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JOURNAL
OF THE
BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY.

JANUARY, 1849.

ART. I.—*THE STORY OF TUKA'RA'MA. From the Maráthí-Prákrit. With an Introduction.* BY THE REV. J. MURRAY MITCHELL.

INTRODUCTION.

The literature of the Maráthá people cannot boast of great antiquity, extent, or originality ; nevertheless, it is possessed of several interesting features. One of these is the influence it still exercises over the popular mind. It may fairly be denominated a living literature ; for, although exceedingly few original compositions of any consequence have been published by the Maráthás during this century, we possess abundant evidence in the large editions of older Maráthí works which have been issuing for six or seven years past from the native press in Bombay and elsewhere, that the mass of the nation is still powerfully affected by the indigenous authorship. The works now referred to are poetical compositions. The Maráthí country abounds with *bakhars*, or narratives of particular historical events, written in prose ; but the popular taste has not called for the multiplication of these by means of the press. What is more remarkable, it has not called for the publication of another class of works—which exist in considerable numbers—approaching in character to those martial

poems of the Rajputs, of which Col. Tod has afforded such characteristic specimens. Considering the high military character of the Maráthá nation, it appears a remarkable circumstance that the works which have been issuing in large numbers from the native press, should be almost exclusively religious. It is singular enough, also, that on the subject of war* the more celebrated Maráthí writers should have scarcely touched,—abandoning the gallant exploits of their own nation from the days of S'ivájí to those of Bájiráo, to the zeal of nameless versifiers. In most other countries, love and war have been the favourite themes of the poet; inasmuch as these are among the subjects that most deeply stir the human heart, they have been "his haunt and the main region of his song."—Again, although love enters into their reproductions of the Hindu mythology in much the same proportion as in the Puránaa, we see exceedingly little of that natural style of portraiture, which charms us in the S'akuntalá or Damáyantí of the Sanskrit writers. A class of writings called *lavanyá* exists, and in these the subject of love is all in all,—unhappily, the passion in its most grossly sensual aspect;—still, although these disgusting compositions are but too familiarly known to the mass of the people, yet no one would venture to class their writers with the distinguished authors of Maháráshtra.

The most celebrated of the Maráthí poets is *Dnyánobá* or *Dnyánes'var*, whose work the *Dnyánes'vari*, a copious paraphrase in *Oot* measure of the Bhagavad-Gítá, is among the works lately issued from the native press in Bombay. The *Dnyánes'vari* is amongst the oldest, if not the very oldest, of Maráthí works; its date being the year of S'áliváhana 1212, which corresponds to A. D. 1290. The writer is always mentioned with high respect, and an almost idolatrous reverence is paid to copies of his work, which have been handed down from father to son in some Maráthí families of the middle class. But the phraseology of *Dnyánobá* is too antique, and his ideas are too refined, for the mass of the people fully to comprehend; and a professed follower and ardent admirer of *Dnyánobá* is now more generally known. I refer to *Tukárá* ॥ १, who may be called the poet of Maháráshtra, as emphatically as Burns has often been denominated the poet of Scotland.

* The name *वंशी* is given to war-ballads. A good many of these exist in manuscript; many however have never been committed to writing at all. Within these few days I have taken down from the lips of a wandering rhapsodist, a ballad termed by him the *Malcolm Pwádá*, and detailing the exploits of Sir John Malcolm, which he says has never been written before.

The popularity of Tukáráma is certainly very great. The formula with which he invariably concludes his hymns (*abhāngos**)-तुका वाचे (Tuká said)—is in the mouths of his admirers quite as frequently and with as much entireness of reliance on their master's authority, as we can conceive to have been the case with the famous *αὐτὸς ἔφα* of the Pythagoreans. His admirers constitute the great body of the middle and lower castes, and include a considerable portion of the highest. His writings may be viewed as partly the cause, and partly the effect, of the peculiar religious development of the Maráthá mind; and we possess in them a far better key to its interpretation, that could be furnished in the more ancient sacred books—the Vedas and Puránas.

The oral traditions of the life of Tukáráma are as numerous as the popularity of his writings would naturally lead us to expect. It might be interesting to analyse these, with a view to discover what proportion of them have been derived from strictly oral tradition, and how many have been drawn from written documents. I have collected a considerable number which seem generally traceable to the written narratives,—with which, on the whole, they tolerably well agree.

The written documents in which the life of Tukáráma is contained, are the *Bhaktá Lilámrita* and the *Bhakti Vijaya*. The former contains by far the fuller statement. It is a work written in Maráthí verse, consisting of 10,794 *ovya* (each *oví* being longer than a *s'loka* of the *an-ushhtubha* metre). It was composed by *Mahipati*, a Brahman resident at Táharábád, near the Godávarí river, not far from the city of Paithan in the Dakhan, in the year of S'áliváhana 1696 [A. D. 1774].

According to the Author's statement, he first composed the *Bhakti Vijaya*, then a second work called *Santa Lilámrita Sára*, and lastly the *Bhaktá Lilámrita*. It is of considerable importance to know from what sources be obtained the information which is embodied in these books. He mentions that the *Bhakti Vijaya* was drawn up from two other works, one by *Nábháji* and another was *Udhava-chidgun*.† The work of Nábháji, says our author, was written in the "Gwalior language." There can be little doubt of its being the same as the original *Bhaktá*

* An *abhāng* (derived from अङ्ग privative, and अङ्ग fracture,—*inciolate*) is an ill-defined species of religious composition, consisting of couplets which generally rhyme together. The lines may be from six to sixteen.

† *Bhakti Vijaya*, near the commencement.

Mála, to which Professor H. H. Wilson refers in his account of the "Religious Sects of the Hindus,"* and which he describes as being "composed by Nábháji in a difficult dialect of Hindí, about 250 years ago." Our author in the *Bhakta Lilámrita*, still follows Nábháji, and apparently, oral tradition.† I have hitherto been unable to lay my hands on a copy of Nábháji's work; but in all probability our author's narrative of Tukáráma's life has been drawn up solely from tradition. In the original work of Nábháji it could not appear, for the simple but sufficient reason that he seems to have lived before Tukáráma.—Besides the above-mentioned works, a publication is sometimes referred to under the name of *Tukáráma Charitra*; but the copy of this which I procured with some difficulty, proved to be nothing more than a transcript of the account in the *Bhakta Lilámrita*. That account, it will be admitted is sufficiently voluminous, even in the condensed form in which it is submitted below; and to it, in all probability, the whole bulk of the legendary lore now current respecting Tukáráma, is finally to be traced.

The date of Tukáráma's death (or, as our author would say, removal from earth) was the year of S'aliváhana 1571 [A. D. 1649]. Between this and the date of the composition of the following history of his life, there intervenes a period of 125 years. The traditions regarding Tukáráma had then the ample space of a century and a quarter to develop and enlarge themselves before they were committed to writing; and in a soil so preëminently favourable to the growth of mythological systems as is supplied by the Indian mind, the original facts of the life of the Maráthí poet undoubtedly must, in that interval, have assumed a shape and magnitude widely different from what they originally possessed. In India perhaps more than in any other country—and most of all in matters connected with religion—Virgil's celebrated description of Rumour will hold good:

— *Magnas it Fama per urbes ;
Fama, malum quo non aliud velocius ullum ;
Mobilitate viget, vireaque acquirit eundo.
Parva metu primo, mox sese attollit in auras ;
Ingrediturque solo, et caput inter nubila condit.*

* *Asiatic Researches*; Vol. XVI. page 8.

† It is not quite clear whether our author consulted any written document, besides the work of Nabhaji, in composing the *Bhakta Lilámrita*. Probably, however, he did not. Certainly he could have consulted no other work of any consequence, or he would have specified it.

How far the author of the *Bhakta Lílámrita* may have altered or exaggerated the oral legends respecting Tukáráma, it is not now easy to decide. His account hangs wonderfully well together, and we cannot doubt that he must at all events have squared his materials so as best to suit his purpose, and make their various parts fit easily into each other ;— but very probably he did more than this, and deemed himself warranted to embellish with a lavish fancy the history of the boasted poet-saint of Maháráshtra, who had arisen in late and evil days to emulate the virtues of the most illustrious worshippers of Vishnu.

My original object in consulting the written records of Tukáráma's life was to obtain some credible historical notices regarding a personage of so much consequence in the literature and history of Maháráshtra ; and I had intended merely to draw up a brief summary of what might appear really historical in the account, purging it from the vast quantity of fabulous matter associated with it. But after a careful examination of the narrative in the *Bhakta Lílámrita*, it has appeared desirable to give a fair full outline of the entire history. The presentation of the mythological part is necessary as an aid to the solution of a very interesting problem, which the perusal of this narrative suggests. In fact, what was originally the sole end in view in the compilation of this account of Tukáráma, has become quite a subordinate end. The purely historical matter contained in the following narrative might be condensed into forty or fifty lines ; nor would one be justified in crowding the pages of this journal with a mass of extravagant mythology, if the value of the materials consisted either solely or chiefly in those historical facts which, although interesting and important in themselves, will turn out to be rather few in number : *apparent rari nantes in gurgite vasto*. But there are other considerations which appear to demand that a full view be furnished of the account which Mahipati has given of Tukáráma.

The following narrative presents a remarkably vivid picture of the religious thought and life of the Maráthá people. The god Vitthal or Vithobá, whose worship prevails only in the Maráthí country and those districts adjoining to it in which the Maráthás have exercised a paramount influence, is here represented as all in all. The character of the deity, and the worship rendered to him, are deserving of very attentive consideration ; they will be found to supply an interesting chapter in the history of the religious developments of the Indian mind.

The paper by Dr. Stevenson on the Bauddho-Vaishnavas furnishes important information on this subject ; and the views of the learned writer will be found to be generally supported by the following documents. The subject, however, is still involved in much obscurity, and in seeking in any degree to throw light upon it, I have been greatly influenced by the remark of M. Burnouf : “ Le seul moyen de résoudre ces questions avec certitude”—he is speaking of questions connected with Oriental mythology in general—c’ est de ne pas les traiter prematurement ; nous devons savoir qu’ il faut auparavant demander aux textes mêmes les connoissances positives sans lesquelles la critique manque à la fois de base et d’ objet.”*

At the same time a literal rendering of the entire voluminous account of Tukáráma would have been impossible. The style of Mahipati is intolerably verbose ; if the Maráthi people esteem it only “ linked sweetness long drawn out,” the fact only proves the sad corruption of their taste, while it forms a notable contrast with the compression of thought characteristic of many of the great Sanskrit works,—the Gítá, Raghuvans’a, &c.

A specimen may be here supplied of the style of the Bhakta Lílámrita. The 25th chapter with which the account of Tukáráma commences, opens with nine *avyá* in praise of Vithobá. Then follow these words :

आता चित्त देवोनि श्रोतीं
 सादर असिजे श्रवणार्थीं
 तुकारामाची सप्रेम भक्ती
 वैकुण्ठपती वस्य केला १०
 त्याची आदि सविस्तर
 सादर ऐका भक्त चतुर
 जो जगद्गुरू वैष्णव वीर
 अवतरे साचार भूमंडळी ११
 शूद्र याती माझी निश्चीत
 जन्मला तुकाराम वैष्णव भक्त
 जो जगद्गुरू मूर्ति मंत
 विश्वोद्धारार्थ अवतरला १२

* Bhágavat Purána ; Preface p. 2.

Now let the hearers pay good heed :
 Let them be attentive to listen
 How ardent the piety of Tukáráma,
 And Vaikuntha's lord [Vishnu] he propitious* made.

His beginning fully set forth,
 Attentively hear, O ye devotees wise,
 Who the world's *guru*, Vaishnava hero,
 Was incarnated truly in the world.

Amidst the S'údra race verily
 Was born Tukáráma, the Vaishnava devotee,
 Who, the world's *guru*, shape-endowed,
 For the salvation of the universe was incarnated.

Verses of this character are susceptible of great condensation ; and in general throughout the following paper, the narrative of Mahipati has been reduced to a fifth or a sixth of its original dimensions. In important passages, however, the translation has been more literal ; in a few (which shall be specified) almost entirely so.

A deeply interesting question connected with the legend of Tukáráma refers to the sources whence the sentiments have been drawn. While, as a general rule, great respect is professed in the following history for the Vedas and Puránas, there is frequently a deviation from the doctrines both of the former and the latter,—a deviation which is not the less decided, because it may often have occurred unconsciously.

It is highly probable that the Vitthal-worship with which the popular literature of Maháráshtra is so closely interwoven, is a congeries of many diverse materials. The doctrines of the Bhagavad-Gítá, particularly as interpreted by their great Dnyánobá, have had a powerful influence on the opinions of the school. The Bhágavata Purána, interpreted by Ekánátha, is also expressly specified in the following account, as forming part of the studies of Tukáráma. Similar reference is made to Kabir, "the illustrious Yavana devotee," as Mahipati styles him ; so that we have a connexion of some sort established between the Maráthí system and that of those highly influential mystics, the Kabir Panthis ; and a considerable resemblance will be found actually

* Literally, *subjected*.

to exist between the two.* Again, the influence of Buddhism on the Maráthi system must have been very great, if, as Dr. Stevenson supposes, the god Vithobá himself be nothing more than a Buddhist sage metamorphosed into a Hindu deity.

Lastly occurs the question: How far has Christianity affected these Maráthá legends? That it has to a considerable extent, is highly probable.

A careful perusal of the following legend will reveal many *ideas* which are certainly not Bráhmanical. How far these may sometimes resemble Buddhistic notions I am scarcely prepared to say; but it will not escape notice that when the moral tone differs from that of genuine Hinduism, it frequently approximates to that of the Christian system. Or, if the detection of Christian ideas thus leavening a Heathen system demands a test of so much delicacy that to many minds the experiment may carry little conviction, there remains an important class of *facts* possessing a more palpable character, which resemble occurrences recorded in the Jewish and Christian Scriptures. In reading the wonderful acts ascribed to Tukárāma, we are not unfrequently reminded of Scriptural miracles; and the coincidences appear too numerous and too marked to be merely accidental. The most singular of these coincidences is the assertion that Tukárāma ascended to heaven without dying. It is remarkable that the assertion is not made regarding any other of the Maráthá saints, not even of the great Dnyánobá. Certainly one would not have expected such a statement in a Hindu system of faith; more natural, had it been desired to exalt Tukárāma in consistency with Hindu ideas, would have been such a representation as is given regarding the departure of Kabir, मिले पवन सौ पवन, *air mixed with air.*† It is true that in the Mahábhárata, Yudhishtira is represented as journeying by the summits of the Himalaya mountains into heaven, accompanied—

* Here our inquiry merges in a wider one, that of the origin of Kabir's system. The reform wrought by Kabir seems to have been immense. Mahipati calls him "a Yavana", that is, a Musulman. If Kabir was an actually existing individual, and not merely the personification of a system, he probably was a Hindu by descent. Muhammadism however seems to have greatly influenced his views.

† Prof. Wilson on Hindu Sects: Asiat. Res. Vol. XVI p. 55.

strange to say—by his dog;* but the coincidences between the circumstances of his ascent and that of Tukáráma are by no means so close as might be supposed. The complexion of the Maráthí legend reminds us much more of what is recorded in the Christian Scriptures: and again, of the two great events to which the ascent of Tukáráma bears a resemblance, it is important to note that in several points it approximates rather to the ascent of Elijah than that of Christ.

These resemblances are facts, and as such do not admit of question; but their explanation must be set about with exceeding caution. There has been, for a considerable time past, a very decided reluctance on the part of our greatest Orientalists to allow the existence of Christian elements in Hinduism; and when we remember the reckless haste with which the Maurices and Fabers of former days so often found or fancied coincidences which more thorough scholarship has set aside, we can scarcely be surprised at the reluctance in question. Still, Hinduism has unquestionably been for many generations an eclectic system, absorbing and assimilating much from the various forms of belief with which it has come in contact; to suppose otherwise is not only opposed to philosophy, but in the face of established facts. The caution and learning of Prof. H. H. Wilson give importance to his admission that “the loan” which the West received from the East “may not have been left unpaid”; and that “it is not impossible that the Hindu doctrines received fresh animation from their adoption by the successors of Ammonius†” in Alexandria. We need not now, however, refer to the communication of ideas from the West that may, or must, have taken place in the early days of Christianity, and particularly when the Syrian Christians planted churches in India.‡ Whatever influence the presence of Jews, Syrian Christians, and Musalmans may have had in diffusing over India ideas ultimately traceable to the Old and New Testaments, may all come into consideration as additional evidence corroborative of the point now contended for; but even were the whole of the support thus afforded, to be swept away, the intermixture of Christian ideas with the Maráthí legends would still be easily explained. The Portuguese arrived in India in 1498; and from an early date in the sixteenth century were indefatigably

* Mahábhárata, *Maháprasthánika Parva, Adhyáya* ३. Calc. Edit. Vol. iv. page 274.

† Vishnu Purana p. ix.

‡ Cosmas Indicopleustes tells us he found Christian churches in Calliana—apparently the one near Bombay,—Male (Malabar?), and Tēprobane (Ceylon.) He wrote in A. D. 585.

active in endeavouring to extend their religion. Portuguese Missionaries were welcome guests at the courts of Akbar and Jehangir ; and the singularly eclectic system of religion devised by the former of these Emperors, together with the public religious discussions at court in which the Portuguese Missionaries took part, must have widely diffused an acquaintance with the leading ideas of Christianity.* Again, the important settlements formed by the Portuguese in the Maráthá country—Goa, Bassein, Revadanda, Bombay,—the numerous conversions which took place,—the very violence they employed in propagating their views,—must all have conspired to direct the attention of the Maráthás to the Christian religion. It is hardly conceivable that Tukáráma, who died exactly two hundred years ago, after having lived within eighty miles of Bombay and apparently visited it or some other important place near it (see *infra*), should not have heard of the religion of the warlike, energetic, and proselytizing foreigners, who had been in the neighbourhood for 150 years. The biographer of Tukáráma, who wrote 125 years later still, cannot surely with any shadow of reason be imagined ignorant of an event so vitally affecting the destinies of his own nation and religion, as the extension of the Portuguese dominion and the Christian faith. And if acquainted with the facts recorded of the great Founder of Christianity, the prophets and the apostles, what more likely than that he should appropriate, when it could safely be done, those boasted evidences of an actively hostile system, to the support of his own,—what more natural than for Mahipati to labour to glorify his “Vaishnava hero—the teacher of the world—incarnate for the salvation of the universe”, by investing him with attributes and honours rivalling in Hindu estimation those of Jesus Christ himself? The case of the once famous Apollonius of Tyana will at once occur to those familiar with the early history of Christianity, as strikingly parallel with what we suppose to have occurred in that of Tukáráma.

It is quite possible that the following facts of Tukáráma's life may not appear to some to possess all the resemblance now asserted, to facts recorded in the Christian Scriptures. But a moment's

* The learned Feizi was directed by Akbar to make a Persian translation of the Gospels. Two of Jehangir's nephews embraced Christianity with his full permission.

reflection will convince us that ideas appropriated by one system from another are not simply transplanted as they stood in their native soil, but are necessarily modified, in accordance with the genius of the system into which they are transferred. Every day's experience proves that when Christian ideas are inculcated on those who are familiar only with Hinduism, they are seldom at first rightly apprehended; the shape, the colour they assume are so far changed that a careful scrutiny is required before the parentage can be detected. What applies to the transference of words from one nation to another, holds good in respect to the transference of ideas. Comparative philology has demonstrated the close connexion that exists between vocables in innumerable instances in which it had entirely escaped the untutored eye and ear. Ideas are subject to a like modification of form, which conceals their original, although their essence may have remained unaltered. It would be wholly unreasonable to suppose that Christian ideas could be transferred into a system so alien in its spirit to that in which they arose, as Hinduism is, without being, as it were, *recast*,— without sustaining alterations sufficient to impose upon the casual observer. There may be near relationship, where there is little superficial resemblance. Yet, on the other hand, resemblance does not necessarily involve relationship. We are not at liberty to infer from the mere fact of the same ideas being found in two different systems of thought, that there has been a communication from the one system to the other, or that both systems have necessarily drawn from a common fountain, unless indeed that common fountain be the human mind, which, amid endless variety of outward circumstances, remains true to certain grand original laws impressed upon it by the Author of our being. The determination then of the extent to which one system of thought has been indebted to another, while it is one of the most interesting, is at the same time one of the most difficult tasks, with which criticism has to deal. A full and accurate acquaintance with historical facts is a primary requisite towards the solution of the problem; but in truth a *calculus* of a higher order than mere erudition is required, for the question touches some of the deepest points both in philosophy and religion.

It is with exceeding interest that I have perused, since the above remarks were written, the review of the *Prem Ságar* in the recently published second volume of M. Garcin de Tassy's *Histoire de la Littéra-*

ture Hindoui et Hindoustani. The learned professor contends that there exists "a striking analogy between many points" in the life of Jesus Christ and that of Krishna as set forth in the Prem-Ságar, and particularly between the doctrines of the Gospel and those expounded in the Hindu work; and he holds that the resemblance is owing to "ancient Oriental traditions regarding the Messiah, or future Christ, and to the history of Jesus Christ himself, brought into India from the earliest times of Christianity." The first idea suggested by the perusal of M. Garcin de Tassy's remarks, is the change that has taken place in the spirit animating Oriental studies, when a scholar of the name of M. Garcin de Tassy can venture to refer so important a part of Hindu mythology as the popular account of Krishna, to Christianity as its ultimate source. For the principle is one of very wide application, and will affect a large portion of the contents of the Puránas as well as the Prem-Ságar. A profoundly interesting inquiry it would be—and no less intricate than interesting—to determine how far the communication of Christian ideas to India in the early days of Christianity, may have affected that great reconstruction of Hinduism, which took place after it had proved victorious in the war of extermination it waged with Buddhism,—a reconstruction which is exhibited to us in the Puránas. M. Garcin de Tassy will probably not have the general suffrages of Orientalists in his favour; but, although he cannot well be said to have proved his point, it is perfectly possible that fuller investigation may corroborate, instead of invalidating, the view he so ably and strenuously supports. In the meantime, whatever measure of probability may be conceived to belong to the opinion of the learned professor, becomes a powerful *a fortiori* argument in favour of the belief that Christian elements have been incorporated with the story of Tukáráma. If the early introduction of Christian ideas into Upper India be a matter of probability, the early introduction both of Christian ideas and Christian people into Western and Southern India, is a matter of certainty. Moreover, Christianity was early planted all along the great routes of commerce between India and the West; and even so late as the days of Marco Polo in the 13th century, the people of Socotra were "baptized Christians and had an Archbishop." It was however remarked above, that with all the evidence deducible from this early introduction of Christianity we can easily dispense, and rest the explanation of the approximation of the later Maráthi legends to

Christian facts and ideas, solely on the introduction of the religion of the Portuguese.

Before dismissing this subject, it may be observed that if the view now supported regarding the origin of the story of Tukáráma* be correct, one might expect that the influence of Romanism, in those particulars in which it diverges from Protestantism, might be pretty distinctly marked in the following narrative;—and such would seem in fact to be the case. The reader who is acquainted with the “Acta Sanctorum” or books of a similar character, will occasionally fancy he hears in the history of Tukáráma the echo of monkish legends and the achievements of “saints” of the middle ages.

Finally, whatever conclusion may be formed respecting the origin of these Maráthi legends, the legends themselves will retain their interest unimpaired. The character of the Vaishnava “hero-saint” as delineated by Mahipati, is intended to present the very *beau ideal* of a holy man and peculiar favourite of the Deity. Let the picture be examined in no spirit of mere dry antiquarianism, but with that hearty concern with which it behoves us to ponder the conceptions of millions of human beings on the highest of all subjects,—conceptions which to this day powerfully sway the minds of the mass of the Maráthi nation. It is true we shall be here engaged with what may be termed the “morbid anatomy” of the human mind; but that study is not less essential to the right investigation of man’s spiritual constitution, than the study of the morbid anatomy of the body is to the inquirer into his material nature.

A feeling of impatience may sometimes arise during the perusal of the following narrative, and the reader may be tempted to throw it away in disgust. For it must be admitted that Mahipati, in his anxiety to portray his hero’s innocence of mind, has overstepped the boundary between the childlike and the childish; willing to exalt his simplicity, he has degraded him into a downright simpleton. In this, Tukáráma has scarcely had justice done him; his writings leave a far more favourable im-

* I observe, since the greater part of the above was written, the following sentence in Dr. Stevenson’s account of the Bauddho-Vaishnavas. “How far a partial acquaintance with Christianity as introduced into India by the Portuguese and others, may or may not have tended to give a greater prominence to the last mentioned particular [viz. forgiving injuries and repaying evil with good] it would be interesting, although perhaps difficult, to ascertain.”

pression of his good sense than the delineation of his biographer; and in a word, we have here sometimes a caricature in place of a picture. Yet, with all its blemishes, the following narrative contains an element of common sense, and a comparatively correct estimate of moral relations, which are wanting in the histories of Brahmanical gods and demigods, and Buddhist and Jaina sages. In spite of all the vagaries of Tukáráma, we feel we can generally understand him,—we share some feelings in common with him; whereas even a Buddhist or a Jaina saint (such as Mahávira in the Kalpa Sútra) seems as entirely severed from our acquaintance and sympathies, as if he belonged to another planet, or an entirely different system of worlds. The philosopher Hegel has affixed to the Hindu mind the distinctive epithet of *maasslos*, that is, *measureless, proportionless*. While possessed of much acuteness, it has evinced itself to be almost wholly devoid of that faculty with which the ancient Greek mind was so richly endowed,—a fine sense of fitness, proportion, harmony. Even so, doubtless, Mahipati very frequently offends against “the modesty of Nature;” but yet, his ideas will appear sober, rational and consistent, when placed side by side with the tremendous reveries of the earlier mythologists of India, whether of orthodox or heterodox schools. No argument was based in the above remarks on this pervading element of (comparative) good sense and correct moral perception; but it would seem to prove still more convincingly than any series of facts and ideas that might be separately specified, that these later Maráthi legends have been powerfully affected by an element entirely foreign to the proper Hindu system.

Bhakta Lilámrita : CHAPTER XXV. There was a man of the Súdra caste, named Viswambhar, by occupation a shopkeeper. The custom prevailed in his family of going regularly on pilgrimage to Pandharí [Pandharpúr]. When Viswambhar was come of age, at his mother's request he began to visit that city every *ekádásí* [11th and 22nd of the month]. He continued to do so for eight months; in the ninth, he had a vision in which the god Vithobá thus addressed him: “O my worshipper, on thy account I have come to Dchu.” * Having thus spoken, the god appeared to withdraw into a clump of mango trees. Viswambhar, when he awoke after seeing this vision, told the matter to his neighbours and friends, who then accompanied him to the clump of mango trees. They perceived a delightful odour as they approached it; sweet-smelling flowers, *tulasís*, and fragrant powder surrounded them. Still they saw no trace of Vithobá. On this it occurred to Viswambhar to dig up the ground, whereupon a voice from heaven was

* A village about 12 miles from Puna.

heard saying that Vishnu had come to Dehu on account of Vis'wambhar ; and that they must dig up the ground with their hands only, and without any tools. They obeyed, and found in the ground fragrant powders and *tulasís* in abundance ; and last of all the image of Vithobá was found. They carried the image to Dehu, and set it up by the bank of the river Indráyani.

Vis'wambhar had two sons, the elder named Hari, the younger Mukund. Both of them found employment in the service of the king. Then they sent to Dehu for their wives and their mother. Their mother (whose name was Amái) had thrice a vision, in which she was commanded to return to Dehu. Accordingly she wished to return, but her sons would not consent. She had then a fourth vision, in which she was told that a sudden calamity would cut off both her sons, at a particular hour that very day. She told them the vision, and began to weep bitterly ; but the sons laughed at her fears. That day, while they were sitting engaged in conversation after their morning meal, an order arrived from the king that they should instantly proceed to the field. The sons did so, and both fell.

On this, the wife of the younger son Mukund died, a Sati ; which the wife of the elder did not do, as she was pregnant at the time. Amái then took the latter and removed to Dehu, from which, after some time, when she found it difficult for both to find support, she sent her daughter-in-law to Maher. Amái was thus left alone, in extreme old age, and blind ; and then Vithobá in the form of her son, and Rakhumái [his wife] in the form of her daughter-in-law, waited on her for some years, and when she died, performed the funeral ceremonies. Her daughter-in-law who lived in a neighbouring village, on hearing of Amái's death, came with her son to perform the necessary ceremonies, and was greatly astonished to learn that all had already been duly performed by the son of the deceased.

CHAPTER XXVI. The grandson of Amái was named Vithobá. The blessing of the god rested on him and his mother. His son was called Padáji, whose son was Sankar, whose son was Kánhyá, whose son was Bolhobá. Bolhobá spent 24 years in pilgrimages and other religious services, at the end of which period the god Vithobá extended his special favour to him. The three gods came to him in a dream and promised him three sons. His wife Kankái first bore a son by the grace of Siva who was named Sávaji ; then a second by the grace of Vishnu, named Tukáráma ; then a third by the grace of Brahmadeva, named Kánhá. At the giving of a name to Tukáráma, and all the doings therewith connected, Rukminí [Rakhumai] came and brought plenty of money with her. The marriages of these three sons were celebrated with great splendour. When Bolhobá found himself getting old, he wished to resign all his worldly business into the hands of Sávaji ; but Savaji refused to accept it, and it was then entrusted to Tukáráma.

Tukárám's wife was afflicted with asthma, on which account his parents procured for him the daughter of Apáji Gulbá, of Puná, as a second wife. Some time after, his parents died, as also the wife of Sávaji his brother, who thereupon became an ascetic, and spent his time in travelling as a pilgrim to holy places, such as the seven* holy cities, the twelve Jyoti lingas†, Pushkar and others.

* These are Ayodhyá, Mathurá, Máya, Kási, Kánchi, Ujjayani, Dwáraká.

† These are Somanáth, Mallikádjuna, Mahankál, Onkar Mándhátá, Parli Waijanáth, Nágesvar, Rámesvar, Tryambakesvar, Kási Visvesvar, Bhimá Sankar, Badrikedár, Ghrishanesvar. These twelve are dedicated to Siva.

CHAPTER XXVII. After this, Tukáráma's affairs got into disorder. He had a shop, but was unsuccessful in business. He then began to carry loads on bullocks and laboured night and day; after which, he twice borrowed money and carried on business, but with no better issue than before. He borrowed money a third time, but was at last driven to sell his trinkets. His friends however exerted themselves; they obtained some commissions for him, and borrowed money on his behalf, earnestly exhorting him to have nothing to do with the worship of Vithobá. His wives now became violent against him; and so, loading some bullocks, he set out on a journey. His bullocks were four in number. Of these, three fell sick on the way and died,—one only remaining. His fellow-travellers became quite tired of his continued religious exercises, and gave him the slip. Tukáráma was thus left alone; night came on, and wind and rain accompanied the darkness. Tukáráma knew nothing of the road. On this Vithobá, in the guise of a traveller, came up to him and shewed him the way. They arrived at the river Indráyani while it was greatly swollen. The god, however, placed his *sudarshan** on the water, and safely conveyed Tukáráma and the bullock across the torrent.

When the people of Dehu heard that Tuká had arrived, they came about him and pressed him to abandon the worship of Vithobá, saying that all who were his votaries were reduced to poverty.† They bitterly reproached Tukáráma for his adherence to the god.

After this Tukáráma filled three sacks with pepper and proceeded to the Konkan. When he sat by the *bandar* for the purpose of selling, some people came and stole it. On this, Vithobá, assuming the appearance of a *sipahi* of Tukáráma's, paraded through the town scolding the people. Then taking the taxes due to Government, in the form of a public officer, he brought the money to Tukáráma. The two afterwards dined together.

CHAPTER XXVIII. Tukáráma was proceeding on his journey home with the money thus obtained, when a sharper met him, and cheated him into parting with it for some brass rings, which, being gilt, were taken by Tukáráma for gold. He presented these as payment of his debts; but his creditors soon discovered the quality of the rings and were mightily incensed against him.

The name of Tukáráma's first wife was Rukmái, and that of the second Avalí, otherwise Jijái. The latter raised the sum of two hundred rupees on her own credit. With this sum Tukáráma purchased a quantity of salt, and proceeded towards the Báleglát. He there sold the salt, and purchased *gúl* [molasses], which again he sold in a city. As he was returning home with his money, a Brahman who had to pay a fine of two hundred and fifty rupees, came to the village in which he had put up, and begged Tukáráma to help him. Tukáráma at once gave him the two hundred and fifty rupees.

For this, Tukáráma would certainly have been beaten by his wife Avalí. To prevent this, Vithobá assumed the form of Tukáráma, and going to the *sávakár* got a settlement of the whole account, and an acknowledgment of its payment, and moreover gave him five pagodas as a present for Avalí. In the meantime, the other *wánís* arrived, and the circumstance of Tukáráma's having given 250 Rupees in charity was everywhere talked of, and his character was thought to be ruined.

* Or, *chakra*.—The discus of Vishnu.

† The worship of Vishnu is conceived especially to lead to poverty.

After this, things became very dear,—two *páyalis* of grain were sold for a rupee; people began to die of hunger, and cattle died. Tukáráma sold his sacks and the accoutrements of his bullocks and bought 2 *páyalis* of grain. When that was done, his elder wife died of hunger. The rate then was one *ser** for a rupee.

When Tukáráma was 13 years old, he had to engage in worldly affairs; when he was 17, his parents died; when he was 18, his sister-in-law died; when 20, his elder wife and his son died; when 23, he became bankrupt. Thereafter, he renounced all worldly employments, and proceeding to Bhámbanáth, a mountain to the west of Dehu, sat down in religious contemplation, fasting at the same time for 7 days. On the seventh day, the god appeared to him. Kánhobá his brother at the same time was fasting and going about in search of Tukáráma, whom he found on the seventh day.

After Tukáráma had fasted 7 days, the god assumed the form of a terrible, huge, black, serpent; and approaching Tukáráma, moved round about him, loud-hissing, and with hood displayed. Tukáráma shut his eyes and sat calm. Thereupon a voice from heaven was heard, saying: "It is the god in serpent's form; fear not; look at him." Tukáráma said in his own mind: "No, I am Vithoba's worshipper; I look only at him." Then the serpent vanished, and Vithoba, in four-armed form, appeared.

CHAPTER XXIX. The two brothers now proceeded to Dehu, and refreshed themselves with food. Tukáráma then renounced all worldly affairs, and taking all the bonds and papers regarding money due to his father, he threw half of them into the Indrayani, and gave the rest to his brother, whose affairs he separated from his own. From that day he used to sit on the mountain Bhámbanáth, in religious meditation, during the day, or occasionally he sat among the *karanza* bushes by the side of the river Indrayani; and after sunset he used to go to the temple in the village, and make recitations (*kathá*).

A certain cultivator employed Tukáráma to watch his field, promising to pay him six *páyalis* of grain (*zondhalá*) when the harvest was over. He then went himself to purchase some grain at a distance. Tukáráma sat down on the wooden erection in the midst of the field, but did not drive away the birds, saying: "These are God's creatures like myself; if I, a worshipper of Vishnu, frighten them away, it will be grievous wrong." Accordingly the birds came, and ate the grain, while Tukáráma sat wrapped in religious meditation. At noon he said to the birds: "Now you must be thirsty; go and drink." In the evening he said: "It will get dark upon you, quickly now go home, and come back tomorrow." This happened day after day for a month. Then the cultivator came back and on seeing his field, fell into a rage. The villagers became mediators between him and Tukáráma. Tukáráma said; "he told me to sit and watch the birds; † which I did." The villagers however decided that Tukáráma should pay two *khandis* of grain to the cultivator, and keep the rest for himself. The cultivator agreed. They went to the field, and lo! the grain was now quite thick. The cultivator now demanded to have his written agreement back, but they would not give it, and he received his two *khandis* of grain.

* Equivalent to 2 Bombay sers. At present (Feb. 1848) good rice is selling in Bombay at the rate of 30 sers the rupee. Tukáráma however ate *zondhalá*, which is selling at Puna at the rate of 100 Bombay sers the rupee.

† A play on the phrase.

When the whole was threshed, Tukárāma had 15 *khandis* ; but he would not accept of it, and the people stored it up in the house of Mahādāji Pant.

CHAPTER XXX. The price of this grain went to repair the temple of Vithobā.

Tukárāma at first possessed no lore : wherefore he now committed to memory the sayings of ancient sages, such as the *abhangas* of Nāmadēva, and the sayings of Kabir the Yavana devotee. He collected a correct copy of the works of Dnyāneswar, and the *tikā* on the Bhāgavat, composed by an avatār of Vishnu, Ēkanāth. These books he easily mastered. He also diligently noted the narrations of the Bhāgavat regarding Śrī Hari [Krishna] ; also the Yoga Vāsishtha, and the Amritānubhava.*

Avali, the wife of Tukárāma, was an ill-tempered woman, and was bitterly opposed to the god Vithobā. She was a faithful wife, however, and used to travel daily the distance of 3 kos [6 miles] to the mountain where her husband was, carrying his food ; and she would not touch any thing till he had eaten. One day she was going to him with some water and a piece of bread, when a large thorn stuck in her foot, on which she fell and fainted away. Vithoba came to her and restored her, whereupon the two proceeded to the mountain. They all sat down to dinner ; Vithoba was first served, and received all the bread. Then said the god, "Now serve Tukárāma." The basket was then again uncovered, and found to contain abundant provisions of various kinds. They all dined ; and as there was no water (it having been spilt when Avali fell), Vithobā told Avali that she would find water in a particular spot. She went and found a spring there, when she lifted up a stone. Said Avali, "The producing of water here is marvellous indeed." Vithoba then told Tukárāma not to go so far from home, as his wife had so much trouble in reaching him.

CHAPTER XXXI. One day Avali went behind the house to bathe, and laid her garment on the wall—a petticoat given her by her father, and her only one.† Meantime a poor Brahman's wife came and begged the garment for herself. Tukárāma told her to take it and go away quickly. Avali then seeing her petticoat was gone, remained fretting behind the house, unable to enter it. At this time a large number of her relatives had arrived with an invitation to a marriage, and were searching for her. The god, seeing the distress of his votary's wife, threw a garment of yellow silk upon her, in which she entered the house and dazzled them all with the splendour of her dress.

After this Tukárāma did many other acts of kindness. When he saw any one oppressed with a burden, he would carry it himself. He would shew travellers the *tsāwadi*, or the temple, to rest in. When a traveller's feet were swollen, he would pour warm water on them, and rub them with his hands. To old cast-off cows and bullocks he would give grass and water, and stroke them kindly. He would put down sugar, ghee, and flour, for the ants to eat. He greatly lamented if his foot trampled any insect to death. When a crowd were listening to religious recitations, he would fan them. He would feed the hungry. When no water was found on the road, he would put a vessel of water for weary wayfarers. He always told the truth. He gave medicine to sick, solitary, travellers.

* The two last mentioned works were written, says our author, by Dnyānesvar. Possibly, however, Dnyānesvar is but a mythical personage. His name resembles the term *Dnyāni* (or *wise*) applied to Kabir.

† These things are specified on purpose to shew the poverty of Tukárāma.

The people of Dehu used to go to market at the village of Nanalákhyá Umbará. There was a poor old woman among them, on whom Tukáráma had compassion. He asked her what she went to do. She said: "I go to bring oil." He offered to carry her there on his back; but at her request he let her stay behind, and brought her oil. What he brought would have sufficed only a week, but it lasted a very long period. When this circumstance became generally known, many people brought money to Tukáráma and bambon vessels in immense numbers to hold oil. He took the money and vessels to the oil man, who asked: "How much shall I put in?" "I know not," said Tukáráma, "do as you think best." The oilman poured oil into the vessels, which Tukáráma carried back to Dehu, and the people recognizing their property, took them away. But the quantity in each corresponded with the sum paid. Avali complained that her husband was made to carry loads like a bullock. The people said they applied to Tukáráma, because the oil brought by him lasted a very long time.

One day his wife said: "To day is the *śráddha* [festival for the *Manes*] of your ancestors, but there is nothing in the house." Tukáráma said: "I shall go and procure some vegetables; we shall cook them." He went and laboured all day in reaping wheat. In the meantime his wife awaited his return. Vithoba knowing what Tukáráma was about, assumed his form and came into the house carrying a bundle of things for cooking; then, inviting the people of the village, he made ready the *śráddha* and the dinner. He then said, "I must now return the cooking-vessels to their owners," and disappeared with them. Tukáráma by this time was returning home with 4 sheaves (the pay of his day's work) on his head. These came in contact with a bees' hive, and the bees, irritated, settled on Tukáráma and stung him. He would not drive them away, saying, "This is my ancestors' feast-day; they are come and feeding in the shape of bees." He went on with the rite, sprinkling water here and there. Vithobá now appeared, and drove away the bees. When Tukáráma arrived at his house, his wife told him all that had happened, at which he was much surprised. Then Vithobá and Tukáráma dined together.

