



of the Bhagavad Gítá by Wilkins. In this singular episode of the great epic poem, the Mahábhárata, the hero, Arjuna, pauses, before the commencement of a great battle, to hold a celestial colloquy with the god Krishna, who is acting as Arjuna's charioteer, and discourses at length on the metaphysical topics which have so deeply interested the Indian mind—the soul, its destiny, hopes of immortality, relation to God, and power of arriving at ultimate absorption in God. The mysterious science which it enforces has been regarded as an exposition of the doctrine of the Yóga, the essence of which consists in devotional exercises and mental abstraction with a view to absorption. This discourse, however, was the exposition of one phase only of Indian doctrine. Sir William Jones on several occasions described the varied character of the different schools, and, as might be expected, pointed out their resemblance to some of the speculations of ancient Greece. But he candidly admits, in the last of the discourses, which he addressed to the Society, on the Philosophy of the Asiatics,¹ that he had only leisure to peruse one of the collections of Sútras or Aphorisms, that relating to the Védánta, and that he was indebted to the most celebrated of its commentators, Śancara, for the information which he possessed regarding the other ancient schools. The brief account of those systems was, however, well calculated to excite curiosity.

It is needless to say that Mr. Colebrooke's treatment of the subject was elaborate and exhaustive. Though compressing within the space of a few detached essays a succinct summary of the views of all the leading schools, and, from the brevity with which they are described, necessarily dry and technical, these essays form, even now, the most valuable compendium of a body of literature of immense extent.² Evidence remains of the careful analysis to which he subjected these

¹ Asiatic Researches, vol. iv. p. 169.

² In the list of MSS. presented to the East India Company, there are 149 belonging to the Védánta philosophy alone.

writings before he submitted his summary to the Asiatic Society. A manuscript volume, bearing the water-mark of 1823, is devoted to an analysis of many of the subjects with which the *Mīmāṃsā* deals. Though not a system of philosophy, in the usual acceptation of the term, it treats, with a method and appearance of science, of the practical rules for the religious observances sanctioned by the *Védas* and traditional usages, and must have taken its rise when the authority of the former was called in question, and when it became the duty of the orthodox to discriminate between degrees of authority, eliminate what was spurious, and reconcile contradictions. The subjects treated lead to logical speculations and discussions on the nature and sources of our knowledge, mingled with much casuistry and minute discrimination regarding the portions of the different observances which were imperative and those which were not essential.

Mr. Colebrooke's preparation for the interpretation of this system is curious and characteristic. The volume in my possession is entitled "Glossary of the *Védas* and Terminology of the Sciences," and commences with a vocabulary of the most important terms employed, with their renderings. From this the manuscript branches into a variety of topics, of which the essay treats, many of the details being more minute than would interest the reader. The rules for several of the most important sacrifices are given very fully, preceded by some explanation as to the persons fit to perform them. On the *Aśwamedha*, or horse sacrifice, only passingly alluded to in the essay, he goes through the list of the numerous animals, both wild and domesticated, which were offered on such occasions. They evidently interested him, as bearing on the natural history of India, and gave rise to some conjectures as to the domestication of some of the animals in ancient India. Of the six hundred and nine animals required for the sacrifice, a very large proportion consist of goats; but even with regard to them, there is a diversity of number, age, size, or colour, according to the deity to which they



are severally offered. With regard to the remaining animals, great ingenuity is exercised in ransacking the creation, and in selecting animals appropriate to each god, season, or element. The animals range from elephants and buffaloes to birds, porpoises, crocodiles, snakes, and even mosquitoes and worms. The parrot, as might be supposed, is offered to Vâch, or Speech, a great serpent (Boa) to Bala, or Strength, and a black cuckoo to Câma, the Indian Cupid.

I subjoin Mr. Colebrooke's note to the list.

"The camel is twice named among wild animals. Was he, then, wild in the deserts of India (between India and Khorasan, etc.)? The Indian name *Ushtra* is clearly the same as the Persian *Shutur*, likewise written and pronounced *Ushtur*. Another Sanscrit term for the same animal, *Oramêla*, is the original of the Greek *καμηλος*. It is remarkable that the Greeks received a name for the animal, which is now obsolete in the intermediate countries.

"The Gavaya or Gazel is named both among tame animals and several times among the wild. He was then both domesticated and wild, as now.

"Wild sheep, as well as wild goats, are mentioned. Was there a wild *ovis*? or is some species of chamois, *Rupicapra*, etc., meant?"

Another list of sacrificial offerings which is given in this volume would be of deeper interest, could we believe that such holocausts of human victims were ever offered in the Vedic age. The *Purushamêdha* is a human sacrifice prescribed in the 30th and 31st chapters of the white Yajur-vêda, and is briefly referred to in Mr. Colebrooke's Essay on the Vêdas, as typical of the allegorical immolation of Nârâyâna. It is inferred from other allusions to this horrid practice in Indian literature, that such sacrifices were part of the superstition of the country;¹ but it is incredible that it could ever have existed

¹ See Professor H. Wilson's Paper on the subject in the 13th volume of the Journal of the Royal Asiatic Society. Weber, too, has an essay on the subject. Indische Streifen, vol. i. pp. 54, 68.

in the grotesque form which is prescribed in the rules of the Yajur-véda, of which Mr. Colebrooke gives the details. The sacrifice is there said to be "celebrated by a Bráhmāna or Cshatriya desirous of pre-eminence above all beings." It requires forty days for its completion, and more than a hundred victims, enumerated according to their castes (including the mixed classes), trades, and professions, country of birth, colour and size, and morality, the unchaste being sacrificed to Cāma and Prajapati.

The manuscript volume in which these particulars are given enters also into details regarding the *Agnihótra* and other sacrifices, and gives some account of the implements and materials employed, besides a few translations of the hymns employed on such occasions, and especially of the *Purusha-súcta*, containing a correction of the version which he had given of this hymn in the essay on the Védas. Altogether the labour bestowed in his examination of this branch of literature may be taken as illustrative of the care with which he executed his task in the other philosophical essays.

I have stated that the essays were not completed according to the original intention of their author. This cannot be said so far as regards the review which he took of the different systems of philosophy. But Mr. Colebrooke aimed at more. Points of resemblance between the Greek and Indian philosophy are noticed here and there, as they occur; and at the conclusion of the last essay of the series, they are more pointedly referred to, and a promise is held out to pursue the subject in a future essay, in which he hopes to show that a greater degree of similarity exists between the Indian doctrine and that of the earlier than of the later Greeks. The opinions of Pythagoras are here more especially referred to. The line of argument by which he was led to infer that they were derived from Indian sources is an ingenious one, and calculated to arrest attention. For, "as," he contends, "it is scarcely probable that the communication should have taken place,



and the knowledge been imparted, at the precise interval of time which intervened between the earlier and later schools of Greek philosophy, and especially between the Pythagoreans and Platonists, I should be disposed to conclude that the Indians were, in this instance, teachers rather than learners."

The question here mooted was abruptly closed, and it is much to be regretted that he was unable to execute this task; for the opinion which he offered on the supposed Indian origin of the Greek philosophy has led to his views being controverted, and has, in some measure, detracted from the authority with which his views were generally received. Some of the works on which he placed reliance for his representation of the views of Pythagoras and other Greek writers are of questionable authority; and Ritter, in his review of this portion of the history of philosophy, points out how unsafe were Mr. Colebrooke's guides in examining a question of great difficulty. Had he prosecuted his task, he would doubtless have amassed the materials for an accurate comparison between the recorded views of the Eastern and Western world; and it may be safely presumed that his conclusions would have been as little marked by theory or dogmatism as his other writings.

In venturing an opinion in favour of the common origin of the early Greek and Indian schools of thought, and in assuming that the Hindu was the teacher, and not the learner, based as it was on the assumption that the points of resemblance were too striking to have been accidental, Mr. Colebrooke, no doubt, represented a very prevailing opinion in his time, and it derived some colour from the Greek tradition of the eastern journey of Pythagoras. The name of one of the most important of the Indian systems,—the Sāṅkhya, or numeral,—seemed to some minds to favour the idea that the philosopher in whose system the properties of numbers hold so important a place, might have borrowed from the Eastern sages; and there was nothing extravagant in the supposition, for the Greeks were the most inquiring as well as inventive



race that the world ever saw. If either system was borrowed from the other, the probability is, that the Greeks sought for knowledge in India, as elsewhere.

Putting aside these conjectures, which have no better foundation than the tradition of Alexandrian writers, such as Porphyry and Iamblichus, who wrote in the fourth century of our era, when Greek literature was tinged with Eastern and mystical views, it cannot be denied that there are points of resemblance between the schools of thought that prevailed in the East and West, which could not fail to arrest attention and point to something more than an accidental connexion. Apart from the doctrine of the metempsychosis, which plays so important a part in Indian theology, and which is also intimately connected with Pythagorean traditions, some of their theories of physics, and especially the atomic theory, the doctrine of the eternity of matter, not to mention their logical systems, correspond with the Grecian teaching so nearly as to raise a strong suspicion of some interchange of opinion; and this is increased by a closer comparison between some of their psychological speculations, which Mr. Colebrooke points out at the close of his essays.

