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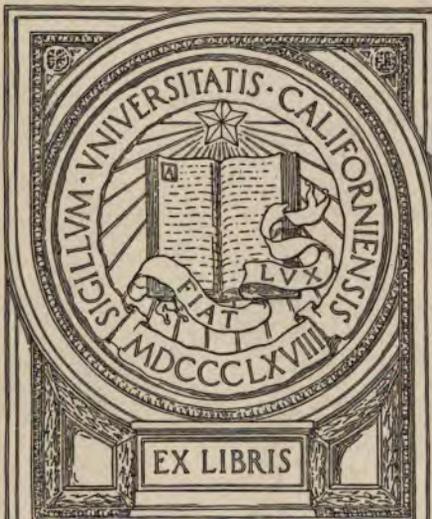


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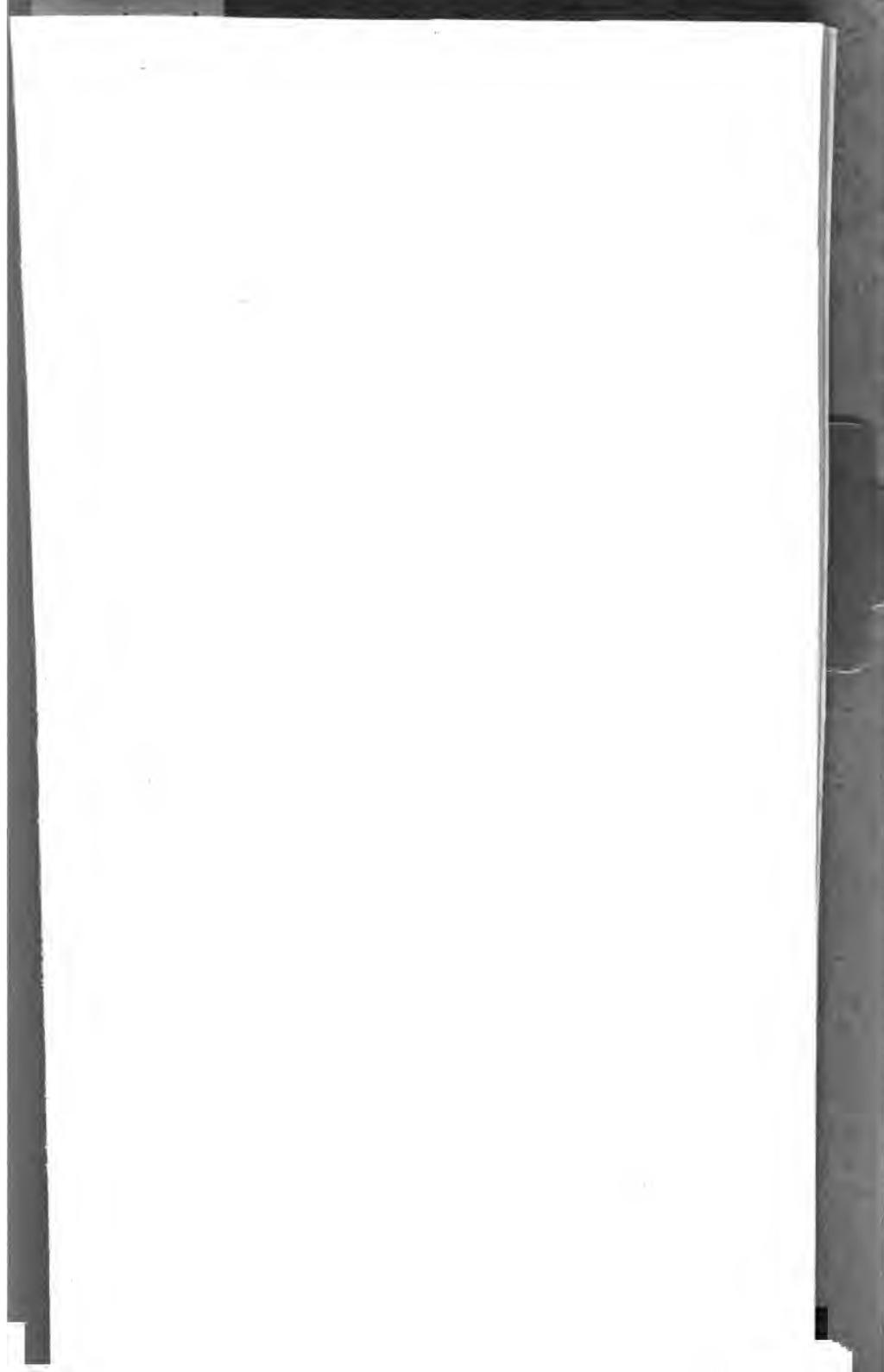
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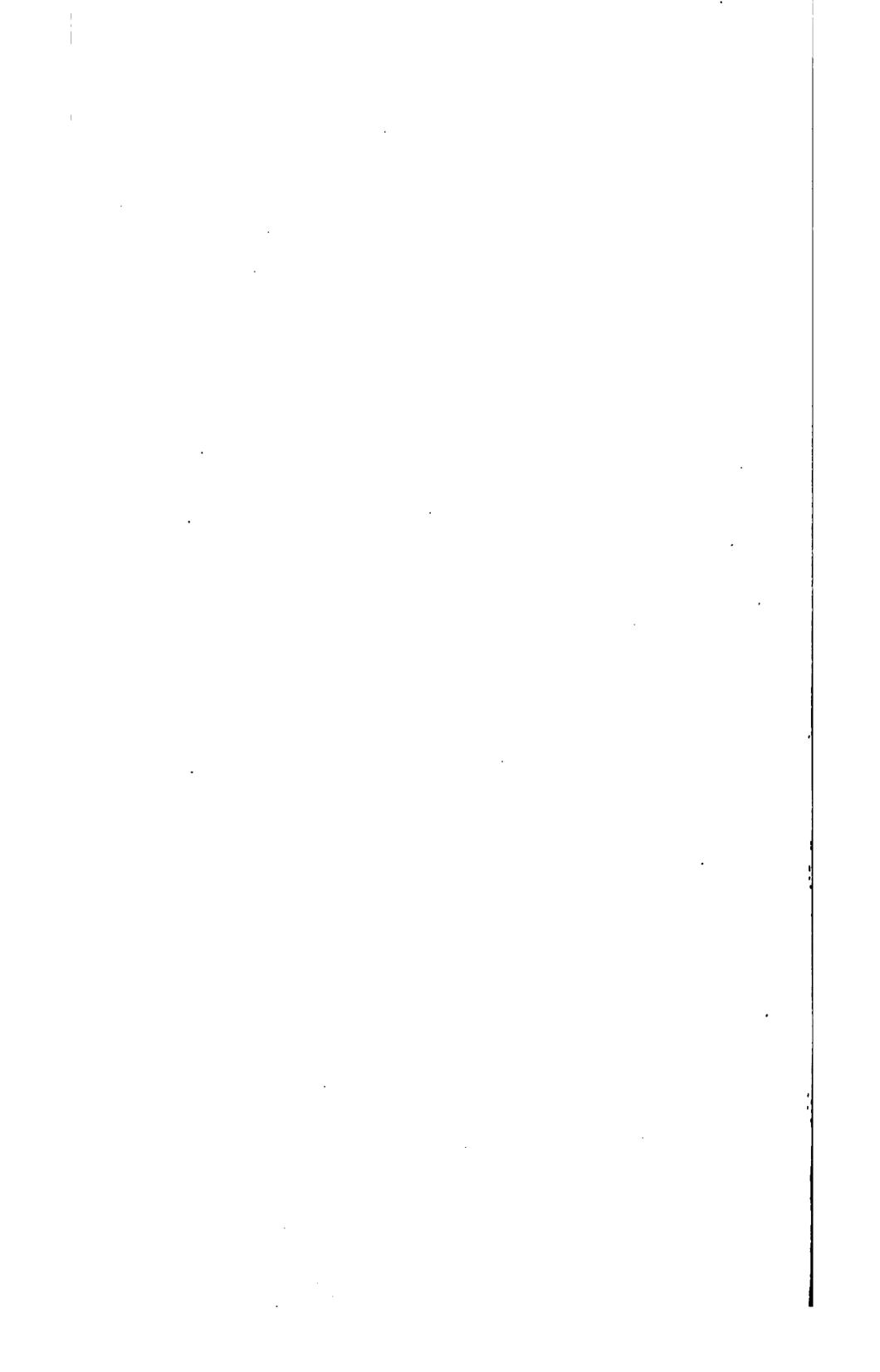


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THE  
CRITICAL, COMPARATIVE, AND HISTORICAL METHOD  
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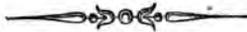
As applied to Sanskrit Scholarship and Philology and  
Indian Archeology,

*Being a lecture read at a Public Meeting held under the  
auspices of the Free Church College Literary Society  
of Bombay on the 31st of March, 1888.*

UNIVERSITY OF  
CALCUTTA  
BY

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## THE CRITICAL, COMPARATIVE, AND HISTORICAL METHOD OF INQUIRY.

