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ARTICLE VII.

ON THE EARLY HISTORY OF OUR ALPHABET.

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THE object of this essay is to place before those who may chance to read it a succinct statement of the known facts relating to the rise and development of our alphabet. We are not yet quite in position to write a history of the most important of all civilizing arts; but, to judge from current indications, we are not far from the time when a history of writing will be easily possible. Busy hands directed by trained intellects are at work in nearly all the lands that border on the Mediterranean, the Euphrates, the Tigris, bringing to light the records on which such a history must be based; and it is probable that before the end of the present century so much epigraphic material will have been accumulated and lucidly arranged that we shall be as well in-

formed upon this as upon any other important subject pertaining to antiquity. None surely surpasses it in interest.

To us children of the nineteenth century no progress seems possible without written records. Pen and pencil are in such constant requisition as to be well-nigh indispensable to any vocation. What we shall do to-morrow depends in no small measure upon the recorded transactions of to-day; and we trust the unaided memory to a very limited extent to tell us what transpired last year or even last week. The spelling-book is the foundation-stone of our civilization and it, to continue the figure, rests upon the alphabet. Yet there are extensive literatures not founded on an alphabet. Wuttke devotes a volume of eight hundred octavo pages to the study of those systems of writing that are without an alphabet. And the contest that raged so fiercely among classical scholars, for more than half a century, over the question whether the art of writing was known in the time of Homer, abundantly proves that, in the opinion of many men of intelligence, the highest achievements in the poetic art are possible without the aid of writing, and conditioned wholly upon the strength of the human memory. The practice of writing has become a second nature to us. Countless things which we could remember with a little effort we commit to paper because it requires less. The spoken word, the written word, and the thing signified are to most of us easily interchangeable terms. We have become so accustomed to associate the name of an object as it looks on paper with the object itself, that few people realize the relation to be wholly artificial. But there is absolutely no natural connection between the familiar words "pen" and "book," for instance, and these articles of common use. This becomes evident when we consider for a moment that they have a thousand different names in so many different languages, which must therefore be written in a thousand different ways. Yet the objects themselves remain the same. The pictorial

representation of a book will readily recall its image to the mind of the beholder if he has ever seen the thing, *book*, before; but it will only suggest the name or names by which he formerly knew it. It does not tell him what it is called in a language that he has yet to learn.

The earliest mode of writing was pictorial delineation in some rude form. This hardly deserves the name of writing, but it occupied the place that was afterward much better filled by writing proper. It was very inaccurate and insufficient, suited only to tribes in the lowest social condition. No mental processes can be represented by it and for all abstract ideas it is wholly inadequate. There is no doubt, however, that pictorial symbols continued to be used for a considerable time after the inadequacy of this mode of representation had begun to be realized. Paintings in the Etruscan and Egyptian tombs seem to prove that the pictorial art had reached a fair degree of advancement before alphabetic writing was used at all.

The problem that presented itself to the minds of those persons who were not satisfied to follow tradition unreflectingly was, how to represent to the eye the names of objects as well as things, and mental processes as well as material objects. It was to invent a system of graphic symbols that would represent physical entities as embodied in the sounds of the human voice. While the number of sounds which the human voice is capable of producing is infinite, those that are used in speech are relatively small in the civilized languages, and were originally smaller. An arbitrary symbol to represent a simple sound would therefore seem to be an invention which a person of ordinary capacity could make. But experience shows that, as in the case of Columbus, what is very easy when once done may be impossible to any but the greatest minds. Until the age and the man appear together, the deed remains undone, the discovery unmade.