CHAPTER XXXII. Tukáráma had a vision both of Vithobá and Námadeva, and was requested to compose the number of *abhangas* still wanting to complete the intention of Námadeva, viz. 5 krores and 51 lakhs*. He commenced and composed 900 *ovás* on the 10th *skandha* [of the *Bhágavat*] and much poetry besides.

In Dehu there was a Brahman, Mambaji, a pretended Sádhú, [holy man] whose fame was obscured by that of Tukáráma. Mambaji highly resented this and waited for an opportunity to disgrace Tukáráma. Tukáráma had a buffalo (a present from his father-in-law) which one day broke down the fence of Mambaji's garden and did some mischief, which still farther provoked Mambaji. A large number of people came to the village, and Tukáráma removed the thorns of the fence out of their way. On this, Mambaji rushed on Tukáráma and beat him with a thorn-branch till it broke in pieces, when he seized another and another, till he could no longer lift his arm. Tukaram quietly went home; Avali extracted the thorns, and Vithoba relieved him of the pain. That day Mambaji did not come to the *kathá*; whereupon Tukáráma went to his house, and, pacifying him, brought him to the meeting.

The said buffalo was once carried off by two thieves. They had got on

* Námadeva had intended to make 100 krores, that is,—1,000,000,000.

a considerable way, when Vithoba appeared in the shape of a tall black figure, with a huge cudgel over his shoulder, right in front of them. The thieves turned to one side, but so did it. Whenever they tried to turn off, the terrible *bhûta*-looking shape posted itself in the way. The thieves became terrified, and taking back the buffalo, bound it in the place whence they had carried it off. "Now" thought they, "we shall get off"; but no! for there stood the ghost, as frightful as ever. So they went to Tukárâma, and confessed all they had done. "If you want the bullock, take it," said Tukárâma. "No," said they, "we only want to be delivered from that frightful ghost". On this Tukárâma, by mental vision, perceived that the god was not there, and he began to invoke his presence. Whereupon, in the sight of all, Vithobâ entered the temple, with a huge cudgel over his shoulder.

CHAPTER XXXIII. Avali was wonderfully delighted with the above mentioned circumstance, and she gave Tukárâma milk at dinner-time. Tukárâma said it would be much better to offer it to the god. She then filled a brass vessel, which Tukárâma carried into the temple, and the god drank it. This took place many successive days, and Avali began to marvel what it could mean. "How can the image drink?" said she to herself. She asked her daughter, whom Tukárâma used to take with him to the temple, about it, and the child said, "Yes, the god really drinks." Still Avali would not believe it, and determined to examine the matter herself. So she took a brass-vessel full of milk hissing-hot, and applied it to the god's mouth, saying to herself, "This is my foe!" The god instantly turned away his head, and a blister appeared on his lip. Whereupon Avali cried: "So then, there is life in the black stone." The god told Tukárâma what had occurred. In great sorrow, Tukárâma went into the temple, and sang the praises of Vithoba. The blister then went down; but the wry neck remained, and still remains.*

When Tukárâma was one day going to Chákan, a swarm of bees settled on his body; but he would not drive them away, saying; "One should not spare his own body, when he can do others good." He met many travellers, but they would not come near the bees. At last Vithoba, in the guise of a traveller, came and drove them away.

The elder son of Tukárâma, Mahádeva, suffered much from a retention of urine, and was on the point of death. Avali, who had anxiously tried every kind of medicine, said: "I will go and cast the child on that black † [scoundrel], who has ruined all our worldly prospects." So saying, she took the child to the temple and was going to cast him on the image, when Rukmini cried out: "Go, the child is well." Avali looked at her son, and saw that in truth she must forthwith quit the temple, for the boy had obtained complete relief from the malady.

A Brahman of the name of Gangádhara Mavál, belonging to the village Kadas, was Tukárâma's writer [amanuensis]. An oilman from Chákan, Santaji Jagnáde was his disciple. They both assisted him in singing. They abandoned the world and continued with him.

Vithoba himself appeared in a vision to Tukárâma on the 10th day of the clear moon of Mággha and imparted to him the *mantra* [mystic word] Râma-Krishna-Hari.

* The people of Delu shew to this day the image of Vithobâ with the wry neck

† Vithobâ, is the same as Krishna, who is always represented as black.

CHAPTER XXXIV. Avali's temper was so bad that Tukáráma now quitted his house, and remained away for two months. However, Avali promised to reform, and Tukáráma returned home. He instructed her as to the duty of yielding all to God. Then, next day, he made her give away all their property. After this, when Avali had washed some clothes and put them out to dry, Rukmini, assuming the appearance of a Mhár woman came and begged a garment. Tukáráma was loth to refuse, and presented her with the clothes, which his wife had laid on the wall. When Avali found herself thus treated, she took up a stone and ran to the temple, intending to break the god's feet ; but Rukmini appeared and put into her hand as much as she could hold of gold coins, and both a *sádí* and a *cholí*.*

Tukáráma's fame was now spread abroad, and Chintáman Deva sent him an invitation to visit him. Tukáráma knowing this in his own mind, set out on the road to Chinchawad, and met half-way the bearers of the invitation. All then proceeded to Chintáman Deva, whom they found engaged in mental worship, so that Tukáráma, not to disturb him, sat down outside. Tukáráma perceived that Deva's mind had wandered from his worship to his garden, and was occupied with something he had to say to his gardeners. When the two met, Deva asked when he had arrived : "I arrived," said Tukáráma "at the time when your mind was in your flower-garden." When the time arrived of offering food to the god Ganpati, Deva began to present it, whereupon Tukáráma cried out : "The god is not here ; Ganpati is gone to the sea, to rescue a worshipper from drowning". Deva then looked closely, and after some time he clearly saw the god come back, his silken garments dripping with salt water.

The dishes were now arranged for eating, and Tukáráma requested that two might be placed for Vithobá and Ganpati. When they were sitting down to dinner, Deva said : "Ganpati will not come for me ; do you call him." On this Tukáráma sung two *abhangs* in praise of Ganpati, who forthwith came, and took his seat beside them. Vithobá did the same, and Deva made offerings to them. He and Tukáráma then dined with the two deities, who however appeared to them alone. The other people only saw the dishes emptied.

Tukáráma had three daughters, Kásibaí, Bhágirathí, and Gangábái. When they were marriageable, Avali spoke to her husband on the subject. Next day Tukáráma went out, and seeing the boys playing in the street, he selected three of his own caste, and, calling a Brahman, had them forthwith married to his daughters.† When their fathers knew of it, they made a great feast, and the villages contributed, on the part of Tukáráma, what was required for the four days of the marriage rejoicings.

A Brahman, the Deshpánídyá of the Bid *parganá*, anxious to obtain religious knowledge, sat before Vithobá's temple at Pandharpúr, fasting for ten days. Vithobá appeared to him in a dream, and bade him go to Alandi, to Dnyánobá.‡ He fasted in like manner 10 days there, when Dnyánobá appeared and sent him to Tukáráma ; whereupon he came to Dehu. Tukáráma filled a cocoa-nut with jewels of immense value, and gave it to him along with 11 *abhargas* with this title, *The best knowledge*. The Brahman,

* Parts of female dress.

† Such things are intended to denote the *unworldly* character of Tukáráma. He was indifferent about high or rich connexions.

‡ Dnyánobá was worshipped at Alandi as a god.

as soon as he saw the verses were only in Prákrit, flung them away along with the cocoa-nut, and returned to Alandi. Tukáráma sent a letter to Alandi of 13 *abhangas*, whereupon Dnyánobá drove the man away. Now, this cocoa-nut had come from a merchant of Ahmedabád, who had filled it with jewels to the value of a lakh of Rupees; he first offered it to Dnyánobá, but afterwards at his request sent Tukáráma the gift.

The Puránika of the Rájá Sivaji had among his people a silly Brahman called Kandobá. He came to Tukáráma and received from him the cocoa-nut and the eleven *abhangas*. From the study of the latter he acquired such a wonderful acquaintance with the Bhágavat, that S'ivaji heard of it, and made presents to Konda S'hástri (as he was now called), and expressed a strong desire to see Tukáráma.

CHAPTER XXXV. Tukáráma visited the village of Loho, where he was most hospitably entertained. Among the rest a poor old woman, who gained her livelihood by bodily labour, prepared a feast. Her dwelling rested on the wall of a large house close by it, the wall of which had bent to one side after heavy rains, and was about to fall. Tukáráma, seeing the poor woman in distress lest all her preparations should go for nothing, said to her: "Don't be afraid; the wall shall stand till your feast is over." Four days after, the feast took place. Afterwards, they removed every thing from the house, and forthwith it fell. The religious recitation connected with the feast had to be held elsewhere.

There was a learned man in Wágholí, called Ramesvar Bhat, who seeing the renown Tukáráma was gaining, was greatly displeased. He went to the Diwán and said: "This fellow explains the Vedas, and celebrates the importance of the *name* solely; and for these reasons, he ought to be expelled the village." The Diwán wrote to that effect to the Pátíl and other officers in Dehu, who were sorely distressed at the order. Tukáráma when he saw the letter, proceeded to the house of Ramesvar, who told him to desist from making any new verses, and to bring all the old ones, and throw them into the river. The verses were brought, sewn in the form of volumes, and were cast in a bundle into the Indráyani. Whereupon, Tukáráma composed 19 *abhangas*, in lamentation over the sad event.—This Ramesvar used to proceed from time to time to Puna to worship Nágesvar. Once he was on his way thither, when he bathed in a well belonging to a *fakír*. The *fakír* in anger cursed him, wishing that he might feel his whole body burning. This took place. Two disciples who accompanied him said, "confess your fault, and ask the *fakír's* forgiveness." "How can I, a Brahman, fall at a Musalmán's feet?" said he. He put on wet clothes, and proceeded to Alandi, where he sat in supplication before Dnyánobá, with a pitcher of water dripping on him from a tree over his head. There also lay Tukáráma, mourning the loss of his poems, upon a stone before Dnyánobá's temple. The god vouchsafed a vision regarding the poems on the 13th day at night. He told the people that the books were dry and unharmed in the river, and that they would yet float, like so many pumpkins. They did so, next morning. There were some swimmers among the people who straightway jumped into the water and laid hold of them. Tukáráma wrote 7 *abhangas* on this joyful occasion.

Dnyánobá, in a vision, told Ramesvar to go to Tukáráma to be cured; who accordingly sent one of his disciples with a letter of confession and supplication, being afraid of going himself. Tukáráma, in return, sent him

an *ahbang*, and when he had perused it, straightway the burning left him. From that time Rameswar became Tukáráma's disciple.

CHAPTER XXXVI. The *fakir* on hearing this was amazed, and set out to visit Tukáráma. On the way he asked alms at the house of Chintáman Deva. The servants supplied him abundantly: but his pumpkin could not be filled. Then Deva came himself and calling for *riiddhi* and *siddhi*, filled the vessel, and gave it to him. The *fakir* then proceeded to Dehu, and asked alms at the house of Tukáráma. Avali angrily repulsed him, but the child Gangábái filled her little hand with flour and was going to give it. Avali caught her hand, and took out some of the flour; the rest the child threw into the mendicant's vessel, which it immediately filled. The *fakir* in astonishment cried: "What? are you Tukáráma?" "Are you a fool?" said the girl: "Tukáráma is in the temple." The *fakir* went and found Tukáráma, and remained with him two days.

One night, a woman met Tukáráma alone and tempted her to the commission of sin with her. Tukáráma rebuked her, and sent her away.

A Brahman, having to pay a debt of ten thousand Rupees, was sitting in supplication before Dnyánobá's temple. In a vision he was instructed to go to Tukáráma. He did so and was again sent to a *kásár* [coppersmith,] who gave him two small copper coins in charity. Tukáráma took them, and touching them with a stone, turned them into gold; but as this was not sufficient, he turned his copper sacrificial vessels also into gold.

The *kásár*, seeing this, thought Tukáráma must be possessed of the *paris*,* and began to pay him court in every possible way. After a year, a wonderful event occurred. The *kásár* had procured 36 bullock loads of tin from Bombay, all of which was turned into silver. On this the *kásár* gave up the world, became Tukáráma's disciple, and, with his money, built a well, still called the *kásár's* well.

The wife of the *kásár* was exceedingly angry with Tukáráma on account of the change that had taken place in her husband. She one day pretended to make a feast on his account, and when he went to bathe, she poured down upon him vessel after vessel of boiling water. The god however turned it into cold water. She then set food before him, with poison in it; but that too the god rendered harmless. Over the body of this woman there immediately appeared leprosy, and she was exceedingly distressed. She then obtained relief from taking (at the suggestion of Rameshwar Bhat) some of the clay from the place when Tukáráma had bathed, and anointing her body with it.

The Rájá Sivaji having heard how the poems of Tukáráma had reappeared, sent a *kárkún* [writer] with a horse and umbrella to invite him to his court. Tukáráma wrote four *ahbhangs* for the Rájá, and gave them to the *kárkún*, saying, "Mount you the horse, and go back." "This is a very vicious animal," replied the *kárkún*, "he allows no one to mount him." On this, Tukáráma stroked the horse on the back, and he became quite gentle, so that the *kárkún* mounted without difficulty, and rode off.

Sivaji on this came to visit Tukáráma, and, having filled a plate with gold coins, presented it to him. Tukáráma would not accept it. "Say that you are the servant of Vithobá" said he; "and I wish nothing more." Sivaji divided the money among the Brahmans, and, on hearing Tukáráma's recitation, at night, abandoned all worldly employments, and throwing off his crown and regal garments, determined to become an ascetic. He would

* A stone, the touch of which turns metals into gold.

not for some days allow his ministers to approach him, until his mother, being informed of all this, came to Loho, and entreated Tukáráma to restore her son to his former mind and employments. Tukáráma then instructed him in the duties of the regal station, and he resumed his former condition. For four days more, he continued with Tukáráma.

There was a certain man called Návají, one of Tukáráma's disciples, who, to give Tukáráma some rest, used to repeat the *kathá* for him. This man once said: "The deity of Dwáráká has taken up his abode at Pandhari."* A Brahman who heard him one day repeating these words, said: "You will go to hell for saying that." Soon after this, this Brahman became dumb. Coming to Tukáráma, he wrote down the whole matter on a tablet.

A certain Kunbi was a very religious man. He brought a small cucumber to Tukáráma out of affection. Tukáráma divided it into 4 parts, and had eaten three of them when his disciples said: "Kindly give us part of the fruit." Tukáráma said: "This is not good to eat; but never mind; take this, and give the dumb Brahman half." As the Brahman ate, his speech returned. When the other disciples began to eat the other half, they all cried: "Oh how bitter"! and secretly spit it out.

When the Raja Sívají was about to depart, he thought in himself: "If he give me a cocoa-nut, I shall take it as a sign that I shall have a son; if a piece of bread, that my kingdom shall be delivered." Tukáráma knew what was passing on the king's mind, and presented him with both the cocoa-nut and the bread.

There remained with Tukáráma, Korá Bhat the Puranik, Ramésvar Bhat, and other 14 disciples.

CHAPTER XXXVII. Chintáman Deva was proceeding on pilgrimage to Bhimá Sankar and arrived at Dehu (where Tukáráma had again gone to reside). He asked Tukáráma to grant him the blessing of some food from him; Tukáráma went into his house, and returned with some wheaten flour, rice, and ghee, as much as was sufficient for one man. On this, many other people came, and also asked for some of his food. Tukáráma prayed to Vithoba that what he had brought might suffice them all. Accordingly all received quite enough. Chintáman Deva was much surprised at this event.

A Bráhmañ who wished to pay off a debt, was sitting before Dnyánobá's temple, and by him was sent to Tukáráma, who again sent him to the *kásar* mentioned above. The Kasar gave him four iron *pás* (bars), a load which the Brahman could not carry, so that he hid three, and came with one to Dehu. Tukáráma turned it into gold; whereupon the Brahman went back, and searched for the three others, which however he could not find.

Tukáráma was going to the junction of two streams (Mulá and Bhima) to bathe; and passed on the way a flock of sheep, guarded by a very fierce dog, which, whenever any passenger approached, flew at his throat. This dog rushed on Tukáráma and all were terrified: but Tukáráma said to him: "What! I growl not; and you seize me?" Instantly the fury of the dog vanished, and all proceeded in peace to the bathing-place.

Tukáráma went to the village of Ráján to ask alms. A Brahman prepared an entertainment for him, whose son was about 8 years old, and had been dumb from his birth. The father entreated Tukáráma on behalf of

* He intended to use the word *tsaravít*, but by mistake used the word *tsodarít*, a rather obscene term. Hence the threat of the Brahman.

the boy, and Tukáráma calling the child to him said: "Say Vitthal, Vitthal," and instantly the dumb spoke.

As Tukáráma and his people were returning home, the men who were keeping the flock, said: "This dog is now useless; you had better take him along with you." Tukáráma did so; and the creature became quite like a *Sádhu*,—on *ekadási* he would fast, and he would sit listening to all the sacred recitations.

Tukáráma's second son-in-law was very religious, and asked Tukáráma to give him instruction. Tukáráma gave him the *Gítá* to learn. As he was one day pronouncing it incorrectly, a Jyoshi rebuked him. He laid the *Gita* aside on this; but the Jyoshi was reproved by Vithobá in a vision and commanded to help the man in studying the book. This he did for four months.

Tukáráma was composing *abhangas*, and in celebrating the sports of Krishna, he said: "His face was dirty." Rames'var Bhat thought this would never answer, and he changed it to "His face was pale." Whereupon, the god appeared to him in a vision and reproved him. "Was I afraid?" said the god: "what could make me pale? My face was dirty; in my childhood I was eating dust; Tukáráma was quite right." So Ramesvar repeated as Tukáráma had said.

Tukáráma was proceeding to S'ambhus'ikhar on pilgrimage, and was resting beside a tank, preparing dinner. The god *Samba* came as a Gosávi, and asked food. They served him, and he ate every thing up. They procured a fresh supply, but on looking into their vessels, they found them still full. Whereupon, they understood that the stranger must have been the god whom they were going to visit.

Tukáráma was one day repeating the words: "If I walk repeating the name of God, each step is equivalent to a sacrifice.* An inhabitant of Loho heard this, and, taking a string, walked about, repeating the name of God, and tying a knot for every step. He did so for a year, and had a large bundle at the end. Meanwhile a devil was afflicting a man, who supplicated Hari Hareshvar † to deliver him. The devil coming into his body, said: "If the righteousness of one sacrifice be given me, I shall depart." The man came to Loho, and met the Brahman who had the string with the knots, and who, on hearing his case, cut off one knot, and washing it in water, made him drink the water. The devil forthwith departed, and all cried out: "How true was Tukáráma's assertion!"

Tukáráma went to Pandhari twice every year, in *ekadási* of A'shád and Kártik. Once, as he was going there, he was seized with fever. He then sent 14 *abhangas* as a letter to the god Vithobá, who, seeing the letter, said to Rukmini "Come, let us go to him." "Rather," said she, "send him *Garuda*." Vithoba wrote a letter, asking him to mount on *Garuda* and come to them; but Tukáráma, out of respect to Vithoba, refused to mount on *Garuda*, and sent him back with the request that the god might visit him. Vithobá did so.

CHAPTER XXXVIII. Thereupon, hand in hand, the two went to Tukáráma's house, and dined on boiled zondhalá, vegetables, and bread.

A Brahman, of the Vedánta school, came to Tukáráma to read the *Ví-*

* A remarkable saying, but how wretchedly misunderstood! This passage shows how much Tukáráma was superior to his followers and biographer. Yet doubtless even he would have used the name of God (or rather, of his god) as a *mantra*, or mystic word.

† A rather celebrated place of pilgrimage in the S. Konkan. This god is especially famous for casting out devils.

veka Sindhu of Mukund rája. Tukáráma, covering his head with his patched cloak, sat down to listen, while the Brahman continued to read and explain for the space of three hours. Seeing that Tukáráma neither moved nor spoke, the Brahman removed the covering from his head, and saw him sitting with his fingers thrust tightly into his ears. The Brahman was much grieved at this, but Tukáráma said: "If you pervert the mind of a worshipper of God, you will go to hell." This Brahman then embraced the views of Tukáráma.

One day Tukáráma went to Loho and bathed in a well, the water of which was salt. The well became sweet. It is still well known.

In this village a woman being displeased that her husband had renounced the world to follow Tukáráma, put bitter pumpkin among his food. For this, boils of the size of an *ávalá* broke out on her body.

A Brahman made a feast for Tukáráma on a Monday. At the proper time of dining, the oil was deficient, and the lamp was going out. The Brahman was distressed, but Tukáráma said: "Look into the skin-bottle and see." His wife went to look, and saw a large quantity of oil. This oil lasted afterwards as long as the Brahman and his wife lived.

There was a stone before the door of the Patil's house in that village, on which Tukáráma used to sit. He was sitting there one day when a very poor man came, and asked alms. At Tukáráma's command he went and begged in the village, and some pieces of iron were given him. Coming back, he said "I have got this iron," and laid a piece down before Tukáráma on the stone. It was immediately changed to gold. He put down another, and another, which were changed in like manner.

The people of the village seeing this wonder, brought pieces of iron and laid them on the stone, but no change took place in these.

In the same place there was a Jyoshi, a very religious man, who became Tukáráma's disciple. One day he was sitting listening to Tukáráma's recitation, when his child died at home. His wife brought the dead body into the midst of the assembly, and said: "Restore my child to life, and shew yourself a true worshipper of Vishnu." Whereupon Tukáráma prayed to Vithobá, and the child rose up alive.

Two *Sanyásis* heard the recitation of Tukáráma, and going to Dadu Kond Deva, a high authority in Puná, complained that Tukáráma was destroying the *Kárma márga*,* and that Brahmans were falling down at his feet. Dadu Kond Deva, on this, fined the Brahmans of Loho 50 rupees and summoned Tukáráma. The Brahmans said: "How can we pay 50 rupees?" and accompanied Tukáráma. At the Sangam where they rested, people came to see Tukáráma in numbers like an army; and Dadu Konda Deva himself proceeded to pay reverence to him. In the first recitation a great *avadhúta*† appeared, naked, with his body shining with dazzling brightness and with the ensigns of a Gosávi. He embraced Tukáráma, and made obeisance to him. "I longed to see you" said the wonderful visitant; "now I have done so." So saying he went up into heaven. Thereupon the people said: "Sure that was Mahadeva, or Dattátre."

Next night, in Puná during the recitation (the *Sanyásis* that complain-

* There are supposed to be three ways to salvation, the *kárma márga* or way of ritual observances, the *anyána márga* or way of knowledge, and the *bhakti márga* or way of devotion. Tukáráma, like the Pandharpúr school generally, advocated the last of these ways. Hence the accusation on the part of the *Sanyásis*. Hence too Tukáráma's opposition to the *Viveka Sindhu* (as mentioned above) which advocates the *anyána márga*.

† A manifestation of the god Siva.

ed, and a great number of people being present) the Sanyasis were seen to rise up and prostrate themselves before Tukáráma. Dádu Kond Deva was exceedingly angry that the men who complained so bitterly of Tukáráma, should do this. But said they : "He now appeared to us in the form of Náráyan [Vishnu] four-armed, and resplendent." On this Dádu Kond Deva ordered them to have their hair shaved off in five lines, to be mounted on the back of an ass and led round the city. All was ready for this, but Tukáráma interceded on their behalf, and the punishment was not inflicted.

(This Dádu Kond Deva was a man of strict and stern impartiality. Two instances of this shall be now given. One day when his wife had gone out, after giving him something to eat, he took some pickles. When his wife returned she rebuked him for taking her pickles. So, calling an attendant, he was going to cut off the hand that had committed the theft. The people about him begged him to desist ; and, at their suggestion, he cut off his sleeve. On another occasion he had given some grain to a woman to grind. When it came back, the meal was found deficient. The woman declared that she had committed no theft ; whereupon they searched, and found that the turning stick of the mill was small, and that some grains had fallen down below the stone. On this he impaled the mill.)

CHAPTER XXXIX. When the Rájá Sivaji heard of the appearance of the *avadhuta* and Tukáráma's assuming the form of Vishnu, he came to Puna to visit him. While he was sitting listening to his recitation, a body of Musalman horsemen to the number of 2000 came from Chákan to seize Sivaji, and surrounded the house.* Tukáráma in four *abhangas* prayed to Vithobá, who appeared and said to him : " Fear not ; let the recitation proceed ; I shall save him. The god then went forth and fled in the form of Sivaji, and the whole the body of horsemen galloped after him for 40 miles, which they did in 3 hours. Vithobá then entered a thick thorny wood, and disappeared. Tukáráma in the meantime peaceably ended his recitation. He presented in the morning a piece of horse's dung to Sivaji, who then went to Singad.

Kondoba of Loho was a disciple of his, who wishing to visit Kási [Benares] on pilgrimage asked Tukáráma for some contribution to aid him. Tukáráma on this drew a gold coin from under his seat and gave it to him, saying : " When you change this, always set aside for next time one pice, binding it carefully up ; it will become a gold coin too." He moreover presented him with three *abhangas*, to give one as a letter to the river Ganges, another to Visvéswar, and the third to Vishnupad at Gayá.

When Kondobá arrived at Kási, the Ganges held out a hand covered with jewels and shining like the sun, to receive the letter. The people, not understanding this, offered the river many different things, but they were not accepted. Tukáráma's paper was then given, on which the hand instantly closed and disappeared in the water. When the *abhang* addressed to Visvéswar was recited before him, he moved from side to side with pleasure, and a shower of *bel* leaves and flowers fell around.—When Kondoba returned home, Tukáráma asked him for the gold coin. Kondobá falsely told him it was lost. When he went home and looked for it, the coin had really disappeared ; but the knot in which he had tied it, was still there.

* It is an historical fact that Sivaji was nearly taken prisoner by the Musalmans, when listening to a religious recitation. It is interesting to note here the fact in *transit* as it is changed into a myth, in Mahipati's hands.

On one occasion when the recitation was going on, the lamp went out ; but light issued from the body of Tukārāma and the recitation went on. When it was ended, the light ceased, and the people perceived they were in darkness.

Tukārāma now came to Dehu, and there Vithobā gave him the promise that he would not let the eye of Death (Kāla) fall upon him.

Tukārāma came to Alandi one day, and as he approached, the birds were scared away from under a tree. On this he said : " There must be *bhed* [literally *doubleness* = deceitfulness] in my body," and so remained perfectly still, scarcely breathing, and not moving his eyelids : whereupon, after nearly two hours, the birds came and perched on his body. Though he now moved, they were no longer scared away,—but they flew off when any other person came near. This happened many times.

Hearing of this, Chintāman Deva sent him an invitation to visit him, but the messenger remained with Tukārāma, listening in fascination to his recitations. On this Deva himself set out to visit him ; but Tukārāma being aware of it in his own mind, went to meet him. Deva said : " What are you ?" Then Tukārāma cut open his leg, and shewed that there was nothing there but white cotton,—no bones, flesh, or blood. Then said Deva : " This is no human being, but an incarnation of a divinity."

CHAPTER XL. Tukārāma returned to Loho and had lived there a month, when the village was robbed, and all the inhabitants filled with lamentation. Seeing this, Tukārāma said to Vithobā ; " Now take me to Vai-kuntha." The god came and remained five days with Tukārāma, invisible. There had assembled an immense company to see what was to happen to Tukārāma. On the 1st day of the clear moon of Phalgun, the god said to him : " Tomorrow I take you away." Tukārāma in those days employed himself in recitations and composing *abhangas*. He had been telling the people for several days where he was going, who on his account were making great rejoicings. The sports of the Holi were all abandoned, and every one listened to Tukārāma.

Next day, as he was preparing to go to heaven, he sent a message to Avalī asking her to accompany him. She refused, saying she was pregnant, and asking who would take care of the children, &c. Tukārāma now quitted the temple. Still the people asked : " Where is he really going ?" Some said to Kāśī, some said to Badrikāśram (Haridwār).

Tukārāma proceeded to the bank of the river Indrayani, and composed certain *abhangas*. He took farewell of all. Then a heavenly chariot, brighter than the sun, appeared ; the eyes of all around were blinded as if by lightning. In this chariot Tukārāma sat down, and ascended to heaven (Vaikuntha). The holy men in the company saw a path into heaven ; they heard bells ringing, and heavenly choristers (Gandharva) praising God. When the chariot had disappeared, they looked around—their eyes being no longer dazzled—but Tukārāma appeared not on earth. Then they began to mourn. How could I tell in this book their great lamentations—great as the ocean ! Everywhere they sought for Tukārāma, but they sought in vain.

In the Saka 1671 the 2nd day of dark moon of Phalgun, Monday, at 4 *ghatikās* in the morning, the *guru* of the world, Tukā, disappeared.

All the men continued waiting until evening, expecting his return. Afterwards the most part departed, but his 14 disciples continued fasting for 3 days. On the 5th day of the month, his *tāl* and cloak fell down ;

whereupon they departed, and having bathed went to the temple. Multitudes came to see the *tál* and cloak. They celebrated none of the rites for the dead; they knew from these messengers that Tukáráma was alive.

Tukáráma had promised, while yet on earth, to a Lingsyat Wáni to appear to him at his death. Accordingly when the Wáni felt his death approaching, he sent to Dehu for Ramesvar, Tukáráma's younger brother, and his younger son. When they arrived, Tukáráma appeared. The Wáni alone perceived him and made obeisance to him and put sweet-smelling powder on his forehead, and garlands on his neck. The two then spoke together, and all around marvelled, for they saw nothing but the garlands of flowers, which seemed as if suspended in the air.

To faithful men Tukáráma still appears. Of this we have many witnesses. To Nilobá Gosavi of Pimpalner, to Bahinábáf, and Gangádhar he appeared in vision, and gave them instruction. This Tukáráma, the friend of the world, the *sat guru*, has been found by us. He dwells in the hearts of all. Through him has this book been composed.

ART. II.—*A descriptive Account of the Fresh-water Sponges in the Island of Bombay, with Observations on their Structure and Development.* (Genus SPONGILLA.) By H. J. Carter, Esq., Assistant Surgeon, Bombay Establishment.

Since my "Notes" on these Sponges were published * I have made many more observations on them, and have extended my enquiries into their structure and development, so as to be able to offer a more accurate account of them than I could formerly. I have also ventured to name four out of the five species I have described, because they either do not appear to have hitherto been met with, or if before noticed, have not had their specific differences described with sufficient minuteness for their present identification. The only species which I think I have recognized, is *Spongilla friabilis* (Lam.) that kind so admirably described by Dr Grant; † but even here the point on which I have founded my distinctive characters, viz. the form of the spicula round the seedlike bodies, has not been mentioned with that minuteness which renders my recognition of it entirely satisfactory. So far as actual observation and the information I have derived from the descriptions of other, extends, all the species of

* Trans. Med. and Phys. Soc., Bombay, No. VIII.

Reprinted in Ann. and Mag. Nat. Hist. No. IV., April 1848.

† Edinb. Phil. Journal. Vol. XIV p. 270.

spongilla which have hitherto been described, appear to be so amorphous, that without a knowledge of their minute structural differences, they are irrecognizable. Had this fact been formerly established, the same course which I have pursued for their specification, would in all probability have been adopted from the beginning; but with only two species, *spongilla fluviatilis* and *lacustris* and their varieties *, the genus appears to have failed from its insignificance to have obtained that attention which would have led to a description of the minute differences now required.

Not so with the nature of *spongilla*, that has been a disputed point ever since it was first studied; its claims to animality or vegetability with those of the other sponges, have been canvassed over and over again by the ablest physiologists, and yet remain undecided; still, this subject does not appear to me to have been viewed in a proper light, for late discoveries would seem to shew that there exists no line of demarcation between the animal and vegetable kingdoms, but that on the contrary the one passes by gentle and at last imperceptible gradations into the other. From the existence of cells as the principal component parts and as the elaborators of the most complicated forms of animal and vegetable structures, and the intimate connection that obtains between these little organisms in both kingdoms in their isolated and independent existences and in their simplest composite forms, of which I take *spongilla* to be one, the time appears to have arrived for abandoning the question of the animality or vegetability of *spongilla*, for the more philosophical consideration of the position it holds in that transitional part of the scale of organized bodies, which unites the animal and vegetable kingdoms.

Hitherto only five species of *spongilla* have been found in the island of Bombay; they are the following—

1. *Spongilla cinerea* (H. I. C.). Flat, surface slightly convex, presenting gentle eminences and depressions. Vents situated in the depressions, numerous, and tending to a quincuncial arrangement. Color darkly cinereous on the surface, lighter towards the interior; growing horizontally, in circular patches, which seldom attain more than half an inch in thickness. Texture compact, fine, friable. Structure confused, fibro-reticulate; fibres perpendicular, densely aggregated and united by transverse filaments. Seed-like bodies spheroidal,

* Johnston's Brit. Sponges, Synopsis p. 250.

about 1—69d. of an inch in diameter, presenting rough points externally. Spicula of two kinds, large and small; large spicula slightly curved, smooth, pointed at both ends, about 1—67th of an inch in length; small spicula slightly curved, thickly spiniferous, about 1—380th of an inch in length. (Plate I. Fig 5.)

Hab. Sides of fresh-water tanks in the island of Bombay, on rocks, stones, or gravel; seldom covered by water more than six months in the year.

Observations. While the investing membrane of this species remains intact, its surface presents a dark, rusty, copper-color, purplish under water. It never appears to throw up any processes, and extends over surfaces of two and three feet in circumference, or accumulates on small objects to the thickness mentioned. It is distinguished from the other species by its color, the fineness of its texture, and the smallness of its seedlike bodies and spicula.

2. *Sp. friabilis?* (Lam). Amorphous, surface irregularly convex, presenting low ridges or eminences. Vents situated on the latter, large, crateriform. Color, bright green on the surface, faintly yellow towards the interior. Growing in circumscribed masses, on fixed bodies, or enveloping floating objects; seldom attaining more than two inches in thickness. Texture loose, friable. Structure confusedly fibrous, reticulate, sometimes radiated. Seedlike bodies spheroidal, about 1—29th of an inch in diameter, presenting smooth points externally. Spicula of two kinds, large and small; large spicula, slightly curved, smooth, pointed at both ends, about 1—67th of an inch in length; small spicula also slightly curved, smooth, pointed at each end, about 1—126th of an inch in length. (Plate I. Fig. 3.)

Hab. Sides of fresh-water tanks in the island of Bombay, on rocks, stones or gravel; or temporarily on floating objects; seldom covered by water more than six months in the year.

Observations.—The color of this species is bright green when fresh, but this fades after it becomes dry. It seldom throws up projections much beyond its surface; does not appear to be inclined to spread much; and is matted and confused in its structure towards its base, and round its seedlike bodies. From the other sponges it is distinguished by the *smooth* spicula which surround its seedlike bodies and the matted structure just mentioned. Its green color combined

with the smoothness of its spicula, both large and small, is useful in distinguishing it from the other species, but without the latter it is deceptive, because *Sp. alba* and *Sp. plumosa* become green under certain circumstances. It appears to be *Sp. friabilis* (Lam.) from no mention having been made by Dr. Grant, (in his description of this species)* of the presence of any but smooth pointed spicula in it, and the appearance of "transparent points" studding the surface of its seedlike bodies, which is not observable in any of the other species, wherein the small spicula are spinaiferous or stelliferous.

3. *Sp. alba* (H. I. C.). Flat or elevated, surface slightly convex, presenting gentle eminences and depressions or irregularly formed projections. Vents large, scattered. Color yellow, growing horizontally, in circumscribed masses or in irregular patches, encrusting objects, seldom attaining more than an inch in thickness. Texture coarse, open. Structure reticulated. Investing membrane abounding in minute spicula. Seedlike bodies spheroidal, about 1—30th of an inch in diameter, presenting rough points externally. Spicula of two kinds, large and small; large spicula slightly curved, smooth, pointed at each end, about 1—54th of an inch in length; small spicula also slightly curved, thickly spinaiferous, or pointed at each end; the former pertaining to the seedlike bodies, are about 1—200th of an inch in length; the latter pertaining to the investing membrane, are more slender and a little less in length. (Plate I. Fig 4.)

Hab. Sides of the fresh-water tanks in the island of Bombay, on rocks, stones, gravel, or temporarily on floating objects. Seldom covered by water more than six months in the year.

Observations. This species is frequently found spreading over the flat surfaces of rocks to a considerable extent, (like *Sp. cinerea*,) without throwing up any processes; on the other hand it is also found in circumscribed portions throwing up irregularly formed, ragged projections, of an inch or more in length. It surrounds floating objects, such as straws, or binds together portions of gravel, showing in this latter state a greater degree of tenacity than any of the other species. In structure it is a coarse form *Sp. cinerea*, but differs from it in color, as well as in the size of its seedlike bodies and spicula; possessing at

* Endin. Phil. Trans, Vol. xiv pp. 271 and 279.

the same time that peculiarity which distinguishes it from all the other species, of having numerous small spiniferous spicula in its investing membrane, which when dry, gives it that white, lacy appearance, which has led me to propose for it the specific term of *alba*.

4. *Sp. Meyeni* (H. I. C.). Massive, surface convex, presenting large lobes, mammillary eminences, or pyramidal, compressed, obtuse or sharp-pointed projections, of an inch or more in height, also low wavy ridges. Color yellow. Growing in circumscribed masses, seldom attaining more than three inches in height. Texture fine, friable, soft, tomatose towards the base. Structure fibrous, reticulated, radiated. Seed-like bodies spheroidal, about 1—47th of an inch in diameter, studded with little toothed disks. Spicula of two kinds, large and small; large spicula slightly curved, smooth, pointed at each end, about 1—63rd of an inch in length; small spicula straight, sometimes slightly spiniferous, terminated by a toothed disk at each end, about 1—422nd of an inch in length. (Plate I. Fig. 1.)

Hab. Sides of the fresh-water tanks in the island of Bombay, on rocks seldom covered by water more than six months in the year.

Observations. I have never observed this species either enveloping floating bodies, or growing any where but on rocks, in circumscribed portions. It varies like the other species in being sometimes more, sometimes less firm in texture. No other species resembles the official sponges in external appearance so much as this when fully developed and free from foreign substances. It is distinguished from the foregoing by the regularity of its structure, its radiated appearance interiorly, the form of its small spicula, and the manner in which its seedlike bodies are studded with little toothed disks; and from the following species, by the fineness of its texture, and the spheroidal form of its seedlike bodies. Probably it is the species alluded to by Dr. Johnston* which was examined by Meyen from the kind and arrangement of the small spicula round the seedlike bodies, which, however, in this species, are not cemented together by carbonate of lime as stated by Meyen, but by an amorphous silicious deposit. I have named it after Meyen, who has characterized it by the description of its minute spicula.

* Johnston's British Sponges p. 154.

5. *Sp. plumosa* (H. I. C.). Massive, surface convex, presenting gentle eminences and depressions, or low wavy ridges. Color yellow. Growing in circumscribed masses, attaining a height of two inches. Texture loose, coarse, resistant. Structure coarsely fibrous, reticulated, radiated, fibres fasciculated, spreading from the base towards the circumference in a plumose form. Seedlike bodies ovoid, about 1—22nd of an inch in their longest diameter, studded with little toothed disks. Spicula of two kinds, large and small; large spicula slightly curved, smooth, pointed at each end, about 1—54th of an inch in length; small spicula straight, sparsely spiniferous, terminated at each end by a toothed disk, about 1—292nd of an inch in length. (Plate I. Fig 2.)

Hab. Sides of fresh-water tanks in the island of Bombay, fixed or floating, seldom covered by water more than six months in the year.

Observations.—This is the coarsest and most resistant of all the species. As yet I have only found three or four specimens of it, and these only in two tanks. I have never seen it fixed on any solid body, but always floating on the surface of the water, about a month after the first heavy rains of the S. W. Monsoon have fallen. Having made its appearance in that position, and having remained there for upwards of a month, it then sinks to the bottom. That it grows like the rest, adherent to the sides of the tank, must be inferred from the first specimen which I found, (which exceeded two feet in circumference), having had a free and a fixed surface, the latter colored by the red gravel on which it had grown. I have noticed it floating, for two successive years in the month of July, on the surface of the water of one of the two tanks in which I have found it, and would account for its temporary appearance in that position, in the following way, viz. that soon after the first rains have fallen, and the tanks have become filled, all the sponges in them appear to undergo a partial state of putrescency, during which gas is generated in them, and accumulates in globules in their structure, through which it must burst, or tear them from their attachments and force them to the surface of the water. Since then the coarse structure of *plumosa* would appear to offer greater resistance to the escape of this air, than that of any of the other species, it is probable that this is the reason of my having hitherto only found it in the position mentioned. As *Sp. alba*, without its specific differences, is but a coarse form of *cinerea*, so *plumosa*, is without its specific differences, only a coarse form of *Sp. Meyeni*. The point which distinguish-

es it from all the other species, consists in the form of its seedlike bodies, which are *ovoid*. From *Sp. Meyeni* it is also distinguished by its surface being more even, its projections less prominent, and its tendency to spread horizontally more than to rise vertically.

General Observations.—It should be stated that in all these species except *cinerea*, their forms *en masse*, are so diversified and so dependent on accidental circumstances, that not one of them can be said to possess any particular form of its own, or to be distinguishable from the rest by it alone.