Mr. Colebrooke's opinions were received with approval by many of his contemporaries, and, among others, by the late Professor H. H. Wilson and Mr. Elphinstone. The latter, indeed, in his *History of India*, enforces them by additional and cogent arguments. After pointing out various particulars in which the speculations of the Hindus agree with those which have been entertained by the Greeks, and, in some instances, by modern metaphysicians, he justly remarks that such coincidences might be the result of independent inquiry, and that they would not in themselves justify us in supposing that the Eastern and Western systems had a common origin. But it is different, he contends, when we find a whole system so similar to that of the Hindu as the Pythagorean, and so unlike the natural suggestions of human reason.



Notwithstanding the weight that attaches to such opinions, it cannot be denied that the tendency of later criticism is adverse to such conclusions; and the further scrutiny to which the Hindu systems have been subjected brings out in stronger relief the great contrasts between them and Grecian schools of thought. Some of the points of seeming coincidence do not bear the test of close examination. The distinction between the *Θυμὸς* and *Φρὴν* of the Pythagoreans, on which much stress has been placed, was nothing more than the difference between man's sensual and intellectual nature; the one raising him above the animal creation, the other the seat of desires and passions, and sinking him to the level of brutes. Such was the view of Cicero regarding the doctrine of Pythagoras;¹ and this, I understand, is the view presented by Brücker, to which reference is made by Mr. Colebrooke.² Another view of the Pythagorean doctrine is given by Diogenes Laertius, and represents a triple division, *Φρὴν* and *νοῦς*, whose seat is in the brain, and *θυμὸς* in the heart.³ Here, again, the distinction is maintained between the higher and coarser nature of man, and which must occur to thinkers in different parts of the world; but offering only a faint analogy to the peculiar tenets of the Indian Schools, which regard the soul as something independent, both of the intellectual and of the sensitive organs with which it is connected in life.

A more striking point of resemblance is to be found in the metempsychosis; not but that the idea of the soul's passage,

¹ "In his explicandis veterem illam equidem Pythagoræ primum, deinde Platonis descriptionem sequat; qui animam in duas partes dividunt; alteram rationis participem faciunt, alteram expertem. In participe rationis ponunt tranquillitatem, id est, placidam, quietamque constantiam; in illa altera motus turbidos, tum iræ, tum cupiditatis, contrarios inimicosque rationi."—Tusc. Quæst. iv. 5.

² Misc. Essays, i. p. 418. The passage is as follows:—"Duplex homini anima est, una superior, ex divinâ mundi animâ exorta, quæ penæ causâ corpori immissa, divinam tenet originem. Altera sensitiva est, ex principiis elementorum, mediante amore et contentione conlata."

³ These distinctions belong to popular language without implying anything recondite. When Achilles meditates slaying Agamemnon in the assembly, both mind and passions are at work.

"Εὖς ὁ ταῦθ' ὀρμαίνει κατὰ φρένα καὶ κατὰ θυμόν."

after death, into other bodies was held by the Greeks before the time of Pythagoras. The same idea appears in the speculations of other nations, as among the ancient Egyptians,¹ and even among the Peruvians. It is the rudest conception of immortality, derived from the analogy of the decay and reproduction of material things, and may be regarded as a refined extension of the notion of metamorphism which forms a popular belief in many rude and especially Eastern nations. Pythagoras did not invent the doctrine, but he raised it to something of a philosophical system, by confining the transmigration to animal life, and assuming that the soul was adapted to the body with which it was clothed, and connecting the change with cycles under a physical necessity.² It is in this particular that his doctrine resembles that of India, when it is connected with ideas of retribution and cycles of change. But the metempsychosis played only a subordinate part in the Pythagorean system. His discipline, which is supposed to bear some resemblance to the practices of India, was essentially Greek, the training of men, whether by gymnastics, or music, or by silence and diet, to play a part in the world, not, as in the Indian view, to prepare for eternity.

If the reader will pardon a digression from the proper functions of a biographer, I will venture a further remark on a subject which has attracted some attention, but as yet has been incompletely examined. A comparison between Greek and Indian philosophy brings out far more striking points of contrast than resemblance; and they are of a nature that heighten the improbability of these systems ever having had a common origin. How the doctrine of the metempsychosis acquired so

¹ Herodotus (ii. 123) informs us, that according to the doctrines of the Egyptians, the soul passes through a series of transmigrations before it returns to the state of man; and he adds that this opinion was entertained of old in Greece, alluding, so it is supposed, to the Orphic mysteries.

Τούτω τῷ λόγῳ εἰσι δι' Ἑλλήνων ἐχρήσαντο, δι' μὲν πρότερον, δι' δὲ ὕστερον. ii. 123.

² Πρῶτον δὲ φασὶ τοῦτον ἀποφῆναι τὴν ψυχὴν κυκλον ἀναγκῆς ἀμειβουσαν ἑλλοτε ἄλλοις ἐνδεῖσθαι ζώοις.—Diogenes Laertius.



firm a hold on the Indian popular belief, is a problem on which their literature affords no certain indications. No trace of it is to be found in the hymns of the Rigvéda, nor of the doctrine of the renovation of worlds with which it is connected.¹ Even the Bráhmaṇas,² a body of literature of a much later date, full of legendary lore and minute directions for the ritual observances established in the Védas, throw no light on this interesting question. The interval which separated these two periods must have been one of intellectual stagnation, since it witnessed the growth of the system of castes, the establishment of the sanctity of the Védas, and of the influence of the Brahminical priesthood. It is in the last degree improbable that Indian thought advanced, during this period, beyond the somewhat vague conception of the spiritual nature of a Supreme Being which is to be found in some of the Vedic hymns, and is more fully developed in the Upanishads.

Whatever may have been the origin of the belief in the migration of the soul, as connected with a system of retribu-

¹ See Professor H. H. Wilson's introduction to the third volume of the translation of the Rigveda, p. 13.—“There is scarcely any indication of doctrinal or philosophical speculation, no allusion to the later notions of the several schools, except those expressions above noticed suggestive of the identity of all gods and of all beings; nor is there any hint of the metempsychosis, or the doctrine which is intimately allied to it, of the repeated renovation of the world; on the contrary, there is one remarkable passage which denies this elsewhere unquestioned proposition. It is there emphatically affirmed that the heaven and the earth were generated but once, as was the milk of Prśni, or the nourishment of the winds, that is to say, the rain; and that nothing similar was successively produced.”—p. 481, v. 22.

² This subject is very fully treated in a very interesting paper by Dr. Muir, on the doctrine of a future life, according to the Vedas (*Journal of the Royal Asiatic Society*, vol. i., new series). According to Professor Weber, whose views are quoted at some length in Dr. Muir's essay, in the Bráhmaṇas immortality, or at least longevity, is promised to those who rightly understand and practise the rites of sacrifice; but the belief in a future state of rewards and punishments does not extend beyond what may be gathered from some of the Vedic hymns, and is very far from being explicit as to their duration. A nearer approach to the teaching of later theologians is to be found in a passage from the Satapatha Bráhmaṇa, quoted in the same essay. It is said that “by knowledge men ascend to that condition in which desires have passed away. Thither gifts do not reach, nor austere devotees who are destitute of knowledge.”



tion, it must have found great support in the interest of a priesthood whose influence it increased; for, as the ills of life became connected with the sins of a former existence, the importance of expiations and austerities which form a part of the Brahminical religion became greatly enhanced.¹ To this we must add the gloomy view of man's existence on earth, which lies at the root of the religious sentiment of the people, before we can form a conception of the hold which this doctrine acquired over the Indian mind. The return of the soul to earth, to inhabit new forms, might have been consistent with a cheerful view of life; but when the soul returned laden with the troubles of a former existence, and to encounter new trials, and when the best spent life afforded only a transitory reward, the result must have been favourable to the most gloomy superstition, and may account, in some measure, for the ascendancy acquired by the Brahmins.

The belief in transmigration, accompanied by painful sense of the lot of man on earth, forms the basis of the metaphysical speculations of the Hindus. Even Buddhism forms no exception to this. All the Indian systems agree in seeking knowledge which shall enable its possessor to escape from this dreary destiny. The soul is in bondage; and bondage implies suffering; good works, no less than bad, lead to bondage, since they have their requital in the transmigration, and a return to its alliance with its earthly and intellectual nature. Hence, the imperfection of religious rites, since they afford only a temporary release from the ills of life. The great arcanum is knowledge, or a right perception of the soul's relation to the world or to God. In solving this problem, the systems diverge,

¹ See Manu, xi., 48-54,—“Some evil-minded persons for sins committed in this life, and some for bad actions in a preceding state, suffer a morbid change in their bodies.” After detailing, with his usual minuteness, the particular defects which follow the commissions of specified sins, the lawgiver proceeds, “Penance, therefore, must invariably be performed for the sake of expiation; since they, who have not expiated their sins, will again spring to birth with disgraceful marks.”



as might be supposed, into a great variety of speculations; but the tendency is the same, viz., to a sort of quietism, with more or less of mystical teaching. In discussing these questions, we are led through a series of physical and metaphysical speculations. The laws of thought and of reasoning, the sources of our knowledge, whether derived from the senses or from the external world, or by perception, all come under view, and are subjected to minute examination, the conclusion with some being in favour of the separate existence of the soul, and with others of its identity with the soul of the universe. The recognition of one or other of these doctrines is the first step to emancipation, the complete release being effected by meditation or abstraction. This doctrine of *mukti* or emancipation is reconciled with pantheism or atheism, with tenets bordering on materialism, or even with the denial of the existence of a material world; none of which affect the result, that "a happy state of imperturbable apathy is the ultimate bliss to which the Indian aspires."¹ Creeds the most opposed, as Brahminism and Buddhism, concur in some of the essential tenets, though, as might be supposed, the metaphysical views of the jarring sects afford materials for endless and bitter controversy.