The difficulties to be overcome in the invention of an

alphabet were of a peculiar nature. The traditional mode of making records had become invested with a sanctity which placed almost insuperable obstacles in the way of innovation. Where a people had adopted a policy of isolation, like the Chinese, and this seems to have been universally the case in primitive times, it made demands upon the existing graphic system which it was very poorly fitted to supply. It was as if, when the expansion of society created new wants from time to time, it had compelled each artisan to learn all the trades necessary to supply these wants, instead of resorting to a wise division of labor, that should require of each individual only the doing of the few things which he could do well. Where the use of a graphic system fell into the hands of a special class, as would almost of necessity be the case where it required a long apprenticeship, this class would naturally resist change. To approve it would be to endanger their craft.

Arguing from the analogies of the case, it seems probable that the inventor of the alphabet was acquainted with at least one foreign language. While it is true that a person of reflective mind could hardly help noticing the frequent recurrence of simple sounds in his native tongue, and might even ascertain that the whole number of elementary sounds entering into it was not large, yet it is hardly probable that he would venture to make any practical use of this discovery. All ancient mythologies attribute the invention of writing to a god; the achievement was regarded as transcending human capacity, and no mortal would sacrilegiously propose changes, even though they would be manifest improvements. We need ask for no stronger evidence of the tenacity with which men hold to traditional forms in language than that furnished by the English-speaking people. Though ready and eager to welcome almost any innovation that promises to save time and money, they persistently adhere to the most wretched system of spelling, and will hear to no improvements in their

method of writing, simply because they have a quasi-superstitious dread of breaking with the past in a matter of this kind. This feeling, though not founded in reason, is founded in man's nature, and it is not difficult to see how, in the remote past, the thought of change would be as little entertained as its realization would be regarded possible.

The acquisition of a foreign language enables one to regard his own from a point of view which is philosophically of great advantage. Neither would he be restrained by religious scruples from making any use of the newly acquired language that he saw fit. The solution of the difficulty which philosophy shows to be intrinsically the most probable, history and tradition represent as having been actually made. It is the almost unanimous testimony of antiquity that the Phœnicians invented the alphabet after they had obtained a knowledge of the Egyptian system of graphic representation. Of this remarkable people, Professor Sayce says: "They lacked originality, but they were gifted beyond most other races with the power of assimilating and combining, of adapting and improving on their models. Phœnician art derives its origin from Babylonia, from Egypt, and in later times from Assyria. The Phœnicians were the most skilful workmen of the ancient world. But the most precious acquisition of the Phœnicians was the alphabet. This was borrowed by the settlers in Caphtor or the Delta from their Egyptian neighbors in the time of the Middle Empire, or the early days of the Hyksos dominion—all the encumbrances of the Egyptian system of writing being discarded by a people who possessed the practical habits of traders and merchants. It soon found its way to the mother-country, where the Egyptian names of the letters were replaced by native ones drawn possibly from an older script now termed Hittite, and from the mother-country it was disseminated through the western world." This statement represents in its main features the almost unanimous testimony of the

ancient writers. But there have always been, and there are still, a few authorities who represent the case differently. Faulmann is inclined to think that Moses was the inventor of the alphabet, who, though a Semite, was not a Phœnician. As its inventor must have been a very extraordinary man, and its invention was popularly attributed to a god, he holds that no personage of antiquity so fully meets the requirements of the case as the great lawgiver of the Hebrews.

Dr. E. Meyer, the author of a standard ancient history, while admitting the important part played by the Phœnicians in the dissemination of the alphabet, denies their claim as inventors. He holds that they obtained it, in a more or less complete state, from the Hittites. Unfortunately for this theory, so little is as yet known about the Hittite hieroglyphics, that the hypothesis rests on an exceedingly slender foundation.

Another theory, recently advanced by the distinguished Assyriologist, Hommel, is, that Bedouin tribes bordering on the Assyrian Empire acquired a knowledge of certain cuneiform characters and gave to each of these the first sound in the Semitic word which the character signified when used as an ideograph. He places this achievement about 2000 B. C. The date is probably not far from correct, but the remainder of the hypothesis would receive little attention from the learned, except for its distinguished author's sake.

