colchis is called Cytean, the latter word being properly connected with Ceto and the Hittites, or people of Cheth, who, if not the same as the Shethites, were at least part of the same great family. Tyndaris in the neighbourhood of Cyta is the same sign of an Ashclurite line as we have found in Teutyra of Egypt, Tyndaris of Marmarica, the Tyndaridæ of Phœnicia and Greece, and the Indian Onderah.

ASIA MINOR.²²—There were Greeks in Asia Minor before there were Greeks in Hellas, and these, together with the barbarian peoples of that historical region, came from Palestine and Egypt.

Mysia shows intimate relationships with Palestine and Egypt in the geographical names Abydos, Thebes, Nagara; Ida, which is EDOM or the mountain range of Idumea, with Gargarus for Karkor

²² For similar reasons to those stated above (Note 20), I refer the reader to any good Classical Dictionary for the names and facts alluded to within the areas of which Greek and Latin writers have treated, instead of multiplying quotations from their works. In addition to such an aid, I would recommend the books of Guignaut, already referred to, and the Abbé Banier, with Cox's Aryan Mythology.

and Cotylus for Joktheel; Scepsis, Cebrene, Aesepus, Priapus, Harpasia, Tereia, Callirhoe and Lectum representing Ziph, Hebron, Heshbon, Peor, Arba, Ataroth. Callirhoe or Lasa, and the Lisan or tongue of the Dead Sea. The name Mysia may be derived from that of Mesha, the father of Ziph, but Xanthus found in it the Lydian translation of Oxya, the beech or ash, as Mysos. It might thus represent Ash-chur or Achuzam. In the reign of Rameses II. we find the Mysians invading Egypt under the standard of the king of the Hittites. In the Troade Homer accordingly places the Cetaei, who are these same Hittites, under Eurypylos, son of Telephus; but the Troade of Homer is in Southern Palestine. Ashchur is Sangarius, the most ancient divinity of this region as well as the eponym of a river in Bithynia. From his son Achuzam came Achaeium, Assos and the Caicus river. He is also Eetion or Jasion the brother of Dardanus, and, it may be, the old Aesyetes and Buzyges, who connects with the Palladium. His son Jehaleleel, as we have seen, is Ilus, the namer of Ilium, a reminiscence of the Egyptian Illahoun, and three of his children appear in the Capys, Tros and Assaracus of Trojan story. Anchises of this line is a Bible Anak, and connects with Aeropus, son of Cepheus, or Arba of Ziph. Teucer we have already found to be Zohar, and Dardanus, son of Corythus, Zereth or his son. Astyoche, a female name, presents a form of Sydyk, who is Achashtari. The following is an attempted restoration of the Trojan line:—



The feminine royal name Batieia, connected with the Trojan legend, represents Bithiah the daughter of Pharaoh, and Idaea is the Jehudijah spoken of in the same verse of the 4th chapter of First Chronicles. Ganymede, whom Pindar calls a deity regulating the overflow of the Nile, is Canopus or Anub, the son of Ziphah, the daughter of Jehaleleel or Ilus. As pre-eminently the man of the

vine, he was fittingly made the cup-bearer of Jove. The change of B to M is so common in etymology that it needs no comment.

Lydia.—The Lydian line is decidedly Horite, as I have shown in a former paper, the very name *Lydia* being derived from Lahad the son of Jahath, the Horite. It is, however, full of Ashchurite names. The legend of Caystrius has already been alluded to. It is interesting to find Strabo speaking of a temple situated on the Cayster sacred to the twin heroes Asius and Caystrius, or Achuzam and Achashtari. The Nysa which connects with it at once recalls the Palestinian Nyssa or Ienysus, near Gaza, and the Nyssa, which has been identified with Beth-Shan. The river Hyllus commemorates Jehaleleel, and the Hermus Harum, the father of Acharchel, he being Hermon king of Lydia. Jordanus, another Lydian king, is Jered the father of Gedor, and Tmolus may be Othniel, the son of Kenaz. Harum is also Arimus, whom Xanthus made a king in the Typhonian region of Mesogis, in which word we at once recognize Mesha or Meshag, the father of Ziph or Typhon. The Lydian Hercules called Sandon or the Red is a confusion of Acharchel, the true Hercules, with the great Sesostris or Achashtari, Sandon or Sandyx, representing the Sheth or Sydyk who ruled especially over the Sethroitic nome of Egypt. Saittae is a Lydian town preserving the very name by which this hero was popularly known. Sandon is also Asterius son of Anax, whose remains, according to Pausanius, lay in the land of the Milesians, being ten cubits in length. He rightly connects with the Anakim. Pausanius likewise mentions the presence of similar remains in a city of Lydia called "the Gate of Temenus," which was doubtless named after the elder brother of Achashtari, the eponym of the Egyptian Damanhour. Sardis is the city of Zereth. The Asioneis connected with it are the people descended from his rival and brother Achuzam; and the Cimmerians who conquered it, and also named Smyrna or Zmyrna, are the families of Zimran, the son of Abraham by Keturah or Electra, whom we have found to be related to the Ashchurites. The Macones may either have descended from Meon of the line of Mareshah, or Meonothai, the descendant of Kenaz, who certainly named the Maeander. The Lydian royal names Xanthus, Arimus, Alyattes and Myrsus represent Achashtari or Sheth, Harum, Jehaleleel or Salatis, and Mareshah.

Caria.—Heraclea and Bargylia are equally reminiscences of Acharchel, with and without the Coptic article. Cuidus represents Kenaz, and Myndus Meonothai or perhaps Manahath. Miletus, anciently called Anactoria, is the Palestinian Malatha revived, Anactoria preserving the memory of the Anakim, which long survived in such Milesian names as Anaximander and Anaximenes.

Bithynia is probably a geographical record of Othniel, and the Ascanian lake within its territory of his father Kenaz; the promontory Sirias and the town Carusa in *Paphlagonia* representing Seraiah and the Charashim of his son Joab. Sesamus, Aegialus and the river Halys of the latter province preserve the names of Achuzam and his son Jehaleleel, and Sinope commemorates Anub. In the latter place the oracle of Sthenis seems to point to some connection of Othniel and the son of Coz.

Phrygia is famous for the myth of Cybele.²³ Sangarius represents Ashchur, as we have already seen. Nana, his daughter, is the Babylonian Ishtar, and Nanaia daughter of Ormuzd. Midas the son of Gordius, is Midian the son of Abraham by Keturah, and Gordius is Zereth, who may have been the father of the Hittite wife of the great patriarch. Desanaus or Diodas, the Phrygian Hercules, is Achuzam or Athoths, the eldest son of Ashchur. Isauria and Lystra may present forms of Ashchur and Ahashtari.

Pamphylia was anciently called Tekiah, in which Tekoa is at once recognizable. Cestrus is a form of Ahashtari. The family of Hopher is represented in this province by Cibyra and another Ascanian lake. At Phaselis, the god Caprus or Cabrus was worshipped, and in him we have no difficulty in finding the Egyptian Kheper.

Pontus preserves many names in the family of Achuzam, and *Cilicia* connects intimately with the history of his son Jehaleleel, Zereth, however, appearing in Tarsus and other places. Space will not permit particularization. I may merely state that the Sandacus of Cilicia is a form of Sydyk, or the Herculean Sesostris, and the

²³ In the myth of Cybele, who connects with Jason, as Io with Jasus of Argos, we find, I think, the story of the daughter of Coz. As Cybele, she at once recalls Kubelbeh of Palestine, named after Zobeab. Atys is, I think, although I am by no means sure of this—her husband Jediel, and Papas or Sabus is her son Jabez. In Marsyas, her companion, we find Mareshab, the father of Hebron, who is the Egyptian Moeris that acted as regent for the young Apophis. Io is Cybele; and Epaphus, who is her son by Theoclymenus, and the same as Apis or Palops, son of Tantalus, is Jabez. I do not state this, however, with any degree of confidence.

Sardanapalus of Tarsus, of Zereth. Cilicia and Colchis tell the same ancient story, going back to the Halaks and Gilgals of Palestine, the Khalils and Silsilis of Egypt.

Galatia and Cappadocia I had almost omitted in the enumeration of the provinces of Asia Minor that contain traces of Ashchurite domination. In the latter province especially many geographical names appear, preserving the memory of various descendants of the father of Tekoa. These occur among the identifications which Dr. Hyde Clarke has made of the geographical names of Asia Minor with those of Palestine, a selection from which is given in Note 35 of this paper. The Carmalas river of Cappadocia, like Carnylessus of Lycia, points to the fact of immigration into these countries of a population that once had dwelt in the Ashchurite region of Carmel, in Palestine.

V.—TRACES OF THE ASHCHURITES IN THE TRADITIONS, &c. OF THE OCCIDENTAL NATIONS OF THE INDO-EUROPEAN STOCK.

The traditions and geographical names of Asia Minor have greater affinities with those of the West than with those of the East. Still they form a connecting link between the reminiscences or traces of the family of Ashchur, not only among oriental Aryan, but also Semitic peoples and those of Europe. The islands of the Levant unite the traditions of Asia Minor to those of Greece. In Italy and Spain, African types appear, as well as among the Celtic peoples, giving colour to the derivation of the races of Western Europe from Egypt by way of Northern Africa. The Germanic tribes afford in their traditions much that is independent of both of these sources, as if they had entered upon their European possessions by the north-eastern route afterwards taken by the Slavonic peoples. Their mythology has, however, many connections with that of the Celts.

GREEK ISLANDS.—*Samothrace* is famous for the mysteries of Ceres and the worship of the Cabiri. These Cabiri, as I have already stated, derived their name from Hepher, the second son of Ashchur by Naarah. The name of Ashchur survives in those of three of them—Axieros, Axiokersus and Axiokersa; while Casmillus, the fourth, is a peculiar corruption of Achuzam. Zagreus the Cabir may also be Ashchur, or his son Zochar. That Casmillus is Achuzam appears from his being identical with the Thoth or Taautus of Egypt

and Phœnicia and the Etruscan Tages. He is also Iacchos, Saon or Saus, and Cosmos, these being forms of Jasion, the brother of Dardanus, heroes already identified with Achuzam and Zereth. The connection of Jasion with Alca—like that of Buddha and Ila—taken together with the name of Aleo, one of the Cabirian family, the identification of Axiokersus and Pluto, and the relation of father and son sustained by Jasion and Plutus respectively, give another confirmation of the descent of Jehaleleel from Achuzam. The wife of Achuzam was a member of the family to which Jezreel, the god of seed, belonged, and is appropriately called Ceres, although she was most probably Zelelponi, the daughter of Etam. She is the Cabirian or Gephyrean Ceres, and shows her relation to Achuzam by the names Achæa, Azesia and Auxesia. Hermes or Casmillus with his serpents appropriately forms part of the legend regarding her. Her daughter Proserpine has been already united with the line of Ashchur, and Tyche and Styx, the companions of this goddess, present us with forms of Tekoa and Sydyk, or Achashtari. In Etneus, who is one of the Cabiri, the name of Ethnan, the youngest son of Ashchur by Helah, appears. The Pelasgian inhabitants of Samothrace are simply the Philistines or Philisbeth. Samothrace was originally called Samos, doubtless from Sem or Achuzam. Naucratis of Egypt, which took its name from Naarah, was called Samocratis, the Sem form of her eldest son's name superseding in part her own. In the Saon of Samothrace, which represents him, we may have the original of the Beni-Shaon, whom we have found to be identical with the Beni-Sheth of the Hebrew record.

Tenedos must not be omitted even in this superficial enumeration of the islands containing recollections of the Ashchurite families. Its name is derived from Othniel, who is Tennes, son of Cycnus or Kenaz. *Leucophrys*, an old name of the island, is *Leopbrah* or *Legopbrah*, which we have already found to commemorate *Ophrah*, of the line of Othniel. The hatchet of Tennes is his Egyptian surcharge.

Cyprus in its very name represents *Hepher*, the head of the Cabiri. Its family of *Cinyrads* preserved the memory of *Kenaz*, and the rites of *Adonis* that of his son *Othniel*. The *Teucer* who connects with its history is really *Zochar*, the son of *Helah*; and *Iatnan*, a name given to the island, may furnish a memorial of his brother *Ethnan*. *Cyprus* and *Egypt* and *Phœnicia* were intimately

related, and their relations will be found to lie principally within the family of Hephher. The Cyprians have been long connected with the Hittites, of whom Citium is a reminiscence.

Chios and *Cos* seem to preserve,—the one the name of Achuzam, the other that of Coz, the father of Anub or Enopion, who connects with both islands; the legends concerning Bacchus being made up of the history of the son of Ashchur and that of the son of Ammon.

Crete next demands attention. Many of its traditions are those of the Horite families. I cannot doubt that the original Minos is Manabath, but Ammon, Meonothai and Jamin, the son of Ram, have been at times confounded with this ancient monarch. Many families, however, inhabited this island, and among them the Ashchurites occupied no inconspicuous position. Macaris, an ancient name of Crete, and Cres, its first monarch, are probably forms of the name of Ashchur. The name Crete, however, is that of the Bible Creti or Cherethites, between whose original coast and the Carthaginian settlement of the family of Zereth it lay. Several writers have identified the Cherethites and Cretans, but all have, as it seems most unnecessarily and unreasonably, deduced the former from the latter. In Achuzam we find Aeacus, the assessor with Minos in Hades. The Achaeans of Crete are his descendants, and the Cosmi or magistrates of the island retained his name, which survived also in Cisamus and other designations of places. Plutus, born among the Cretans, is Jehaleleel his son, and he, in the *r* form of his name, is Preres son of Cydon. This Cydon, who is Achuzam, is made a son of Tegeates, who is the father of Tokoa, and the female name Acacallis connected with him originally designated his son Jehaleleel. Hephher may be represented by the promontory Zephyrium, also found in Cyprus; while Goussus is undoubtedly a reminiscence of his son Kenaz. Asterius, Xanthus, Taurus or Sandes, made a contemporary of the first Minos, is Ahashtari or Sheth, who is also Saturn or Cronos, Ashteroth and Karnaim. Minos, son of Asterius, is Menu of Tvashtar and the Mannus who connects with Tuisco. Perhaps he is Ammon. Europa is undoubtedly Astarte. The Dymanes are of the family of Temeni, who may be Atymnius, brother of Europa. In the Curetes we find the descendants of Zereth, who gave his name to the mixed population of this once celebrated island. The Eteocreti are the Tocchari, or descendants of Zohar. Itanus and Titanus are probably memorials of Ethnan. The Jardanus of Crete and Elis, like the Italian

Eridanus and many other names of streams, testifies to the presence of a Palestinian population, and probably to that of descendants of the Ashchurite Jered. A transference of the mythology and early history of the Cretans to the regions of Egypt and Palestine inhabited by the sons of Zereth will make plain much that at present is utterly unintelligible in these ancient records, and give them a place in the history of the world, not of an obscure and semi-barbarous island.

Aegina connects with the Ashchurites in *Acæus*, already identified with *Achuzam*, whose son *Jehaleleel* may be represented by *Peleus*. *Phocus* is *Coz*; and *Ænopia*, an ancient name of the island, represents *Anub*.

Salamis, although its name is derived from *Sahna*, the father of *Bethlehem*, nevertheless shows Ashchurite relationships in *Scyras*, *Cyehrea* and *Pityussa*, its ancient designations, which recall *Ashchur* and *Abi Tekoa*. The *Cenehrens* who connects with its history is *Kenaz*, the head of the *Cinyrads* of *Cyprus*, which also has a *Salamis*.

Eubœa, called also *Asopia* and *Abantia*, and connected with the myth of *Io* and *Epaphus*, preserves the name of *Jabez*, who is *Apophis* and *Epaphus*.

Ithaca is a reminiscence of *Tekoa*, like the Egyptian *Attikeh* and the *Utica* of *Carthagina*. The *Ithaca* of *Homer* was *Tekoa* itself, *Neritum* being *Naarath* or *Maarath*, near at hand, and *Cephallenia* *Hebron*. The *Taphians* of the latter place took their name from *Tappuah* or *Ziph*.

Corcyra is thoroughly Ashchurite. It recalls the *Karkor* of the *Shethites*. Its ancient name *Scheria* is the same as *Shachar* and the Egyptian *Sakkarah*. *Ptychia*, close beside it, is a form of *Tekoa* with the Coptic article. *Scheria* is the island of the *Phacacians*, who are the descendants of *Achuzam*, as *Phix* and the founder of *Phacussa*. The *Acæus* river preserves his name in a purer form, and *Hypercia* that of his brother *Hepher*. *Hyllus*, *Halius* and *Ocyalus*, names which belong to its traditions, represent *Jehaleleel*. Its later name of *Corfu* came from an occupation by the family of *Chareph*, the father of *Beth Gader*, whose name, connected by *Gesenius* with the Latin *carpo*, is also the original, as *T Hareph*, of *Drepane*, another designation for the island.

GREECE.—The name of *Ashchur* or *Osochor* undoubtedly survives in the adjective *ischuros*. He is, by the prefix of the Arabic article, *Alexiares*, son of *Hebe* or *Abiah*, and, by the prefix of the Coptic

Bassaricus, the father of the first Bacchus, or Achuzam. Neaera, the so-called wife of Helius, and Moira, who unites with Tyche, represent Naarah. The Greek word answering to Achuzam is *Ktema*, signifying, like the Hebrew, *possession*. Ctimenus is thus a Greek form of Achuzam. He is Zeus Casius and Acesias, or the healer, connected with the myth of Hercules at Accho, and united with Iaso. Hades is an abbreviated Athothian form of his name, as appears in its synonym Agesander. He is also Ixion, a man of the horse, whom, according to Tzetzes, a Pharaoh expiated for the commission of a crime similar to that of the Persian Zohak and the Indian Ajasat. The horse connection appears again in Pegasus, the same as Phix and Phakus, as well as in Augeas of the stables, whose son Phyleus is Jehaleleel. The Latin *equus* preserves the Arabic Yauk and the Hyksos, whom Raoul Rochette made the authors of Greek civilization. Besides Phyleus, we also find synonyms for Jehaleleel in Eol, the son of Poseidon, and in Acelis, Agelaus, Cleolaus and Hyllus, sons of Hercules, who must be Sem Hercules or Hercules Assis. Agelaus also is the son of Ixion. Poseidon may represent Achuzam; at any rate he is a member of the Ashchurite family, among whom, in the line of Helah, we find the men of the sea, as in that of Naarah we find the horsemen of antiquity. Cephalus, father or ancestor of Tithonus or Phaethon, Cycnus, &c., is Hopher, the father of Kenaz and grandfather of Othniel. Temenus, son of Pelasgus, is Temeni. Hitzig has demonstrated the national unity of Philistines and Pelasgians. They are the people of Sheth or Achashtari, and he is Astraeus the Titan, husband of Eos, the daughter of Hyperion, or Hopher his brother. Zereth is Triton, and Taras the son of Poseidon. I now proceed to analyze the mythology, geography and early history of the various states of Hellas, for the purpose of showing the vast preponderance of the Ashchurite family in their populations and traditions.

Laconia.—In Laconia, as in Crete, a union of Horite and Ashchurite traditions appears.²⁴ Ashchur himself gave his name, as we have seen, to the Dioscuri, the chief of whom, Castor, was his son Achashtari. As for Pollux or Polydeukes, he is no son of Ashchur, and must, I think, be Jehaleleel, the son of Achashtari's elder brother

²⁴ Laconia has important connections with the family of Bethlehem, the head of which was Salma, and of which I think Helah, the wife of Ashchur, was a member. To this family of Lachin the Lycians, Lycaonians, with, I believe, Amalek (the Laconian Amyclias) belonged. Arcadia has also Bethlehemite relations in Lycaon.

Achuzam. Of this, however, I am not certain. Pilku, a city of Sheth, connects with him. Ashchur is also the head of the Tyndaridæ, who, with Helena Dendritis, are of Tentyra or Denderah, in Egypt. These are the Anaktes, taking their name, with many designations of Spartan monarchs and others, from the Anakim of Palestine. In the war of Theseus with the Dioscuri, Aidoneus is allied with the latter, he being Achuzam, who is also Aegeus, an ancient hero, the ancestor of the Spartan Aegidae. In the Phix form of his name he is also Phegeus, the father of Sparton. But he is likewise, with the prefix of the Arabic article Lacedaemon, the son of Jupiter and Taygete, the latter word coming from Tekoa. His son Jehaleleel is the Spartan Lelex, whose daughter Therapne is the same as Theraphone, daughter of Dexamenus, or his father Achuzam. Therapne or Theraphone I believe to be daughter neither of Achuzam nor of Jehaleleel, but of Etam, and the wife of the eldest son of Naarah, her true name being Zeleponi. Perieres, the Lacedaemonian, who is made a son of Aeolus, is, I am persuaded, the same person, being the Aila or Paruravas of the Indian story. Hepher is represented by the god or hero Sebrus, honoured in Sparta, and may very probably be the same as Œbalus and Aphareus—the latter name, however, connecting perhaps with Ophrah, the son of Meonothai. Ketoessa, a term applied by Homer to Lacedaemon, shows the Hittite connection of its population. Amyclas and Amyclæ are famous Laconian names which exhibit the Amalekite relationship of the Lacedaemonians.

Messenia exhibits many points of connection with the family of Hepher.

Elis seems to be pre-eminently the land of Jehaleleel, who is Eleus, king of the Epei, Epeus himself being, I think, Jabez. Achuzam is, as we have seen, Augeas, son of Helios and Naupidame, a kind of Nephthys. His son Phyleus or Jehaleleel is represented as aiding Dexamenus against Hercules, Dexamenus being simply his own father Achuzam. Meges, called son of Phyleus, is Mesha, father of Ziph, whose name survives in the Typæus mountain. Achuzam's name also remained in the Caucones, Iasus, to whose share that part of Greece fell, and the city Cycesium. The Selleis and Enipeus respectively recall Jehaleleel and Anub, while Ephyra gives us a reminiscence of Hepher.

Arcadia takes its name from the family of Jerachmeel, but that of Ashchur occupies an important place in its history. Ashchur him-

self is the hero from whom the neighbouring Laconian district of Sciritis took its name, as well as the Sciria, or feast of Bacchus, at Alea. His town, Tekoa, survived in Tegea, and he himself is Tegeates, called a son of Lycaon, and the husband of Maera, daughter of Nereus, who is Naarah. Nonacris, the wife of Lycaon, and the name of a city of Arcadia, represents the same consort of the father of Tekoa. The Phulakeis of Tegea recall Pollux, Pilku and many connected names. The gigantic skeleton of Orestes, said to have been found in the same city, bears witness to the Herculean stature of the Ashchurites. Lycaon, whose name appears in many parts of the primitive history of the Arcadians, although properly the Lakhm or Lechem after whom Bethlehem or Beth Lechem was called, stands sometimes in the place of Ashchur, because, as I have already stated, Helah, the wife of the latter, belonged to the family of Salma. Among the sons of Lycaon, Achuzam is represented by Acacus, founder of Acacesium, and by Aegæon, who is the same person as the so-called Uranid, one of the Hekatoncheires, also termed Briareus, the latter being really his son Perieres or Paruravas, Jehalelecl. Aegæus, as a name of Neptune, helps likewise to confirm the connection of Poseidon and Achuzam. Another son of Lycaon, more famous than either of these, is Nyctimus, a form of Ctimenus, with which we have found the word Achuzam to agree. His daughter Callisto, who is also made daughter of Lycaon or of Ceteus, the Hittite, is Virgo Nonacrina, thus recalling the name of his mother Naarah, or Naaran. With Achuzam, in the Buddha form of his name, we must connect Phthius, son of Lycaon, and Aphidas, father of Aleus, the latter being Jehalelecl. Still another name for him is, as we have already seen, Phegeus, king of Psophis or Ziph. Yet Phegeus, as father of Axion and Temenus, sometimes represents Ashchur, the beech replacing the ash. The annals of Argos, however, will show the identity of the Phikean name Phegeus with Achuzam. Aleus is made son of Neara instead of grandson, and is appropriately the head of the Tegean line. His son Cepheus is Ziph, and Aeropus—made son of Cepheus and also of Phegeus—represents Arba; while Ancaeus, another grandson of Aleus, is Anak. It can hardly be that Arba was a son of Ziph, yet he must connect in some way with his family. The not very common name Amphidamas has already appeared, denoting a son of Busiris or Ashchur, and it now reappears as that of a brother of Cepheus. Caphyæ and Sepia are

geographical memorials of the same Cepheus or Ziph. Minerva Alea and Skiras unite the memory of Jehaleleel and Ashchur with the rites of the goddess, whose Latin name may be a form of Naarah.^{24*} Phigalia and Bucolion, both of which are Arcadian, may, as Hitzig has suggested, preserve the fame of Phichol, the chief captain of the army of Abimelech or Jehaleleel. Hopher may, with the prefix of the Arabic article, be Alipherus son of Lycaon, whose name is identical with the Chaldean Alapar and the Italian Liparus, son of Anson. We have already found Temeni in Temenus, called the son of Phegeus. The history of Achashtari evidently does not belong to Arcadia. Yet the Arcadian Styx, who married Pallas or Piras, may furnish a missing link in the connections of the Ashchurite family, giving to Jehaleleel a daughter of Achashtari or Sydyk as his wife. Zereth survives in an Arcadian Zerethra, reproducing the region of that name in Egypt and the coast of the Cherethites. He is also Corethon, son of Lycaon, and Corythus of Tegea, who is said to have come of Jason and Ceres. Still another name for him is Gortys, son of Tegeates. The Typhonian character of Arcadia's population is too well known to require comment.

Argos presents many points of agreement in its early history with that of Arcadia. Achuzam is the Argive Phegeus, who is also Azeus, Iasus, Acasus, Acassus or Ecbasus.²⁵ In Iasus Mr. Gladstone has found a name Phœnician, Egyptian and Pelasgian.²⁶ Inachus, his father, is the head of the Anakim, and Melia, his mother, but translates the *Ash*, which comes out fully in the Scandinavian *Askr*. The Achæan Argos is Argos Iasum; and rightly so, for Iasus and Achæus both designate Achuzam. Achæus and Plithius appear appropriately in the Argive family with Temenus, Asterius, Acropus and Europus, Haemon and Ammon, Aegialeus and Pirus, Messon and Mycene, Apis and Epaphus, Asopus and Psophis, Tiryns, Hermion, Sthenelas, Agenor, Echephron and a host of other Ashchurite names, denoting Achuzam, Temeni, Achashtari, Arba, Ammon, Jehaleleel, Meslia, Jabez, Ziph, Tiria, Harum, Othniel, Kenaz and Ephron. Phoroneus, as the inventor of letters, may perhaps be Hopher; but I incline to the belief that, as the con-

^{24*} With this Skiria the use of the umbrella in the ritual of Buddhism is connected.

²⁵ Schubart, *Questiones Genealogicæ Historicæ in Antiquitatibus Heroicam Græcam*. Marburg, 1832. Fascic. Prim. Argolica, p. 39, &c.

²⁶ *Juventus Mundi*, 55.

temporary of Aegialeus or Jehaleleel, and as connected with the Europa or Arba family, he is Ephron, the son of Zohar, who ruled in Kirjath Arba, which was known as Hebron. With his family, in some way, the mother of Jabez, Apis or Epaphus is connected. The greatest confusion appears in the Argive genealogies, yet, from the fulness with which they are given, they may prove useful in the work of recovering the lost history of the Ashchurites, when from generalities we are able to come to particulars. The temple of Minerva Saitidos, seen by Pausanius in Argolis, was a monument of old Egyptian supremacy. The Satyrs and Curetes, who came of Hecataeus and the daughter of Phoroneus, represent the sons of Achashtari and Zereth, Hecataeus being their elder brother Achuzam. It is worthy of note that the deluge of Ogyges, which happened in the time of Phoroneus, who so far seems rather to be Hephher than Ephron, has been attributed to Egypt.²⁷ Many Argive names, both of persons and places, with that of Argos itself, connect with the family of Jerachmeel, with which that of Ashchur was originally related.