The history of the rise of these different schools is involved in much obscurity. The literature of India affords us no certain clue, and we are left, in a great measure, to such conjectures as are based on the history of speculative reasoning in other nations. When the Greeks came into contact with the Indians in the time of Alexander, they seem to have been profoundly impressed by those features in the conduct and opinions of the eastern sophists or philosophers which differed most from their own. The austerities of the devotees, their contempt of life, and meditation on death, are described in terms which show that the Indian mind was at work in solving those problems which occupy the systems, though to what extent

¹ Misc. Essays, i. 401.

they were developed must be a matter of uncertainty. Philosophical views transmitted through interpreters, and handed down to us by later writers, cannot be relied upon very confidently; and some of the accounts which are given by Strabo have the appearance of being translated into the philosophical language of Greece.¹ From the strong affinity which the Sānchya doctrines bear to the metaphysical tenets of the sects of Jina and Buddha, Mr. Colebrooke was at one time inclined to believe that the latter were borrowed from the more orthodox speculations. Whichever had the priority of origin, it seems probable that they all took their rise at a period of Indian history which marked the reaction against the Brahminical system, and when their theological or philosophical systems diverged into the two schools of thought, the one discarding the authority and observances of the Védas and of the Brahmins; the other endeavouring to reconcile the old creed with the freedom of inquiry which began to prevail. Whatever be the epoch which is assigned to this great movement, it is impossible to conceive a school of

¹ Thus, in the often-quoted passage of Strabo describing the habitual discourse of the Indian sophists on death and the preparation for it, he adds that, according to their views, nothing which happens to man is bad or good, otherwise the same things would not be the cause of grief to some and of joy to others, and that opinions are like dreams, affecting persons in different ways on different occasions. It is pointed out by Casaubon, in a note to this passage, that these latter expressions form one of the dogmas of Pyrrho and of his sect. On turning to the account of the school by Diogenes Laertius, I find the following expressions. The coincidence is the more curious because Pyrrho is said by this author to have attached himself to Anaxarchus, who enjoyed the intimacy of Alexander, and must have visited the gymnosophists of India. "They contend that nothing is good or evil by nature; for, were anything good or evil by nature, it should be good or evil to all, as snow is cold to everybody: but there is no good or evil which is common to all beings; therefore nothing is good or evil by nature." Diog. Laer. ix. 101. Again, Onesicritus, who visited the sophists at the desire of Alexander, describes their discourse as turning on the virtue of temperance, and the propriety of such training of the body as should strengthen the mind, and enable the philosopher to give good counsel both in public and private life. The best philosophy, in their view, was that which liberated the mind from pleasure and grief. This practical philosophy may have been taught in India at this time; but it has a greater affinity to what we are accustomed to associate with the later Stoics, than to the philosophical systems of India.

thought so remote, in its aims and tendency, from that which acted on Greece, and which was so little calculated to influence the mind of Greece at the most active period of its literary history.

The proximate cause is not far to seek. Not only were the genius and characteristics of the two peoples widely different, but Greece had no Védas.¹ There was no stagnant period in its history, such as marked the institution of castes and the establishment of Brahminical ascendancy. The philosophers of Greece were, for the most part, men who had no sympathy with the popular religion of their countrymen. They were citizens who took a part in the political struggles of the age in which they lived, and close observers of the stirring events which passed around them. There was a freedom of inquiry, which embraced every branch of human knowledge, from speculations on physics and on the creation of the world, to the discussion of the problem of man's existence, and all the metaphysical and moral problems that are therewith connected. In this vast range of inquiry we should expect to find much that is akin to the views of thinkers in remote nations; but its scope and tendency are so widely divergent that it is difficult to suppose that it could have received any tinge from that which prevailed in India.

In no respect is it more so than with regard to the most ancient school, the Ionian, of which Thales is regarded as the founder. They probably deserved the animadversion of Aristotle as confining their views to physical and material causes only as affecting the universe. But the source of our knowledge of these opinions is very meagre. Thales left nothing in writing; and what is known of him and his successors is derived from scanty notices by later writers, describing their teaching in

¹ See some just remarks on the subject in Cousin's *Histoire de la Philosophie*, "Il n'y a point eu de Védas en Grèce, et cette circonstance, trop peu remarquée, a été une des raisons des plus puissantes du rapide développement de l'esprit de recherche indépendante." This is followed by a fanciful parallel between the Orphic mysteries and the teachings of the Mimāṃsā. He keeps out of view that the basis of the latter system is a body of literature which had no place in Greece.

terms too general to be of much service towards restoring their ancient doctrines. All that can be affirmed of them with confidence is, that they were devoted to geometry, astronomy, and to physical speculations, with a strong tendency to materialism, even when dealing with man's intellectual and moral being. It must be uncertain in what sense Thales taught that water was the principle of all things, or a later philosopher gave the same power to fire. All tradition agrees in describing this early school as engrossed less with cosmogonies than with attempts to explain the phenomena of the world by material causes in actual operation; and, in this sense, proceeding according to the spirit of modern physical philosophers, though not with the patient inductive methods which form the glory of modern science. There is ample evidence of the activity with which these aims were pursued; but neither in this nor in the subject-matter of their discussions was there much that is akin to Indian modes of thought in what we are taught to regard as the earliest form of philosophical teaching in the East.

It is at a later period of Grecian history, when pantheistic doctrines began to prevail, and inquiries were directed to man's spiritual nature and its relation to the universe around it, that the interest of the comparison commences; and here we have the advantage of possessing numerous fragments of the actual compositions of many of these thinkers, which enable us to speak with more or less confidence as to the tendency of their views; and it may be remarked that we have not merely the general conclusions at which they arrived, but the very line of argument by which they combated the low and unworthy views prevalent on the nature of the Deity. It is impossible, for example, to read the fragments of Xenophanes, the founder of the Eleatic school, without seeing that we have the original thoughts of a vigorous mind, and not borrowed from any foreign instructor. The tone of his writings, as of those of his successor Parmenides, is argumentative and controver-



sial. It is negative, in a certain sense, as it is mainly directed against the anthropomorphic views prevalent; and, in contending for the unity of God, the subject is discussed on general and abstract principles. The doctrines of this school, which are somewhat obscurely set forth in the fragments which have come down to us, may be regarded as pantheistic; but from some of the expressions we are justified in concluding that their conception regarding the Deity is of a being not merely possessing the attributes of power and intelligence, but ruling the world, and in this respect making a near approach to the highest spiritual conception of God. With this, however, there is a touching confession of the infirmity of human reason in attempting to grasp these subjects, that satisfies us that we are conversing with thinkers who represent the views of reflecting men in the age in which they lived.

I have entered thus far in these details, because the question of the probable connexion between the philosophy of the East and West depends not so much on accumulated instances of agreement in their speculative views, as on the general scope of their teaching, and the signs of originality exhibited in their remains. But here it may be remarked, that our interest in the comparison would be greatly enhanced, were we to regard the Indian and Grecian schools as distinct, with different history and traditions, and with widely different influence on the lot of man. This, indeed, can hardly be exaggerated, when we compare, on the one hand, the influence of Greece on Rome and modern Europe, and that of India on all the nations which profess Buddhism, or in whose religious system the monastic spirit has been largely developed. The social condition of the Grecian States led them, at an early stage of their history, to the discussion of questions of Ethics, the absence of which forms so remarkable a characteristic of the Indian philosophy. In the full maturity of Grecian civilization, philosophy was said to have descended from heaven, and employed itself in solving the problem of man's mission on earth,

and his duties to his fellow-men. But no one supposes that, at this period of the career of Greece, she was indebted to so uncongenial a stock as the Indian schools. It is scarcely necessary to add that at a later epoch of Grecian history, when philosophic views were more largely mixed with religious teaching, eastern views began to prevail, and are supposed to have had great influence on the schools of Alexandria, and, through them, on the Christian world.

In this point of view, a comparison between the early speculations of the two races acquires a new interest, and it must be a matter of great regret that the critical survey of the question which was promised by Mr. Colebrooke was never completed.