The theory that all social progress, or civilization as it is generally termed, originated in one locality, and that that locality must be sought somewhere in Southwestern Asia, had long been accepted as a fact by almost all who had given the matter any thought. China, it seemed, could not be brought into relation with this belief, and Egypt offered some difficulties, but the apparent anomaly presented by these two countries could not invalidate the testimony of an overwhelming number of witnesses. Recently it has begun to appear that Egyptian civilization is no older than that which existed

along the lower course of the Euphrates; and within less than a year Professor de Lacouperie claims to have proven that the Chinese characters are derivatives from the cuneiform symbols once in use in Babylonia. Professor Sayce has announced his belief in this hypothesis, which, if true, will in a certain sense make the region of the lower Euphrates the mother-land of the Chinese. Having for some as yet unknown reason adopted the policy of national isolation after they had reached a certain stage of advancement, the crust of custom, to use a figure of Bagehot's, soon became so strong that it could not be broken from within, as it were, and all progress ceased. History seems to show that progress in every tribe is the effect of contact with other tribes, but that, as soon as it is left to itself, it remains at the point where isolation became effectual. It is not improbable that the mysterious empire of the Hittites, whose mighty form is beginning to assume some distinctness as it looms up at the farthest end of the vista of human history, may yet prove to be the oldest of organized governments and the starting-point of all civilization.

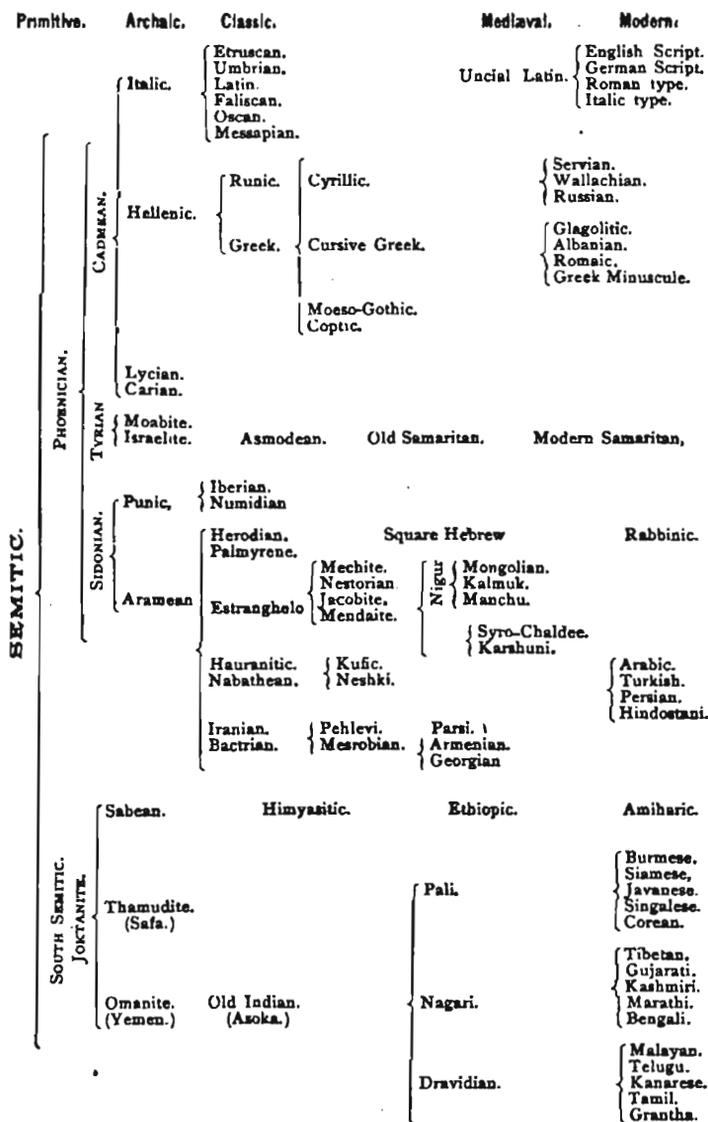
While there is little doubt as to the reality of most of the events which make up what is called ancient history, their chronology is in a state of much confusion. Contemporary cuneiform records extend some four thousand years before our era. When we come to Egypt, hardly two competent scholars agree in their chronology. Professor Mariette thinks that king Sent of the second dynasty lived about 4700 B. C. The oldest extant inscription relates to him. But Bunsen places this dynasty 3433, and Wiedemann 5400 B. C. This is about as if it were a disputed question whether Sir Isaac Newton lived in the time of Alexander the Great, or was a cotemporary of Dante, or belonged to the age of Louis XIV. It is worth remarking, however, that the larger numbers are those of the most recent investigators, and therefore the results of the fullest knowledge. In view of these