Achaia, Sicyon, Corinth and Megara.—Achaia presents us with a form of Aches or Hyksos or Achuzam. The same name survives in those of Tisamenus and Ogyges, as well as in that of Dexamenus, king of Olenus, whose father Oecias is but a repetition of himself. Deianira and Theraphone were the daughters of Dexamenus, and these are the same as Deianira, daughter of Bacchus, and Therapne of Lelex. Helice and Aegialea represent Jehaleleel, the Philisth or Pelasgian. Helice recalls Helix, son of Lycion, and connects with Helicias, forked lightning, the Assyrian Khalkhalla and Latin Elicius. Anax Andron, as a title of Achaean sovereignty, recalls the Anakim.

Sicyon is, I think, another form of Achuzam's name; and Oicles, the son of the monarch so called, is Jehaleleel. They named the Hys and Hyllean tribes respectively, while the Dymanes came of Temeni. Pittheus is a Sicyonian Ptah or Phthius or Buddha. Aegialeus, the founder of Sicyonian monarchy, is, as we have already seen, Jehaleleel; Europa is some Arba or Hareph; Apis, and perhaps Epopeus, Jabez; Aegyus and Echyreus, an Egyptian Cheres; Messapus is probably Ziph; and Marathus or Marasus Mareshab,

²⁷ See many authorities in Banier's *Mythology and Fables Explained by History*. London, 1740. Vol. iii. p. 368, &c.

the father of Hebron. Apollo Carneus, worshipped at Sicyon, is Achashtari as Karnaim.

Corinth connects with Achuzam in Ixion, whose son Agelaus is Jehaleleel. In its ancient name of Ephyre we find Hepher, Cenchraea being a reminiscence of his son Kenaz or Acencheres. Tenea is shown by Strabo to connect with Tenedos, and thus with Othniel. Arion of Corinth and Jonah have been often compared. It is worthy of note that Jonah was of Gath Hepher, which lay to the south of the Achæan region of Palestine, containing Accho, Achzib, Achshaph, &c.

The traditions of Megaris connect with those of Laconia. Megarus or Car is, I think, Ashchur himself, Lelex his son, who came from Egypt, being, as already stated, Jehaleleel. Cleson and Pylas are but repetitions of the latter monarch's name. Sciron of Megara is another memorial of Ashchur.

Attica.—The Aegicores, one of the Attic tribes, are doubtless the Ashchurites proper. The name of the father of Tekoa survives, however, in a better form as Scirios, the father of Aegeus, or Achuzam. He is also the Salaminian seer Scirus, who built the temple to Athene Sciras and founded the Scirophoria. His wife Naarah gave their title to the Naucraries. Tekoa survives in Attica, Tettix, Autochthon and in Tychon, an Athenian god. Aegeus has been already connected with Achuzam, who, as Thoth, may also be Theseus. The term Thesmos with the Thesmophories recall the Arabic Tasm, which designates the same person. The Oschophories, connected with these, may commemorate him or his father. He is also Academus, an ancient hero related to the Tyndaridæ, in whom we find at once Agathodaemon and Lacedaemon. The Eleusinian mysteries derive their name from the Palestinian Elusa or Khulasa, the Indian Kailasa and the Egyptian Ahalu; Eleusis and Celeus, who came of Boeotus, being equally Jehaleleel. Metanira, wife of Celeus, is the same person as Deianira, daughter of Dexamenus. Many things in the Eleusinian mysteries are capable of explanation when the Egyptian funereal ritual and the history of Achuzam's line are compared with them. The mysterious expressions "*Huie Tokuie*" and "*Kogx om paz*" are formed from Tekoa and Achuzam respectively. The Choes are the priests of Achuzam. Pallas Achaca is a union of the names of Jehaleleel and his father. Psaphis and Cephissus alike commemorate Ziph. That the Athenians were a

colony of Egyptian Saites is attested by many credible authors, and modern researches have plainly shown a connection of rites tending to establish the legend. Athens was originally called Asty, and this name, derived by Diodorus from Egypt, is, as I have elsewhere stated, identical with the Philistine Ashdod and the Egyptian Fostat. The Pischdadian line of Persia is the same Saitic family, Fostat and Pischdad giving a form of Poseidon, already united with the Ashchurites. Sheth must lie at the foundation of these words. That Ashdod and ancient Athens are one appears from the identity of the story related by the Scholiast on Aristophanes and that in 1 Sam. v. 6, with which the statement of Herodotus (I. 105) concerning the Scythians at Ascalon may be compared. The name Athens may come through Tanis or Athenes, from Ethnan, the youngest son of Helah. Erechtheus is Jerachmeel, and Cecrops the Egyptian Ekerophes, who do not belong to the family of Ashchur.

Boeotia.—The geographical names of Egypt and Palestine, using the latter word as including everything between Egypt and Syria, are reproduced with great faithfulness in Boeotia. Most of them are Ashchurite, although the Orchomenian region belongs to the line of Jerachmeel, to which I have already more than once alluded. Ascræ is a memorial of Ashchur himself; Isos, Phocæe, and perhaps Onchestus, recall Achuzam; Jehaleleel appears in Helicon (a Bible Halak), Alalcomenæ and Aulis, opposite Chalcis of Eubœa, which has the same origin; Siphæe, Copæe and Lake Copais, the Cephissus, the Asopus, Thisbe and Thespiæe represent Ziph. The name Boeotia is a form of Achuzam with the Coptic article, Boeotus being the Egyptian Thoth or Boethos and the Indian Buddha, already identified with the eldest son of Naarah, Aeolus, connected with him, being his son Jehaleleel. He is also Ogyges, an Achæan name approaching to the form Agag, given at a later period than that of Achuzam to the kings of the Amalekites, whom we have found to represent some of his descendants. Ogyges was king of the Ectenes, who present us with another form of his own name, and the father of Eleusis and Aeolus or Jehaleleel. As connected with Thebes, he exhibits a confounding of Achuzam with Coz, the grandfather of Jabez. Cadmus, although at times representing Etam or Getam, is generally a truncated form of Academus, Lacedæmon and Agathodaemon, exhibiting traditions of Achuzam. As such he is father of Polydorus, a Balder or Polydenkes, who is Jehaleleel, and in whom we find a synonym

for Cilix, wrongly designated a brother of Cadmus. The Cadmus who sowed the dragon's teeth, however, is Etam, the father of Jezreel, or the sown of God; and Echion, one of the Spartoi, is his son-in-law Achuzam, whose name also survived in Echidna, Aegida, Sphinx, and similar Ophite names. Cadmus and Cadmillus have been frequently compared and identified. The same confusion as we find in the traditions of the Greek Cadmus are manifest in those of the Indian Gautama, who also, at times, represents Etam, and at others Achuzan. Thasus, called a companion of Cadmus, is Thoth or Achuzam. Hyes, a name of Bacchus or Boeotus, the Bo-lus or Boethos of Manetho's second dynasty, at once recalls the Babylonian Hea, whom we have identified with Ashchur's first-born. Glaucus with his train of Cetea or Hittites, a son of Poseidon, is Jehaleleel. He is improperly called son of Copeus, who is really his own son Ziph. The Aeolian line exhibits manifest Ashchurite relationships. Aeolus himself, with Eleus and Perieres, denote Jehaleleel; Cretheus is Zereth; Macednus, Achuzam; Ormenus, Harum; Pierus, Beor; Phocus, Coz; and Epeus, Jabez. The union of Pegasus and Illicion simply arises from the fact that the latter denotes the son of the Ashchurite designated by the former name. Hyperenor, the brother or companion of Echion, is Hopher or Hyperion. Corythus, called the father of Harmonia, is Zereth. Zereth, who is the Phœnician Melcartus, is also the sea-deity Melicerta, his mother Ino Leucothœ, who is the same as Halia, sister of the Telchins and lover of Poseidon, being Helah the wife of Ashchur, and, as I have already hinted, a daughter of Salma, the father of Bethlehem, the Bethlehemitic being the Ptelchins. The Itonian Minerva may be a memorial of Ethnan, his younger brother. Nysa, so famous in early Grecian history in connection with the story of Bacchus and Ceres, has been referred to Palestine by many writers. Thus Diodorus places it in Arabia, between the Nile and Phœnicia (Jenysus), and Pliny in Palestine, on the frontiers of Arabia; Stephanus of Byzantium identifies it with Scythopolis, which Josephus makes the same as Beth-Shan; and Philonides, in Athenæus, brings Bacchus and the vine from the Red Sea. The Bacchus of the mysteries, or Jacchus, is Achuzam; but the Bacchus of the vine is Coz, the father of Anub, or Enopion. As such he is properly the son of Ammon. He connects with the line of Achuzan by marriage with Ziphah, the daughter of Jehaleleel. Transfer the Eleusinian and Bacchic mysteries to the

region of Gerar, and all geographical absurdities are at once removed. The poets tell a true story, which all the national vanity of the Greeks and their popular forgetfulness of their derivation have not been able to rob of all traces of an Oriental and Palestinian original.

Phocis.—The history of this state repeats in part that of Boeotia. Phocus himself, with his father Acacus, denotes Achuzam, his son Peleus being Jehaleleel, who is also Elicus, called son of Cephissus, and the eponym of Lilaea and Alalia. Hylae of Boeotia is the same word without the reduplicated *l*. The Hosioi of Delphi, who alone had the right to celebrate the mysteries of Zagreus, are of Achuzam and the later representatives of the Egyptian priests of Aches or Thoth. Tereus of Phocis may be Tiria, the son of Jehaleleel. The Leleges of Jehaleleel early possessed Phocis, and the presence of Delphi in that country answers to the connection of Lelex and Teleboas. The latter is, I believe, the Edomite Eliphaz, whose Hittite mother belonged to the family of Ashchur, and is also the same as the Mysian Telephus, son of a daughter of Aleus, who is Jehaleleel. It is possible, although hardly probable, that Adah the mother of Eliphaz was of Jehaleleel's family.

Locris.—The Leleges of Jehaleleel are said to have possessed this country in early days, and Locrus, its eponym, is made a son of Phacax or Achuzam. Many places in its three divisions retained Ashchurite names. The initial *l*, I think, must be the remnant of the Arabic article, which is present in full form in Alcinous, the name of the brother of Locrus. It is worthy of note that the Loegrian tribes of British story connect with Hu or Achuzam and Ceridwen, or Ceres his wife, taking their name from Locrin, who is made a brother of Kamber or Zimran.

Actolia has Jerahmeelite connections in the line of Jediael and Gilead. Chalcis and Œchalia equally preserve the memory of Jehaleleel. Taphiassus may have derived its name from Ziph, or from Tappuah the son of Hebron. Dexamenus of Olenus is Achuzam, and he may also be Ochesias, father of Periphias. This Periphias or Phorbas is, I believe, Hareph the father of Beth-Gader, rather than Arba, and the same as the Egyptian Cerpheres or Chareph-ra, whom we have found related to the family of Ashchur in the history of Corcyra or Corfu. His connection with Achuzam appears from the relations of the following pairs of names: Jasion and Corybas, Accessamenus and Periboea, Echidna and Cerberus, Phegeus

and Aeropus, Mygdon and Coroebus, perhaps Dexamenus and Therapone. Europs, Phorbis and Triopas, of the Argive line, may be the same Hareph. Penuel and Jered, each of whom is called the father of Gedor, must, I think, connect with the Centaur (*Gendor*) line, of which he is the head as Pirithous, who, true to the relationship, is the son of Ixion or Achuzam. The Indian Maruts and Rudras, who are horsemen, favour this connection.

Acarmania.—The rivers Achelous and Inachus set forth Jehaleleel and the Anakim. The Echinades or Oxiae are the islands of Achuzam, and the Taphians near at hand are the maritime Ziphites. The Curetes and Leleges, fabled once to have inhabited this region, are the descendants of Zereth and Jehaleleel. Locris and Acarnania have connections perhaps with the Karnaim of Ashteroth or Achash-tari, whose name may survive in Astacus of the latter, or with Eker the son of Ram and the eponym of Ekron, who is also, I think, the Cecrops of Attica.

Epirus contains a large number of Ashchurite names. Aidoneus, the king of the Molossi, is Achuzam, who has been identified with Hades and similar words, and who is also the father of the Egyptian Philitis or Balot, who is Pluto. Cassope of the Molossi may be a reminiscence of the Palestinian Ziph and Malatha. The Aous or Aeos retains the memory of Achuzam. Epirus itself derived its name from Hopher, Dodona being perhaps a form of Othniel.

Thessaly.—It would be vain to attempt an enumeration of localities bearing Ashchurite names in this country. Let a few of them suffice. Acuris and Sycurium represent Ashchur; Ossa, Aesone, Oxynia, Echinus and Ctimene, Achuzam; Pherae and Cyphara, Hopher; Hestiacotis and Asterium, Achash-tari; Gyrtion and Itonus, Zereth and Ethnan. Iolcos, Sepias, Orminium, Enipeus, Phthiotis, Thebes, Boebeis, Othrys, Eurotas and Scotussa represent respectively Jehaleleel, Ziph, Harum, Anub, Jabez, Zobebeh, Jether, Jered and the Sucathites of Heber. Pagasae, Æchalia and Cyphus are other memorials of Achuzam, his son and grandson. Jupiter Actaeus, worshipped at Iolcos, may be Achuzam. Aeolis was an old name of Thessaly, which itself may be derived from Jehaleleel. The Aleuadae, at any rate, among whom the name Scopas appears, and who were the Tagoi of Thessaly, belonged to the family of Jehaleleel in the line of Ziph, their title being a reminiscence of Tekoa. Cretheus of Iolcos is of course Zereth.

In the above connections the merest outline is necessarily given of the historic and geographical traces of the Ashchurites in Greece. A respectable volume might easily be written on the connections of a single state or tribe with that ancient family. All that I have endeavoured at present to do is to show that the larger part of the population of Hellas is derivable from the Hyksos of Egypt and the Philistines of Palestine. This being conceded, the early legends of Greece must be at once transferred to the regions inhabited by the ancestors of those from whom we have received them, and primitive universal history by their means be restored. Few readers would have patience to follow me, did time and space permit, in exhibiting the argument for each individual connection made. I am convinced, however, that the great majority of them will be found to bear the closest inspection, and not by one but by many links to bind the individual Greek peoples and the Ashchurites in unity.

Macedonia and Thrace.—Macedonia, the land of Chittim, derives its name from Achuzam, the great Hittite. Macedo, whom Diodorus connects with Osiris, and other writers with Æolus and Lycaon, is this son of Ashchur. The Indian Magadha and the Palestinian Megiddo must, I think, exhibit a similar corruption of the original word to that which appears in Macedon. The Axius river recalls the Syrian Axius or Typhon, and the Astræus or Aestracus, like the Cayster, commemorates Achashtari. Chalcidice is a memorial of Jehaleleel, although Sithonia, in all probability, like the district of Aestrea, preserves the name of Sheth or Achashtari also. Assurus, Ossa, Idomene and Cophus set forth Ashchur, Achuzam, Temeni and Ziph. Æmathia is a transplanted Hamath. The Syrian city was situated upon the Axius, and all its surroundings exhibit a wonderful agreement with Æmathia and adjacent parts of Macedonia. Pieria, Chalcidice, Cyrrhus, Edessa, Beroea, Arethusa and a large number of other places, prove that the Macedonians once dwelt in northern Syria. The god of the Hamathites, called Ashima, was in all probability Achuzam or Macedo. This Ashima seems to have been the same as Asmodeus, who is proved to be Achuzam by his name Sachr, in which we find Ashchur, the name of his father. It is hard to say what the connections of Hemath, the father of the house of Rechab, are, or how he who gave its name to Hamath or Æmathia relates to the eldest son of Naarah. The Temenidae who ruled in Macedonia were of the family of Temeni, the brother of Achuzam, and their

record may enable us to discover the genealogies of his at present unknown line.

Thrace had an ancient king, Eusorus, who is Ashchur. Neaera, wife of Strymon, who is father of Astraeus, is Naarah, mother of Achashtari, Strymon itself being derived from the latter rather than from any name of his father. Accessamenus, in whose family appear Periboea, Axion and Asteropaeus, is Achuzam. He is also the Agassamenus of Diodorus, who succeeded Butes upon the throne of the Thracians, and who married Pancratis, daughter of Aloeus. Strabo has well set forth the geographical connections of Thrace and the Troade, a region the names of which have been already thoroughly identified with those of the Ashchurites.²⁸ The Satrae, Odomanti, Moesi and Sapaeci represent the descendants of Achashtari, Temeni, Meshu and Ziph. The Hebrus may commemorate Hephher, and the range of Haemus, Ammon, while Zerynthus recalls Zereth. All the names of the family of Tekoa may be found in this remarkable but comparatively unhistorical region. Scythia, the land of the Sucathites, presents many interesting connections with Thrace in its geographical and, where these survive, historical names. These are links to bind Celtic and Greek traditions together to the common Ashchurite foundation.

ITALY.—Æsar, the Etruscan divinity, the Ausar of Etruria, the Isar in Northern Italy, and the Oscan people, are derived from the name of the father of Tekoa. Ischia, one of the Pithecussae in which part of the fable of Typhon is laid, presents Ashchur and Abi Tekoa in relation to Ziph. Tages, who has been identified or at least united with Thoth, Sydyk, Teutates and Casmillus, and the ass's head of whose worship denotes the ass of Sheth, is a form of Tekoa or Tegeates. Neriene, whose trumpet feast is that of Athene Salpinx, is Naarah, whose husband's city, Tekoa, designates a trumpet blast. The two words Socrus and Nurus originated with Ashchur and his wife. Picus, the son of Saturn, who left Hermes as his successor, although, as the woodpecker, he is represented by Cos or Chons in the Egyptian Pantheon, at times designates Achuzam, whom we have found to be represented by Bochus and Bacchus. Pecus is a name of Thoth. He is also Jupiter Pixius, who is the same as Semo Sancus, the Egyptian Sem. Cacus and Acestes of Segesta are other names

²⁸ Strabon. Geog. xiii. 1, 21.

for Achuzam. The Aegestani of Sicily rightly connect with the mart Tyndaris. Casmenae of Sicily and Casinum of Latium are memorials of the first-born of Ashchur, together with Auxinum of Picenum, and probably Picenum itself. Jehaleleel appears in Iolaus of Sardinia, Iulus, Tullus Hostilius and Jupiter Elicius; and his memory was preserved in the gens Lollia, Alalia or Alesia of Corsica and Halesia of Sicily. He is also Paltuce, the Etruscan Pollux. Guignaut identifies Ceceus and Picus, who are really father and son. Ziph survives in Capys, whose son Anchises is Anak. Capua and Sipous are also memorials of Ziph, while Copiae or Thurii unites his name with that of his brother Tiria. Servilius Ahala was the namesake of Asareel, the son of Jehaleleel. Arpi of Apulia may be a reminiscence of Arba. Hepher is Liparus, the son of Auson, with the prefix of the Arabic article. He is also Tiberinus, and the eponym of the Tiber, a western Hebrus, preserving something like the true form in its nymph Hybris. Februus and the Lupercalia with which he connects are forms answering to Tiber and Liparus, denoting the same son of Ashchur. Ocnus and Mantua, united with the story of Tiberinus, give Kenaz and Meonothai. The name of Hepher as Sephres, likewise survives in Sybaris of Lucania, situated between the rivers Sybaris (now Cochile, *i.e.* Jehaleleel) and Crathis (Zereth). It is recorded to have been founded by Achaeans under Iseliceus, who is no doubt Jehaleleel, a connection with which the reading in Strabo, Eliceus, does not interfere. Lucania overflows with Ashchurite names. Saturn is Achashtari, the eponym of Sethrum. Philyra, his wife, answers to Hilaira, wife of Castor, who is the Etruscan Kasutru. Taras, the founder of Tarentum, son of Poseidon and Sauria, is Zereth. He is also Corythus, who founded Cortona in Etruria, and Sardus, who, with Iolaus, his nephew Jehaleleel, colonized and named Sardinia, where Nora commemorates Naarah his step-mother, the Etruscan Nortia. Cures of the Sabines; the Curiatii; Mettus Curtius, who leaped into the chasm like Melicerta; Tarrutius, who married Acca Larentia; and the Quirites, will all be found to relate to the ancestor of the Cherethites and Carthaginians.

Romulus is Jerahmeel, and Remus Ram his son, Italus being Jediael the grandson of the latter, a Daedalus, the great-grandson of Enechtheus, as Jediael is of Jerahmeel. The Sabellian family, as I have already shown, is Shobalian or Horite. Thus three of the great

families of antiquity unite in the history of Italy, as they do in that of most historical peoples.

SPAIN.—Busiris is called king of Spain. I believe that the name Hispania, like Ispahan, comes from Heshbon of Moab, and that from Eshban, the Horite son of Dishon, who, as the brother of the wife of Esau, appears late in history. The name *Spanius* occurs in a list of Egyptian Pharaohs, next to *Curudes* or *Zereth*. The Vascones, Basques or Euskara are the descendants of Ashchur; the Tagus, Ategua, Itucci, Tukki, and many similar geographical terms preserve the memory of Tekoa. The Iberus and Navarre may have taken their ancient and modern names from Hopher. Ahashtari named the Astures of Biscay, and is Haitor, the god of the Basques; Carteia, Tartessus and the Turdetani represent Zereth.

CELTS OF GAUL, BRITAIN, &c.²⁹—Ashchur is Esus, the divinity who answers to the Etruscan *Æsar*. In the British legends, Tegid, the man of the sea, is the Greek *Tegeates* and the Bible *Abi Tekoa*. Achuzam is the British *Hu* or *Aeddon*, who dwells at *Seon*, is called *Buddwas*, is a dragon and *Typhon*, famous like the Assyrian *Hea* for drainage, and the husband of *Ked*, who is also *Ceridwen*, *Ogyrvon*, *Eseye*, a mare, and *Ceres*. He has been identified with *Thoth* or *Teutates*, who is *Hesus* and *Buddha*. As *Hercules* he is called *Maguzan*. The *Osismii* and many other tribes took their names from him. He led the *Loegrian* tribes, recalling *Locrus* of *Phaeax*, from *Gafis* in the east, which is *Ziph*. It is needless to say that the rites of *Ceres* and *Bacchus*, celebrated in *Samothrace* and parts of *Greece*, find exact counterparts in *Britain*. The *Gallic Alesia*, like that of *Corsica*, commemorates *Jehaleleel*, whose name remained in the *British annals* as *Sisilius*, the *Kimarus* or *Kinmarcus* who follows him being *Zimran*. He also named *Avilion*, the *Elysium* of the *British Celts*. *Huail* and many other mythic names denote the same person. *Aganippus*, whose name occurs with those of many *Ashchurites* in the *chronicles of Geoffrey* and others in the greatest confusion, is *Anub*. *Hopher* is *Affaraon*, a name of the high powers or *Cabiri*. The *British Cunedagius* and *Dunwallo*, with *Scottish Kenneths* and *Donalds*, and the *Irish Conn*, *Connor*, *Cithneal* and

²⁹ For the Celtic traditions I refer the reader to *Davies' Celtic Researches* and *British Druids*, the *Chronicles of Geoffrey of Monmouth*, *Neenius*, &c., *Keating's Ancient History of Ireland*, the writings of *General Vallancey*, the *Black Book of Paisley*, *Buchanan's History of Scotland*, and similar works.

Daniel, are Celtic forms of Kenaz and Othniel. The Irish Olioll is Jehaleleel, and Niull, Easru, Heber Scot and Gadelas, of the same history, are Penuel the father of Gedor, Ezra, Heber the father of Socho or the Sucathites, who are the Scyths and Scots, and Jekuthiel the father of Zanoah. A little labour spent upon the ancient annals of Ireland would furnish one of the most important contributions to the early history of the world. Uthyr Pendragon, the father of Arthur in the British traditions, is Jether, the son of Ezra, Arthur himself being Erythrus, Orthros, Rathures, Jordanus, perhaps Feridun and Pirithous—certainly Jered the father of Gedor. The Dumnonii may have taken their name from Temeni. Achashtari is the British Yssadawr, improperly made a name of Hu. He is also Sadurn, the man of the vessel, and Seithwedd Saïdi of the flood at Savadan, which may be Sodom. Seithenin, the drunkard who let in the sea, recalls the story of Sesostris, to which allusion has already been made. Castor was long a recognized Gallic deity. The name Curaidh, or warrior, comes from Zereth, who is also the British Cadrath. The Tigurini were doubtless a branch of the Tocchari of Zochar. The Welsh, Irish and Scottish annals, the legends of the Round Table and the Paladins, together with the many unconnected tales of the ancient Celtic peoples of the three kingdoms, are neither works of imagination nor distortions of comparatively late historical events, but records, more or less corrupt, of the ancient period when the Ashchurites, afterwards dispersed over all the civilized world, began one of the most important parts of that world's history in Egypt and Palestine.

*Germanic Peoples.*³⁰—The Ashchurites are the Æsir of the Scandinavians and Germans who came under Odin from Asgard. Their hero is Askr, or the ash, and he is also Tuisco, whose wife Nertha is Naarah. Irmin and Hermoder, connecting with him, must give us Harum, who, as Naram Sin, is made a son of the Assyrian Shagaraktiyach. Oscar, a well-known Teutonic name, is Usecheres or Ashchur preserved in its complete and original form. The Eddaic Hela may be the second wife of the father of Tekoa. Donar and the Tyndaridæ connect. Tuisto, who is Pluto, and the same as the Gallic Teutates and the Egyptian Thoth, is Achuzam. He is also called Sigy, but Odin is his most famous appellation. As Sigy or Sigge he is the

³⁰ For the German and Scandinavian Mythology and Antiquities, see Grimm's *Deutsche Mythologie*, Mallet's *Northern Antiquities*, &c.

father of Rerir or Scild, who has been connected with the Phaeacians, and whose son Scaef is Ziph. As Odin, his son is Baldur, who, like Scild or Rerir, Ingialld the Ynglingia: or Angle (like Anchiale from Nechaliel), Wala son of Bedwig, Ali or Wali, also son of Odin, Tell, Egill, the Helgis, and many other mythical characters, represents Jehaleleel, Salatis, Balot, Aroeris, Polydeukes, &c. Sigtuna, founded by Odin, bears a better form of his own name. Either he or his relative Jokshan named the Saxons. Valhalla, like Ahalu, Elysium, &c., is the land of Jehaleleel. Swava united with the Helgis is a form of Ziph or Scaef. Of Hephher came the Kobolds. The Austrasian families, including Siegbert, belong to the family of Achashtari, who is Asa Thor, Saetere, Sitivrat, the husband of Ostara, and the eponym of the Ister, his mother being commemorated in the Noarus. The Goths are Shethites, Hittites or Cheta, men of Gath. Chrodo and Dagr may represent Zereth and Zochar. The goddess Ondurdis recalls the Indian Onderah and the Egyptian Denderah or Tentyra of the Tyndaridæ. Nanna, called the wife of Baldur, is Nana of Sangarius, Nanaia of Ormuzd and the Babylonian Ishtar. We have already found it probable that Jehaleleel married a daughter of Achashtari. Bragi, the god of learning and song, is, I think, Hephher. Ida, the plain on which Asgard stood, refers to the Idumæan region, near which the early Shethites dwelt. I cannot doubt that the Niflungs of the Niebelungen Lied are the posterity of Hephher, Gunther or Gunnar being Kenaz, Chandra, or Cheneres; and Otnit, related to the story, Othniel; while Atli or Etzel is the Egyptian Tlas, the Greek Daedalus, Tantalus and Atlas, the Roman Italus and the Jerahmeelite Jediael, whom I shall show in the history of that line to have played a very important part in the early annals of Egypt. From this same Jediael came the Vandals. The Germanic tribes, however, belong chiefly to the Ashchurite and related Midianite families.