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A critical inquirer is one who does not accept an account of an occurrence just as it is presented to him whether orally or in writing. He subjects it to certain tests calculated to prove its truth or otherwise. He takes care for instance to ascertain whether the person giving the account was an eyewitness to the occurrence, and if so whether he was an unprejudiced and at the same time an intelligent observer. If his information is based on other sources, the critic endeavours to ascertain the credibility or otherwise of those sources. When it is a thing or a verified occurrence that he has to deal with, he does not satisfy himself with that view of its nature and relations that appears plausible at first sight. He seeks for extraneous assistance to enable himself to arrive at a correct view. One of the most efficacious means employed by him is comparison of like things or occurrences. This comparison enables him to separate the accidents of the thing or occurrence from its essential nature, and sometimes to arrive at a law which includes the thing or occurrence as a particular case and explains it. Though comparison may thus be considered one of the means of a critical examination, still its own proper results are so important that it deserves to be considered an independent method of inquiry. The history of a thing *i. e.* a comparison of the various forms it presents at different well-ascertained periods, is also of the greatest use for the determination of its real nature. Often, when no written history is available, the inquirer determines the historical or chronological relations between the several forms of a thing by referring them to an obvious standard, and arrives at some important conclusions based on such relations. Thus for instance, the Greek *ēsmes* 'we are' is more ancient than the Sanskrit *smas*, for it retains the original *a* of the root *as* in the form of *e* which Sanskrit has lost; and the Sanskrit *santi* 'they are,' more ancient than the Greek 'ἐντί' which has lost the whole root *as*. From an observation of many such forms the conclusion to be drawn is that Greek is not derived from Sanskrit, nor Sanskrit from Greek, but both from an older form of speech. The comparative and historical methods correspond to the inductive method used in the physical and experimental sciences. In those branches of knowledge in which you cannot from the nature of the case make experiments, you have recourse to comparison and historical observation. The inductive method began to be used in Europe about the end of the sixteenth century, and since that time

very great progress has been made in the discovery of the laws of the physical world. The critical, comparative, and historical methods began to be well understood and employed about the end of the eighteenth century, and within a hundred years since that time, an equally amazing progress has been made in other departments of knowledge ; and geology, paleontology, comparative philology or the science of language, comparative mythology, evolution and the origin of species, scientific history, comparative jurisprudence, archeology, sound scholarship, and even comparative religion are the grand results. Before the employment of the inductive and experimental method such theories as that nature abhors a vacuum passed current ; and before the application of the comparative and historical method the beliefs that the world was created in six days and that the Hebrew was the primitive language of which all the rest were offshoots were equally prevalent. But just as an experiment with a tube longer than thirty-three feet, in the case of water, was enough to explode that theory, so did the observation and comparison of the different strata of which the earth is composed and the discovery of Sanskrit and its comparison with Greek, Latin, and other languages, dispel those beliefs. And this critical and comparative method is necessary not only for increasing our knowledge of the world and of historical man, but also for arriving at correct views of things in ordinary practical life. I must use criticism and comparison if I wish to have a true knowledge of the character of any man public or private, or to understand any individual action of his correctly. Criticism and comparison are necessary for the politician, the legislator, the lawyer, the merchant, and, last but not least, the newspaper writer if he is to rise above the level of scurrilous journalism.

Criticism and comparison are of use not only in enabling us to arrive at a knowledge of what is true, but also of what is good and rational. A man born in a certain country with certain social and religious customs and institutions, and in a certain range of ideas, thinks those customs, institutions, and that range of ideas to be perfectly good and rational, and sees nothing objectionable in them, unless he is a man of genius. When, however, he comes to know of other customs, other institutions, and other ideas, and compares them with those to which he has become accustomed, he is able to find out any evil that there may be in the latter, and to see what is better and more rational. The comparison of the jurisprudence of different countries is calculated to afford valuable hints to the legislator for the improvement of the laws of his own country. Similarly, the critical observation and com-

parison of the social institutions of other countries and even of other religions will afford guidance to the social and religious reformer. Critical comparison is also of use in giving us juster notions of the beautiful. These general observations, applicable as they are to all the branches of knowledge I have indicated, I will expand and illustrate by taking instances from those subjects to which I have devoted some attention, *viz.* Sanskrit scholarship and philology, and Indian archeology.

Before admitting the narrative contained in an ancient work to be historical, one ought to ask himself whether the object of the author was to please and instruct the reader and excite the feeling of wonder, or to record events as they occurred. If the former, the narrative cannot be accepted as historical, but legendary. Our obvious and almost axiomatic notions of ordinary probability should also be brought to bear on the question. If a king, for instance, in such a narrative is represented to have reigned a thousand, or even two or three hundred years, one ought to understand that the author wants to excite the feeling of wonder and admiration in his reader, and was in all likelihood under the influence of that feeling himself. If we apply these tests to our existing Sanskrit literature, we must declare the Rāmāyana, the Mahābhārata, and the Purānas to be not historical works. Of course, it is possible that they may have a historical basis, and some of the persons mentioned in them may have really existed; but we cannot assert that they did exist, without corroborative evidence such as is to be derived from contemporary inscriptions and the historical writings of foreigners. Now, if the object of the author be the latter, and the narrative answers to our tests of ordinary probability, the work must be accepted as historical. But we have very few such works in Sanskrit literature now extant. Probably, there were many more, but they are lost to us. The Vikramāṅkacharita, the Harshacharita, the Gaudāvadha, and the Rājatarāṅgiṇī are works of this nature. I will also include deeds of grants inscribed on metallic plates, stone-inscriptions, and coins among the historical documents now available to us. It appears to have been the custom in ancient times as it is even now to preserve genealogies of royal families. We find some given in the Purānas. These have a historical value as they are confirmed by inscriptions. But as the readings have in the course of time become corrupt, and the genealogies of different royal families seem to have been confused together, they are not to be relied on implicitly, without check and comparison. Now as to the contemporary *charitras* or the deeds of grants spoken of above, it ought to be remembered that the writers being

dependents or servants of the princes whose account is given therein, cannot be expected to be impartial historians of their patrons and masters ; and must be regarded as open to the temptation of bestowing extravagant praise on them and their ancestors. Accordingly, the virtues that they ascribe to the princes in the most general terms cannot safely be accepted as historically true ; but the specific statements such as those of their being at war with certain other princes or of their having constructed certain public works must be ; and if corroborative evidence becomes available, we find them confirmed. Thus, all the copperplate grants of the successors of Pulakes'í II of the Chálukya dynasty of Mahârâshtra, who ascended the throne in the year 610 A. C., speak of his having defeated or remained unsubdued by Harshavardhana the sovereign lord of the whole of Uttarâpatha or Northern India, and obtained in consequence the title of Parames'vara or sovereign lord. This is confirmed by what the Chinese pilgrim Hwhan Thsang who travelled in India from 629 A. C. to 645 A. C. tells us about the prince. S'ilâditya, as Harshavardhana is also named by him, invited the ablest generals, and sending a large army under them, and on one occasion taking the command himself, fought with the people of Mahârâshtra who were at that time ruled over by Pulakes'í, but he was not able to conquer them. Now, the point to be considered with reference to such a book as the Râjataranginî is that though the author is to be considered a contemporary historian so far as the period in which he lived is concerned, what were his authorities for the history of previous times ? He does mention previous writers and speak of having consulted eight historical works. But he begins his history with Gonarda I, who was the contemporary of Yudhishthira, and gives three names after him. The next 35 princes are, he says, unknown by name ; and then mentions 13 more. This is the period for which, he says, he did not find full authorities, and mentions the books from which he got the 17 names given by him. The next period begins in 1184 B. C. when a prince of the name of Gonarda III, ascended the throne. The history is then carried on by Kalhana without a break up to his own times. One of the princes, however, is represented by him to have reigned for 300 years ; and the average duration of the reigns of the princes in the different groups is sometimes 48 years, sometimes 38. When it is remembered that this varies from 18 to 22 only, the chronology of Kalhana in the older portion of his history must be considered not reliable. Though it appears very probable that he himself did not put on paper anything for which he found no authority, the works he consulted cannot be considered to be

quite reliable themselves. And, looking generally to the manner in which the text of old works gets corrupt in the course of time, this is perfectly intelligible. Still, since Kalhaṇa mentions his having used inscriptions, and edicts or proclamations of kings, and states with what public works in Kas'mîr the names of some of the princes are connected and makes specific statements about them of another nature, the narrative portion of his history should I think be considered generally reliable, and also the chronology of the period nearer to his own time. But the older chronology and even to a smaller extent the latter require rectification, as we have seen from the internal evidence; and there is ample external evidence also. For Kalhaṇa mentions three Turushka or Scythian kings who reigned before his historical period, *i. e.* before 1184 B. C. and whose names he gives as Hushka, Jushka, and Kanishka. There are coins of all these kings, and inscriptions also, from which it appears that the last was the founder of the dynasty. Kalhaṇa mentions Buddhism as flourishing in Kas'mîr during the reigns of these monarchs, and represents them to have constructed monasteries in a country in the vicinity which appears to me to be Afghanistan. Now here, Buddhistic records and traditions, which represent Kanishka as a great patron of the religion, confirm Kalhaṇa's account. But his chronology is entirely wrong. For, from the evidence of the inscriptions, coins, and Buddhistic traditions, Kanishka has been placed about the end of the first century of the Christian era; and I have found reason to refer him to the middle of the second. Similarly, a comparison with Chinese chronology which is believed to be very accurate has led to a correction in the date of a later prince named Lalitâditya who conquered Yas'ovarman, the sovereign of Kanoj and the patron of Bhavabhûti and Vâkpatirâja the author of the Gauḍavadha, and who, according to Kalhaṇa's chronology, reigned from 695 to 732 A. C. The Chinese account represents his brother who was king before him to have sent an embassy to China in 713 A. C.; while according to Kalhaṇa that brother died in 691 A. C. But even supposing that the Chinese account is not correct, Prof. Jacobi has recently calculated the date of an annular eclipse of the sun which is represented in the Gauḍavadha to have occurred about the time when Yas'ovarman's position in his kingdom was shaken, apparently by a foreign invader whom that scholar understands to be Lalitâditya. The eclipse occurred on the 14th of August, 733 A. C. and reached its middle at Kanoj at 40 minutes after 4 o'clock in the afternoon. Now, if the danger to Yas'ovarman's position that is spoken of, was really that caused by Lalitâditya, which ap-

pears indeed very likely, Lalitāditya must have been living and in the height of his glory in 733 A. C., while the Rājatarāṅgiṇī represents him to have died in 732 A. C.