facts, the suggestion of Canon Taylor, that the beginning of the graphic art in the Nile valley must be placed some seven or eight thousand years before our era, is not extravagant.

We are confronted elsewhere with a condition of ancient society not very dissimilar, yet separated from it by many thousands of miles. Which is the earlier? Did these states arise independently of each other, or did a prehistoric relation exist between them? There is some evidence that the Egyptians originally came from Asia, but it is, thus far, impossible to trace a connection between them and any Asiatic people. Their language bears a slight resemblance to the Semitic family, but they had no tradition, so far as is now known, which pointed to a country outside of the Nile valley as their original home. We are equally in the dark as to the primitive abode of the Phœnicians. There is a triple tradition in answer to this question,—one pointing to a region near the Persian Gulf, another to one near the Dead Sea, and a third to Northern Arabia, as the original seat of this race. We have at present no evidence that enables us to determine which, or whether any, of these traditions is trustworthy. They first appear in history settled along the eastern end of the "Midland" sea. Both their northern and southern boundaries varied at different times, and their territory never extended more than a few leagues inland from the coast. Their most important cities for a long series of years were Tyre and Sidon. We have some knowledge of kings in the latter city as early as the fifteenth century before Christ. The name of a king is recorded who reigned at Beirût about two centuries later. At this time the Mediterranean Sea is already white with Phœnician sails. The forests of Lebanon in their rear offered them timber for ships, the Sea in front invited them to maritime enterprises. They not only traded with every point that could be reached by water, but conducted caravans overland, through the forests

of Germany and France, not to mention their almost innumerable routes northward, eastward, and southward. As they increased in riches and population, their government began to feel the need of disposing of the surplus population by colonization. Phœnician settlements were established in Rhodes, Lesbos, Crete, Thera, Melos, and other Greek islands, as well as in the mainland of Greece. "The shores of Sicily, Sardinia, and Corsica were fringed with Phœnician colonies; while the coast of North Africa was dotted with such great cities as Utica, Hippo, and Carthage. Colonies were even planted beyond the pillars of Hercules, upon the Atlantic seaboard." It was through their colonies and trade routes that they disseminated the seed which produced the great crop of alphabets now in use throughout the world. These alphabets Lenormant divides into five groups; as follows, the *Semitic*, employed by the various Semitic nations of Western Asia; the *Graeco-Italic*, used by the Greeks and Romans; the *Iberian*, employed in the Spanish peninsula; the *Northern*, embracing the Runic alphabets in use among the early Teutonic tribes; and the *Indo-Homerite*, including various alphabets in use among nations scattered from Arabia to India. While the Frenchman may justly be accused of drawing on a lively imagination for some of the facts upon which he bases his conclusions, his statement of the case is, in the main, undoubtedly correct.