VI.—TRACES OF THE ASHCHURITES AMONG SOME SO-CALLED TURANIAN PEOPLES.

CHINA.—The name of the father of Tekoa survives in the Chinese annals as Te-kuh, whose sons were Te-che, a repetition of his own name, and Yaou.³¹ Yaou is plainly Achuzam, and the Aou or Hea of Babylonia, the British Hu. He was a sage; the vision of a red dragon preceded his birth; and in his reign the great deluge took place. Yu, a

³¹ Gutzlaff's Sketch of Chinese History, Ancient and Modern. London, 1834; vol. ii. 119 seq.

successor, according to the Chinese historians, but who really is the same person, connects with Hea and Hu as the patron of drainage. Temang may be a reminiscence of Temeni. Shun, who succeeded Yaou. may be Achashtari. Lu was a great lawgiver, like Sesostris; and the attempts of his father and brother, whom he freely forgave, to destroy him by fire, find their counterpart in the history of the Egyptian monarch. Ming-teou, where he died, is a reminiscence of Mendes, Ming-ti, the monarch after whom it was named, being Manahath. Fohi, the Chinese Buddha, is the same as Yaou, the head of the Hea dynasty; and Kolakealo his son is Jahaleleel.³¹ Sir William Jones identified the Chinese with the Kshetriyas of India; and the statement of Sadik Isfahani, that Chin and Khita are one and the same, agrees with this, the Khita being the Hittites or Shethites of Achashtari.³² In the Chin we may find the Kenites that came of Henuath.

AMERICA.³⁴—The Chinese Ming-ti is reproduced in the Algonquin Manitou and in the Peruvian Manco, as I have elsewhere stated. Shobal, the father of Manco or Manahath, is the Peruvian Supay, answering to the Egyptian Seb or Sebek. As in the Arabian and connected mythologies, he is the chief of the evil spirits, so that the Horite line must have been inimical to that to which the ancient population of Peru belonged. Accordingly we find the monarchs of that country denominated Incas, a term which has been frequently connected with the Palestinian Anakim and the Greek Anactes. Among the Incas, as given by Montesinos, many Ashchurite names appear, such as Huascar, Huacos, Huillaco, Topa, Huacapar. Ayatarco and Marasco; denoting Ashchur, Achuzam, Jehaleleel. Ziph, Hopher, Achashtari and Mareshah. Among geographical names, Cuzco, the chief region in the Peruvian annals, with Scyris or Quito, commemorate Ashchur; Titicaca and Totacacha, Tekoa; Pachacamac, a kind of Phacussa, Achuzam; Huahualla, Jehaleleel; &c. The name Peru, originally designating a river, may not improbably have come from him who was the eponym of the Hebrus, Tiber, and many other streams. The great deity Pachacamac, or Con, opposed to Supay, is Achuzam; and, under the form Huaca, his name became a synonym for divinity. It is also worthy of note that

³¹ Max Muller Chips. 1st Series; Essay X.

³² Sadik Isfahani, *Orient. Trans. Fund.* London, 1832; p. 46.

³⁴ See the *Peruvian Antiquities of Rivero and Tschudi*, translated by Dr. Hawks, New York 1833; Humboldt's *Monumens de l'Amérique*; Prescott's *Mexico and Peru*; Baldwin's *Ancient America*, &c.

Huaca denotes, like Busiris and Sakkarah, a place of interment. The deluge happened in the time of Pachacamac. The Ayllos of Peruvian monarchy and the Conopas or minor deities take their names from Jehaleleel and Anub respectively. Lescarbot heard the Indians of South America sing "Alleluia," which was, no doubt, a transported Ailinus or Ya laylee. Mexico is the land of Anahuac, or the Anakim. Its divinity Ho, or Votan, is the Celtic Hu, or Aeddon, who is the German Odin, or Woden, as Humboldt has shown, and the Ashchurite Achuzam. Votan is connected with the story of a great deluge, like the Babylonian Aos, the Persian Yessun, the Indian Vasu, the Greek Ogyges, the Celtic Hu or Aeddon, the Peruvian Pachacamac, and the Chinese Yaou. This is no mere verbal coincidence. Teotl, the great spirit, also called Tlaloc, and by whose name the Teocallis or Mexican temples were called, is Jehaleleel. There is a striking likeness between the latter and the pagodas of India. The pagodas took their name from the prefix of the Coptic article or an abbreviated Beth (house) to the name of Gotama or Achuzam, the father of him whose fame survived in the Teocallis. The Peruvian Huillacs or priests by their name answer to the replacement of Buddha by his son, Ila or Kolokealo. Yucatan, which preserves a very complete form of Achuzam's name, also had its Teocallis. The American pyramids, the practice of mummification, with many other monuments and customs, serve to connect the ancient inhabitants of Central and South America with those who ruled as the Shepherd kings over Egypt. The Aztecs may preserve the name of Sydyk or Achashtari, the people of Guatemala that of Othniel, the Chiapas that of Jabez, and even the emigrating Tuscaroras, or white Indians, as they used to be called, that of Ashchur, the head of the Dioscuri. Before leaving the geography of America I must mention the Ucayali river of Peru as a cis-Atlantic Achelouis, or Khulil. The purity of the American traditions, even as compared with the Chinese, as far as the forms of names are concerned, leads me to deem it possible that the ancient ruling stock of Mexico, Peru, &c., may have entered these countries from the east, coming from the Basque, Euskara, or Ashchurite region of Spain.

VII.—THE ASHCHURITES IN PALESTINE.

As Ashchur is called the father of Tekoa, it is natural to suppose that he really dwelt in the region known afterwards as the desert of

Tekoa, to the west of the Dead Sea, and south of Bethlehem. Near it we find the land of Hopher, the wilderness of Ziph, Maarah, Hallul, Chezib, Kirjath Arba and other places, the names of which relate to the Ashchurite story.³⁵ Here he must have subdued the Hamitic Hittites, making them subjects, perhaps Helots, yet retaining their name, as the conquerors of many lands both in ancient and modern times have done. Ephron his grandson ruled the Hittites of Hebron in the days of Abraham, so that we must place Ashchur two generations earlier than the interview between the Hebrew patriarch and the son of Zohar. As the concurrent testimony of the Bible and profane records establishes the longevity of the men of that period, Ashchur may have flourished at the time of Abraham's birth, 137 years before. We may at least suppose him to have been the father of Tekoa a century before his grandson Ephron became prince of

³⁵ Dr. Hyde Clarke, in his valuable paper on the Relations of Canaanite Exploration to Pre-Historic Classic Archaeology, published with the October (1871) Statement of the Palestine Exploration Fund, identifies the following Ashchurite names of places with corresponding terms in the geography of Caucasia, Armenia, Asia Minor, the Greek Islands, Greece including Thrace and Macedonia, Italy and Spain. I mention a few only out of a very large number given by Dr. Clarke:

Ashchur as Sihor.—Sacora of Cappadocia; Sycyrium of Thessaly; Schera of Sicily; Dascyra of Armenia; Scyros; Sicaraca, Secerrae and Syeron of Spain.

Tekoa.—Dicaea of Thrace; Tegea of Arcadia; Attica; Othoca of Sardinia; Tucci, Tygia, Attacum and Attegius of Spain.

Naarath as Naarath, Nuaran.—Nora of Cappadocia; Nariandus of Caria; Narona of Illyria; Nora of Sardinia; Neretum of Apulia; Nardinium of Spain.

Achuzum as Shahazinah, Azem, &c.—Oesymo of Macedonia; Segisama of Spain; Assos of Mysia; Cissa of Pontus and Thrace; Casos; Hysiac of Argos; Agasus of Apulia; Casinum of Latium; Assissium of Umbria.

Hopher.—Cabcira of Pontus; Cibra of Pisidia and Cilicia; Euphaera of Thessaly; Cobrus of Thrace; Cyparissia of Arcadia; Capraea and Cupra of Italy; Capara of Spain.

Temani as Temani and Timnath.—Timena of Paphlagonia; Domana of Pontus; Tymnos of Caria; Tymna of Armenia; Temnos of Mysia; Thymnia of Caria; Tamiuae of Euboea; Idouene of Acarnania and Macedonia.

Achastari as Ashteroth.—Asdara of Cappadocia; Sataros of Lycia; Astyra and Setara of Mysia; Sotira of Pontus; Ostrus of Phrygia; Stiria of Attica; Saturnia of Etruria; Ostra of Umbria; Astura of Latium; Sutrrium and Pistoria of Etruria.

Zereth as Zaretaa, Zared, &c.—Sardis of Lydia; Sarata of Lycaonia; Sarta of Macedonia; Sardene of Caria; Sardeva of Armenia; Zortane of Thrace.

Jehalleel as Hallul, Nahaliel, Gilgal.—Halala of Cappadocia; Halias of Argos; Ellis; Elea of Lucania; Alia of Spain; Ali of Cilicia; Nacoleia of Phrygia; Anchiata of Thrace; Golgot of Cyprus; Aegila of Laconia; Chalia of Boeotia; Echalia of Thessaly and Actolia; Chalcis of Euboea, &c.; Halicyae of Sicily; Ocellis of Spain.

Ziph.—Siva of Cappadocia; Sabus of Armenia; Zoba of Pisidia; Siphon of Boeotia; Siphassum of Bruttium; Savia of Spain.

Anub as Anab, Nebo, &c.—Anave, Nepea and Anabon of Phrygia; Niobe (? Zobeab) of Lydia; Aenope of Laconia; Anaphe, Onoba and Anabis of Spain.

To the same paper I refer for identifications of Marcehah, Hamath, Bekem, Tappuah, Arba, Hebron, Jabes, Charashim, Ethnan, Sheina, Kenaz (Kenath) and other Ashchurite names.

Eebron or Kirjath Arba. Previous to his time, or coincident perhaps with the beginning of his Palestinian sovereignty, two migrations to Egypt had taken place. One of these was led by Shobal the Horite, from the mountainous district that lay between the Dead Sea and the Ælanitic Gulf, or, since Shobal is called the father of Kirjath Jearim, from the similarly hilly region in which a city of that name was afterwards found in the possession of a Gibeonite or Hivite family. It is hard to say which was the first settlement of the Horites. I think it probable, however, that as they came with the westward tide of emigration from the land of Shinar, they must have entered Palestine from the north, and thus have dwelt first in Kirjath Jearim, Mount Hor forming an intermediate stage on the way to Egypt. Manahath, the second son of Shobal, took possession of the Mendesian nome; his brother Onam, moving southward, founded On, or Heliopolis; and Jachath, the son of his elder brother Alvan or Reaiah, established a kingdom in the neighbourhood of Memphis, whence his son Achumai was driven to Chemmis, in the south. This was the Egyptian dynasty of the Auritæ. The second migration was that of the father of Etam, an "Etam of that ilk," who left a region situated probably not far from Bethlehem, and became the eponym of the wilderness on both sides of the Red Sea, opposite Heliopolis, in which the later city Pithom commemorated him. As Shobal, Reaiah and Manahath became the gods Seb, Ra and Month, so he was honoured with divinity as Athom or Atmoo. His eldest son Jezreel probably exercised sovereignty in the neighbourhood of Heliopolis or Memphis, and was known as Osiris. Then Ashchur, with his sons, entered the land of the Pharaohs. At first they contented themselves with the Sethroitic region to the east of Manahath's domain, keeping up communication with Palestine, in which, probably about Gerar or Elusa and Gaza, they left settlements, by means of the maritime tract of the Sirbonis Palus. All records combine to make them the first men of the sea, so that their supremacy may at first have arisen from their power of maintaining a water communication where one by land was difficult or impossible. At first they seem to have been subordinate to the Horite monarchs of Mendes and On, Antæus and Busiris, Onnos and Usecheres living together in harmony. It is questionable if Achuzam ever moved out of the region of Casium, although there are reasons for finding his last home in Gizch. His brother Achashtari certainly took Heliopolis from

Onnos or his son, and became the chief ruler in Egypt as Sesostris. With him Achthoes or Jachath, the son of Reaiah and nephew of Manahath and Onnos, was for a time confederate, and his son Achumai, or Kames, sat during the early years of his life upon the throne of Memphis. Another son of Ashchur, Hepher, was on friendly terms with Onam, married his daughter Taia, and lived apparently at the court of his father-in-law. His son Kenaz took the Horite *ra* into his name, and his descendants, fleeing to the south when the Horite line was expelled, became the Stranger kings, or Disc-worshipping dynasty. Zereth ruled somewhere in Lower Egypt, probably not far from Pelusium, as Curudes; while Zohar seems to have remained in Palestine, probably in possession of the ancestral seat near which his son Ephron exercised princely power. It was in the time of this Ephron that Abraham dwelt in Southern Palestine. In the extreme south, at Gerar, he found a Philistine kingdom under Abimelech, whom we have already identified with Jehaleleel, the son of Achuzam. It is not improbable that Achashtari had assigned this fertile and once beautiful region, which gave name to the heavens of many peoples, as Ahalu, Avilion, Valhalla, Kailasa, Elysium, Coelum, &c., to the son of his elder brother and husband of his own daughter. It is not impossible, however, that Jehalaleel was driven from Egypt by the same uncle, and that the fact was commemorated in an ancient song, part of which was, "How art thou fallen, Helel, son of Shachar or Ashchur!" At any rate he made up his mind to be the conqueror of Egypt. For this purpose he raised a considerable army, the general of which bore the Egyptian title Phichol; and made treaties of peace with surrounding peoples, including Abraham, one of the most important nomad chiefs of Southern Palestine. Leaving a successor, perhaps one of his sons,³⁶ on the paternal throne, and thus securing a retreat in case of failure, he advanced upon Egypt, driving the Horites into the south, and Beor, the son of his uncle Achashtari, into the eastern desert, whence his son Bela, passing into the region which afterwards fell to Edom, became its first king and the head of the Shethites, who united with the children of Moab on the eastern

³⁶ That this successor belonged to the family of Achuzam is, I think, plain, from the fact that his friend was Achuzzath, bearing a name almost identical with that of the son of Ashchur. Yet he must have been two generations later at least. This Achuzzath may have been, in some way, a grandson of Achuzam. His name is peculiar in form, and can hardly belong to any other family. As no doubt a Hittite, it is interesting to find Elon and Beeri in all probability contemporary with him. Elon was very probably a grandson of Temeni.

shores of the Dead Sea.³⁷ Meanwhile Ammon, born in the latter country, had entered Egypt, perhaps as a soldier of fortune under Jehaleleel, whose contemporary he was. To him Jehaleleel seems to have entrusted the government of the Libyan region to the west of the Delta, and there his son Coz, who married Ziphah, the daughter of Jehaleleel, ruled. The offspring of this marriage was a son and daughter, the former the famous Anub or Anubis, the latter Zobebah, who is, I think, Bubastis. At the death of Jehaleleel or Salatis, his eldest son Ziph or Kufu or Cheops became monarch of all Egypt, and built the great pyramid. I hardly think that Anub was his successor in the sense of ruling the same wide dominion. A new line now appears, that of the Jerahmeelites, who, leaving Southern Palestine, had taken up their abode about Memphis, which was probably named after Jamin, the son of Ram, and grandson of Jerahmeel. The region of Ramlich, opposite Memphis, commemorates Jerahmeel, and from his son was derived the later name Rameses. Jerahmeel must have been a contemporary of Shobal, as his wife was the mother of Onam, also called a son of Shobal. Jediael, the son of Jamin, whose name survives in Jendeli, in the Ramlich region, and who is the Tlas or Thoules or Theoclymeus of Egyptian monarchy, as well as the Memphite Daedalus and the Lydian Tantalus, was, I think, a husband of Zobebah, and the father of Jabez or Apis.^{37*} He was killed apparently before the birth of his

³⁷ Contemporary with Abraham and Jehaleleel we find Melchizedek, king of Salem. He must, I think, have belonged to the Ashchurite family, which, more than any other (as in the case of the Abimelechs), seems to have possessed a knowledge of the true God. The names Sydyk, Soutech, &c., are so closely identified with the Shepherd line, and especially with Sheth or Ahashtari, that it is quite possible this priestly monarch may have been a child of the fourth son of Naarah. Agreeable to this are the statements of Cedrenus and Michael Glykas, which make him a son of Sulos, the son of Ægyptus, the latter name denoting his Egyptian origin. In Epiphanius he is made the son of Heraclas and Astaroth, the name of his mother being a link to bind him yet more closely to the line of Ahashtari. Remains of the Sheta have been found near Jerusalem, and the plain of Moab lays claim to the sepulchre of Ahashtari himself in Neby Sheet. If we are to credit the connection of Zereth with Melcartus, Melicerta, &c., it shows that the prefix of the royal designation Melek was not an uncommon thing among the Ashchurites. The first-born, Achuzan, and his line give us Abimelech: Zereth is Melek-Zereth or Melcartus; and Sydyk is Melek-Sydyk or Melchizedek. The Moloch of Ammon, so intimately allied with this line, may have been derived from such a use of the word. It may also afford us a harmony of the names Amalekites and Shasu applied to part of the Shepherd stock. The country of the Amalekites, therefore, which was smitten by Chedorlaomer, may easily, from its position near Ennishpat or Kadesh, have been the land of the Achuzamites, who would otherwise have escaped the invasion of the Elamite king.

^{37*} While there is much evidence for the connection of a Jediael with Zobebah and Jabez, it is utterly impossible to reconcile the chronology that places Jerahmeel in the time of Shobal with that which makes his great-grandson the son-in-law of Coz. I am therefore disposed to leave the parentage of Jabez an open question for the present, until the whole subject of the Jerahmeelites is discussed.

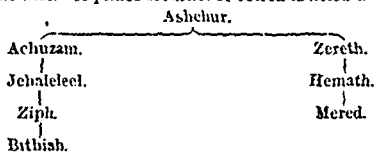
son, so that Zobebah bore Jabez with sorrow. Under Jediael we find Mareshah, the father of Hebron, who is Marsyas, the companion of Cybebe, Marekho united with Thoules, and Moeris, the guardian of young Apis or Apophis.^{37**} Under his wise administration Jabez lived for many years until the advent of Joseph, who became his prime minister, and instructed him in the true religion. We have thus six generations of Pharaohs from Usecheres to Jabez. I have not yet been able positively to identify the successors of Jabez among the so-called Shepherds. They cannot, however, have included more than two generations. Then a Horite element in the line of Lotan, combining with the Hephherites and the family of Jerahmeel, taking advantage of the Shepherd dissensions, drove them out of Egypt back to their original home in the land of Palestine. Long before this the descendants of Onam had been expelled to Arabia Petraea, whence they afterwards found their way to Babylonia. It is probable that the descendants of Zereth continued, during the rule of the other Ashchurites in Egypt, to occupy the coast of the Cherethites from the borders of Egypt to Gaza, and that, during the troublous times of the expulsion of the Shepherds, some of them removed to Zareth Shahar and Zaretaan, in the neighbourhood of the Jordan. In the latter region, more than one place known as Fokaris also denotes the presence of the allied Tocchari or Fekkaroo. To the north of these, in the land of Gilead, we find traces of the family of Ezra and Penuel, Jaazer deriving its name from the former.³⁸ It is, however, impossible at present to say at what period the founders of

^{37**} Here again I am in doubt, for Marsyas, as son of Oeagrus, seems to be Mered, son of Ezra.

³⁸ The family of Ezra must connect with one of the sons of Ashchur by Helah. The connecting link is Hemath, the father of the house of Rechab. Now Hemath is the head of the Tirathites, Shimeathites and Sucathites, and these are Kenites. The Sucathites are of the family of Heber, the father of Socho (1. Chron. iv. 18), and Heber is a Kenite name (Judges iv. 11). The Shimeathites and Tirathites do not certainly appear among the connections of Heber. But in the neighbourhood of the Palestinian and Syrian Hamaths, we find Ezra represented by Hazor and Jazer; Jether by Ituraea, with many corresponding ancient names; Mered by Marathus and Moerad; Jered and Gedor by Aradus and Gadara; Socho and the Sucathites by Succoth; while Tarichaea, Summuk, Samachonitis, and similar words occurring as names of places in the same region, designate the abode of the Tirathites and Shimeathites. The region also is Kenite, for there Heber the Kenite dwelt. Among the names of this region many reminiscences of Zereth are to be found, such as Kartan, Kartah, Zartanah, &c. But Zereth, with Zohar and Elinan, connect with the family of Bethlehem in Helah, their mother, who was probably a daughter of Salma, the father of Bethlehem. It is to this family of Bethlehem accordingly that Hemath is said to have belonged. In the region west and south of Bethlehem all the names already found in the neighbourhood of the sea of Galilee and northward are also to be found, with the exception of Hamath, denoting perhaps the first Palestinian settlements of the family of Ezra. In the ethnic connections of Hemath his Ashchurite relationship appears. As Amythaon, he is the son of Cretheus or Zereth; and as Aemathion, of Tithonus, Laomedon, the father of the latter, being, I think, a repetition of the name of his grandson.

Gedor or Gadara, Succoth, Moerad, &c., established themselves in this region. Og, the king of Bashan, probably belonged to this Scythian family, whose first settlements seem to have been in Southern Palestine. The Shethites dwelt with the Moabites and Midianites³⁹

Tithonus may be Ethnan. In the British genealogies Amathaon is a son of Don, so far agreeing with the Tithonus connection. But Amathaon is also called a son of Astracus, who is Achastari, and of Aurora, the daughter of Hyperion, who is Hopher, thus still exhibiting Ashchurite relationships. The Babylonian Kinnut, who connects with Hea, may be Hemath, and thus still declare his Ashchurite origin. He is the Assyrian Samdan or Adar, the latter word giving Ezra. With this the connection of the British Adar and Amathaon agrees. The Scandinavian Heimdall born of nine mothers, the nine springs of the Greek Hymettus and the springs of Hamath-Dor, tell the same story. He must be the Egyptian Emopth or Imouthes, who is the god of medicine, recalling the medical family of Amythaon, and with whom Tosorthus, the first physician, whom we have already identified with Zereth, must connect. Tosorthus was also a scribe and a builder with hewn stones. Houtu is the name of a prince of Egypt who lived in the reign of Sefhuris or Hopher, and who may be Imouthes or Hemath. The Rudras and Maruts of Ushas and Surya, Jereds and Mereds of Hushah and Ezra, are, like the families above named, physicians. Himavat should connect with them. Hemath is Amcati and also Rhadamantus, his son Erythrus being Jered the father of Gedor. From him the Imaus or Emodi mountains took their name. They were originally the mountains of Hamath. It is possible that Ezra and Hemath are names of the same person, or that Ezra denotes his wife. If prince Mourhet or Mered married a daughter of Suphis this is probable.

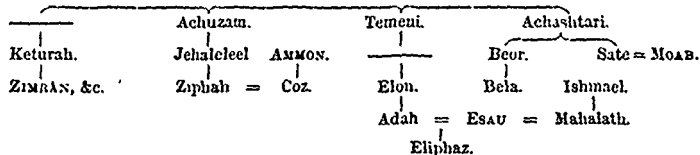


The relations of the Kenites among the tribes of Palestine, &c. were with the Amalekites (1. Sam. xv. 6), and with the Midianites (Exod. ii), and both of these are Ashchurite families. The Gezrites (1. Sam. xxvii. 9), who are spoken of as old inhabitants of Southern Palestine with the Amalekites, probably represent the descendants of Ezer or Ezra.

³⁹ Although I propose devoting another paper to the history of the children of Abraham by Keturah, as they have been alluded to in this article I may state a few of the connections of Zimran with the family of Achuzam. The Homeritae of Arabia are distinctly said to have been the descendants of Keturah. Their name is derived from Zimran, the eldest of her sons. His name, meaning "mountain goat" and "song," agrees etymologically in the first signification with the Chimaera of the family of Typhon, in the second with the Homeric family of Smyrna. The Homeritae descended, according to other Arabian traditions, from Hunyar, who is called Ghazahadi, or Achuzzath; and he is the Persian Kaiomers identified falsely with Gilshah or Jehakleel. In him also we find the Babylonian king Zmarus; perhaps the Phoenician Demaroon; the British Emrys or Ambrosius, head of the Cambrians or Cymri; the Scandinavian Ymir, ancestor of the Cimbri or Cimmerians; the eponym of Ambracia, Imbros and other places of like name, such as Smyrna, as well as of the fabulous Chimaera, within the Greek area; and the father of African Cumbrians and the Umbrians of Italy. In every case those names will be found intimately connected with those of well-known Ashchurites, principally in the line of Achuzam. So important a member of this family was Zimran, that frequently, as in the case of the Arabian and Persian traditions, he is confounded with his uncle and grandfather. The megalithic structures called Stonehenges, as found in Arabia, Britain and other parts of the world, are associated generally with the name of the eldest son of Keturah. Abundant proof for the statement that the hero of many mythologies is really Zimran, and not a distinct person of similar name, is found in the association with his of the names of his brothers Jokshan, Midian, &c., and their children, Dedan, Ephah, &c., as well as in the Arabian connections of the Katoorah and the Azdites or Amalika. He may be the Egyptian monarch Lanares, Lampares or Ameres of Manetho's twelfth dynasty.

in Shittim, on the borders of the Dead Sea, but they also formed the principal part of the confederacy on the coast of the Mediterranean known as the Philistines or Philistines. When the descendants of Jehaleleel were driven out of Egypt, they must have removed at first to their original seat at Elusa or Gerar, and thence have spread northward to Ziph. The family of Tiria, however, would seem to have crossed the Dead Sea, and between the Nahaliel and the Zerka—not far probably from Callirhoe, which, with its hot springs near at hand, gives us the true Homeric locality—founded the city of Ilium. In another paper I hope to be able to prove conclusively that here the long Trojan war was fought, during the time of Israel's captivity in Egypt. When the Caphtorim or Dorians, descendants of the Horite Achumai, came out of Egypt, they drove up the descendants of Achuzam into the region about Carmel, where the Etamites in the line of Jezreel were already established. The families of Achuzam occupied Accho, Achzib, Achshaph and other places on the coast, even in the days of the Judges of Israel, the Caphtorim dwelling in Dor, Endor, and other towns south of Megiddo, a Hycsos region. It was from Palestine, then, and not from Asia Minor, Greece or Greek Islands, or Italy, that the Achaeans and Laconians, Mysians and Dardanians, Cretans, Sardinians and others, whose record is found on the monuments of the Thothmes and Rameses, invaded the land of the Pharaohs, together with Heth and Sheth, Moab and Ammon.⁴⁰ These were the families of Ashchur, or the Shepherds

⁴⁰ It will be observed that while I have found the descendants of Ammon and Midian in relation to the Shepherd kings, Moab's family has not been noticed. As Ammon's son Coz married a sister of Ziph, the son of Jehaleleel, it is not improbable that Mesha, called the father of Ziph, may be a son of Moab, seeing also that the name Mesha remained in the royal line of the Moabites. In Moab we must, I think, find the Egyptian Hapu Mou, which is an inversion of his name. He may also be the Arab Moafer, answering to the Moabrisi of the Egyptian monuments, who is united with Nooman or Ammon in the lists of Arabian monarchs. I would also be disposed to see in him the famous Amphion of Thebes. He certainly is the Thessalian Mopsus; and Mopsopia, an old name of Attica, with Mopsium in Thessaly and Mopsuestia in Cilicia, exhibit the progress of his descendants. Ampyx, Ampyrus and Amphictyon, like the Egyptian Gnephactus, are probably names of Moab. He may be Noub, who married Sate or a daughter of Ahashtari and sister of Beor, whose son Bela, fleeing to his brother-in-law's dominions, became the Baal Peor of Moab. The fable of Niobe undoubtedly connects with the Moabite line. The following exhibits the probable connection of the Abrahamic family with the Ashchurites:



The Ishmaelites connect, at least in Nebaioth, with the family of Jerahmeel, and Esau had other, Horite and Ishmaelite, alliances in addition to that with the family of Temeni.

who had formerly ruled in the country which they now invaded. Did time permit, it would be a simple matter to show the identity of their costume, armament, modes of warfare, government and worship, with those described in the heroic stories of Greece, India, &c. The Bible narrative, the Egyptian and early Assyrian and Babylonian monuments, afford scraps of information concerning these Ashchurites, subsequent to their return to Palestine, and previous to their dispersion to the north, east and west, which not only illustrate, but confirm, even to minutiae, the accounts given by Greek, Indian and other early histories that have been deemed purely mythical, of the movements of the Ashchurite tribes in the latter part of the heroic age. The earlier part of that age belongs principally to Egypt. Northern Africa has its own history of migration, as the legends of Rome and of the Celtic peoples testify, but for the verification of these in their particulars we have no such evidence as is afforded in the case of Palestine. Here ethnology must take the place of history to a great extent. It is a remarkable fact, and one that explains the prevalence of certain Israelitish customs and the existence of fragments of revealed truth among Gentile peoples, that the germs of all civilized nations were to be found, some of them till the tenth century before the Christian era, dwelling in intimate contact with the descendants of Jacob. The transition period to which belong the migration of the Dorians and the return of the Heraclidae, was that which immediately preceded the entrance of the tribes of Israel into the land of promise, the wars which marked it being a preparation for an easier conquest of the country by those to whom it was divinely apportioned. Joshua and his host, however, met no hordes of effeminate and undisciplined Canaanites, but all the chivalry and prowess of the ancient world. The so-called myths which identify the Palestinian Nyssa, Ascalon, Joppa, Accho, and other places with the scenes in which the deeds of great heroes were wrought, are in the main narratives of fact.⁴¹

⁴¹ Already it must have appeared to the candid reader that the connections established in this paper do not rest upon mere nominal identities, although these, as extending to many generations and relationships, are of themselves sufficient confirmation of their truth. Many remarkable resemblances in the facts handed down concerning the members of the Ashchurite family in different communities attest the connections made, in a manner appealing more directly to those who are not in the habit of weighing philological evidence. The Ashchurites are persistently mentioned as the men of the horse and of the sea. The tradition of a deluge belongs almost exclusively to them. One has but to read Mr. Cox's admirable chapters which treat of mythological serpents and dragons to see that in the Ashchurite Achuzam all of these

A new era in history has arrived ; a foundation is laid for true systems of ethnology and philology ; a false interpretation of mythology, with the very name *mythology*, is overthrown ; and the Bible still proves itself, as it has ever done, among books incomparable, the great source of historic truth, alone Divine. The key to ancient universal history lies in the first eight chapters of the long-despised, or at least unhonoured, First Book of Chronicles ; and the right use of that key is destined to afford a new revelation of God in His dealings with the nations of the earth. With unfeigned pleasure and deepest gratitude I place these results of its use in the hands of those students of history whose knowledge and resources will enable them to turn both it and them to the best account for the perfection of historical science, and for the vindication and elucidation of the inspired Word.

unite. To him also in several mythologies drainage is attributed. His brother Hephher appears continually as the man of letters and science. Lightning is frequently connected with the name of Jehaleleel. The whole family is Typhonian. It is also funeral and sepulchral. Its members name mountains, rivers, trees, metals, winds, planets, months and days in many countries and languages. Religious mysteries are peculiarly characteristic of the Ashchurites in lands wide apart. Pyramids, Stonehenges, and other megalithic structures in various regions, owe their origin to these early builders. Opposition to a Horite line appears in the majority of their traditions ; and a large number of these have their scenes placed unmistakably in Egypt and Palestine. When to all of these we add geographical and chronological harmonies, the reduction to unity of wide-spread myths that must have had a common historical origin, and the agreement of all the facts recovered with the Bible story, it seems impossible that any cultivated mind, capable of appreciating the evidence afforded, should resist the conviction that the conclusions of this paper are, in the main, the truth concerning ancient history.