Here I have given you a specimen of the sort of criticism to which books or documents of a professedly historical character ought to be subjected. As to the other class of works—the Rāmāyaṇa, the Mahābhārata, and all poems, plays, and religious books such as the Vedas,—though the narrative therein contained is not historical, still they are of great historical value in so far as they place before us the thoughts and feelings, the aims and aspirations, and the manners and customs of the people at or, possibly in some cases, before the time when they were written, and thus present to us a picture of the life and civilization of the period. If, for instance, woven or sewn garments, ships, chariots, and weapons of war such as a sword and an axe, are incidentally mentioned in the R̥igveda, it must be inferred that these were used at the time when the hymns in which they are mentioned were composed, and the arts of manufacturing them were known and practised. If the Atharvaveda tells us that “when a woman has had one husband before, and gets another, they shall not be separated if they offer the *ajapañchaudana* offering,” we may safely infer that the practice of widow-marriages existed in those days. We may arrive at the same conclusion, and also infer the existence of polygamy in some cases at least and the absence of polyandry, from the words of the Aitareya Brāhmaṇa that “one [man] may have many wives; but one [woman] cannot have many husbands *simultaneously*.” When we find that the Mantras or formulas contained in the R̥igveda, which the bridegroom addresses to the bride on the occasion of marriage, contain allusions to the indissoluble character of the union into which they have entered and to their bringing up a family of children, it must be supposed that when these Mantras or formulas were composed, the two parties to the marriage were not children but capable of understanding and appreciating the sense of what one says to the other. When in the Rāmāyaṇa and Mahābhārata Kshatriya girls are represented as calling a meeting of their possible lovers and choosing that one from among them that they liked, the custom must be considered as existing at or before the time when they were written. In Bāṇa’s Kādambari the Queen Vilāsavati is spoken of as going to the temple of Mahākāla and hearing the Mahābhārata read. This shows that our present custom of reading that work and others of the kind in temples for the edification of visitors existed in the middle of the seventh century after Christ

when Bâna wrote ; and his mentioning the Bhagavadgîtâ as a part of the Mahâbhârata shows that the work is older than the seventh century and formed an episode of the epic then as it does now. From the fact that Râma, the hero of that very popular epic the Râmâyana, is represented as a rigid adherent of truth, regardless of the worldly sacrifices that such a course entails, as unswerving in his attachment and fidelity to his one wife, and as possessed of such equanimity and firmness of character that "when he was invited to his father's palace to be installed as Crown-prince but was instead sent to live in a forest, divested of all worldly greatness and enjoyments, there was not the slightest change observable in his countenance," the conclusion is legitimate that the higher Hindu mind loved and admired these virtues. A wife's faithful devotion to her husband and her following him cheerfully through dire vicissitudes of fortune, with her love and respect for him unabated, were equally objects of admiration with Hindus, as is shown by the characters of Sîtâ, Damayanti and Târâ.

Perhaps the distinction between the ways in which the two classes of works are used for historical purposes will be best illustrated by a specimen of the mistakes which writers in the vernacular papers make on the point. One such writer waxing warm in the course of a dissertation against the Poona High school for girls said, "What, had we not learned women in ancient times such as Gârgî, Sîtâ, and Târâ ? But did they attend a High school ? What then is the necessity of a High school in these days ?" And on another occasion in that same paper, another or the same writer in giving advice to the women of these days said something to this effect, "You are ambitious of rivalling Gârgî, Sîtâ, and Târâ ; but you should attend to your domestic duties first." I do not remember the exact words now, but this is certain that the writer made no distinction between Gârgî, and Sîtâ or Târâ as historical personages. Sîtâ and Târâ occur in poetical or legendary works ; and though they may have existed, we have no grounds for believing that they did. They are not represented as possessed of learning, though they were educated women ; but supposing they were, all that it would prove is that in those times it was possible for women to become learned, and some did become so. But the existence of Gârgî as a historical personage, as a woman of learning, and as a Vedic teacher, is not a matter of reasonable doubt. For a Rîgvedin Brahman has, as a portion of his daily religious exercises, to recite portions of the Vedas and other sacred treatises, and pour water in the name of and, technically, for the satisfaction of three classes of beings *viz* : deities, Rîshis, and Âchâryas. This

is prescribed in the Gṛihya Sūtra of Ās'valāyana and the names are given there. The Ṛishis mentioned are the composers of the Ṛigveda hymns,—Gṛisamada, Vis'vāmītra, Vasishṭha &c. ; and since these hymns exist, their authors also must have existed. The Āchāryas are the Vedic teachers, or writers as we should call them in these days, and in the list there are the names of authors of works called Brāhmanas and Sūtras some of which have come down to our times. Thus, S'ākalya whose name occurs in the list was the author of the existing Pada text of the Ṛigveda ; Paiṅgya wrote a treatise on the sacrificial rites which is mentioned by the grammarians ; Ās'valāyana did the same and his work is now extant ; Aitareya and Sāmkyāyana were the authors of Brāhmanas which are extant ; S'aunaka wrote the Ṛigveda Prātis'ākhya ; and Bāshkala and S'ākala were the names of teachers of two different recensions of the Ṛigveda. All these being historical personages, the three women, Gārgī Vāchaknavī, Sulabhā Maitreyī, and Vaḍavā Prātithēyī, whose names occur in that same list of Āchāryas or teachers, must be so likewise though their works have not come down to us.

Since then it is from our ancient literature that we have to find out the history of our people, it becomes a thing of the greatest importance to determine the form in which the works we are concerned with were written by their authors. The readings of passages are not the same in different manuscripts of the same work. A variety of this nature we find to a pretty large extent even in ordinary works such as the poems and dramatic plays. Sometimes, numbers of whole stanzas are to be found in certain manuscripts and not in others, as in the case of Kālidāsa's S'ākuntala. But in the Rāmāyana and the Mahābhārata, the two most important works of the non-Vedic period, the differences are bewildering. No two manuscripts from different parts of the country agree. Often there are in some whole chapters which are omitted in others. Sometimes new stories or legends are found. It is therefore, the duty of the critical scholar to collect manuscripts from different parts of the country and collate them, with a view to arrive at a correct text. In the performance of this task which often is very laborious, he ought to be guided by definite principles. He should, in choosing or rejecting a certain reading or a certain passage, see whether it gives good sense, whether it agrees with the context, whether it is in keeping with the author's general way of thinking, whether it is found in the oldest manuscripts, whether the idea or mode of expression was current in the author's time, whether it involves redundancy or tau-

tology, and so on. In some parts of India such as Bengal, people have been in the habit of taking very great liberties with the text of their author ; and in Southern India they have been as a general rule very conservative. This fact I would take into account in determining the correct text of a work. When, however, the differences are very great, the best way is to treat the texts found in different provinces as independent editions or rescensions. And this is what the old Indian Vedic scholars did. In the Vedic texts also different readings sprang up in the course of time ; and one active cause of this was the fact that they were handed down orally. But when scholars like S'âkalya, S'aunaka, Kâtyâyana, and others arose and gave a definite form to the Vedic literature, they took into account these differences and established separate rescensions or editions of the texts, known to us now by the name of S'âkhâs which represent the forms of the text taught in different schools, such as those of S'âkala, Bâshkala, the Taittirîyas, the Maitrâyaṇîyas, the Kâpvas, the Mâdhyamînas &c. It is the business of a scholar of the present day to compare these several texts, as well as the several rescensions of later works, determine the circumstances under which they arose and their mutual relations, literary as well as chronological, and find out which of them have a greater claim to be considered genuine and original.

Now as to the mode of interpretation of the texts so settled. The first rule is that a word as occurring in a book must be interpreted in the sense which usage has given to it. Etymology may serve as a guide ; but it ought never to be set above usage. Consequently, no word should be understood in an etymological sense only. Oftentimes it is difficult to find the correct etymology, and a man has recourse to one that is fanciful. An interpretation of a book based on such fanciful etymologies must be incorrect. Then again, the literature of a country is divisible into periods, and the usage of one period differs from that of another. A word therefore occurring in a certain book should be understood in the sense which it has in the usage of the period in which the book was written. A better way still is to interpret it in the sense in which the author himself uses it in other parts of his work. Our oldest literary period is that of the Vedas, and this again is clearly divisible into the period of the hymns and the period of the Brâhmaṇas. The language of the hymns is archaic and very different from the later Sanskrit ; that of the Brâhmaṇas is much nearer to the classical Sanskrit. The hymns contain a great many words which do not occur in later Sanskrit, and there are also a good many which have a different sense there from that

which they have in the latter. Under these circumstances, the only proper way to understand the hymns is to bring together and compare the passages in which the same word occurs, taking etymology as a guide only where necessary. In the same manner, the ideas and modes of thinking, which from our acquaintance with the period we have seen to be prevalent, should be referred to for help in interpreting a passage. If instead of resorting to these methods we take an isolated passage and interpret it according to modern usage, modern ideas, and fanciful or even true etymology, we may make it mean anything; and we shall thus find in the Vedas not only pure theism, but even railways and electric telegraphs. These observations are also applicable to works belonging to other periods.