The generally accepted genealogy of the alphabets is succinctly exhibited in the following table, taken from Canon Taylor's work:—



We moderns do not often realize adequately the difficulty that confronted the ancients, in the lack of suitable writing material. In time the Egyptian papyrus and the invention of parchment obviated this to some extent, but both came into use at a comparatively late period. Stone and clay preceded them in Assyria and Babylonia; wood, leather, and stone in Egypt; bark and linen in Italy; stone, wood, and metal among the Jews and Greeks. Parchment seems to have been little employed anterior to the third century before Christ. While this condition of affairs was in many respects a great disadvantage to the ancients, it has turned out to be no small gain of the moderns. If a social cataclysm should now pass over the civilized world as great as that which swept away the records that existed previous to the fourth or fifth century before Christ, or even earlier, we should not be able to reconstruct it as fully as we can reconstruct certain periods of remote antiquity, on account of the perishable nature of the material on which our records are kept.

When writing, the ancient Chaldeans used tablets varying in length from one inch to twelve inches, and about one inch thick. These were written over on both sides with a pointed or sharp instrument—engraved rather than written—and afterwards baked. When the records on them were of special importance, the tablets were covered with soft clay and baked again; thus the writing was preserved in duplicate. After having been in this way made almost imperishable, the tablets were stored in great public libraries. It is owing to this fact that some of the oldest literature of the world has been preserved to our time in its original form. In durability, stone, metal, and baked clay are much superior to parchment, papyrus, and paper, being in a sense indestructible; but in the matter of practical utility they are greatly inferior. What might be written on a small piece of prepared hide, and be therefore easily portable, would, when

inscribed on the more substantial material, make as much of a burden as a man could well carry.

The practical needs of a commercial people like the Phœnicians would not only lead them to devise a simpler mode of writing than was current in the earlier part of their history, but also to seek some more convenient material upon which to write. There is extant only a very small number of inscriptions made by this people, which seems to afford some evidence that a great part of what they must have recorded was of a transitory nature; and that they used more perishable material than was used by some of the nations with which they held intercourse. Recently discovered evidence proves that there must have been much more going to and fro among the people dwelling in and about the Mediterranean Sea than had hitherto been supposed. An Egyptian inscription of the time of Rameses the Great gives full details of an expedition in which Tyrrhenians, Sicilians, Sardinians, Lycians, Achæans, and Libyans were members of the same league. This immense armament, in which the men were accompanied by their wives and children, was collected in the twelfth century before Christ, and reminds one somewhat of the expedition against Troy a few centuries later. It seems to have ended in the utter destruction of the allies. A confederacy composed of such widely separated people could not only not have been formed without considerable previous intercourse, but there must have been some way of recording the terms on which the various members entered it. There was at this time a mighty uprising among the nations, and Fabretti and others think the Hebrew Exodus to have been more or less closely related to it.

Abraham is generally held to have been unacquainted with the art of writing; and the Israelites are supposed to have learned it during their sojourn in Egypt. It is probable that a national system was developed by them in that country, but there is so much in the history of Abraham

that indicates intelligence on his part, and a considerable degree of social advancement in the tribe to which he belonged, that I cannot conceive him and his people to have been without some familiar means of making records. Besides, his long residence in Chaldea, to say nothing of his shorter sojourn in Egypt, makes it almost certain that he was considerably advanced beyond the ordinary nomadic stage. We are badly off in the matter of ancient Hebrew inscriptions, though it is generally held that the primitive alphabet cannot have differed materially from the contemporary alphabet of Moab, Phœnicia, and Nineveh. The persistent tendency of the Israelites to fall into the idolatrous ways of the surrounding nations is in part explained by the ease with which intercourse took place between them. Recently our stock of epigraphic material has been considerably increased in this direction, though there are still some wide gaps. A somewhat notable document is the inscription of the Pool of Siloam, discovered in 1880, and generally assigned to the reign of Manasseh. This gives us the Hebrew characters in use about 700 B. C. The oldest inscription containing the Semitic type of alphabet is that of the so-called Moabite stone. As it has been often described, it is only necessary to state here that its date is about 900 B. C. A full account with facsimile may be found in McClintock and Strong under the word "Mesha." A very valuable though much shorter inscription was obtained in Cyprus in the year 1876. It is on fragments of a sacred vessel from the temple of Baal Lebanon, and contains the name of Hiram, king of Tyre. We may possibly have in this case a record made in the time of David and Solomon. If so be, then this is the oldest known Punic inscription, with the possible exception of a few proper names on gems and seals. There is one other of considerable length, that of Ashmunazar, king of the Sidonians, but as it is certainly not

earlier than the sixth, and may belong to the third, century before Christ, it need not further concern us here.