The measurements of the seedlike bodies and spicula are taken from the average of the largest of their kind; they differ a little from those mentioned in my "Notes,"* but this is owing to their having been the means of a larger number of measurements than I had an opportunity of making in the first instance. However great the number of measurements, it is probable, that when made at different times and from different sets of specimens the results will always somewhat differ; but this is a matter of very little consequence, as these points alone are not required for distinguishing characters.

The large spiculum is of the same shape in all the species, and is therefore of no use as a specific character. (Plate III. Fig. 6.)

STRUCTURE AND DEVELOPMENT.

The Fresh-water sponge is composed of a fleshy mass, supported on a fibrous, reticulated horny skeleton. The fleshy mass contains a great number of seedlike bodies in all stages of development, and the horny skeleton is permeated throughout with silicious spicula.

When the fleshy mass is examined by the aid of a microscope, it is found to be composed of a number of cells imbedded in, and held together by an intercellular substance.

These cells vary in diameter below the 1000th part of an inch, which is about the average linear measurement of the largest. If one of them be selected for observation, it will be found to be composed of its proper cell-wall, a number of granules fixed to its upper and inner surface, and towards its centre, generally one or more hyaline vesicles.

The granules are round or ovoid, translucent, and of an emerald or yellowish green color, varying in diameter below the 12,000th part of

* *Op. cit.*

an inch, which is the average linear measurement of the largest. In some cells they are so minute and colorless as to appear only under the form of a nebular mass, while in others, they are of the largest kind and few in number.

The hyaline vesicles on the other hand, are transparent, colorless and globular, and although variable in point of size like the green granules, are seldom recognized before they much exceed the latter in diameter. They generally possess the remarkable property of slowly dilating, and suddenly contracting themselves, and present in their interior molecules of extreme minuteness in rapid commotion.

When living and isolated, the sponge-cell is polymorphous, its transparent or non-granular portion undergoing the greatest amount of transformation, while its semi-transparent or granular part, which is uppermost, is only slightly entrained to this side or that, according to the point of the cell which is in the act of being transformed.

The intercellular substance, which forms the bond of union between the cells, is mucilaginous. When observed in the delicate pellicle, which with its imbedded cells and granules, it forms over the surface and throughout the canals of the sponge, it is transparent, but when a portion of this pellicle is cut from its attachments, it collapses and becomes semi-opaque. In this state, the detached portion immediately evinces a tendency to assume a spheroidal form; but whether the intercellular substance participates in this act, or remains passive while it is wholly performed by the habit of the cells which are imbedded in it, to approximate themselves, I have not been able to determine.

Seedlike bodies. The seedlike bodies occupy the oldest or first formed portions of the sponge, never its periphery. They are round or ovoid according to the species, and each presents a single infundibular depression on its surface which communicates with the interior. At the earliest period of development in which I have recognized the seedlike body, it has been composed of a number of cells united together in a globular or ovoid mass, (according to the species), by an intercellular substance, similar to that just described. In this state, apparently without any capsule, and about half the size of the full developed seedlike body, it seems to lie *free*, in a cavity formed by a condensation of the common structure of the sponge immediately surrounding it. The cells of which it is now composed, appear to differ only from those of the full developed sponge cell, in being smaller,—in the colorless state of their

germs,—and in the absence of hyaline vesicles; in all other respects they closely resemble the sponge-cells, possessing also a like but more limited power of motion. (I do not however wish it to be inferred from this close resemblance, that I am of opinion that the seedlike body is but an aggregate of separately developed sponge-cells; on the contrary, there are always present among the cells of a piece of sponge which has been torn to pieces, many, which contain within them, (developing from their upper an inner surface,) a number of transparent cells of various sizes, not unlike the hyaline vesicles in appearance, but all adhering together in a mass. It may perhaps be one of these cell-bearing cells which becomes the seedlike body. They are distinguished from the common sponge-cell by the character I have mentioned, by their containing fewer granules, and by their greater transparency, but in every other respect they are exactly like the sponge-cell.) To resume however the subject of the development of the seedlike body,—it passes from the state just mentioned into a more circumscribed form, then becomes surrounded by a soft, white, compressible capsule, and finally thickens, turns yellow and develops upon its exterior a firm crust of silicious spicula.

Thus matured, its cells, (Plate II. Fig. 1. 6.) which were originally unequal in size, have now nearly all become equal, almost motionless, and a little exceed the average diameter of the largest sponge-cells; while their germs, (Plate II. Fig. 1. a.) which in the first instance so nearly resembled the granules of the sponge-cells, are now four or five times larger, and vary in diameter below the 3,000th part of an inch, which is the average linear measurement of the largest of their kind.

The capsule (Plate II. Fig. 1. f.) has now passed from its soft, white state, into a tough yellow coriaceous membrane, presenting in *Meyeni* and *plumosa* a hexagonally tessellated appearance, (Fig. 1. c.) on the divisions of which, rest the asteroid disks (Fig. 1. e.) of the vertically placed spicula (Fig 1. g.) which surround it.

In the two species just mentioned the spicula are arranged perpendicularly to the surface of the capsule, and the interval between them is filled up with a white siliceous, amorphous matter, which keeps them in position. Each spiculum extends a little beyond this matter, and supports on its free end a toothed disk, similar to the one on its fixed end which rests on the capsule; so that the external surface of the

seedlike body in *Meyeni* and *plumosa* is studded with little stellated bodies; while in the other species where there appears to be no such regular arrangement of these spicula, a number of smooth or spiniferous points is presented.

Development of Spongilla.—When the cells of the seedlike body are forcibly expelled from their natural cavity, under water, they are irregular in form and motionless, but soon swell out, (by endormose?) become globular, and after a few hours burst. At the time of bursting their visible contents, which consist of a mass of germs, occupying about two thirds of the cavity of the cell, subside, and afterwards gradually become spread over the bottom of the vessel in which they are contained. They are of various diameters below the 3,000th part of an inch (Plate II. fig 1. a.), which is the average linear measurement of the largest, and appear to be endowed with the power of locomotion in proportion to their size; that is to say, that, while the largest scarcely do more than turn over now and then, as the globules of the blood, the most minute are incessantly moving backwards and forwards, here and there, and assembling in crowds around the larger ones.

If a germ about the 3,000th part of an inch in diameter be selected for examination, it will be observed to consist of a discoid, circular, well defined, translucent cell, which is green or yellowish green at the circumference, but becomes pale and colorless towards the centre. This cell appears to be again surrounded by a colorless transparent capsule, the nature of which is unknown to me, and I am not altogether certain of its real existence.

The green color is hardly perceptible in germs measuring less than the 18,000th part of an inch in diameter; below this they all appear to be colorless.

A few days after the germs have been eliminated, they for the most part become parcelled out into insulated groups, and united together by a semi-transparent mucilage. In this position the contents of the largest, which resemble the endochrome of the cells of *confervæ*, undergo a change, becoming nebulous towards the circumference, pellucid in the centre, and then nebulous throughout. The largest germs then disappear gradually, and their disappearance is followed by a successive development of proteans or active polymorphic cells. These proteans for the most part, do not exceed in their globular or passive state, the diameter

of the germs which have disappeared, and a successive development of them continues to take place from the contents of the same seedlike body for two or three months after their elimination. There are some proteans present, however, much larger, exceeding even the 800th part of an inch in diameter, which always make their appearance under the same circumstances, but they are not so numerous; the most numerous are those which average in diameter the 3000th part of an inch. The form assumed by the latter when in a state of activity is that of the diffuent protean, (Plate II. fig 2. e.), which in progression throws out globular or obtuse expansions of its cells; that of the largest, the denticulated protean (fig. 2. d.), which in progression shoots out digital or dentiform processes; and that of the smallest, the vermiform protean (fig. 2. f.), which progresses after the manner of a worm.

They are all, (like the cells of the sponge) composed of a cell-wall, within which are round or ovoid, green, translucent granules, varying in size and number; and one or more hyaline vesicles.

The green granules although appearing to move over the whole surface of the protean in its active state, are, nevertheless, when it is in its globular or passive state, found to be confined to the upper and inner part of its cell-wall. Sometimes these granules, from their smallness, can hardly be recognized individually, and only appear in the form of a nebular mass; this is frequently the case in the diffuent proteans and in those inferior to them in size; at other times, they are few in number and all the largest of their kind.

The hyaline *contracting vesicle*, of which there is seldom a plurality in the smaller proteans, appears to be uninfluenced in its presence or development by the state of the green granules, since there is almost always one at least, present, and in the enjoyment of great activity.

Such are the changes in the contents of the seedlike body which are witnessed, under this mode of development, with reference to the germs; we have now to turn our attention to the semi-transparent mucilage, which holds the germs together in their insulated groups, or binds them down singly to the surface of the vessel in which they are contained.

This semi-transparent mucilage appears to be identical with the intercellular mucilage of the sponge; it exhibits the same phenomenon of ever undergoing a change in shape, but as I have said before, I am not aware of its possessing this property, independently of the presence of

the cells and minute germs which are contained in it; neither do I know how it comes into existence, i. e. whether it be the product of the germs themselves, or whether it be eliminated with them, in a more elementary transparent and invisible form, from the cells of the seedlike bodies. Be this as it may, threads of it soon appear in straight lines extending over the surface of the watch-glass from portion to portion (Plate II. fig. 2. h.), and from object to object starting off from different points of an isolated germ—or from any point of a thread of it already formed—sometimes disposed in a flat reticulated structure over a spiculum, or on the surface of the glass—occasionally as broken portions like the ends of threads thrown together without union or order, and not unfrequently bearing minute germs in their course either at irregular distances from each other, or arranged like a string of beads.

It might be as well to notice here that the yolk-like contents of the dried seedlike body, with but slight modifications, undergo the same changes as those of the fresh one. If the former be divided with a sharp knife or lancet, and a portion of its contents picked out on the point of a needle and put into water, it swells out after a few days, into a gelatinous mass; its component parts, i. e. its germs and semi-transparent mucilage, begin to evince signs of active life,—a successive development of proteans follows and threads of the semi-transparent mucilage shoot over the surface of the watch-glass in the manner I have just described.

So far the elements of the sponge are developed, from the contents of the seedlike body after forcibly expulsion, we have now to examine them after having issued in their natural way.

If a seedlike body which has arrived at maturity be placed in water, a white substance will after a few days be observed to have issued from its interior, through the infundibular depression on its surface, and to have glued it to the glass, and if this be examined with a microscope, its circumference will be found to consist of a semi-transparent substance, the extreme edge of which is irregularly notched or extended into digital or tentacular prolongations, precisely similar to those of the protean, which in progression or in polymorphism, throws out parts of its cell in this way. (Plate II. fig. 3. c.). In the semi-transparent substance, may be observed hyaline vesicles of different sizes, contracting and dilating themselves as in the protean (fig. 3. d.), and a little within it the green granules so grouped together (fig. 3. e.) as almost to enable the practised eye to distinguish *in situ*, the passing forms of the cells to which they belong;

we may also see in the latter, their hyaline vesicles with their contained molecules in great commotion, and between the cells themselves the inter-cellular mucilage. (fig 3. f.).

If this newly formed sponge be torn up, its isolated cells assume their globular or passive form or become polymorphous, changing their position and their locality, by emitting expansions similar to the proteans or polymorphic cells developed after a forcible expulsion of the contents of the seedlike body, and differing only from them in being more indolent in their movements.

Habits of the Sponge-cell.—In describing the habits of the sponge-cell so far as my observations extend, I shall first confine myself to those which are evinced by it, in, or when torn from, the fully developed structure of the sponge, and subsequently advert to the habits of the polymorphic cells or proteans, which are developed from the contents of the seedlike body when forcibly expelled.

The sponge-cell when *in situ*, is ever changing its form, both partially and wholly; its granules also are ever varying their position with, or independently of the movements of the cell, and its pellucid vesicle or vesicles, dilating and contracting themselves or remaining passively distended, and exhibiting in their interior molecules of extreme minuteness in rapid commotion. When first separated from the common mass, this cell for a short time assumes a globular form and afterwards, in addition to becoming polymorphic, evinces a power of locomotion. During its polymorphism it emits expansions of its cell-wall in the form of obtuse or globular projections, or digital and tentacular prolongations. If in progression it meets with another cell, both combine, and if more are in the immediate neighbourhood, they all unite together into one common globular mass. Should a spiculum chance to be in the course of a cell, it will ascend it and traverse it from end to end, subsequently quitting it or assuming its globular form, embrace some part of it and remain stationarily attached to it. The changes in shape and position of the sponge-cell and its intercellular mucilage are for the most part effected so imperceptibly, that they may be likened to those which take place in a cloud. Its granules however are more active, but there appears to be no motion in any part of the cell, excepting among the molecules within the hyaline vesicle, which in any way approaches to that characteristic of the presence of cilia.

It should be understood however that these remarks are not applicable to every sponge-cell, although fully developed, which appears in the field of the microscope, but rather a statement of what a sponge cell may evince, than one of what every sponge-cell does evince.

The polymorphic cells or proteans which appear in the watch-glass after the contents of a seedlike body have been forcibly expelled into it under distilled water, are much more active in their movements. Their cell-walls frequently assume the most fantastic figures, spheroidal, polygonal, asteroid, dendritic, &c. Their green granules move backwards or forwards, to this side or to that with great activity, as the part of the cell to which they are attached is entrained in one direction or another; while their hyaline vesicle or vesicles (in progression) appear occasionally in every part, not only of the body of the cell, but in its tubular prolongations. The contraction of the hyaline vesicle seems to take place most frequently when it arrives at the posterior extremity, that is according to the direction in which the cell is progressing; next in frequency, at the sides, seldom in the anterior or central part of the mass. When contraction takes place it is effected more or less completely, more or less suddenly; if complete, a dark speck or opacity marks the original position of the vesicle, in the centre of which, if watched, it may be observed to re-appear, and as it is carried forward in the movements of the cell with the portion to which it is attached, it gradually regains its original size, and returning in due course to the point from which it started, again contracts as formerly.

In progression, some of the large proteans developed in the way just mentioned appear to be conscious of the nature of certain objects which they encounter in their course, since they will stop and surround them with their cell-wall. It is not uncommon to see a portion of a apiculum in the latter position (Plate III fig. 1.) the larger germs of the sponge itself, the body of a loricated animalcule, the 900th part of an inch in diameter (fig. 2.) on which the pressure exerted by the protean may be seen by the irregular form assumed by the animalcule the moment it has become surrounded. I once saw one of these proteans approach a gelatinous body, something like a sluggish or dead one of its own kind, and equal to itself in size, and having lengthened itself out so as to encircle it, send processes over and under it from both sides (fig. 4.), which uniting with each other, at last ended in a complete approximation of the two opposite folds of the cell-wall, throughout their whole extent, and in the

enclosure of the object within the duplicature. Even while the protean was thus spreading out its substance into a mere film, to surround so large an object, a tubular prolongation was sent out by it in another direction to seize and enclose in the same way, a large germ which was lying near it. After having secured both objects, the protean pursued its course, rather more slowly than before, but still shooting out its dentiform processes with much activity. It took about three quarters of an hour to perform these two acts.

Lastly, I have frequently seen it grapple with its own species; when, if the one it meets is near its own size, they merely twist round each other for a short time and then separate; but, when it does not exceed the sixth or eighth part of its size, then there is much struggling between them, and the smaller one escapes, or is secured by the aid of the digital prolongations of the larger one, and enveloped as the object before mentioned in a fold of its cell-wall.

On one occasion I witnessed a contest between two proteans, wherein the large one, after having seized the smaller one with its finger-like processes, passed it under its body, so as to cause it to lie between itself and the glass. For a moment the small protean remained in this position, when the cell-wall raised itself over it in the form of a dome, in which so formed cavity the little protean began to crawl round and round to seek for an exit; gradually however the cell-wall closed in beneath it in the manner of a sphincter, and it was carried up as it were into the interior of the cell, securely enclosed in a globular transparent cavity resembling a hyaline vesicle, but much larger (Plate III. fig. 3); it then attached itself to the upper part of this cavity, assumed a globular form, became opaque and motionless, and the larger protean took on its course.

Such are a few of the habits evinced by the sponge-cell, developed in its natural way and by the process I have mentioned.

Now, although no doubt may exist in the mind of the reader as to the identity of the sponge-cells developed in the natural way, and most of those developed from the contents of the seed-like body when forcibly expelled; yet it may be a question with him, whether *all* the proteans developed by the latter method come from the contents of the seedlike body, and therefore whether the proteans whose habits I have just been describing, which slightly differ from those of the sponge-cell, taken from its natural structure (only so far as this, however, that I have not seen the like evinced by the latter), have not been developed from some other source.

All that I can say in answer to this question, is, that although the proteans, which have evinced the remarkable habits I have described, are larger than the sponge-cell, more active in their component parts, more active as a whole, and appear to possess a greater share of intelligence; yet their general aspect and component parts being the same, their constant appearance in the watch-glass with the other polymorphic cells in the progress of the development of the contents of the seedlike body after forcible expulsion, when they are nearly as numerous as any other form of the protean cells then present, together with the fact, that the sponge-cell *itself* frequently contains pieces of *confervæ* within duplicatures of its cell-wall, and other foreign matters, just as these proteans include within the duplicatures of their cell-walls the objects I have mentioned, leaves me no conclusion to come to so reasonably, as, that the proteans or polymorphic cells so developed are but a higher condition of the sponge-cell met with *in situ*. How they obtain this condition, whether it be from the peculiar circumstances under which they are developed or whether it be the development peculiar to a particular class of cells of the same animal, are queries for future inquiry to determine.

Next to the development of the fleshy substance, comes that of the horny skeleton and its spicula, of which little more has been made known to me by my observations, than has been published by others who have already directed their attention to the same subjects. I have not had time to continue my investigation beyond the development of the fleshy substance, which is the utmost to which the contents of the seedlike body when forcibly expelled reaches; although from my "Notes" it would appear that it went farther, for I have therein stated, that I had seen the semi-transparent mucilage take on an arrangement, in form and disposition like that of the spicula in the skeleton; but this was an illusion, for I afterwards found out, that this appearance had arisen from the semi-transparent mucilage having attached itself to a series of minute scratches on the surface of the watch-glass.

My impression, however, is that both the horny skeleton and its spicula are formed in the intercellular substance, and not within the cells.

The spicula are membranous and at an early period of their development pliable, they afterwards become firm and brittle. If they be exposed to the flame of a blow-pipe many of them swell out towards the middle or one end into a bulb, like that of a thermometer. This is more particularly the case with spicula of *friabilis*, than with those of any

of the other species. They are hollow and the form of their cavity corresponds with that of their own form, being widest in the centre and narrow towards each extremity. Sometimes they contain a green matter like the endochrome of cells of *confervæ*.

Growth.—This only takes place during the time *spongilla* is covered by water, which in the tanks of Bombay is not more than eight, or at the farthest nine months out of the year, but the duration of its submergence of course again varies with the position it occupies on the sides of the tank. Its increase however appears to be most rapid in September and October. i. e. about two months after the tanks have become filled; subsequently it appears to go on more slowly. During the season of its growth, or while it is under water, it may extend from a portion, not more than a few lines in diameter, over a surface two or three feet in circumference, or it may evince no disposition whatever to advance beyond its original bulk throughout the whole season. It increases in size by successive additions to its exterior. To whatever extent this increase may reach, either vertically or horizontally during the first season, (assuming that it commenced from a central point or germ,) but few seedlike bodies are developed in it, and these few, as I have before said, are found in the centre or first-formed portion. The next year the development of its fleshy substance appears to commence from these seedlike bodies, which a few weeks after it has again become submerged, pour forth their contents over the last year's skeleton, and reaching its circumference develop a new portion; and in this way, by successive additions, it gradually increases in bulk, while the seedlike bodies accumulate about its centre, till at length it becomes based on a mass of them, the lowermost of which merely consist of the refuse of those which have fulfilled the purpose for which they were originally destined.*

Connected with the growth of *spongilla* is also the following fact which presented itself to me and which is interesting, inasmuch as it seems to point out, that germs or full developed cells of it abound in the water of the tanks, independently of those which exist imbedded in their natural structure, viz. One day I observed a few fesh straws floating together on the surface of

* Dutrochet has noticed the fact, that in a piece of *Spongilla* which he kept in water for some months, and which contained seedlike bodies, all the soft parts died, became putrid, and dissolved away during the winter, and that in the following spring, the fleshy substance became renewed. *Memoirs pour servir a l'Hist. Anat. et Physiol. des Vegetaux et des Animaux.* t. II. p. 436.

the water of a tank which abounded with several species of *spongilla*; they had been accidentally thrown there, but before they began to change color from putrescency, and therefore but a few days after they had been in the water, a growth of *spongilla alba* took place around each straw separately, which soon increased to the thickness of half an inch. I do not remember to have seen another instance of such rapid growth, and the freshness of the shaw proved this rapidity, for in this country it changes color a very few days immersion.

Although I was perfectly aware that *spongilla* might be uncovered by water for many months in the year and still retain its vitality, yet I wished to see if this would be the case after the interval of *more* than a year. I therefore placed some portions, which I had kept for this purpose, in tanks supported on bits of cork, and others on stones from which they had been undetached; but from some cause or other, whether from the partial putrescency which its dry fleshy substance subsequently underwent, or from this being present in a larger quantity in sponges taken out of the water in their living state and carefully preserved, than in those exposed to the sun and winds on the dry rocks throughout the greater part of the year, or from both combined, the shrimps and crabs were attracted towards the former and devoured them with rapacity, while they left the latter untouched; so that I was at last compelled to enclose a portion in a gauze-wire case, which was kept three or four feet beneath the surface of the water for several months. This portion was fixed on a stone, in the position it had grown, and when the case was taken up, it was found to have exceeded by many times its original bulk, was covered with its natural pellicle and in the active performance of all its vital functions.

Color—This in all, excepting *cinerea*, appears to be yellow.

The contents of the dried seedlike body are yellow, and although the new sponge when it first grows from them appears to be white, yet, if its cells be examined under a high magnifying power, their granules will be found to be translucent and yellow, closely resembling, under transmitted light, the color of chlorine.

Sometimes the green color of the yellow sponge is evidently owing to the presence of numerous solitary spherical corpuscles, at other times it is as evidently owing to the presence of an *Oscillatoria* or to *Diatomeæ*, but more frequently it appears to depend on the

presence of some coloring matter in or about its cells or granules themselves.

If some fresh cells of *cinerea* be examined under a high magnifying power, they and their contents will present the grey or lilac tint peculiar to the species, and in like manner the cells of yellow sponges which have become green, would seem to indicate a similar position of their coloring matter, which in this instance however generally appears to depend on an extra tint of green added to the cell-granules only.

Undoubtedly the sun has the power of turning the yellow sponges green, when they are taken from the tank and exposed in a glass vessel to his rays. At the same time the greater part of the sponges are exposed to the sun in their natural habitations throughout the whole year and yet with the exception of *friabilis* (which is always green, at least externally,) it is only here and there that you find a portion of the others taking on that color. Exposure to light again does not appear to have this effect on the small pieces of sponge grown from the seedlike bodies, if care has been taken not to admit the presence of other organisms, for they retain their white cotton-like appearance, although exposed to the sun for several days, i. e. from the moment they have become perceptible, up to the time that they perish from the want of nourishment in the distilled water in which they have been brought into existence.

It is impossible therefore under these circumstances to say without further research, if the green color is owing to an additional tint to the colouring matter of the cells or granules themselves, or to the presence of some foreign organism. Bory St. Vincent supposed it to be owing to the presence of *Anabina impalpabilis*,* but when it is due to an Oscillatoria or to Diatomæ, or to solitary organic corpuscles they are distinctly visible; the green color however is frequently present when neither can be observed.

Among other experiments I instituted a set to ascertain if each species of *spongilla* had its peculiar form of *proteus*; and for this purpose, I took small portions of the yolk-like substance from the seedlike bodies of dried pieces of each of the sponges, and after having placed them in separate watch-glasses with distilled water, sat them aside for

a few days until the proteans made their appearance.* I then began to compare the latter with one another in the different watch-glasses, but instead of finding that each species of *spongilla* had its peculiar form, I frequently found that the kind of protean I had determined on as proper to one species, was to be seen on the same or on the following day in a watch-glass containing yolk-like substance from the seedlike bodies of another species, and so on throughout all the glasses. It therefore would appear that in whatever the specific distinctions of the different proteans consist, too much stress must not be laid upon their external forms.

Respecting the position which *spongilla* holds among organized bodies, I feel incompetent to offer an opinion. All who know anything about the subject, are aware, that it is closely allied to both the animal and vegetable kingdoms, but it is for those who are best acquainted with that part of the chain which unites these two great conventional divisions, to assign to it its proper link.

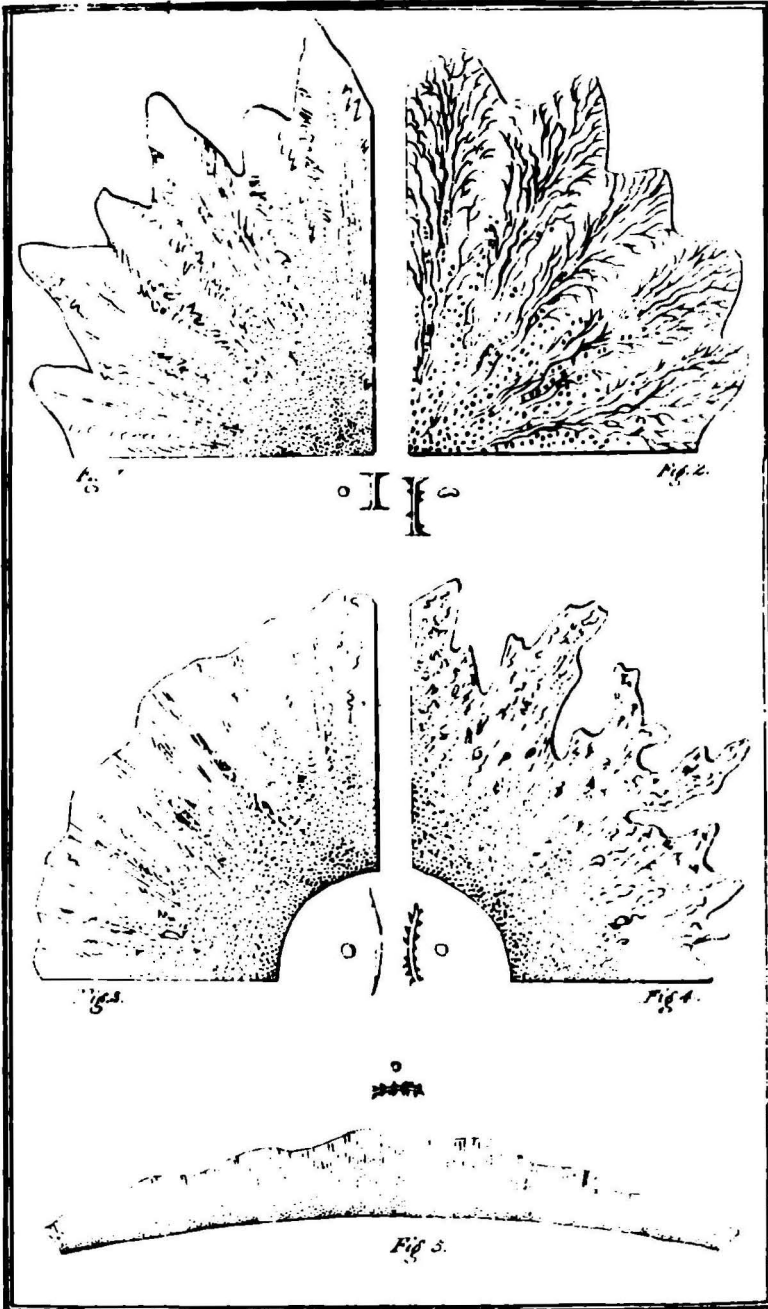
I might here state, however, that we are indebted to Dujardin for the earliest notice of the resemblance of the sponge-cell to the *proteus*. †—Ehrenberg's name for the *proteus* is *amæba*; he has also applied the same name to the fifth family of his naked *Phytozoaria polygastrica*, Sect. 3, *Pseudopodia*, in which is included the genus *Amæba*.

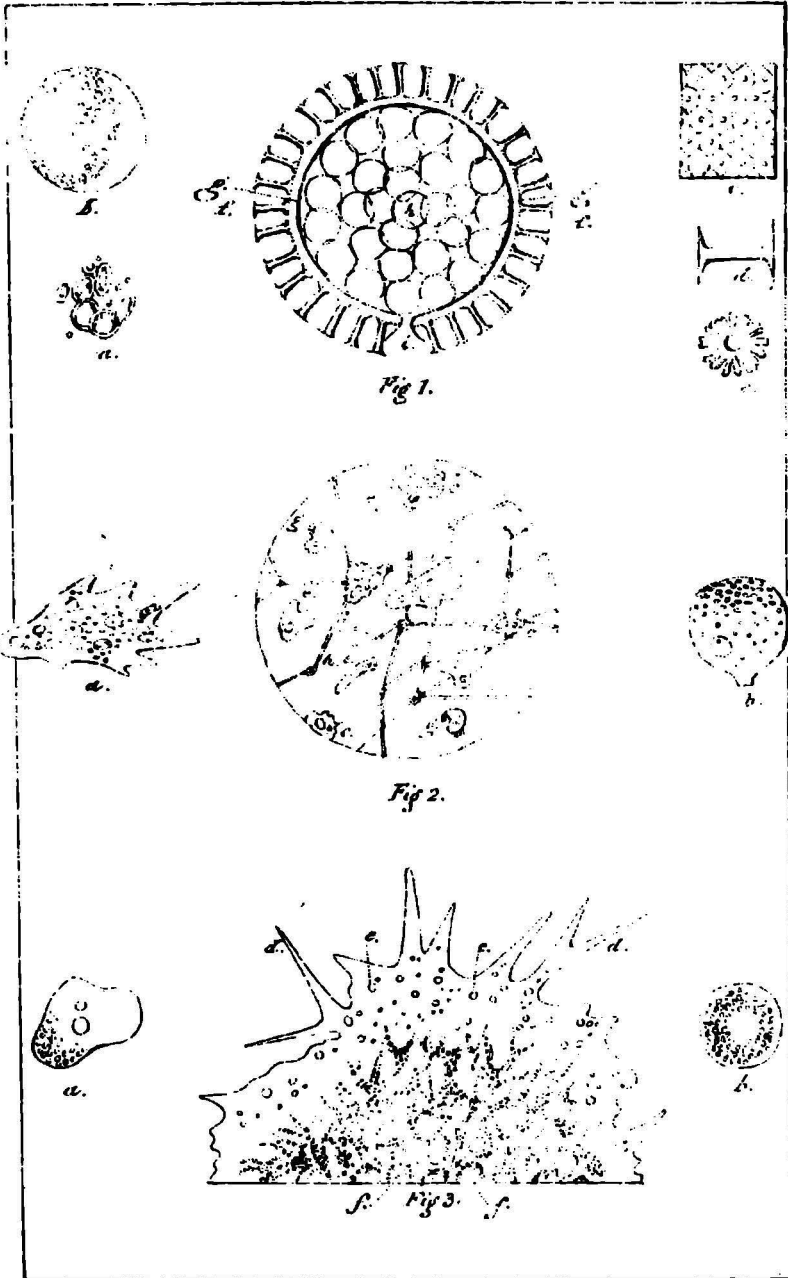
Finally, I stated in the P.S. to my "Notes," ‡ that the *proteus* fed on its like after the manner of the *hydra*. The fact which induced me to make this assertion has been already mentioned (p. 43,) but the subject requires further investigation before it can be considered conclusive. It is difficult to conceive why the *proteus* should enclose within its cell-wall one of its own like, if it were not for the purpose of feeding upon it; added to which the constant accumulation of refuse matter, which, issuing from the fæcal orifices, settles on the surface of the living sponge, when kept in a horizontal position, shews, that there is a continual elimination going on, of material, which is no longer useful in its economy and in connection with the fact to which I have alluded, would seem to point out the probability, that such *ejecta*, to a certain extent, consist of the cast-off parts of organisms from which the nutrient parts have been abstracted.

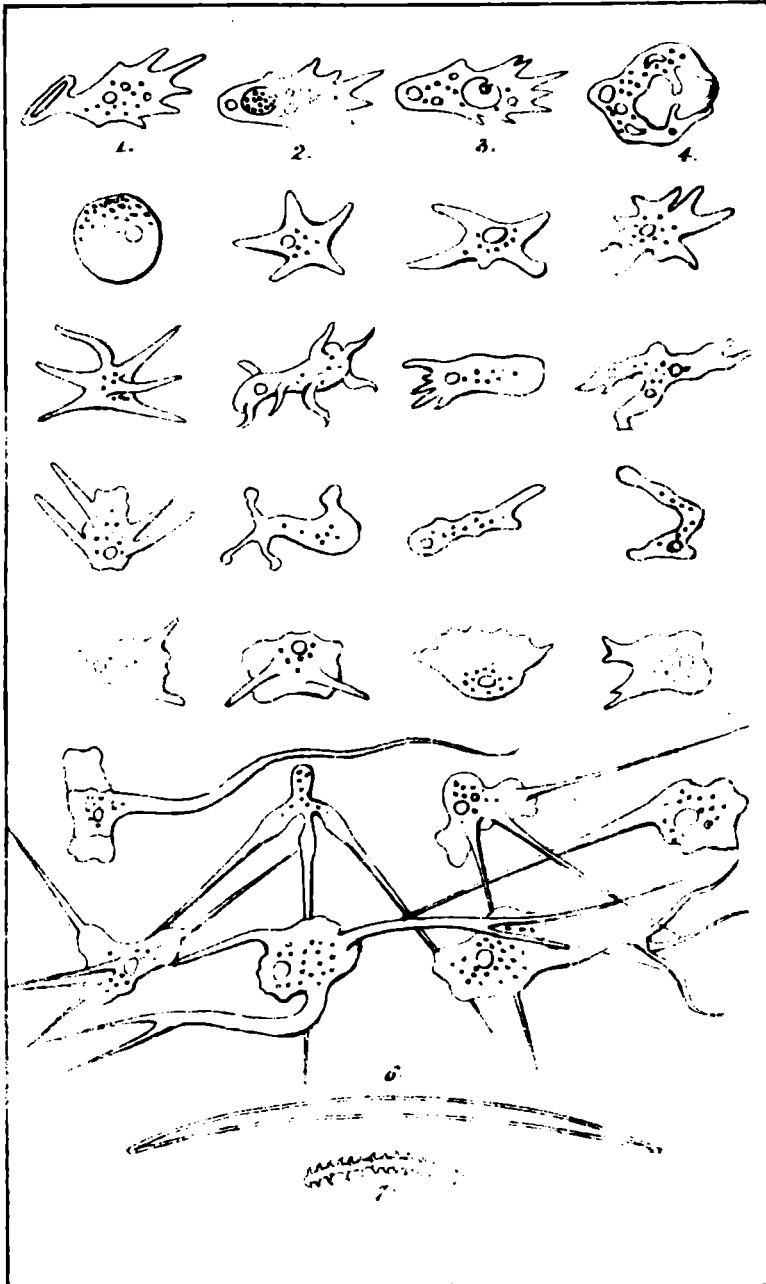
* Throughout all my experiments distilled water was used, and every precaution taken to preclude as far as practicable the introduction of foreign matter.

† Ann. des Sc. Nat. n. s. x p. 5.

‡ Ann. and Mag. Nat. Hist. loc. cit.







H. C. del.

Litt. Observatory

EXPLANATION OF THE PLATES.

PLATE I.

- Fig. 1. Section of *Spongilla Meyeni*, natural size.
 a. Small spiculum and seedlike body of the same, magnified.
 Fig. 2. Section of *Spongilla plumosa*, natural size.
 b. Small spiculum and seedlike body of the same, magnified.
 Fig. 3. Section of *Spongilla friabilis* ? natural size.
 c. Small spiculum and seedlike body of the same, magnified.
 Fig. 4. Section of *Spongilla alba*, natural size.
 d. Small spiculum and seedlike body of the same, magnified.
 Fig. 5. Section of *Spongilla cinerea*, natural size.
 e. Small spiculum and seedlike body of the same, magnified.

As none of these species possess specific forms, it has been deemed advisable to give sections of them, shewing their average and relative thicknesses,—the form of the projections from their surface,—and the peculiarity of their internal structures respectively.

PLATE II.

- Fig. 1. Magnified section of a seedlike body of *Spongilla Meyeni* shewing, *f.* spicular crust, *g.* coriaceous capsule, *h.* internal cells, and *i.* infundibular opening.
 a. Germs of cells magnified,—the largest 1—3000th part of an inch in diameter.
 b. Cell of seedlike body containing germs, magnified.
 c. Portion of coriaceous membrane magnified, to shew hexagonal divisions and transparent centres.
 d. Small spiculum of *Spongilla Meyeni*, magnified.
 e. One of its toothed disks with central aperture, magnified.
 Fig. 2. Disk to shew the appearance which is presented on the surface of the watch-glass a few days after the matter of the seedlike body has been forcibly expelled into it, under distilled water.
 a. Denticulated proteus in progression, shewing its granules and hyaline vesicles, magnified.
 b. Passive state of the same, magnified.
 c. c. Germs parcelled out in semi-transparent mucilage, magnified.
 d. Denticulated proteus, magnified.
 e. e. Diffluent proteus, ditto.
 f. Vermiform proteus, ditto.
 g. g. Animalcules about 1000th part of an inch in diameter, which, to the almost complete exclusion of all other kinds, were generally present with the proteans, magnified.
 h. h. Threads of semi-transparent mucilage, ditto.
 Fig. 3. A magnified view of a newly formed portion of *Spongilla*, grown in distilled water from a seedlike body, as seen with Ross's microscope, under a compound power of $\frac{1}{2}$ of an inch focus.
 a. Sponge-cell with its granules and hyaline vesicles magnified, taken from the same portion.
 b. The same in a passive state, magnified.
 c. c. Marginal or thinnest portion of newly formed *Spongilla*, ditto.
 d. d. Form of its extreme edge, ditto.
 e. e. Hyaline contracting vesicles, ditto.
 f. f. Sponge-cells *in situ*, ditto.

PLATE III.

- Fig. 1. Magnified view of a denticulated proteus with a portion of a spiculum in a fold of its cell-wall.
2. Ditto, with a loricated animalcule and germ in ditto.
 3. Ditto, shewing a small proteus attached to the side of a transparent cavity in ditto.
 4. Ditto, in the act of surrounding a foreign body.
 5. Most striking forms assumed by proteans, developed from the matter of the seed-like bodies (seen at various times), magnified.
 6. General form of large spiculum, ditto.
 7. Magnified view of spiniferous spiculum.

ART III.—*Remarks on the Origin and Languages of the Aborigines of the Nilgiris, suggested by the papers of Captain Congreve and the Rev. W. Taylor on the supposed Celto-Scythic Antiquities in the South of India (published in the Madras Journal of Literature and Science, Nos. 32 and 33, 1847).* By the Rev. B. SCHMID, D. D. Communicated by the Rev. Dr. WILSON, Honorary President of the Society.

NOTE BY DR. WILSON.

The accompanying short paper having been placed at my disposal by Dr. Schmid, I have great pleasure in submitting it to the Bombay Branch of the Royal Asiatic Society. It contains a most important testimony on a subject of very interesting inquiry connected with the Origin and Languages of the Aborigines of the Nilgiris, which no person, from personal acquaintance with that curious people and general philological lore, is more competent to satisfy than Dr. Schmid himself. In a communication which I have received along with it from that venerable Missionary, he mentions that altogether he has resided about six years on the Nilgiris, and that a good part of his time there has been spent in the acquisition of the language of the Todávares, a vocabulary and phrase-book of which he has prepared. The conclusions at which he has arrived, as will be seen from the paper now forwarded, are, that "the Todávar language is a genuine but very rude dialect of the ancient Tamul;" that "the Tamul, Todávar, Badagar, and Canarese languages are

links of a connected and unbroken chain of dialects of *one* language ;" that " the 'Todávar dialect is by far more closely connected with the Tamul than the Canarese ;" that " the race which afterwards split into Tamulians, Máleíáís, Canarese, and Telingís, must be a Caucasian or Himálaya race, which must have immigrated into the plains of India very early ;" and that it was afterwards " pushed forward to the furthest south by other mountain tribes speaking Sanskrit" and what are now called " Hindi dialects, and immigrating at a later period." These conclusions are very much in accordance with those formed by most orientalisists and ethnographists on more general grounds than those which have been *their* foundation. The notice taken of Dr. Rückert's discovery of the similarity of the Tatar and Támul dialects, may open up a new field of research for Indian philologists. I remember that when Professor Westergaard was with us in 1842, he stated it as his opinion, that striking analogies exist between these now far-separated languages.

J. W.

18th December 1848.

DR. SCHMID'S PAPER.