The casual notices in his essays of the points in which these schools of thought agree refer, as might be supposed from the preceding remarks, to the period which intervened between the early Ionian and the Socratic teaching, to the doctrine of Pythagoras, of the Eleatic school, and of vigorous and independent thinkers, such as Heraclitus and Empedocles, who belong to the same epoch. It would be presumptuous to attempt to follow up a subject, the satisfactory treatment of which demands literary acquirements that are rarely combined—an extensive knowledge of the literature of both India and Greece. An apology is indeed due to the reader for so long a digression, which I have entered upon only because it seemed to me that the scope of Mr. Colebrooke's remarks has been somewhat misunderstood.

Before passing from this subject, I would briefly refer to another point, which has an indirect bearing upon the question I have here discussed, and to which it seems to me that undue importance has been attached, namely, a casual conjecture which was thrown out by Mr. Colebrooke in his essay on the Védas. In defending the authenticity of the Vedic writings, towards the close of the essay, he makes the following remark: "The text of the Sanc'hya philosophy,

from which the sect of Budd'ha seems to have borrowed its doctrines, is not the work of Capila himself, though vulgarly ascribed to him." This parenthetical remark as to the origin of some of the doctrines of Buddha has been frequently referred to, both by those who concur with this opinion and by those who are opposed to it,¹ as committing Mr. Colebrooke on a question of no less interest than difficulty. It must be obvious that, if the question of priority be decided in favour of the teaching of Śākya, and if the philosophical systems took their rise after that epoch, which cannot be carried further back than the age of Pythagoras, it would serve to decide any question as to the supposed connexion between the philosophy of the East and West. The Hindus might, in that case, be the disciples, but they could not have been the instructors of the Greeks. As to the resemblance between the theological teaching of Śākya and the metaphysics of the Sankhya system, there is no question. It has been frequently pointed out that some of the essential tenets of the former are analogous, not merely to the doctrines of Capila, but to those of the principal philosophical systems of India; so much so that it was contended by Mr. Gogerly, —and the opinion is quoted with approval by the late Professor Wilson, in his *Essay on Buddhism*, —that this religious system was no more than an eclectic doctrine, gathered up from the

¹ Thus Ritter, referring to the opinion that "Buddhism had its origin in the Sankhya philosophy," adds, in a note, "Of this opinion is Colebrooke, and many others on his authority," and he makes special reference to the conjecture which Mr. Colebrooke threw out in his *Essay on the Védas*. Cousin, in a note to a late edition of his *Histoire de la Philosophie*, refers with exultation to the light which the researches of Hodgson and Burnouf have thrown on the history of Buddhism, as supporting his own view that Buddhism was borrowed from the Sankhya, and in which opinion he professes to follow that of Mr. Colebrooke. "En effet, grâce au savant ouvrage de M. Burnouf, on peut affirmer aujourd'hui que Colebrooke avait raison dans le jugement qu'il a porté de la nouvelle doctrine, que les Brahmanes n'avaient point calomnié les Bouddhistes, et que la philosophie qui regne maintenant dans une si grande partie de l'Indo-chine n'est qu'un rameau dégénéré du Sankhya." St. Hilaire again is not content to claim Mr. Colebrooke, but all Indianists, in support of the same views, "William Jones, Colebrooke, Burnouf, M. Wilson, et, je pourrais ajouter, tous les indianistes n'hésitent pas à reconnaître dans le Bouddhisme, devenu plus tard une religion, un développement et une copie du Sankhya de Kapila."—*Des Védas*, p. 147.

current opinions of the day. This may be so; but no one has pointed out more clearly than Mr. Colebrooke the difficulty of accepting this theory, or indeed propounding any confident opinion, in the then state of our knowledge, as to the history of the rise of the philosophical systems. He evidently leaned to the opinion that the sūtras or aphorisms on which they are based, or at least some of them, were of great antiquity, (Essays, i. p. 262). But his Essays abound with admissions of the difficulty of attempting to assign a date or epoch to the composition either of the sūtras or of some of the more ancient commentators.¹ The first obstacle to the solution of the question lies in the very form in which they have come down to us. It would appear to have been the aim of these old writers to discourage all teaching, except at the foot of a master. Without a commentator, they are said by Mr. Colebrooke to be utterly unintelligible (Essays, p. 297). They receive their interpretation from commentators of comparatively modern time. To add to our difficulty, doubts are raised by these late writers how far words and expressions represent the *ipsissima verba* of the original, or, in fact, how much is sūtra and how much gloss (p. 262). Finally, the controversial tone which pervades them shows that they belong to an age of scholastic discussion inconsistent with the idea that they are the fruit of original or vigorous thought. When, therefore,

¹ See particularly the reference to Capila at p. 229. The whole passage shows that Mr. Colebrooke regarded him as a mythological person. With regard to the sūtras which bear his name, when he approaches the question of their antiquity at p. 235, he confines himself to the vindication of their authenticity, by referring to the quotations from them which abound in the treatises of other schools. In the Essay on the Buddhists and other heretical schools, it is pointed out, at p. 380, that the Sāṅkhya of Capila notices the sect of Buddha, as well as other sectaries; thus clearly indicating that in the form in which it has come down to us, it is post-Buddhistic. With regard to the Védānta sūtras, Mr. Colebrooke's reliance for their exposition is on S'ankara, who flourished, so he supposes, in the eighth or ninth century A.D. "How much the earlier the older scholia were, or the text itself," he adds, "there is no evidence to determine" (p. 332). So also with regard to the Mīmāṃsā, the aphorisms are interpreted according to the exposition of a great doctor, the immediate predecessor of S'ankara. The age of the antecedent commentators is undetermined (p. 298).



Mr. Colebrooke has occasion, in the course of these essays, to refer to the resemblance between the doctrines of Capila and Śākya, we are prepared to find him expressing himself in very guarded terms. The first allusion will be found at p. 228, where he simply points out the affinity between them. In an essay of a still later date, he is equally cautious, and observes that the sects of Jaina and Buddha, like some other Indian heretical sects, "bear some analogy to the Sānkyas." (Essays, i. p. 378.)

A more complete admission of the uncertainty as to the order of priority in which these schools took their rise, is given in a letter to M. Panthier, which is inserted in the preface to that gentleman's translation of these Essays. The letter, which is an interesting one, was written in 1832, in reply to some inquiries addressed to Mr. Colebrooke by M. Panthier. I give the passage from the French translation, not having the original to refer to. "Je suis très-flatté de l'honneur que vous m'avez fait en traduisant mes Essais sur la philosophie des Hindous, et de la manière avec laquelle vous en parlez. Vous ferez très-bien en transposant l'Essai sur le *Védānta* et celui sur les sectes hétérodoxes. L'ordre dans lequel ils ont paru dans les *Transactions* de la Société Asiatique était accidentel, l'ordre chronologique est trop incertain pour essayer d'y avoir recours."

Opinions like these are consistent with the prevailing tone of Mr. Colebrooke's writings, and contrast with the sanguine and enthusiastic tone of many, both of his predecessors and successors. Much light has since then been thrown on the subject, especially as regards the rise of Buddhism; but much yet remains to be done to clear up this chapter in the religious history of India. On the one hand, it is contended that the rise of philosophy may be traced to the ancient Brahminical literature, which is assumed to contain the germ of such doctrines as the *Védānta* or the *Sānkhya*, and which are supposed to date from a period long antecedent to the rise of Buddhism.

• The opposing view cannot be put more forcibly than it has been done by Ritter, whose work appeared so far back as 1836. He there throws out for consideration, whether Buddhism did not, in fact, give the first impulse to vigorous thought in India, and mark the epoch which divided the ancient religious literature from the new scholastic philosophy. In support of this view, we have, in the first place, the inherent improbability that a religious system should have grown out of a school of thought like that of the Sāṅkhya. Ritter contended, with much force, that the rise of a religion like that of Buddha, which denies the authority of the Védas, must have compelled the votaries of the old faith to appeal to reason, and support their doctrines by arguments drawn from metaphysical and abstract speculation, which we find compounded in such strange mixture with the religious teaching and ceremonial. If this theory were established, it would afford a clue to much that seems so strange in these singular monuments. But, at that time, and even now, it can only be advanced as an hypothesis. The solution of this problem will depend, in a great measure, on the view that is taken of the later Vedic literature, especially the Upanishads, a series of didactic essays, containing a mixture of ritualistic and theosophic speculation, which have been aptly described as guesses at truth, and do indeed constitute the armoury from which controversial writers of a later age drew their weapons. Whether, indeed, they afford signs of the opening of independent thought, or whether, on the other hand, they do not, like the Bráhmaṇas, belong to a state of society in a low stage of mental vigour, and only to be stirred up by some foreign influence, or the growth of a new religion, is a moot question, which it would be out of place to discuss here, and which no casual opinion of Mr. Colebrooke can be regarded as foreclosing.

Mr. Colebrooke's literary life may be said to have closed with this monument of his erudition. The last of these essays was presented to the Asiatic Society in 1827; the essay on

Hindu Courts of Justice appeared in the following year ; and he, at this time, undertook a translation of the *Sānchya Cáricá*. The translation was executed, but it never received its last corrections from the author, and it was published after his death by the late Professor H. H. Wilson, who, in the preface to the work, mentions that it was one of the earliest announced for translation by the Oriental Translation Fund Committee. It would appear, from Professor Wilson's remarks, that it was Mr. Colebrooke's intention to add some explanations and illustrations, which are indispensable for the proper understanding of the text. In the same spirit Professor Wilson added the translation of the *Bhášhya*, or Commentary of Gaudapáda, the oldest expounder of the original text, and enriched it further with a continuous commentary of his own.