Having disposed of books and other written documents, I will now endeavour to estimate the value of traditions. If we accept traditions as we find them, we shall often be deceived. There is a tradition among us, for instance, that Bhavabhūti and Kālidāsa were contemporaries; but we have now found that Bhavabhūti lived in the first quarter of the eighth century of the Christian Era and Kālidāsa long before 634 A. C., since he is mentioned as a famous poet in an inscription bearing that date and also by Bāṇa who lived in the middle of the seventh century. Bhavabhūti, it has recently been discovered, was a pupil of Kumārilabhaṭṭa; and Kumārilabhaṭṭa quotes from Kālidāsa's S'ākuntala. Similarly, the authors, Dhavantarīn, Kshapaṇaka, Amarasīmha, Kālidāsa, Varāhamihira, Vararuchi, and others who formed the traditional nine gems are said to have lived at the Court of Vikramāditya the founder of the Saṃvat Era the initial date of which is 57 B. C. But Varāhamihira, as stated by Āmarāja in his commentary on Brahmagupta's Khaṇḍakhādyā, died in S'aka 509 or 587 A. C.; and the epoch year of his Pañchasiddhāntikā is 427 S'aka corresponding to 505 A. C. And the existence of Vikramāditya in 57 B. C. has not yet been traced. Albiruni, who accompanied Mahmud of Ghizni in his invasion of Gujarrāt in the early part of the eleventh century, reports a tradition that the Gupta era dates from the extermination of the Gupta dynasty. But princes of the Gupta dynasty date their inscriptions in their era, which therefore was in use before their extermination. Tradition makes Pāṇini a contemporary of Kātyāyana and represents him as having been a blockhead who by austerities pleased S'iva and obtained a new grammar from him. Kātyāyana held a disputation with him for eight days and, though Pāṇini proved a powerful antagonist, he was ultimately vanquished. The fact, however, as we know it, is that Kāt

yāyana is the writer of Vārtikas or comments on Pāṇini's grammar in which he explains, rectifies, and supplements Pāṇini's rules. It was in consequence of his having thus rectified and supplemented Pāṇini that the story of his having vanquished him must have arisen,—and traditions often have a basis of this nature and no better—but it is impossible that he should have written those comments a good many of which are explanatory on the work of a contemporary. Besides, from a comparison of the works of the two it appears that the Sanskrit language was in a somewhat more archaic condition in the time of Pāṇini. Hence, therefore, the tradition cannot be true; and there are also inherent improbabilities in it. Sometimes the tradition of one sect contradicts that of another. The S'vetāmbara Jainas, for instance, claim to represent the original Jainism and speak of the Digambara sect as having been founded by one S'ivabhūti in 83 A. C.; and give childish explanations of the origin of the two peculiar doctrines of that sect *viz:* nudity and denial of absolution to women. The Digambaras, on the other hand, represent themselves to be the original Jainas; and state that a sect of the name of Ardhapālaka separated from them about 272 B. C., and out of that arose after a long time the S'vetāmbara sect. Still, however, traditions are not to be entirely rejected. An endeavour should be made to ascertain their antiquity as their credibility must be considered to be proportionate to it; and if they are in themselves probable and stand all critical tests, they may be provisionally accepted. Thus, the tradition about the nine gems has been traced up to the year 1,005 Samvat or 948 A. D. In an inscription bearing that date found at Buddha Gayā it is stated that Vikramāditya was a renowned monarch in whose court there were nine learned men celebrated under the epithet of the *Nava ratnāni* or nine jewels of whom Amaradeva was one. That portion of the tradition which refers to Vikramāditya's being a great patron of learning ascends still higher into antiquity. In the introduction to Vāsavadattā a work mentioned by Bāṇa in his Harshacharita and consequently written before the middle of the seventh century, Subandhu the author, who also is mentioned by name as a previous poet in the Gauḍavadha by Vākpatirāja who lived in the middle of the eighth century, speaks regretfully of the sweet or tasteful poesy of the time of Vikramāditya having when he lived dried up like the waters of a lake which once was full. And the manner of his regret looks like that of one who lived near to the times of Vikramāditya. But nothing has yet been found to confirm the date; and it occurs only in the Jyotirvidābharaṇa the author of which pretends to be the great Kālidāsa but which

has been satisfactorily proved to be but a recent forgery by all scholars who have noticed it. Since the tradition is thus confirmed it may be accepted as correct; but the date of the nine jewels and of their patron Vikramāditya should be taken to be that which we have got for Varāhamihira on unimpeachable evidence. And a great king of the name of Harsha Vikramāditya is mentioned by Kalhaṇa in the Rājatarāṅgiṇī as a paramount Sovereign ruling at Ujjayinī. He drove away S'akas and all Mlechchhas from the country, and was a great patron of learning. According to Kalhaṇa's chronology which in this place is, as I have already observed, very faulty, this Vikramāditya lived in the first half of the second century of the Christian era. But his description of the king suits so well the patron of the nine gems, that we may correct the date assigned by Kalhaṇa in the light of that of Varāhamihira, and suppose Harsha Vikramāditya to have reigned at Ujjayinī in the middle of the sixth century and patronized Kālidāsa, Amarasimha, Varāhamihira, and the rest. And nothing that has yet been discovered goes against the contemporaneity of those three; so that the tradition, when corrected as regards the date of Vikramāditya, agrees with everything that is known and seems highly probable. It may incidentally be observed here that Subandhu appears thus to have lived after Vikramāditya and before Bāṇa, that is between 550 and 650 A. C. And this is in keeping with his regretful mode of expression noticed above; and both together lend strong support to another tradition that he was the son of a sister of Vararuchi, one of the nine gems of Vikramāditya's Court. But the chief use of a tradition is to confirm, corroborate, and strengthen other evidence; and it should not be put in the place of such evidence. This will be illustrated further on.

I will now proceed to give instances of our method from philology and point out the errors due to superficial analogies. People seem to think that mere external similarity between a word in one language and another in another language is enough to enable us to decide that the two are one and the same word. Thus I have heard the word *Dutch*, (Germ.) *Deutsch*, traced to the Sanskrit word *Daitya* which means 'a demon' or 'an enemy of the gods', *Taittirīya* identified with *Tartar*, *Caspian* with *Kas'yapa*, and *Chitpāvan* or *Chipte* with *Copt* or *Gypt*. It is melancholy to see such etymologies and a great many others of the same nature put forth without the slightest evidence, and against all the rules of philological comparison. Now there are languages which bear a close affinity to each other, and there are others which do not. Words in a language belonging to the former group observe certain

laws in assuming the forms which they possess in another belonging to the same group. Thus the High German in which we have the word *Deut*, *sch* being an adjectival termination, is related to Sanskrit. But Sanskrit consonantal sounds assume certain forms in German. And there is a law with reference to that point known by the name of Grimm's law. The German *d* corresponds to *th* in the Gothic, with which also low German or Anglo-saxon, *i. e.*, the modern English agrees, and to *t* in Sanskrit. Thus German *drei* is English *three*, and Sanskrit त्रि; Germ. *dass*, Eng. *that*, Skr. तद्; Germ. *du*, Eng. *thou*, Skr. त्व in त्वम्; Germ. *durch*, Eng. *through*, Skr. तिरस्; Germ. *durst*, Eng. *thirst*, Skr. तृष्, *i. e.*, तर्ष &c. Similarly, Germ. *t* is Eng. *d*, and Skr. ध; as in the instances, Germ. *mit*, old H. G. *mitte*, Eng. *mid*, A. S. *midde*, Skr. मध्य; Germ. *tag*, Eng. *day*, Skr. some such word as धक्. You will thus see that there is a law which determines the forms that Sanskrit words should assume in German, and that law ought to give to *daitya* some such form as *teudh*; so that we should not allow ourselves to be deceived by the mere similarity of *daitya* and *deut*. Besides, from all the observation that the great founders of comparative philology have made, they have come to the conclusion that the affinity between the Sanskrit and the European languages dates from prehistoric times, *i. e.*, is due to the fact that the ancestors of us all spoke one and the same language before they separated and formed distinct nationalities. This was long before the time when the Vedas were composed. Now the word *daitya* does not occur in the Vedas and was formed later. How could such a word be found in the German, not having existed in the Sanskrit itself a long time after the Âryan separation? There are indeed instances in historical times of independent Âryan communities having again been brought into connection with each other and exchanged a few later words. Thus our astronomical works, and especially those of Varâhamihira, contain several Greek terms, as will be hereafter noticed. If we suppose the word *daitya* to have been communicated to the Germans by us in historic times, is there any record anywhere of our having gone into the forests of Germany and established a kingdom there, as we have of the Bactrian Greeks having established one in the Panjâb? And are there more such instances? None has been pointed out. The other etymologies must also be similarly condemned. Are we to suppose that the students of the Taittirîya rescension of the Yajurveda came from Tartary, and our Chitpâvan Brahmans from Egypt, and that these foreigners were admitted into our exclusive Hindu community and assigned the highest place? Is there a tittle of evidence to

show that? The Jews came to our country in very early times, and the Parsis later; but have they become incorporated with our community, taken our Gotras, and become students of our Vedas?