Captain Congreve inclines to the hypothesis, that the Todavers on the Neilgherries are exclusively the remains of Celto-Scythians immigrated into India and settled on " the Hills" at very early times, but the Rev. Mr. Taylor's Paper proves that those remarkable cromlechs and cairns with their contents, discovered by Captain Congreve on the Neilgherries, are quite similar to those in the low country, far away from " the Hills." Even this fact alone would prove, that the Todavers had the same Bud-dhistic ancestors as the Tamulians.

It is a question, whether quite similar cromlechs, similar rude ceme-teries with pottery, with ornamental covers, figures of men on elephants, with bells, bulls' heads, &c. may not likewise be found in the interior of Africa, or of Arabia & c. whither in all probability a branch of the Hima-laya races of Scythians or European Celts never penetrated and settled. Arts in their primitive rude state will be found everywhere to be pretty much alike, and so also certain practices of the most ancient nations, although otherwise widely different from each other. The Celts in the west, and those eastern tribes whom the more accurate Greek authors called Scythian, differ so greatly in many respects, that I am inclined

to consider the similarity of their ancient monuments as rather accidental although this similarity deserves careful attention and further enquiry.

Identity or analogy of idiom is acknowledged on all hands to be the most sure mark either of identity or of affinity of race. The linguist who has occupied himself with this branch of philosophical enquiry, has infallible rules, by which he can even ascertain, whether a language has been altered by violent interference of conquerors, or whether it has suffered no kind of alteration by such interference.

I came to "the Hills" with the preconceived idea, that the Todavers *are not Hindús*, but either descendants of Jews from the South of Arabia, whose kingdom was destroyed by Mahomed and who retired to the Malabar Coast, and were not further heard of, as the Royal Asiatic Society of Great Britain and Ireland stated in a series of queries, circulated about the year 1828,—or that they may have come from Persia. But when studying their dialect and collecting a vocabulary of nearly 500 words,—besides many phrases explanatory of grammar and construction,—I could find no trace of any Arabic or Hebrew roots, nor any thing like Sanscrit, Persian, Gothic or Celtic (though with the latter I am but very slightly acquainted); but the vocabulary, which by the help of the Basle Brethren labouring among the Burghers or Budaghers, I have lately completed by adding the words of the Budagher dialect, shows to a demonstration, that the Todaver language is a genuine but very rude, dialect of the ancient Tamul, the words of which are in many cases so greatly changed, but changed according to certain rules, that only a deeper study enabled me to recognize the identity of both languages,—and the comparison of these Todaver words with the Budagher and Canarese words, shows to evidence, that the Tamul, Todaver, Budagher and Canarese languages are links of a closely connected and unbroken chain of dialects of *one* original language, and that the Todaver dialect is by far more closely connected with the Tamul, than with the Canarese. And when by the liberal aid of the public for this purpose, a Brother of the Basle Society will be enabled to settle at Ootacamund, and to pursue jointly with me these enquiries, I trust it will be in our power to throw still more light on the earlier history of these most interesting Aborigines,—but what is of much greater importance, we hope to benefit them at the same time by Christian instruction, and to rescue their race from the danger of disappearing gradually and entirely from the earth.

In reference to a question, stated by the Rev. W. Taylor, in the Madras Journal of Literature and Science, No. 33, page 94, I have to state two facts :

Dr. Rückert, Professor of the Oriental Languages, in the University of Berlin, an eminent Poet, and a Philological genius, who is equally well acquainted with Sanscrit, Arabic, Persian and the Tatar dialects, and who studied Tamul, assisted in part by books which I lent him, in order to teach that language to some Dresden Missionaries, proceeding to Tranquebar and Mayaveram, told me afterwards with sparkling eyes, that the Tamul language has a remarkable analogy with Tartar dialects. This declaration strengthened my idea, which I had already long before conceived by comparing the genius of the Tamul language with that of other tongues, that that race or tribe, which afterwards split into Tamulians, Maleialies, Canarese and Telingas, must be a Caucasian or Himalaya-race and must have immigrated into the plains of India very early, intermingling with a Hamitic race which they found there, with thick lips and curled hair, like the far-spread Papuas. A short time ago I wrote to Dr. Rückert, requesting him, to send me a specification of this analogy between the Tamul and the Tatar dialects.

The second fact is that, when in 1848, a Treatise of mine was read to the Ethnological Society in London, concerning the Tamulians and Todavers and the cognate tribes of India, one of the leading members of the Committee put questions to me founded on my Treatise, and after an hour's conversation, he declared that my views entirely coincided with his own, viz : that the original inhabitants of the Presidency of Madras had immigrated into India from the Himalaya, and were pushed forward to the furthest south by other mountain tribes speaking Sanscrit and Hindi dialects, and immigrating at a later period ; just as the Celtic tribes had been successively pushed to the furthest west by the subsequently immigrating Teutonic and Slavonic races.

And that the Huns (not before 200 A. D.) and other Tataric (Scythian) tribes have entered and ravaged India, coming down from the Himalaya-mountains, is stated likewise in an earlier number of the "Asiatic Researches."

ART. IV.—*On the Puneer plant of Khorasan.* By Assistant Surgeon J. E. Stocks, M. D., F. L. S. *Communicated by the Secretary.* (With a Plate).

The berries, called by the Arab Physicians حب الككنج *Hub-ul-Kekinj* or *Kaknuj*, have been referred by most writers to a plant growing in Germany, Italy, and Greece, which was called by Tournefort (from the Arabic name) *Alkekengi Officinarum*, and by Linnæus, *Physalis Alkekengi*, and the same plant is identified with the *στροχυρος αλικακαβος*, mentioned by Dioscorides.

Dr. Royle, induced no doubt by the geographical position of this plant being unfavourable to the above identification, has suggested the *Nicandra Indica* (R. & S.), referred more properly to the genus *Physalis* under the name of *Physalis Indica* (Lam.), and which Loureiro called *Physalis Alkekengi*.

Dr. Royle also throws out the idea that the widely distributed *Physalis somnifera* was the original *Kakinj*, and that the *Nicandra Indica* was merely used as a substitute; for he observed that in the Eastern *Materia Medica*, plants with similar aspects are generally confounded and used indiscriminately, as might be expected. It may indeed be ventured as a general remark, that *the genus* is alone perceived by persons ignorant of Botany, and the knowledge of *specific* distinctions is one of the results of the study of that science.

It is most probable that a knowledge of the virtues, supposed or real, of species of the genus *Physalis*, was discovered independently by Physicians of different nations, and that the *Physalis Alkekengi* was the plant used by the Greeks.

If we consult Persian works on *Materia Medica*, such as the *Makh-zoon-ul-Adviyeh*, we find the following account of *Kakinj*, which is copied almost literally in the *Tofut-ul-momneen*. The synonyms are first noted, and we are informed that in the province of Fars it is called *Aroosuk pus purdah*, and about Shiraz *Kuchoomun*. In Greek it is called *Ousfudnoon*, in Syriac *Khumree murja*, in Turkish *Askeedoleon*, in Arabic *Towz-ul-murj* and *Hub-ul-yahood*, in Hindoostanee *Rajpootuka* and *Binpoonka*, and in Latin *Halikabux*: (or *Halekayum*). It is described as allied in nature and habit to the *Unub-ul-salib* (*Solanum*

nigrum), but its leaves are more firm and its branches become procumbent with age. Its flowers are white tinged with red, and its fruit is enclosed in a covering like a bladder (the vesicular calyx), which is green when young and red when ripe, and contains a kernel (meaning the true fruit) like a sepistan or a filbert, which when it ripens turns red also. Two varieties are noticed; one growing on stony ground, and one on cultivated land. The wild one has leaves like the apple, with a downy surface as if covered with dust. Its stem is fresh and herbaceous, and the whole plant is larger than the one growing in garden-ground. It differs also in having red flowers, and berries of a yellow hue with a tinge of red, and a calyx which turns yellow in fruit. In both, the fruit gathered when ripe and dried for use is the part employed in medicine. It is cold and dry in the 2nd degree, and is good for stomach and liver-diseases, jaundice, wind, heart-burn, gravel, stone, &c. &c. The above description of the inflated calyx, as also the name which the plant bears in the province of Fars, viz. *Bride-behind-a-curtain*, point out a *Physalis* as one at least, of the plants mentioned. But the large mountain variety with dusty leaves, and brown fruit, is most likely a distinct plant. And it is worthy of remark, that although the *Physalis somnifera* is common throughout Scinde, Beluchistan, and Afghanistan, yet a plant not belonging to that genus, (although bearing a general resemblance to it) is regarded the true Kakinj by those who have studied the Persian and Arabian writings on *Materia Medica*.

This is the plant so universally known through those countries by its more popular name of Puneer, Puneerbund, or Puneerbad, a plant in the natural order *Solanaceæ*, allied to *Physalis*, but distinct in its diœcious flowers and calyx which *closely* invests the fruit.

I subjoin the characters of the genus, and a few remarks on the species upon which it is founded.

PUNEERIA (*New genus.*)

Flowers diœcious by abortion.

Calyx 5-cleft, increscent but not inflated in fruit.

Corolla campanulate, with the divisions of the limb valvate in æstivation, and bent inwards where their tips join in the centre. Stamens five, inserted near the bottom of the tube of the corolla with tufts of hairs on each side of the filaments at their points of origin.

Ovary 2-celled with many-ovuled placentæ.

Style simple, stigma bilammellate.

Berry tightly invested by the calyx; its apex uncovered.

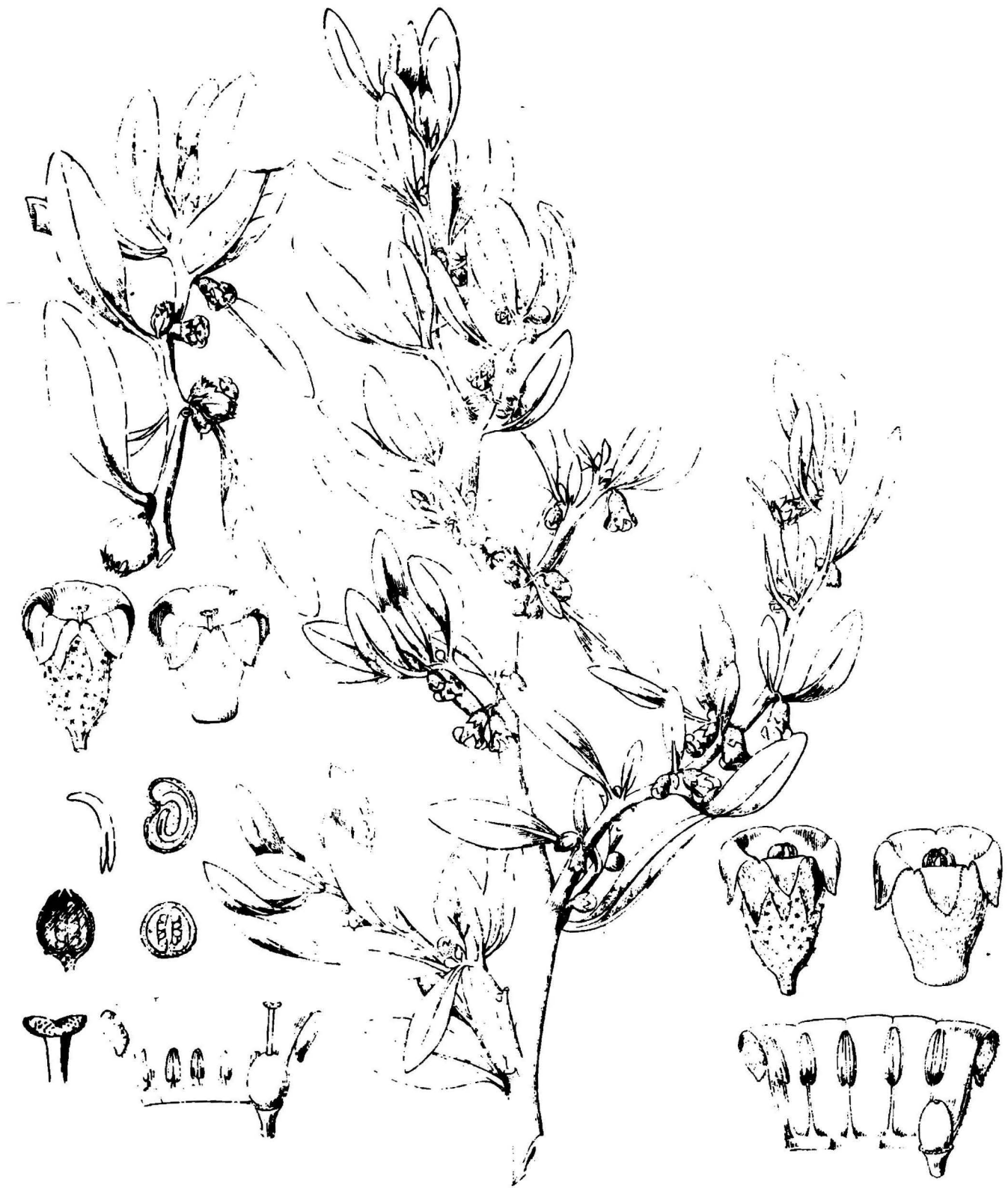
Seeds ear-shaped. Embryo bow-shaped or nearly ring-shaped, in the midst of fleshy albumen, with linear cotyledons and a long radicle.

An under-shrub, most densely covered with minute stellate hairs, arranged in tufts which form a short ash-grey covering over the whole plant. Leaves lanceolate-oblong, unequal at the base, of a thick tough texture, sometimes appearing to spring in pairs (pseudogeminate), with the upper and lower surfaces alike. Flowers diœcious, fasciculate, with the peduncles bending downwards. MALE PLANT.—Calyx shorter than the tube of the corolla. Stamens as long as the tube. Ovary rudimentary with no style. FEMALE PLANT.—Calyx as long as the tube of the corolla. Stamens rudimentary with exceedingly short filaments and with anthers effete and void of pollen.

PUNEERIA coagulans (J. E. S).

This plant is recognised at a considerable distance by its dusty ash-grey hue, which in the young leafy shoots has a bluish tinge. There is not a shade of green in the whole plant. It forms ramous bushes 1-2 feet high, flowering in February and ripening its fruit in March.

The natives are perfectly aware that some plants are male and others female, and they compare it to the Date-tree in this respect. The corolla is covered externally with close-set stellate hairs, but is smooth and of a sulphur-yellow colour internally. It differs from the corolla of *Physalis* in drying quite black and hard. The leaves also dry very stiff and hard. When fresh, their texture is somewhat leathery, with inconspicuous veins, and the two surfaces are alike in colour and venation. The ripe fruits are brown and shining on the surface, and are used as an emetic when fresh. When dried they are sold in the Scinde Bazars under the name of *پنیر جا فوتا* *Puneer jā fotā* (Puneer cardamons), and are (as before stated) regarded the true *Hub-ul-Kakinj* of Arabian and Persian writers. They are used against indigestion, and windy complaints of the stomach, and enjoy an immense reputation in Scinde, Beluchistan, and Afghanistan. They are used in infusion either alone, or mixed with the leaves and twigs of the *Rhazya stricta* (Apoynacæ) a peculiar and excellent bitter, well known in Scinde by the



W. Abraham, del.

Puneceria coagulans (J.E.F.)

*Lithographiede
Adelbert's Proj.*

name of *Stkár* or *Shéwur*, which last is a corruption of its Pushtu name *Shwurg*. The dried berries are also used in Beluchistan and Afghanistan to make cheese (*puneer*), when kid's stomach cannot be procured. Two or three of the berries are rubbed up with a little milk and this is stirred among the whole quantity intended for use. The milk is then warmed, and the coagulated mass being tied up in a hair-cloth, has its water expressed, and is finally hung up from the roof to drain and harden for use. This cheese differs from Kroot, a somewhat similar preparation much used by the hill-people on long journeys, as our common cheese does from skimmed-milk cheese, to wit, in containing the butter of the milk.

Forskall informs us (p. 47) that in Arabia, the *Solanum sanctum* is used to coagulate milk in a similar manner.

The plant is called *Sháprunga* about Peshawur, and *Khumzuray* about Candahar. It grows on hilly ground all over Beluchistan and may be found in waste places and rubbish heaps throughout Sindh. It is also found on limestone rocks about Hydrabad and elsewhere, where it is probably truly wild. It grows at Candahar (3,484 feet above the sea), and Griffith found it at Landi Khana in the Khyber pass (2,488 feet above the sea), and at Sera in the Punjab (Griffith's Journal p. 499, "*Physaloides* of Landi Khana").

So that we know that this plant extends in latitude from Kurrachee in 25 N. to 34 or 35 N. and in longitude from (at least) Kelat in 66½ E. to 73 or 74 E. It grows also from the level of the sea to 3,500 feet at least. And if it shall be found hereafter that this plant extends eastward into Mekran and South Persia, and along the Paropamisus towards Herat, it will be extremely probable that it was the original *Kakinj* of the Persian, as well as of the Khorasan, *Materia Medica*.

PLATE IV. *PUNEERIA COAGULANS*.—The female plant and its dissections are on the left, and the male plant and its dissections on the right of the plate. The dissections are magnified about three times, except the vertical and transverse sections of the ripe fruit, which are of the natural size.

ART. V.—*Notes and Remarks on Dr. DORN'S Chrestomathy of the Pushtu or Affghan Language.* By Lieut. Burton, Assistant, Sindh Survey. (Communicated by the Secretary).

The Affghans, like most of the tribes whose dialects belong to the Indo Persian class, claim a high antiquity for their language. As Moslems and Orientals, they piously and graphically describe their Prophet as using Pushtú with the same facility as he could talk Arabic or Hebrew, Zend, or Syriac. On one occasion when Kháled Bin Walid was saying something in his native tongue, the Affghání Mohammed remarked, that assuredly that language was the peculiar dialect of the damned. As Kháled appeared to suffer much from the remark, and betrayed some symptoms of insubordination, the Prophet condescended to comfort him by graciously pronouncing the words "Ghashe lindá ráorá" i. e. bring me my bow and arrows. To doubt the truth of this tale would among the Affghans be considered positive impiety, for they not only firmly believe that Kháled was of their race, but also delight in tracing back to him the origin of their principal families. * He was, however, if history is to be credited, an Arab of the tribe of Koreysh.

The Affghans are too pious a people not to believe that Ali, the great knight-errant of Islám, visited their interesting country. Apropos of such Arabic names as the *Khaibar* Pass and *Ali Masjid*, they remark that the latter was originally a mosque founded by the great Imám, after his defeating in a wrestling bout, the daughter of Káfir, who had sworn to remain a maid until such time as she might meet with a man who could prove himself to be such. The fruit of the marriage which ensued, was a son called by the Affghans, the "Imám Hanifah," whose adventures, when in search of his father, are favourite themes of many a rude verse and still ruder tale.

Pushtú literature, like that of Sindh, the Panjáb, and Beluchistán, may be described as consisting of—

1st.—Poetry, either purely Erotic, or treating on Súfi or mystical subjects. The former generally appears in the form of Ghazaliyat and Kasáid, and belongs chiefly to the people of the towns and cities, as the

* See the Tazkirat of the celebrated Akhund Darwazah.

severity of rustic morals would always reject such compositions, however harmless. The Súfí poetry owes its spread to the celebrated effusions of Rahmán and Mirzá, for however unwilling rigid Moslems may be to adopt the tenets of Tasawerf, few can withstand the charms of its mystic song.

2nd.—Tales, in verse and prose, but generally the former. Of these the most celebrated are—

1. Yásuf and Zulaykhá.
2. Bahrá-m-i-Gúr, a Persian romance.
3. The Janguámah, being a true and faithful account of the martyrdom of Husayn at Karbalá.
4. Saif ul Mulúk, (or Saifal, as he is generally called) and the Fairy Badi ul Jemal : a story in the Arabian Nights which, by some means or other, has overrun Sindh, the Panjáb, and Affghanistán.
5. Hír and Ranghá, the old Panjábí story.
6. 'Tamim i Ansári.
7. 'Adam and Durkhu, or as the lady is generally called "Durkhánay" with a species of endearment.
8. The Tale of Kuth ud din. This and the former are very characteristic stories of Platonic affection among the Affghans.

The above are all in verse ; the only prose tale generally read is the Pushtú translation of the Ayyár i Dánish. One peculiarity may be remarked in all these productions, that the authors seem never to aim at pure Pushtú composition. Their vocabulary is more than three parts Persian and Arabic, and the more foreign words and idioms are introduced, (as in the Urdú of N. India) the finer the poetry is. Whereas take for instance the Chef d'œuvre of Sindhí composition, the Risálo of Sháh Abdul-latif. Of the ten or twelve thousand couplets which that work contains, at least two-thirds will be in the purest Sindhí words and in the local idiom, displaying at the same time a richness of vocabulary, a variety of expression, and naiveté of style beyond all praise. The Pushtú metre also is invariably an imitation of some Persian measure (in modern * composition), whereas the Sindhí language possesses a peculiar kind of verse to which we must at least allow the merit of originality.

* The moderns in Pushtú poetry are the authors who flourished after the time of Rahmán.

These Pushtú tales, with all their faults and deficiencies, are intensely relished by both sexes and all classes. They form but a small item of the vast mass of tradition and legendary lore diffused through the wild and semi-nomadic population of central Asia.

3d. Religious Compositions, Divinity, Theology, &c. in verse and prose, as the *Rashid ul Bayán* of 'Akhund Rashid, and the *Makhzan* of Akhund Darwazah. The latter is peculiarly interesting, as bearing upon the subject of a sect which, had it not been so stoutly opposed, would probably have spread throughout the length and breadth of *Khorásán*.^{*} Theological compositions are generally studied by women and children in the Pushtú language; by the latter as an introduction to the classical tongues, and by the former as very few of them are taught to read Arabic or Persian. Among men the usual course of education is as follows: the Student begins with Arabic Grammar and Syntax, then passes on to Logic, Rhetoric and Philosophy, and ends with Theology, Divinity, the Koran, &c. &c. Those who are unwilling or unable to master all these subjects, content themselves with merely reading *Fikh* (Theology) in Arabic: the less industrious study the sciences in Persian, and the lowest classes of *Tálib ilm*† read Pushtú works only.

* Lieutenant Leech in the Remarks, which precede his vocabulary of the *Tirbai* dialect, tells us that in one district the founder of the sect above alluded to, had 60,000 disciples.

Lieutenant Leech however entirely mistakes the religion of the *Pir i Ranshan*. He was not a Shiab, but as the *Dabistán* informs us, a *Súfi*, who proclaimed himself to be a prophet and aimed at the establishment of a new faith. His celebrated work was the *Khair ul Bayán* written in Arabic, Persian, Hindí, and Pushtú, and said by him to have been received directly from the Almighty without the intervention of the Archangel Gabriel. It might probably be procured at Pesháwar from the *Pir's* descendants, who are there numerous; but I have hitherto failed in my attempts to get a copy. The name of the *Pir i Ranshan* is still celebrated in E. Afghanistan and many are the dark stories told against him by the orthodox followers of *Abú Hanifah*. One of his couplets is generally quoted as a proof of the heretical nature of his tenets; it runs as follows. —

Mál o málk wárah de Khudá í de;

Dá hábil hárim rághle de kamáh †

Property and kingdom all are of God.

This "lawful and unlawful"—whence come they †

† The *Tálib ilm* or Student in Afghanistan is very different from the same species usually so called in India and Sindh. Like the members of our European Universities in the middle ages, the Afghan Student carries about his sword and dagger, and is fonder of a broil than he is of his books. The duello of course is unknown, as the usual way to resent an insult is to draw a sword and cut the opponent down. As Mussulmans, they dare not openly indulge in the "wine and wassail," but the "emerald cup," in other words *Cannabis sativa* under the forms of *blang* and *charas*, forms no contemptible succeda-

neum.

Epistolary correspondence (*inshá*) is almost universally carried on in Persian. Sometimes when writing to females, or in the Khatak and a few other clans, the vernacular is used.* Persian is the language of the *Daftars*, *Diwání* and all other official papers.

I cannot conclude this brief sketch of Affghan literature without an expression of regret that during our occupation of the country we took so little interest in what was around us, and that the first sensible work published in Pushtú should have appeared at St. Petersburg instead of at London or Calcutta.

Before commencing any remarks upon Dr. Dorn's publication, it may be as well to premise that I have studied only the Eastern or Pesháwar dialect, and have had few opportunities of conversing with the Hill people† or the Western Tribes.

The "Chrestomathy" well deserves its name; it is a successful collection of all the gems of the language, and scarcely omits a single author of celebrity. It is to be regretted that the extracts from Mirza are not more copious, as it is very difficult to procure the whole work, and many a Mullá in Affghanistan has never seen it. The Glossary is necessarily defective, as the only Affghan words which bear vowel points, are those furnished by Muhabbat Khán, and many of them are incorrect. It is clear that the author suspected this, as in many cases the pronunciation is not given in the Roman character, whereas in the Persian and Arabic words it is never omitted. In some letters this is a great disadvantage, as a colloquial knowledge of the language could not easily be acquired with the aid of the work in its present state. For instance, the letter *ç* che, (with three dots *above it*) is pronounced as Z in *Zán*, (life), as S in *Sáng* (a wing); and as Ch in *Chamyár*, (a tanner). Dr. Dorn moreover gives the sound as "to," and this I have never yet heard from the mouth of a Native.

In P. 390. *Aputah*, ‡ gen. Sing. upside down, topsy turvy.

* Whereas in the Sindhi dialect they not only have a good translation of Markaras' Form's, but also the Mullas even do not disdain to write to each other in their own tongues. We may readily account for the difference by recollecting the liberality of the Kalhora family in patronizing Sayyeds and learned men, and the pride which they took in cultivating the language of their forefathers.

† Who like the Bedouins of Arabia speak the purest dialect.

‡ I have followed the style of orthography adopted in Shakespeare's Dict. The pages refer to Dr. Dorn's Glossary. The abbreviations are, A. for Arabic,—P. and H. for Persian and Hindoostani,—and S. for Sanscrit. The others will easily be recognised.

P. 394. Adé, is the word used to a mother, like our "Mamma." Mor is the common word for a mother.

P. 401. Akor, is a walnut fr. H. akhrot.

P. 409. 'Uriyaz, is the common name for a cloud.

P. 411. Bátingan, is not a love-apple, but a brinjall (Solana melongena) in H. baingan in A. and P. bádangán and bádánján.

P. 412. Báhú, is not syn. with khalkhúl, the former being a bracelet and the latter in Ar. an anklet. Der. fr. Sansc. अङ्ग an arm.

P. 419. Baurá, is the large black bee called in H. bhaurná.

P. 426. Párú, is a snake-charmer.

P. 430. Pasát, is a mere corruption of fasád.

P. 433. Pukhtay, is a rib, synonymous with H. paslí.

P. 436. Tarú, is the name of the black partridge, and in some parts of the country means a jungle-cock, but never I believe signifying a woodcock or snipe.

P. Do. Tálá, appears to be a mistake for, or corruption of, the Persian word tálán.

P. 437. Tánbah, more generally tãnbah, is generally used to signify the fold or leaf of a door, not the door itself.

P. Do. Táhwal, means to twist for the Persian táo, and the Sanscrit तर्क. In Affghan-Persian the phrase "táo dádan" is constantly used.

P. 447. Tangah, generally signifies a coin in value about $\frac{1}{3}$ d of a rupee. The coin no longer exists: it is therefore a nominal value.

P. 452. Janí, is seldom used for a bowstring. Jáí جي is the common word, and is derived from the P. zih.

P. 452. Júbalawal, generally means to wound.

P. 454. Chár, is synonymous with the Persian kár and means any work, deed, &c.

P. 455. Chaghzí, is any fruit with an edible kernel, like walnut, almond, &c.

P. 457. Sár, is not synonymous with chár; it means information, knowledge, and is commonly used in the Sindhi dialect. It is originally Sanscrit—तार pith, essence, &c.

P. 458. Záhwal, from zée a place, means to take up a place, position, &c. jáe giriftan in P.

P. 460. Súní, a woman's front hair, is always pronounced saní in the East (in Sindhi chuní is used); the back hair is called sare.

P. 468. Kkhachan, generally means dirty, foul, filthy.

- P. 469. *Kk̄arob*, is an adj. and means full (of water).
- P. 472. *Khwákbay*, is a mother-in-law generally.
- P. 477. *Kk̄ih*, is a misprint for *Kk̄om*, which is synonymous with the Persian *khúb*, good.
- P. 478. *Dáral*, generally signifies to bite or tear with teeth. It may also mean to scold. It is derived from *darah*, the back teeth, in H. *dárh* from the S.
- P. 479. *Dáo*, is an old Persian word and generally signifies betting or wagering. It is much used in the sense of "winning a wager."
- P. 480. *Darghedal*, is generally pronounced *rg Jaredal*.
- P. 484. *Dautar*, is a mere corruption of *daftar*: the adj. *dautari* is applied to the clans, who hold land as *Zemindárs*, and whose names are therefore enrolled in the Government *daftar*. About *Pesháwar* there are 7 well-known *Dantari* *Khail*, viz.
1. *Momand*.
 2. *Khalíl*.
 3. *Dáúdzye*.
 4. *Gigyáne*.
 5. *Mámanzye*.
 6. *Yusapzye* proper *Yúsufzye*, vulgar *'Isapzye*.
 7. *Khatak*.
- P. 490. *Ránjah*, is the general name of *súrmah* or native anti-mony.
- P. 491. *Ráwastal*, is applied to leading or bringing animate objects; *ráoral*, of inanimates.
- P. 493. *Rasawal*, is the causal of *rasídal*, and is therefore synonymous with the Persian *rásanídan*.
- P. 498. *Zikkah*, generally signifies a pimple on the face.
- P. 499. *Zirgab*, generally *zarkah*, is the bird called by the Persians *Kabk i dari*; the grey or common partridge is *Tanzaray*, and the black variety, *Tárú*.
- P. Do. The heart is generally pronounced *zrah*, not *zirah*, and *zargay* is a diminutive form of the same word.
- P. 500. *Zam zamole*, is used as for instance, in carrying off the wounded from a battle-field, &c.
- P. 501. *Zoral* is a verb derived from *zor*, and is synonymous with the Persian *z* or *dádan*.

P. 502. Zabír, is an Arabic word signifying sick, melancholy. It is commonly used in Panjábí e. g.

Te már fakír zahir náu khush hoyá parwár.

And having slain the wretched fakír, the family was joyful.

P. 503. Zezmah, means the thickness of the eyelid, the part where antimony is appl ied.

P. Do. Jámah, signifies the jaw-bone.

P. 504. Zhúyal, in the E. dialect joyal, signifies to chew.

P. 506. Spúr, means dry bread, plain rice (without " kitchen") and met, hard words, rough speech, &c.

P. 507. Stúní, is the lower part of the throat.

P. 509. Surizar, is a mere corruption of srahzar i. e; red zar, gold. The word zar is used in Pushtú, as well as in Persian, to denote either gold or silver.

P. Do. Sarsáyah, is not synonymous with sarmáyah. It means certain alms (of grain or money) distributed to the poor on the Eed i Fitr. In the Rashíd ul bayán we find—

Awwal zdáh krah Sarsáyah de.

Learn (this) that first is the Sarsáyah.

P. 512. Samsarah, is the large kind of lizard called in Persian Súsmár, and in Ar. Zabb (ضب). In Afghanistan it is eaten by some classes, as the Musallis for instance, and Firdausí's celebrated lines tell us that the Arabs used it for food ;

Arab rá be jáyí rasíd ast kár,

Ze shír i shutur khúrdan o súsmár.

Kih, &c.*

P. Do. Sendúrí, is an adj. signifying vermilion or red-lead color, from the Sansc. sindúr.

P. 515. Setí, is, I believe, an error for sati, as the word is Sanscrit, and as such has not been altered by other nations. In Persia they call it rám-satí.

P. 516. Shádú, generally signifies an ape or baboon.

P. 516. Shárbal, is to churn.

P. 519. Shrang, is a clang, rattle, &c. as of money, &c.

P. 521. Shindah, is a " bad action."

P. Do. Sholah, is a corruption of the S. & H. sháli, paddy.

* I quote from memory, not having the passage at hand to refer to.

- P. 535. Ghur-Kamánah, is a pellet-bow. The cross-bow is quite unknown in Affghanistan.
- P. 536. Ghusháyah, is synonymous with the P. sargín, cow-dung.
- P. Do. Ghul, is a low and indecent word for the human fæces, whereas "birár i insán" is an Arabic phrase little used except in medicine.
- P. 538. Ghwundáre, generally signifies any round thing.
- P. 540. Fasah, is a corruption of the Persian fâsh.
- P. 546. Kalang, generally signifies revenue paid up in money, not in coin.
- P. 548. Kásirah, is a most abusive term applied to females, and synonymous with the Persian kusí, and the Pushtú "ghuwalay," except that the latter is applied indiscriminately to both sexes.
- P. 550. Kasoray, is a purse generally.
- P. 551. Karak (not kurak), is the Persian name of a kind of quail, called in Pushtú, maraz مرز
- P. 552. Krapedal, is to gnash the teeth, gnaw or chew from the imitative sound krap.
- P. 553. Kishor, is the name of an animal like a jackal.
- P. 555. Kund or kúnd, is a widower. Kundah or kúndah, a widow.
- P. Do. Kandolay, is an earthen pot for drinking out of.
- P. 556. Kútah is generally applied to the village, or (as we call them in India) Pariah dogs. Tází is a greyhound, and Nímchah a mongrel breed between the two. Spay is the generic term for a dog, and was the word usually used by the Affghans, when speaking of and to our seapoys.
- P. 558. Kís, generally signifies bad abusive language.
- P. 560. Grut, is the short span, (distance between thumb and forefinger expanded) or the extended skin between the thumb and forefinger.
- P. 562. Gandhír, (like the Persian zahr i már) is generally used for poison in cursing. e. g. "Zahr gandhír Shah!" May you be poisoned!
- P. Do. Gañal, is to count: in H. ginná.
- P. 566. Larjúm, signifies the entrails generally, and is applied to the heart, liver, lights, &c.
- P. 568. Lúmah, is a snare, or gin; and never a net which is called jál.
- P. 569. Sweshal, is v. a. to milk (cow, &c.).

- P. Do. Lík, generally means, a line or trace.
- P. 570. Lewah, generally signifies a wolf, as log is not much used.
- P. Do. Má-Khám, as is proved by the word Nimá-Khám, P. 599, is a corr. of Nimáz i Shám, the (time of evening prayer). This is a common way of mutilating words among the Affghans, e. g. they call the month Muharram, San-o-Sen (i. e. Hasan and Husain), cutting off the first syllables of both words.
- P. 577. Mreyay, is a slave ; a servant would be naukár or saray.
- P. Do. Maṛwálay, literary means dying.
- P. 578. Maṛwand, is the wrist.
- P. 579. Mashr, is "elder," opposed to kishar ; in P. mih and kih.
- P. 584. Mlást, is S. S. as P. khwabidah, and means either asleep, or lying down.
- P. 585. Mulkbúzah, is not thyme but fenugreek, called in S. and H. methí.
- P. 586. Maṇḍánú, is a churning staff.
- P. 587. Mangwal, is synonymous with the P. panjah, and means the hand with fingers extended.
- P. 588. Músídal, generally signifies to smile.
- P. 589. Mogay, is S. S. with the P. mikh, and generally signifies a peg, tent-peg, &c.
- P. 590. The word spelt mahí, black pulse, is generally written by the Affghans ماهی mayeh.
- P. Do. Myásht, is a month as well as the moon. Sometimes in the former sense it is called myáshtah.
- P. 593. Nárah, is probably a corruption of the A. نعره nárah, a cry.
- P. 593. Náraghí, I believe to be an error for ná-rogh-í, unhealthiness, sickness.
- P. Do. Nátár, is generally used to signify unkindness, harsh and cruel actions, &c.
- P. 595. Nakhtar, is by no means the poplar tree or synonymous with چنار. It is the Pinus Neoza, and bears the nut used in sweet meats, and called cheighbúzah.
- P. 598. Naghray, is a kind of fire place or pot-stand, called in H. chúlhá, and in Persian dígdán.
- P. Do. Ngħwagal, in the E. and ngħwazhal, in the W. dialect signifies to listen, give ear ; from ghwazh, an ear.

P. 599. *Nar*, is generally used for *nal*, a pipe.

P. Do. *Namást*, I believe to be an error for *nástah*.

P. 600. *Nmasay*, is generally *nwasay*, a grandson or daughter, from the old Persian *nawásah*.

P. 601. *Nwarzaz*, is not a sandpiper, but signifies with *karak*, a quail.

P. Do. *Núkarah*, generally signifies clawing, scratching.

P. 602. *Nihálah*, more generally *nálay*, is a coverlet to a bed, a quilt. In H. *niháli nibálchah*.

P. Do. *Niyá* and *níkah*, grand-mother and grand-father, are derived from the old P. *nayá*.

In Pushtú the names of relations are not nearly so numerous and well defined as in the Indian languages.

P. 604. *Wádah*, is probably a corruption from the A. *وآده* *wá-dah* and in original signification is restricted to the nuptial contract.

P. 606. *War*, is the general name of a door; *durwázah*, is a large door, a gate.

P. Do. *Wrá*, is the female part of the bridal procession. The male is called *janj* *جانج*; in H. *barát*.

P. 608. *Wasikah*, is never now used to signify "now." Is it not a mistake for *os-kih*, now, that, & c.

P. 611. *Werah*, generally signifies the court-yard of a house.

P. 616. *Yaredal*, signifies to fear.

In the "additions and corrections," there is only one remark to make, viz. that the Pushtú *bíchaunah* is directly derived from the H. *bich-hauná*. S. M. bedding, and certainly does not require us to go so far as to deduce it from *pech* and *orhná*.

In conclusion, I have only to say that it is with much diffidence that I venture to offer the above observations upon the work of so learned an orientalist as Dr. Dorn. They are put forward with the sole view of promoting our common study, not with the intention of criticizing the labors of an author, to whom every Pushtú Scholar must feel himself deeply indebted.

I subjoin a short list of words, (many of them of Sanscrit derivation,) common to the Pushtú, Panjábí and Sindhí dialects.

<i>Pushtu.</i>	<i>Sindhí.</i>	<i>Panjábí.</i>	<i>English.</i>
<i>Aredal</i>	<i>Aranu</i>	<i>Araná.</i>	To stop.
<i>Báhú</i>	<i>Bánhi</i>	<i>Bánhi.</i>	A bracelet.

Baledal	Baranu	Balaná.	T'o burn.
Botay	Boto	Botá.	A young camel.
Bíya	Bíyo	Biyá.	Second, again.
Búkah	Boko	Boká.	A bucket.
Chelay	Chhelo	Chhelá.	A kid.
Ghenday	Gandí	Ghundí.	A prostitute.
Gad	Gađu	Gađ.	Mixed.
Kúhí	Khúh	Khúh.	A well, pit.
Larah	Lái	Leí.	Because, of.
Manj	Manjhi	Manjh.	In.
Mandánú	Mandhání	Madhání.	Churning staff.
Newal	Niyanu	Newná.	To take.
Ojhray	Ojhri	Ojhri.	Entrail.
Pat	Patu	Pat.	Shame.
Sandah	Sánu	Sánd or Sánh.	Male-buffaloe.
Sár	Sári	Sár.	Information.
Thúbar	Thúharu	Thúbar.	Euphorbia plant.
Tarkán	Drakhanu	Takhán.	A carpenter.
Wesáh	Wesáhu	Wesáh.	Confidence.
Wenú	Wenu	Wená.	Speech, reproach.
Wayí	Wái	————	Language.

The number of words common to Pushtú and Hindostání is accounted for by the circumstance of their being, usually, of Sanscrit origin. The old forms and corruptions of the Persian dialect abound ; the following are a few of the most remarkable :—

<i>Pushtú.</i>	<i>Persian.</i>	<i>English.</i>
'Uránawal	fr. Wayrán	To lay waste.
'Inza	.. Anjír	A fig.
Bzah	.. Buz	A she goat.
Púkh	.. Pukhtah	Ripe, cooked.
Pkhah	.. Pay	Foot.
Plan	.. Pahan	Broad.
Táwahwal	.. Táftan	To twist.
Tizh	.. Tishnah	Thirsty.
Tandar	.. Tundar	Thunder.
Tálah	.. Chál	A bird's nest.
Sásidal	.. Chakídan	To drop.

Khihtah	fr. Khisht.	A tile.
Khsar	.. Khusar.	A father-in-law
Khúr	.. Kh'ábir.	Sister.
Rasídal	.. Rasídan.	To arrive.
Zgharah	.. Zirah.	Mail-coat.
Zmakah	.. Zamín.	The earth.
Zimay	.. Zam.	The winter.
Zezhdal	.. Záidan.	To be born.
Stor	.. Sitárah.	A star.
Súray	.. Súrákh.	A hole.
Shpún	.. Shapán.	A shepherd.
Ghur	.. Gaz.	The tamarisk tree.
Ghwakhay	.. Gosht.	Meat.
Ghwag.	.. Gosh.	Ear.
Gabínah	.. Angubín.	Honey.
Lastonay	.. Astín.	A sleeve.
Marj	.. Marz.	Land.
Milmah	.. Mihmán.	A guest.
Nást	.. Nishast.	Sitting.
Nakhah	.. Nishánah.	A mark.
Wraz	.. Roz.	Day.
Hagay	.. Khág.	An egg.