At the time Mr. Colebrooke undertook this last task his health was much undermined. His mind was harassed by the state of his property, which was unfortunately embarked in numerous investments, many of which proved as precarious as the purchase of land at the Cape of Good Hope. The acuteness of his intellect in those matters proved his bane. He was easily attracted by inventions, whose scientific value he rated highly, and he would sometimes apply his talents to the exposition of their nature and importance. Of this an instance is before me, in a paper on the use of naphtha or petroleum, evidently written for the public. He details his own experiments in the laboratory, and points out the advantage to be anticipated from its use. He was also a great advocate for the use of oil gas, and joined a company to promote its adoption by the public. His loss was small on this occasion ; for the rivalry of coal gas, then recently introduced into our streets, proved too formidable for the new company to struggle against. His losses were more serious in a mining speculation, to which he was attracted by a plausible programme, in which it was proposed to cover the risks

and uncertainties which belong to mining in general, by engaging in it on so large a scale that the different adventures would mutually insure each other. This grand experiment was never fairly tested, for the embryo company sank in its first efforts, and Mr. Colebrooke's losses were serious. On this and several other occasions his inexperience in such matters made him the dupe of designing persons; his time was occupied by attention to his affairs, which harassed his mind, and at one time threatened him with a total loss of fortune.

Now, too, he had to undergo several trials in a series of family losses that occurred at intervals of a few years from each other. It has been mentioned that one of his nieces died during his absence at the Cape. The eldest was carried off three years later, in the year following her marriage. Mr. Colebrooke was deeply attached to them, and felt their loss most acutely. In 1827, he was again bowed down by the death of one of his sons, a young man of brilliant talents, and the object, to his father, of the highest hope and pride.¹

These successive trials and cares, acting on an enfeebled frame, brought on a dangerous attack of illness, during which his life was despaired of. He partially recovered his health, but became a confirmed invalid. His eyesight, too, failed from the effect of cataract, which, within the space of about two years from this illness, brought on total blindness. Still his mind remained as active as ever; though he had to rely on others for that intellectual food which had become to him

¹ I cannot forbear inserting a testimony to his worth from the pen of a fellow-student at the University of Bonn, where my brother studied for two years. The late F. H. H. Windischmann, a diligent student of both Sanscrit and old Persian antiquities, in the preface to his "*Sancara, sive de Theologomenis Vedanticorum*," refers in the following terms to my brother's death: "*Quantopere aureæ Colebrookii, viri summi, de Indorum philosophiâ dissertationes, et præcipue ea, quam de doctrinis Vedanticorum scripsit, mihi profuerint, dijudicare poterunt omnes, qui eum semel ducem secuti sunt. Eo libentius autem virum illum admirabilem magistrum veneror, quo dulcior mihi Johannis Colebrookii, filii ejus desideratissimi memoria, quem prematurâ morte patri, litteris, amicis creptum lugent omnes, qui norant juvenem optimæ indolis.*"



almost a necessary of life: his demands on them were prolonged for a considerable portion of each day. It is needless to say that he pursued no systematic course of study or reading, from which he was quite debarred by the enfeebled state of his health. He had now to undergo severer trials. In the autumn of 1833, his sufferings assumed a new character, and at first with an alarming increase of severity. Pains declared themselves in the region of the back, which, however much they may have varied from day to day, were unintermitting up to the hour of his death. The nature of the complaint he now suffered from rendered him almost entirely helpless. He quitted his bed only to be supported to a couch; and latterly the debility increased so that he could not sit up at all. The last three years of his life were passed entirely on his back, and never free from pain. Yet, in this prolonged suffering, and it was occasionally most acute, he scarcely ever uttered a complaint, and never alluded to his situation, except when asking for assistance to have his posture changed.

In this melancholy state, his family circle narrowed by the loss of so many that were most dear to him, he had to encounter a blow in the loss of his eldest son, the severity of which can only be appreciated by those who knew, not merely the hopes that were entertained regarding the career that was just opening to him, but the singular ascendancy that he had acquired over his father's mind, as indeed he did over many of his friends even superior in age to himself. The writer of these pages well remembers how constantly (even long before his brother had completed his education) his father deferred to his judgment on questions of literary interest or political importance; and this respect for his opinion increased in proportion to the growth of his son's mind to maturity. The loss already adverted to, of a son perhaps only inferior in abilities to the one now removed, on account of the earlier age at which he died, made their father centre his hopes more closely on him that remained. He died at the early age of twenty-four.

He had no opportunity of acquiring academical distinction; for, though he passed through the usual course of Cambridge study, he was debarred, by the delicacy of his health, from reading for honours. The testimony of his contemporaries to his high promise was not however the less striking; some instances will be found below.¹ The illness was short, and the blow to his father sudden, and, for a time, almost overwhelming. The wish was often expressed that he might be removed from these trials, and rejoin the son whom he had lost. "He was my master," he said on one occasion, referring to the weight

¹ The following lines are by Lord Houghton, and appeared in a volume of poems containing tributes "In memoriam" to several of his friends.

"GEORGE VERNON COLEBROOKE.

"Thou too art gone, and yet I hardly know
 Why thou didst care to go;
 Thou wert so well at heart, so spirit clear,
 So heavenly calm, though here;
 But thus it is; and, it would seem, no more
 Can we, who on the shore
 Of the loud world still walk, escape the din,
 And lie awhile within
 The quiet sunlight of thy filmless mind,
 And rise refreshed, refined;
 Yet am I mild and tempered in my grief,
 Having a sure relief;
 For these dear hours on life's dull length were spent,
 By rarest accident,
 And *now* I have thee by me *when* I will,
 Hear thy wise words, and fill
 My soul with thy calm looks, *now* I can tame
 Ill thoughts by thy mere name.
 Death the Divorcer, has united us
 With bands impervious
 To any tooth of Time, for they are wove
 Of the same texture as an angel's love."

February 23rd, 1835.

Dr. Jeremie, now Dean of Lincoln, in a commemoration sermon preached in the chapel of Trinity College, Cambridge, in December, 1834, in a very touching allusion to some of the recent losses which the College had sustained, pointed to the tablets on the chapel walls, "which recalled the memory of friendships too soon divided, and of genius extinguished in its prime." In a note to the published sermon, he thus refers to my brother's death:—"I allude more especially to the recent deaths of Frederick Malkin and T. Kynaston Selwyn, two young



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he attached to his son's opinion on religious questions; for the influence of his son was not the less striking on religion than on literature or politics; and it was exercised chiefly in recommending works for his father's perusal. When the writer of this memoir returned from India, which was not until near a year after his brother's loss, he found his father calm and resigned. His temper, which, under the first attacks of illness, had a disposition towards fretfulness, now, under the severity of suffering, became inexpressibly sweet. Indeed, the fortitude and resignation with which he bore these accumulated trials increased as he approached his end.

After another year of patient waiting, the scene was closed. In January, 1837, he was attacked by a severe influenza, which, acting upon an enfeebled and attenuated frame, gradually wore it out. After lingering for a few weeks in a state of extreme weakness, and, latterly, of almost unconsciousness, he sank on the 10th of March, in his 72nd year.

It is not the intention of the writer of this memoir to add any estimate of Mr. Colebrooke's powers, or remarks on his character. The endeavour has been to give all details connected with the different undertakings in which he engaged which should illustrate the spirit that animated him through-

and highly-gifted members of our College, to whose memory tablets have been placed in our chapel. I would fain add to these one of kindred character and abilities, my deeply deplored friend Thomas Smith; and since writing the above, I must lament another, whom I had hoped to see in the list of those who have reflected honour upon our seats, no less by the purity of their lives than the extent and excellence of their intellectual attainments—G. Vernon Colebrooke."

"O flos juvenum
Spes læta patris!
Non mansuris
Ornate bonis;
Omnia præcox
Fortuna tibi
Dedit et rapuit,
Solstitialis
Velut herba solet,
Ostentatus
Raptusque simul."

out; and he thinks he will have very imperfectly executed his task, if it does not appear that his father's success, in so many fields of industry, was owing as much to the singular energy and force of his character, as to his intellectual endowments. The latter were, indeed, of a very rare character; and his memory was singularly retentive. The severe tasks he underwent were borne easily by a mind braced and trained by long exercise, but not supported by vigour of body; for, though he inherited a strong constitution, he was small and spare in person. It remains only to subjoin a list of his works, which is the most durable monument of his industry and powers.

Mr. Colebrooke, at the time of his death, was a Fellow of the Royal Societies of London and Edinburgh; a Member of the Royal Asiatic Society of London, of the Asiatic Society of Calcutta, and of the Literary Society of Bombay; Fellow of the Astronomical, Geological, Linnæan, and Zoological Societies; Foreign Member of the Royal Academy of Paris, Imperial Academy of St. Petersburg, and of the Royal Academy of Munich.