NOTE ON THE CAUSE OF TIDES.

BY E. J. CHAPMAN, PH. D.

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[Condensed from a Communication made to the Canadian Institute, February 7, 1874.]

The phenomenon of the tides, stated broadly, consists of a passing elevation, real or apparent, of oceanic waters at two opposite points on the surface of the globe. These elevations, which follow the moon in its course, may become greatly intensified under local conditions, as where opposing coast-lines impede the progress of the tidal wave; but in the open ocean, it is well known, they are of but slight significance. According to the received theory, they are occasioned essentially by the unequal degree of attraction exerted by the moon on different parts of the earth—this attraction being, of course, modified by that of the sun. It is thus assumed that the waters, owing to their comparative mobility, are drawn towards the moon on one side of the globe, whilst the solid earth is drawn away from the waters on the other side—or, to use the common phraseology, is drawn towards the moon faster than the waters can follow.

This view, although not without opponents, has been almost universally adopted in default of a more satisfactory explanation

The explanation of the cause of tides now suggested has at least this merit: it applies the same principle in elucidation of both tides—that nearest the moon, and that on the opposite side of the globe. It is briefly this:—When two bodies pull against each other, there must necessarily be a contraction of particles towards the centre of each body along the line of pull or resistance. In the pull, therefore, of the earth upon the moon, the earth (and of course the moon also) must suffer a passing contraction: the part along the line of pull, so to say, contracting more than the other parts. But this contraction is mechanical only, and is therefore a compression; and as water is practically incompressible, the sea remains essentially unaffected, whilst the earth shrinks beneath it, and thus causes the tide. The

shrinkage of course becomes greater, and the tide higher, when both sun and moon take part in the counter-pull, whether acting on the same side of the earth or on opposite sides. It may be assumed, however, from the known height of the tidal wave where the march of this wave is unopposed, that the maximum amount of contraction does not exceed a foot for each thousand miles of the earth's radius—being thus, in round numbers, less than one part in five millions. In the tremendous pull of the earth upon the moon, by which the moon is kept upon its course, a passing contraction of this comparatively slight amount may be easily conceived to follow. According to the commonly adopted theory, one tide is assumed to result from the withdrawal of the earth, locally, from the waters above it: in the view now proposed, both tides are assumed (although on a different principle) to be thus caused.



NOTES ON THE FLORA OF HAMILTON.

 BY J. M. BUCHAN.

In laying before this Society the list of Canadian plants which is appended to this paper, and in directing your attention to a few of the more interesting facts connected with the botany of Hamilton, I desire it to be understood that my object is mainly memorial. The late Judge Logie, who was, I believe, for many years a member of the Canadian Institute, devoted a portion of his leisure hours, during the latter part of his life, to making a collection of dried specimens of our indigenous and naturalized plants, and I deem it only just to his memory to make known to the limited circle of those who take an interest in botany how much he has done and how well he has done it. I derive a sort of right to act as his botanical executor from the understanding that existed between us for some time previous to his decease that we should jointly work up and publish a complete flora of Hamilton; and as death has prevented him from fulfilling his part of our mutual design, I take a pleasure, though a melancholy one, in showing what he had done towards carrying out his share of the agreement. I have also been incited to lay before you a list of the specimens contained in Judge Logie's collection, by the hope that it might be of use to those gentlemen who have announced their intention of publishing systematic expositions of the flora of Canada; and I have for the same reason added a supplementary list of plants not contained in Judge Logie's list, which have come under my own observation. Besides the announcements above referred to, made by Professors Macoun and Gibson of Belleville, and Dr. Ross of Toronto, it has given me much pleasure to notice other signs of an increasing interest in the study of botany, and particularly to learn that there are some in this Society who devote themselves to the most charming of the sciences. Although the knowledge of this last fact causes me some trepidation, when I reflect how incomplete the list is which I lay before them, I venture

to assert that an incomplete list is better than none at all, and that if all the observers in Canada who have made more or less complete collections in the localities in which they reside would summon courage to contribute the results of their observations to a common fund, our knowledge of the distribution of plants in Canada would be materially increased, and the study of our local floras greatly stimulated. Our knowledge of the distribution of Canadian plants is indeed so limited, and geographical botany is so important a subject in its relations on the one hand to climate, and on the other to the vexed question of the origin of species, that one may be excused for feeling, and pardoned for endeavouring to excite, an interest in it.

There are in Judge Logie's collection, exclusive of duplicates, 676 Canadian plants, of which 597 are indigenous and 79 naturalized. How carefully he pressed and how neatly he mounted his specimens may be judged from those which I now exhibit to you; and I believe that he was equally painstaking in his determinations. Of course, in so large a collection, there must be some errors in naming, and in the list which I have made, I have ventured in one or two instances to express my disagreement with his determinations; but, though I have not had time to examine carefully many of the plants, my impression is that the proportion of errors is very small. Of a number of the most common plants, with the occurrence of which Judge Logie must have been perfectly familiar, the collection contains no specimens. To remedy this deficiency, I have prepared a supplementary list of plants, which I am able from my own observations to add to his list. The majority of the additional plants are of common occurrence, but some are rare; and one or two, of which specimens will be exhibited at the conclusion of this paper, are, it is believed, reported as Canadian for the first time. The additional list contains 136 plants, of which 113 are indigenous and 23 naturalized. There are, therefore, on the two lists, 710 indigenous and 102 naturalized, in all 812 plants. I have marked with a B those plants in Judge Logie's collection which I have noticed in the vicinity of Hamilton, and independently determined. There are 442 so marked; and, accordingly, of the 812 plants, the occurrence of 442 is vouched for by Judge Logie and myself, while that of 234 depends on the correctness of Judge Logie's, that of 136 on the correctness of my determinations. The total of 812 does not include all the phaenogams and vascular-cryptogams that have been observed to occur at Hamilton. In the

extensive collection made by the late Mrs. Smart, sister-in-law of Judge Logie, and a most enthusiastic botanist, there are some—probably a good many—plants not included in the lists which I lay before you on the present occasion. If at some future period I should have the time and the opportunity to examine her collection, I may be able to increase considerably the list of Hamilton plants.

On classifying the 812 species and varieties included in the two lists, we find that there are 649 exogens, 121 endogens, 41 acrogens, and 1 thallogen (*Chara vulgaris*, L.). The disproportion between the exogens and endogens would be less if the rushes, sedges and grasses were thoroughly worked up. Thirty-eight of the plants have been collected in parts of the Dominion remote from Hamilton, principally near Cacouna and London; the remaining 774, either at Hamilton or at various points in its neighbourhood. The most distant of these points are: On the road to Toronto, Port Nelson; to the north, Puslinch Lake; to the west, Galt and Paris; to the south, the Townships of Binbrook and Glanford; to the south-east, the Welland peat-bog; and to the east, the Niagara River. The most recent list of Canadian plants, as far as I know, is that furnished for the Curtiss Catalogue by Professor Macoun. Our list contains fifty-one species and varieties not reported by Macoun. Several of these, I am informed, were inadvertently omitted from the Catalogue; there may be room for doubt as to the complete naturalization or accurate determination of others; but after making all necessary deductions, a considerable number will have been added to the list of Canadian plants. A very large part—but not all—of these new plants are mentioned in Hubbert's Catalogue; but as I have no means of ascertaining to what extent that Catalogue was conjectural, I do not feel bound to admit that they have all been heretofore reported as Canadian. They have not, at any rate, been recently reported, and there are at least a few which do not occur at all in any previous list. The plants of the occurrence of which we claim to be either the discoverers or the re-discoverers, are distinguished by appropriate marks in the appended lists, and specimens of some of the more interesting will be exhibited at the conclusion of the paper.

It will be noticed that a very large part of the plants reported—one-eighth, in fact—consists of naturalized plants. Some of those admitted into Judge Logie's list have, I do not doubt, been admitted on insufficient evidence; but it is nevertheless the fact that a large

portion of our flora is made up of naturalized plants. These naturally divide themselves into two classes: weeds which attend cultivation, and cultivated plants which find the conditions of existence so favourable that they become weeds. The phenomena attending the change of cultivated plants into weeds will, in my opinion, well repay observation, on account of their connection with climatic influences, and their bearing on the question of the original home of the plants themselves, and hence on the course of civilization, as well as on account of the light they may throw on the question of the amount and limits of the variability of species. We have in Hamilton many of the common plants of this class, as *e. g.* the Jerusalem Oak, and the Hemp; and I notice with interest patches of the Summer Savory (*Satureia hortensis*, L.) appearing year after year on dry gravel hills and railway cuttings through gravel near the Bay. According to Gray's Manual, it has run wild on the prairies of Illinois and on some rocky islands near the Falls of the Ohio. If it succeeds in establishing itself at Hamilton, we may infer that the summer climate of that place sufficiently resembles that of its original Mediterranean home, and that the seeds are capable of surviving the rigour of our winters.

The mode of introduction and the rate of the progress made by the weeds which attend on civilized man, are phenomena which we have in this country unsurpassed facilities for observing, and careful observations on these points may be of great value. Although nearly all these weeds come from Europe, perhaps the most interesting one in our lists comes from tropical America. I refer to the Sping Clotbur (*Xanthium spinosum*, L.), which has become an exceedingly common weed in the gutters of the streets and in the gardens of the town of Dundas. I have never found it except in Dundas, though I understand that it occurs at points between Hamilton and the Niagara frontier. It has, as far as I am aware, never hitherto been reported as occurring in Canada, and I am inclined to think that it has been introduced into Dundas with the raw cotton since the establishment of the cotton mill in that place. I notice that Gray, in his Manual, speaks of the Viper's Bugloss (*Echium vulgare*, L.) as rare northward, but a troublesome weed in the cultivated fields of Virginia. It may not be generally known that it is very abundant and exceedingly troublesome in the County of Glengarry, apparently filling the same place there that the Canada thistle does on exhausted farms in other parts of Ontario. In many parts of that county whole farms appear

to be covered with it. I was told by a native of the county that it was originally brought there from Italy by a Roman Catholic ecclesiastic as a garden flower, and that from so small a beginning it had become the pest it now is. Though my informant was a thoroughly reliable man, he probably had his information from an ultra-Protestant source, and it may therefore be necessary to add a grain of salt to correct the *odium theologicum*. At any rate—

“I cannot tell how the truth may be;
I tell the tale as 'twas told to me.”

According to Grisebach, the continent of North America contains five distinct vegetable provinces. These are: the Arctic Province, the Great Wooded Province, the Prairie Province, California, and Mexico. The Great Wooded Province, commencing at the northern limit of trees, descends on the west coast to Oregon and on the east coast to the Gulf of Mexico, but is nearly split in two by the prairies of the central plateau. The connecting link between the eastern and western divisions is the zone of the White Spruce, which extends across the continent and finds its southern limit about 54° North latitude. To the south of the zone of the White Spruce lie, on the west coast, the sub-province of the Oregon Spruces; and on the east coast, the sub-provinces of the Deciduous-leaved Trees, Newfoundland, and the Southern States. The sub-province of the Deciduous-leaved Trees stretches from Lake Winnipeg to the mouth of the Chesapeake, and from the mouth of the St. Lawrence to the southern border of Kentucky. The climate of this vast sub-province is affected on the sea coast by the sea, and in the interior by the Great Lakes, and roughly corresponds to that of the centre and east of Europe. The inhabited portion of Ontario is evidently near the centre of this vegetable sub-province; and the western peninsula of Ontario, being exposed in the completest manner to the influence of the Great Lakes, may be regarded as typical of the sub-province of Deciduous-leaved Trees.

The portion of country roamed over by Judge Logie, and to a less extent by myself, in search of plants, does not form a natural botanical division of Western Ontario. The differences of soil, elevation and exposure to be met with about Hamilton in the compass of a few miles rather favour the intermixture of the plants of different regions, and I believe that in consequence the flora of the County of Wentworth, when thoroughly worked up, will prove to be one of the richest in the Dominion. Hamilton certainly seems to lie near the

northern limit of a number of important trees. The Tulip-tree, the Flowering Dogwood, the Plane (one of the largest of deciduous-leaved trees), the Black Walnut and the Chestnut seem not to occur to the north of the Hamilton Valley. The proof of the existence of a sharp line of demarcation at this point appears complete when we learn that the tree which forms the most northern forests in America—the White Spruce—occurs about eight miles to the north of Hamilton, along with some other northern plants.

The valley in which Hamilton lies is about sixteen miles in length, and about seven miles in width at its mouth. It may be considered to extend from the village of Copetown on the west to Burlington Beach on the east. Burlington Beach is a strip of sand very similar to Toronto Island, which completely cuts off Burlington Bay from Lake Ontario, and through which there is a canal for the passage of vessels. Hamilton Valley is bounded on the east by Lake Ontario, and on every other side by the Mountain, which proves when you ascend it to be merely the rocky edge of the plateau which occupies nearly the whole of Western Ontario. In the bottom of the valley lie Dundas Creek, Dundas Marsh and Burlington Bay, forming a water system about eleven miles long. The villages of Ancaster, Copetown and Waterdown are situated on the brow of the Mountain overlooking the valley, Dundas and Hamilton lie in the bottom of the valley, and Wellington Square and Stony Creek at its mouth, the former on the north, the latter on the south side. The soil seems to have been formed on the slope of the Mountain from the debris of the limestone rocks. Further down, in many places, a red clay is found, resulting from the decomposition of a red shale that crops out near the foot of the Mountain. In the bottom of the valley the surface deposit is apparently lacustrine. At any rate, the proof that it was formerly covered by the waters of Lake Ontario appears to be conclusive. Right across the valley from north to south, past the head of Burlington Bay, and dividing it from Dundas Marsh, runs a gravel ridge known as Burlington Heights, and having some historical interest in connection with the war of 1812. This ridge rises to a height of about 108 feet above the present level of the Lake, and appears to have been formed by the same causes which have since formed Burlington Beach, and to have been a bar between a bay which then covered Dundas Marsh and the then Lake. This ridge is of botanical importance, inasmuch as it protects the shores of Dundas

Marsh from the east wind; and as they are sheltered by the Mountain from all other breezes except the west wind, and even in many parts from that, they offer many exceptionally favourable localities for rare plants. Unfortunately, the advance of cultivation and the ravages of cattle have destroyed much of the original vegetation, but even yet its shores offer some rare plants to the collector.

It will be evident from the preceding description that if plants occur at Hamilton which do not occur at some other locality in the Province where the soil is equally suitable for their growth, that their occurrence at Hamilton must depend either on the shelter they are able to find or upon climate. Indeed, the first reason resolves itself on examination into the second, for shelter influences climate. With the view of ascertaining what is peculiar in the climate of Hamilton, and particularly what the influence of the Great Lakes on it is, I have instituted a comparison between it and that of Belleville, based on the meteorological records which have been kept in both places for the last eight years. I would have preferred, for purposes comparison, some place more remote from the Great Lakes, such as Cornwall, Pembroke or Montreal; but though the meteorology of these places has been investigated, I could not obtain a complete account of their flora. On the contrary, Prof. Macoun, of Belleville, whose knowledge of Canadian plants far exceeds that of any other man I have ever met, has been so kind as to furnish me with a list of the plants occurring in the Counties of Hastings and Prince Edward, which is probably complete, and the accessibility of this source of information has decided me in favour of Belleville.

Belleville is 55' further north, and 2° 32' further east, than Hamilton. The height of the two places above the level of the sea is nearly the same, and the heights of the points at which the observations have been taken are 308 feet in the case of Belleville, 325 in the case of Hamilton. Both towns are situated on arms of the Lake, and the soil in their immediate vicinity must be very similar, as in both cases calcareous rocks crop out in the neighbourhood, lacustrine deposits occur along the shores, and Erie clay further back. But Hamilton lies in a comparatively confined valley, Belleville in an open one, and Hamilton is nearer the main body of Lake Ontario than Belleville. The former place, lying as it does nearer all the Great Lakes than the latter, must be less continental in its climate—that is, the range of the thermometer must be less.

The High School meteorological observations, on which the following comparison is based, have been generally supposed not to be reliable. The results of my comparison, however, agree remarkably with *a priori* inferences. It is true, of course, that the observations taken during a period of eight years form an insufficient basis for determining the absolute climatic position of any place; but for the purpose of developing the relations of the climates of two places lying so near each other they are probably quite sufficient. The mean annual temperature of Belleville is 43.98° F.; of Hamilton, 45.95° . The mean temperature of the six winter months included between September 30th and April 1st is, at Belleville 27.87° , at Hamilton 31.09° . The mean summer temperature of Belleville is 60.12° , of Hamilton, 60.73° . Thus, though the mean annual temperature of Hamilton is two degrees higher than that of Belleville, it is only about half a degree warmer in summer, and over three degrees warmer in winter than the latter place. These results, of course, find their explanation in the greater proximity of Hamilton to the large inland seas. At Belleville, the months of May and June are warmer than the same months at Hamilton, but the remaining ten months are colder. Water becomes heated more slowly than land, and consequently the heat which raises the temperature of the Belleville spring is abstracted at Hamilton by the neighbouring bodies of water. The annual precipitation is about an inch less at Belleville, the means being 35.53 and 36.76 inches respectively. The mean greatest cold is, at Belleville 18.3° , and at Hamilton 13.7° below zero, which gives about the difference that might be anticipated. Strange to say, however, the next result, which is determined by the same thermometers that record the greatest cold, is at variance with *a priori* conclusions. The mean period during which the minimum thermometer does not mark below 32° F. is, at Belleville $161\frac{1}{4}$, at Hamilton only $151\frac{3}{4}$ days. As the shelter under which a minimum thermometer must be kept to some extent retards radiation, so that slight frosts are experienced in the open fields before it indicates frost, I have made another calculation allowing 4° F. for the difference between a thermometer protected from the rain, and one *sub Jove frigido*. The mean period during which the minimum thermometer does not fall below 36° F., and during which, consequently, there cannot be the slightest frost, is, at Belleville $136\frac{1}{8}$, at Hamilton $123\frac{3}{8}$ days. Were it not that the minimum thermometers apparently record the

greatest degree of cold correctly, I should have little hesitation in saying that I thought that the one or the other, or both, were unreliable. As the case stands, I can only wait for further light on the subject.

The meteorological relations above indicated are of course strictly true only of the towns of Hamilton and Belleville, but they may be accepted as approximately correct for the country surrounding each place, and it becomes interesting to inquire whether there are differences in the floras of the two places corresponding to the differences in climate. Unfortunately, as the list of Hamilton plants is far from complete, it is impossible to investigate this subject thoroughly, for we cannot feel certain that plants reported from Belleville may not hereafter be reported from Hamilton. We may venture to conclude, however, that more northern plants will be found at Belleville than at Hamilton, and that if any southern plants occur at the former that do not occur at the latter place, they will be such as flower in spring, and are favoured by the superior warmth of the Belleville May and June. They will probably not be trees or shrubs, as the greater cold of the Belleville winter would be likely to kill them.

Imperfect as the appended list of Hamilton plants is, I find on examination that it contains ninety-four species and varieties that are not reported from Belleville and its vicinity. Among these there are eight unimportant varieties and twenty naturalized plants. Deducting the naturalized plants and also fourteen native plants that do not grow in the Hamilton Valley, we have a remainder of sixty plants that are probably favoured by the climatic conditions of that valley, and these conditions must, from the nature of the valley, be very nearly the same throughout. Of these sixty plants, by far the largest number flower, as might be expected, in summer and fall, when the mean temperature is above that of Belleville. The months of July, August and September are at Hamilton, on the average, between $1\frac{1}{2}^{\circ}$ and 2° warmer than the corresponding months at Belleville, as is shown by the subjoined table. But eighteen of the sixty flower in May and June, when the weather is colder at Hamilton than at Belleville. To what is the phenomenon of their occurrence to be attributed? On examination, eleven of the eighteen prove to be trees or shrubs whose flower-buds would be liable to be injured by severe winter cold, and which the comparatively mild winter of Hamilton permits to flourish. For the occurrence of the remaining seven, I can give no climatic reasons.

It would be interesting to know what influence the Great Lakes.

exercise on the boundary lines of widely distributed plants. These great bodies of never-freezing water must give the western part of Ontario a climate in many respects approximating to that of the sea coast. The influence of the sea on the range of plants in Europe has been thoroughly investigated by Grisebach and others, and many curious relations between the various factors of climate and the different species of plants have been established. On that continent the majority of plants have either a north-western or a north-eastern boundary line—*i. e.*, their northern boundary lines are not coincident with parallels of latitude, but intersect them. For example, the European Chestnut has a north-eastern limit running from the south of England to the Lake of Constance, or from about 52° to about 48° of North latitude. On the other hand, the boundary line of the European Silver Fir (*Pinus picea*, L.) crosses this at right angles, running from about 43° in the Pyrenees to about 52° in Poland. Grisebach's inference from this is that the Chestnut requires a long summer, the Silver Fir a hot one. It would be interesting to know whether the relations between our Balsam Fir and our Chestnut, the corresponding trees on this continent, are the same. In one respect, at any rate, I think they are different. For reasons given above, it would seem that the northern limit of the American Chestnut is fixed by the severity of the winter, and not by the length of the summer.

With the view of throwing, if possible, a little light on the important question raised in the preceding paragraph, I have investigated the direction in which each of the 71 native plants occurring at Hamilton, but not at Belleville, extends farthest. For ten I can give no direction, but fourteen may be described as northern, one as north-eastern, two as south-eastern, thirty-four as southern, seven as south-western, two as western, and one as north-western. This result would seem to show that the Great Lakes exercise an influence in bringing the boundary lines of plants, which would otherwise run parallel to or at right angles with the Atlantic coast, more into conformity with the parallels of latitude. I am inclined to think, however, that, although this is in a certain sense true, it will be found that the curve of the boundary line of many plants is in Ontario most remarkable and decided. For example, the Early Frost Grape (*Vitis riparia*, Mx.) occurs both at Hamilton and Collingwood, but not at Belleville. The Cranberry (*Viburnum Opulus*, L.) and the Ninebark (*Spiræa opulifolia*, L.) have been found at London and at

Fullarton, thirty miles north of London, but not so far as Hamilton. The Harbinger of Spring (*Erigenia bulbosa*, Nutt.) occurs at St. Thomas, London and Fullarton, but not at Hamilton.

In preparing the following lists I have followed the classification and nomenclature adopted by Gray in the fifth edition of his Manual, and in consequence some of the names which occur in the list of Judge Logie's plants are not those which he affixed to the specimens, but synonyms. The specific names of naturalized plants are printed in small capitals; the names of those not reported as Canadian by Macoun, in the Curtiss Catalogue, are distinguished by an asterisk; and those not occurring in Hubbert's list, by a dagger.

LIST OF CANADIAN PLANTS

COLLECTED BY THE LATE A. LOGIE, ESQ., JUDGE OF THE COUNTY OF WENTWORTH.

RANUNCULACEÆ

- B. *Clematis verticillaris*, D. C. Rare.
 " *Virginiana*, L. Rare.
 B. *Anemone cylindrica*, Gray.
 B. " *Virginiana*, L.
 " *Pennsylvanica*, L.
 B. " *nemorosa*, L.
Anemone nemorosa, L., var. *quinquefolia*, Gray.
 B. *Hepatica triloba*, Chaix.
 B. " *acutifolia*, D. C.
 B. *Thalictrum anemonoides*, Mx.
 B. " *dioicum*, L.
 B. " *Cornuti*, L.
Ranunculus multifidus, Pursh.
 B. " *abortivus*, L.
 B. " *sceleratus*, L.
 B. " *recurvatus*, Poir.
 " *Pennsylvanicus*, L.
 B. " *fascicularis*, Muhl.
 " *repens*, L. Galt.
 B. " *acris*, L.
 B. *Caltha palustris*, L.
Coptis trifolia, Salisb. Lake Medad.
 B. *Aquilegia Canadensis*, L.
 B. *Actæa spicata*, L. var. *rubra*, Mx.
 B. " *alba*, Bigel.