There are many instances of false and unscientific Marāṭhi etymologies in our books. Unless you resort to comparison and historic observation, and discover laws which explain the particular case before you, your etymology must be empiric. Thus our ordinary root वस 'to sit' has been traced to Skr. वस् 'to dwell'. Of course व and ब constantly interchange places in our languages and there is no difficulty on that point. The sense, however, of वस् is not appropriate; but even that is no great objection. Still, if we have recourse to observation and comparison, we shall find that this etymology is wrong. वस has another form वैस, and since the tendency of languages is always to drop an element and not add, वैस is an older form of the root; and that it is a form of that same root and not an independent root is shown by such contractions as म्हस 'a she-buffalo' for म्हैस, जसा 'as' for जैसा, तसा 'so' for तैसा &c. Again, the analogy of the cognate languages also shows that वैस is the real form of the root; for the Gujarāṭi has वैस, and the Hindī वैस, though वैठ is more common. Now Marāṭhi, Hindī, and Gujarāṭi have descended from the old Prākṛits; and ऐ in the first two and ए in the last is a combination of the vowels अ and इ brought together by the dropping away of uninitial consonants which forms a characteristic of the Prākṛits, as will be seen from the following instances:—

Skr. खदिर 'a certain tree',	Pr. खइर	* M. H. P. खैर	G. खेर.
— बलीवर्द 'a bullock',	— बइल्ल	— — — बैल	— बेल.
— तादृश 'like that',	— तादिस, Ap. तइस	— — — तैसा	—
— महिषी 'a she-buffalo,'	— महिसी	M. म्हैस, H. P. भैस	— भैस.
— भगिनी 'sister,'	— भइणी, M. dial. भैण,	H. वैन	— वैन.

So that वैस or वैस must be वइस in Prākṛit or वइस, since व and ब are always interchangeable. Now, we know that Skr. उपविश which means 'to sit' appears in the Prākṛit in the form of उवइस, प being changed to व as a general rule of which there are many instances, and व being dropped as in कइ for कवि, रइ for रवि &c. Then the initial vowel उ is dropped since it is unaccented, as it is in the following cases:—

Skr. अभ्यंतर 'inside',	H. भीतर,	M. भितर
— अरघट 'a water-wheel',	H. रहट,	M. रहाट

\* Here and in the following pages M.=Marāṭhi, H.=Hindī, Ap.=Apabhraṃs'a, G.=Gujarāṭi, P.=Panjābī, S.=Sindhī, B.=Bangālī, and O.=Oriyā.

Skr. अभ्यंजन 'to be soaked',	H. भीजना, M. भिज्णे, G. भिजवुं
— एकस्थं 'collected',	H. कट्टा
— उपाध्याय 'a teacher', 'a priest,'	M. पाध्या, P. पाधे
— उपरि 'above,'	M. वर.

Here then, there is an analogy at every step, and the M. वस is thus derived from the Skr. उपविश.

Another instance of the necessity of a close observation and comparison of facts is afforded by the derivation of masculine nouns ending in आ in Marāṭhī and Hindī. It is supposed that the आ of these is a remnant of the ओ of masculine nouns in Prākṛit, such as हत्थो, गुणो &c. But the question is, by what rules of transformation does ओ become आ, and why is it that a great many nouns such as हात 'hand,' पाय 'foot,' कान 'ear,' and others are without it? Besides, in such a language as the Sindhī, those nouns which end in अ in Hindī and Marāṭhī end in short उ, while those ending in आ have ओ for their final; as हथु, कतु for हाथ, कान &c. and घोडो 'a horse' for घोडा, मंजो 'a bead-stead' for माचा, मथो 'head,' 'top' for माथा &c. The correct way of finding the origin of these forms in आ appears to me to be the following:—

In modern vernacular pronunciation there is a law of accentuation which has produced important results. The penultimate syllable of a word is in all our dialects pronounced with a stress the tendency of which is to lengthen that syllable and drop the final vowel, and in most of them this tendency has worked itself out. The preceding vowel, however, is not always written long, but still the long or at least the emphasized pronunciation does exist. Thus गुण 'virtue' is pronounced by us as गुण in M., गुन् in H., फूल 'a flower' as फूळ, बळ, 'strength' as बाळ (baal), मदन 'god of love' as मदन (madaan), &c. In these instances, though we write the penultimate vowel short, it is really long. The final इ or उ of Sanskrit words recently imported into the languages have been dropped in virtue of this law of accentuation. Thus:—

- M. H. G. पद्धत 'method,' 'mode,' Skr. पद्धति.  
M. H. G. P. गत 'condition,' Skr. गति.  
M. G. विपत, H. P. विपत, 'misery,' Skr. विपत्ति.  
M. H. P. G. B. रीत 'manner,' Skr. रीति.  
M. H. G. P. B. जात 'species,' 'caste,' Skr. जाति.  
M. H. कीर्त, H. G. P. कीरत, 'fame,' Skr. कीर्ति.  
M. H. P. G. रास 'a heap,' Skr. राशि.  
M. H. P. G. नीत 'morality,' Skr. नीति.  
M. G. वस्त, H. P. वस्त, 'a thing,' Skr. वस्तु.

H. P. साध 'a good man', Skr. साधु.

M. G. H. P. मध 'honey', Skr. मधु.

Not only does this law characterise the vernacular speech of the day, but it must have been in operation for centuries, since the old Prākṛit words, which like the above have not recently been imported but have descended to the modern languages from the spoken dialects of ancient times, have also been similarly changed. Thus :—

M. B. भूक, H. G. B. भूल, P. भुक्ख, O. भोक, 'hunger,' Pr. बुहुक्खा, Skr. बुभुक्षा.

M. H. P. G. जीभ, B. O. जिभ, S. जिभ, 'tongue,' Pr. जिम्भा, Skr. जिह्वा.

H. P. सेज, M. G. शेज, S. सेज सेजा, a 'bed,' Pr. सेज्जा, Skr. शय्या.

M. भीक, H. G. भीख, P. भिक्ख or भीख, B. O. भिक, 'alms,' Pr. भिक्खा, Skr. भिक्षा.

M. नीज, H. P. नीद, S. निद, 'sleep,' Pr. निरा, Skr. निद्रा.

M. सोंड, H. संड, G. संद, P. संड, B. O. शंड, संदि 'trunk of an elephant,' Pr. सोण्डा, Skr. शुण्डा.

M. G. दाद, H. दाद, 'a jaw,' 'a grinder,' Pr. दादा, Skr. दंष्ट्रा.

H. S. साध, B. साद or साध, O. साध, 'wish,' 'longing,' Pr. सदा, Skr. अद्दा.

M. G. घूल, H. घूल, S. घुडि, B. O. घूला, P. घूर, 'dust,' Pr. घूदि, Skr. घूलि.

M. बहिन or भैण, H. भैण, बहिन, or बहन, G. बेन, B. बोन, 'sister,' Pr. भइणी, Skr. भगिनी.

M. हौस, H. भैंस, G. भैंस, P. भैंह or भैंस, a 'she-buffalo,' Pr. महिसी, Skr. महिषी.

H. P. कोख, G. कुख, M. कूस, 'a side of the abdomen,' Pr. कुक्खि, Skr. कुक्षि.

M. सवत, H. सौत, 'a fellow wife,' Pr. सवती, Skr. सपत्नी.

M. खान, H. खान, 'a mine,' Pr. खणि, Skr. खनि.

H. सास, P. सस, M. G. साम्, 'mother-in-law,' Pr. सस्सु, Skr. शशू.

M. G. वीज, P. विज्ज, 'lightning,' Pr. विज्जु, Skr. वियुत्त.

M. ऊंस, H. ऊख or ईख, P. इक्ख, Pr. उच्छु, Skr. इच्छु.

H. G. आंख, P. अक्ख, B. O. आखि, 'the eye,' Pr. अक्खि. Skr. अक्षि.

M. G. B. O. हाड, H. हाड, हड, or हड्डी, P. हड्डी, Pr. अट्ठी, Skr. अस्थि.

अस्थि.

In this manner the final आ, इ, ई, उ and ऊ of Sanskrit and Prākṛit nouns have, in almost all cases been dropped in the vernaculars or changed to a silent अ. Final ओ is similarly treated. Even in the Apabhraṃs'a period this rule of accentuation must have prevailed, since the

ending vowels are similarly shortened in a good many cases. The Prākṛit ओ of the nominative singular of masculine nouns is mostly shortened to उ in that dialect, and sometimes altogether dropped. The modern vernaculars have thus got a great many masculine nouns ending in the silent अ, such as हात or हाथ 'hand,' कान 'ear,' दांत 'tooth,' धीट 'bold,' वड 'the Banyan tree.' When the final vowel is preceded by another, and not by a consonant as in these words and the others given in the above lists, that other vowel being accented by our rule shows a tendency to become long; and the original final being dropped, the accented vowel becomes final. Thus :—

Skr. मौक्तिकम् 'a pearl,' Pr. मोक्तिअं, M. मोतीं, G. P. H. मोती.