On a future occasion I propose to make some remarks upon the remains of the Sanscrit and Arabic languages which are to be found in Pushtú.

ART. VI.—*Indication of a new Genus of Plants of the Order Anacardiæ*, by N. A. Dalzell, Esq. [With two Plates.]
Communicated by the Secretary.

Genus, GLYCYCARPUS (*mih*).

GENERIC CHARACTER.—Flores dioici- δ . Calyx 4-partitus æqualis, persistens, laciniis ovatis obtusis. Corollæ petala 4, sub disco hypogyno 4-crenato inserta, oblongo-linearia, æstivatione imbricata.

Stamina 4, sub disci margine inserta, cum petalis alterna, iisque breviora. Filamenta libera, antheræ introrsæ, biloculares, longitudinaliter dehiscentes.

In floribus masculis, ovarii rudimentum nullum; ovarium unicum liberum, sessile, uniloculare, ovulum unicum, funiculo e basi ascendente, pendulum. Drupa transversè oblonga, apice umbone parvo donata. Funiculus demùm testæ adnatus. Putamen nullum, testa membranacea.

Floribus axillaribus interruptè glomerato-spicatis, minutis, bracteatis, albidis.

Sp. 1. *GLYCYCARPUS edulis*. (N. A. D.) Arbor Indica, foliis simplicibus alternis, breve petiolatis glabris, erga apicem ramulorum confertis, elliptico-oblongis, acuminate in petiolum attenuatis.

Observations.—Male specimens of this tree were brought down from Mahableschwur in February last, and I had the good fortune to receive female specimens in fruit from the Goa jungles in May.

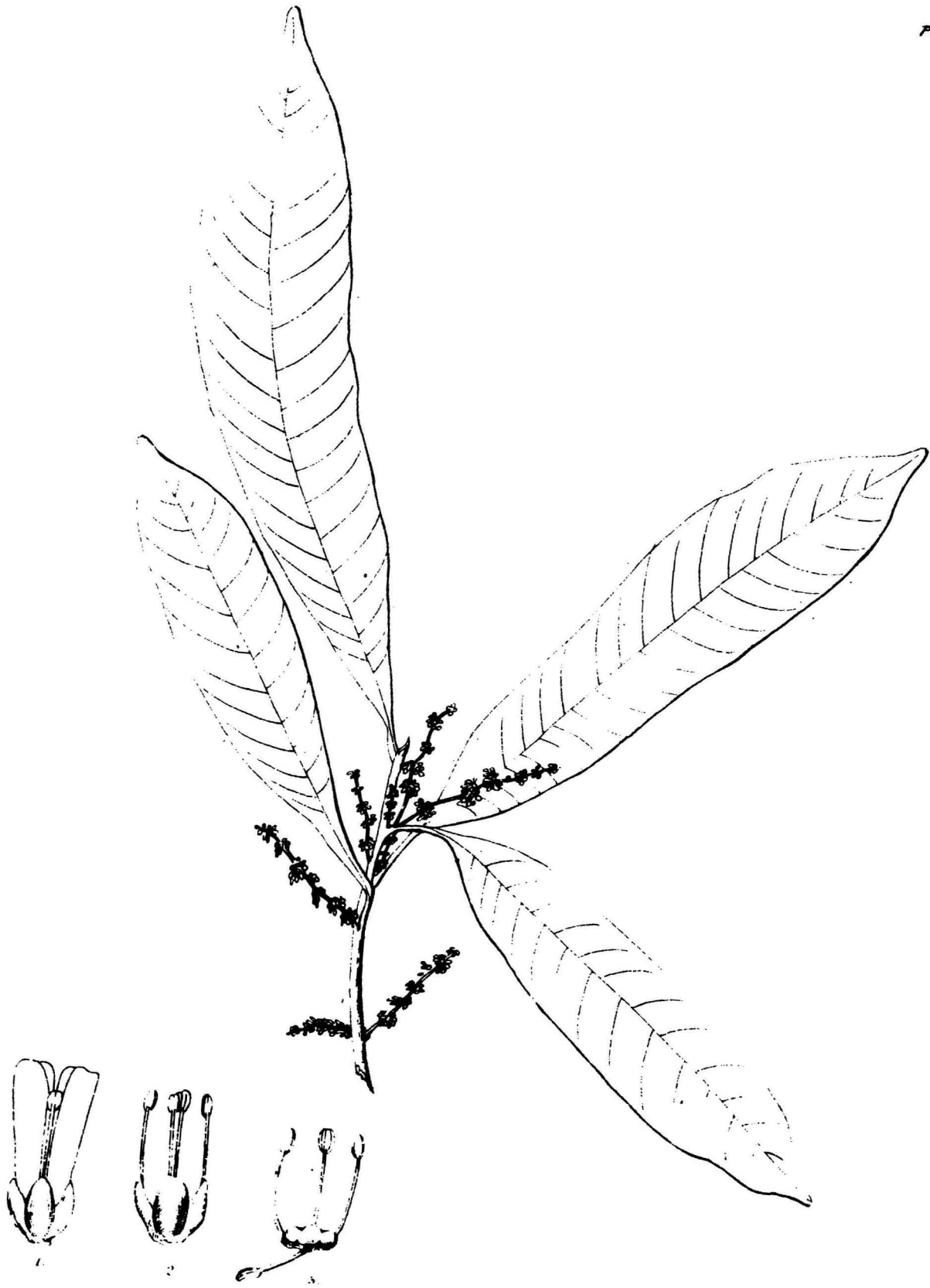
This can scarcely be confounded with any genus already established. Its simple leaves and uniformly diœcious character together with the quaternary disposition of its parts, its strictly spicate inflorescence, and wholly superior fruits, separate it from existing genera. Its nearest affinities seem to be with the genus *Comocladia* of P. Brown, and with the *Botryceras* of Willdenow. From the former it is distinguished by its simple leaves and the form of its inflorescence, and from the latter by the absence of putamen to the fruit.

The flowers, which are minute, are arranged in small sessile opposite bundles along a slender axillary rachis, which is covered with ferruginous tomentum. Several spikes generally proceed from the same axil, and are shorter than the leaf.

The female spikes scarcely exceed half an inch in length.

The fruit is a black shining drupe about the size of a French bean; immediately below the outer coat, there is a thin, very sweet oily pulp, beneath which is the testa which is thin and membranous. On one side of the testa extending from the base to the apex, there is a deep groove parallel with the commissure of the cotyledons in which lies the funiculus by which the seed is suspended.

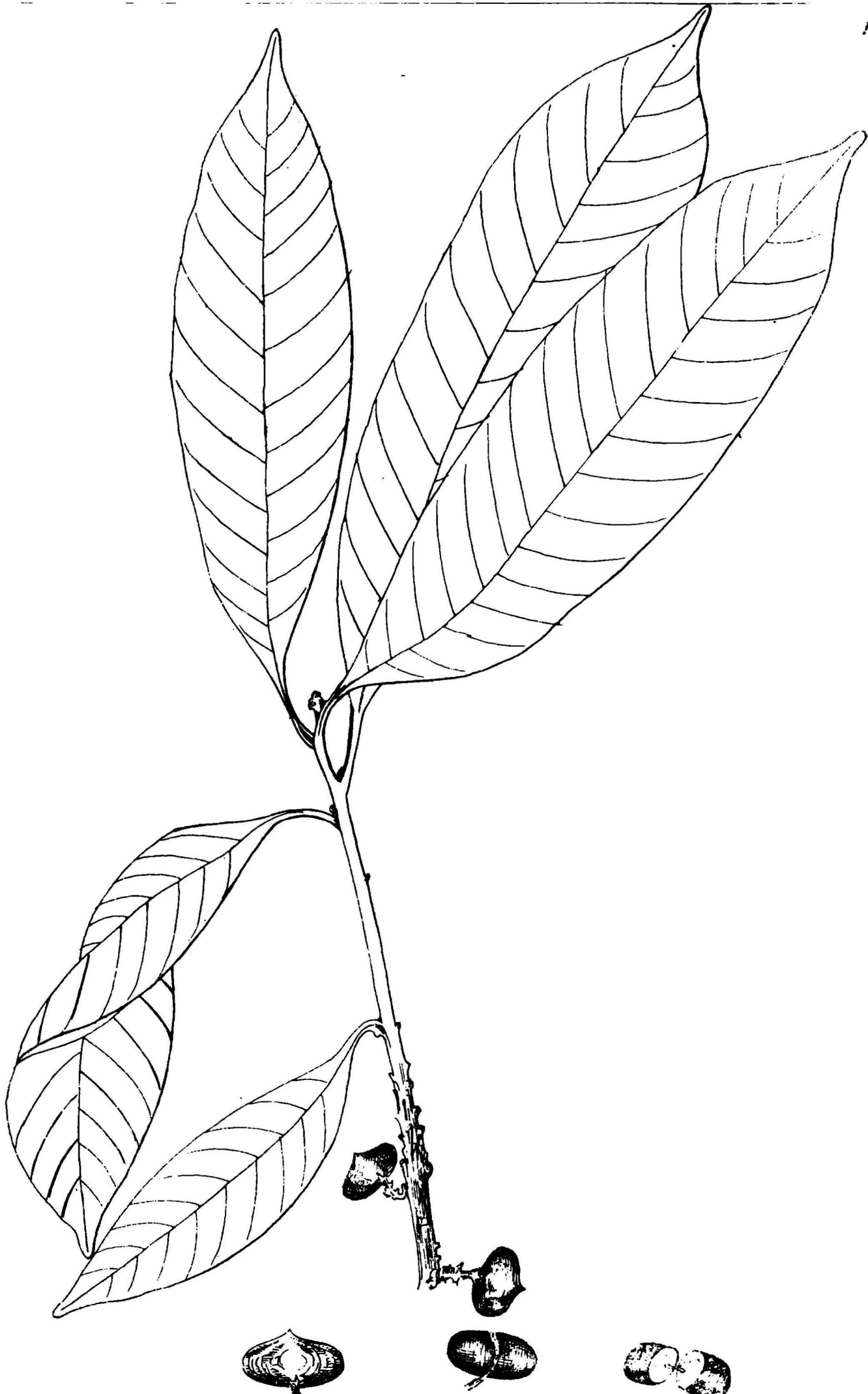
The cotyledons are very thick, transverse and plano-convex, and are penetrated with innumerable pores containing a milky fluid.



A. J. D. ad. succ. det.

Glycyarpus edulis

Litho: O. Serravallo



N.A.D. ad sic. del.

1. *Glycyarpus edulis* 2.

Litho. Observatory

In a family like the Anacardiæ, where the fruits are generally distinguished for properties of a peculiarly acrid and dangerous character, it is remarkable to find that the fruit of the tree under consideration is not only of a harmless nature, but possesses such sweet and agreeable, qualities as to cause it to be much sought after, as I find is the case in the Goa districts, where this tree appears to be more plentiful than elsewhere, and where it bears the name of *Ansalé*.

I have here and there observed upon the specimens sent me, small particles of a concrete resinous-looking substance, but it will require a more perfect acquaintance with the plant before it can be determined whether this secretion is in sufficient quantity to be an object of interest in an economical point of view.

The female flower has not yet been seen.

EXPLANATION OF THE PLATES.

- Pl. V. *GLYCYCARPUS edulis*, male branch—natural size.
1. Male flower (magnified).
 2. Do. do. petals removed.
 3. Do. do. petals removed to shew the disk and position of the stamens.
- Pl. VI. *GLYCYCARPUS edulis*, female branch with fruits.
1. A ripe drupe.
 2. Pericarp removed to shew the testa and funiculus.
 3. Testa removed to shew the cotyledons and the position of the radicle and plumule

ART. VII.—*Observations on the Grammatical Structure of the Vernacular Languages of India.* By the Rev. Dr. Stevenson.

No. I.

The assertion that no language can be thoroughly understood till it has been compared with others belonging to the same family, is no where more true than in relation to the Vernacular Languages of India.

From the roots of the Himalayas to the southernmost point of Ceylon, and from the India Caucasus to the confines of Assam, we have a number of languages and dialects more or less allied to one another, mostly composed of two grand elements. To the North of the river Krishná, generally speaking, one of these elements prevails, and to the

South of that river the other is the predominating principle. In relation to this subject the following facts have been established by learned Orientalists.

1. That the languages spoken to the North of the Krishná have all a strong family resemblance, and all draw largely from the Sanscrit, which is the prevailing element in their composition.

2. That the languages to the South of the Krishná also have all a strong family likeness, while the prevailing ingredient in their structure is not Sanscrit.

3. That for the expression of ideas connected with religion, law, the sciences, and the arts of civilized life, the Southern family as well as the Northern draws almost exclusively from the Sanscrit.

4. That Mohammedan rule and Musulman intercourse have introduced into all of these languages a greater or less proportion of Arabic and Persian words, which are carefully to be distinguished from the original words of the Indian tongues.

5. It is usually taken also for granted that between the non-Sanscrit parts of the Northern and Southern families of languages, there is no bond of union, and that the only connecting link between the two is their Sanscrit element. It is to this last proportion that the writer of this paper demurs. Were it once established, it would follow that all the unity of the Indian nations arises from Brahmanical institutions, language, and literature, and that among the other tribes not of Brahmanical descent, there is no bond of connection whatever. At such a conclusion any one, who takes all his facts from Brahmans, and whose chief intercourse with the natives consists in conversing in his study with a Pandit, may very easily arrive, but no one who has mingled with the people, studied their modes of thinking, observed their rites of worship, manners and external form, all so diverse from any thing truly Brahmanical, will be so led astray. The real truth is, that judging from their own standard religious works, the Brahmans have changed as much fully as the people, and have had their religion and customs more modified by those of the aboriginal inhabitants of India, than either they themselves generally, or others are aware of; and still a wide line of demarcation remains, marking them as distinct from the rest of the population. But after all, the grand proof of an original connection among the Hindu tribes is unity of language. The vocables of the northern family, it is true, are almost wholly Sanscrit; Mr. Colebrooke, a good judge

on this subject, considers seven-eighths of the Hindi as derived originally from the Brahmanical tongue; and this may not be a proportion far from the truth in regard to the great majority of the other dialects of Northern India. No one, however, who has studied the Hindi and the Sanscrit, can have failed to remark that with the vocables the similarity of the languages disappears. Greek or Latin, or even German, Grammar bears much more resemblance to the Sanscrit than the Hindi. The inflections of the Substantive Verb in all of these languages, is much more like that of the Sanscrit, than those of the Hindi Substantive Verb, or those of any of the Vernacular languages of India.

The present Indicative of the Verb to be, in five of the language referred to, is—

		Sing.			Plu.	
Sanscrit	Asmi,	asi,	asti ;	asma,	stha,	sunti.
Latin	Sum,	es,	est ;	sumus,	estis,	sunt.
German	bin,	bist,	ist ;	sind,	seid,	sind.
Hindi	hūn,	hai,	hai ;	hain,	ho,	hain.
Marathi	A'hen,	áhes,	ahe ;	ahon,	aha,	ahet.

Whence has this remarkable difference in grammatical structure arisen, if all of these languages are nothing more, as the Brahmans teach, than corruptions of the Sanscrit? The theory which has suggested itself to the writer as the most probable is, that on the entrance of the tribes which now form the highest castes, those of the Brahmans, Kshatriyas, and Wai-syas, into India, they found a rude aboriginal population, speaking a different language, having a different religion, and different customs and manners; that by arms and policy the aboriginal inhabitants were all subdued, and in great numbers expelled from the Northern regions, those that remained mixing with the new population, and being first their slaves, and then forming the Sudra caste. The language of these aborigines is supposed to have belonged to the Southern family of languages, the most

perfect remaining type of which family is the Tamil. By means of a Comparative Vocabulary of the different Indian tongues, on which the writer is engaged, and by attention to their grammatical structure it is hoped some light may be thrown upon these interesting subjects, and data furnished for arriving at some more accurate determination of the questions they suggest than has hitherto been possible, thus proving the truth or falsehood of the theory above propounded, which if it fall to the ground before investigation its propounder will be satisfied.

In reference to the letters of the Indian tongue, two subjects require some remarks; the one, the characters by which the sounds are expressed and the other the sounds themselves.

In the Sanscrit there are exactly fifty simple letters, each of which has a distinct and separate sound. This sum includes ञ, a letter which is not used except in the Vedas. Of these, seven letters are not sounded in Hindi, and six in Marathi, Canarese, &c. at least by the common people. These letters are ऋ, ॠ, ॡ, ॢ, ऌ, ॣ. The sounds expressed by these letters, then are purely Brahmanical, being no where enunciated by the population generally, but changed to रि, री, लि, ली, अ, and ख or some of the other letters or syllables. In the Tamil, these and all the aspirates are omitted or changed, as also is the ञ which even in Hindi is scarcely distinguishable from the ण, although the Marathi Brahmins sound it as a soft *sh*. In the Marathi, Canarese, and Telinga, there are four sounds, which do not belong to the Sanscrit language; ts, tsh, dz, and dzh, in which way च, छ, ज्ञ, and झ are frequently pronounced. In the Tamil, there is a peculiar *l* and a peculiar *n* coming nearer the English *n* than either of the two used in Sanscrit, and there is also harsh *r*, which it has in common with all the Southern family. The elements then of the Sanscrit language are different from those of the Vernacular tongues, none of them having several of the sounds employed in the Brahmanical tongue, and those to the South having sounds, which do not occur in Sanscrit. Besides, the Sanscrit abounds in combinations of letters without the intervention of consonants, this is a thing wholly abhorrent to the genius of all the vernacular tongues; one of these consonants in such a case is either wholly omitted by the common people, or a vowel is interposed between them. Thus धर्म (Dharma) becomes धम्म (Dhamma) or धरम (Dharam); अष्ट (Ashta) becomes अठ (A'th), lengthening the first syllable to compensate for the consonant dropped, a process which also takes place in changing कर्म (Karma) to काम (Kám)

&c. In Sanscrit also the final vowel is pronounced, while in the vernaculars it is dropped. While then the Sanscrit alphabet is perfect for the expression of the sounds of the language to which it was originally adapted, it fails as soon as it is applied to the vernacular tongues, possessing redundant letters, and failing to express the peculiar sounds of those languages. Nevertheless, all the alphabets of India as well as those of Ceylon and Tibet, seem evidently derived from one source, the ancient *cave* character, still found engraven on the rocks in many parts of the country. This character itself is intimately connected with the old Phœnician, and indeed seems to have been derived from that source. The annexed comparison of some of the *cave* letters with others in the old Samaritan, and Phœnician, will exhibit coincidences, which could hardly have been the result of accident. Indeed, it would seem that all the Alphabets in existence may be traced either to this source, to the Egyptian Enchorial, derived from their hieroglyphic system, or to the Arrow headed character. As far as yet ascertained, these seem to have had an independent existence, and all the rest to have been derived from them. Writing in the most ancient times, seems every where to have been hieroglyphical; that is, a mere rude painting of the object intended, or a symbol pointing it out by some obvious analogy. The thought seems then to have been suggested that these symbols should be made the signs of sounds, and not of objects and ideas. Though thus the manual labour of writing was increased, the acquisition of the art was rendered easy, and the expression of ideas made more certain and definite. The Chinese are the only civilized people, who retain the ancient system of writing by the use of symbols for objects and ideas, instead of sounds; and even they in the expression of foreign proper names have been obliged to admit a modification of their system, essentially alphabetical. There is no evidence, however, that the Hindus had ever any system of writing except the Alphabetical. This must have been in use at or soon after the rise of Buddhism, that is, five centuries before our era, and before any direct intercourse had been established with the Greeks or Western Asiatics. But the monuments of Buddhism in Afghanistan, shew that the religious systems of India came into close contact with the empire of Persia, and the ancient histories speak of Persian conquests in the North-West of India. What was known in Persia then must have been known in India; some parts of the Vedas, from internal evidence, must have been composed twelve or fifteen cen-

turies before the Christian era, and yet they might, like the poems of Homer, have been handed down from father to son without being for several centuries committed to writing. Still, unless alphabetical writing had been known in India before the time of Darius Hystaspes, the Arrow headed character, which was then in vogue in Persia, would most probably have influenced the Hindu system, and we should not have been able to trace so many analogies with the Alphabetical system of Western Asia, as will be found in the annexed Table, while the Indian characters have no resemblance to the Arrow headed.

Comparison of the Cave Character and the old Phœnician of the Inscriptions.

Roman.	Old Phœnician.	Cave Characters.
A	𐤀	𐤀
B	𐤁	𐤁
G	𐤂	𐤂
D	𐤃	𐤃 ^{du.}
U	𐤄	𐤄
I or Y	𐤅	𐤅
L	𐤆	𐤆
TS	𐤇	𐤇 ^{sh.}
SH	𐤈	𐤈
T	𐤉	𐤉

N. B. As the Phœnicians wrote from right to left, and the Cave Character is written from left to right, some of the letters must be turned round to observe their similarity with those of a different class. Other examples might have been added, though these are the most striking.

ART. VIII.—*On the site of the Temple of Neptune at Alexandria mentioned by Strabo; by Captain Newbold. (Communicated by the Secretary.)*

In breaking up and excavating the ruins of ancient Alexandria for stone for the new fortifications of the modern city, the Pasha's workmen have laid bare the remains of a handsome temple which has for centuries past been concealed under a heap of debris, sand, fragments of brick, pottery, marble, porphyry and limestone, to the depth of nearly 30 feet below the surface. These ruins lie on the eastern side of Alexandria, outside its present walls, about 235 yards from the sea-shore, and about the same distance from the Lazaretto from which they bear S. 24.° W. From Pharillon point they bear S. 13.° E. about $\frac{1}{2}$ mile distant, and from Castle or Pharos point E. 34.° S.

From the discovery of a statue of Horus near this spot, these foundations have been supposed to be the remains of a temple dedicated to this divinity of the ancient Egyptians, but, from the fragments of its architectural embellishments I am of opinion that the temple was a Grecian structure, a supposition which appears strengthened by the discovery on the spot of the following imperfect inscription in Greek (probably a dedication to Ptolemy Philadelphus) on a piece of dark hornblendic granite, apparently the fragment of a pedestal, which once supported a column or statue to this monarch.


 ΦΙΛΑΔΕΛΦΟΝ
 ΟΕΙΣΤΩΡ ΣΑΤΥΡΟΥ ΑΛΕΞΑΝΔΡΕΥΣ *

The word preceding Philadelphos has been carefully and designedly erased from the block by the chisel, a remarkable circumstance. It was probably Πτολεμαϊον.

The ancient forms of the letters Ε, Σ, Ω, appear in this inscription, as in the medals of the Ptolemies, though the more modern forms Ε, C, Ω, are seen in the celebrated inscription, on a golden plate given by Mahomed Ali to Sir Sidney Smith, purporting to be the dedication or erection of a

* The inscriptions in the MS. are stated by the author to be fac-similes, but for want of Greek capitals. Roman type modified has here been more or less substituted for them. Ed.

temple to Osiris by Ptolemy Euergetes son of Ptolemy Philadelphus.*

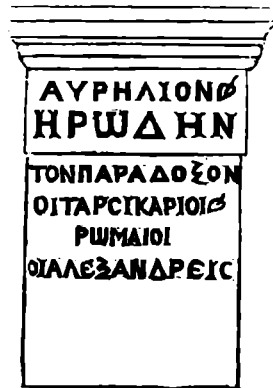
At the N. E. angle of the peristyle, the workmen have turned up the mutilated *torso* of a horse well executed in white marble. The head and shoulders are gone, as well as the hind legs above the hocks. The animal was originally sculptured in a rearing posture, resting on his hind legs, which appear to have been doubled under him in the attitude of springing from the ground, the fore feet pawing the air. The artist has ingeniously relieved the hind legs from the weight of the upper portions of the statue, by a marble prop, elegantly carved in the shape of the trunk of a tree, reaching from the ground to the central part of the left side of the belly of the animal, and cut out of the same block. The root of the tree rested, apparently, on a pedestal, from which to the horse's belly it measures 4 feet. The dimensions of the statue may be calculated from the following measurements.

Circumference of thigh close to body	4 feet 9 inches.
.. Do. Do, near hock	2 — 1
.. Do. body of horse, nearly $\frac{3}{4}$ d broken away ...	7 — 10
Length of <i>torso</i> from rump to nearly middle of body	4 — $6\frac{1}{2}$

* The following inscription, which I copied (in 1845) from a marble pedestal in one of the by streets of Alexandria, will afford an idea of the more modern forms of the Σ, and Ε. The pedestal appears to have supported a statue or pillar dedicated by the Tarsikarioi and citizens of Alexandria to Aurelian Herod, who is here styled "Γον παραδοξον" the wonderful. The same forms of these letters are preserved in another inscription, on a broken granite pedestal lying near the house of the Greek Consul in the great square of Alexandria and which bears the name of the Emperor Severus—

ΑΥΤΟΚΡΑΤΟΡΟΣ ΚΑΙΣΑΡΟΣ
ΛΟΥΚΙΟΥ ΣΕΠΤΙΜΙΟΥ ΣΗΥΗ
ΡΟΥ,

and of the then Eparch of Egypt, M. Antennius Sabinus. The forms Ε, C, Ω, have been thought to commence at a period not long antecedent to that of the empire, but the researches of modern writers have shown that they are of more ancient date, but rarely used in Egypt, at least except in a running hand. The first medals on which they occur are those of Cleopatra and Antony, struck between the years 37 and 31. B. C., and in an inscription about 76 B. C.



The tail is gone, it appears from the cavity left behind to have been executed from a separate piece of marble, and to have been attached to the *torso* by an iron pin, part of which is still remaining. From the position near the entrance of the temple, where this statue was originally found, it probably ornamented the portico. On the trunk of the tree supporting it, is a Greek inscription, to the effect that, a certain Antiochus, and Demetrius of Rhodes, son of Demetrius, sculptured this statue in honor of the gods. The following is a copy of the inscription—

ΘΕΩΝ ΑΝΤΙΟΧΕΥΣ ΚΑΙ
ΔΗΜΗΤΡΙΟCΔΗΜΗΤΡΙΟΥ
ΡΟΔΙΟC ΕΠΟΙΗΣΑΝ.

Ten paces westerly from the place where the statue now lies, is a round marble pedestal, which once probably supported a statue to the Archon Tiberius Claudius Demetrius, who was made *Εξηγητης* in the year, Γ of the reign of Adrian. The following is a copy of this inscription—

ΤΙΒΕΡΙΟΝ·ΚΛΑΥΔΙΟΝ ΔΗΜΗΤΡΙΟΝ ΓΕΝΟΜΕ
ΝΟΝ ΕΞΗΓΗΤΗΝ ΤΩ ΙΓ' ΕΤΕΙ ΑΔΡΙΑΝΟΥ ΚΑΙ ΣΑΡΟΣ
ΤΟΥ ΚΥΡΙΟΥ ΚΑΙ ΤΩ ΙΕΞΗΣ Δ' ΕΤΕΙ ΥΠΟ ΜΗΜΑΤΟΡΑ Φ
ΟΝ
ΠΡΩΤΟΝ ΑΡΧΟΝ ΤΩΝ ΧΕΙΡΟΤΟΝΗΘΕΝ ΤΑ ΑΡΧΗΝ ΕΠ
ΑΡΧΗΙ,

The term *Εξηγητης* applied to Tiberius, literally signifies a conductor or interpreter of religious rites. At Athens the *Εξηγηται* were three in number, appointed by the state to explain to strangers the religious rites. In Egypt, it was the title of a certain magistrate, who probably was vested with both civil and religious powers.

The ruins now (1846) present an assemblage of broken granite columns, confusedly scattered over a space enclosed within the foundations of the temple, which can still be traced, though rapidly disappearing under the pickaxes of the Pasha's workmen. The largest pillars near the base are $3\frac{1}{2}$ feet in diameter tapering to 3 feet, and the smaller columns have a diameter of 2 feet 2 inches. The former are of the red

porphyritic granite of Syene, the capitals and pedestals, judging from the few still remaining fragments, were of fine white limestone and marble. One or two pieces exhibit the echinus moulding and modillions of the Corinthian order. The echinus and arrow mouldings resemble those used by the Greeks, more than the less elegant forms subsequently adopted in Roman Architecture.

The temple appears to have been a peripteral structure, of the Corinthian order, with some ornaments purely Egyptian, surrounded by a peribolus, portions of which are seen in two adjacent excavations about 50 paces to the N. E. and S. E. of the temple. The temple itself, exclusive of the peristyle, is about 120 feet long, by 60 broad, running nearly east and west, and facing towards the east. From many fragments of granite pillars discovered in an excavation about 60 paces from the eastern extremity, I think it probable that a colonnade formed the approach to the entrance, instead of avenues of sphinxes, &c. which lead up to the *propyla* of temples purely Egyptian. The *Naos* has disappeared, except a massive portion of its wall near the N. E. angle, which is also fast vanishing under the hands of the Egyptian workmen. The walls and foundations are composed of well squared and highly finished blocks of compact white and sometimes nummulitic limestone, (of middle Egypt) as also the pavement which still remains almost untouched (1846). Some of the blocks of limestone in the peribolus are 6 feet long, 3 feet thick, and 3 feet broad, smoothly cut, and laid without mortar. On the S. E. side of the temple are several sepulchral vaults, coated inside with cement, now containing rain-water, brackish by infiltration through the saline sands which cover them; their floor is on a higher level than that of the temple, with which they are unconnected and probably were constructed posterior to its destruction. Within the temple, at its eastern extremity, is a small square cistern, sunk below the pavement to the depth of a few feet, but now nearly filled with sand. Its sides are 16 feet 3 inches square and revetted with a cement composed of lime, powdered brick and small sea-beach pebbles; it has steps on its N. E. angle, and was probably used for purposes of ablution.

Among the rubbish lying on the floor of the temple, consisting of fragments of beautiful marbles, *breccia de verde*, *verd antique*, jasper, basalt and granite, I found a fragment, in hard red jasper, of the leg of a statue, evidently of a man most beautifully sculptured, and decidedly not the

work of an Egyptian chisel. This fragment is still in my possession. In delicacy of proportion and highness of finish, it approaches the Apollo Belvidere. I also found on several fragments of granite the letters IOY inscribed, and in one instance IOYA.

Having now, as I trust, clearly shown that this supposed temple to Horus was not an exclusively Egyptian shrine, as imagined, I shall briefly call the attention of the reader to the fact of its occupying the exact site of the temple to Neptune, as described by Strabo, which has hitherto been undiscovered by antiquarians, and with which I humbly conceive the present ruins to be identical. A glance at any good plan of modern Alexandria, compared with my own remarks on the position of the ruins, and the following description of the temple to Neptune of ancient Alexandria, by Strabo, will be sufficient to place the identity of the sites in the clearest point of view.

“On the right as you sail into the great harbour (of Alexandria) are the island and tower of Pharos; on the left, rocks and the promontory of Lochias, where the palace stands; and as you enter on the left, contiguous to the buildings on the Lochias, are the inner palaces which have various compartments and groves. Below those is a secret and closed port belonging exclusively to the Kings and the isle of Antirhodus, which lies before the artificial port with a palace and a small harbour. It has received this name as if it were a rival of Rhodes. Above this is the Theatre, then the Posidium, a certain cove lying off which is called the Emporium with a temple of Neptune. Antony, having a mole in this part projecting still further on the port, erected a palace which he named Timonium”—“Beyond this are the Cæsareum and Emporium, the recesses and the docks extending to the Heptastadium. All these are in the great harbour.”

“On the other side of the Heptastadium of Pharos is the port of Eunostus” (Strabo 8. 24).

Now this graphic description of the Amasian geographer places the temple of Neptune with the Posidium, Emporium, Timonium, and Theatre, near the sea, between the Cæsareum on the west (marked at the present day by Cleopatra's needle) and the palace, the site of which is at present occupied by the Lazaretto, covering the base of the Lochias or Pharillon promontory to the eastward.*

In the Catacombs to the E. of the temple, I found a *terracotta* lacrimatory of an early

I have carefully examined the whole of the ground between the Cæsa-
reum and the palaces, and can trace all the structures mentioned by Stra-
bo, but could not discover any other remains of the temple to Neptune,
except the ruins just described, and which, as I have before remarked,
occupy the exact site, as described by Strabo, of this temple.

The mutilated *torso* may have been the remains of some sculpture in-
tended to commemorate one of the most celebrated exploits of the Ocean-
God, viz. that of his causing this noble animal, so useful to mankind,
to spring from the earth by a stroke of his trident, when he contended
with Minerva, the honor of giving name to the Grecian capital. The
horse was, therefore, considered among the animals most sacred to Nep-
tune.

Christian epoch, with the inscription ΕΥΛΟΓΙΑ ΤΟΥ ΑΓΙΟΥ ΜΗΝΑΟ
and my friend the Rev. Mr. Winder discovered there, the following funereal inscriptions in
red paint, (now 1846 obliterated), from the first of which it may be inferred that the cus-
tom of praying for the dead and the belief in their power of intercession prevailed in the
Church of Alexandria from the earliest times of Christianity. Hence, perhaps, Clement of
Alexandria so strongly advocated the practice of praying for departed souls.

ΜΝΗ ΘΗΘΕΤΗΚΟΙΜΗΕΩΟΚΔΙΑ
ΝΑΠΑΥΣΕΟΤΟΥ ΔΟΥΛΟΥ ΣΟΥ ΣΑΚΤΟΥ ΜΕ
ΓΑΛΟΥ ΚΑΙ ΑΣΥΝΚΡΙΤΙΟΥ ΚΑΙ ΣΟΦΙΑ
ΚΑΙ ΤΙΜΟΘΕΟΥ ΚΑΙ ΦΙΛΑΔΕΛΦΟΥ
ΤΗΣ ΚΑΛΗΣ ΕΥΡΕΤΗΣ ΠΑΝΤΕΣ ΕΦ
ΨΑΘΑΙ ΥΠΕΡ ΑΥΤΩΝ ΙΝΑ ΚΑΙ ΑΥ
ΤΟΙ ΥΠΕΡ ΗΩΜΝ.

ΜΝΗΣΘΗΤΙΚΘΤΗΚΥΜΗΕΩΟΚΕΑΝΑΠΑΥΣΕΟΤ
ΗΣ ΚΑ
ΛΟΚΟΙΜΗΤΟΥΤΗΣ ΔΟΥΛΗΣ ΣΟΥ ΣΩΗΕΚΥΜΗΘΗΜ
ΙΝΙΧΟΙΑΚΙΓ
ΜΝΗΣΘΗΤΙΚΘΤΗΚΥΜΗΕΩΟΚΑΙ ΑΝΑΠΑΥΣΕΟ
ΤΟΥ ΚΑΛΟΚΟΙΜΗ
ΤΟΥ ΤΟΥ ΔΟΥΛΟΥ ΣΟΥ ΝΑΥΛΣΙΟΙ ΕΚΥΜΗΘΗΜ
ΗΝΙΧΟΙΑΚα

The circumstance of a statue of Horus being found among the rubbish in the vicinity of the temple by no means warrants the inference that this structure was dedicated to that god. Supposing even that the statue was once honoured by a niche in the temple, it was not uncommon to see both Egyptian and Grecian divinities in Egypt occupying the the same shrine. The temple at the porphyry quarries of Gebel Dukhan, bears an inscription dedicating the edifice to Pluto, the Sun, the great Sarapis, and the gods worshipped in the same *Naos*.

ΔΗ. ΗΑΙΩΙ. ΜΕΓΑΛΩΙ. ΣΑΡΑΠΙΔΙ. ΚΑΙΤΟΙΣΣΥΝΝ
ΑΟΙΣ ΘΕΟΙΣ.

The temple at Sakeyt near the emerald mines of Zubará, is dedicated to Isis, Apollo, and the gods worshipped in the same *Naos*—*καὶ τοῖς συνναοῖς θεοῖς*. The Ptolemies, the Greeks, and Romans, from both superstitious and political motives, did not exclude the gods of conquered nations from their pantheon; and we find that the worship of Sarápis was introduced by Antoninus Pius into Rome itself A. D. 146, but the licentiousness attending the celebration of the Sarapidan mysteries speedily caused its abolition by the Roman senate. Isis and Anubis were also worshipped in Rome. Horus is the prototype of the Grecian Apollo, and in fact the whole Grecian pantheon may be traced to the banks of the Nile.

The mysterious Sphinx itself, representing the Zodiacal signs, Leo and Virgo, had, doubtless, some mythic reference to the worship of the sun, and its influence over the sources of Egypt's wondrous fertility and early civilization, viz. the periodical inundations of the Nile, which are usually at their height during the passage of the great luminary through these constellations. It is a great and almost a literal truth that from the mud of this extraordinary river, sprang the great tree of knowledge, whose shoots, transplanted in the genial soils of Greece and Rome, have since spread over Europe, and over a large portion of the new world, bringing forth abundant fruits, which, under the benign influence of Christianity, like the peaceful olive of Minerva, have ripened into blessings far more useful to mankind than the horse,—the earth-sprung gift of Neptune.

ART. IX.—*A Grammar of the Játakí or Belohckí Dialect.*
By Lieut. Burton, Assistant, Sindh Survey. (Communicated by the Secretary).

PREFACE.

The rough and uncultivated dialect which is the subject of the following pages, is a corrupted form of the Multáni, itself a corruption of the Panjábí, tongue. The latter language is spoken in all its purity about Lahore itself. In the country parts, the people use what is called the Tathki dialect * which in the north and west of the Panjáb abounds in words borrowed from Pushtú and the Dográ clan. Towards the south again, Panjábí somewhat deteriorates; at Multán and in the districts of Thang-Siyál, local words and idioms creep in, and so numerous are the varieties of speech there, that almost every day's march will introduce the traveller to some words before unknown to him. The want of any standard of language and the difficulty of communication and intercourse between the several towns and villages, tend greatly to increase this useless luxuriance of speech. † At Bhawalpore and Subzulcote, nearly half the words are Sindhí, and the pronunciation approaches closely to the difficult and complicated system of the latter tongue.

The corrupted dialect of Panjábí used in Sindh, is known to the people by three names—

1. Siráiki.
2. Belochkí.
3. Játakí.

It is called Siráiki from Siro (upper Sindh), where it is commonly spoken by the people. As many of the Beloch clans settled in the plains use this dialect, the Sindhís designate it by the name of Belochkí. It is a curious fact that although the Beloch race invariably asserts Halah (Alep-

* Probably the ancient Prakrit language of the country. The Author of the "Dábis-tán" applies the name "Jat tongue" to the dialect in which Nának Sháh composed his works, and remarks that he did not write in Sanscrit. In the Panjáb *Játakí bát* is synonymous with *Gawár ki bolí* in Hindostan.

† A glance at the pronouns and the auxiliary verb will, I believe, bear me out in my assertion.

po) to have been the place of its origin, yet the only two languages in use, present not a single Arabic phrase or idiom. The tongue spoken by these hill-people, is an old and obsolete dialect of Persian, mixed up with a few words of barbarous origin. The Belochís of the plains generally use the corrupt dialect of Panjábí called after their name, particularly the Nizámání and Láshári' clans. The Donukí', Magasi', Bhurplat and Kalphar tribes usually speak the hill-language, and the Rind, Tálpur, * Marí (Murree), Chándiyá, Jemáli and Laghári clans use both.

The name *Játakí* † as applied to this dialect, is of Panjábí origin, and refers to the Jats, the aboriginal inhabitants of the country. Under that name however, we find four great tribes included.

1st. The Panjábí Jat, who is neither a Moslem nor a Hindoo properly speaking. He is supposed to be a descendant of a very ancient race, the Goths. In Indian History they first appear as wandering tribes alternately cultivators, shepherds, and robbers. Many of them became Sikhs and did great benefit to that faith, by fighting most zealously against Moslem bigotry. As this was their sole occupation for many years, they gradually became more and more warlike, and at one time were one of the most fighting castes in India.

2d. The "Jat," of the Hazárah country, Jhang-siyál, Kutch Gandáwa and Sindh generally.—He is always a Moslem, and is supposed to have emigrated from the north during or shortly before the Kalhorá reign. In those days the Belochís were all but unknown in Sindh, and the Aristocracy of the country, the Ameers, Jágírdars, and opulent Zemindars, were all either Sindhís or Jats. About Pesháwar the word "Jat" is synonymous with "Zemindár," and as in Sindhí, ‡ occasionally used in a reproachful sense.

3rd. A clan of Belochis. This name is spelt with the Arabic J. In Sindh they inhabit the Province of Jati, and other parts to the S. E. The head of the tribe is called Malik, e. g. "Malik, Ham al Jat."

* The Tálpur Ameers all used this language when conversing with their families, not Sindhí nor Persian.

† It is what the Arabs call an *ism i nisbat* or derivative noun, formed from the proper name "Jat."