MAGNOLIACEÆ

- B. *Liriodendron Tulipifera*, L. Trees now all cut down.

MENISPERMACEÆ

- Menispermum Canadense*, L. Not common.

BERBERIDACEÆ

- B. *Caulophyllum thalictroides*, Mx.
 B. *Podophyllum peltatum*, L.

NYMPHÆACEÆ

- B. *Nymphaea odorata*, Ait.
 B. *Nuphar advena*, Ait.

SARRACENIACEÆ

- Sarracenia purpurea*, L. Puslinch Lake.

PAPAVERACEÆ

- B. *Chelidonium majus*, L.
 B. *Sanguinaria Canadensis*, L.

FUMARIACEÆ

- Adlumia cirrhosa*, Raf. Rare.
 B. *Dicentra cucullaria*, D. C.
 B. " *Canadensis*, D. C.
Corydalis glauca, Pursh. Kingston.

CRUCIFERÆ

- Nasturtium officinale*, R. Br.
 B. " *palustre*, D. C.
 B. *Dentaria diphylla*, L.
 B. " *laciniata*, Muhl.
Cardamine rhomboidea, D.C., var. *purpurea*, Torr
Cardamine pratensis, L.
Cardamine hirsuta, L., var. *silvatica*, Gray.
Arabis lyrata, L. The Whirlpool, Niagara River.

CRUCIFERÆ—Continued.

- † * *Arabis sagittata*, D. C. Galt.
[Probably *A. hirsuta*].
B. *Arabis Canadensis*, L.
Erysimum cheiranthoides, L.
B. *Sisymbrium OFFICINALE*, Scop.
B. *Brassica SINAPISTRUM*, Boissier.
B. *Capsella BURSA-PASTORIS*, Moench.
B. *Lepidium Virginicum*, L.
B. *Cakile Americana*, Nutt.

CAPPARIDACEÆ.

- B. *Polanisia graveolens*, Raf.

VIOLACEÆ.

- B. *Viola blanda*, Willd.
B. " *cucullata*, Ait.
" *sagittata*, Ait.
B. *Viola canina*, L., var. *silvestris*,
Regel.
B. *Viola rostrata*, Pursh.
B. " *Canadensis*, L.
B. " *pubescens*, Ait.

CISTACEÆ.

- B. *Helianthemum Canadense*, Mx.

DROSERACEÆ.

Drosera rotundifolia, L. Border
of a lake near Paris: also near
Ancaster.

HYPERICACEÆ.

- Hypericum Kalmianum*, L.
" *ellipticum*, Hook.
B. " *PERFORATUM*, L.
B. " *corymbosum*, Muhl.
B. " *mutilum*, L.
Elodes virginica, Nutt. Not com-
mon.

CARYOPHYLLACEÆ.

- Silene INFLATA*, Smith. Not com-
mon.
B. *Silene antirrhina*, L. Not common.
" *NOCTIFLORA*, L.
B. *Lychnis GITHAGO*, Lam. Not com-
mon.
Arenaria SERPYLLIFOLIA, L. Galt:
also Saltfleet
B. *Arenaria stricta*, Mx. Rare.
" *lateriflora*, L.
B. *Stellaria MEDIA*, Smith.
B. " *longifolia*, Muhl.
B. *Cerastium VULGATUM*, L.
Cerastium oblongifolium, Torr.
[Is not this *C. viscosum* or *C.*
nutans?]

CARYOPHYLLACEÆ—Continued.

- B. *Cerastium arvense*, L. Cacouna.
[Burlington Heights.]
Spergularia rubra, Presl. Cacouna.

PORTULACACEÆ

- B. *Portulaca OLERACEA*, L.
B. *Claytonia Virginica*, L.

MALVACEÆ.

- B. *Malva ROTUNDIFOLIA*, L.
Abutilon AVICENNÆ, Gaertn.

TILIACEÆ.

- B. *Tilia Americana*, L.

LINACEÆ.

Linum Virginianum, L.

GERANIACEÆ.

- B. *Geranium maculatum*, L.
" *Robertianum*, L.
† * *B. Erodium CICUTARIUM*, L'Her.
B. *Impatiens pallida*, Nutt.
B. " *fulva*, Nutt.
B. *Oxalis stricta*, L.

RUTACEÆ

- B. *Xanthoxylum Americanum*, Mill.

ANACARDIACEÆ.

- B. *Rhus typhina*, L.
B. " *Toxicodendron*, L.

VITACEÆ.

- B. *Vitis cordifolia*, Mx.
B. *Ampelopsis quinquefolia*, Mx.

RHAMNACEÆ

- Rhamnus alnifolia*, L'Her.
B. *Ceanothus Americanus*, L.

CELASTRACEÆ.

- B. *Celastrus scandens*, L.
B. *Euonymus Americanus*, L., var.
obovatus, Torr. and Gr.

SAPINDACEÆ.

- B. *Staphylea trifolia*, L. Not com-
mon.
B. *Acer spicatum*, Lam.
B. " *saccharinum*, Wang.
B. " *dasy carpum*, Ehrhart.
B. " *rubrum*, L.

POLYGALACEÆ.

- * *Polygala Nuttallii*, Torr. and Gr.
 B. " *verticillata*, L.
 B. " *Senega*, L.
Polygala paucifolia, Willd. Near
 Lake Medad.

LEGUMINOSÆ.

- Lupinus perennis*, L. London.
 B. *Trifolium ARVENSE*, L.
 B. " *PRATENSE*, L.
 B. " *repens*, L.
 B. *Medicago LUPULINA*, L.
 B. *Astragalus Canadensis*, L.
Astragalus Cooperi, Gray. Not
 common.
 B. *Desmodium nudiflorum*, D. C.
 B. " *acuminatum*, D. C.
 B. " *paniculatum*, D. C.
 * B. " *Canadense*, D. C.
Lespedeza repens, Torr. and Gr.
 The Dell, Ancaster.
Lespedeza violacea, Pers. The
 Dell, Ancaster.
Lespedeza hirta, Ell.
 B. " *capitata*, Mx.
Vicia hirsuta, Koch.
 " *cracca*, L. Cacouna.
 " *Americana*, Muhl. Paris.
 † * *Lathyrus PRATENSIS*, L.
 B. " *ochroleucus*, Hook.
 B. *Lathyrus palustris*, L., var. *myrti-*
folius, Muhl.
 B. *Apios tuberosa*, Moench.
 B. *Amphicarpea monoica*, Nutt.

ROSACEÆ.

- B. *Prunus Americana*, Marshall.
 B. " *Virginiana*, L.
 B. " *serotina*, Ehrhart.
Spiræa opulifolia, L. Byron, near
 London.
Spiræa salicifolia, L. Millgrove.
 * B. *Gillenia trifoliata*, Moench.
Poterium Canadense, Gray. Ca-
 couna.
 B. *Agrimonia Eupatoria*, L.
 B. *Geum album*, Gmelin.
 B. " *strictum*, Ait.
 " *rivale*, L.
Geum triflorum, Pursh. Byron.
 Galt.
 B. *Waldsteinia fragarioides*, Tratt.
 B. *Potentilla Norvegica*, L.
 B. " *Canadensis*, L.
 B. " *argentea*, L.
 " *arguta*, Pursh. Galt.

LEGUMINOSÆ—Continued.

- B. *Potentilla anserina*, L.
Potentilla fruticosa, L. Byron.
 Galt.
 B. *Potentilla palustris*.
 B. *Fragaria Virginiana*, Ehrhart.
 B. " *vesca*, L.
Dalibarda repens, L. Millgrove
 Marsh.
 B. *Rubus odoratus*, L.
 B. " *triflorus*, Richardson.
 B. " *strigosus*, Mx.
 B. " *occidentalis*, L.
 B. " *villosus*, Ait.
 B. *Rosa lucida*, Ehrhart.
 B. " *blanda*, Ait.
 * " *MICRANTHIA*, Smith.
 B. *Crategus coccinea*, L.
 B. " *tomentosa*, L.
 B. *Pyrus coronaria*, L.
 * *Pyrus arbutifolia*, L., var. *melano-*
carpa, Millgrove Marsh.
Amelanchier Canadensis, Torr. and
 Gr., var. *Botryapium*.
 * B. *Amelanchier Canadensis*, Torr. and
 Gr., var. *rotundifolia*.

SAXIFRAGACEÆ.

- Ribes hirtellum*, Mx.
 B. " *floridum*, L.
 " *rubrum*, L.
Parnassia Caroliniana, Mx. Banks
 of the Rocky Saugcen, near
 Durham; also near Ancaster.
 B. *Saxifraga Virginensis*, Mx.
 B. *Mitella diphylla*, L.
 " *nuda*, L. Mount Forest.
 B. *Tiarella cordifolia*, L.
Chrysosplenium Americanum,
 Schwein. The Dell, Ancaster.

CRASSULACEÆ.

- B. *Penthorum sedoides*, L.

HAMAMELACEÆ.

- B. *Hamamelis Virginica*, L.

HALORAGACEÆ.

- B. *Myriophyllum spicatum*, L.
 " *verticillatum*, L.
 " *heterophyllum*, Mx.

ONAGRACEÆ.

- B. *Circæa Lutetiana*, L.
 B. " *Alpina*, L.
 B. *Epilobium angustifolium*, L.

ONAGRACEÆ—Continued.

- Epilobium molle, Torr. Byron.
Lake Medad.
B. Epilobium coloratum, Muhl.
B. Œnotherabiennis, L., var. muricata.
† * Œnothera biennis, L., var. grandiflora. Mount Forest.
Œnothera pumila, L.

LYTHRACEÆ.

- B. Nessæa verticillata, H. B. K.

CUCURBITACEÆ.

- Sicyos angulatus, L.

UMBELLIFERÆ

- Hydrocotyle Americana, L. The Dell, Ancaster.
B. Sanicula Canadensis, L.
B. " Marilandica, L.
B. Heracleum lanatum, Mx.
B. Conioselinum Canadense, Torr. and Gr. Galt. [Hamilton.]
Thaspium aureum, Nutt.
B. Zizia integerrima, D. C.
B. Cicuta maculata, L.
" bulbifera, L.
B. Sium lineare, Mx.
B. Cryptotaenia Canadensis, D. C.
B. Osmorrhiza brevistylis, D. C.
Erigenia bulbosa, Nutt. St. Thomas. [Fullarton.]

ARALIACEÆ.

- B. Aralia racemosa, L.
B. " nudicaulis, L.
" quinquefolia, Gray.
" trifolia, Gray.

CORNACEÆ.

- Cornus Canadensis, L.
B. Cornus florida, L. Ancaster. [Hamilton.]
B. Cornus circinata, L'Her.
B. " stolonifera, Mx.
B. " paniculata, L'Her.
" alternifolia, L.

CAPRIFOLIACEÆ.

- Linnaea borealis, Gronov. Lake Medad.
B. Symphoricarpos racemosus, Mx.
† * Lonicera flava, Sims.
" parviflora, Lam.
" ciliata, Muhl.
B. Diervilla trifida, Moench.

CAPRIFOLIACEÆ—Continued.

- B. Triosteum perfoliatum.
B. Sambucus Canadensis, L.
B. " pubens, Mx.
Viburnum nudum, L., var. cassinoides. Millgrove.
B. Viburnum pubescens, Pursh.
B. " acerifolium, L.
Viburnum Opulus, L. Byron. [Fullarton.]

RUBIACEÆ.

- B. Galium Aparino, L.
" asprellum, Mx.
B. " trifidum, L.
B. " triflorum, Mx.
B. " boreale, L.
B. Cephalanthus occidentalis, L.
B. Mitchella repens, L.
Houstonia purpurea, L., var. ciliolata. Niagara.
Houstonia purpurea, L., var. longifolia. Paris.

COMPOSITÆ.

- Liatris cylindracea, Mx. Westminster, near London
B. Eupatorium purpureum, L.
B. " perfoliatum, L.
B. " ageratoides, L.
B. Aster corymbosus, Ait.
B. " macrophyllus, L.
* B. Aster lævis, L., var. lævigatus, Willd.
B. Aster lævis, L., var. cyaneus, Hoffm.
B. Aster undulatus, L.
B. " cordifolius, L.
B. " multiflorus, Ait.
B. " Tradescanti, L.
B. " miser, L., Ait.
B. " simplex, Willd.
B. " puniceus, L.
B. " Novæ-Angliæ, L.
Aster graminifolius, Pursh. Millgrove.
B. Erigeron Canadense, L.
B. " bellidifolium, Muhl.
B. " Philadelphicum, L.
B. " strigosum, Muhl.
Diplopappus umbellatus, Torr. and Gray.
B. Solidago bicolor, L.
B. " latifolia, L.
B. " cæsia, L.
" stricta, Ait.
B. " altissima, L.

COMPOSITÆ—Continued.

- B. *Solidago nemoralis*, Ait.
 B. " *Canadensis*, L.
 B. " " L., var. *scabra*.
 B. " *lancoolata*, L.
 B. *Polymnia Canadensis*, L.
 B. *Ambrosia artemisiæfolia*, L.
 B. *Xanthium strumarium*, L., var. *echinatum*.
 † * *Xanthium spinosum*, L. Dundas.
 B. *Rudbeckia laciniata*, L.
 B. " *hirta*, L.
 B. *Helianthus strumosus*, L.
 B. " *divaricatus*, L.
Helianthus divaricatus, L., a var. with the leaves whorled in threes. Prince's Island.
 B. *Helianthus decapetalus*, L.
 B. *Bidens frondosa*, L.
 B. " *connata*, Muhl.
 B. " *cernua*, L.
 B. " *chrysanthemoides*, Mx.
Helenium autumnale, L.
 B. *Achillea millefolium*, L.
 B. *Leucanthemum VULGARE*, Lam.
 B. *Tanacetum VULGARE*, L.
 B. *Gnaphalium decurrens*, Ives.
 " *polycephalum*, Mx.
 " *uliginosum*, L.
 B. *Antennaria margaritacea*, R. Brown.
 B. *Antennaria plantaginifolia*, Hook.
 B. *Erechthites hieracifolia*, Raf.
 B. *Senecio VULGARIS*, L.
 † * *Senecio PALUSTRIS*, Hook. Roadside, Wellington Square.
Senecio aureus, L. Burford.
 B. *Cirsium discolor*, Spreng.
Cirsium muticum, Mx. Westminster.
 B. *Cirsium ARVENSE*, Scop.
 B. *Lappa OFFICINALIS*, Allioni.
Lampsana COMMUNIS, L.
Leontodon AUTUMNALIS, L.
 B. *Hieracium Canadense*, Mx.
 B. " *scabrum*, Mx.
 " *venosum*, L. Ancaster.
 B. *Nabalus albus*, Hook.
 B. *Nabalus albus*, Hook, var. *serpentaria*.
 B. *Nabalus altissimus*, Hook.
 † * *Nabalus Fraseri*, D. C., var. *integrifolius*. Prince's Island.
 B. *Lactuca Canadensis*, L.
 B. *Mulgedium leucophæum*, D. C.
 B. *Sonchus OLERACEUS*, L.
 B. " *ASPER*, Vill.

LOBELIACEÆ.

- Lobelia cardinalis*, L.
 B. " *syphilitica*, L.
 B. " *inflata*, L.
 B. " *spicata*, Lam.
 " *Kalmi*, L. Collingwood.

CAMPANULACEÆ.

- B. *Campanula rotundifolia*, L.
 B. " *aparinoides*, Pursh.
 B. " *Americana*, L.
 B. *Specularia perfoliata*, D. C.

ERICACEÆ.

- B. *Gaylussacia resinosa*. Torr. and Gr.
Vaccinium macrocarpon, Ait. Welland Peat-bog.
Chiogenes hispidula, Torr. and Gr. Millgrove Marsh.
 B. *Gaultheria procumbens*, L.
Cassandra calyculata, Don. Millgrove.
Cassiope hypnoides, Don. Cacouna.
Kalmia glauca, Ait. Welland Peat-bog.
Ledum latifolium, Ait. Lake Medad.
 † * *Ledum palustre*, L. Welland Peat-bog.
 † * *B. Pyrola rotundifolia*, L., var. *uliginosa*. Lake Medad.
 † * *B. Pyrola rotundifolia*, L., var. *asarifolia*. Lake Medad.
 B. *Pyrola elliptica*, Nutt.
Moneses uniflora, Gray. Lake Medad.
 B. *Chimaphila umbellata*, Nutt.
Pterospora Andromedea, Nutt.
 B. *Monotropa uniflora*, L.

PLANTAGINACEÆ.

- B. *Plantago MAJOR*.
Plantago maritima, L., var. *juncoidea*. Cacouna.
 B. *Plantago LANCEOLATA*, L.

PRIMULACEÆ.

- Primula Mistassinica*, Mx. Near Paris.
 B. *Trientalis Americana*, Pursh.
Lysimachia thyrsoiflora, L. Cumminsville and Lake Medad.
Lysimachia stricta, Ait. St. Thomas and East Flamboro'.

PRIMULACEÆ—Continued.

- B. *Lysimachia quadrifolia*, Ait.
 " *ciliata*, L.
Lysimachia longifolia, Pursh. Col-
 lingwood.
 † * *Anagallis ARVENSIS*, L.

LENTIBULACEÆ.

- B. *Utricularia vulgaris*, L.
Utricularia cornuta, Mx. West-
 minster.

OROBANCHACEÆ.

- Epiphegus Virginiana*, T'art.
Conopholis Americana, Wallroth.

SCROPHULARIACEÆ.

- B. *Linaria vulgaris*, Mill.
 B. *Scrophularia nodosa*, L.
 B. *Chelone glabra*, L.
 B. *Pentstemon pubescens*, Solander.
 B. *Mimulus ringens*, L.
Gratiola Virginiana, L. Hall's
 Corners. Rare.
 B. *Veronica Americana*, Schweinitz.
 " *scutellata*, L., Millgrove.
 * B. " *officinalis*, L.
 B. " *serpyllifolia*, L.
 B. " *peregrina*, L.
 B. " *ARVENSIS*, L.
 * *Veronica TRIPHYLLUS*. In culti-
 vated ground.
Gerardia purpurea, L. Water-
 down Creek. Rare.
Gerardia tenuifolia, Vahl.
 B. " *flava*, L.
 B. " *quercifolia*, Pursh.
Gerardia integrifolia, Gray [= *G.*
flava].
 B. *Gerardia pedicularia*, L.
 B. *Castilleja coccinea*, Spreng.
Rhinanthus Crista-galli, L. Ca-
 couna.
 B. *Pedicularis Canadensis*, J.
 B. *Melampyrum Americanum*, Mx.

VERBENACEÆ.

- B. *Verbena hastata*, L.
 B. " *urticifolia*, L.
 B. *Phryma Leptostachya*, L.

LABIATÆ.

- B. *Teucrium Canadense*, L.
Mentha VIRIDIS, L.
 " *PIPERITA*, L.
 B. " *Canadensis* L.

LABIATÆ—Continued.

- B. *Lycopus Virginicus*, L.
 B. *Lycopus Europæus*, L., var.
sinuatus.
 * *Pycnanthemum incanum*, Mx.
Calamintha glabella, Benth., var.
Nuttallii, Gray. Niagara Falls.
Hedeoma pulegioides, Pers.
 B. *Collinsonia Canadensis*, L.
 * *Monarda didyma*, L. Mount Forest.
 B. " *fistulosa*, L.
 B. *Nepeta CATARIA*, L.
 B. *Fruuella vulgaris*, L.
Scutellaria parvula, Mx. The
 Whirlpool, Niagara River.
 B. *Scutellaria galericulata*, L.
 B. " *lateriflora*, L.
Marrubium VULGARE, L.
 B. *Galeopsis TETRATHIT*. Cacouna.
 [Dundas.]
Stachys palustris, L., var. *aspera*.
 B. *Leonurus CARDIACA*, L.
Lamium AMPLEXICAULE, L.

BORRAGINACEÆ.

- B. *Echium VULGARE*, L.
Symphytum OFFICINALE, L.
Onosmodium Carolinianum, D. C.
 B. *Lithospermum ARVENSE*, L.
Lithospermum canescens, Lehm.
 Galt.
Mertensia maritima, Don. Ca-
 couna.
 B. *Myosotis palustris*, Withering.
 B. *Echinopspermum LAPPULA*, Lehm.
 B. *Cynoglossum OFFICINALE*, L.
 " *Virginicum*, L. Galt
 B. " *Morisoni*, D. C.

HYDROPHYLLACEÆ.

- B. *Hydrophyllum Virginicum*, L.

POLEMONIACEÆ.

- B. *Phlox divaricata*, L.

CONVOLVULACEÆ.

- B. *Calystegia sepium*, R. Br.
Calystegia sepium, R. Br., var.
repens.
Calystegia spithamea, Pursh.
 Galt. Dundas.
 B. *Cuscuta Gronovii*, Willd. Ratc.

SOLANACEÆ.

- B. *Solanum DULCAMARA*, L.
 B. " *NIGRUM*, L.

HYDROPHYLLACEÆ—Continued.

- B. *Physalis viscosa*, L.
 B. *Hyoscyamus NIGER*, L. Niagara.
 [Hamilton]
 B. *Datura STRAMONIUM*, L. [Eaten
 with avidity by the Potato Bug.]
Nicotiana RUSTICA, L. West Flamboro'.

GENTIANACEÆ

- Halenia deflexa*, Grisebach. Col-
 lingwood; also at Ancaster.
 B. *Gentiana crinita*, Froel. [Our
 latest blooming flower. I found
 it in blossom, uninjured, in No-
 vember, 1872, several days after
 the minimum thermometer had
 marked 22° F.]
Gentiana detonsa, Fries. Niagara
 Falls.
Gentiana alba, Muhl. Rare.
Gentiana Andrewsii, Grisebach.
 Rare.
Gentiana acuta, Mx. [Query.]
Menyanthes trifoliata, L. Galt;
 also Lake Medad.

APOCYNACEÆ

- B. *Apocynum androsæmifolium*, L.
 B. " *cannabinum*, L.

ASCLEPIADACEÆ

- B. *Asclepias Cornuti*, Decaisne.
 B. " *phytolaccoides*, Pursh.
 B. " *incarnata*, L.
 B. " *tuberosa*, L.

OLEACEÆ

- B. *Fraxinus Americana*, L. Not com-
 mon.
Fraxinus sambucifolia, Lam. An-
 caster.

ARISTOLOCHIACEÆ

- B. *Asarum Canadense*, L.

PHYTOLACCACEÆ

- Phytolacca decandra*, L. Stony
 Creek.

CHENOPODIACEÆ

- B. *Chenopodium ALBUM*, L.
 B. " *HYBRIDUM*, L.
 B. " *BOTRYS*, L.
 B. " *ANDROSIODES*, L.

CHENOPODIACEÆ—Continued

- Blitum capitatum*, L. Galt.
 * *Blitum Bonus HENRICUS*, Reichen-
 bach.

AMARANTACEÆ

- B. *Amarantus PANICULATUS*, L.
 B. " *retroflexus*, L.
 B. *Amarantus græcizans*, L. [= A
 ALBUS, L.]
 † * *Amarantus pumilus*, Raf. Galt.
 [Probably A. VIRIDIS.]

POLYGONACEÆ

- B. *Polygonum Pennsylvanicum*, L.
 B. " *PERSICARIA*, L.
 B. " *hydropiperoides*, Mx.
 * B. *Polygonum amphibium*, L., var.
terrestre.
 B. *Polygonum aviculare*, L.
 B. " *sagittatum*, L.
 B. " *CONVOLVULUS*, L.
 B. *Rumex orbiculatus*, Gray.
 B. " *verticillaris*, L.
 B. " *ACETOSELLA*.

LAURACEÆ

- B. *Sassafras officinale*, Nees.
Lindera Benzoin, Meisner.
 B. *Dicra palustris*, L.

ELEAGNACEÆ

- B. *Shepherdia Canadensis*, Nutt.

SANTALACEÆ

- B. *Comandra umbellata*, Nutt.

EUPHORBACEÆ

- B. *Euphorbia polygonifolia*, L.
 B. " *maculata*, L.
 * B. *Euphorbia hypericifolia*, L.
 Waterdown.
 * *Euphorbia PLATYPHYLLA*, L. The
 Beach near Stony Creek.
Euphorbia obtusata, Pursh.
 [Query.]
 B. *Euphorbia HELIOSCOPIA*, L.
 B. " *PEPLUS*, L.
Acalypha Virginica, L.

URTICACEÆ

- B. *Ulmus fulva*, Mx.
 B. " *Americana*, L.
Urtica gracilis, Ait.
 B. *Laportea Canadensis*, Gaudichaud.

URTICACEÆ—Continued.

- B. *Pilea pumila*, Gray.
 B. *Bœhmeria cylindrica*, Willd.
 B. *Cannabis SATIVA*, L.

'PLATANACEÆ.

- B. *Platanus occidentalis*, L. Stony
 Creek and Grimsby. [Dundas.]

JUGLANDACEÆ.

- B. *Juglans cinerea*, L.
 B. " *nigra*, L.
 B. *Carya alba*, Nutt.
 B. " *amara*, Nutt.

CUPULIFERÆ.

- B. *Quercus alba*, L.
Quercus macrocarpa, Mx. East
 Flamboro' and Burford.
 B. *Quercus coccinea*, Wang, var. *tinc-*
toria.
 B. *Ca tanea vesca*, L., var. *America-*
na, Mx.
 B. *Fagus ferruginea*, Ait.
 B. *Corylus rostrata*, Ait.
 B. *Ostrya Virginica*, Willd.
 B. *Carpinus Americana*, Mx.

BETULACEÆ

- B. *Betula lenta*, L.
 B. " *papyracea*, Ait.
 B. *Alnus incana*, Willd.

SALICACEÆ.

- † * *Salix tristis*, Ait. Rocks near
 Ancaster.
 B. *Salix humilis*, Marshall.
 B. " *nigra*, Marshall.
 B. *Populus tremuloides*, Mx.
 B. " *grandidentata*, Mx.
 B. " *balsamifera*, L.

CONIFERÆ

- B. *Pinus strobus*, L.
Abies nigra, Poir. Millgrove.
 " *alba*, Mx. Brock Road.
 B. *Abies balsamea*, Marshall. West
 Flamboro'.
Larix Americana, Mx.
 B. *Thuja occidentalis*, L.
 B. *Juniperus sabina*, L., var. *procum-*
bens, Pursh.
 * B. *Taxus baccata*, L., var. *Cana-*
densis, Gray.

ARACEÆ.

- B. *Arisema triphyllum*, Torr.
 B. *Calla palustris*, L.
 B. *Symplocarpus fœtidus*, Salisb.
 B. *Acorus Calamus*, L.

LEMNACEÆ.

- Lemna minor*, L. Dundas Marsh.

TYPHACEÆ.

- B. *Typha latifolia*, L.
 B. *Sparganium eurycarpum*, Engelm.
 B. *Sparganium simplex*, Hudson, var.
angustifolium, Gray.

NALADACEÆ

- B. *Potamogeton natans*, L.
 B. " *lucens*, L. [var. *minor*.]
 B. " *perfoliatus*, L.
 B. " *compressus*, L.
 B. " *pectinatus*, L.

ALISMACEÆ.

- B. *Alisma plantago*, L., var. *Ameri-*
canum, Gray.
 B. *Sagittaria variabilis*, Engelm.

HYDROCHARIDACEÆ

- B. *Anacharis Canadensis*, Planchon.
 B. *Vallisneria spiralis*, L. Kingston.
 [Hamilton.]