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- I. On the Duties of a Faithful Hindú Widow. (Vol. iv. p. 209-219.) 1795.
- II. Enumeration of Indian Classes. (Vol. v. p. 53-67.) 1798.
- III. On Indian Weights and Measures. (Vol. v. p. 91-109.) 1798.
- IV. On the Religious Ceremonies of the Hindús, and of the Bráhmans especially. Essay I. (Vol. v. p. 345-368.) 1798.
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- VI. On the Sanscrit and Pracrit Languages. (Vol. vii. p. 199-231.) 1801.
- VII. On the Religious Ceremonies of the Hindús, and of the Bráhmans especially. Essay II. (Vol. vii. p. 232-285.) 1801.
- VIII. On the Religious Ceremonies of the Hindús, and of the Bráhmans especially. Essay III. (Vol. vii. p. 288-311.) 1801.
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- X. On the Védas, or Sacred Writings of the Hindús. (Vol. viii. p. 369-476.) 1805.
- XI. Description of a species of Ox named Gayál. (Vol. viii. p. 487-501.) 1805.
- XII. Observations on the Sect of Jains. (Vol. ix. pp. 287-322.) 1807.
- XIII. On the Indian and Arabian Divisions of the Zodiac. (Vol. ix. pp. 323-376.) 1807.
- XIV. On Olibanum, or Frankincense. (Vol. ix. pp. 377-382.) 1807.
- XV. On Ancient Monuments containing Hindú Inscriptions. (Vol. ix. pp. 398-445.) 1807.
- XVI. On Sanscrit and Pracrit Poetry. (Vol. x. pp. 387-474.) 1808.
- XVII. On the Sources of the Ganges in the Himádrí, or Emodus. (Vol. xi. pp. 429-445.) 1810.
- XVIII. On the Notions of Hindú Astronomers concerning the Precession of the Equinoxes and Motions of the Planets. (Vol. xii. pp. 209-250.) 1816.
- XIX. On the Heights of the Himalaya Mountains. (Vol. xii. pp. 251-285.) 1816.
- XX. On the Dryobalanops Camphora, or Camphor Tree of Sumatra. (Vol. xii. pp. 535-541.) 1816.

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- I. A Discourse delivered at the first General Meeting of the Royal Asiatic Society of Great Britain and Ireland, on the 15th of March, 1823. (Vol. i. pp. xvii.-xxiii.)
- II. On the Philosophy of the Hindús. Part I. On the Sanc'hya System. (Vol. i. pp. 19-43.) Read June 21, 1823.
- III. On the Philosophy of the Hindús. Part II. On the Nyáya and Vaiséshica Systems. (Vol. i. pp. 92-118.) Read June 21, 1824.
- IV. Explanation of Inscriptions upon Rocks in South Bihár. (Vol. i. pp. 201-206.) Read Dec. 4, 1824.



- V. Translation of three Grants of Land, inscribed on Copper, found at Ujjayani. (Vol. i. pp. 230-239, and 462-466.) Read Dec. 4, 1824.
- VI. Remarks on the Valley of Setlej River, from the Journal of Captain A. Gerard. (Vol. i. pp. 343-380.) Read Dec. 3, 1825.
- VII. On the Philosophy of the Hindús. Part III. On the Mimánsá. (Vol. i. pp. 439-466.) Read March 4, 1826.
- VIII. On Inscriptions at Temples of the Jaina Sect, in South Bihár. (Vol. i. pp. 520-523.) Read Nov. 18, 1826.
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- I. On the Height of the Himalaya Mountains. (Vol. vi. pp. 51-65.) 1819.
- II. Description of two Micrometers, designed and used as Pyrometers. (Vol. vi. pp. 230-236.) 1819.
- III. An Hypothesis to account for the Variable Depth of the Ocean. (Vol. vi. pp. 236-242.) 1819.
- IV. On the Limit of constant Congelation on the Himalaya Mountains. (Vol. vii. pp. 38-43.) 1819.
- V. On Useful Projects. (Vol. vii. pp. 48-55.)
- VI. On Fluidity, and an Hypothesis concerning the Structure of the Earth. (Vol. ix. pp. 52-61.) 1820.
- VII. Account of the Method of preparing a black Resinous Varnish, used at Silhet in Bengal. (Vol. x. pp. 315, 316.) 1821.
- VIII. On the Height of the Dhawalagiri, or White Mountain of Himalaya. (Vol. xi. pp. 240-247.) 1821.
- IX. Meteorological Observations in a Voyage across the Atlantic. (Vol. xiv. pp. 115-141.) 1823.
- X. On the Climate of South Africa. (Vol. xiv. pp. 241-254.) 1823.

PUBLISHED IN THE TRANSACTIONS OF THE LINNÆAN SOCIETY.

- I. Description of select Indian Plants. (Vol. xii. pp. 351-361.) Read April 15, 1817.
- II. On Indian Species of Menispermum. (Vol. xiii. pp. 44-68.) Read Nov. 2, 1819.
- III. On Boswellia, and certain Indian Terebinthaceæ. (Vol. xv. pp. 355-370.) Read April 4 and 18, 1826.

PUBLISHED IN THE TRANSACTIONS OF THE GEOLOGICAL SOCIETY.

- I. On the Valley of the Setlej River in the Himalaya Mountains. (Vol. i. second series, pp. 124-131.) Read Dec. 1, 1820.



II. On the Geology of the North-eastern Border of Bengal. (Vol. i. second series, pp. 132-137.) Read Jan. 5, 1821.

A narrative of a journey from Mirzapur to Nagpur, by a route never before travelled by any European, in 1798-9, by a Member of the Asiatic Society, eminent for extensive acquirements in every branch of Oriental literature and science. Asiatic Annual Register for 1806, forming part of the miscellaneous tracts of the volume for the year.

Introductory Remarks, prefixed to the edition of the Hitopadésa. Calcutta, 1804.

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APPENDIX:

CONTAINING

- I. A DISCOURSE READ AT A MEETING OF THE ROYAL ASIATIC SOCIETY OF GREAT BRITAIN AND IRELAND, ON THE 15TH OF MARCH, 1823.
- II. ADDRESSES OF HENRY THOMAS COLEBROOKE, ESQ., F.R.S., PRESIDENT OF THE ASTRONOMICAL SOCIETY OF LONDON, ON PRESENTING THE HONORARY MEDALS OF THE SOCIETY TO THE SEVERAL PERSONS TO WHOM THEY HAD BEEN AWARDED.
- III. A NARRATIVE OF A JOURNEY FROM MIRZAPUR TO NAGPUR.



APPENDIX.

I.

A DISCOURSE READ AT A MEETING OF THE ROYAL ASIATIC
SOCIETY OF GREAT BRITAIN AND IRELAND, ON THE 15TH
OF MARCH, 1823.

[From the Transactions of the Royal Asiatic Society, vol. i., pp. xvii.—xxiii.]

CALLED by the indulgence of this meeting to a chair, which I could have wished to have seen more worthily filled, upon so interesting an occasion as the first general meeting of a Society instituted for the important purpose of *the advancement of knowledge in relation to Asia*, I shall, with your permission, detain you a little from the special business of the day, while I draw your more particular attention to the objects of the institution for the furtherance of which we are now assembled.

To those countries of Asia, in which civilization may be justly considered to have had its origin, or to have attained its earliest growth, the rest of the civilized world owes a large debt of gratitude, which it cannot but be solicitous to repay; and England, as most advanced in refinement, is, for that very cause, the most beholden; and, by acquisition of dominion in the East, is bound by a yet closer tie. As Englishmen, we participate in the earnest wish that this duty may be fulfilled, and that obligation required; and we share in the anxious desire of contributing to such a happy result, by promoting an interchange of benefits, and returning in an improved state that which was received in a ruder form.

But improvement, to be efficient, must be adapted to the



actual condition of things: and hence a necessity for exact information of all that is there known which belongs to science; and all that is there practised which appertains to arts.

Be it then our part to investigate the sciences of Asia, and inquire into the arts of the East, with the hope of facilitating ameliorations of which they may be found susceptible.

In progress of such researches, it is not perhaps too much to expect, that something may yet be gleaned for the advancement of knowledge, and improvement of arts, at home. In many recent instances, inventive faculties have been tasked to devise anew what might have been as readily copied from an Oriental type; or unacknowledged imitation has reproduced in Europe, with an air of novelty, what had been for ages familiar to the East. Nor is that source to be considered as already exhausted. In beauty of fabric, in simplicity of process, there possibly yet remains something to be learnt from China, from Japan, from India, which the refinement of Europe need not disdain.

The characteristic of the arts in Asia is simplicity. With rude implements, and by coarse means, arduous tasks have been achieved, and the most finished results have been obtained; which, for a long period, were scarcely equalled, and have, but recently, been surpassed, by polished artifice and refined skill in Europe. Were it a question of mere curiosity, it might yet be worth the inquiry, what were the rude means by which such things have been accomplished? The question, however, is not a merely idle one. It may be investigated with confidence that a useful answer will be derived. If it do not point to the way of perfecting European skill, it assuredly will to that of augmenting Asiatic attainments.