‡ In Sindhí the word "Jatu" means a breeder of Camels, or a Camel driver. It is also the name of a Beloch tribe. The word "Jyatu" (with the peculiar Sindhí *J* and *T* has 3 meanings,—1st the name of a people (the Jats); 2d a Sindhí as opposed to a Beloch; 3d an abusive word, used as "Jangali" is applied in W. India to Europeans, so "do-dasto. Jyatú" means "an utter savage."

4th. A wandering tribe; many of whom are partially settled at Candahár, Herat, Meshed, and other cities in central Asia. They are notorious for thieving, and considered particularly low in the scale of creation. They are to be met with in Mekran, Eastern Persia, and occasionally travel as far as Muscat, Sindh, and even central India. I have never been able to find any good account of the origin of this tribe.

Reckoning the population of Sindh to be about a million, one fourth of that number would speak the *Játakí* dialect, as many of the wild tribes to the N. and on the E. frontier, and even the Hindús in the N. of Sindh use the language. It contains no original literature, except a few poems and translations of short tracts on religious subjects. The following is a list of the best known works :

1. A translation of the "Diwán i Háfiz" into *Játakí* verse. There are several different versions; the best is one lately composed by a Multání.

2. "Yúsuf Tulaykhá," a fertile subject among Moslem people; there are three or four different poems called by this name.

3. "Hír Ránjhá," a Panjábí tale well known in Upper India.

4. "Sasí and Puornúá," the Sindhí Story. I have seen it in the Gurumukhí, as well as in the Arabic character.

5. "Saifal," or to give the name at full length, the tale of Saif ul Mulúk and the Perí (fairy) Bádí ul Jamal. * It is a very poor translation or rather imitation of the celebrated Arabian or Egyptian story, as it omits all the most imaginative and interesting incidents. The tale however is a celebrated one in the countries about the Indus. Besides the many different versions to be met with in Panjábí, Multání, and *Játakí*, it is found in the Pushtú, and I believe in other dialects, as Brahúí, &c. In the native Annals of Sindh, as for instance the "Tohfát ul kirám," the tale is connected with the history of the country in the following manner—

Alor or Aror, the seat of Government of the Rábís or Hindú rulers of the land, was a large and flourishing city, built upon the banks of the

* See Lane's Arabian Nights, Vol. 3 Chap. 24. In the Arabic version of the tale, Egypt is the scene of action, and the hero wanders to China, India, and other remote localities.

river Mehran. * Some time after the partial conquest of Sindh by the Moslems, one Dilu Ráe, an infamous tyrant, was ruler of Alor. For years he had made a practice of seizing the wives and daughters of the traders who passed through his dominions. At length Saif ul Mullick and his fair spouse, together with a company of merchants entered Aror, when Dilu Ráe hearing of the lady's beauty, wished to arrest her husband under pretence that he was a smuggler. The unhappy Saifal promised to give up his wife on his return to Aror, provided he were permitted to pass on towards Multán, and the tyrant granted him his request, feeling the more secure of his victim as in those days the Indus was the only safe line for merchants. Saifal started on his journey, praying to Heaven that his honor might be saved; his supplications were accepted, and the river in one night left Aror, and entered the rocky bed between Sukkur and Roree, through which it now flows. The ruin of the former capital is said to have commenced from that day. The "Tohfat ul kirám" moreover states, that Saifal and his fair spouse, after performing a pilgrimage to Mecca, went and lived in the country between Dera Gházi khán and Sí'tpúr. There they died and were buried, together with their two sons, Jah and Chatah, and the tombs are to this day places of pilgrimage. †

6 "Lailí Majnún," a metrical version of the tale of the celebrated Arab lovers. It appears to have been translated or rather adapted from one of the numerous Persian poems upon that fruitful theme of verse, but has little to recommend it either in style or incident.

* "Mehrán," or the central and lower course of the Indus. Sir Alexander Burnes repeatedly states that the term "Mehrán" is a foreign word, not known to the Natives of Sindh. On the contrary most men of any education are acquainted with it, and it occurs in Sindhi as well as in Persian composition. In the celebrated Risálo of Sháh Abdullatif, we find it repeatedly occurring as "Mauja hane Mehrańee," ("Mehran rolls his waves along"). In a Sindhi Persian work called the "Tohfat ul Tahirin," a short account of celebrated Sindhi Saints, the following passage occurs: "The holy Pir Logo is buried on the banks of the river called by the Sindhis "Mehrán," by the Arabs "Sayhim" and "Jaghim." Pir Logo's tomb is on the banks of the Indus near Tatta.

† The native annalist tells the story with some slight alteration; moreover he appears to be ignorant of its Arabian origin. I give the tale as it is known by tradition among the people of Sindh. An old rhyming prophecy, perpetually quoted by Bards and Minstrel's alludes to the future bursting of the dam, which was miraculously formed at Aror in order to divert from it the waters of the Indus.

7 "Mirzá Sáhíbán," a translation into *Játakí* of the Hindoostani or Panjábí tale.

8. "The loves of Shaykh Ali' a faki'r, and Jeláli the fair daughter of a blacksmith." The scene of the tale is Jhang Siyál, a tract of country celebrated for its fakirs and lovers.

The above list contains the names of the most celebrated romances. They are all metrical, as prose would be very little read. The Moslems have also numerous works on religious subjects chiefly. Some of these, as for instance the "Ahkám us salát", a short treatise on "Akaid" (tenets) and "Ahkám" (practice), are written in verse and committed to memory by women, children, and the *seri studiorum* who find leisure to apply themselves to reading. Moreover each trade, as blacksmiths, carpenters and others, has its own *Kasabnáme*, or collection of doggerel rhymes, explaining the origin of the craft, the invention of its tools, the patron saint, and other choice *morceaux* of important knowledge, without which no workman would be respected by his fellows. The celebrated Arabic hymn, generally known by the name of "Duá Suryám" * (the Syrian or Syriac prayer), and supposed to be an inspired composition has been translated, and is committed to memory as a talisman against accidents and misfortunes. The only attempt at a Vocabulary that I ever met with is a short work called "Khálik-Bári," from its first line of synonyms "Khálik Bári Sarjanhár." It resembles the Sindhí Duwayo and Trewáyó, and is given to children in order to teach them Arabic and Persian. These short compositions are common in the languages spoken on the banks of the Indus besides Panjábí and Sindhí, I have met with them in Belochkí, Brahuikí, and Pushtú.

The songs, odes, and other such pieces of miscellaneous poetry, may be classed under the following heads :—

- 1st. The "Rekhtah," as in Hindostání.
- 2nd. The "Ghazal," as in Persian and Hindostání.
- 3d. "Dohrá," or couplets, usually sang to music.
- 4th. "Tappá," or short compositions of three, four or five verses, generally amatory and sung by the *Mírásí* or minstrels.

* It has been published in Arabic and Pushtu by Dr. Bernhard Dorn in his excellent *Chrestomathy*. Some authors derive its peculiar name from the circumstance that it is supposed to have been translated from the Syrian by Ali, or as is more generally believed, by Ibn Abbas.

5th. "Bait," an indefinite number of couplets in which very frequently the lines commence with the letters of the alphabet in regular succession. This trick of composition is much admired; probably the more so as it is usually introduced into themes which, to say the least of them, are vigorously erotic. The Natives of Sindh never, I believe, use the *Játakí* dialect for "inshá" or epistolary correspondence; consequently they have not a single work on that subject.

The *Játakí* is usually written in the Nastalík and sometimes in the Naskhí character. In Nastalík, the system of denoting the cerebral letters and others which do not belong to Arabic, is exactly the same as in Urdú. The only exception is that the letter چ , which in Hindostání never commences a word, but often does so in Panjábí and *Játakí*, as in the verb چر *ríraná*, to roll on the ground, to weep. The Naskhí, particularly in Sindh, is often punctuated in the most careless and confused manner, but as the *Játakí* possesses only the same number of letters as the Urdú alphabet, and rarely uses the five * peculiarly Sindhi sounds, the learner will find little difficulty in acquiring a knowledge of the character. The Hindús, generally speaking, use the Gurumukhí, a beautifully simple modification of the Devanagarí alphabet, and venerated by the Sikhs, as the holy writing of their spiritual guides. The traders have a great variety of characters. Towards the north the Lande, a kind of running hand formed from the Gurumukhí, is most used; this again towards the south changes its form and name, and is generally called the Ochakí alphabet. † From the above two are derived the multitude of rude and barbarous systems, which are found in Sindh and Cutch.

The following pages were originally prepared for my own use, when studying the Panjábí dialect. Dr. Carey's Grammar I found to be of very little assistance, as it gives few or none of the varieties of formation, and is copious no where except upon the subject of passive and causal verbs. Lt. Leech's work also, as may well be imagined, was found too concise, as the grammatical part does not occupy more than six pages.

* Viz. *B, Dr, G, J (or Dy) and Tr.*

† Any Hindostání Grammar will explain the Nastalík alphabet. For the Gurumukhí, Carey or Leech's Grammar may be consulted; the latter gives also the common Lande character. The Sindhí, Naskhí, Ochakí, and other local alphabets will all be published in a Sindhi Grammar, which is now being prepared by Captain Stack, of the Bombay

When I afterwards proceeded to read the works of the Sindh Belochís, in their peculiar dialect of Panjábí, and to converse with the people, I met with a variety of form and idiom which convinced me that the works hitherto published, were by no means sufficiently copious to smooth the way for those who may be called upon to acquire even a colloquial knowledge of the language.

Syntactical rules have been wholly omitted. Any Hindostání Grammar will suffice to explain the very few peculiarities, which are met with in the *Játakí* dialect. It was originally my intention to add an Appendix, containing translations and specimens of the language, the different alphabets, together with the numerals, names of days, of months, and other things, useful to the student. All this has been omitted, as in the first place it was not thought advisable to increase the bulk of the work, and secondly the state of affairs in the Panjáb, and particularly in the Multán territory, urged me to conclude my task as soon as possible.

The Romanised system was adopted, not from any theoretical admiration of its merits, but simply because in India the difficulty of correctly printing the two alphabets together appears practically to be very great. As an instance of innumerable blunders, in the Arabic letters, the *Sindhí Grammar* published by Mr. Wathen, Bombay, 1836, may be adduced; the reader cannot but confess that the *Nastalík* could have been easily spared. The system adhered to in the following pages, is the modified form of Sir W. Jones' Alphabet, as explained in the preface of *Shakespeare's Dictionary*. *

To conclude, I have only to make a full confession of numerous sins of omission and commission, which doubtlessly abound in an attempt at composition in a place where books are rare, and libraries unknown; where all knowledge must be derived from the oral instruction of half educated Natives, and where advice or comparison of opinion must be desired in vain.

CHAPTER I.

OF NOUNS SUBSTANTIVE AND ADJECTIVE.

In the *Játakí* dialect, nouns are of two genders, masculine and feminine. The neuter is not used, and words which properly speak-

* The only difference is, that accents are used to distinguish the long from the short vowels.

ing belong to that gender, are made masculine or feminine, as usage directs, without any fixed rule.

There are two numbers, singular and plural.

Cases are formed by inflection and the addition of post positions or casual affixes. The following is a short list of those in common use:—

1st. The Genitive is made by adding “*dá*” for the Nominative singular masculine; “*de*” for the Oblique singular and the Nominative and Oblique plural masculine; “*dí*” is added when a singular feminine noun follows; and “*díán*” precedes plural feminines of all cases. Thus “*dá, de, dí*” exactly correspond with the Hindostání “*ká, ke, kí,*” but this language has no equivalent for the Játakí “*díán.*” In some parts of the country, particularly towards the south, “*já, je, jí, & c. jíán*”^{*} are borrowed from Sindhi; even the Hindostání “*ká, & c.*” are occasionally used.

2nd. The affixes of the Dative are “*nú*” or “*nún*” (with the nasal *n*) “*kon*” and “*táin.*” In Sindhi, “*khe*” is frequently used, “*ko,*” more rarely.

3rd. The numerous affixes of the vocative rather come under the head of Interjections than of casual Particles.

4th. The Ablative is denoted by “*án, on, te, ten, ton, thon, thín, sítí, kanon, kanán*” and “*kolon,*” all signifying “from.” “*Men, mon, moh, máh, vich, † manj,*” (and rarely *madhye*) are used for “in.” The long “*é*” following a consonant, (as *Masit-e* “in a mosque”) and “*in*” used with the same limitation, (as *hath-in,* “with or in the hand”) are often met with in books.

SECTION I.

OF NOUNS SUBSTANTIVE AND MASCULINE.

The masculine noun has seven different terminations, viz.

- 1st. *á*, declinable, as *Ghorá.*
- 2nd. *á*, indeclinable, in the singular as *Dáná* (a sage).
- 3rd. The silent “*h,*” as *Dánah,* (a grain).
- 4th. A consonant, as *Putr.*
- 5th. A short *ă*, as *Putră.*

^{*} This, however, is quite a corrupted form, never used in Sindhi.

[†] For which the contraction *ch* is found in poetry, as *Makke-ch,* for *Makke vich,* “in Mecca.”

- 6th. A short or long "í" as Kavi and háthí.
 7th. A short or long "u," as Prabhū or prabhú.

Examples of the Declensions of Nouns.

1st.

Ghorá, a horse.

Singular.

Nom. Ghorá.
Gen. Ghore-dá, de, dí, díán.
Dat. Ghore-nún.
Acc. Ghorá.
Voc. E Ghorá, or ghore.
Abl. Ghore-te or-ton.

Plural.

Nom. Ghore.
Gen. Ghoríán or ghoren-dá, de,
 dí, díán.
Dat. Ghoríán nún or
 ghoren nún.
Acc. Ghore.
Voc. E. Ghore or ghorio.
Abl. Ghoríán or ghoren-te or-ton.

2nd.

Some masculine nouns ending in long "á" are unchangeable in the singular, as Dáná, Rájá, Kabítá, Pitá Lálá, Bábá : and a number of Persian and Arabic words, as Maulá, Mullá, Khudá, Mírzá, &c. They are declined as follows in the plural : —

Dáná, * a sage.

Singular.

Nom. Dáná.
Gen. Dáná-dá.

Plural.

Nom. Dáne or dáná.
Gen. Danáwán dá.
Voc. E. Dánáwo, dánáo or dáneo.

Sometimes dáná, rájá, and others of this class, are declined in the singular, like dánah, (a grain) e. g. "dane munsa dá," of a wise man. In common conversation this is generally the case.

* In the following examples when the other cases are the same as the Genetive, the latter only will be inserted.

3rd.

Dánah, a grain.

<i>Singular.</i>	<i>Plural.</i>
<i>Nom.</i> Dánah.	<i>Nom.</i> Dane.
<i>Gen.</i> Dáne-dá.	<i>Gen.</i> Dánián-dá.
	<i>Voc.</i> E. Dáne.

4th.

Puttar or putr, * a son.

<i>Singular.</i>	<i>Plural.</i>
<i>Nom.</i> Puttar or putr, a son.	<i>Nom.</i> Puttar, putr or putrán.
<i>Gen.</i> Puttar or putra or putre- † dá.	<i>Gen.</i> Puttrán, putren or putrindá.
<i>Voc.</i> E. Putrá.	<i>Voc.</i> E. Putro.

5th.

Towards the south, a short vowel is often added to the final consonant of masculine nouns as in Sindhí. ‡

Putra, a son.

<i>Singular.</i>	<i>Plural.</i>
<i>Nom.</i> Putra. §	<i>Nom.</i> Putra, or putrán.
<i>Gen.</i> Putra-dá.	<i>Gen.</i> Putrán or putráni-dá.

* So the numeral noun "ik" or "hik" (one) becomes *ikanán* in the Nominative and Oblique plural.

† This is, generally speaking, a poetical form.

‡ These final vowels are so quickly pronounced that the student will at first find some difficulty in detecting and distinguishing between them. In Arabic Grammar, Fath, Kasr and Zamm are assumed to be half the value of Alif, Ya and Wau. In Játakí and Sindhí, these short terminating vowels are equivalent to about one quarter of the long letters which belong to the same class. Such as they are, however, the student must learn to pronounce them, otherwise the sound of the language would be completely changed. They are never written in the Panjābī, Multānī or Játakí works, except in the Grantha and other compositions in the Gurumukhī character, and the Naskhī form of the Arabic Alphabet.

§ Sometimes too the masculine noun ends in "u" as *Putru*, and in the Oblique singular and Nominative plural becomes *Putra*. This is a purely Sindhī form.

6th.

Masculine nouns ending in a short or long "i" as *kavi* (a Poet) and *háthi*, are generally speaking unchangeable in the singular, but declined as follows in the plural :

Kavi, * a poet.

<i>Singular.</i>	<i>Plural.</i>
<i>Nom.</i> <i>Kavi</i> .	<i>Nom.</i> <i>Kavi</i> or <i>kavián</i> .
<i>Gen.</i> <i>Kavi</i> or <i>Kavi-dá</i> .	<i>Gen.</i> <i>Kavián</i> or <i>kaván-dá</i> .
<i>Voc.</i> E. <i>Kavi</i> or <i>Kaviá</i> .	<i>Voc.</i> E. <i>Kavio</i> .

7th.

Prabhu or *prabhú*, † a lord.

<i>Singular.</i>	<i>Plural.</i>
<i>Nom.</i> <i>Prabhu</i> or <i>prabhú</i> .	<i>Nom.</i> <i>Prabhu</i> or <i>prabhú</i> .
<i>Gen.</i> <i>Prabhu</i> or <i>prabhú-dá</i> .	<i>Gen.</i> <i>Prabhuán</i> , <i>prabhúán</i> or <i>prabhán-dá</i> .
	<i>Voc.</i> E. <i>Prabhúo</i> .

SECTION II.

OF NOUNS SUBSTANTIVE AND FEMININE.

The feminine noun has six different terminations, viz.—

- 1st. i as *Ghorí*, (a mare).
- 2nd. ĭ as *Matĭ*, (an opinion).
- 3rd. á as *Dayá*, (compassion).
- 4th. ă as *Gală*, (a word).
- 5th. h as *Jagah*, (a place).
- 6th. a consonant as *Mat*, *Gall*, &c.

* This word (like the following *Prabhu*) would generally in conversation change its final short vowel into the long letter corresponding with it. The probable reason of the permutation is that the people find greater facility in pronouncing a dissyllabic word as an Iambus, (" ") than as a Pyrrhic (" ").

† Generally pronounced by the Vulgar, *Pirbhú* or *Pribhú*. As the word is Sanscrit, it is almost always corrupted by the Musalmans.

Examples of the Declensions of the feminine nouns.

1st.

Ghorí, a mare.

*Singular.**Plural.*

<i>Nom.</i> Ghorí.	<i>Nom.</i> Ghorían.
<i>Gen.</i> Ghorí-dá, de, dí, dián.	<i>Gen.</i> Ghorían * or ghorín-dá, de, dí, dián.
<i>Dat.</i> Ghorí nún.	<i>Dat.</i> Ghorían or ghorín nún.
<i>Acc.</i> Ghorí.	<i>Acc.</i> Ghorían.
<i>Voc.</i> E. Ghorí.	<i>Voc.</i> E. Ghorío.
<i>Abl.</i> Ghorí-te or ton.	<i>Abl.</i> Ghorían or ghorín-te or-ton.

The feminine substantive ending in "í," is the most common form of that gender.

2nd.

Matí, † an opinion.

*Singular.**Plural.*

<i>Nom.</i> Matí.	<i>Nom.</i> Matín.
<i>Gen.</i> Matí-dá.	<i>Gen.</i> Matín or matían-dá.

3rd.

Dayá, compassion.

*Singular.**Plural.* ‡

<i>Nom.</i> Dáyá.	<i>Nom.</i> Dáyá.
<i>Gen.</i> Dáyá-dá.	<i>Gen.</i> Dáyán or dayáwán-dá.
	<i>Voc.</i> E Dayo.

* The difference between the masculine *Ghorían* and the feminine *Ghorían* is, that the former has a short, and the latter a long "í." This distinction is always observed in speaking, but in the Arabic character both are written the same e. g. گهوریا ن

† As in the masculine noun, the short "í" is generally changed into long "i," so in feminine substantives the short "í" is usually elided; e. g. *Matt* becomes *Mat*, or by reduplication of the last letter *Matt*.

‡ This plural is merely given as a form: such a word would of course always be in the singular number.

4th.

Gala, * a word.

<i>Singular.</i>	<i>Plural.</i>
<i>Nom.</i> Gala	<i>Nom.</i> Galán.
<i>Gen.</i> Gala-dá	<i>Gen.</i> Galán-dó,
	<i>Voc.</i> E. Galo.

5th.

Jagah, † a place.

<i>Singular.</i>	<i>Plural.</i>
<i>Nom.</i> Jagah	<i>Nom.</i> Jagahán.
<i>Gen.</i> Jagah-dá	<i>Gen.</i> Jagahen or jagahín-dá.
	<i>Voc.</i> E. Jagaho.

6th.

Gall, a word.

<i>Singular.</i>	<i>Plural.</i>
<i>Nom.</i> Gall	<i>Nom.</i> Gallán.
<i>Gen.</i> Gall-dá	<i>Gen.</i> Galláu or gallen or gallín-dá.
	<i>Voc.</i> E. Gallo.

“Matt” is declined in the same way.

In practice, the feminine declensions are two in number, viz. The 1st and the 6th. The 2nd and 4th are only used by those who have acquired a Sindhí pronunciation; in books (especially of the Hindús) they are frequently met with. The 3rd declension is a Sanscrit, and the 5th, a Hindustání word; consequently both are rare.

* *Gala* is the classical, *Gall* the common form of the word. The “l” is reduplicated (as in *Matt* from *Mattl*) when the final short vowel is elided, and this is often found in monosyllabic words, probably in order to prevent confusion. For instance in this case the reduplication serves to distinguish between *Matt*, “an opinion,” and *Mat*, “do not.”

† Feminine nouns ending in “h” are seldom met with in *Játukí*. *Jagah* is a Hindostání form, occasionally used, it is true, but much more generally *Jágán*. So *Mídah* (female) becomes *Mádi*, &c. &c.

Rules on the subject of gender, as in Hindostání are very vague. Many words have no fixed gender and it often happens that those which are masculine in one part of the country, are used as feminine in another. So in speaking Urdú, the Concani * calls "maktab" and "pyár" feminine nouns, whereas in Upper India the former is always, and the latter generally, masculine.

In Játakí as in Sindhí, the patronymic noun is formed by adding "ání" to the proper name; as Mahmúdání, a son of Mahmúd; Kambaraní, a descendant of Kambar.

Verbal nouns are obtained:—

1st. By adding "andar" or "indar" to the root of the verb, as akhandar, a speaker. Karan, to do, forms kandar or kandal, a doer.

2dly. By adding "hár" to the infinitive of the verb, as manganhár, a beggar.

An intensitive form of the noun is obtained by adding "ár" to the original, e. g. jins, property, "jinsár," a large property.

To some nouns, particularly those denoting sounds, the masculine termination "at" is added, in order to give an intensitive meaning, e. g. kúk. s. f. cry (of women, &c.) kúkat. s. m. a loud crying.

SECTION III.

OF NOUNS ADJECTIVE.

Masculine Adjectives usually end in long "á" as hachhá (good), or short "ǎ" † as sundara (handsome), or a consonant, as sabh (all). The following is an example of the declensions of a masculine adjective prefixed to a noun substantive:—

Hachhá ghorá, a good horse.

Singular.

Nom. Hachhá ghorá.

Gen. Hachhe ghore-dá.

Plural.

Nom. Hachhe ghore.

Gen. Hachhián (or hachhe) ghoríán-dá.

Voc. E. Hachhe ghorio.

* See Taleem Namuh by Mahomed Muckba, Esq. p. p. 52 and 33. Vol 2. Edit. 3rd, Bombay.

† No example is given of these forms, as they exactly follow the declensions of the noun which they resemble in termination. So *sundara* is indeclinable in the singular, and forms *sundarén* in the plural, like *putra*.

Feminine Adjectives * usually end in a consonant or in long "í." The following is an example of their declension : —

Hachhí ghorí, a good mare.

<i>Singular.</i>	<i>Plural.</i>
<i>Nom.</i> Hachhí ghorí.	<i>Nom.</i> Hachhí (or hachhíán) ghoríán.
<i>Gen.</i> Hachhí ghorí-dá.	<i>Gen.</i> Hachhí (or hachhíán) gho- ríán-dá.
	<i>Voc.</i> E. Hachhí (or hachhío) ghorío.

The Adjectives sabb † and hor (another) have the peculiarity of inserting "nán" before the casual affixes of the oblique plural.

Sabb, all.

Plural.

<i>Nom.</i> Sabb.
<i>Gen.</i> Sabbán, sabbnán, or sabbnán-dá.
<i>Voc.</i> E. Sabho.

Comparatives and superlatives are formed in three ways.

1st. By repetition of the positive, with or without a casual affix, as "waddá waddá" or "waddé dá waddá," bigger.

2nd. By such words as khara and adhik for the comparative; and bahut, bahu, bahún, ghaná, atí, &c. &c. for the superlative.

3rd. By the use of casual affixes as "kanon, sití, &c." For example "isa kanon, uhhachhá hái" (that is *better* than this); and "ih sabha kanon hachhá hai" (this is *better* than all; i. e. best).

* Feminine Adjectives, ending in a short vowel, especially when prefixed to substantives, almost always lose their final vowels and are declined like "gall," a word.

† For *sabb, hab* is often used.

CHAPTER II.

OF PRONOUNS.

The Personal Pronouns are : —

1st. *Main, mán, or má, I.*

2nd. *Tún or ten, thou.*

3rd. *Uha, uh or wuh, he.*

They are declined in the following manner : —

1st. Person.

<i>Singular.</i>	<i>Plural.</i>
<i>Nom. Main, mán, or má.*</i>	<i>Nom. Asin, § asán.</i>
<i>Gen. Merá, † medá, mendá, ‡ mudhadá.</i>	<i>Gen. Assándá, ádá, asándá, sádá.</i>
<i>Dat. & Acc. Mekon, menkon, mainkon, menún, mudhanún.</i>	<i>Dat. & Acc. asánún, sánún.</i>
<i>Abl. Menthe, mainthon, mainthín, medethon, medekolon, mendekolon, mujhkanon.</i>	<i>Abl. Sánthe, sánte, sánthín (or -thon), as énthon (or-the).</i>

2nd. Person.

<i>Singular.</i>	<i>Plural.</i>
<i>Nom. Tún, or ten.</i>	<i>Nom. Tusín, tusán.</i>
<i>Gen. Tedá, terá, tendá, tondá, taudá, taundá, tudhadá.</i>	<i>Gen. Tusádá, tuhadá, tuhadá, thwádá.</i>

* In composition "c" is often used as an affixed Pronoun of the 1st. person e. g. *sáth-c*, "with me."

† Like the casual affix "dá," the Genitives of Pronouns assume four forms e. g. *mendá mende*, (or *mendán*) *mendi, mendián*.

‡ The words *undeclined* are those which are most generally used in conversation The others are either of local use, or confined to books,

§ *Asin* is the Panjábí; *asán* the Multáni and Játakí Nominative.

<i>Dat. & Acc.</i> Tenún, tunnún, tuhnún, tudhanún, ten- kon.	<i>Dat. & Acc.</i> Tusánun, tuh- ánún, thwánún.
<i>Voc.</i> E Tún.	<i>Voc.</i> E Tusín, or tusán.
<i>Abl.</i> Toton, <i>tunte</i> (-thon or thím) tuhte, tudhate.	<i>Abl.</i> <i>Tusánthon</i> , tuháthon, thwánte.

3rd. Person. *

<i>Singular.</i>	<i>Plural.</i>
<i>Nom.</i> Uha, uh, wuh.	<i>Nom.</i> Uhe, unhán,
<i>Gen.</i> Usadá, uhdá, ohdá.	<i>Gen.</i> Uhíndá, unadá, unhadá, unhándá, uhándá, uwán- dá, wándá.
<i>Dat. & Acc.</i> Usnún, uhnún, uskon, unkon.	<i>Dat. & Acc.</i> Unhánún, un- kon, wáskon.
<i>Abl.</i> Uste, uhte, unghanon.	<i>Abl.</i> Unhá-kanon, unhán-thín, wánthín.

The Proximate Demonstrative "iha" is declined as follows: —

<i>Singular.</i>	<i>Plural.</i>
<i>Nom.</i> ihá.	<i>Nom.</i> ihe, íhán, ínhán.
<i>Gen.</i> ihadá, isadá.	<i>Gen.</i> inhándá.

The Common or Reflective Pronoun, * as in Hindostání, has two forms of the oblique cases: —

Singular & Plural. †

<i>Nom.</i> Ap, ape.
<i>Gen.</i> Apná or apadá.
<i>Dat. & Acc.</i> Apnús, or apnenún.

* The emphatic form of this Pronoun is uhi or uho, "that very," (person &c.) Fem. uha. In the Genitive, usdá, uhndá, or hunedá. of both genders. So iho, "this very" (person, &c.) Fem. ihá; Genitive, isdá, &c.

* In books, the Persian "khub" is very much used.

† The Hindostání form "ápas" is occasionally met with.

The Interrogative Pronouns are of two kinds ; the first applying to persons and things, the second to inanimate objects only : —

Kaun, who, which, what ?

Singular.

Nom. Kaun.

Gen. Kisdá, kisdá, *kenhadá*,
kíhadá, kíhádá.

Dat. Kisanún, *Kenhnún*, Kíhánún,
nún, kíhánún.

Kyá, what ? (of things).

Singular & Plural.

Nom. Kya kí.

Gen. Kádá, kahdá *kenhdá*.

Dat. Kánún, kahnún or *kenhnún*.

The Relative Pronoun.

Jo, who, which, what.

Singular.

Plural.

Nom. Jo je.

Gen. Jisadá, janhadá, jíhadá,
jenhadá.

Nom. Jo, je.

Gen. Jindá, jihádá, *jinhádá*,
jenhádá.

Occasionally the feminine form “já,” as used in Sindhí, may be met with. The plural Nominatives and the Oblique cases of both genders are the same. The correlative “so” is in like manner turned into “sá” to form a feminine.

The Correlative Pronoun.

So, that, he, &c.

Singular.

Plural.

Nom. So, se, te.

Gen. Tisadá, tihádá, *tenhadá*.

Nom. So, se, te.

Gen. Tinadá, tinádá, *tenhádá*
tenhádá.



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The Indefinite Pronouns are of two kinds ; the first relating to numbers, the second to quantity.

Indefinite Pronoun of Number. Koí, a, an, any &c.

Singular & Plural.

Nom. Koí, kíá, ko, ke, ká. * *Gen.* Kisídá, kisedá, kahíndá.

Indefinite Pronoun of Quantity.

Kujh, Some.

Nom. Kujh, kuchh, some. *Gen.* Kisídá, kisedá, kahíndá,
kujhadá.

- The chief Pronominal Adjectives are as follow :—

1. Aysá, ihá, ajihá, ejahá (fem. aysí, ihí, &c.); of this sort, such.
2. Jaysá, jihá, (fem. jaysí, jehí.), of such sort, such as.
3. Kaysá, kihá, (fem. kaysí, kihí), of what sort ?
4. Jaysá, jihá, (fem. as above), of that sort.
5. Waysá, uho-jihá, (fem. who-jihí and uaysí, the latter very little used), in that manner.
6. Jaunsá, jehrá, † whatever sort of.
7. Taunsá, tehrá, terá, that sort of.
8. Kaunsá, kehrá, which ? what sort of ?
9. Kitaná, how much ? how many ? and so on as in Hindostání, jitaná, itaná, utaná, &c. &c.

Many of the Pronouns are compounded, as for example :—

1. Ihá-jihá, (fem. ihí-jihí) such, this-like.
2. Jo-Koí, jiko, (fem. jiká), whoever.
3. Jo-Kujh, whatever.
4. Koi-Koi, some or other.
5. Kujh-Kujh, something or other.

* *Ká* is sometimes used, like *já* and *sá*, as a feminine form of the Pronoun. It then becomes a Sindhi word. In the Genitive, *koí-dá* and *káí-dá* are occasionally used.

† The Feminine forms, being regular, are omitted.

And many others of the same description, which will easily be understood, on account of their analogy to similar formations in Hindostání.

When such compounds are used in the Oblique case, each member is usually speaking inflected as,—Nom. Jo-kói, Gen. Jis-kisidá, &c. &c. In many cases (as decided by usage), the last member only is declined, and this is the common form in conversation.

CHAPTER III.

OF VERBS.

SECTION I.

The Infinitive ends either in “ná,” as in Hindostání, or in “an,” added to the root, as karaná or karan, “to do.” In both cases it is a verbal noun * masculine, † declined like ghorá or puttár, and is used, generally speaking, in the singular number only. Sometimes it is formed like the Sindhí Infinitive in “nũ” e. g. karanũ, and is then declined like putrũ.

The root, as in Hindostání, is found by rejecting the final “ná” or “an” of the Infinitive. It is also a common verbal noun, generally of the feminine gender, as e. g. from máraná or máran is found már, which signifies either “beat thou” or “a beating.”

Synopsis of the additions to the roots of Verbs.

INFINITIVE.

<i>Singular.</i>		<i>Plural.</i>	
<i>M.</i>	<i>F.</i>	<i>M.</i>	<i>F.</i>
ná,	ní.	ne,	nín or níán.
	or,		or,
an,	an.	an,	an.

* So in English, the simple form of the Infinitive ending in “ing” (as, “doing”) and the compound Infinitive “to do” are nouns substantive, and verbals in as much as they, derive their existence as significant words from the verbs to which they belong.

† The Infinitive forms its feminine as a noun of the 1st. Declension e. g. karaná, karaní etc.

PAST PARTICIPLE.

	<i>Sing.</i>			<i>Plur.</i>
M.		F.	M.	F.
íá,		í.	ie or ián,	ín or ián.
	or,			or,
á,		í.	e,	in' or ián'.

PRESENT PARTICIPLE.

	<i>Sing.</i>			<i>Plur.</i>
M.		F.	M.	F.
dá,		dí.	de, or-díán,	dín or díán.
	or,			or,
endá,		endí.	ende, or-endián,	endián or endián.
	or,			or,
andá,		andí.	ande,	andián.

PAST CONJUNCTIVE PARTICIPLE.

Singular & Plural.

The Root e, ke, kai, kar, karán, karke, karkar.

AORIST.

	<i>Sing.</i>			<i>Plur.</i>
án,	en,	e.	ún,	o, an.

FUTURE.

Masculine and feminine.

sán,	* sín,	si.	sín,	so,	sán.
	or,				
	sen,	se.			

IMPERATIVE.

un, The Root.	e,	un,	o,	an.
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I have omitted the other termination of the Future in *engí* &c. as it is a purely Panjabí one.

PREGATIVE IMPERATIVE.

	<i>Singular.</i>		<i>Plural.</i>		
None.	jo, *	ie.	je,	je,	jan.
	ío,	iwe.	ie,	jo,	
	ié,			ío,	an.
	je,			ío,	

SECTION II.

Of the Auxiliary Verbs.

They are two in number, viz :—

1st. Howan, howaná or honá, to be.

2d. Thíwan, or thianá, to become.

The Verbs wanjaná and jauná "to go", may so far be considered as belonging to this class, that they are used to form certain tenses of the Passive voice.

THE ROOT.

Ho, be thou!

INFINITIVE.

Howan, howaná, honá, being.

PAST PARTICIPLE.

	<i>Singular.</i>		<i>Plural.</i>	
	M.	F.	M.	F.
Hoiá, † been,		hoi.	Hoie,	hois or hoiañ.

* This is a form derived from the Sindhi: the regular plural in that Dialect would be "ja."

† In the Gurumukhi character, "l" is almost invariably used before "á", instead of "y," which would be usual in Devanágari. So we find hoia for hoyá; thia for thiyá, &c.

PRESENT PARTICIPLE.

Hundá, being, hundí. Hunde, hundíán.

PAST CONJUNCTIVE PARTICIPLE.

Ho, hae, hosi, hoke, hokar, hokare.

Hokarán, hokarke, having been.

PRESENT TENSE.

*Singular.**Plural.*

1st. Main hán, ahán, án, I am.	1st. Aśán, hán, hánge, án, we are.
2nd. Tún hain, hen áhen, en, thou art.	2nd. Tuáyñ ho, hohu o, ye are.
3rd. 'Uha hai, ahe, * áe, e, he is.	3rd. 'Uhe hain, hásn, ain, they are.

PAST TENSE.

*Singular.**Plural.*

1st. Haisán, sán, há, áhá, hasán, sí, I was.	1st. Haisánge, haisán, hoe, ahe, se, hase, sí.
2nd. Haisen, saen, há, áhá, sán, hasán, sí.	2nd. Haisánge, haisán, hoe, ahe, se, hase, sí.
3rd. Haisí, thá, há, † ahá, sán, hasá, sí.	3rd. Haisáin, hasín, hoe, ahe, se, hase, sí.

AORIST.

*Singular.**Plural.*

1st. Howán, hoiún, I may, shall, &c. &c. be.	1st. Howún, ho'ún.
2nd. Howen, hoen.	2nd. Howo, ho.
3rd. Howe, hoe.	3rd. Howan, hon.

* *Náhe* is used for *na* or *nah áhe*, "it is not". *Has* is synonymous with the Hindostán *hai usko*, "there is to him" "he has."

† For *há*, *h'í* and *háe* are sometimes found. *Atus*, with the affixed Pronoun means *thá usko*, "there was to him," "he had".

FUTURE.

<i>Singular.</i>	<i>Plural.</i>
1st. Hosán, howángá, how- ungá, I shall or will be.	1st. Hosán, hosún, howáuge.
2nd. Hosen, hosín, howengá.	2nd. Hoso, howoge.
3rd. Hose, hosi, howegá.	3rd. Hosan, hoange.

The Imperfect is formed by subjoining one of the numerous signs of the past tense of the Auxiliary Verb to the present participle active e. g. —

Main hundá ha, (or sí or sán) &c. Asán hunde hoe, &c.

The Pluperfect is procured by affixing one of the forms of the past tense of the Auxiliary Verb to the past participle active e. g. —

Main hoiá há (or sí or sán, &c.) Asán hoie hoe, &c.

The Precative Imperative is formed as in Hindostání, by affixing “*ie*” or “*io*” to the root, for the singular and plural; e. g. —

‘Ap ákhie (or ákhío), pray speak (addressed to one person).

The termination “*ive*,” as *áp ákhíve*, belongs to the third person. In the second, we find “*íjo, íje*,” or “*je*” as *áp ákhíje* or *ákhje*; and the Sindhí “*jo*,” as *áp ákhjo* is sometimes met with.

The Negative Imperative is formed by prefixing “*na, ma*” * *mat* or *matán*,” to the Affirmative Imperative; e. g. —

Na (ma or mat) kar, do not !

As in Hindostání and the modern dialects of Upper India, no regular form of Subjunctive Mood is to be found in *Játakí*. Our present Subjunctive is expressed by the Aorist with the Conjunction “*je*,” if; e. g.—

Je main howán, if I be. Je asán howún, if we be.

For the past tense of that Mood, the Present Participle is used with the Conjunction “*je*,” if, e. g.—

Je main hundá, if I had been. Je asán hunde, if we had been.

The Auxiliary Verb *thíyan* or *thíaná*, “to become,” is conjugated as follows:

* *Ma* is a Sindhí ; *mat* a Hindostání form.

THE ROOT.

Thí, "become thou"

Infinitive and Verbal Noun.

Thíván, thíaná, thíyan, thívná.

PAST PARTICIPLE.

<i>Singular.</i>		<i>Plural.</i>	
M.	F.	M.	F.
Thía,	thíí. or, thí,	Thíye, Thié, or Tháe.	thían.

PRESENT PARTICIPLE.

Thíndé,	thíndí.	Thínde.	thíndían.
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PAST CONJUNCTIVE PARTICIPLE.

Thí, thái, tháe, thái, thike, kar, karán, karke.

AORIST.

<i>Singular.</i>		<i>Plural.</i>	
1st. Thíván.		1st. Thíván or tháún.	
2nd. Thíwen or tháen.		2nd. Thío or tháo.	
3rd. Thíwe or tháe.		3rd. Thíwan, tháin or thín.	

FUTURE.

<i>Singular.</i>		<i>Plural.</i>	
1st. Thísán, thívángá or thíungá.		1st. Thísún or thívángo.	
2nd. Thísen, thísín or thíwengá		2nd. Thíso or thíwage.	
3rd. Thíse, thísi or thíwegá.		3rd. Thísan or thíwango.	

PRESENT DEFINITE.**Main thindá hán.****INDEFINITE,****Main thindá.****IMPERFECT.****Main thindá há.****PERFECT.****Main thíú. *****PLUPERFECT.****Main thíú há.**

There are two forms of the verb "to go," which is used as an Auxiliary in some tenses of the Passive ;

1st. **Jáwan or jáoná.**2nd. **Wanjan, wanjaná wor ená.**

They are conjugated as follows —

THE ROOT.**Já, Go thou.****Infinitive or Verbal Noun.****Jáwan or jáoná.****PAST PARTICIPLE.***Singular.**Plural.***M.**
Gaiá,**F.**
gai.**M.**
Gaye,**F.**
gaián.