ORCHIDACEÆ.

- B. *Orchis spectabilis*, L.
Habenaria tridentata, Luidl.
 " *virescens*, Spreng.
Habenaria viridis, R. Br., var.
bracteata, Reichenbach.
Habenaria hyperborea, R. Br.
Habenaria rotundifolia, Richard-
 son. Galt.
 B. *Habenaria Hookeri*, Torr.
 " *orbiculata*, Torr.
Habenaria leucophæa, Gray.
 Marsh near Millgrove.
Habenaria psychodes, Gray.
 " *fimbriata*, R. Br.
 B. *Goodyera pubescens*, R. Br.
Spiranthes cernua, Richardson.
Pogonia ophioglossoides, Nutt.
Calypso borealis, Salisb.
Corallorhiza innata, R. Br.
 B. " *multiflora*, Nutt.
Cypripedium arietinum, R. Br.
 Goderich.

ORCHIDACEÆ—*Continued*

- B. *Cypripedium parviflorum*, Salisb.
 " *pubescens*, Willd.
Cypripedium spectabile, Swartz.
 Lake Medad.
Cypripedium acaule, Ait. Mill-
 grove Marsh.

AMARYLLIDACEÆ

- Hypoxys erecta*, L.

IRIDACEÆ

- B. *Iris versicolor*, L.
 B. *Sisyrinchium Bermudiana*, L., var.
anceps, Gray.

SMILACEÆ

- Smilax rotundifolia*, L. [Probably
S. herbacea.]

LILIACEÆ

- Trillium grandiflorum*, Salisb.
 B. " *erectum*, L.
 B. *Trillium erectum*, L., var. *album*,
 Pursh.
 † * *Trillium viride*. Woods near Wa-
 terdown Road, 14th May, 1862.
 [A specimen with green petals;
 probably an aberrant form of *T.*
erectum, L., var. *album*, Pursh.]
Medeola Virginica, L.
Zygadenus glaucus, Nutt. Galt.
Tofieldia glutinosa, Willd. Col-
 lingwood.
Uvularia perfoliata, L. [Probably
U. grandiflora, Smith.]
 B. *Prosartes lanuginosa*, Don.
 B. *Streptopus roseus*, Mx.
Clintonia borealis, Raf.
 B. *Smilacina racemosa*, Desf.
 B. " *stellata*, Desf.
 " *trifolia*, Desf.
 B. " *bifolia*, Ker.
 B. *Polygonatum biflorum* Ell.
Lilium Philadelphicum, L.
 " *Canadense*, L. Ancaster.
 B. *Erythronium Americanum*, Smith.

JUNCACEÆ

- B. *Luzula pilosa*, Willd.
 B. " *campestris*, D. C.
 B. *Juncus effusus*, L.
 * *Juncus acuminatus*, Mx. The Beach.

PONTEDERIACEÆ

- Pontederia cordata*, L. The Beach.
 Rare.
 B. *Schollera graminea*, Willd.

CYPERACEÆ

- B. *Eleocharis obtusa* Schultes.
 B. " *acicularis*, R. Br.
Scirpus pungens, Vahl.
 B. " *validus*, Vahl.
Eriophorum Virginicum, L.
 " *polystachyon*, L.
 B. *Carex polytrichoides*, Muhl.
 B. " *vulpinoidea*, Mx.
 B. " *stricta*, Lam.
 B. " *aurea* Nutt.
 " *plantaginea*, Lam.
 B. " *Pennsylvanica*, Lam.
 B. " *riparia*, Curtis.
 B. *Carex lupulina*, Muhl. [Wrong.
 = *C. riparia*, Curtis.]

GRAMINEÆ

- * B. *Leersia Virginica*, Willd.
 B. " *oryzoides*, Swartz.
 B. *Alopecurus aristulatus*, Mx.
 B. *Panicum PRATENSE*, L.
 B. *Agrostis scabra*, Willd.
 B. " *vulgaris*, With.
 B. " *alba*, L.
 † * *Muhlenbergia diffusa*, Schreber.
 B. *Calamagrostis Canadensis*, Beauv.
Oryzopsis asperifolia, Mx.
 † * *Eleusine INDICA*, Gaertn.
Dactylis GLOMERATA, L.
 B. *Eatonia Pennsylvanica*, Gray.
Glyceria elongata, Trin.
 B. " *nervata*, Trin.
 B. " *pallida*, Trin.
 B. *Poa compressa*, L.
 B. " *serotina*, Ehrhart.
 B. " *pratensis*, L.
Festuca tenella, Willd.
 * B. *Festuca ELATIOR*, L., var. *pratensis*,
 Gray.
Festuca nutans, Willd.
 B. *Bromus SECALINUS*, L.
 * *Lolium PERENNE*, L.
 B. *Triticum repens*, L.
Elymus Virginicus, L.
 B. " *Canadensis*, L.
 B. *Danthonia spicata*, Beauv.
Aira flexuosa, L.
Anthoxanthum ODORATUM, L.
 B. *Panicum GLABRUM*, Gaudin.
 * B. " *SANGUINALE*, L.
 B. " *capillare*, L.

GRAMINEÆ—Continued.

- B. *Panicum latifolium*, L.
 B. " *dichotomum*, L.
 B. " *depauperatum*, Muhl.
 B. " *CRUS-GALLI*, L.
 * B. *Panicum CRUS-GALLI*, L., var. *hispidum*.
 B. *Setaria GLAUCA*, Beauv.
 B. *Andropogon furcatus*, Muhl.

EQUISETACEÆ.

- B. *Equisetum arvense*, L.
Equisetum pratense, Ehrh. University Park, Toronto.
 B. *Equisetum limosum*, L.
 " *palustre*, L.
 B. " *hiemale*, L.

FILICES.

- B. *Polypodium vulgare*, L.
 B. *Adiantum pedatum*, L.
 B. *Pteris aquilina*, L.
Pellaea atropurpurea, Link.
Pellaea gracilis, Hook. Rivière du Loup.
Asplenium Trichomanes.
 " *viride*, Hndson. Gaspe
 " *thelypterides*, Mx.
 B. " *Filix-femina*, Bernh.
 B. *Camptosorus rhizophyllus*, Link.
Phegopteris hexagonoptera, Fée. Parry Sound.
Phegopteris Dryopteris, Fée.
 B. *Aspidium Thelypteris*, Swartz.
 " *Novboracense*, Willd.
Aspidium fragrans, Swartz. River Saguenay.
Aspidium spinulosum, Swartz, var. *dilatatum*.

FILICES—Continued.

- Aspidium spinulosum*, Swartz, var. *dumetorum*.
Aspidium spinulosum, Swartz, var. *Boottii*.
 B. *Aspidium marginale*, Swartz
 B. " *acrostichoides*, Swartz.
 B. *Cystopteris bulbifera*, Bernh.
 " *fragilis*, Bernh.
Struthiopteris Germanica, Willd
 B. *Onoclea sensibilis*, L.
Woodsia Ilvensis, R. Br. River Saguenay.
Woodsia glabella, R. Br. River Saguenay.
Dicksonia punctilobula, Kunze Parry Sound.
Osmunda regalis, L.
 B. " *Claytoniana*, L.
 B. " *cinnamomea*, L.
Botrychium Virginicum, Swartz.

LYCOPODIACEÆ.

- Lycopodium annotinum*, L. Bruce Mines.
Lycopodium dendroideum, Mx. Bruce Mines.
Lycopodium clavatum, L. Bruce Mines and woods on the Water-down Road.

HYDROPTERIDES

- * *Azolla Caroliniana*, Willd. The Beach.

CHARACEÆ

- Chara vulgaris*, L. Lake Medad and Galt.

SUPPLEMENTARY LIST.

BY J. M. BUCHAN.

- Ranunculus aquatilis*, L., var. *trichophyllus*, Chaix.
Nasturtium palustre, D. C., var. *hispidum*, Gray.
 † * *Dentaria heterophylla*, Nutt.
Cardamine rhomboidea, D. C.
 " *hirsuta*, L.
Arabis hirsuta, Scop.
Camelina SATIVA, Crantz. Paris.
Lepidium RUDERALE, L.
 " *CAMPESTRE*, L.

- Raphanus RAPHANISTRUM*, Barrie.
Viola Selkirkii, Pursh, Goldie, 1822. Walkerton and Owen Sound.
Lechæa minor, Lam.
Hypericum pyramidatum, Ait. Fullarton
Saponaria OFFICINALIS, L.
Cerastium VISCOSUM, L.
Portulaca GRANDIFLORA, Hook.
Claytonia Caroliniana, Muhl. Walkerton and Owen Sound.

- Malva moschata*, L.
Vitis riparia, Mx.
Melilotus officinalis, Willd. Toronto.
Desmodium cuspidatum, Torr. and Gr.
 * *Potentilla paradoxa*, Nutt.
Rosa Carolina, L.
 " *rebginosa*, L.
Cratægus tomentosa, L., var. *pyrifolia*, Gray.
Amelanchier Canadensis Torr. and Gr., var. *oblongifolia*.
Amelanchier Canadensis, Torr. and Gr.
 A variety with notched petals, 2-4 feet high, flowering a few days later than the preceding variety.
Ribes cynosbati, L.
 " *lacustre*, Poir.
Pastinaca sativa, L.
Archangelica atropurpurea, Hoffm. Dundas and Fullarton.
Carum carvi, L.
Lonicera hirsuta, Eaton.
Dipsacus silvestris, Mill. Hamilton and Grimsby. Rare.
Aster azureus, Lindl.
 " *sagittifolius*, Willd.
 " *tenuifolius*, L.
 " *ptarmicoides*, Torr. and Gr.
Erigeron annuus, Pers.
Solidago squarrosa, Muhl.
 " *bicolor*, L., var. *concolor*.
 " *speciosa*, Nutt.
 " *Virga-aurea*, L., var. *humilis*.
 " *rigida*, L.
 " *patula*, Muhl.
 " *arguta*, Ait., var. *juncea*.
 † * " " *scabrella*.
 " *Muhlenbergii*, Torr. and Gr.
 " *serotina*, Ait.
Inula helenium, L.
 † * *Polymnia Canadensis*, L., var. *discoidea*.
Bidens Beckii, Torr.
Maruta corula, D. C.
Artemisia Canadensis, Mx.
Cirsium lanceolatum, Scop.
Onopordon acanthium, L.
Hieracium paniculatum, L.
Taraxacum dens-leonis, Desf.
Vaccinium vacillans, Solander.
Pyrola secunda, L.
Ilex verticillata, Gray.
Aphyllon uniflorum, Torr. and Gr.
Verbascum thapsus, L.
 " *blattaria*, L.
Ilysanthes gratioides, Benth.
Satureia hortensis, L.
Lithospermum longiflorum, Spreng.
- * *Myosotis palustris*, Withering, var. *laxa*.
Atriplex patula, L.
Polygonum incarnatum, Ell.
 " *hydropiper*, L.
 " *acre*, H. B. K.
 " *dumetorum*, L.
Fagopyrum esculentum, Moench.
Rumex crispus, L.
Quercus prinus, L., var. *acuminatus*.
Salix discolor, Muhl.
 " *cordata*, Muhl.
 " *livida*, Muhl., var. *occidentalis*
 " *lucida*, Muhl.
Abies Canadensis, Mx.
Lemna polyrrhiza, L.
Potamogeton amplifolius, Tuckerman.
 * *Dioscorea villosa*, L.
Smilax hispida, Muhl.
 " *herbacea*, L.
Uvularia grandiflora, Smith.
Lilium superbum, L.
Allium tricoccum, Ait.
Juncus bufonius, L.
 " *tenuis*, Willd.
Juncus Alpinus, Villars, var. *insignis*, Fries.
Juncus nodosus, L.
Cyperus diandrus, Torr.
 " *strigosus*, L.
Eleocharis palustris, R. Br.
Scirpus fluviatilis, Gray.
 " *atrovirens*, Muhl.
 " *Eriophorum*, Mx., var. *cyperinus*.
Carex bromoides, Schk.
 " *teretiusecula*, Good.
 " *stipata*, Muhl.
 " *rosea*, Salk.
 " *trisperma*, Dew.
 " *scoparia*, Schk.
 " *lagopodioides*, Schk.
 " *cristata*, Schw.
Carex straminea, Schk., var. *tenera*, Dew.
Carex gracillima, Schw.
 " *platyphylla*, Carey.
 " *laxiflora*, Lam., var. *blanda*.
 " *varia*, Muhl.
 " *tentaculata*, Muhl.
 " *intumescens*, Rudge.
 " *lupulina*, Muhl.
 " *retrorsa*, Schw.
Zizania aquatica, L.
 † * *Vilfa aspera*, Beauv.
 " *vaginiflora*, Torr.
Sporobolus cryptandrus, Gray.
Agrostis perennans, Tuckerman.
Muhlenbergia Mexicana, Trin.

Glyceria aquatica, Smith.	Gymnostichum Hystrix, Schreb.
" fluitans, R. Br.	Phalaris arundinacea, L.
Poa annua, L.	Setaria viridis, Beauv.
" debilis, Torr.	* Cenchrus tribuloides, L.
Bromus ciliatus, L.	Andropogon scoparius, Mx.
Phragmites communis, Trin.	Sorghum nutans, Gray.
* Elymus Canadensis, L., var. glaucifolius.	Botrychium lunarioides, Swartz.

MEAN MONTHLY TEMPERATURES OF BELLEVILLE AND HAMILTON.

		BELLEVILLE.		HAMILTON.
January	.. ..	18.64	..	23.41
February	.. ..	20.47	..	24.34
March	.. ..	26.71	..	28.87
April	.. ..	42.43	..	43.14
May	.. ..	54.08	..	53.53
June	.. ..	66.12	..	65.78
July	.. ..	70.73	..	72.39
August	.. ..	68.17	..	69.43
September	.. ..	58.92	..	60.56
October	.. ..	46.91	..	48.50
November	.. ..	33.04	..	35.71
December	.. ..	21.30	..	25.77

LIST OF PLANTS MENTIONED IN OUR LISTS THAT DO NOT OCCUR AT BELLEVILLE.

			DATE OF FLOWERING.		DIRECTION IN WHICH THEY EX- TEND FURTHEST.
Thalictrum anemonoides, Mx.	.. ..	..	May	..	Southern.
Liriodendron Tulipifera, L...	.. ..	..	June	..	Southern.
Dentaria heterophylla, Nutt	.. ..	..	May	..	Southern.
Arabis lyrata, L. [Niagara]	.. ..	..	July	..	Northern.
" sagittata, D. C. [Galt]	.. ..	..	June	..	
Lepidium RUDERALE, L.	.. ..	..	..	..
" CAMPESTRE, L.	.. ..	..	..	..
Polanisia graveolens, Raf.	.. ..	..	July & Aug.	..	Southern.
Hypericum Kalmianum, L. . .	.. ..	..	Aug.	..	Northern.
Erodium CICUTARIUM, L'Her	.. ..	..	..	..
Vitis riparia, Mx.	.. ..	..	May	..	South-western.
Euonymus Americanus, L., var. obovatus	.. ..	..	June	..	South-western.
Polygala Nuttallii, Torr. and Gr.	.. ..	..	Aug.	..	South-eastern.
" verticillata, L.	.. ..	..	Aug.	..	Southern.
Trifolium ARVENSE, L.	.. ..	..	..	..
Lathyrus PRATENSIS, L.	.. ..	..	..	..
Lespedeza repens, Torr. and Gr.	.. ..	..	Aug.	..	Southern.
" violacea, Pers.	.. ..	..	Aug.	..	Southern.
Amelanchier Canadensis, Torr. & Gr., var. rotundifolia.	.. ..	..	May	..	
Spiræa opulifolia, L. [Valley of the Thames]	.. ..	..	June	..	Western.
Pyrus arbutifolia, L., var. melanocarpa. [Mill-grove]	.. ..	..	June	..	
Gillenia trifoliata, Moench	.. ..	..	June	..	Southern.
Rosa MICRANTHA, Smith	.. ..	..	..	..

PLANTS THAT DO NOT OCCUR AT BELLEVILLE—Continued.

	DATE OF FLOWERING.	DIRECTION IN WHICH THEY EX- TEND FURTHEST.
<i>Potentilla paradoxa</i> , Nutt. . . . .	.. Spring	.. South-western.
<i>Conioselinum Canadense</i> , Torr. and Gr. . . . .	.. Aug.	.. Northern.
<i>Erigenia bulbosa</i> , Nutt. [St. Thomas] . . . . .	.. April	.. Southern.
<i>Cornus florida</i> , L. . . . .	.. June	.. Southern.
<i>Lonicera flava</i> , Sims . . . . .	.. June	.. Southern.
<i>Aster levis</i> , L., var. <i>hevigatus</i> . . . . .	.. Aug. & Sept.	
" " <i>cyaneus</i> . . . . .	.. Aug. & Sept.	
<i>Aster graminifolius</i> , Pursh. [Millgrove] . . . . .	.. Aug.	.. Northern.
<i>Solidago virga-aurea</i> , L., var. <i>humilis</i> . . . . .	.. Sept.	.. Northern.
" <i>rigida</i> , L. . . . .	.. Sept.	.. South-western.
" <i>patula</i> , Muhl . . . . .	.. Sept.	..
" <i>arguta</i> , Ait., var. <i>scabrella</i> . . . . .	.. Sept.	.. Western.
<i>Polymnia Canadensis</i> , L., var. <i>discoidea</i> . . . . .	.. Aug.	.. South-western.
<i>Xanthium spinosum</i> , L. . . . .	..	..
<i>Senecio PALUSTRIS</i> , Hook . . . . .	..	..
<i>Onopordon ACANTHIUM</i> , L. . . . .	..	..
<i>Leontodon AUTUMNALE</i> , L. . . . .	..	..
<i>Hieracium venosum</i> , L. . . . .	.. Sept.	..
" <i>panculatum</i> , L. . . . .	.. Aug.	..
<i>Nabalus Fraseri</i> , D. C. . . . .	.. Aug.	.. South-eastern.
<i>Campanula Americana</i> , L. . . . .	.. July	.. Southern.
<i>Pyrola rotundifolia</i> , L., var. <i>asarifolia</i> . [Lake Medad] . . . . .	.. June	.. Northern.
<i>Pyrola rotundifolia</i> , L., var. <i>uliginosa</i> . [Lake Medad] . . . . .	.. June	.. Northern.
<i>Ledum palustre</i> , L. [Welland Peat-bog] . . . . .	.. June	.. Northern.
<i>Primula Mistassinica</i> , Mx. [Paris] . . . . .	.. May	.. North-western.
<i>Anagallis ARVENSIS</i> , L. . . . .	..	..
<i>Verbascum BLATTARIA</i> , L. . . . .	..	..
<i>Veronica officinalis</i> , L. . . . .	.. June	.. Southern.
" <i>TRIPHYLLOS</i>. . . . .	..	..
<i>Gerardia tenuifolia</i> , Vahl. . . . .	.. Aug.	.. Southern.
" <i>flava</i> , L. . . . .	.. Aug.	.. Southern.
" <i>quercifolia</i> , Pursh. . . . .	.. Aug.	.. Southern.
" <i>pedicularia</i> , L. . . . .	.. Aug.	.. Southern.
<i>Pycnanthemum incanum</i> , Mx. . . . .	.. Aug.	.. Southern.
<i>Calamintha glabella</i> , Benth., var. <i>Nuttallii</i> , Gray. [Niagara Falls] . . . . .	.. July	.. South-western.
<i>Collinsonia Canadensis</i> , L. . . . .	.. Aug.	.. Southern.
<i>Monarda didyma</i> , L. . . . .	.. Aug.	.. Northern.
<i>Onosmodium Carolinianum</i> , D. C. . . . .	.. Aug.	.. Southern.
<i>Myosotis palustris</i> , With., var. <i>laxa</i> . . . . .	.. July	.. Northern.
<i>Physalis viscosa</i> , L. . . . .	.. July	.. Southern.
<i>Halenia deflexa</i> , Grisebach. [Ancaster] . . . . .	.. Aug.	.. Northern.
<i>Blitum BONUS HENRICUS</i> , Reichenbach . . . . .	..	..
<i>Amarantus virginis</i> , L. . . . .	..	..
<i>Sassafras officinale</i> , Nees . . . . .	.. May	.. Southern.
<i>Euphorbia hypericifolia</i> , L. . . . .	.. Sept.	.. Southern.
" <i>PLATYPHYLLA</i> , L. . . . .	..	..
" <i>obtusata</i> , Pursh . . . . .	.. Sept.	.. Southern.
<i>Platanus occidentalis</i> , L. . . . .	.. May	.. Southern.
<i>Juglans nigra</i> , L. . . . .	.. May	.. Southern.
<i>Castanea vesca</i> , L., var. <i>Americana</i> , L. . . . .	.. June	.. Southern.
<i>Salix tristis</i> , Ait . . . . .	.. May	..

PLANTS THAT DO NOT OCCUR AT BELLEVILLE.—Continued

	DATE OF FLOWERING	DIRECTION IN WHICH THEY EX- TEND FURTHEST.
<i>Habenaria leucophæa</i> , Nutt. [Millgrove]	.. July	.. South-western.
“ <i>fimbriata</i> , Lindl. . . . .	.. Aug.	.. North-eastern.
<i>Dioscorea villosa</i> , L. . . . .	.. July	.. Southern.
<i>Lilium superbum</i> , L. . . . .	.. July	.. Southern.
<i>Prosartes lanuginosa</i> , Don . . . . .	.. June	.. Southern.
<i>Tofieldia glutinosa</i> , Willd. [Collingwood]	.. Aug.	.. Northern.
<i>Juncus acuminatus</i> , Mx. . . . .	.. June	.. South-western.
<i>Leersia Virginica</i> , Willd. . . . .	.. Aug. & Sept.	.. Southern.
<i>Elymus Canadensis</i> , L., var. <i>glaucifolius</i> . . . . .	.. Aug.	..
<i>Vilfa aspera</i> , Beauv. . . . .	.. Sept.	.. Southern.
<i>Lolium PERENNE</i> , L. . . . .	..	..
<i>Muhlenbergia diffusa</i> . . . . .	.. July	.. Southern.
<i>Eleusine INDICA</i> , Gærtn. . . . .	..	..
<i>Festuca ELATIOR</i> , L., var. <i>pratensis</i> . . . . .	..	..
<i>Panicum SANGUINALE</i> , L. . . . .	..	..
“ <i>CRUS-GALLI</i> , L., var. <i>hispidum</i> . . . . .	..	..
<i>Cenchrus tribuloides</i> , L. . . . .	.. Aug.	..
<i>Pellæa atropurpurea</i> , Link. . . . .	.. July	..
<i>Aspidium spinulosum</i> , Swz., var. <i>dumetorum</i> . . . . .	.. July	.. Northern.
<i>Azolla Caroliniana</i> , Willd. . . . .	..	.. Southern.



CANADIAN LOCAL HISTORY.

THE FIRST GAZETTEER OF UPPER CANADA.

WITH ANNOTATIONS,

BY THE REV. HENRY SCADDING, D.D.

(Continued from page 317.)

A.

Abino Creek, in the County of Lincoln, empties itself into Lake Erie, in the township of Bertie, at the head of the bay, east of Point Abino.

Abino Point, in the township of Bertie, on Lake Erie, is nine or ten miles west of Fort Erie. [In a letter of Chief Brant's, dated 1794, given in Perkins' "Annals of the West," p. 396, this place is spoken of as "Point Appineau." *Abino* is probably an abridged form of the Otchipway word *abino-dji*, "child." In Lake Superior there is a point named Gaanagouassgokag, "Little Girl's Point."]]

Addington County is bounded on the east by the County of Frontenac; on the south by Lake Ontario, to the westernmost boundary of the late township of Ernest Town; and on the west by the township of Fredericksburgh, running north 31 degrees west, until it meets the Ottawa or Grand River, and thence descending that river until it meets the north-westernmost boundary of the County of Frontenac. This county comprehends all the islands nearest to it. [In the 2nd edition, this article reads as follows: "*Addington and Lenox County* is bounded on the east by the County of Frontenac, on the south by Lake Ontario, and on the west by the County of Hastings. This county comprehends all the islands nearest to it; it sends, in conjunction with Hastings and Northumberland, one representative to the Provincial Parliament." *Addington* perpetuates the name of Mr. Speaker Addington, 1793, afterwards Lord Sidmouth. *Lenox*, more usually *Lennox*, was a compliment to Charles Lennox, third Duke of Richmond, Master of the Ordnance in the reign of George III.]]

Adolphus Town is situated in the Bay of Quinté: it is bounded southerly, westerly and northerly by the waters of the bay, and easterly by the township of Fredericksburgh, in the Midland District. The courts of General Quarter Sessions of the Peace are holden here annually, the second Tuesday in January and July.

Adolphus Town, the township of, in the County of Lenox, lies to the westward of Fredericksburgh, in the Bay of Quinté. ["Adolphus," from Prince Adolphus, Duke of Cambridge, youngest son of George III.]

Aldborough Township, in the County of Suffolk, lies to the west of Dunwich: it is washed by the Thames on the north and by Lake Erie on the south. [Probably from Aldborough in Suffolk, England, a fishing-town at the mouth of the River Alde. There is another Aldborough in the West Riding of York, the *Isurium Brigantium* of the Roman period.]

Alempignon Lake lies to the northward of Lake Superior, and between it and the mountains which bound the Hudson's Bay Company and New South Wales to the southward. It contains several small islands, and is about the size of Lake Nipissing. [This is the same as Lake Nipigon, now familiar to tourists. In Otchipway, Nibegom: "I wait for game in the night on the water in a canoe." (See Buraga's Otchipway Dictionary, p. 279.) In a list of names in Schoolcraft's *American Indians* (p. 25, n.), to *Alempigon* is subjoined the note: "Improperly written for Nipigon, a small lake north of Lake Superior."]

Alfred Township, in the County of Glengarry, is the third township in ascending the Ottawa river.

Alnwick Township, in the County of Northumberland, lies in the rear and north of Haldimand.

Alumets les, on the Ottawa river, above the Rapids, which are higher than Rivière du Nord. [*Allumettes*: Matches for kindling a light, &c.]

Alured Cape, in the township of Clarke, north side of Lake Ontario. [*Alured* was the baptismal name of General Clarke (afterwards Sir Alured), from whom the township had its name. It is an archaic form of *Alfred*.]

Ameliasburgh Township, in the County of Prince Edward, is the westernmost township of that county, bounded by the carrying place which leads from the head of the Bay of Quinté to Lake Ontario,

and is washed by the waters of the bay and the lake. [*Amelia*, from the name of a daughter of George III.]

Amherstburgh, the military post and garrison now building at the mouth of Detroit river, in the township of Malden.

Amherst Island, in the County of Ontario, formerly called Isle Tonti, contains about 16,000 acres: it lies opposite to Ernest Town and part of Fredericksburgh, in Lake Ontario, towards the entrance of the Bay of Quinté. [*Amherst*, from the General of that name, to whom Vaudreuil capitulated in 1760.]

Amikoues, River of the, runs into Lake Huron from the north shore, east of the Mississaga river. [*Amikoues* is Otchipway for "beaver-lodge."]

Ancaster Township lies to the southward of Dundas Street, and is bounded on the east by Barton and Glanford. [From *Ancaster* in Lincolnshire, the ancient Roman station, *Urococaluna*. It gave the title of duke to the head of the Bertie family (the Earl of Lindsey's) up to 1806.]

Angousoka River, now called the Shannon, empties itself into the Bay of Quinté.