The course of inquiry into the arts, as into the sciences of Asia, cannot fail of leading to much which is curious and instructive. The inquiry extends over regions the most anciently and the most numerously peopled on the globe. The range of research is as wide as those regions are vast;

and as various as the people who inhabit them are diversified. It embraces their ancient and modern history; their civil polity; their long-enduring institutions; their manners and their customs; their languages, and their literature; their sciences, speculative and practical: in short, the progress of knowledge among them; the pitch which it has attained; and last, but most important, the means of its extension.

In speaking of the history of Asiatic nations (and it is in Asia that recorded and authentic history of mankind commences), I do not refer merely to the succession of political struggles, national conflicts, and warlike achievements; but rather to less conspicuous yet more important occurrences, which directly concern the structure of society, the civil institutions of nations, their internal, more than their external relations, and the yet less prominent, but more momentous events, which affect society universally, and advance it in the scale of civilized life.

It is the history of the human mind which is most diligently to be investigated: the discoveries of the wise, the inventions of the ingenious, and the contrivances of the skilful.

Nothing which has much engaged the thoughts of man is foreign to our inquiry, within the local limits which we have prescribed to it. We do not exclude from our research the political transactions of Asiatic states, nor the lucubrations of Asiatic philosophers. The first are necessarily connected, in no small degree, with the history of the progress of society; the latter have great influence on the literary, the speculative, and the practical avocations of men.

Nor is the ascertainment of any fact to be considered destitute of use. The aberrations of the human mind are a part of its history. It is neither uninteresting nor useless to ascertain what it is that ingenious men have done, and contemplative minds have thought, in former times, even where they have erred: especially, where their error has been graced by elegance, or redeemed by tasteful fancy.

Mythology then, however futile, must, for those reasons, be noticed. It influences the manners, it pervades the literature of nations which have admitted it.

Philosophy of ancient times must be studied, though it be the edifice of large inference raised on the scanty ground of assumed premises. Such as it is, most assiduously has it been cultivated by Oriental nations, from the further India to Asiatic Greece. The more it is investigated, the more intimate will the relation be found between the philosophy of Greece and that of India. Whichever is the type or the copy, whichever has borrowed or has lent, certain it is, that the one will serve to elucidate the other. The philosophy of India may be employed for a commentary on that of Greece; and, conversely, Grecian philosophy will help to explain Indian. That of Arabia, too, avowedly copied from the Grecian model, has preserved much which else might have been lost. A part has been restored through the medium of translation, and more may yet be retrieved from Arabic stores.

The ancient language of India, the polished Sanscrit, not unallied to Greek and various other languages of Europe, may yet contribute something to their elucidation, and, still more, to the not unimportant subject of general grammar.

Though Attic taste be wanting in the literary performances of Asia, they are not on that sole ground to be utterly neglected. Much that is interesting may yet be elicited from Arabic and Sanscrit lore, from Arabian and Indian antiquities.

Connected as those highly polished and refined languages are with other tongues, they deserve to be studied for the sake of the particular dialects and idioms to which they bear relation; for their own sake, that is, for the literature which appertains to them; and for the analysis of language in general, which has been unsuccessfully attempted on too narrow ground, but may be prosecuted, with effect, upon wider induction.

The same is to be said of Chinese literature and language. This field of research, which is now open to us, may be culti-

vated with confident reliance on a successful result ; making us better acquainted with a singular people, whose manners, institutions, opinions, arts, and productions, differ most widely from those of the West ; and through them, perhaps, with other tribes of Tartaric race, still more singular, and still less known.

Wide as is the geographical extent of the region to which primarily our attention is directed, and from which our association has taken its designation, the range of our research is not confined to those geographical limits. Western Asia has, in all times, maintained intimate relation with contiguous, and, not unfrequently, with distant countries : and that connexion will justify, and often render necessary, excursive disquisition beyond its bounds. We may lay claim to many Grecian topics, as bearing relation to Asiatic Greece ; to numerous topics of yet higher interest, connected with Syria, with Chaldæa, with Palestine.

Arabian literature will conduct us still further. Wherever it has followed the footsteps of Moslem conquest, inquiry will pursue its trace. Attending the Arabs in Egypt, the Moors in Africa ; accompanying these into Spain, and cultivated there with assiduity, it must be investigated without exclusion of countries into which it made its way.

Neither are our researches limited to the old continent, nor to the history and pursuits of ancient times. Modern enterprise has added to the known world a second Asiatic continent, which British colonies have annexed to the British domain. The situation of Australasia connects it with the Indian Archipelago : its occupation by English colonies brings it into relation with British India. Of that new country, where everything is strange, much is yet to be learnt. Its singular physical geography, its peculiar productions, the phenomena of its climate, present numerous subjects of inquiry ; and various difficulties are to be overcome, in solution of the problem of adapting the arts of Europe to the novel situation



of that distant territory. The ASIATIC SOCIETY OF GREAT BRITAIN will contribute its aid towards the accomplishment of those important objects.

Remote as are the regions to which our attention is turned, no country enjoys greater advantages than Great Britain for conducting inquiries respecting them. Possessing a great Asiatic empire, its influence extends far beyond its direct and local authority. Both within its territorial limits and without them, the public functionaries have occasion for acquiring varied information, and correct knowledge of the people and of the country. Political transactions, operations of war, relations of commerce, the pursuits of business, the enterprise of curiosity, the desire of scientific acquirements, carry British subjects to the most distant and the most secluded spots. Their duties, their professions, lead them abroad; and they avail themselves of opportunity, thus afforded, for acquisition of accurate acquaintance with matters presented to their notice. One requisite is there wanting, as long since remarked by the venerable founder of the Asiatic Society of Bengal—it is leisure: but that is enjoyed on their return to their native country. Here may be arranged the treasured knowledge which they bring with them; the written or the remembered information which they have gathered. Here are preserved in public and private repositories manuscript books collected in the East, exempt from the prompt decay which would there have overtaken them. Here, too, are preserved, in the archives of families, the manuscript observations of individuals, whose diffidence has prevented them from giving to the public the fruits of their labours in a detached form.

An Association established in Great Britain, with views analogous to those for which the parent Society of Bengal was instituted, and which happily are adopted by Societies which have arisen at other British stations in Asia, at Bombay, at Madras, at Bencoolen, will furnish inducement to those who, during their sojourn abroad, have contributed their efforts for



the promotion of knowledge, to continue their exertions after their return. It will serve to assemble scattered materials, which are now liable to be lost to the public for want of a vehicle of publication. It will lead to a more diligent examination of the treasures of Oriental literature, preserved in public and private libraries. In cordial co-operation with the existing societies in India, it will assist their labours, and will be assisted by them. It will tend to an object, first in importance,—the increase of knowledge in Asia by diffusion of European science. And whence can this be so effectually done as from Great Britain?

For such purposes we are associated; and to such ends our efforts are directed. To further these objects, we are now assembled; and the measures which will be proposed to you, Gentlemen, are designed for the commencement of a course, which, I confidently trust, may, in its progress, be eminently successful, and largely contribute to the augmented enjoyments of the innumerable people subject to British sway abroad; and (with humility and deference be it spoken, yet not without aspiration after public usefulness), conspicuously tend to British prosperity as connected with Asia.



II.

ADDRESSES OF HENRY THOMAS COLEBROOKE, Esq., F.R.S.,
PRESIDENT OF THE ASTRONOMICAL SOCIETY OF LONDON,
ON PRESENTING THE HONORARY MEDALS OF THE SOCIETY
TO THE SEVERAL PERSONS TO WHOM THEY HAD BEEN
AWARDED.

On presenting the Gold Medal to Charles Babbage, Esq., F.R.S.

THIS country and the present age have been pre-eminently distinguished for ingenuity in the contrivance or in the improvement of machinery. In none has that been more singularly evinced than in the instance to which I have the gratification of now calling the attention of the Society. The invention is as novel as the ingenuity manifested by it is extraordinary. In other cases mechanical devices have substituted machines for simpler tools or for bodily labour. The artist has been furnished with command of power beyond human strength, joined with precision surpassing any ordinary attainment of dexterity. He is enabled to perform singly the work of a multitude, with the accuracy of a select few, by mechanism which takes the place of manual labour or assists its efforts.

But the invention to which I am adverting comes in place of mental exertion: it substitutes mechanical performance for an intellectual process: and that performance is effected with celerity and exactness unattainable in ordinary methods, even by incessant practice and undiverted attention. The invention is in scope, as in execution, unlike anything before accomplished to assist operose computations. I pass by, as what is obviously quite different, the "Shwanpan," or "Chinese abacus," the tangible arithmetic of Frend, Napier's rods, with the ruder devices of antiquity, the tallies, the cheque, and the coun-

ters. They are unconnected with it in purpose as in form. Mechanical aid of calculation has in truth been before proposed by very eminent persons. Pascal invented a very complicated instrument for the simplest arithmetical processes, addition and subtraction, and reaching by very tedious repetition to multiplication and division. Leibnitz proposed another, of which the power extends no further. Delepine's and Boitissendeau's contrivances, which a century ago were applauded by the Academy of Sciences at Paris, are upon the model of Pascal's, and may no doubt be improvements of it, but do not vary or enlarge its objects. Moreland's instruments, described in an early volume of the Philosophical Transactions (the 8th), are confined, the one to addition and subtraction, the other to multiplication. The *Rotula Arithmetica* of Brown, simpler in construction, reaches not beyond the four arithmetical operations.