* With this tense the affixing Pronouns are used e. g.—
Singular.

1st. **Thíun or thíun.** 2nd. **Thíoi** 3rd. **Thíus.**

PRESENT PARTICIPLE.

Jándá,		jándi.	Jánde,		jándián.
	or,			or,	
Jaundá,		jaundi.	Jaunde,		Jaundián.

PAST CONJUNCTIVE PARTICIPLE.

Já, jái, jaè, jáke,-kar,-karán,-karke,-karkar.

AORIST.

<i>Singular.</i>		<i>Plural.</i>	
1st.	Jáwán or jáon.	1st.	Jásún.
2nd.	Jáwen.	2nd.	Jáo.
3rd.	Jáwe or jáe.	3rd.	Jáwan or ján.

FUTURE.

<i>Singular.</i>		<i>Plural.</i>	
1st.	Jásún.	1st.	Jásún.
2nd.	Jásén or jásin.	2nd.	Jáso.
3rd.	Jáse or jási.	3rd.	Jásan.

PRESENT DEFINITE.

Main jándá há.

PRESENT INDEFINITE.

Main jándá.

IMPERFECT.

Main jándá há.

PERFECT.

Main gaiá.

PLUPERFECT.

Main wanjíá há.

The Auxiliary verb *wanjaná* * is thus conjugated:—

THE ROOT.

Wanj, † Go thou.

INFINITIVE.

Wanjaná.

PAST PARTICIPLE.

<i>Singular.</i>		<i>Plural.</i>	
M.	F.	M.	F.
Wanjá.	wanjí.	Wanje.	wanjíán.

PRESENT PARTICIPLE.

<i>Singular.</i>		<i>Plural.</i>	
M.	F.	M.	F.
Wanjadá,	wanjadí.	Wanjade,	wanjadíán.

PAST CONJUNCTIVE PARTICIPLE.

Wauj, wanje, wanjke, wanjkar, -karan, -karke, -karkar.

AORIST.

<i>Singular.</i>		<i>Plural.</i>	
1st. Wanján.		1st. Wanjún.	
2nd. Wanjén.		2nd. Wanjo.	
3rd. Wanje.		3rd. Waujan.	

* The above is the most common form. *Wanjan* and *wená* are also used. The Past Participle of the latter is *wia*, the Pres. Part: *wená*. The Future is regularly formed but the Aorist is partly borrowed from *wanjaná* e. g.—

Aorist.

<i>Singular.</i>		<i>Plural.</i>	
1st. Wanján.		1st. Wanjún.	
2nd. Wén.		2nd. Wan.	
3rd. Waye or we.		3rd. Wén.	

† In the Imperative *waw* is also used.

FUTURE.

<i>Singular.</i>		<i>Plural.</i>	
1st.	Wanjasán.	1st.	Wanjasún.
2nd.	Wanjaseñ or wanjasiñ.	2nd.	Wanjaso.
3rd.	Wanjose or wadjasi.	3rd.	Wanjasan.

PRESENT DEFINITE.

Main wanjadá hán.

INDEFINITE.

Main wanjadá.

IMPERFECT.

Main wanjadá há.

PERFECT.

Main wanjiá.

PLUPERFECT.

Main wanjiá há.

SECTION III.

Conjugation of the Regular Transitive Verb, ákhaná, "to speak or say."

THE ROOT.

A'kh, speak thou.

Infinitive or Verbal Noun.

<i>Singular.</i>		<i>Plural.</i>	
M.	F.	M.	F.
Akhaná, or akhan,	akhani.	A'khane,	ákhainán.

Speaking or to speak.

PAST PARTICIPLE.

A'kbia.	akhi.	A'khie.	akhiás.
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Spoken.

PRESENT PARTICIPLE.

'Akhadá,	akhadí.	'Akhade,	akhadíán.
	or,		or,
Akhandá,	akhandí.	Akhande,	ákhandíán.

Speaking.

AOBIST.

*Singular.**Plural.*

1st. 'Akhán, I may speak.	1st. 'Akhún.
2nd. 'Akhen.	2nd. 'Akbo.
3rd. 'Akhe.	3rd. 'Akhan.

PRESENT INDEFINITE MASCULINE.

*Singular.**Plural.*

1st. 'Akhadá * hán or akhan'án, I am speaking.	1st. 'Akhade hán or akhnain.
2nd. 'Akhadá hen or akhnain.	2nd. 'Akhade ho or ákhdeo.
3rd. 'Akhadá hai or akhdáe.	3rd. 'Akhade hain or ákhaden.

The forms ákhan'án, ákhnain &c. &c. are contractions of the present participle and the Auxiliary verbs.

PRESENT INDEFINITE FEMININE.

*Singular.**Plural.*

1st. 'Akhani-án, I am speaking.	1st. 'Akhániyán.
2nd. 'Akhani-en.	2nd. 'Akhaniyáno.
3rd. 'Akhani-e.	3rd. 'Akhaniyán.

* The Fem. termination in the sing. is—"i" : in the plural—"ián".

PFRFECT TENSE.

<i>Singular.</i>	<i>Plural.</i>
1st. Main or main ne akhiá or ákhum, * I spoke.	1st. Asín, asáne or asán ákhiá.
2nd. Tún, tune akhiá, or akhiói, ákhiái or akhióin.	2nd. Tusín, tusáne or tusán ákhiá.
3rd. U'h, usane or us ákhiá or ákhus.	3rd. Uhe, unaháne or unahán ákhiá, or ákhione or akhone.

FUTURE TENSE.

<i>Singular.</i>	<i>Plural.</i>
1st. Main ákhangá † or ákhsán, I shall or will speak.	1st. Asán ákhángé or ákhsún.
2nd. Tún ákhangá ákhsen or ákhsín.	2nd. Tusín ákhogé or ákhsó.
3rd. 'U'h ákhega, ákhsé or ákhsí.	3rd. 'Uhe ákhange or ákhsan.

IMPERATIVE.

<i>Singular.</i>	<i>Plural.</i>
1st. Main ákhán, let me speak.	1st. Asín ákhon or ákhah.
2nd. Tún ákh or ákhu. †	2nd. Tusín ákho or ákhahu.
3rd. U'h ákhe.	3rd. 'Uhe ákhan.

The Subjunctive Mood has three tenses, viz.—the Present, the Past, and the Future.

The Present Subjunctive is the same as the Aorist of the Indicative, with the addition of "je" prefixed e. g.—

Je main ákhán, if I speak. Je asín ákhún, if we speak.

* This and the corresponding forms are instances of the Pronouns affixed to the past participle. Occasionally they are to be met with in neuter verbs, as gaión for gaiá tún.

In most cases, these affixed pronouns may have a double meaning: or in other words may be either nominatives or datives. So dittus may mean either "he gave," or (he) "gave to him" the "s" standing for either usne or usko. Thus may be either "he became," or, "it became to him" (he acquired, &c.). This double usage is probably derived from the Sindhi dialect.

† The Fem. terminations are "i" and "ián."

‡ This short terminating vowel in the 2d. Person sing. and plural is a Sindhi form, but never becomes "i," as it does when affixed to transitive verbs in that Language.

PERFECT OR PAST SUBJUNCTIVE.

<i>Singular.</i>		<i>Plural.</i>	
1st. Je main,	}	ákhadá * or	1st. Je asán,
2nd. " tún,		ákhandá †	2nd. " tusán,
3rd. " uh,		If I etc. spoke.	3rd. " uhe,
			} ákhade or akhande.

The Future Subjunctive is formed by prefixing "je" to the Future Indicative.

SECTION IV.

OF THE PASSIVE VOICE.

The Passive Voice is formed by adding *jáwan*, *jáoná* or *wanjan*, *wanjaná*, *wená*, to the past participle of the active verb. So *saddaná* v. a "to call," becomes *saddiá jáwan* or *wanjaná*, "to be called" in the singular, and *sadde jáwan* or *wanjane*, "to be called," plural. It is not necessary to give any detailed examples of this form, as there are no irregularities, and although very simple, still it is not generally used.

The *Játakí* dialect, like the *Sindhí*, possesses a distinct Passive Voice. In the former, the only change made is the insertion of long "i" after the radical letters of the verb. This is done in the present participle, the Aorist, and the Future. The past participle has two forms: either it is the same as that of the active, ‡ or it adds "elá" or "ewlá" § to the root of the verb, as *márelá*, slain, *jalewlá*, burned. No change takes place in the Infinitive, and the Root is the second person singular of the active verb.

CONJUGATION OF THE PASSIVE VERBS.

PAST PARTICIPLE.

<i>Singular.</i>		<i>Plural.</i>	
M.	F.	M.	F.
Karelá,	karelí.	Karele,	kareliás.
		Made or done,	

* The Feminine formed as usual.

† The form *ákhandá* is merely a variation of the present participle *ákhadá*.

‡ Which, though made to belong to the active verb, is always in reality a purely passive form.

§ It would be well if this form were more noticed in Hindostáni than it generally is.

PRESENT PARTICIPLE.

<i>Singular.</i>		<i>Plural.</i>	
M.	F.	M.	F.
Karidá,	karidí.	Karide.	karidiáw.
	Being made.		

AORIST.

<i>Singular.</i>		<i>Plural.</i>	
1st.	Main karián, I may be made.	1st.	Asin kariún.
2nd.	Tún karién.	2nd.	Tusin kário.
3rd.	U'h karie.	3rd.	'Uhe karian.

FUTURE.

<i>Singular.</i>		<i>Plural.</i>	
1st.	Main kariángá r or karisán, I shall or will be made.	1st.	Asin kariänge or karisún.
2nd.	Tún kariengá, karisen or karisin.	2nd.	Tusin karioge or kariso.
3rd.	'Uh kartegá, karise or karisi.	3rd.	'Uhe kariänge or karisan.

PRESENT DEFINITE.

Mais karidá hán, I am being made.

INDEFINITE.

Mais karidá, I am made.

IMPERFECT.

Mais karidá há (or sán), I was being made.

PERFECT.

Mais karí, I was made.

PLUPERFECT.

Main karía há (or sán), I had been made.

Concerning this Passive Voice, it must be recollected, that although much used in pure Panjábí and frequently occurring in *Játakí* books and writings, it is seldom heard in conversation and is all but unknown to the vulgar.

SECTION V.

OF THE CAUSAL VERB.

The Causal Verb * is of two kinds.

1st. The simple causal or that which expresses the causing another to do a thing.

2nd. The double causal, or the causing of a person to cause another to do a thing.

The simple causal is obtained by inserting a long "á" † after the radical letters, as follows :

CONJUGATION OF THE SIMPLE CAUSAL VERB.

THE ROOT.

Kará, "cause thou to do".

INFINITIVE OR VERBAL NOUN.

Karání or karáwná, causing (or to cause) to do.

PAST PARTICIPLE.

*Singular.**Plural.*

M.	F.	M.	F.
Karáiá,	karái.	Karáe,	karáián.

* These forms, though quite as copious and complete as the Hindostani Verbs of the same class, are not nearly so extensive as in the Sindhi dialect, where a third and even a fourth derivative may be met with.

† Sometimes, though rarely "o" is introduced instead of or equivalent to "á" e. g.—from bolaná, to say, are formed bolána or bulóná.

PRESENT PARTICIPLE.

Karáwindá, **karáwindí.** **Karawinde,** **karáwindián.**
Causing to do.

PAST CONJUNCTIVE PARTICIPLE.

Kará, karáe, karáí, karáke, &c.—as in the other verbs.

AORIST.

*Singular.**Plural.*

1st. Karáwán, * I may &c. cause to do.	1st. Karáwun.
2nd. Karáwen.	2nd. Karáwo.
3rd. Karáwe.	3rd. Karáwan.

FUTURE.

*Singular.**Plural.*

1st. Karáwángá or karáwsán. I shall etc cause to do.	1st. Karáwángo or karáwsún.
2nd. Karawengá or karáwsín.	2nd. Karáwoge or karáwso.
3rd. Karawegá or karáwsí.	3rd. Karáwange or karáwsan.

PRESENT DEFINITE.

Main karáwindá háñ, I am causing to do.

PRESENT INDEFINITE.

Main karágíndá, I cause to do.

IMPERFECT.

Main karáwindá há (or sán) I was causing to do.

* In this, as well as in other parts of the verb, the "w" is introduced after the incremental "á" most probably to facilitate pronunciation by doing away with the hiatus which would otherwise take place.

PERFECT.

Main or *mais* ne *karáíá*, I caused to do.

PLUPERFECT.

Main or *mais* ne *karáíá há*, I had caused to do.

The double causal is obtained by inserting "wáw" * after the radical letters e. g.—from the root *kar* (do), come the simple causal *kará* (cause to do), and the double causal *karwáw* (make another to cause to do). As a general rule this form is not much used, except in books and by educated men, and it will not be necessary to conjugate it, as the terminations are in all points exactly like those of the simple causal.

Causal verbs, it must always be remembered, are active and transitive. The passive voice is formed by inserting a long "í" (in the simple causal), after the incremental "á", as e. g.—in the Aorist, *mais karáíán*, I may be caused to do. In the double causal the "í" is introduced after the two first incremental letters (*wá*), as e. g.—in the Aorist, *mais karwáíán*, I may be made to cause to do. No example will be given of these forms, as they are very rarely used in *Játákí*, and would be quite unintelligible to the common people.

Compound verbs are found exactly as in *Hindostání*. Potential verbs however are made by adding *sakhaná* or *saganá* (to be able) to the Infinitive or to the root of another verb e. g.—*Main karná* (*karné karan* or *kar*) *sagán*, I shall be able to do.

SECTION VI.

A short list of Irregular Verbs.

<i>Root.</i>	<i>Pres Participle.</i>	<i>Past. Participle.</i>
'Ao or ach come.	'Aundá.	'Aíá.
'An, bring.	'Andá.	'Aniá or ándá.
'Ah, or ákh, say.	'Akhadá,	'Akhiá
Baddb, bind.	Baddhadá.	Baddbhá.
Bhaj, flee.	Bhajadá.	Bhajíá or bhajíá.
Bhij, wet.	Bhijadá.	Bhijíá. or bhinná.
Bhag, break.	Bhagadá.	Bhaggá or bhagiá.

* Or "wá": the latter however is a Hindostani form.

<i>Root.</i>	<i>Pres. Participle.</i>	<i>Past. Participle.</i>
Bidh, pierce.	Biddhadá.	Biddhá. or biddhiá.
Chá, or chau, say.	Chaundá.	Cháiá.
Dhab, fall.	Dhahandá or dhahendá.	Dahíá.
De, give.	Dindá.	Dittá.
Dêkh, look.	Dekhadá.	Dithá or dekhíá.
Dho, wash.	Dhoundá.	Dhotá.
Gum, lose.	Gumadá.	Gumattá or gumíá.
Gá, sing.	Gáundá.	Gátá or gáviá.
Giddh, take.	Giddhadá.	Giddhá or giddhiá.
Guddh, knead.	Guddhadá.	Guddhá or guddhiá.
Ho, be	Hundá.	Hoiá.
Já, go.	Jándá or jaundá.	Gaiá.
Jíw, live.	Jíndá.	Jítá.
Ján, know.	Jánadá.	Játá or jániá.
Jáo, be born.	Jáundá.	Jáiá.
Jadh, coire.	Jadbadá.	Jahiá or jadhiá
Kar, do.	Karandá or karendá.	Kariá, Kítá, Kíá or Kíná.
Kho, lose.	Khoundá.	Khotá or khoiá.
Khá, eat.	Kháundá.	Khadá or khaviá kháiá.
Khus, be spoiled.	Khusadá.	Khusíá or khutta.
Lah, obtain.	Lahandá.	Lahiá.
Lah, come down.	Lahandá.	Lahá or latthá.
Le, take.	Lindá or laindá.	Líá or littá.
Natá,, flee.	Natáhadá.	Natáhiá or natáha.
Nass, flee.	Nassadá.	Nassá or nassiá.
New, carry.	Níndá.	Nítá.
Pan, fall.	Paundá.	Paiá.
Pai, fall.	Paiadá.	Paviá.
Pí, drink.	Píndá.	Píá or pítá.
Pháth, be caught.	Pháthadá.	Phthá or pháthiá.
Rah, stay.	Rahandá.	Rahiá.
Ro, weep.	Rondá.	Roiá runná or rotá.
Riddh, cook.	Riddhadá.	Riddhá or riddhiá.
Ruddh, be employed.	Ruddhadá.	Ruddhá or ruddhiá.
Saláh, praise.	Saláhandá.	Salahiá.

<i>Root.</i>	<i>Pres. Participle.</i>	<i>Past. Participle.</i>
Siddh, aim.	Siddhdádá.	Siddhá or siddhía.
So or sum, sleep.	Sondá or sumadá.	Suttá or soiá.
Thí, become.	Thíndá.	Thía.
Wáh, plough.	Wáhíndá.	Wáhiá.
Wiáh, marry.	Wiáhíndá.	Wiáhiá.
Wanj, go.	Wendá or wanjadá.	Wiá or wanjiá.

It may be observed that the only irregularity in the *Játakí* verb is the formation of the two participles.

The irregularity of the present participle is generally caused by the introduction of an "n" to facilitate pronunciation.

The irregularity of the past participle often arises from its being derived from another form of the same verb. For instance, *dítáá*, which is considered to be the past participle of *dekhaná* (to see), proceeds from *dítáhaná*, an almost obsolete form.

Many verbs have two different roots and verbal nouns, though the signification of both is exactly the same e. g.—

Gunhaná	and	guddhaná, to knead.
Khelná	„	khedná, to play.
Munnaná	„	mundaná, to shave.
Jáoná	„	jamaná, to be born.

Causal verbs ending in "aná," form, as a general rule, their past participles in "áiá" or "atá," and occasionally in "áttá," e. g. —

Ganwáná,	forms	ganwáiá or ganwátá.
Mangáná,	„	mangáiá or mangátá.
Buláná,	„	buláiá or bulátá.
Kamáná,	„	kamáiá, kamátá or kamáttá.

Causal verbs ending in "oná," also take "otá" as the termination of their past participles, e. g. —

Kharoná,	forms	kharotá.
Buloná,	„	bulota.

APPENDIX.

The following is a short list of indeclinable words, such as adverbs, * prepositions, &c. Those which are commonly used in Hindostání are not inserted.

Abe, or be, O man ! the feminine is	Chánchak,	suddenly.
aní or ní.	Chaudhírán,	all around.
Agge,	Chhetí,	quickly.
Aggon,	Chit-puť,	upside down.
Agle-wele,	Dánh,	} towards.
Aho,	Donh,	
Ainwen,	De,	} well done! happy!
Ajan,	Dhan,	
Aján,	Diháde,	} daily.
Anjan,	Dihári,	
Ajehe,	E,	O !
Ayse,	Ede,	here.
Ake,	Em,	and (a sindhi
Anjo-anj,		word).
Anusár,	Gad,	together.
Ar,	Ghať,	less.
Ate,	Hái,	} alas !
Atishay,	Hái,	
Bahún,	Hái-hái,	} yes.
Bahún,	Hán,	
Bájh,	Háne,	} now.
Bájhán,	Hun,	
Bháwen,	Huná,	} help !
Bí, also.	Háloí,	
Bich,	Haure,	slowly.
	Hathon,	moreover, besides.
Chah-pab,	Hat,	} again, once more.
Chat-pát,	Hat-kar,	

* Many adverbs, we may so call them, are formed by putting the substantive or adjective in the ablative or other case, omitting the governing prepositions or post positions. Others again are merely the roots, or the past conjunctive participles of verbs, used adverbially.

Hekánde,	together, in one place.	Jichir,	as long as.
Heth,	below.	Jithe,	wherever.
Her,	now, at present.	Jithe-kithe,	wheresoever.
Herkih,	but, now that.	Jithon,	from wherever.
Hir-phir,	} again and again.	Jiwen,	as.
Phir-phir		Jiwen,	tíwen, in any manner.
Hor,	and.	Kadá,	} when ?
Hor-wele,	at all times, at other times.	Kadh,	
Huní,	just now.	Kadhe,	} near, close.
Ijho,	lo ! behold !	Kan,	
Iswal,	hither, on this side.	Kane,	} from, from near.
Ithe,	} here.	Kanon,	
Ithán,		Kane-on,	} for the sake of.
Ithín,	Kanáháñ,		
Ithon,	hence.	Káran,	} how ?
Iwen,	in this way, thus.	Kán,	
Jab,	} when.	Kite,	to the left.
Jad,		Kayse,	a common expletive: it literally means "take" or "having taken".
Jad,		Khabbe,	what ?
Jad,		Khan,	} how ? why ?
Jadh,		Kí,	
Jade,			Kikar
Jadon,		Kikkaron,	} somewhere or other.
Jadáñ,		Kikkaron,	
Ján,		Kikkar,	} where ?
Jadahán,		Kikkaron,	
Ján-ján,	as.	Kiwen,	}
Jaise,	} if.	Kichhu,	
Je,		if agani.	Kidáhín,
Jekar,	} quickly.	Kit,	}
Je,		in the morning.	
Jehat,	instantly.	Kithán,	

Kithon,	} whence.	Oh,	alas ! oh ! (in grief or wonder).
Kiste,			
Kol,	} near.	Orak,	at last.
Kolon,	} from, from near.	Orár,	} on this side
Lagolag,	} successively, in close succession.	Úrar,	
		Orawár,	
Leí,	} for, for the sake of.	Ore, near.	
		Owen,	in that manner.
Lohrá	} lohrá, alas ! alas !	Pahriá,	} help !
Loriye,		} it behoveth, (synonymous with the Hind, chachuye, and generally joined to the Infinitive as karan or karaní loriye).	
		Par,	but, perhaps across, on the other side.
		Pár,	far, away, e. g.
		Pare,	pare thí, begone !
		Parere,	beyond, afar.
		Parle pár,	} on that side.
Man,	} perhaps.	Parle páse,	
Mán,		Parín,	the day before yesterday, or after tomorrow.
Mane,	} in, in the midst.		
Mat,	} possibly.		
Matán,	} may it not be !	Parmáne,	according to.
Mathe,	} above.	Phiá,	curse !
Ñech,	} like, equal.	Puthián,	} behind.
Mohre,	} in front.	Puthon,	
Mur,	} again.	Sabbate,	in every respect,
Múle,	} altogether—literally “from the root”.		(literally, “than all”).
Mudhon,			
Nál,	} with.	Sadá,	} always.
Neth,	} at last.	Sadán,	
Nere,	} near, close.	Sajje,	to the right.
Nere,			Sán,
Nerau,		Sang,	
Nischay,	} certainly.	Sudhí,	
Niwán,	} below, at bottom.	Sudhán.	
Oe,	} ho !	Sawel.	early, (in the morning.)

Shábas,	}	Bravo !	Tore,	even, though.		
Shábash,			Tulat,	instantly.		
Shál,	}	perhaps, it is to be hoped. (These are Sindhí words, and possibly may be contractions. of the common Moslem exclamation, Mshalah, Deo vólente).	Unchhán,	on the top.		
Shálá,			Uparand,	afterwards.		
			Uswal,	that side.		
			Uthe,	}	above.	
			Uttád,		from above.	
			Utton,	}	there.	
			Uth,			
			Uthe,			
			Uthan,			
				Utháín,	}	thence.
				Uthon,		
Tad,			}	then.	Utháon,	O mán !
Tadh,	Ve,					
Tadhe,	}	then, indeed.	Wadh,	}	much, more.	
Tán,			Wadhík,			
Tadáhán,	}	at that very time.	Wádhú,	}	without, outside.	
Tadahín,			Wáhar,			
Tayse,		such like.	Wahún,		without.	
Te,	}	on, upon, than, from. Also for ate, and.	Wal,	}	towards.	
			Wár,			
		instead of.	Wal-wal,		again and again.	
Thán,		until, unto.	Wángur,		like.	
Tikur,	}	there.	Waś,		near, close.	
Tit,			Wari,	again.		
Tithe,	}	thence.	Wari-wari,		again and again, repeatedly.	
Tithon,						
Tichir,		so long.	Wich,	}	in, inside, in the middle.	
Tode,	}	till, up to.	Vich,			
Tori,						
Zor,		much, very, (used as " bahut ; " e. g. zor husu, " much beauty ").				

ART. X.—*Brief Notes on certain Ancient Coins lately presented to or exhibited before the Bombay Branch of the Royal Asiatic Society.* By John Wilson, D. D. Honorary President of the Society.

At a meeting of the Society held on the 11th of May last, at which I had not the pleasure of being present, Dr. Buist exhibited to the members, according to the interesting notice published in the *Bombay Times*, what was called a *Bactrian coin** which he had picked up in the bázár, and of which the following description was given :—“ It was not described either in the *Ariana Antiqua*, or in Prinsep’s *Historical Researches*. On one side was the head of a king with a crown, wig, and beard, exactly resembling the head of the king (Darius Hystaspes) on the Behistun sculptures. On the opposite side was a well-marked figure, of very delicate proportions, leaning back on a chair—with wig and beard like the preceding. He seemed to hold forth a branch in his hand, his attitude being exactly like that of Britannia on the English coins of George III. with the branch, but without the drapery or shield; in place of a trident, he held a spear in his hand. This was surrounded by a Greek inscription not made out. The kings on the Behistun sculptures, and probably a considerable part of the others, wear head-dresses of similar character.” Dr. Stevenson in a note to Dr. Buist, says of this coin, “ Although I believe few, if any, such have been brought to light in India, similar Parthian coins, are not very uncommon in Europe. On consulting Eckhel (*Part 1. Vol. iii. Vindobonæ 1794, pp. 529 and 530*), I find a coin described as belonging to the fifteenth of the Arsacidæ, which both in the emblems and inscription agrees with your coin. The image of the king’s face, he says, is *modeste barbato diademate crispis crinibus*. I am inclined to think he wears a wig and not his own hair; and from the form of the beard, I should also think it false, just as in the images on the marbles lately dug up near Nineveh, to which the head on the coin in question bears a remarkable resemblance. Phraates IV. was a cotemporary of Augustus. The year is not mentioned on your coin, or the letters have been obliterated, but the month Dæsius, corresponding

* Plate, vii. Fig. A.

to our June, is given. The figure on the obverse (reverse) is a Parthian, sitting and holding up a bow or some warlike instrument in one hand, supporting a spear with the other. The legend is as follows, and arranged round the coin, beginning at the head of the figure." Dr. Stevenson then gives a transcript of the Greek inscription, in the printing of which as far as the order of the lines and the form of one or two of the letters is concerned, some mistakes have occurred. It appears to me from the coin which, with Dr. Buist's kind permission, I again lay on the table, to run thus :—

	Β Α Σ Ι Α [Ε Ω Σ]	
[Φ] Δ Ε Α Δ Η Ν [Ο Σ]	Β Α Σ Ι Α Ε Ω [Ν]	ΕΥ ΕΙ Γ Ε Τ [Ο Υ]
	Ε Π Ι Φ Α Ν Ο Υ Σ	Α Ρ Σ Α Κ [Ο Υ]
	Δ Ι Κ Α Ι ΟΥ	
	Α Π Δ Α Ι Σ Ι [Ο Υ]	

or, in their order, (correcting a misspelling) ΒΑΣΙΑΕΩΣ ΒΑΣΙΑ-
ΕΩΝ ΑΡΣΑΚΟΥ ΕΥΕΡΓΙΤΟΥ ΔΙΚΑΙΟΥ ΕΠΙΦΑΝΟΥΣ ΦΙ-
ΛΕΛΛΗΝΝΣ ΑΠ. ΔΑΙΣΙΟΥ, rendered in Latin, REGIS REGUM
ARSACIS BENEFICI JUSTI ILLUSTRIS AMICI GRÆCORUM. AB. DÆSIO.*

On this interesting coin, and the observations made respecting it by Drs. Buist and Stevenson, I take the liberty of making the following remarks, with a view to follow out the inquiries they have suggested.

1. It was, of course, before the decipherment of the Greek legend, that Dr. Buist supposed it to be a *Bactrian* coin. It clearly belongs to the Parthian dynasty, as noticed by Dr Stevenson. It is on this account, that it resembles none of the coins represented by the Messrs. Prinsep,

* The month ΔΑΙΣΙΟΣ (Dæsius) = June.

professor H. H. Wilson, and professor Lassen, who have confined their attention principally to the Bactrian, Indo-Grecian, Indo-Scythian, and ancient Hindu coins, illustrating the dynasties and succession of kings, of whom, independently of their testimony, we have but a slight knowledge. *Parthian* coins are numerous in the public museums of Europe, and even in some private collections, as that of Mr Kiss of Pesth, which I had an opportunity of examining, when passing through Hungary on my way to Britain in 1843. The finding of the coin in the Bombay Bazar is a curious circumstance; but it was there probably as a wanderer. Within the last nineteen years, I have procured in Bombay about a dozen of the same dynasty, to one or two of which, I shall have an opportunity of directing the attention of the Society. Some of them were presented to me by natives, and some of them by Dr. A. H. Leith.

2. The resemblance of the head on the obverse to that of Darius on the Behistun inscriptions, or to that of the marbles lately dug up at Nineveh, I consider but slight, though it is not altogether unworthy of notice. On both sides of the question of the artificialness or naturalness of the hair of the head or beard in this instance, something could be said, though it is a fact that the Parthian rulers, like the grandees of Assyria, did sometimes wear artificial beards.* Respecting the figure on the reverse, I am inclined to differ from both Drs. Buist and Stevenson. It is, I conceive the well-known Grecian figure of Jupiter sitting holding the eagle, *Jupiter seminudus sedens, dextera extensa aquilam gerens, levis tenens hastam*. If the members will compare the coin with the reverse of a small silver coin of Alexander the Great† from my own collection, they will, I think, acquiesce in this opinion. The Parthian bow, which Dr. Stevenson substitutes for the eagle in this coin, appears very distinctly on some other Parthian coins. The real form of this instrument, to which the attention of the Society was lately directed by Dr. Buist, is well brought out in a silver coin of Arsaces Orodes, the fourteenth of the Arsacidæ, which I lay on the table.‡ It strikingly corroborates the opinion of Dr. Buist that the Parthian bow was not incurvated, but somewhat of the form of the Cadmean sigma, Σ. The inscription

* As this sheet goes through the press, a remarkable instance of this has been shown to me by my friend Mr. J. Smith, in a silver coin of one of the latter Arsacidan princes lately brought from Basrah, and belonging to Dr. Bremner. Plate vii. Fig. I.

† Plate vii. Fig. B.

‡ Plate vii. Fig. C.

on this coin of Orodes is, ΒΑΣΙΛΕΩΣ ΕΠΙΦΑΝΟΥ ΑΡΣΑΚΟΥ ΘΕΟΠΑΤΟΡΟΣ ΝΙΚΑΤΟΡΟΣ. The letters are made by line, and not partially dotted, like those of Dr. Buist's coin. They are free from misspellings, which not unfrequently occur in Parthian coins. Dr. Buist's has ΕΥΕΙΓΕΤΟΥ for ΕΥΕΡΓΕΤΟΥ. Mistakes of this kind show that the artists were not themselves Greeks, but imitators of Grecian art. How greatly they continued to degenerate in their representations of both letters and figures, is very evident in two specimens of Arsaces Vologases, Arsaces XXVI, which I lay on the table.* In these, even the resemblance to Grecian workmanship is very slight. It is with difficulty that the dotted letters of one of them can be made out to be intended for ΒΑΣΙΛΕΩΣ ΒΑΣΙΛΕΩΝ. In the other, there are misspellings in almost every word of the inscription. It is worthy of notice that the imitations of Grecian art were more successful among the Bactrians and Indo-Grecians, and even Indo-Scythians and ancient Hindus, than among the latter Parthians.

3. Dr. Stevenson, judging from Eckhel, thinks that Dr. Buist's coin may be that of Phraates IV. Some of the figures in Gessner correspond with this opinion. On the examination, however, of the figures in Vaillant, who has devoted much attention to the Bactrian coins in his "Arsacidarum Imperium," this identification must appear doubtful. The figure of Phraates IV, as given by that authority (p. 147), is very different. Dr. B's coin, judging from Vaillant's plates, most resembles the coins of Arsaces I. and Arsaces II.† The identification of the coins of particular kings of the Parthian dynasty, is not an easy matter, as we find on them merely titles and not names, and our historical fragments do not always enable us to identify these titles.

Leaving the subject of Parthian coins, let me now briefly direct the Society's attention to some specimens connected with dynasties more particularly associated with the countries contiguous to India, or forming its northern provinces. I refer especially to the more remarkable of a collection of coins made by Captain Christopher of the Indian Navy, during his late successful voyages of experiment and research on the Indus, and which his liberality enables me to present to the Society. In noticing these coins, I shall follow the arrangement of Professor Lassen in his able and interesting work, "Zur Geschichte der Grieschischen und Indoskythischen

* Plate vii. Figures D and E.

† Plate vii. Figures F and G

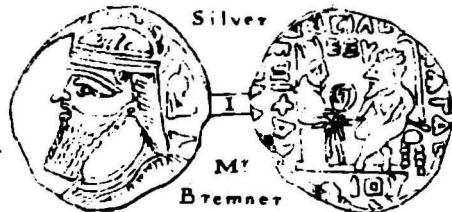
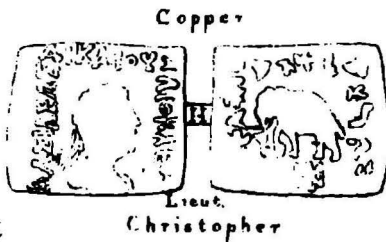
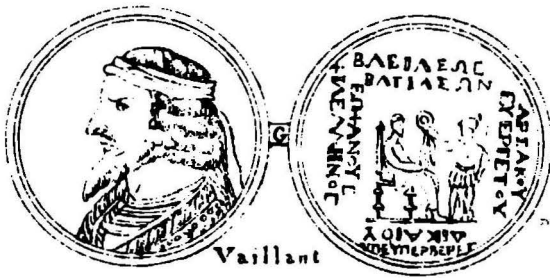
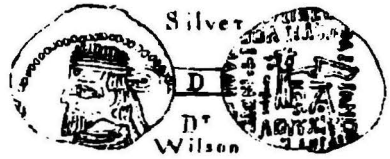
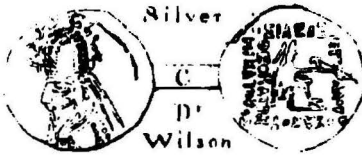
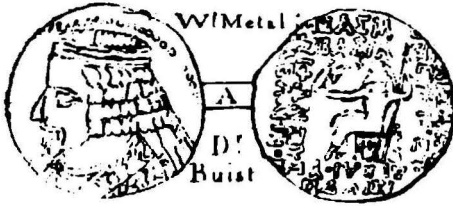
Könige in Bactrien, Kabul, und Indien durch Entzifferung der Altkaulischen Legenden auf ihren Münzen." (Bonn. 1838).

Of coins with "Greek names and titles," there are but few in Capt. Christopher's collection. The oldest which I find in it is one of great interest and rarity, a bilingual of *Heliocles*.* It is a square copper coin, having on the obverse the figure of the king, with the Greek inscription very distinct, ΒΑΣΙΛΕΩΣ ΔΙΚΑΙΟΥ ΗΕΛΙΟΚΛΕΟΥΣ, and on the reverse a figure of an elephant with the Arian inscription, 𑀘𑀓𑀭𑀢𑀺𑀓𑀭𑀢𑀺𑀓𑀭𑀢𑀺𑀓, *maharajō rajarajō H[el]ik[les]*, less distinct, but still legible. *Heliocles* was first inserted in the list of Bactrian kings by Mionnet, and then by Visconti, from a single medal. A coin similar to that before us, is delineated by Mr. Prinsep, from the collection of General Ventura. Mionnet, Lassen, and Prof. H. H. Wilson, suppose *Heliocles*, notwithstanding his assumed title of the *Just*, to have been the parricidal successor of *Eucratides*. The year of his accession is supposed to have been between 155 and 147 B. C. The last letter of his title, which, with Lassen, we are disposed to read as the diphthongal *ō*, a prakrit form of the genitive, is read *s* by Professor Wilson and the two Prinseps. It is the only doubtful letter. It is something like the Zand 𑀘𑀓 of the Pasis, and of the India Gabars of Persia, inverted; a letter, however, which some orientalists are now disposed to read as an *s*.

The coin next in point of antiquity to that now mentioned, is one of *Azes*, the Indo-Scythian, also a bilingual. The Greek inscription is ΒΑΣΙΛΕΩΣ ΒΑΣΙΛΕΩΝ ΜΕΓΑΛΟΥ ΑΖΟΥ, the letters of the two last words being partly cut off by the clipping of the piece. They surround the figure of the Indian bull. The Arian inscription is, 𑀧𑀸𑀓𑀭𑀢𑀺𑀓𑀭𑀢𑀺𑀓𑀭𑀢𑀺𑀓 *Maharajō Rajarajō Mahatō Ayō*. They surround the figure of a leopard, or lion. The types of the coins of *Azes* are very numerous, and many of them have been delineated by Mr. James Prinsep, and others. Of the interesting questions which have been raised respecting this sovereign by Professors Wilson and Lassen, an excellent summary has been given by Mr. H. T. Prinsep, in his judicious and convenient manual entitled, "Notes on the Historical Results deducible from recent Discoveries in Afghanistan." Mr. Prinsep, following Lassen in the main, makes this great king flourish about the year 130, B. C.

* Plate vii. Fig. H.

Plate VII.



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Passing on to "Coins with Grecian characters, the kings not Greek, but having no Barbarian titles," I find in Captain Christopher's collection nine of *Soter Megas*, of two or three types. They belong to a class which is exceedingly numerous not only in the Panjáb, where they were found, but in Afghanistan, where Mr. Masson procured two hundred and fifty seven specimens in three years. They have on the obverse generally a helmeted or coronated king with a nimbus, without any inscription; and on the reverse the figure of a man mounted on horseback, with the legend ΒΑΣΙΛΕΥΣ ΒΑΣΙΛΕΩΝ ΣΩΤΗΡ ΜΕΓΑΛΑΣ sometimes in a corrupted form. "The large number of these coins," says professor Lassen, "prove that this [nameless] king possessed an ample empire, and did not reign for a short time. He must have ruled in Kábul and a part of the Panjáb." The same distinguished Antiquarian and Orientalist says that "he must have belonged to a certain Scythian horde, which had for some time their abode in a country, where purely Greek and not native characters were adopted for the coins." He adds, "At an after period he perhaps used them; if indeed the coins with native legends which M. Mionnet assigns him, be really his." In one specimen now before us, there is the appearance of such a legend as that now referred to, but the letters are so indistinct that nothing can be made of them. Mr. Prinsep makes the nameless Soter Megas flourish about 70 years B. C. He must have been prior to the conquest of the Panjáb and Kábul by Vikramáditya, whose era, 56 before Christ, dates from a victory over the Scythians in the Panjáb.

Of the *Kadphises* group of Indo-Scythian coins, referrible to the time between the Christian era and the century following, there are *seven* specimens in Capt. Christopher's collection. It also furnishes *ten* of the *Kanerkí* group; *fifteen* of the *Indian Kanauj* dynasty; *eleven* coins which I have not yet been able to class, but of which something may be made; *twenty-one* coins which are much defaced; and *one hundred and twenty-one* with Arabic and Persian inscriptions. None of these series, I have found time sufficiently to examine; but, perhaps, I may be able to direct attention to some of them at a subsequent meeting of the Society, particularly if any peculiarities appear in them worthy of distinct notice. They form altogether a valuable accession to our Museum.*

* Mr. J. Macleod of the Sindh Customs has kindly put into my hands a collection of coins very similar to that now noticed.

ART. XI. — *Maráthi works composed by the Portuguese.*
By the Rev. J. Murray Mitchell.

It is well known that important works in the Native languages have been composed by Romish ecclesiastics in various parts of India. We may particularize the names of Hieronymo Xavier*, Roberto di Nobili, and Constantino J. Beschi. The first of these wrote various works in the

* He, of course, is not to be confounded with the great Francisco Xavier. He wrote *داستان مسیح* the *History of Christ*, *داستان سن پیدرو* the *History of Saint Peter*, and *آینه حق نما* *A Mirror shewing truth*. See a long and interesting account of the last work in Lee's edition of Martyn's Controversial Tracts.

See Asiatic Researches Vol. XIV for an account of the pretended Yejur Veda, written by Nobili in Sanskrit.