Annequionchecom Lake: one of the lakes on the communication between Rice Lake and Lake Simcoe. [*Annequi* denotes "succession." The native names of other lakes in this chain are given in Capt. Owen's chart, published by the Admiralty in 1838. *Canenandacokank*, Balsam Lake; *Nummeysaukyagun*, Sturgeon Lake. Two lakes marked *Shebaughtickwyong*, one the "West," the other the "East" Lake. (*Shebaughtick* gives the notion of *stiffness*.) *Caughwawkuonykark*, Tripe Lake. The river by which the lakes in the township of Reach empty into Sturgeon Lake is marked *Yawbashkaskark*. (The modern much-vulgarized "Bobcaygeon" appears on Owen's chart as "Babakaijuen;" doubtless a better approximation to the Otchipway word. *Baba* denotes "repetition." *Kakabikedjiwan* = "There is a strong rapid over rocks.")]

Ann's St. Island, in Lake Superior, lies to the southward of Isle Hocquart.

Apostles, the Twelve, lie off the southern cape which makes West Bay, in Lake Superior.

Appanee River, running through the front of the township of Camden, divides Fredericksburgh from Richmond, and empties itself into the Bay of Quinté at the Mohawk settlement. [*Appanee* = Flour. This name has now assumed the form of *Napanec*.]

Atokas, River aux, runs into Lake Ontario, west of York, and the River Humber. The mouth of this river is the boundary between the Mississauga lands and the East Riding of the County of York. It is now generally called the Etobicoke. [*Atokas* appears to be a French abbreviation of the native name, which meant "a place where there are alder-trees." "Etobicoke" has retained more of the original expression. The early surveyor, Augustus Jones, writes the word as "Atobicoake" in one of his letters, and designates another stream at "the head of the lake" by the same name, which he interprets "Black Alder Creek," and notes that it is "the creek near Morden's," i. e., the solitary house (in Jones' day) at the point where "Dundas Street" struck the stream of which Burlington Bay is, as it were, the estuary. Baraga, in his Otchipway Dictionary, gives "Wadopiki" as "Alder-forest;" and "Alder-point," Lake Superior, is "Nadopikan." Comp. Apanee, Napanee.]

Attica Bay, on the south side of the Ottawa river, in Monsieur de Longueuil's seigniory, lies at the mouth of the river of the same name. [See note on next article.]

Attica, River au, runs into the Ottawa river, in Monsieur de Longueuil's seigniory. [This ought probably to be *Rivière aux Atticas*. Drake, in his work on the Indians of North America, mentions the "Attikamigues" (Whitefish) as a tribe "in the North of Canada, destroyed by Pestilence in 1670."]

Augusta Township, in the County of Grenville, is the eighth township in ascending the River St. Lawrence. [*Augusta* is probably a compliment to the King's daughter, *Augusta Sophia*.]



CANADIAN INSTITUTE.

ANNUAL REPORT OF THE COUNCIL FOR THE YEAR 1872-'73.

The Council of the Canadian Institute have much pleasure in reporting, at the end of another year, the increasing interest which has been manifested in its proceedings, and the value of some of the communications which have been made at their meetings. A strong desire is felt by some of those who take the greatest interest in the continued growth of the Institute, that steps should be taken as soon as possible for providing more adequate accommodation in a suitable building, and for adding to the library, as a collection of books of reference, a *more generally attractive lending library for the use of members at large*. In this way an increased membership and a larger attendance at its meetings may be most satisfactorily secured.

The Council would also express their satisfaction at the revival of an interest in the most valuable work of the Institute as a scientific society by some of its junior members, and the communication by them to the meetings and to the Journal of papers of an original character, and embodying the results of experiment and field study. In this way the increased value of the Journal as a scientific and literary periodical will be most beneficially secured, and the true work of the Institute most effectually accomplished.

The following is the statement of the proceedings of the Society for the past year, from 1st December, 1872, to the 30th November, 1873:—

MEMBERSHIP.

The present state of Membership:

Members at commencement of Session	234
Members elected during the Session	8
	342

Deduct.

Deaths during the year	2
Withdrawn	6
	8

Total 30th November, 1873.....	334
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Composed of

Honorary Members	5
Life Members	19
Corresponding Members	4
Ordinary Members ..	306

Total	334
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COMMUNICATIONS.

The following valuable and instructive papers and communications were read and received at the ordinary meetings held during the Session :

- August 30, 1872*—"On Respiratory Murmurs," by J. R. Leaming, M. D., of St. Luke's Hospital, New York.
- December 13, 1872*.—"On Diseased Retina," by A. M. Rosebrugh, M. D.
- December 20, 1872*.—"On the Use of the Syphon Tube in Evacuating the Contents of the Stomach," by A. M. Rosebrugh, M. D.
- January 10, 1873*.—Annual Address of the Chairman of the Medical Section, C. B. Hall, M. D.
- January 11, 1873*.—Inaugural Address of the President, "Merton College and Canada," by Rev. H. Scadding, D. D.
- January 17, 1873*.—A Sketch of the History of the Medical Profession," by N. Agnew, M. D.
- January 18, 1873*.—"Dredgings of Lake Ontario," by Prof. H. A. Nicholson, M. D., D. Sc., etc.
- January 24, 1873*.—"Chloral Hydrate," by A. D. Williams, M. D.
- January 25, 1873*.—"The Supernatural among Savage Nations as an element in the Darwinian Controversy," by Prof. D. Wilson, LL. D.
- January 31, 1873*.—"Delirium Tremens," by C. Archibald, M. D.
- February 1, 1873*.—"Some Original Renderings of Passages in the Greek and Latin Classics," by W. D. Pearman, M. A.
- February 8, 1873*.—"The Correlation of Physical Forces," by A. D. Williams, M. D.
- February 15, 1873*.—"The Imperial Family of the Cæsars, illustrated by Coins," by Rev. J. McCaul, LL. D.
- February 21, 1873*.—"Recent Explorations in Africa," by Prof. Wright.
- February 28, 1873*.—"Acute Rheumatism," by G. Wright, M. D.
- March 1, 1873*.—"The Elements of Speech," by Mr. Phillips.
- March 1, 1873*.—"Planetary Influence as affecting Rainfall," by Mr. Bowes.
- March 7, 1873*.—"Diseases of the Ear," by R. A. Reeve, M. D.
- March 8, 1873*.—"The Iron Mines of Hull, Canada," by Prof. H. A. Nicholson, M. D., D. Sc., etc.
- March 8, 1873*.—"The Introduction of Printing into Canada," by Rev. H. Scadding, D. D.
- March 14, 1873*.—"Placenta Prævia," by W. Oldright, M. A., M. D.
- March 15, 1873*.—"The Reindeer Period in Scotland," by Prof. D. Wilson, LL. D.
- March 22, 1873*.—"The Elements of Human Speech," by John Phillips, Esq.
- March 29, 1873*.—"The Wealden of England," by Prof. G. Buckland.
- April 5, 1873*.—"The Horites," by Rev. J. Campbell, M. A.
- May 16, 1873*.—"Excision of the Elbow Joint," by W. Hillary, M. D.

S SPREULL, TREASURER, IN ACCOUNT WITH THE CANADIAN INSTITUTE,
FROM DECEMBER 1ST, 1872, TO DECEMBER 1ST, 1873.

Debtor.

Balance from last year		\$579 04
Subscriptions collected by Librarian	\$252 00	
" " Treasurer	16 00	
		<u>268 00</u>
Government Allowance--		
April 19th, half year	\$375 00	
October 3rd, half year	375 00	
		<u>750 00</u>
Dividend on Stock Provincial Building Society--		
April 12th, half year	\$120 00	
October 10th, half year	120 00	
		<u>240 00</u>
Rents		151 70
Journals sold		6 00
Interest from Provincial Building Society to June		5 25
		<u>\$1,999 99</u>

Creditor.

Insurance in Western, on Furniture, &c	\$75 00	
" Royal, on House	22 50	
		<u>\$97 50</u>
Mrs. Johnston, by order of Council	\$84 00	
Librarian	252 00	
		<u>336 00</u>
Copp, Clark & Co., Printing, &c	\$157 10	
" " " "	302 83	
J. Bain, Magazines and Reviews	15 25	
		<u>475 78</u>
Editor's Honorarium (completion of vol. xiii)		240 00
Instalment on six shares Provincial Building Society		130 36
Coal and Wood		54 50
Advertising		55 70
Postages	\$24 75	
Express	8 20	
Telegraphing	1 09	
		<u>34 04</u>
Coal Oil, Lamps, &c		8 25
Stationery		1 50
Wages		4 25
Balance		562 11
		<u>\$1,999 99</u>

Toronto, 1st December, 1873.

SAMUEL SPREULL, *Treasurer.*

FINANCIAL STATEMENT OF THE CANADIAN INSTITUTE,
DECEMBER 1st, 1873.

Balance in Deposit	\$562 11
Building Fund—	
30 Shares in Provincial Permanent Building Society	3,330 06
6 " Accumulating Stock " " paid	292 52
Total	<u>\$4,184 63</u>

The undersigned Auditors have compared the vouchers for the items of these accounts with the Cash Book, and find them to agree. The balance in the hands of the Treasurer is \$562 11.

W. J. MACDONELL.

A. M. ROSEBRUGH.

TORONTO, April 12, 1874.

APPENDIX.

DONATIONS OF BOOKS AND PAMPHLETS.

1. Journal of the Royal Geographical Society, vol. xli, 1871.
2. Catalogue of the Library of the Royal Geographical Society, 1870.
3. Proceedings of the Royal Geographical Society, vol. xv, No. 5, vol. xvi, vol. xvii, Nos. 1, 2.
4. Quarterly Journal of the Geological Society, vol. xxvii, Part 4, vol. xxviii, vol. xxix, Parts 1, 2, 3.
5. List of the Geological Society, 1871, 1872.
6. Journal of the Royal Asiatic Society, vol. v, Part 2, vol. vi, Parts 1, 2.
7. Transactions of the Royal Society of Edinburgh, 1870-71, 1871-72.
8. Proceedings " " " " " 1870-71, 1871-72.
9. Journal of the Anthropological Institute, vol. i, No. 3, vol. ii, vol. iii, No. 1.
10. List " " " " 1872.
11. Transactions of the Royal Scottish Society of Arts, vol. lviii, Parts 3, 4.
12. Proceedings of the Philosophical Society of Glasgow, 1871-72, 1872-73.
13. Journal of the Linnæan Society; Zoology, Nos. 53-56; Botany, Nos. 66-72.
14. Proceedings " " 1871-72, 1872-73.
15. List " " 1872, and additions to the Library, 1870-71, 1871-72.
16. Transactions of the Edinburgh Geological Society, vol. ii, Parts 1, 2.
17. Proceedings of the Literary and Philosophical Society of Liverpool, No. 26.
18. Journal of the Royal Dublin Society, vol. vi, No. 2.
19. Proceedings of the Royal Colonial Institute, 1872.
20. Reports of the Belfast Naturalists' Field Club, 1868-69, 1870-71, 1871-72.
21. Proceedings of the Society of Antiquaries of Scotland, vol. vii, Part 2; vol. viii; vol. ix, Part 1.
22. Weekly Journal of the Society of Arts, London, September 1872-June 1873.
23. Nature, January-June, 1873.

24. The European Mail, London, May 1872-March 1873.
25. The British Trade Journal, January and July, 1873.
26. Memoirs of the Geological Survey of India, vols. viii, ix.
27. Records " " " vols. v, 1, 2, 3, 4.
28. Palæontologia Indica, vol. iv, 1, 2.
29. Bernard Quaritch's Catalogues of Second-hand Books.
30. Annales des Mines, tome ii, 7^e Serie, Parts 4, 5, 6; tome iii, 7^e Serie: Parts 1, 2, 3.
31. Bulletin de la Société Géologique de France, tomes xv, xviii, xxv.
32. Revue de Géologie. MM. Delesse et Lapparent, 1872.
33. Bulletin de l'Athénée Oriental, Juin, 1869.
34. Programme du Congrès International d'Anthropologie et d'Archæologie. 1872.
35. Verhandlungen der zoologisch-botanischen Gesellschaft, Wien, 1872.
36. Offenbacher Verein für Naturkunde, 1869-70, 1870-71.
37. Abhandlungen der naturwissenschaftlichen Vereins, Bremen, 1872, 1873.
38. Beilage " " " "
39. Cosmos, di Guido Cora, Torino, Nos. 1, 2, 3, 4.
40. Öfversigt af Kongliga Vetenskaps Akademiens, 1870, Parts 1, 2.
41. Lefnadsteckningar öfver Kongliga Vetenskaps Akademiens, 1870-71.
42. Handlingar af " " " 1868, 1869, 1870.
43. Acta Universitatis Lundensis, 1868, 1869, 1870.
44. Minnesteckning öfver E. G. Geijer, af F. F. Carlson
45. Transactions of the Academy of Science of St. Louis, 1873.
46. Bulletin of the Essex Institute, 1872.
47. Proceedings of the Academy of Natural Sciences, Philadelphia, 1872, 1873. January-September.
48. Proceedings of the American Antiquarian Society, Nos. 58, 59, 60.
49. American Journal of Science and Arts, December 1872-August 1873.
50. Journal of the Franklin Institute, 4 Nos.
51. Annals of the Lyceum of Natural History, New York, vol. x, Nos. 1-7.
52. Proceedings " " " 1870-71.
53. Constitution of the Minnesota Academy of Natural Sciences, 1873.
54. Memoirs of the Boston Society of Natural History, vol. ii, Part 2, No. 3.
55. Proceedings " " " 1872.
56. Report of the U. S. Geological Survey of Montana, 42nd Congress, 2nd Session.
57. Statistics of Mines and Mining west of the Rocky Mountains, 42nd Congress. 2nd Session.
58. Fifth and Sixth Annual Reports of the Trustees of the Peabody Academy of Science.
59. Fifty-fourth and Fifty-fifth Annual Reports of the Trustees of the New York State Library.
60. Twenty-fourth Annual Report of the New York State Museum.
61. Twenty-first Annual Report of the Regents of the New York State University.
62. Meteorology of New York, 1859-1863.

MONTHLY METEOROLOGICAL REGISTER, AT THE MAGNETICAL OBSERVATORY, TORONTO, ONTARIO—APRIL, 1874.
 Latitude—43° 30' North. Longitude—81° 17m. 33s. West. Elevation above Lake Ontario, 108 feet.

Day.	Barom. at temp. of 32°.			Temp. of the Air.			Excess of Mean above Normal			Tension of Vapour.			Humidity of Air.			Direction of Wind.			Resistant	Velocity of Wind.			Rain Inches	In Snow Inches	
	Mean.			MEAN			Normal			M.M.			M.M.			M.M.				M.M.					
	6 A.M.	10 P.M.	Mean.	6 A.M.	10 P.M.	MEAN	6 A.M.	10 P.M.	MEAN	6 A.M.	10 P.M.	MEAN	6 A.M.	10 P.M.	MEAN	6 A.M.	10 P.M.	MEAN		6 A.M.	10 P.M.	MEAN			6 A.M.	10 P.M.	MEAN
1	29.830	29.720	29.694	13.6	30.8	27.6	24.95	-10.65	0.63	0.85	116	0.85	77	47	76	63	8	8	8	78 E	7.0	8.2	8.6	3.48	7.42
2	29.619	29.660	29.640	26.5	43.6	31.1	33.63	-2.35	1.11	1.30	159	1.26	77	44	91	68	8	8	8	51 W	6.0	22.4	16.8	8.29	10.90
3	29.724	29.803	29.764	10.2	22.6	19.2	17.73	-19.00	0.46	0.68	0.69	0.61	60	63	67	62	8	8	8	59 W	11.0	14.0	10.8	12.74	14.99
4	29.486	29.604	29.545	36.2	32.9	32.2	32.22	-5.26	1.32	1.43	165	1.51	90	67	80	83	8	8	8	74 E	2.0	13.4	10.2	6.87	6.76
5	29.590	29.644	29.617	39.1	31.0	33.73	4.17	1.63	1.72	128	1.61	90	72	71	77	77	8	8	8	81 W	1.9	8.0	1.6	0.84	1.97
6	29.680	29.691	29.685	28.0	34.8	32.0	32.07	-6.72	1.31	1.17	161	1.42	83	68	80	83	8	8	8	68 W	11.5	10.2	4.4	7.75	9.30
7	29.764	29.734	29.749	39.2	32.2	33.12	5.62	1.49	1.43	162	1.52	86	67	82	80	83	8	8	8	81 W	1.9	8.0	1.6	0.84	1.97
8	29.490	29.578	29.534	39.8	43.8	34.4	33.35	-2.08	1.65	1.27	124	1.32	90	43	62	63	8	8	8	45 W	6.6	8.2	5.4	4.93	6.69
9	29.601	29.598	29.599	31.1	25.4	23.2	26.45	-12.97	1.69	0.70	0.65	1.09	61	77	74	74	8	8	8	46 W	9.0	11.0	0.0	5.16	7.77
10	29.092	29.006	29.049	27.6	39.4	36.0	35.27	-4.02	1.29	1.08	167	1.38	80	46	70	69	8	8	8	72 W	4.2	9.4	3.0	1.59	5.34
11	29.300	29.358	29.329	40.2	48.8	50.3	45.55	+5.98	1.91	2.88	249	2.46	78	84	68	77	8	8	8	85 E	5.0	10.5	2.6	4.79	6.72
12	29.305	29.305	29.305	45.2	40.0	32.0	41.47	+8.63	2.77	1.91	157	2.09	92	59	85	78	8	8	8	69 W	0.8	22.7	19.5	13.32	14.08
13	29.808	29.862	29.835	29.8	37.6	34.0	32.87	-8.15	1.16	1.25	166	1.26	80	56	79	67	8	8	8	7 W	4.9	8.0	0.0	4.18	5.16
14	29.804	29.817	29.811	31.4	32.0	30.8	33.22	-8.48	1.36	1.14	165	1.61	68	95	90	80	8	8	8	6 E	7.5	7.6	0.0	5.83	5.92
15	29.084	29.086	29.085	31.9	42.0	31.9	34.68	-7.47	1.69	1.77	143	1.57	83	69	79	78	8	8	8	8 E	1.7	8.4	0.0	2.23	3.34
16	29.632	29.632	29.632	36.9	37.3	38.0	38.43	-4.38	2.00	2.03	220	2.16	91	91	96	92	8	8	8	72 E	21.2	21.4	3.2	12.0	14.63
17	29.422	29.410	29.416	31.4	40.5	39.1	38.39	-4.88	1.58	1.37	217	1.64	70	64	91	71	8	8	8	61 W	24.7	21.0	4.0	17.0	21.52
18	29.686	29.618	29.652	34.0	46.3	39.0	39.98	-3.57	1.26	1.46	162	1.40	64	47	66	67	8	8	8	17 W	1.1	12.1	1.6	4.26	6.27
19	29.630	29.630	29.630	35.5	44.1	39.0	36.80	-7.16	1.08	1.01	0.92	1.31	80	45	64	69	8	8	8	6 W	4.5	11.2	16.8	10.01	10.50
20	29.772	29.862	29.817	27.2	38.3	31.5	33.48	-10.82	1.12	1.06	119	1.11	75	35	67	60	8	8	8	17 W	6.0	13.0	3.6	1.79	6.50
21	29.098	29.023	29.061	33.3	37.3	32.9	34.62	-10.05	1.34	1.09	186	1.67	70	99	99	83	8	8	8	73 E	14.5	18.4	8.4	11.52	11.84
22	29.757	29.704	29.731	27.5	40.2	30.8	33.30	-12.12	1.08	0.84	0.95	0.90	72	30	57	64	8	8	8	45 W	23.0	26.0	27.0	18.17	18.76
23	29.728	29.736	29.732	30.1	37.6	32.2	33.76	-11.98	1.05	0.91	0.93	1.01	62	44	52	62	8	8	8	31 W	10.0	14.4	6.2	17.36	17.63
24	29.743	29.670	29.707	29.3	34.8	31.7	32.72	-13.38	0.88	0.89	1.01	0.94	64	40	52	47	8	8	8	24 W	12.6	25.8	10.0	14.14	15.86
25	29.622	29.640	29.631	31.9	49.2	35.1	33.50	-6.98	1.28	1.03	147	1.31	72	35	72	57	8	8	8	85 W	13.6	23.0	8.0	16.44	16.79
26	29.657	29.620	29.638	30.2	38.3	36.3	34.23	-6.86	1.37	1.36	145	1.39	78	55	76	60	8	8	8	7 E	7.83	14.76	7.10	9.64	11.24

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR APRIL, 1874.

NOTE.—The monthly means do not include Sunday observations. The daily means, excepting those that relate to the wind, are derived from six observations daily, namely, at 6 A.M., 8 A.M., 2 P.M., 4 P.M., 10 P.M., and midnight. The means and resultants for the wind are from hourly observations.

Highest barometer 30.227 at 7 a.m. on 12th } Monthly range
 Lowest barometer 29.135 at 4 p.m. on 20th } 1.092.
 { Maximum temperature 60°-3 on 14th } Monthly range
 { Minimum temperature 9°-8 on 4th } 51°-3.
 { Mean maximum temperature 41°-35 } Mean daily range
 { Mean minimum temperature 25°-34 } 16°-21.
 { Greatest daily range 25°-3 from a.m. to p.m. of 14th.
 { Least daily range 7°-0 from a.m. to p.m. of 17th.
 Warmest day 14th; mean temperature 40°-35 } Difference = 28°-2.
 Coldest day 4th; mean temperature 17°-73 }
 Maximum { Solar 11°-00 on 15th } Monthly range
 Radiation { Terrestrial 0°-8 on 5th } 118°-2.
 Aurora observed on 3 nights, viz., 1st, 7th and 12th; possible to see Aurora on 14 nights,
 impossible on 16 nights.
 Snowing on 7 days; depth, 11.0 inches; duration of fall, 32.0 hours.
 Raining on 4 days; depth, 1.240 inches; duration of fall, 25.7 hours.
 Mean of cloudiness, 0.63.

WIND.

Resultant direction, N. 39° W.; resultant velocity, 4.09 miles.
 Mean velocity, 0.64 miles per hour.
 Maximum velocity, 37.0 miles per hour, from 2 to 3 p.m. of 11th.
 Most windy day, 26th; mean velocity, 18.70 miles per hour.
 Least windy day, 7th; mean velocity, 1.97 miles per hour.
 Most windy hour, 2 p.m.; mean velocity, 14.76 miles per hour.
 Least windy hour, 3 a.m.; mean velocity, 0.55 miles per hour.

Lightning ca 14th and 20th.
 Thunder on 20th.

Solar haloes on 5th, 7th, 10th, 19th, 27th and 28th.
 Lunar haloes on 27th and 28th.
 20th. First trip of steamer "City of Toronto" to Niagara.

COMPARATIVE TABLE FOR APRIL.

YEAR.	TEMPERATURE.				RAINS.			SNOW.			WIND.	
	Mean average	Excess above mum.	Maxi. mum.	Mini. mum.	Range.	No. of days.	Inches.	No. of days.	Inches.	Resultant Direction.	Velocity.	Mean Velocity.
1846	41.0	+ 3.0	81.8	24.2	57.6	10	1.300	2	1.3	...	...	0.55 lbs
1847	39.2	+ 1.8	65.1	9.3	55.8	8	2.870	2	4.0	...	...	0.59
1848	41.3	+ 2.3	68.1	22.7	42.4	5	1.455	1	0.5	N 77 W	1.46	1.50mils
1849	39.0	+ 2.0	72.0	15.5	56.5	2	1.473	2	1.7	N 50 E	3.14	7.64
1850	37.9	+ 3.1	65.7	18.0	47.7	11	2.293	3	1.2	N 14 E	1.12	7.64
1851	41.3	+ 0.3	69.3	24.8	33.5	20	1.990	4	9.4	N 23 E	2.44	6.68
1852	38.2	+ 2.8	53.8	6.0	33.8	6	1.990	4	9.4	N 23 E	2.44	6.68
1853	41.0	+ 0.9	65.7	25.0	40.7	1	2.62	1	1.0	N 12 E	1.95	6.20
1854	41.0	+ 0.0	64.6	20.2	44.3	12	2.685	4	2.7	N 60 E	2.67	6.81
1855	42.4	+ 1.4	69.4	10.7	58.7	8	2.030	3	1.6	N 36 W	3.90	7.57
1856	42.3	+ 1.3	72.2	14.2	58.0	13	2.760	3	0.1	N 29 E	1.64	6.05
1857	35.4	+ 5.6	62.0	6.9	46.1	10	1.765	11	12.9	N 60 W	4.16	10.24
1858	41.5	+ 0.5	65.2	21.8	43.4	2	1.642	2	0.1	N 14 W	1.64	9.57
1859	39.5	+ 1.5	64.8	22.6	42.2	9	2.537	8	1.2	N 36 W	2.33	10.79
1860	39.5	+ 1.5	61.8	19.5	42.3	11	1.282	5	0.3	N 37 W	4.10	10.39
1861	42.0	+ 1.0	67.0	23.8	43.2	12	1.619	4	6.9	N 37 W	2.31	8.90
1862	39.5	+ 1.4	68.0	14.5	53.5	10	2.235	4	0.2	N 50 E	2.48	9.77
1863	42.0	+ 1.0	68.0	8.6	60.4	8	2.510	4	1.0	N 14 E	3.75	9.20
1864	40.9	+ 1.1	69.4	28.1	31.3	16	3.633	3	3.6	N 41 E	3.39	7.77
1865	43.1	+ 2.1	62.5	23.0	39.5	17	3.972	6	2.0	N 84 W	2.11	8.39
1866	43.9	+ 2.9	71.0	23.5	42.5	7	1.675	6	2.0	N 42 W	3.34	7.95
1867	39.5	+ 1.5	65.5	25.4	40.1	12	2.147	6	7.2	N 51 W	2.68	7.89
1868	38.0	+ 3.0	64.0	9.2	54.8	10	6.3	10	6.3	N 63 W	2.43	9.24
1869	40.1	+ 3.0	72.2	16.6	55.6	9	2.963	6	0.5	N 69 W	4.03	8.91
1870	44.6	+ 3.6	67.0	29.0	37.4	9	2.145	2	0.1	N 40 E	3.55	7.03
1871	43.0	+ 2.0	72.8	76.4	40.4	17	3.318	2	1.3	N 48 W	1.86	8.85
1872	40.5	+ 0.5	70.0	22.7	47.3	9	3.910	3	0.7	N 68 W	3.84	9.12
1873	38.6	+ 2.4	61.2	24.4	36.8	13	3.975	3	1.0	N 18 E	2.59	9.05
1874	34.2	+ 6.8	60.8	9.5	51.3	4	1.240	7	11.0	N 39 W	4.09	9.64
Re-stits to 1873	41.04	...	65.00	19.86	46.14	10.06	2.492	3.65	2.26	N 19 W	2.07	8.21
Excess for 74.	6.81	...	+ 5.20	+ 10.36	5.16	+ 0.06	1.252	+ 3.36	8.74	...	...	+ 1.43

METEOROLOGICAL REGISTER.

MONTHLY METEOROLOGICAL REGISTER, AT THE MAGNETICAL OBSERVATORY, TORONTO, ONTARIO,—MAY, 1874.
 Latitude—43° 39' 4" North. Longitude—5h. 17m. 33s. West. Elevation above Lake Ontario, 108 feet.