The earliest Semitic letters are preserved in two types mentioned above, namely the Sidonian and the Moabite, the former apparently prevailing along the coast, the latter farther inland. Paradoxical as it seems at present, the latter is clearly the parent of the Greek. But the fact that an inscription of the same type was found in Sardinia and another in Malta proves that this alphabet was widely disseminated. There exist, also, several inscriptions of an intermediate type, and it is fairly certain that they stand to each other in the relation of parent and offspring. It is therefore probable that the Greek, starting from what may be called the Moabite type, soon entered on a course of independent development, while the Sidonian passed through gradual changes under the influence of consanguineous forces.

But we have better evidence than tradition that the Phœnician alphabet is the parent of the Greek and Latin. The names of the letters, *alpha*, *beta*, *gamma*, and so on, have no meaning in Greek, but are significant in Semitic; they are simply *aleph*, *beth*, *gimel*, changed in conformity to Greek pronunciation. Most Greek words end in a vowel or *sigma*; a few end in *nu* or *rho*, and to one of these four endings all Græcised words must conform. Not to stop at all the letters, we may say in passing, that *aleph* probably became first *alepha*, and then *alpha*, under the influence of the recessive accent. *Beth* easily passed into *beta*. *Gamma* is derived from *gimel*, which is related to the Hebrew *gamal*, Chaldee *gamala*. Its first Greek form was probably *gamela*, which became *gamla*, then by assimilation *gamma*. *Zeta* would analogically be *zeta* from *sayin*, but it followed *eta*, *theta*, *iota*, and took the same ending. The first twenty-two letters of the Greek alphabet correspond with the letters of the Semitic alphabet, as may still be seen in the Hebrew. The so-called supplementary letters present a difficult prob-

lem, as will be seen farther on. The relationship of the Greek to the Semitic is further shown by the fact that the oldest inscriptions are intended to be read from right to left. An intermediate step was the method of writing from right to left, and from left to right alternately, the engraver beginning the new line where the former ended. The fact that the most progressive nations have retained the method adopted by the Greeks and Romans seems to prove that this is the more philosophical one; yet persons who are familiar with both find it no more natural to read words written or printed *retrograde* than the reverse. In rapid writing, however, the order from left to right has a considerable advantage over the reverse.

Let us glance at a few of the oldest Greek inscriptions. In accordance with the theory that the Greek alphabet was founded on the Phœnician, we should expect to find its earliest forms along the trade routes of the Punic voyagers. Such is the fact. The island of Thera has furnished a considerable number of inscriptions which exhibit the ancient, the transitional, and the modern forms of writing,—in other words, some are written from right to left, some from right to left and from left to right alternately, and some from left to right. The oldest of these may be assigned on internal grounds to about the middle of the seventh century before Christ, though a few competent scholars give them an earlier date. Quite a large amount of epigraphic material has also been found on the island of Melos, not far from Thera, of which the date is about a century later. Crete, likewise on the route from Phœnicia to Greece, has supplied us with many records on stone. Here the prevailing manner is the retrograde, though that mentioned just below is boustrophedon. At Gortyn, on this island, was found the largest archaic Greek inscription now known, and extending to about seventeen thousand lines. It contains laws relating to the conduct of cases, fines, divorce, succession of property and the