Skr. पानीयम् 'water,' Pr. पाणिअं, M. G. पाणीं, H. पानी.

Skr. युधिका 'a flowering bush,' Pr. जुधिआ, M. H. G. जुही or जुई.

Skr. घोडिका 'a mare,' Pr. घोडिआ, M. G. H. P. घोडी.

Skr. शाटिका 'a garment,' Pr. साडिआ, M. G. H. साडी.

Skr. मृत्तिका 'earth,' Pr. मत्तिआ, मट्टिआ or मिट्टिआ, M. माती, H. मट्टी &c.

Skr. तैलिकः 'a seller of oil,' Pr. and Ap. तेडिओ-उ, M. तेली.

Skr. नापितः 'a barber,' Pr. नाविओ or न्हाविओ, Ap. नाविउ, M. न्हावी, H. नाई.

Skr. वृश्चिकः 'a scorpion,' Pr. विच्छुओ, Ap. विच्छुउ, M. विंचू, H. P. विच्छु, S. विच्छु, B. O. विछा.

Skr. शूका 'a louse,' Pr. जूआ, H. P. G. जू, M. ऊ.

Skr. वाटिका 'an enclosure,' Pr. वाटिआ or वाडिआ, M. G. H. वाडी, B. वाटी.

Skr. वीटिका 'a roll of betel leaf, &c.,' Pr. वीडिआ, M. विडी, G. विडी, H. वीडी.

Skr. जीवः 'life,' Pr. जीओ, Ap. जीउ, H. जी.

Skr. लोहितम् 'blood,' Pr. लोहिअं, G. लेही, H. P. लेहू.

Skr. जलौका 'a leech,' Pr. जलोआ, M. जळू, H. जळ, G. जळो.

Skr. बालुका 'sand,' Pr. बालुआ, M. G. बाळू, H. बाळू.

Thus then, the Sanskrit and Prākṛit penultimate vowels become final in the vernaculars and, being originally accented in consequence of the law we have been considering, retain that accent in most cases, and are thus lengthened. When the penultimate happens to be अ it is lengthened to आ as in

Skr. घोटकः 'a horse,' Pr. घोडओ, Ap. घोडउ, M. H. P. B. O. घोडा.

Skr. पारदः 'mercury,' Pr. पारओ, Ap. पारउ, M. H. P. B. O. पारा.

Skr. आमलकः 'a kind of myrobalan,' Pr. आमलओ, Ap. आवंलउ, M. आवंळा, H. P. B. आंबला or आमला.

Skr. आन्नातकः 'hog-plum myrobalan,' Pr. अम्मादओ ?, Ap. अम्मादड,  
M. आंबाडा, H. अंबाडा.

Skr. विभीतकः 'beleric myrobalan,' Pr. वहेदओ, Ap. वहेदड, M. वेहडा, H.  
P. वहेडा.

Skr. पुस्तकम् 'a volume,' Pr. पोत्थओ, Ap. पोत्थड, H. P. पोथा.

Skr. कण्टकः 'a thorn,' Pr. कण्टओ, Ap. कण्टड, M. H. B. कांटा.

Skr. गोलकः 'a ball,' Pr. गोलओ, Ap. गोलड, M. P. गोळा, H. B. गोला.

Skr. श्यालकः 'brother-in-law,' Pr. सालओ, Ap. सालड, M. P. साळा, H.

साला.

Skr. दीपकः 'a lamp,' Pr. दीवओ, Ap. दीवड, M. दिवा, P. दीवा, H.  
B. दिया.

Skr. मञ्चकः 'a bedstead,' Pr. मञ्चओ, Ap. मञ्चड, M. मांचा.

Skr. मस्तकम् 'head,' Pr. मत्थयं, M. (Goan. Mal. and Chit.) माथां ;  
by a change of gender, Pr. मत्थओ, Ap. मत्थड, M. H. B. माथा, P. मत्था.

Skr. कटकम् 'a wristlet,' Pr. कडअं, M. (Goan. Mâl. and Chit.) कडां.

Skr. कीटकः 'a worm,' Pr. कीडओ, Ap. कीडड, M. किडा, H. P. कीडा,  
B. कीडा.

It may be urged that in modern pronunciation when the penultimate अ is accented, it does not become आ even though pronounced long, as observed before. How is it then that it becomes आ here? In modern times several new modes of pronunciation have arisen, but as regards the matter in hand, to lengthen अ into आ was the old process. And often when the old processes have disappeared from what is considered the standard form of a language, they are found preserved in some dialect of that language. Thus, while in the standard Marâthî the penultimate अ is simply pronounced long, it becomes आ in the Goanese and Mâlvañî dialects.

Thus:—

St. M.	Mâl. Goan.
पातळ 'a garment.'	पाताळ.
कापड 'cloth.'	कापाड.
वतन 'hereditary property.'	वतान.
जतन 'careful preservation.'	जतान.
धोतर 'a garment.'	धोतार.
खडप 'a rock.'	खडाप.

In this manner, then, the penultimate अ became आ in consequence of the accent and, the final vowel being dropped, itself became the final, and has preserved its accent. Thus the nouns ending in आ in Marâthî and Hindî are derived from Sanskrit nouns with the penultimate and final syllables ending in अ. The consonant of the final syl-

lable is dropped in the Prākṛits, and the vowel अ is together with the nominative termination changed to ओ. This ओ being unaccented, is first shortened to उ in the Apabhraṁs'a dialect, and afterwards entirely dropped ; while the accented अ of the penultimate syllable is lengthened to आ and becomes the final. In most cases the final syllable is क applied in Sanskrit to a great many nouns to modify the original sense in some way. Instances of those nouns which are seen to have क as the ending syllable in Sanskrit have been given above, together with their Marāṭhī and Hindī forms in आ. And in those cases in which the Sanskrit forms of other Marāṭhī and Hindī words in आ are not seen with a final क, it must have been applied to them in the spoken language, since Pāṇini gives a very general rule as to the addition of क to all nouns, and we actually find its remnant अ in a great many words including past and present participles in the Prākṛits. I have spent so much time on this instance in order to give you an idea of the extent to which it is sometimes necessary to make close observation, discover analogies, and trace the operation of laws, to enable us to arrive at correct etymologies. A mere hap-hazard assertion without any proof is unscientific and will not do in philology any more than in other subjects.

In connection with this matter of insufficient or superficial analogies, I may mention that those who are engaged in the studies I have been speaking about are peculiarly open to their influence, especially when they lead to or support a theory which is striking. Thus, the Rāmāyaṇa is supposed by some to represent the struggles between the Brāhmaṇas of India and the Buddhists of Ceylon ; that the Rākshasas that disturb the rites of the Brāhmaṇas in the Daṇḍakāraṇya are Buddhists; that the red clothes worn by the priests at the magic rites of Indrajit are the brown garments of Buddhist mendicants &c. Again, Sitā's ravishment is the same incident as the ravishment of Helen, and S'iva's bow which Rāma bent is the bow of Ulysses. Therefore, Vālmīki must have been influenced by Homeric ideas, and the poem written after the Hindus came in contact with the Greeks. I cannot stop to give you a detailed account of this controversy ; but will observe that if such analogies are to be used as arguments in favour of a certain theory, an antiquarian in the remote future may declare that the Marāṭhā Hindus had no family names before the British conquered India ; but that they learned to use them, having seen the British doing so. Hence some of their family names are but mere translations of British names ; thus, *Gore* or *Dhavaḷe* is a translation

of *White*; *Kâle*, of *Black*; *Lândge*, of *Wolf*; *Kolhe*, of *Fox*; *Parvate* or *Dongre*, of *Hill*; *Barve*, of *Wells*; *Gole*, of *Ball*; *Ghâinte* of *Bell*, &c. But as we now know that we had these names before we heard of the British, the theory cannot be advocated at the present day. And to my mind the analogies about the ravishment of the wife of another and the bending of a heavy bow are more natural and less due to intercommunication than this close correspondence of family names. For, what incident is more common in an early condition of society than for one powerful man to take away forcibly the wife of another? Even in a highly civilized condition of society the incident is not uncommon, though the forces used are of a more delicate nature. The same remark applies to a heavy bow. And the state of society pictured in the *Râmâyana* is very archaic; the whole *Marâthâ* country was a forest infested by *Râkshasas* or savages, the ancestors of our *Bhîls* and *Gonḍs*; and the gentler races of the South were so uncultivated that they were compared to monkeys. *Vâlmîki* does not mention a single *Marâthâ* town, while in the *Mahâbhârata* the names of *Karhâḍ* and *Supârâ* occur. He has heard a few names of places in Southern India, but does not seem to be familiar with the geography of the country; while, in the third and second centuries before the Christian era, the *Âryas* became more familiar with the South, as we see from the inscriptions of *As'oka*, *Patañjali's Mahâbhâshya*, and *Buddhistic* tradition. And to this must be added the weight of the tradition which represents *Vâlmîki* as the first or earliest poet of the non-Vedic Sanskrit. Similarly, resemblances have been traced between the ideas expressed in the *Bhagavadgîtâ* and those expressed in the new Testament, and a Christian influence detected in that work. But a good many of these resemblances are more apparent than real, the whole tone and manner of the *Gîtâ* are different from those of the New Testament, and most of the notions suspected to be borrowed from the Bible are found expressed in the *Upanishads* and such older works, as has been shown by the late *Dr. Muir*. Scholars seem sometimes when they have to advocate a theory to forget our common humanity to which a great deal that is common in our notions must be attributed.