Days	Barom. at temp. of 32°.			Temp. of the Air.			Excess of Mean above Normal			Tension of Vapour			Humidity of Air.			Direction of Wind.			Quantity of Rain in Inches.	Snow in Inches.			
	6 A.M.	2 P.M.	10 P.M.	6 A.M.	2 P.M.	10 P.M.	6 A.M.	2 P.M.	10 P.M.	6 A.M.	2 P.M.	10 P.M.	6 A.M.	2 P.M.	10 P.M.	6 A.M.	2 P.M.	10 P.M.					
																					Velocity of Wind.		
1	29.312	29.174	29.263	55.5	52.8	41.6	43.63	3.22	144	073	131	126	70	17	49	46	W	W	NW	N 68	12.6	15.40	15.92
2	324	406	656	37.3	43.4	38.0	30.81	-7.38	153	178	144	167	69	63	64	64	N	S	N	N 37	7.0	3.32	6.50
3	738	657	573	41.2	48.8	44.9	46.82	-2.08	161	172	186	174	61	48	50	50	N	S	N	N 54	0.5	1.46	5.17
4	566	478	434	48.6	62.1	44.1	47.0	-0.60	129	165	140	146	41	38	43	43	N	S	N	N 54	0.5	6.19	7.03
5	655	535	680	45.0	50.2	32.9	39.73	-8.92	147	107	132	130	50	32	44	44	N	S	N	N 19	11.8	3.72	7.85
6	445	702	636	46.3	45.3	44.1	43.28	-0.70	110	142	140	126	67	39	48	48	N	S	N	N 18	7.2	10.92	11.27
7	744	695	545	50.3	57.8	46.3	48.46	-0.85	168	212	223	204	70	44	70	61	NW	S	SE	S 41	17.0	6.73	7.94
8	570	695	545	30.4	57.8	46.3	48.46	-0.85	168	212	223	204	70	44	70	61	NW	S	SE	S 41	17.0	6.73	7.94
9	460	352	445	45.2	82.7	63.6	64.07	+14.38	228	310	360	307	75	28	61	64	SW	W	SW	S 65	2.0	11.96	12.85
10	872	907	863	44.8	53.1	52.1	50.60	-0.20	196	212	206	209	66	52	53	57	SW	W	W	S 62	7.4	6.69	7.42
11	872	907	863	44.8	53.1	52.1	50.60	-0.20	196	212	206	209	66	52	53	57	SW	W	W	S 62	7.4	6.69	7.42
12	862	764	681	48.6	63.2	56.4	57.47	+0.76	273	330	295	314	80	57	64	67	E	E	NW	N 84	4.0	11.15	11.25
13	690	614	686	56.0	72.6	55.7	62.03	+10.93	376	457	260	363	84	57	58	64	S	S	NW	N 76	1.0	6.18	6.35
14	766	805	763	47.4	58.2	48.4	51.88	+0.45	194	282	224	232	60	57	65	60	S	S	NW	N 74	0.2	2.20	6.37
15	704	666	429	49.9	59.3	51.7	64.12	+2.33	216	267	312	270	60	53	81	65	SE	N	NE	S 87	9.5	10.0	4.0
16	266	192	407	52.8	57.8	47.0	52.00	-0.13	364	331	234	306	90	68	73	78	E	W	W	N 76	14.0	3.54	6.85
17	487	578	603	45.2	49.0	39.8	44.60	-8.22	246	326	196	254	82	90	85	85	W	S	NW	S 80	0.6	17.5	8.52
18	487	578	603	45.2	49.0	39.8	44.60	-8.22	246	326	196	254	82	90	85	85	W	S	NW	S 80	0.6	17.5	8.52
19	616	541	494	45.2	62.2	48.4	52.68	-0.58	172	154	256	214	58	27	75	56	N	S	NW	N 11	18.8	4.0	0.0
20	483	438	470	47.0	53.1	49.2	49.17	-4.37	292	263	294	279	61	64	84	84	NW	E	NW	N 84	12.2	14.3	3.0
21	605	527	695	47.0	60.0	49.5	52.30	-1.57	273	203	190	225	85	39	54	60	NW	NW	NW	N 73	0.2	6.8	0.63
22	656	660	684	47.0	62.2	45.0	52.07	-1.23	208	113	191	181	67	10	61	48	NW	NW	NW	N 34	8.8	25.8	15.86
23	701	611	579	47.7	60.0	53.1	54.47	-0.08	204	269	263	239	61	52	64	58	NW	SW	N	S 31	12.0	3.2	13.56
24	610	635	190	55.7	61.4	53.5	57.03	-1.80	442	359	259	359	99	71	62	75	E	W	NE	S 85	4.8	9.4	7.5
25	631	482	617	48.6	55.0	48.8	50.88	-4.65	244	279	278	267	71	64	81	71	NW	NW	NW	S 52	19.0	23.6	15.58
26	690	673	647	48.6	65.0	52.4	55.90	-0.00	283	389	315	336	88	63	80	76	NW	NW	NW	N 52	19.0	23.6	15.58
27	669	611	642	63.1	70.2	61.4	63.93	+7.73	346	516	462	438	66	84	73	80	SE	SE	SE	S 31	0.0	9.8	1.4
28	745	794	768	63.6	60.0	60.0	62.69	+0.10	446	391	444	416	76	61	86	73	SE	SE	N	S 69	0.0	7.0	2.4
29	764	669	636	63.6	76.2	61.8	60.78	+0.92	437	611	457	511	86	68	83	78	SE	SE	SE	N 54	3.2	6.0	2.72
30	684	699	636	63.6	76.2	61.8	60.78	+0.92	437	611	457	511	86	68	83	78	SE	SE	SE	S 4	1.0	1.63	2.29
31	570	550	570	59.4	49.4	62.4	62.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8
Mean	29.570	29.550	29.570	52.1	59.4	49.4	52.46	+0.37	248	274	254	261	73	51	68	63	S	S	NW	N 58	1.8	11.0	13.8

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR MAY, 1874.

TR.—The monthly means do not include Sunday observations. The daily means, excepting those that relate to the wind, are derived from six observations daily, namely at 6 A.M., 8 A.M., 2 P.M., 4 P.M., 10 P.M., and midnight. The means and residuals of the wind are from hourly observations.

COMPARATIVE TABLE FOR MAY.

YEAR.	TEMPERATURE.				RAIN.	SNOW.		WIND.			
	Mean.	Maxi- mum.	Mini- mum.	Range.		No. of Days.	Inches.	No. of Days.	Inches.	Direction.	Mean Velocity.
1846	55.6	79.7	33.1	46.6	9	4.376	0	0.0	0	...	0.46 lbs.
1847	54.4	72.1	26.7	45.4	12	2.040	0	0.0	...	...	0.29
1848	64.1	78.0	31.3	46.7	13	2.530	0	0.0	...	...	4.05 mls.
1849	48.0	77.8	27.9	49.3	16	5.115	0	0.0	...	...	5.33
1850	47.6	77.8	27.5	50.3	7	0.645	1	Inap	...	...	6.32
1851	51.3	73.3	32.0	45.3	12	2.950	1	Inap	...	...	6.34
1852	51.4	78.4	32.2	46.2	7	1.125	1	Inap	...	...	4.00
1853	50.9	78.4	32.2	46.2	11	4.420	1	Inap	...	...	5.16
1854	52.2	71.4	25.2	46.2	17	4.630	0	0.0	...	...	5.38
1855	53.1	71.4	25.2	46.2	6	2.565	2	Inap	...	...	6.93
1856	50.6	82.2	31.2	51.0	14	4.550	1	Inap	...	...	9.81
1857	48.9	74.8	29.0	48.8	15	4.145	1	Inap	...	...	8.13
1858	48.2	69.8	31.0	38.8	17	6.367	0	0.0	...	...	9.50
1859	45.2	79.6	39.0	40.1	11	3.410	0	0.0	...	...	5.70
1860	55.5	74.5	33.5	42.0	16	1.815	0	0.0	...	...	7.17
1861	47.5	73.0	28.0	45.0	12	3.350	1	0.5	...	...	9.17
1862	52.2	78.5	32.4	46.1	8	1.427	0	0.0	...	...	7.87
1863	54.3	79.0	36.4	42.6	14	3.343	1	0.1	...	...	5.89
1864	54.8	79.0	32.2	46.8	18	4.070	0	0.0	...	...	5.48
1865	52.3	73.4	30.0	49.0	11	1.065	0	0.0	...	...	5.48
1866	48.3	73.4	33.4	40.0	13	2.820	0	0.0	...	...	4.92
1867	46.5	73.0	24.6	40.4	18	3.220	1	Inap	...	...	8.40
1868	51.8	78.0	33.2	39.8	16	7.070	0	0.0	...	...	6.87
1869	50.8	74.2	31.4	42.8	16	2.805	1	Inap	...	...	6.55
1870	56.3	81.2	38.8	42.4	10	1.160	0	0.0	...	...	5.48
1871	54.2	78.5	32.4	46.1	7	2.202	0	0.0	...	...	7.70
1872	51.9	78.4	32.0	46.8	14	1.654	0	0.0	...	...	6.49
1873	51.9	76.4	30.0	46.4	13	2.203	0	0.0	...	...	8.86
1874	52.5	76.0	25.3	50.7	8	1.492	0	0.0	...	...	8.45
Rest of to 1873	51.66	76.07	31.14	44.92	11.91	3.184	0.35	0.06	...	...	6.81
Excess for '74	0.80	9.83	5.84	15.77	3.01	1.692	0.35	0.06	...	...	1.64

Highest Barometer.....29.907 at 2 p.m. on 11th. } Monthly range
 Lowest Barometer.....28.956 at 8 a.m. on 24th. } 0.951.
 Mean temperature.....86.0 on 9th. } Monthly range
 Minimum temperature.....25.3 on 7th. } 60.7
 Mean maximum temperature.....55.29 } Mean daily range
 Mean minimum temperature.....41.06 } 21.60
 Greatest daily range.....4.6% from a.m. to p.m. of 9th.
 Least daily range.....10°2 from a.m. to p.m. of 20th.
 Warmest day.....30th; mean temperature 66°78 } Difference = 27°05
 Coldest day.....6th; mean temperature 35°73 }
 Maximum (Solar).....184°4 on 9th. } Monthly range
 Radiation (Terrestrial).....14°8 on 7th. } 119°6
 Auroras observed on 3 nights, viz: 4th, 26th and 27th.
 Possible to see aurora on 19 nights; impossible on 12 nights.
 Raining on 8 days; depth, 1.490 inches; duration of fall, 28.1 hours.
 Mean of cloudiness, 0.50.
 WIND.
 Remulant direction, N. 40° W.; Remulant velocity, 2.64 miles.
 Mean velocity, 8.45 miles per hour.
 Most windy day, 25th; mean velocity, 20.21 miles per hour.
 Least windy day, 30th; mean velocity, 2.29 miles per hour.
 Most windy hour, 2 p.m.; mean velocity, 13.47 miles per hour.
 Least windy hour, 3 a.m.; mean velocity, 4.76 miles per hour.
 Thunder on 12th, 25th and 28th.
 Lightning on 12th and 25th.
 Solar halo 7th; lunar haloes 22nd and 28th.
 Ice on 7th and 19th.
 Frogs first heard on 4th.

MONTHLY METEOROLOGICAL REGISTER, AT THE MAGNETICAL OBSERVATORY, TORONTO, ONTARIO,—JUNE, 1874.
 Latitude—43° 39' 4 North. Longitude—5h. 17m. 33s. West. Elevation above Lake Ontario, 108 feet.

Day	Barom. at temp. of 32°.			Temp. of the Air.		Excess of Mean above Average	Tension of Vapour.			Humidity of Air.			Direction of Wind.			Velocity of the Wind.			Rain in Inches	Snow in Inches			
	6 A.M.	10 P.M.	Mean.	6 A.M.	10 P.M.		6 A.M.	10 P.M.	Mean.	6 A.M.	10 P.M.	Mean.	6 A.M.	10 P.M.	Mean.	U.	2 P.M.	10 P.M.			U.	2 P.M.	10 P.M.
1	29.402	29.510	29.603	55.7	60.7	58.2	60.7	63.5	63.6	63.6	61	42	41	49	NW	N	N	17.2	12.6	12.1	14.03	14.21	
2	.709	.710	.684	50.3	62.2	56.3	52.8	56.03	1.75	230	285	197	244	63	51	49	54	64	7.2	3.6	1.97	4.40	
3	.641	.674	.610	57.1	57.05	57.1	57.1	57.05	1.08	262	370	397	349	66	68	85	74	82	7.0	2.6	4.10	4.87	
4	.494	.513	.477	49.40	57.8	72.3	59.3	53.07	4.60	449	544	441	472	94	69	82	82	82	7.0	0.0	1.72	1.92	
5	.487	.506	.561	51.87	69.3	75.1	67.9	67.68	8.92	416	612	280	432	82	70	41	63	63	7.5	7.5	1.60	2.42	
6	.572	.568	.514	54.22	60.7	69.0	60.7	64.73	5.56	447	688	497	511	84	83	93	84	84	8.2	2.2	3.97	4.87	
7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.7	17.2	1.53	4.38	
8	.444	.426	.429	60.0	66.6	60.7	60.53	0.86	407	486	401	417	79	74	87	70	74	8.0	17.2	0.0	3.37	4.83	
9	.412	.394	.678	46.05	69.6	70.1	66.4	67.98	7.05	401	673	434	459	90	58	69	69	69	18.6	7.4	3.89	6.92	
10	.701	.745	.725	72.28	61.4	66.5	50.4	62.22	1.85	401	394	305	363	73	69	67	64	64	5.7	8.4	3.55	6.02	
11	.671	.623	.417	52.40	53.5	49.9	48.8	50.85	0.86	288	295	300	302	70	82	86	81	81	15.0	3.0	11.28	11.33	
12	.386	.379	.630	44.08	51.3	60.7	60.54	2.22	6.78	352	303	253	306	93	57	70	73	73	14.6	9.09	9.09	9.09	
13	.659	.774	.839	77.13	49.9	65.8	51.7	56.35	4.96	204	203	202	248	74	32	76	68	68	4.8	0.0	11.36	11.68	
14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.8	0.0	1.33	1.56	
15	.887	.833	.659	77.67	68.2	66.1	68.6	61.35	0.60	350	437	355	401	74	68	71	73	73	8.0	2.29	2.95	2.95	
16	.616	.433	.391	48.27	68.3	61.8	68.6	69.50	2.80	484	631	462	482	93	99	84	95	95	1.0	5.8	2.69	4.11	
17	.368	.418	.654	45.55	68.5	70.8	69.6	63.52	0.92	464	428	412	430	94	57	81	85	85	29.4	0.0	11.47	12.19	
18	.645	.683	.723	69.05	69.3	74.1	62.9	66.00	3.06	370	197	297	290	78	62	62	48	48	26.0	9.7	11.75	12.19	
19	.793	.733	.737	75.88	61.1	72.6	68.2	64.62	1.30	394	498	348	408	68	62	72	67	67	5.6	6.8	2.04	5.48	
20	.832	.837	.815	83.17	69.3	62.2	66.0	69.03	4.48	368	366	355	366	73	86	79	73	73	10.6	3.5	7.07	7.54	
21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.8	0.0	1.97	2.32	
22	.783	.663	.686	65.07	60.7	60.6	76.9	73.63	9.43	447	644	631	672	84	61	70	70	70	10.0	6.4	4.90	5.13	
23	.676	.513	.650	64.00	74.1	86.3	74.4	78.03	13.05	640	636	636	627	76	51	75	66	66	8.0	8.0	9.73	10.87	
24	.746	.764	.699	73.67	60.4	65.8	58.9	62.23	2.38	297	307	273	266	66	68	65	48	48	24.4	8.4	3.3	1.78	1.71
25	.663	.493	.412	51.33	61.1	64.7	57.5	61.38	5.42	320	323	404	382	69	62	84	70	70	8.4	0.0	2.81	3.91	
26	.246	.361	.461	36.68	60.7	60.7	59.6	58.95	0.78	401	485	486	464	87	91	95	92	92	7.0	0.0	2.88	3.02	
27	.623	.612	.413	48.36	60.7	73.7	61.4	66.12	0.73	435	483	462	444	82	68	85	70	70	6.0	0.4	0.76	3.49	
28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.2	2.5	5.26	6.12	
29	.202	.276	.448	31.73	75.5	81.0	63.2	72.37	6.50	651	433	401	470	74	41	60	61	61	22.4	4.8	9.79	10.90	
30	.687	.653	.657	64.02	63.9	68.3	60.0	60.75	6.33	293	407	281	329	70	59	53	60	60	13.8	2.0	4.79	7.82	
30	29.5726	29.5681	29.5750	67.33	58.83	68.37	59.43	62.40	0.48	300	425	376	396	77	61	73	69	69	5.72	10.63	4.67	6.52	1.793

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR JUNE, 1874.

NOTE.—The monthly means do not include Sunday observations. The daily means, excepting those that relate to the wind, are derived from six observations daily, namely, at 6 A.M., 8 A.M., 2 P.M., 4 P.M., 10 P.M., and midnight. The means and resultants for the wind are from hourly observations.

COMPARATIVE TABLE FOR JUNE.

YEAR.	TEMPERATURE.			RAIN.		SNOW.		WIND.		
	Mean.	Excess above Average.	Maxt. minm.	Minut. maxm.	No. of Days.	Inches.	No. of Days.	Inches.	Resultant Direction.	Mean Velocity.
1840	63.3	+ 0.6	84.2	59.1	10	1.026	...	...	...	0.32 lbs.
1847	58.4	+ 3.3	77.8	51.1	14	2.028	...	...	...	0.30
1848	62.9	+ 1.2	92.0	37.4	8	1.816	...	...	S 01 W 1.90	4.61 mls.
1840	64.3	+ 1.6	84.4	55.2	7	2.026	...	...	S 71 E 0.49	3.32
1850	63.2	+ 2.6	85.0	34.2	10	3.846	...	...	S 60 W 0.38	4.64
1851	60.2	+ 2.6	79.2	37.0	11	2.685	...	...	S 2 W 1.26	4.42
1852	60.8	+ 0.9	80.1	37.2	10	3.164	...	...	S 76 W 1.40	4.09
1853	66.5	+ 3.8	80.6	59.2	9	1.866	...	...	S 1 W 0.10	3.73
1854	64.1	+ 2.4	92.6	36.2	9	1.466	...	...	S 24 E 0.71	4.16
1855	59.9	+ 1.8	91.6	36.2	17	4.076	...	...	S 59 W 1.33	5.70
1856	62.1	+ 0.4	80.2	42.0	13	3.206	...	...	S 21 W 0.90	6.30
1857	66.0	+ 4.8	76.0	35.0	21	6.066	...	...	S 49 W 1.16	7.60
1858	66.2	+ 4.6	90.2	42.6	12	2.943	...	...	S 29 E 0.35	6.63
1859	68.3	+ 3.4	86.4	34.2	12	4.085	...	...	S 77 E 1.95	7.19
1860	63.2	+ 1.6	81.0	40.2	14	2.136	...	...	S 44 W 3.13	7.01
1861	61.3	+ 0.4	87.8	41.0	13	2.328	...	...	S 39 W 2.29	6.11
1862	60.6	+ 1.2	85.4	39.4	10	1.907	...	...	S 26 W 1.71	6.98
1863	60.1	+ 1.6	84.8	37.4	13	1.662	...	...	S 55 W 2.26	5.24
1864	63.0	+ 1.3	83.4	34.8	6	0.670	...	...	S 65 W 1.72	4.63
1865	64.6	+ 2.8	90.2	43.0	7	2.908	...	...	S 40 W 0.60	4.08
1866	60.2	+ 1.6	90.6	40.0	10	2.726	...	...	S 19 W 0.71	6.09
1867	64.3	+ 2.0	88.6	44.0	8	0.858	...	...	S 84 E 0.48	4.13
1868	62.0	+ 0.3	84.2	38.0	11	2.217	...	...	S 10 E 0.56	5.26
1869	58.4	+ 3.3	81.4	36.4	22	4.378	...	...	S 80 W 1.71	6.23
1870	67.3	+ 6.0	88.4	50.0	16	8.096	...	...	S 17 E 0.40	6.14
1871	61.4	+ 0.3	83.0	41.8	13	3.346	...	...	S 80 W 2.04	6.57
1872	63.7	+ 2.0	88.0	41.8	8	3.148	...	...	S 69 W 0.76	3.80
1873	63.7	+ 2.0	80.6	40.0	10	0.886	...	...	S 18 E 1.00	6.43
1874	62.6	+ 0.8	88.0	44.2	13	1.708	...	...	S 44 W 1.68	6.62
Results to 1873	61.74	...	86.47	39.10	111.74	2.016	...	...	S 61 W 0.80	6.20
Excess for 1874	+ 0.76	...	+ 1.63	+ 6.04	+ 1.26	1.120	...	...	...	+ 1.82

Highest Barometer.....39.005 at 7 a.m. on 14th } Monthly range =
 Lowest Barometer.....29.170 at 11 p.m. on 28th } 0.729.
 { Maximum temperature.....88.0 on 25nd } Monthly range =
 { Minimum temperature.....43.8 } 43.8
 { Mean maximum temperature.....72.04 }
 { Mean minimum temperature.....63.902 }
 { Greatest daily range.....35.0 from a.m. to p.m. of 22nd. }
 { Least daily range.....7.02 from a.m. to p.m. of 16th. }
 Warmest day.....23rd; mean temperature.....78.003 }
 Coldest day.....11th; mean temperature.....66.86 } Difference = 27.16.
 Maximum of Solar.....149.2 on 23rd } Monthly range =
 Radiation { Terrestrial.....39.2 on 13th & 14th } 110.0.
 Aurora observed on 3 nights, viz., 7th, 8th and 10th.
 Possible to see Aurora on 21 nights; impossible on 9 nights.
 Raining on 13 days; depth, 1.795 inches; duration of fall, 28.6 hours.
 Mean of cloudiness, 0.64.

WIND.
 Resultant direction, N 40 W; resultant velocity, 1.68 miles.
 Mean velocity, 6.62 miles per hour.
 Most windy day, 1st; mean velocity, 14.21 miles per hour.
 Least windy day, 14th; mean velocity, 1.66 miles per hour.
 Most windy hour, 2 p.m.; mean velocity, 10.63 miles per hour.
 Least windy hour, 8 p.m.; mean velocity, 4.13 miles per hour.

Rainbows on 12th and 20th.
 Solar halo on 16th. Lunar halo on 23rd.
 Lightning on 4th, 6th and 8th.
 Thunder on 7th and 16th.
 Fog on 7th, 11th, 12th and 20th.
 Dew on 7 mornings.

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR JULY, 1874. COMPARATIVE TABLE FOR JULY.

YEAR.	TEMPERATURE.				RAIN.		SNOW.		WIND.	
	Mean.	Excess above average.	Max. above min.	Range.	% of days.	Inches.	% of days.	Inches.	Direction.	Resultant Velocity.
1846	68.0	0.6	94.6	65.1	9	2.865	0	...	...	...
1847	68.0	0.6	87.0	43.8	18	3.365	...	...	...	...
1848	65.6	1.9	82.2	44.1	10	1.800	...	...	N 14 W	0.18
1849	68.4	1.0	88.0	43.4	4	3.415	...	...	S 6 W	0.75
1850	68.9	1.6	86.2	54.6	12	6.276	...	...	N 81 E	0.69
1851	65.0	2.4	82.7	46.5	12	3.625	...	...	N 60 W	0.88
1852	66.8	0.6	89.1	48.6	8	4.024	...	...	N 43 W	0.93
1853	65.6	1.8	91.5	49.7	10	0.916	...	...	S 68 E	0.24
1854	72.6	5.1	98.0	42.5	9	4.869	...	...	S 49 W	0.37
1855	67.9	0.5	92.8	43.4	13	3.248	...	...	S 19 W	0.73
1856	69.0	2.6	90.6	47.1	6	1.130	...	...	S 79 W	1.57
1857	67.8	0.4	86.0	39.6	15	3.475	...	...	S 68 E	0.81
1858	67.9	0.5	85.0	33.0	13	3.073	...	...	N 15 E	1.13
1859	66.9	0.5	88.0	44.7	12	2.611	...	...	N 56 W	1.48
1860	63.9	3.6	83.0	44.2	13	4.356	...	...	N 60 W	2.15
1861	66.4	2.0	84.6	37.8	16	2.638	...	...	N 74 W	1.45
1862	66.7	0.7	95.5	46.2	15	5.344	...	...	S 80 W	1.42
1863	67.0	0.2	83.5	45.6	13	3.408	...	...	N 18 W	0.40
1864	69.7	2.4	90.2	49.0	8	1.332	...	...	N 61 W	2.23
1865	65.6	2.4	83.0	37.2	11	2.470	...	...	N 86 W	2.28
1866	70.1	3.0	94.0	47.5	16	6.800	...	...	S 79 W	0.91
1867	68.2	0.8	94.0	48.2	12	1.963	...	...	N 48 W	1.40
1868	75.8	8.4	93.4	54.4	6	0.510	...	...	S 87 E	0.72
1869	64.6	2.9	84.0	49.8	13	4.616	...	...	S 67 W	2.01
1870	68.8	1.4	87.4	48.0	16	1.896	...	...	S 75 W	1.69
1871	66.9	1.4	88.4	47.8	11	1.256	...	...	N 88 W	1.63
1872	70.2	2.8	89.0	52.2	13	2.231	...	...	N 87 W	1.19
1873	68.4	1.0	87.5	47.6	11	1.915	...	...	S 75 W	1.71
1874	67.9	0.5	83.6	44.4	11	3.350	...	...	N 58 W	1.26
Result in 1874	67.41	...	89.43	47.72	10.74	3.181	...	...	N 76 W	0.82
Excess +	0.60	...	6.03	3.32	2.01	0.26	...	...	...	...

NOTE.—The monthly means do not include Sunday observations. The daily means, excepting those that refer to the wind, are derived from six observations daily, viz., at 6 A.M., 8 A.M., 11 A.M., 2 P.M., 4 P.M., 10 P.M., and midnight. The means and recurrences of the wind are from hourly observations.

Highest Barometer..... 29.797 at 8 a.m. on 14th } Monthly range }
 Lowest barometer..... 29.244 at mid on 31st. } 0.553.
 { Maximum temperature..... 89.5 on 7th. } Monthly range }
 { Minimum temperature..... 49.4 on 1st. } 39.1.
 { Mean maximum temperature..... 77.8 on 1st. }
 { Mean minimum temperature..... 59.5 on 31st. }
 { Greatest daily range..... 31.08 from a.m. to p.m. of 1st. }
 { Least daily range..... 8.5 from a.m. to p.m. of 29th. }
 Warmest day..... 22th; mean temperature..... 79.75 }
 Coldest day..... 16th; mean temperature..... 61.20 } Difference=14.66.
 Maximum of Solar Radiation { Terrestrial..... 141.9 on 3rd }
 { Terrestrial..... 289.0 on 1st. } Monthly range }
 { Terrestrial..... 289.0 on 1st. } 112.8.
 Aurora observed on 1 nights, viz., 10th, 11th, 13th and 14th.
 Possible to see Aurora on 13 nights; impossible on 13 nights.
 Hail on 11 days; depth 3.350 inches; duration of fall 46.5 hours.
 Mean of cloudiness, 0.62.

WIND.
 Resultant direction N. 55° W.; resultant velocity 1.26 miles.
 Mean velocity 0.65 miles per hour.
 Max num velocity 37.4 miles, from 3 to 4 p.m. of 31st.
 Most windy day 7th; mean velocity 14.08 miles per hour.
 Most windy day 7th; mean velocity 2.69 miles per hour.
 Most windy hour 2 p.m.; mean velocity 10.47 miles per hour.
 Least windy hour 9 p.m.; mean velocity 3.97 miles per hour.

Rainbow on 26th.
 Lightning alone on 10th, 26th, and 31st.
 Thunder storms on 1st, 3rd, 4th, 7th, 10th, 16th and 30th.
 Dew heavy on 10 mornings.
 Very large meteor in north at 10.20 on the 18th.

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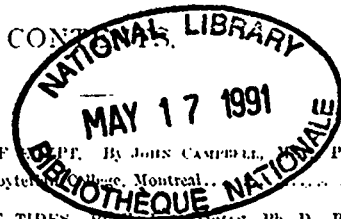
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