like, and was engraved in several columns on the concave surface of a stone wall. Since its discovery in 1884 it has been often translated and discussed in both scientific and popular periodicals. Its exact date is still in dispute, and will in all likelihood always remain to some extent a matter of conjecture, but it is probably a little later than that of the Theraean inscription referred to above. Though I have hardly more than mentioned a very few of the oldest Greek records, I shall be obliged to leave this part of my subject, except as it is incidentally alluded to in the consideration of certain letters belonging to the alphabet. For if the oldest Greek letters extant exhibit the closest resemblance to the Semitic, and the later a gradual divergence therefrom, it is reasonable to suppose that some day the chain of evidence will be complete which shall closely connect the historic Greek forms with the point at which they branched off from the parent stock.

There is great diversity in the primitive forms of the Greek letters. From the earliest times the Greeks were cognizant of a wide gulf between themselves and "barbarians," but in their art, their government, their mode of life, a wide divergence existed among people of the same race. Every Hellene felt himself so fully the equal of every other, that, rather than submit to be ruled by him, he would bear the yoke of an alien power. As each one of the thousand political units obeyed to a certain extent the law of its own social development, without much concern about its neighbors except in times of trouble, so too the evolution of the letters of the alphabet in each community followed to a certain extent its own independent course. There are, as could hardly have been otherwise, larger groups within which some letters bear a closer resemblance to each other than to the same letters in other groups, but so difficult is it to make a scientific classification, that hardly two independent authorities distribute the groups in the same way. After the reform

of Eukleides, B. C. 403, decreeing the use of the Ionic alphabet in Attica, there is a rapid movement toward uniformity under the lead of Athens. Before this time we may in general distinguish between an Eastern and a Western group, the divergent elements of the former gradually crystallizing into the familiar Greek alphabet, the latter into the still more familiar Latin. Yet this too had originally an eastern origin. For not only is our English alphabet substantially the same that was used in central Italy in the fourth century, before Christ, but it can be traced to its point of origin in Eubœa. Some seven centuries earlier, Chalcis, Eretria, and Kyme conjointly sent a colony to the West, which founded Cumae, in the Italian peninsula. We do not know why the colony received the name it did, for the alphabet carried with it is usually called the Chalcidic, and Chalcis seems to have been the most important member of the joint enterprise. This city was probably founded by the Phœnicians for the purposes of trade, as were so many others which became known afterward only when their population had become wholly Greek. Writing must have been in somewhat familiar use before the departure of the colonists, and the tradition which makes Cadmus the introducer of the alphabet, together with certain other arts of civilization from the East in the fourteenth century before Christ, is probably not far wide of the mark, so far as the main facts of the case are concerned, though no weight can be attached to the personal name. The Italic alphabet betrays its ancestry by the form of some of its letters. It is distinguished from others by a rounded *gamma*, a peculiarly shaped *lambda*, and old form of *mu*, and a rounded *sigma*. While there is no doubt that the Phœnicians traded along the north and south shores of the Mediterranean in very early times, there is as little that the Greeks did the same, arriving at some points little, if any, later than the former. But there are no traces of Greek settlements in Italy earlier than that at Cumae, in Campania,

and at this point the eastern alphabet was first planted. As was to be expected, its course of development was somewhat independent of that of the mother-land.

We come now to consider briefly the so-called supplementary letters, that is those which are in the Greek alphabet and not in the Semitic. The question cannot be fully discussed here, but it may be stated in brief that the number of foreign letters was not sufficient to represent all the sounds occurring in the Greek. It was therefore necessary to supply this lack by means of new letters. How this was done is still somewhat obscure. The theory of Clermont-Ganneau is both ingenious and plausible, and I give it to the exclusion of all others.