The principle which essentially distinguishes Mr. Babbage's invention from all these is, that it proposes to calculate a series of numbers following any law by the aid of *differences*; and that, by setting a few figures at the outset, a long series of numbers is readily produced by a mechanical operation. The method of *differences*, in a very wide sense, is the mathematical principle of the contrivance. A machine to add a number of arbitrary figures together is no economy of time or trouble; since each individual figure must be placed in the machine. But it is otherwise when those figures follow some law. The insertion of a few at first determines the magnitude of the next; and these of the succeeding. It is this constant repetition of similar operations which renders the computation of tables a fit subject for the application of machinery. Mr. Babbage's invention puts an engine in the place of the computer. The question is set to the instrument; or the instrument is set to the question, and, by simply giving it motion, the solution is wrought and a string of answers is exhibited.

Nor is this all; for the machine may be rendered capable of



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recording its answer, and even multiplying copies of it. The usefulness of the instrument is thus more than doubled: for it not only saves time and trouble in transcribing results into tabular form, and setting types for the printing of the table constructed with them, but it likewise accomplishes the yet more important object of insuring accuracy, obviating numerous sources of error through the careless hands of transcribers and compositors.

On this part of the invention, which is yet a subject of experiment for selection of the most eligible among divers modes of accomplishing it, I shall not dwell longer; as it is not for that superaddition, but for the machine in the finished form of a calculating instrument, that I am to make an acknowledgment, in the name of this Society, to Mr. Babbage for his very useful invention.

I speak of it as complete with reference to a model which satisfactorily exhibited the machine's performance, and am apprized that a more finished engine, which is in progress of preparation, may not yet for some time be in a forward state to be put in activity and receive its practical application.

In no department of science or of the arts does this discovery promise to be so eminently useful as in that of astronomy and its kindred sciences, with the various arts dependent on them. In none are computations more operose than those which astronomy in particular requires: in none are preparatory facilities more needful, in none is error more detrimental. The practical astronomer is interrupted in his pursuit, is diverted from his task of observation, by the irksome labour of computation; or his diligence in observing becomes ineffectual for want of yet greater industry of calculation. Let the aid, which tables previously computed afford, be furnished to the utmost extent which mechanism has made attainable through Mr. Babbage's invention, the most irksome portion of the astronomer's task is alleviated, and a fresh impulse is given to astronomical research.



Nor is it among the least curious results of the ingenious device, of which I am speaking, that it affords a new opening for discovery ; since it is applicable, as has been shown by its inventor, to surmount novel difficulties of analysis.

Not confined to *constant differences*, it is available in every case of differences that follow a definite law, reducible therefore to an equation. An engine, adjusted to the purpose, being set to work, will produce any distant term, or succession of terms required : thus presenting the numerical solution of a problem, even though the analytical solution of it be yet undetermined.

It may not therefore be deemed too sanguine an anticipation when I express the hope that an instrument, which in its simpler form attains to the extraction of the roots of numbers and approximates to the roots of equations, may in a more advanced state of improvement rise to the approximate solution of algebraic equations of elevated degrees. I refer to solutions of such equations proposed by La Grange, and more recently by other analysts, which involve operations too tedious and intricate for use, and which must remain without efficacy, unless some mode be devised of abridging the labour or facilitating the means of its performance.

In any case this engine tends to lighten the excessive and accumulating burden of arithmetical application of mathematical formulæ, and to relieve the progress of science from what is justly termed by the author of this invention the overwhelming incumbrance of numerical detail.

For this singular and pregnant discovery, I have the authority of the Astronomical Society of London to present to Mr. Babbage its Gold Medal, which accordingly I now do, as a token of the high estimation in which it holds his invention of an engine for calculating mathematical and astronomical tables.



On presenting the Gold Medal to Professor Encke, and the Silver Medal to Dr. P. K. Rumker.

The greatest step which has been made in the astronomy of comets since the verification of Halley's comet, which re-appeared in 1759, has been the identifying of Encke's comet, at once determined by the evidence of its frequent appearance within short periods, and already confirmed by its re-discovery in a distant hemisphere.

It is scarcely to be doubted that other, many other, like bodies, moving through very eccentric orbits in short periods, belong to our solar system. Though Lexell's comet has not been again observed since 1770, it is not therefore to be despaired of. More extended, more diffused diligence may yet detect it, if, in truth, it has not ceased to be capable of becoming luminous.

Nor is it an over-sanguine expectation which counts upon more discoveries of the like nature. It is not *likely* that Encke's should be solitary of its kind; the only one revolving in a short period; or the only visible one.

The Astronomical Society is desirous of drawing the attention of observers, in an especial manner, to this department of research; with the confidence, that increased vigilance cannot fail of being rewarded by abundant discovery; and I may here take leave to remark, that multiplied observations at very remote stations, determining a greater portion of a comet's orbit, will tend to the earlier and more precise ascertainment of its period. In this view, as in so many others, the establishment of Observatories at the Cape of Good Hope and Australasia, has been matter of congratulation with astronomers: and I have peculiar satisfaction in being authorized to acknowledge the service rendered to astronomical science by the re-discovery of Encke's comet in 1822, at the Observatory



at Paramatta; and to present to Dr. P. Karl Rumker, the Superintendent of that Observatory, the Society's Medal on this account, at the same time that I present, in the Society's name, its medal to Professor Encke, for the previous investigations relative to that comet, and which led to the re-discovery of it.

On presenting the Silver Medal to M. Pons.

No name has recurred more frequently in the history of comets than that of M. Pons; and from the very commencement of the present century he has been in almost exclusive possession of the first discovery of telescopic comets. At Marseilles, while joint director of the Observatory at that place, he discovered more than twenty comets; being the first to see the greatest number of them, a very few only having been likewise and independently noticed as early by other observers. His vigilance did not remit, nor has his diligence been unrewarded at Marlia, where he was invited to superintend a new observatory. Previous to his departure from Marseilles he had made the memorable re-discovery of the comet which bears Encke's name, and his arrival at Marlia was signalized by the detection of another comet. In a recent period he has been yet more successful, having discovered no less than three comets in the year 1822, with his usual privilege of priority in respect to two of them, under every disadvantage in regard to instruments, joined with other discouraging circumstances, which, it may be feared, have since too much operated, and which the Society most earnestly desire to see removed.

The services which M. Pons has rendered to this branch of astronomical science have been acknowledged by the Royal Academy of Sciences at Paris adjudging to him a prize for the re-discovery of Encke's comet in 1818, and sharing between him and M. Nicollet a prize for the comet discovered in January, 1821. Had equal diligence been devoted to this



research by other observers at remote stations and in various climates, it is highly probable that a greater number of comets might have been detected in the last age; and it may be presumed that increased vigilance in time to come will be recompensed with enlarged knowledge of comets, and with corresponding advancement in this branch of science.

The Council of the Astronomical Society, desirous of marking their sense of the services rendered by M. Pons, both in acknowledgment to him for his usefulness and with the hope that his example may be followed by others, have resolved to present to him the Silver Medal of the Society; which accordingly I now do, in their name and in that of the Astronomical Society, as a token of the sense entertained of his indefatigable assiduity in that department of astronomy, and especially for the discovery of a comet on 31st May, and another on 1st July, 1822.



III.

A NARRATIVE OF A JOURNEY FROM MIRZAPUR TO NAGPUR.

TOWARDS the close of the year 1798, I received the commands of the Governor-general of India, the Earl of Mornington, (now Marquis Wellesley) to proceed to the court of Nagpur, on a public mission. With His Excellency's permission, a route was chosen which had been lately opened by the inland traders between Benares and Berar. The route through Catac, Sambhalpur, and Chetesgerh, and another by the way of Ramgerh and Serguja, were inconvenient, because preparations for the journey were already made at Mirzapur, my usual place of abode. The direct road from Mirzapur to Nagpur, through the territories of the Rajah of Rewa, is the shortest and most frequented of any between the banks of the Ganges and the capital of the Rajah of Berar's dominions. The computed distance little exceeds four hundred miles; and by this route alone cotton is imported from Nagpur to the British territories. But the Rajah of Rewa was at this time threatened by Ali Behadur; and the road was infested by banditti from Bundelcund,—a province which Ali Behadur had long since invaded, but not completely reduced. To avoid interruption, that might be well apprehended on a road which native travellers and merchants disused as insecure, it appeared expedient to take a circuitous route; and, instead of proceeding along the banks of the Ganges and Yamuná to Calpi, and thence to Sagur, it seemed advisable to traverse the forests that lie between Bejeygerh and Serguja, because this route presented the advantage of passing through no intermediate territories between the British dominions and the provinces tributary to the Rajah of Berar.