On the other hand, when the evidence is irrefragable it is unscholarlike to deny foreign influence. For instance, the Indian astronomical works written during the first five centuries contain several Greek terms. The names of the twelve signs of the Zodiac are translations of the Greek names; and the original Greek names even are given by *Varâhamihira* in the following *Âryâ* quoted by *Bhâtu Dâjt*:—

क्रियतावुरुजितुमकुलीरलेयपार्थोनञ्जककोप्याख्याः ।

तौक्षिक आकोकेरो हद्रोगश्चेत्थसिः क्रमशः ॥

Where we have *Kriya i. e. Kriôs*, *Tāvuru i. e. Tauros*, *Jituma i. e. Didymos*, *Leya i. e. Léon*, *Pârthona i. e. Parthénos*, *Jûka i. e. Zygón*, *Kaurpya i. e. Scorpios*, *Taukshika i. e. Toxôtês*, *Âkokero i. e. Aigôkerôs*, *Hridroga i. e. Hydrochôos*, *Itthasi i. e. Ichthy's*. Some of the other terms are *Heli 'the sun' i. e. Hélios*, *Koṇa i. e. Kronos*, *Kendra i. e. Kéntron*, *Jâmitra i. e. Diâmetron* &c. Altogether there are 36 such terms. These are not Sanskrit words ; and to endeavour to give them an unnatural Sanskrit etymology is vain and unscholarlike. We have the clearest evidence of the close connection between Hindus and Greeks from about the third century before Christ to the first after Christ, in the inscriptions of As'oka and others, in coins which bear the names of Bactrian Greek monarchs, in Greek as well as Indian characters, and in Buddhistic literature. Garga as quoted by Varâhamihira says:—"The Yavanas are Mlechchhas among whom this S'âstra (*i. e.* astronomy and astrology) is well known ; they even are worshipped like Rîshis." The Greeks were at that time called Yavanas ; for in an inscription of As'oka, Antiochus king of Syria is called a *Yonarâja*. So also Milinda who reigned at S'âkala in the Panjab and who has been identified with the Bactro-Greek monarch Menandros is called a *Yoṇa* king in the Pâli books. The Hindus had their own astronomy before they came in contact with the Greeks ; but they borrowed from the latter what was necessary for their own further progress. Prof. Weber thus expresses himself on the point:—"Although most of these names denote astrological relations, still, on the other hand, in the division of the heavens into Zodiacal signs, *decani*, and degrees, they comprise all that the Hindus lacked, and that was necessary to enable them to cultivate astronomy in a scientific spirit. And accordingly we find that they turned these Greek aids to good account ; rectifying, in the first place, the order of their lunar asterisms which was no longer in accordance with reality, so that the two which came last in the old order occupy the two first places in the new ; and even, it would seem, in some points independently advancing astronomical science further than the Greeks themselves did."

I will now give a specific instance to show how previous history enables us to understand the nature of a thing, though what I have hitherto said in connection with other points contains a good deal calculated to illustrate this also. At present we use an era which is called S'âlivâhana S'aka ; and ordinarily we understand the word S'aka

in the sense of 'an era,' and believe that the era was founded by a king of the name of S'âlivâhana. But the word S'aka has not the sense of an era in the Sanskrit language; and the expression S'âlivâhana S'aka has been in use for about three or four hundred years only. Before that, and even in some books of the subsequent period, the expression used is S'akakâla. Varâhamihira calls it S'akendrakâla or S'akabhûpakâla *i. e.* the era of the S'aka king. In an inscription dated 500 S'aka, it is called the era of the coronation of the S'aka king; and in another dated 556 S'aka, the era of S'aka kings. In all old copperplate grants the expression used is S'akanripakâla or S'akakâla *i. e.* the era of the S'aka king or S'aka. Thus, then, this is an era founded by a great king of the S'aka or Scythian race. And that India was exposed to the inroads of the Scythians, and that they established a kingdom in the country, is proved by many an inscription and coin. There was a dynasty of kings who called themselves Satraps and ruled over Ujjayini, Kattiawar, and Gujarat. In the beginning at least they were in all likelihood the viceroys of the S'aka kings.

S'âlivâhana or S'âtavâhana was the name of a royal family which ruled over Dakshinâpatha or Southern India. The principal branch reigned at Dhanakâṭaka in Telingaṇa, and the younger princes of the family or a subordinate branch ruled over Paithana. The S'âtavâhanas came in contact with the conquering S'akas who established their power also over a part of the country ruled over by the S'âtavâhanas. But after a short interval of time one of the princes of this family succeeded in driving away the foreigners and regaining the lost provinces. The S'akas and the S'âtavâhanas were by these events associated together in the popular memory; and it must have been on this account that the names of the two families came to be connected in after times with the era which thereafter was called the S'âlivâhana S'aka. More information, however, is wanted to enable us to understand satisfactorily how the name S'âlivâhana came to be connected with the era; but at present we do not possess it.

Thus, then, the great lesson we have to learn is that if we wish to know and understand the truth about a point, whether in science or practical life, we should seek analogies, find out if we can the history, and criticise, not foolishly and ignorantly as we often do, but according to well defined and rational principles.

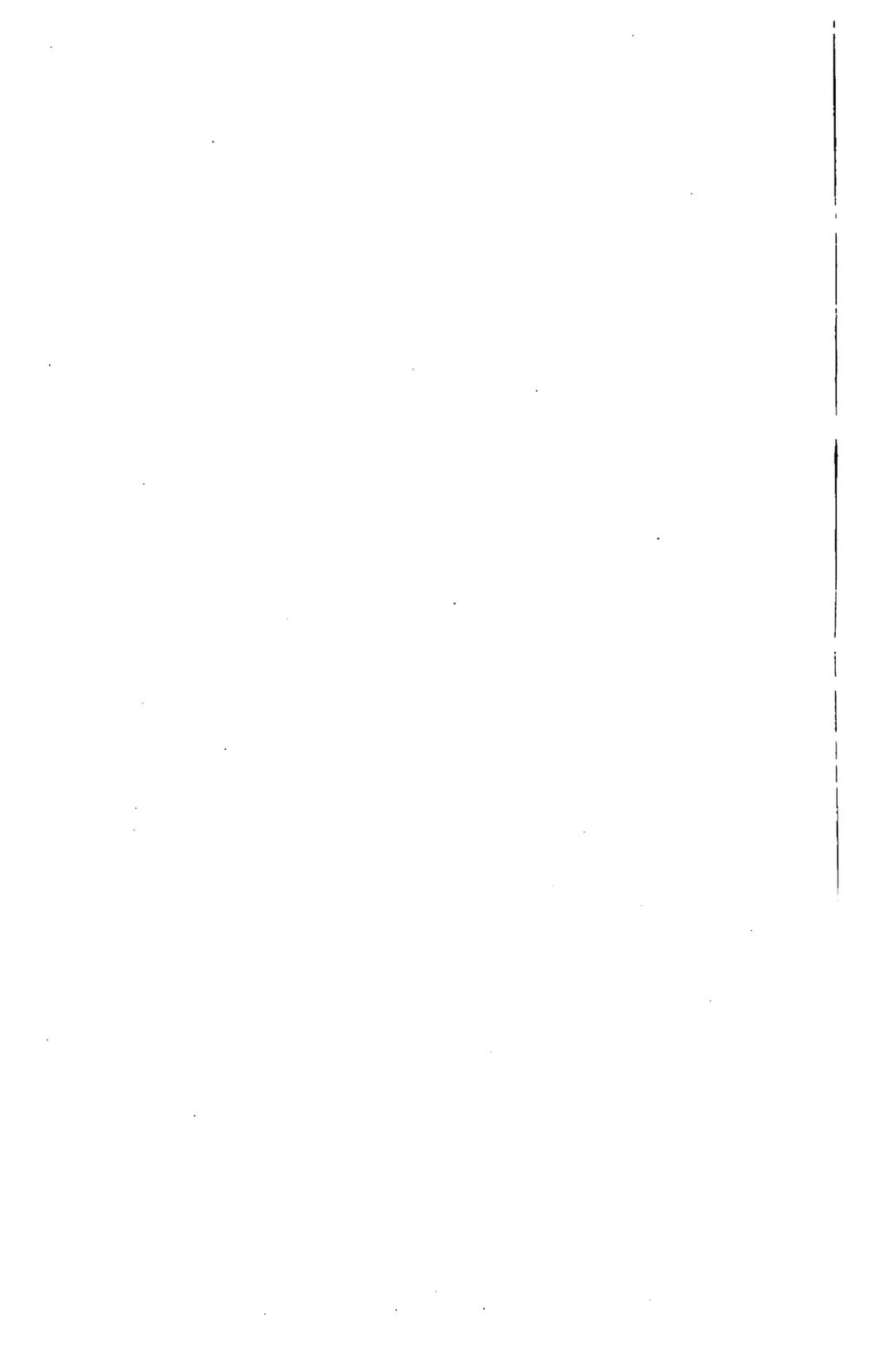
And now gentlemen, and my Hindu friends in particular, a word as to my object in taking up this subject for to-night's discourse. It is