In the first place, there is a difficulty in explaining the relation of the Semitic *vau* to the two Greek letters that occupy its place. In the original language the letter may be either a vowel or a consonant, and corresponded pretty well with the Greek *digamma*, which had the sound of F, V, or W, but was no longer used in the later Greek. Its forms are rather various, but resembled somewhat roughly our capital F, there being, in fact, in the ancient Greek no small letters, as there are still none in the Hebrew. Between *daleth* and *sayin* there are two letters, *he* and *vau*, but between *delta* and *zeta* there is but one. The remainder of the Hebrew letters occupy the order of the Greek. Why this displacement? It is to be noted that the only difference between the E and the F as printed, is that the latter lacks the lower horizontal bar; in other words the E has three bars, while the F has but two. Besides, in many of the older letters these bars are of equal length. It is also to be noted that while the Greeks lost the digamma or F in course of time, the Latins retained it. The signification of  $\psi\iota\lambda\omicron\nu$  as applied to E to form *epsilon* does not seem to fit.  $\Psi\iota\lambda\omicron\nu$  means "bare," "denuded," "stripped," an epithet that might very appropriately be applied to the Æolic digamma, which

is precisely the *epsilon* deprived of its lower bar. The original order of the letters may then have been *gamma*, *delta*, *he* (or *e* after the aspiration was lost), *epsilon*, *vau*, etc. But this intercalary letter disturbed the traditional order of the series, in order to preserve which the *vau* was relegated to the end of the series after *tau*. In course of time, the digamma having disappeared from the Greek the epithet  $\psi\lambda\delta\nu$  was by mistake transferred to the preceding letter. This epithet was not applied in the earliest times to the Greek  $\upsilon$ , and the name digamma is also of late appearance. The *upsilon* subsequently became the parent of *u*, *v*, *w*, and *y* in the Italic alphabet, and is the chief source of the difference between it and the Greek.

How shall we account for the existence of the Greek *phi*? Is it, as Lenormant supposes, only another form of *theta*, or, as Franz believes, a Semitic letter applied to a new use? The latter hypothesis seems the most probable. The Semites had two *k*-sounds of which the Greeks used the first, *kaph*, as *kappa*, but some of them found no use for the second, *qoph*, though it evidently became the Latin *Q*. In the older inscriptions the aspirated  $\phi$  is still written with two letters as we do in most English words derived from the Greek words containing *phi*. But it is probable that the sounds originally coalesced less closely, and were pronounced as they are in Sanskrit. When, however, the fusion became complete, the eastern Greeks felt the need of a single letter to express this sound, and the discarded *qoppa* was called back into service. Here, too, as in the case of *F* and *H*, the Latins held the ancient forms more tenaciously than the Greeks.

The origins of *chi* and *xi* are involved in the greatest obscurity. There is no reason to doubt that they were developed from some of the twenty-two letters of the Semitic alphabet. As to *chi*, both the oriental and occidental group use the letter, but the former give to it the

sound of the hard *ch* while the latter use it for *cs*, it being, in fact, entirely superfluous. When first used in the Latin, it may have had a different sound from that assigned to it in the classic period, but its position had become so thoroughly fixed that it could not be dislodged. We have for centuries recognized its superfluity in English, yet we retain and use it. The *psi* of the Greeks was also represented at first by two characters. Among the Latins they never fused into one as they did in the eastern group. We can only hope that the discovery of additional inscriptions will throw some light on the genesis of these two letters, otherwise the subject will always remain in hopeless obscurity.

Omega presents no difficulty—it was evolved out of the Semitic *ayin*. Originally the same character was used for both the long and the short *o* and even for the diphthong *ou*. In a comparatively large number of existing inscriptions the *ὀ μικρὸν* is used to designate the long sound and the *ὀ μεγα* the short sound. It has been suggested that the *ω* grew out of the practice of placing two small *ὀ*'s by the side of each other; but the history of the letters is against this hypothesis. With the reform of Eukleides usage became settled in Attica, and the literary ascendancy of Athens soon led the rest of Greece to follow its example. The latest addition to the alphabet was relegated to the end of the series, and has ever since occupied the twenty-fourth and last place.