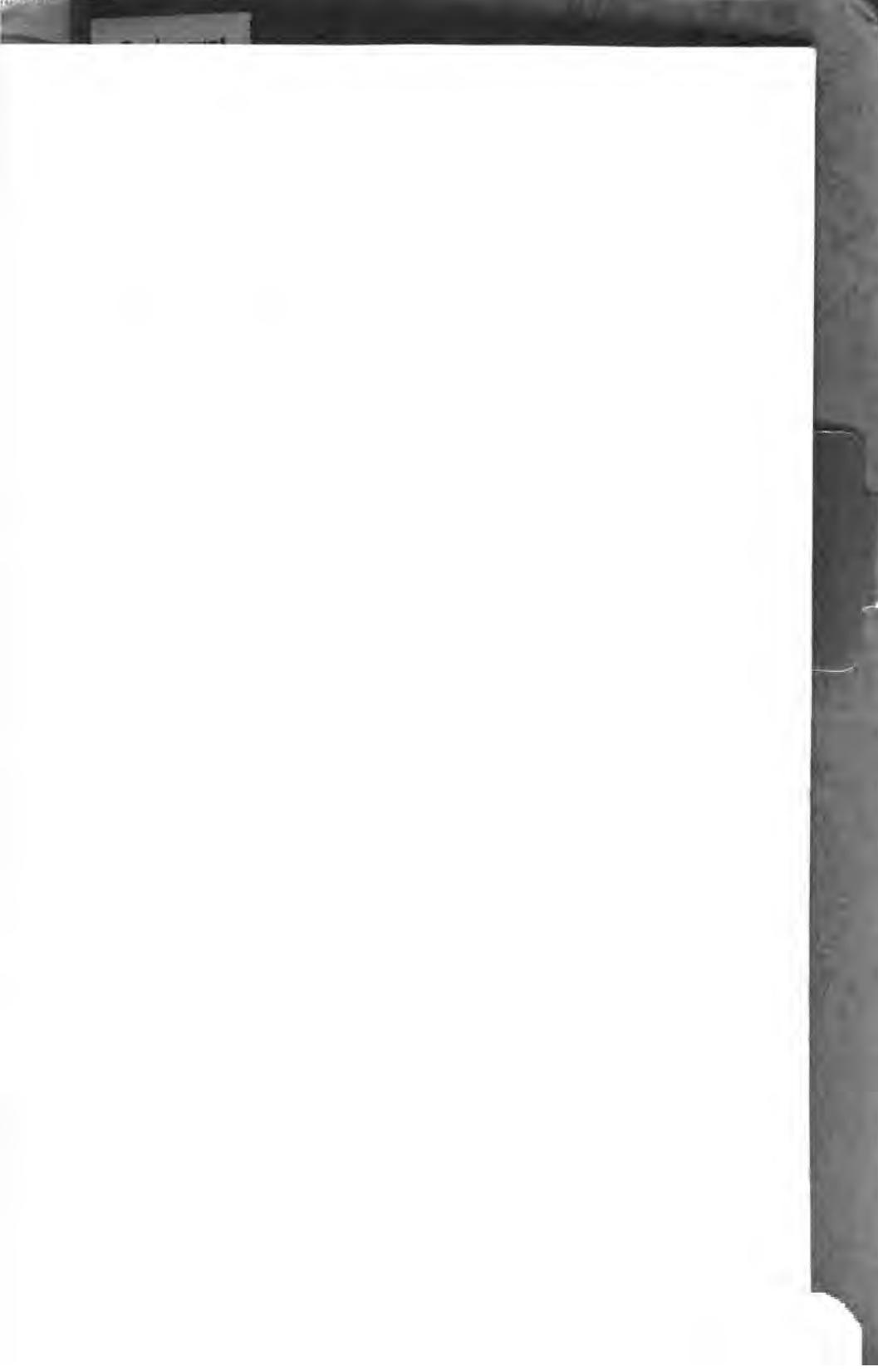
no use ignoring the fact that Europe is far ahead of us in all that constitutes civilization. And knowledge is one of the elements of civilization. Experimental sciences and the sciences that depend on the critical, comparative, and historical method have made very great progress in Europe, and what deserves our earnest attention is that they are every day making further and further progress. The Europeans have derived much greater advantage from our connection with them than we have from their connection with us. They have turned to account their acquaintance with the Sacred language of our country, and have added the sciences of comparative philology and comparative mythology to their existing store of knowledge. The old principle of the classification of races has been given up, and a new one based on the affinity of languages adopted. Civilized mankind has in the first place been divided into three races,— the *Âryan*, the *Semitic*, and the *Turanian*. The first has again been subdivided into the *Hindus*, the *Hellenes*, the *Italians*, the *Slavs and Lithuanians*, the *Kelts*, the *Teutons* including the *Scandinavians* and the *Germans*, &c. So strongly and universally has the fact that affinity of language points to a community of descent and consequently to a common nationality been grasped in Europe that “to it,” as Sir Sumner Maine remarks, “we owe, at all events in part, the vast development of German nationality; and we certainly owe to it the pretensions of the Russian Empire to at least a presidency over all the Slavonic communities.”—So that, it may be remarked by the way, the many wars that have been fought in Europe since 1855, and are likely to be fought during the next twenty years have or will have for one of their causes the discovery of Sanskrit. Though in itself this is by no means a very gratifying result, still I allude to it simply to show how deeply the Europeans have been influenced by the new ideas. Similarly, I think the liberality that is now observable in the religious thought of Europe is due to the study of Sanskrit and Pâli literature. All this will show the activity of the European intellect, and convince us that the principle of progress is very strong in their civilization. But what advantages have we derived from them? A great deal of what they have got from us has but very indirectly been given to them by us; while they have placed before us a whole civilization which undoubtedly is far superior to ours in a great many points. The impulse to be communicated to us by it ought to be a hundred-fold stronger than that which we have communicated to them. Just as they have used the critical and comparative faculty with energy and produced the results I have just noted, we should use it and direct

it not only to find what is true in science, but what is good and rational in social and religious institutions. But have we received the impulse, have we been using the faculty? Who can say we have, while our new literature is scanty and barren of any original idea and we are still quarreling about female education, caste, and religion? Why should we not move on, side by side with Europeans, in the great fields of thought? Why should discoveries be made in France, Germany, and England, and not in India? If you say that in most of the branches there are facilities in Europe for making fresh additions to the existing stock of knowledge, while we have none in India, surely no costly laboratories are required to enable us to study the ancient literature of our country and its architectural remains and inscriptions, and to throw light on its political and literary history and its philology. This is a field in which we may successfully compete with Europeans, and in which we enjoy certain peculiar advantages. But these advantages can be turned to account only if we follow their critical, comparative, and historical method. My object, therefore, has been to call your attention to the nature and requisites of this method, in order that by its successful application to the branch of study I am speaking of, we may take our legitimate place among the investigators of the political, literary, and religious history of our country, and not allow the Germans, the French, and the English to monopolize the field. And here I feel myself in duty bound, even at the risk of displeasing some of you, to make a passing allusion to the most uncritical spirit that has come over us of praising ourselves and our ancestors indiscriminately, seeing nothing but good in our institutions and in our ancient literature, asserting that the ancient Hindus had made very great progress in all the sciences, physical, moral, and social, and the arts,—greater even by far than Europe has made hitherto—and denying even the most obvious deficiencies in our literature, such as the absence of satisfactory historical records, and our most obvious defects. As long as this spirit exists in us, we can never hope to be able to throw light on our ancient history, and on the excellencies and defects of our race, and never hope to rise. While, if we shake ourselves free of such a bias, and critically and impartially examine our old records and institutions, we shall do very great service to our country; we shall be able to check the conclusions of some European scholars who are swayed by an opposite bias; and at the same time that by a clear perception of our great national defects we prepare the ground for healthy progress in the future, we shall, I promise you, find a great deal in the past of which we may honestly be proud.

But an honest and discerning pride in the achievements of our ancestors entails a heavy responsibility and duty. We should render ourselves the worthy sons of the fathers whom we respect. A son that is no better than the father or is worse certainly dishonors him. Have we then not been dishonoring our ancestors, of whom we profess to be so proud, by going backwards and thus becoming worse than they, or at the best, standing where they left us? For, if you examine your history you will find that your philology is where Pāṇini and Kātyāyana left it, and your philosophy and literature where Kapila, Kaṇāda, Gotama, Vālmiki, Vyāsa and others left them; and your social institutions are actually far more irrational than theirs were in the very olden age. Let us therefore do honour to them by showing that we have their capacities and can use our rare opportunities. We have just seen how fifteen hundred years ago, the Hindus availed themselves of the astronomical knowledge of the Greeks; they 'worshipped' the Greek astronomers, in the words of Garga, 'as Ṛishis'; and finally, according to Prof. Weber who is by no means fond of praising us, advanced astronomical science further than they did. Let us act likewise, and sitting at the feet of the English, French, and German Ṛishis imbibe the knowledge that they have to give, and at least keep pace with them, if not go beyond them. Let us learn, let us reform. If we do not do so, fifteen centuries hence, the antiquarian of the period will, unlike Weber, say, "the English placed before the Indian Āryas the highest civilization which Europe had reached by the end of the nineteenth century; but in the hot plains of India the Indian Āryas had grown so degenerate, that it produced no influence whatever on them, and their degeneracy deepening, they eventually became hewers of wood and drawers of water, or were swept off the face of the earth by the inexorable law of the survival of the fittest."

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