Mr. Ellis, who is the writer of the article now referred to, calls this imitation of the Vedas, "an instance of literary forgery or rather of religious imposition without parallel". Mr. Ellis doubtless means without parallel in point of boldness; for it is by no means remarkable in point of success. It was a complete misnomer to term the forgery a Veda; for in style, metre, and contents it differs as widely from the true Vedas, as the odes of Catullus from the laws of the XII Tables. It ought to be denominated an imitation of the Puránas. Apparently, it exists only in the Roman character, which, without a great array of diacritical marks (and they do not seem in this case to have been employed at all) is incapable of accurately expressing the sounds of the Sânskrit alphabet. Mr. Ellis remarks that the language is altered according to the Bengali pronunciation. But there are many errors in the orthography that cannot be referred to dialectic variety. The most remarkable of these is the frequent omission of aspirated sounds. Such errors as *vibranto* for *vibranta*, *ouddaron* for *uddharam*, *chiddon* for *siddham*, *brommo* for *brahma*, are very offensive to an ear accustomed to correct enunciation. Mr. Ellis has detected grammatical blunders in the Sanskrit. On the whole, this achievement of Nobili's, which, when it is first heard of, strikes one as something colossal, dwindles on careful examination into very ordinary dimensions. The work was published at Yverdon in 1778, under the title of *L'Exour Vedam, ou anciens commentaires du Vedam, contenant l'exposition des opinions religieuses et philosophiques des Indiens*. It was republished at Paris in 1792. It imposed on Voltaire, and, what is more extraordinary, on Anquetil du Perron.

A work of easy reference to those who may wish for farther information regarding Nobili, is Mosheim's Eccl. History (Book IV. Cent. XVII. Sect. 1). See particularly the note by Dr. Maclaine, for a strong, but thoroughly just, censure on his conduct.

Roberto di Nobili died in 1656.

Of Beschi, a long and interesting account (as well as a portrait) is contained in the *Madras Journal of Literature and Science* Vol. XI p. 250—302. His writings are there enumerated, and copious extracts given from them. His poetical works were 6 in number, his prose writings 17. He died in 1742.

Persian language and attracted attention at the court of the Emperor Jahángír. Still more celebrated is Roberto di Nobili, whose attainments both in Sanskrit and Tamil seem to have been of a very high order ; while Father Beschi, if inferior to Nobili in his knowledge of Sanskrit, appears to have surpassed him in the singular power and flexibility of his Tamil style. Very little notice has yet been taken of the literary productions of Romish ecclesiastics in this quarter. Yet, when we consider the extent of the dominion which the Portuguese obtained in Western India, their zeal for the conversion of the Natives, and the former magnificence of what they esteemed almost a holy city—Goa, one would be prepared to find that important literary works had been undertaken by them with a view to the dissemination of Christianity. It is by no means improbable that a careful examination of the libraries at Goa might bring compositions to light, the existence of which is at present unknown. In the meantime, the following remarks may be useful as serving to introduce the investigation of a subject at once interesting and important.

Three works are now before me, written in the Maráthí language by the Portuguese. Two of them are deserving of little attention, but the remaining one is of much greater consequence. We shall commence with the most important.

The title page of the work in the edition before me runs as follows :

“Declaraçãõ novamente feita da muita Dolorosa Morte e Paixaõ do Nosso Senhor JESUS CHRISTO. Conforme a Escreveraõ os Quatro Evangelistas. Feita por hum Devoto Padre chamado FRANCISCO VAS DE GUIMARAENS. LISBOA, com licença da Real Meza, na officina de Domingos Carneiro. No anno de 1659. Foi reimprimido ao Senhor Antonio Gonsalves, Puranick Shatry. Bombahim, Iro de Janeiro de 1845.

The title page is followed by a *prospecto*, setting forth the desirableness of religious knowledge. It speaks of the work as *esta obra em verso chamada vulgarmente Purano, composto em lingua do Paiz. (a work in verse, commonly called a Puran, composed in the language of the country).*

After a page of Errata, we have next four pages with no more explanation of their purport than the heading *Sahe o representante e diz (the actor comes forth and says)*. These are manifestly portions of some Portuguese religious drama on the sufferings of Christ,—Caiaphas, Rabbi Abraham, a spy, Judas, and the Devil, being introduced as speakers.

It is after this preliminary matter, which is all written in the Portuguese language, that the work properly commences. With the exception of the Portuguese heading to each chapter, of *capitulo*, it is written throughout in Maráthi. It appears to have no proper Maráthi title; the first chapter is merely headed by the words JESUS MARIA JOSEPH.

The original Lisbon edition of 1659 would seem to be entirely out of print. The Bombay reprint itself is said to have been executed from a manuscript copy, and to that fact we may probably ascribe the numerous typographical errors which disfigure this edition. The work is highly popular among the Maráthi-speaking Roman Catholics, and is generally mentioned by them under the name of the *Purána*. Such too is the name given to it in the passage quoted above from the *Prospecto*.

Our Purana (so to call it) is a poetical work,—that is to say, it is intended to be metrical throughout. It runs in stanzas of four lines each, which are constructed, although loosely, in imitation of the *oví* measure of the Maráthi poets. It contains two passages which, although the measure scarcely differs perceptibly from that employed in the rest of the work, are intended to possess a loftier poetical character, similar to that of the lyric fragments often inserted in European poems, and sometimes in Maráthi compositions. The entire poem is composed in 36 *canttha* (probably *kathá*), which are accompanied with the Portuguese headings of *capitulo* or *chapter*. These 36 chapters or cantos extend to the large number of 16,000 lines, so that in point of magnitude it surpasses the most celebrated Epic poems of Europe.

The work is written in the Roman character. An eager controversy has been maintained on the question of the desirableness of issuing vernacular Indian works in the Roman character; and again, the rival merits of the Jonesian and Gilchristian systems of expressing Indian sounds have been no less warmly discussed. It is entirely foreign to the object of this paper to pronounce an opinion on these disputed points; but it is interesting to note the practical solution which the Portuguese have afforded of both of them. They have from the first employed the Roman character to express the sounds of the Maráthi language, and they have given the Roman letters simply those powers which they possess in Portuguese. Unhappily, however, partly from carelessness, and partly from their ignorance of the purer forms of Maráthi, they have conveyed the language in a shape exceedingly repulsive to those

who are familiar with it only as expressed in Deva Nágari characters, the minute and beautiful precision of which forms a singular contrast with the confusion of sounds that reigns in the Romanized Maráthi of Father Guimaraens and his successors. The work before us opens thus: CANTHA PAILY. *Caixy Virge Maria Saibina sambaully santa Annachê udrim chocata Adãoche papavinchun, Parmessorache curpexim.* The above is the title in prose. The poem itself commences thus.

Christãovando aica tumim,
Equê chitim canttha Saibnimchy.
Caixy sambaully Santa Annâche udrim
Parmessorâche curpexim.

That isto say—

Christian people, hear ye
With one mind the story of the Lady [the Virgin]
How she was conceived in womb of Saint Anne
By the grace of the Supreme.

In these four lines of short verse there are several inaccuracies. The letter *d* is wrongly inserted in *christaovando*; *h* is omitted in *tumim* and *sambaully*; *t* is omitted in *chitim*, and wrongly inserted in *canttha*; *n* is also wrongly inserted in *canttha*; *Parmessor* for परमेश्वर is low, and not correct even in that view; *curpexim* is a scarcely allowable form for कृपेसी. It is probable that Father Guimaraens, even had he been acquainted with the purer forms of Maráthi might have preferred writing in a more vulgar dialect, in order to accommodate himself to the wants of the Portuguese Christians. But the language is blamably low; it is not merely popular,—it is corrupt. Such forms as *deca* for देखा (*dekha*) (corresponding to the Hindustáni *dekho, see*), *baga* for बघा (*baghá*) *ghetala* for घेतल (*ghetalá*), in which the aspirated consonants are softened into the simple ones, abound in every page. Occasionally an aspirate is wrongly inserted, as *dhole* for डोळे (*d'ol'e*). In *dhuca* for दुख (*dukha*) we have an instance of both these faults. Still worse is such a form as *rel* for राहिल (*râhil*), or *del* for देहळ (*dehl*), the etymology of the word entirely disappearing. We have no distinction between long and short vowels. But that is not all. Vowels are confounded. We have *quelans* for केलेंस (*kelês*), *ayssam* for असें (ऐसें)

asé or *aisé*). We have *auram* for एवढें (*evad'hé*). Consonants are confounded. The letter *r* is made to do service for र, ङ, and ढ. There is no distinction between dentals and cerebrals. Peculiar forms abound, as *bapazun* for *Lápáne*, *boltan* for *boltát*. The termination *xim* (सिं) is used with remarkable freedom. The idiom of the Maráthí language is sometimes violated, particularly in the frequently recurring expression *tyazun botalam* (i. e. *tyáne bolalé*) instead of *to bolalá*.—It does not seem necessary to institute a lengthened examination of the dialect used in this work. Had its variations from pure Maráthí been regulated by any general laws, it would have been well to investigate these; but no such laws are discoverable, and in consistencies every where abound. The language is neither more nor less than a debased Maráthí, with a considerable admixture of Gujarátí and Hindustání. It is very closely allied to the dialect spoken on the island of Salsette near Bombay. In this part of W. India, the Roman Catholic religion made exceedingly little impression on the higher castes of Hindus; the converts were almost exclusively from the poorer classes of cultivators and fishermen, and their dialect of Maráthí has apparently been adopted by their religious teachers without any effort being made to elevate or systematize it. Education among the Maráthí-speaking Romanists of our Presidency has been almost wholly neglected, and hence no doubt arose the necessity of *writing down* to their capacity. Altogether, the work constitutes quite a study for those who are acquainted only with the Maráthí of the higher castes, or that which is employed in the popular Maráthí poetry of the Hindus.

To pass however to a point of higher moment. We cannot ascribe to the poem before us any great literary merit. The general scope of the work seems to be the same as that of one of Father Beschi's most celebrated writings called *Tembavani*, or the *Unfading Garland*, the professed design of which was to present the great verities of the Christian religion in a poetical style, accommodated to Native taste. The *Tembavani*, when tried by the canons of European criticism, must be condemned as full of what Milton would call

—swelling epithets laid thick
Like varnish on a harlot's cheek ;—

but had these meretricious ornaments been confined to mere style, and not affected the very essence of the history which the writer professed to record, this might, in the peculiar circumstances of the case, have passed

for an excellence. The following is a specimen of the style of the Temavani. "Like as the great sea surrounds the golden world, so the beauty of the wide Moat, varying its bright waves and surrounding the walls [of Jerusalem*] which shone like a multitude of the solar rays, rose like a mountain to the water of the clouds and pierced the sky.— This extensive Moat at the foot of the heaven-reaching walls, seemed like a silver shackle to detain the beauteous city on the sea-girt earth; for fear it should esteem the earth an unsuitable habitation, and ascend to heaven as a more appropriate place. This Moat was deep as the deeply rooted affection of the great; the green weeds in it played on its surface, unstable as the affection of the mean; and the lotus, outshone by the beauty of the damsels, could not stay within the city, but here opened its tender leaves and breathed its fragrance." Language of this kind will remind the Oriental student of the excessive polish of Kálidása; but the above is still more lavishly adorned than any production of that celebrated poet; and it rather approaches to the swell and glitter of the later Persian, than the chaster beauties of any of the classical Indian writers.

The Maráthi work now before us is of much humbler pretensions than the celebrated poem of Beschi. The style is in general bare and unadorned; and the author was evidently unfitted for "the flight of Pegasus wing." It is not often that he attempts to be highly poetical, nor is he very successful when he does attempt it. For example, in the chapter which commemorates the event which in the traditions of the Romish Communion is called the Assumption of the Virgin,—a subject which to a Romanist would be suggestive of a certain kind of elevated thought, and which has in fact animated the pencil of some of the great Italian masters,—he thus writes:†

Sagium bounxim Saibina
Hulassa carum lagalê Deuduta,
Any asguê Santamchê giu turuta
Pomuarê gaúm lagalê.

Vazahum lagalê santossaxim,
Asguê gaum lagalê hulassaxim,
Varnum lagalê hauxexim
Saibinilâ.

* The reader will observe that this *Moat* is an imaginary thing altogether.

† We print all the extracts we make. *verbatim et literatim*.

Douduta bolum lagalé,
 Conxy hy aury sarupa hiá garé,
 Dhon Nacatam tichê dholê
 Distan.

Tichê Gal Motiamchê,
 Tichê Hontha Pomvamliamchê,
 Tichê Quensa Souarnamchê
 Tichê Hatâ chocathê Rupiâchê.

Câ Sarupa ticham Rups,
 Nahim suarguim any dunin conalá,
 Anachian nahim bagauê tilá,
 Manussa assun amam gaira diste Savai.

(*Cap. xxxvi. 30-34.*)

That is,—

Our Lady having become alive,
 The angels of God began to exult,
 And all the souls of the saints speedily
 Hymns of praise began to sing.

They began to shout with joy,
 All began to sing with exultation,
 They began to celebrate with delight
 Our Lady.

The angels of God began to say :
 "How beautiful is she at this hour !
 Two stars her eyes
 Appear.

"Her cheeks are of pearl,
 Her lips of coral,
 Her locks of gold,
 Her hands of pure silver.

"How beautiful her appearance ! [*Quam formosa ejus forma*]
 None in heaven or the world has such ;
 We cannot look upon her,
 Though a human being, she appears quite different from us."

The two passages that were formerly referred to as being of a more strictly lyric character, are supposed to be sung by the Virgin beside the cradle of her child. They are constructed on the model of a Native

पुढुणुणु (or lullaby. In point of mere artistic execution, some portions of these are very passable ; they are not destitute of a kind of naturalness and sweetness. But unhappily, they are no less characterized by a freedom, or what to many would appear an irreverent handling of a deeply serious subject, that renders it difficult to quote largely from them. The first verse is as follows ;

Jesus mangiá mogalâ
Casatha caru' aylâs
Dunin Suarâga thaquilâs
Cam rartês Balâ

That is,—

Jesus, my child,
Hast thou come to suffer distress
On earth, having forsaken heaven ?
Why weep'st, my son ?

The following is quite an echo of a Native पुढुणुणु.

Zô, zô, Mogalâ ;
Ninza gue, Balâ ;
Ningexim, Putrá, tulâ
Vissar pârel.

Hush, hush, my child,
Slumber, my babe ;
In thy sleep, my son,
Oblivion will befall.

In addition to the two passages now referred to, there are a few scattered throughout the work, in which the author rises above the level of a purely narrative style, and draws largely on the resources of imagination. For example, after the crucifixion is described, the Virgin is represented as giving vent to her emotions in a strain of passionate complaint which is extended into twenty four stanzas. Considering the peculiar solemnity of its subject, we must pass over this suggestive passage* without either criticism or quotation. We may merely note, that it possesses some degree of poetic merit. In several instances, indeed, the

* This passage is interesting from the fact that it particularly is sung in some Roman Catholic Churches in Bombay and Salsette on Maundy Thursday and Good Friday. It is also sung in families.

language is remarkably similar to that of a well-known hymn of Paul Gerhardt's which commences thus:

O Haupt voll Blut and Wunden,
Voll Schmerz und voller Hohn.

It is of importance to the appreciation of the real character of the work to remember that it does contain passages of this complexion, and that our author is occasionally not a mere metrical historian, but a poet, an inventor. It must be remembered at the same time, however, that the production is in a great measure free from those meretricious ornaments which are so offensively prominent in the work of Beschi, and from those adulterations which Hieronymo Xavier has industriously mingled in his histories both of Christ and Saint Peter. Our author does not appear consciously to have tampered with facts in order to accommodate them to Native prejudice. He uses (whether judiciously or not, we do not at this moment inquire) what he claims as a poet's privilege to represent as actually uttered those sentiments which he believes to befit the occasion, and to have occupied the mind of the parties introduced,—but there he stops. In point of moral intention, then, our author will rise as far above the celebrated men now referred to, as in point of intellectual power he must be admitted to fall below them. His intention evidently was to versify in a popular style without any great pretension either to elegance of diction, or critical accuracy of metre, some of the most prominent facts recorded either in Scripture or in the traditions of the Roman Catholic communion; and he would seem on the whole to have honestly discharged the duty which he had thus assigned himself. See, however, *infra*, for the limitations with which this acquittal must be taken.

The work before us possesses exceeding interest when contemplated in its theological aspect; but as any thing in the form of polemical discussion would be deemed unsuitable to the pages of our Journal, I shall studiously avoid entering on the subject, and shall consider the production only in a literary and historical point of view. The remarks which have been already made, may perhaps suffice in regard to its literary character. As an historical question, it is very important to inquire into the character and extent of the religious instruction communicated by the Portuguese ecclesiastics to the natives of Western India. How was the Christian system brought into contact with Hinduism? how were

converts gained? how were they trained? and what has contributed to form that peculiar character and phase of society by which the Native Portuguese in Western India are so specifically distinguished? Questions of this kind come fairly within the province of our Society; and on such questions the work of Father Guimaraens throws considerable light.

In the economy of Protestant Missions to the heathen, a very prominent place has always been assigned to translations of the Christian Scriptures into the vernacular languages of the country. The place thus assigned among Protestants to the Scriptures, may be said to be held by the work now before us among the Maráthí speaking Portuguese of W. India. It is exceedingly interesting to note what representation of the Christian system was afforded to the inhabitants of the Maráthá country by the Romish ecclesiastics. We may learn a good deal on this subject from the mere headings of the chapters of the work. These are as follows:

I. How the Virgin Mary, our Lady (Saibina), was conceived in the womb of saint Anne, pure from the sin of Adam, by the grace of God.

II. How the Virgin Mary was born of the womb of saint Anne into the world.

III. How saint Anne put the Lady Virgin Mary at the age of three years, in the Temple.

IV. How the Lady Virgin Mary married saint Joseph.

V. How our Lord (Suamim) Jesus Christ was conceived in the womb of the Virgin Mary by the grace of the Holy Spirit.

VI. How the Lady Virgin Mary went to visit saint Izabel.

VII. How our Lord Jesus Christ was born of the Virgin Mary in the fields of Embelem.

CRADLE SONG.

*VIII. How our Lord became baptized * (bautizar) on the eighth day, and received the name Jesus, as the angels had said.*

CRADLE SONG.

IX. How three kings of the world came to visit the child Jesus in the fields of Embelem the third day.

* Meaning circumcised.

X. *How our Lady Virgin Mary the fortieth day went with her son to the temple of Jerusalem.*

XI. *How the child Jesus went to a city of Egypt with his mother and saint Joseph.*

XII. *How the child Jesus was lost from the company of his mother in the city of Jerusalem at twelve years.*

XIII. *How our Lord Jesus, six days before his death, went to die on account of sinners in the city of Jerusalem, and what besides there happened.*

XIV. *How our Lord Jesus Christ remained with his flesh and blood in the Host, viz. the most holy sacrament : and washed the feet of his disciples on the night on which he fell into the hands of his enemies.*

XV. *How the Lord Jesus, having ended supper, took three Apostles with him and went to the garden of Olivet to pray to God the Father.*

XVI. *How our Lord Jesus fell into the hands of the Jews from his desire to die for sinners.*

XVII. *How the Jews took the Lord Jesus to the four houses of Annas, Caiphaz, Pilate, and Herod, to judge him.*

XVIII. *How the Jews bound our Lord to a pillar and struck him on the body five thousand, four hundred and seventy five blows with their hands.*

XIX. *How the Jews put a crown of thorns on the head of our Lord.*

XX. *How Pilate sent away our Lord and gave him to the Jews to crucify him.*

XXI. *How the Jews took our Lord to Mount Calvary, laying the cross upon him, in company with thieves.*

XXII. *How the Jews crucified the Lord Jesus.*

XXIII. *How our Lord spoke seven words on the cross, and forgave his enemies with love, and died.*

XXIV. *How Joseph and Nicodemus took the body of the Lord from the cross, and gave it to our Lady, and what else happened.*

XXV. *How soldiers were appointed over the tomb of our Lord : his lamentation, and the trials experienced at the hands of the Jews.*

XXVI. *How the Jews appointed the soldiers to keep the body of the Lord Jesus, and how his soul went down to Limbo.*

XXVII. How our Lord came out from hell and delivered the souls of saints with him, and became alive the third day.

XXVIII. How our Lord went to meet his mother, and took with him the souls of the saints.

XXIX. How our Lord met saint Mary Magdalene and the Apostles.

XXX. How the Jews gave money and made it be said that the disciples of the Lord had stolen away his body, and made it be denied that he had become alive.

XXXI. How our Lord Jesus Christ ascended to heaven on the fortieth day.

XXXII. How God the Holy Spirit put tongues of fire on the heads of the Apostles.

XXXIII. The most holy Trinity.

XXXIV. The most holy Sacrament.

XXXV. How the Lady Virgin Mary died.

XXXVI. How the Lady Virgin Mary became alive the third day.

The thoughtful reader will have his attention aroused by various things in the headings of the chapters as above given. The omissions are remarkable. The ministry of John the Baptist, the baptism of Christ by him, the temptation, the sermon on the mount, the transfiguration, the miracles of Christ, are not referred to in these titles. Very extraordinary is the sudden leap from events belonging to the twelfth year of Christ's life, to those which preceded his death by only six days. It will be seen at a glance that many of the chapters must have been drawn up from tradition, inasmuch as they discuss matters regarding which the Scriptures are wholly silent. The prominent place given to the Virgin, and the extraordinary nature of the history assigned her in the last chapter, will also claim attention. Two chapters in the work are purely doctrinal, and the two points selected are the doctrines of the Trinity, and the "Sacrament," that is, the Eucharist.

Such then is the representation of the Evangelic Narrative and the Christian system, which the Portuguese ecclesiastics exhibited to the inhabitants of the Maráthá country.

Interwoven with the Narrative, we have many advices and warnings, and various allusions to practices existing among the Portuguese Christians, which are interesting on many accounts.

The following is a fair specimen of the mode in which the Christians are exhorted throughout the work to obedience towards the institutions of the Church :

Ayquili vartá Missachí
 Cam bara' cartê amanchê gargê
 Tiatô Parmessor Sarau detê
 Tummy' Missa aycá Parmessor pautil

Equê nagrana hotê don dossata
 Equa Missa ayquê sadam
 Bizâ naixê carita Missachi paruâ
 Bagâ tialâ ca vichlam.

Dogauny sadam zata hassata pârdê
 Eque dissa guelê Ranana
 Tae' bagâ câ vichalam tianam
 Aycun hoal hayran.

Ranan paun zailâ hotia nau gariâ
 Thepa guimacham hotam
 Zaulam dhaum lûgalim tadanam,
 Vinza Uarâ gurguratha anim metha parlam

Equâ equâ Vinza zalcali zorâxim
 Gêrgâratha motha zailâ
 Abauarxim Aysâ bol aiquilâ
 Mar mar turuta zo Missa aique nay,

Tiâ garê vinza parlî giavar
 Missa naixê aycata tiachî quelî racar'
 Magtun Vinza zalcali tari
 Boly bigi aiquily bary'

Marum noco zo Missa aycatê
 Bacassa tialâ cam cuxy cartê
 Parmessorâchi anim manitê
 Sudecharaxim.

(*Cap. x. 76, 79-83.*)

Which is in English thus,

Hearing the repetition of the Mass
 What good it procures in our necessity,

On that account the Lord gives all ;
Hear the Mass, and the Lord will bless you.

In one city there lived two friends ;
One of them heard the Mass regularly,
The other cared nothing for the Mass ;
See what befel this man.

Both of them were wont to go out to hunt ;
One day they went to the jungle ;
On that occasion see what happened to them,
When you hear it you will be amazed.

Three hours had passed since they arrived in the jungle,
It was the season of summer,
Clouds then began to fly,
Lightning, wind, thunder, and pitch-darkness came on.

Flash after flash blazed brightly ;
The thunder became terrible,
From on high then this sound was heard,
“ Kill, kill quickly him who hears not the Mass.”

That moment the lightning struck,
Him who heard not the Mass it reduced to ashes ;
Thereafter the lightning again flashed,
But a loud voice was heard crying,

“ Kill not the man who hears the Mass ;
Spare him, in as much as he performs the will
Of God, and obeys it
With propriety.”

Passages of the following character are very numerous. They shew that Heathen rites still prevailed to a great extent among the Portuguese flocks.

Noco carum darama zoxiamnam
Any henduamchê bamanânam
Cara ge quelam Santa Aannâzun
Bicariamnam any deulanam.

(1. 94.)

That is,

Spend not your money on Jyoshis (astrologers),
And on the Bamans (i. e. Brahmans) of the Hindus ;
Give it, as Saint Anne did,
To the poor and the churches.

Or again,

Quetí Christão assunxim,
Nahim caritã Parmessoráchia rití,
Anim ápulê gari cartan brantí,
Saitanachiã.

Zadaua' vitan tianchiã bailã,
Sathia cártan ápulê garim,
Anim murãda brãntí,
Hendu'ache gattí.

Tarí manitan Saitanalã,
Anim patissã detan tialã,
Lãgeto lencram netan deulãna,
Bigi'ana thamquualã.

Any' nahim sadavita tem naum,
Gem deulan detan Padrí,
Garãn detan bizam tãri,
Cam nahiun pãlita xeastrãchí bolí.

Aulãdito cartan rozê,
Henduamchê anim parcãr bigê,
Anim nahim mangata gem paigê,
Parmessorãpãr.

(VIII. 84—89)

That is to say,—

How many, although Christians,
Perform not the worship of God,
But in their houses practise delusions
Of devils.

When their women bring forth,
They propitiate Satváí * in their houses,
And do many delusions
Like the Hindus.

* Satváí is the goddess who presides over child birth.

They pay respect to the devils,
 And supply them with offerings.
 If their children are sick, they take them to the temples
 To lay them down.

And they do not call them by the name
 Which the Padris give in the church ;
 At home they give another name,
 Because they regard not the words of scripture.

For offspring they perform fasts,
 And other rites of the Hindus ;
 Nor do they ask, what they require,
 Of God.

It is of much importance to note the position which the Virgin Mary occupies in this work. Her name and attributes are very frequently introduced. She holds, perhaps, on the whole the most prominent place in the religious system here propounded. We read thus, for example:

S. Agostinho boltê aixê sabadim,
 Suamiam Jesus Christaxim bolvê nahim ;
 Gem bolavacham axel bolauam Maulixim,
 Cam ty aiquel caclutixim.

(xxxvi. 236)

That is to say :

Saint Augustine uses these words,
 Do not speak to the Lord Jesus Christ ;
 What is to be said, say to his Mother,
 For she will hear compassionately.

Quotations of a similar import, although expressed in a form somewhat less startling, might be multiplied to any extent. Whatever measure of talent Father Guimaraens possessed, he has exerted it to the utmost in celebrating the greatness of her whom he styles *Rany Suargachy ani dunichy (the Queen of Heaven and Earth.)*

Salaruão Ragiazun ápulê Maulilá,
 Quelam sarcam sucassan báissavalá ;
 Suamim Jesus Ragiamchê Ragê,
 Caixy Mauly dunina thevitê.

Zaem hoty Cur tiamchy,
 Taem nely Maulichy ;
 CÀ urmata Putrachy,
 Manavâ épulê gaty.

(XXXVI. 154, 155)

That is,

King Solomon for his Mother
 Made similar throne to sit upon ;
 The Lord Jesus is King of kings, —
 How should he keep his mother in the world ?

Where his own body was,
 There he took his Mother's ;
 For it is the honour of the Son
 That she be regarded like himself.

What are we to make of the following passage ? It is not very plain whether it is intended as a mere play on the name of the Virgin, or propounded as a genuine fact in etymology. If the latter, it would prove that the study of Hebrew did not flourish among the Portuguese priests in India of the 17th century.

Maria latimchê baxê dariâ,
 Tiato David boltê Saibinixim,
 Tuzâ panim uncha motbê chozazim
 Suamiamchê curpexim.

(XI. 93.)

That is,

Mary (*Maria*) means in the Latin language *Seas*,
 Therefore David says to our Lady,
 Thou art of the first water, marvellously,
 By the grace of the Lord.

Throughout all the work, strange narratives are introduced in explanation or confirmation of the duties prescribed. Some of them seem of purely Indian birth; but on the whole these are sparingly employed, — more so by far than we might have anticipated from the number of the ever recurring prodigies which, according to Portuguese belief, attended

the introduction of their religion into India. Let the reader consult the life of Francisco Xavier as written by Father Dominic Bohours, and he will find miracles of the most extraordinary kind ascribed to the Saint ; miraculous agency, in fact, would seem to have constituted the normal state of life to "the glorious father Saint Francis," and submission to the laws that usually bind humanity, rather an exceptional case. Our author, however, has comparatively little of the marvellous in his statements of events in India. Still it occurs. More frequently occurs the marvellous in connexion with distant times and places. The following is one of the most extraordinary of the prodigies I have noticed (The subjoined is a close translation ; but to save space, we henceforth omit the Maráthi) :

Christian people, do you believe
That the Lord Jesus is in the Host ?
If you do not believe it, you shall go to hell,
There you shall remain with devils.

Hear a wondrous proof of the most holy Sacrament.
Now two only shall be told you ;
A hundred thousand have happened in the world,
But by these two all becomes plain.

You know about Saint Antony ;
He was teaching in a town,
And there he began to say to the people
The body of the Lord is certainly in the Host.

In that place were many Jews ;
They began to say to Saint Antony :
" We do not receive your saying
With trust.

" You say your God is
In the host ; we acknowledge it not.
Shew us immediately
A proof. "

Saint Antony spoke to the Jews :
" What sort of proof do you wish to see ?
Whatever shall seem good to you,
That shall you see. "

The Jews spoke to saint Antony :
 “ Seven days hence bring your God
 In this place, as you say, to convince us,
 And exhibit the truth of your God.”

Saint Antony said to the Jews :
 “ Your pleasure be done ;
 You shall see in seven days
 What I spoke with truth.”

The Jews went to Saint Antony ;
 An ass was shut up in a place ;
 To him wisp nor water for seven days
 Was given ; he was kept fasting.

The seven days having passed,
 Many Jews collected with triumph ;
 They began to make a fool of Saint Antony,
 See, Christian people, what happened then !

Saint Antony on the seventh day collected
 Many Christian Padris to go to that place ;
 He took the Lord in his hands,
 And brought him near the Jews.

Saint Antony having gone with the Host
 In which is our Lord,
 Behold what then took place,
 Receive it with trust.

The Jews had made a heap of grass
 In another place to eat,
 They put a great vessel of water
 In that place.

The house in which the ass was shut up
 They opened the door of it.
 He had been in hunger and thirst for seven days,
 See what that ass did.

The ass, having got free,
 Looked neither at wisp nor water,
 Straight he went to saint Antony,
 For in his hand was the Lord.

There the ass knelt down,
 And laid his head on the ground in the sight of all.

Thereupon the Jews were thunderstruck,
When they beheld the wonder.

Saint Antony began to speak to the Jews,
“ Still are you wicked in your hearts ?
A brute beast has disregarded hunger,
He has come to reverence my God.”

Then the Jews began to confess,
And to saint Antony they spoke :
“ We become christians by our own choice,
And receive the word of God.

Saint Antony took the Jews
With him all, immediately ;
And dismissed the ass in the sight of all :
“ Go, eat and drink to your content”.

Christian people, have you heard the tale?
A brute beast knew the Lord ;
And you who are men, do not know
Him ?

Know that saint Antony was a Frank,—
Portugal was his abode ;
There this matter took place ;
The world beheld it.

(xxxiv. 158—177.)

This is followed by another story, certainly no less marvellous, of the Host once becoming *gitam massa*, (*living flesh*) and assuming the actual appearance of the Being whose presence in it Father Guimaraens is so desirous of establishing. Whether this is one of the acknowledged legends of the Roman Catholic church, I am scarcely aware ; most probably it is, as certainly is the one touching Saint Antony and the ass, which we have just quoted.

Throughout the entire work, there is an absence of argument ; or at least, a strong disposition rather to rely on miraculous evidence. Thus, having spoken of the punishment of sin in the other world, our author, anticipating objections, meets them in the following way.

Foolish people say in their heart,
“After death there is no suffering.”

You will see that, in another world,
Christian people !

He who determines so in his heart,
Would determine that God is not in heaven ;
For he pays no regard to his doing,
And he cares not for his greatness.

Know ye, Christian people,
Just as a king does in his dominions,
He gives the good what their deeds demand,
The wicked he casts in the prison.

For these wicked people God shewed
In the kingdom of England (*Inglatera*)
In the country of Ireland (*Hibernia*)
To Saint Patrick a certain place.

In that place God shewed
All the sufferings of the wicked.
Saint Patrick had taken along with him
All the Christians who were disobedient.

Beholding with their own eyes in that place
The souls of relatives and friends,
Exceedingly distressed, they began to say :
"What fools were we" !

All the people believed
What they saw in that place ;
One to another they spoke,
"Our God is true."

(v. 106—111.)

It is interesting to see how the Portuguese ecclesiastics dealt with the matter of images. Here is the sentiment of our author on the subject :

Should you ask, why Christian people make
In the world images of God,
Of the Virgin Mary, and the saints ?
It is that we may keep them in remembrance and love.

Even as you keep in your house
Any object belonging to a friend,

And by means of it remember him
Continually :

Just so, the Church for our good
Causes images to be made, that remembrance may be,
And that in our souls we may enjoy
The grace of God.

The very grave offence which Beschi committed in his *Terubavani* in altering the facts of Christianity in order to accommodate them to Native prejudice, has been above referred to, as well as the pleasing circumstance that our author is comparatively free from such unchristian conduct. Occasionally a blamable anxiety to accommodate the facts which he relates to the prepossessions of the Hindus is discernible. Thus he has not the slightest hesitation in declaring that the wise men from the East were Hindus.

O Hindus, blessed are ye,
For to day kings of your race,
Know ye, came with grace
To visit God the Son.

All castes and races,
Know ye now, were left ;
Love was shown to the Hindus,
And there was too remembrance of others.

These three kings of Hindu race,
To day will be happy in their souls,
Because them the Lord in grace
Brought to meet him.

(ix. 3, 4, 6.)

Although however we see but little of a tampering with grand Christian verities or facts to render them more palatable to Native taste, we yet note in Father Guimaraens a fault not greatly dissimilar, which does not admit of excuse. He has altered the words of scripture in certain cases, so as to make them express sentiments widely different from those that are contained in the original. Thus the salutation of the Angel to Mary is expanded into 100 lines—and it is worse than diluted—it is travestied. The words of aged Simeon—so exquisitely poetical no less than ardently devout,—could not of course be altered without being injur-

ed, and accordingly we have them reproduced in doggrel ; but that is an insignificant matter, compared with the daring interpolation of such sentiments as these :

The darkness of our sins
 Dispel, and pardon our transgressions :
 Ask heaven for our souls,
 O Lady.

In thy hand are all things,
 Heaven and Earth. On us,
 O Lady, look with favour ;
 Teach us in thy child's way.

(x. 36, 37)

These extracts will suffice to give an idea of this remarkable book.

There is still one interesting inquiry on which the work of Father Guimaraens may throw some light. In the paper on the "Story of Tukáráma," with which this volume of our journal commences, reference is made to the fact that in the later legends of the Maráthi people there are elements that must be extraneous, and probably Christian, in their origin. In that paper the question of Portuguese influence is noticed at some length ; and the conclusion arrived at, is, that there is at least a probability that the later Marathi legends have been in part moulded after Christian ideas derived from the Portuguese of Goa, Bassein, Bombay, &c. If we possessed no such work as that of Father Guimaraens, this conclusion would seem still the only probable one ; but the book under review furnishes us with new and powerful arguments in its support. The death of Tukáráma took place in 1649, only ten years before this work was published in Lisbon. It is probable, then, that our poem may have been current in the country while Tukáráma was still alive ; we cannot suppose that so important a production would remain unknown until the Lisbon impression was disseminated in India. Probably, the work then, as more recently, would be extensively copied and circulated in MS. Again, the life of Tukáráma, as compiled by Mahipati, was written in 1774, that is, 115 years after the publication of the "Christian Purana" of Father Guimaraens ; — and no one who knows how rapidly history in India passes into fable, will doubt the high probability of the story of the boasted hero-saint of Maháráshtra having been in part shaped

after the Christian narrative. Nothing so omnivorous as Hinduism ! It absorbs and assimilates every thing within its reach.

II.

The other works need not detain us long.

One is a publication in Portuguese and Romanized Marathi, the double title of which reads thus :

CATECHISMO DA DOCTRINA CRISTAM. Em Roma MDCCLXXVIII. Na Estamperia de Sagrada Congregaçaõ de Propaganda Fide.

CRISTANCHI SASTRAZZA CATHEXISMO. Rumaza M.DCCLXXVIII. We have a testimony dated 5th February 1778, and signed by *Eugenio Gomes, Sacerdote Portoghese di Goa, pratico in lingua Marastta*, that the work contains nothing contrary to the holy faith and good customs ; and this is followed by the *imprimatur* of Fr. Thomas Augustinus Ricchinus.

The work, then, is a "Catechism of Christian Doctrine," authoritatively printed at Rome for the Portuguese Christians in the Maráthá country. The Portuguese and Maráthi are on alternate pages. It extends in its bilingual form to nearly 173 pages.

It is interesting as exhibiting the Maráthi language as written by Portuguese ecclesiastics sixty years ago. On the whole, the language is more correctly expressed in this work than in the one we were lately considering ; but the orthography is still extremely careless, and the nicer shades of enunciation are entirely overlooked.

The rendering of theological terms in the languages of India is a difficult subject that has attracted much attention from Protestants. The Portuguese theologians seem to have cut the knot in a great measure ; they generally transfer the original term into the Indian languages. Thus we read. *Question. How many sorts of virtues are there ? Ans. Two ; Theological and Moral.* Which is thus given in the Maráthi. *Gunáche pracary katic hayeta ? Don : Theological guna, anim moral guna.* The Holy Catholic Church is made *Sant Igreja Catholik.* The Holy spirit is *Spirit Sant.* Lent (in Portuguese *Quaresma*) is *Corresma.* The seven sacraments acknowledged by the Romish Church, are rendered *Baptismu, Crismu, Eucaresty, Confissãõ, Extrema-unçcão, Ordý, Matrimony,* — all these words being entirely without meaning in Indian languages. When Indian terms are adopted, the

choice is sometimes singular. *Prayer* is rendered *shap*; *charity* is *mougha*; *heaven* is *Vaimcutt* (Vaikunth, the heaven of Vishnu). *Hell* is *Yemacondh* (*the gulf of Yama*). The *Communion of saints*, is *bhagtamzza yecvhattzzar*.

The following is the version of the decalogue :

1. *Yecazza Dewàlà vandixil anim sampurna moughazim lekizil.*
2. *Parmeshóràchy annawà, sawà naim wavy.*
3. *Aditwar pallawè Dewachy bogty kharuna.*
4. *Maya Bapàlà mândewà muràd haumca boughawà.*
5. *Apcuzyzim, va Aphkarnezim manuzàzzà giu naim ghatawà.*
6. *Pârduar naim kharawy.*
7. *Zzoury nuim kharawy.*
8. *Zutty guay naim deawy.*
9. *Pâr strichy hizà naim kharawy.*
10. *Pâr vhasuzzà louba naim kharawà.*

To aid the Maráthí scholar in the decypherment of the above rather enigmatical sentences, it may be mentioned that the second commandment is entirely omitted in this catechism.

III

The third of the works which we are now to notice is entitled: *MANUAL DAS DEVOCOES E DOCTRINA CRISTA. Em Portuguez e na Lingua do Paiz : accrescentada com outros uteis exercicios da piedade Christã. Impresso em Bombaim, Anno 1848.* It is a work in 18 mo. of 123 pages, 70 of which are in Romanized Marathi, the rest being in Portuguese with a few pages of Latin. A catechism, the creed, the Lord's prayer, and various other prayers, are contained in it.

It is evident that the Portuguese ecclesiastics never reduced the orthography of the Maráthí language to a system. Even in the same work, a word may be spelled in three or four different ways. The same word, as it appears in different works, is so disguised as sometimes to escape recognition. The Lord's Prayer is given in these two works we have last been noticing in exactly the same version, but the spelling varies considerably. In the newer work, the Lord's Prayer reads

thus: (We give it exactly as it stands, — the spelling and punctuation are wretched).

Amache Bapa, tum Soarguim hais, tuzam nau thor hou : tuzam raz amala, heu tuzi Cuzi Zaizi Soarguim hote taizi : Sausarim hou aza amachy dar disachy rogi aza amala de anim amachim Patacam Bacassa Zaizim anim amache Chucaliata bacaxitum anim amala mathe Budim parum noco deum tarim gem cahem amavar Viguin hete tem nivar. Amen Jesus.

IV

I regret that I am compelled to conclude this article before I have it in my power to notice at length a Grammatical work on the Maráthi language composed by the Portuguese. After a long search, I have at length discovered a Portuguese gentleman in Bombay who very recently possessed the work in question, but who unfortunately lent it about three months ago to a priest proceeding to Goa, from which I am daily in expectation of receiving it. In the meantime I copy the title of this rare work, as it is given in the catalogue of the Library of the Hon. East India Company. GRAMMATICA MARASTTA; in *Alphabetis Variis. Vol. ii 8vo. ROMAE, Typis Propag. Fide, 1778.*

It will be seen that in date and place of publication, this work corresponds with the former of the two catechisms mentioned above.

A specially interesting feature of the Grammar is the *various characters* in which it is said to be written. The Marathi works usually current among the Portuguese in W. India, express the language in Roman characters solely, and consequently the sounds are not given with precision. We may presume that the various characters referred to are the Devanágari, the character called *Mod'*, or current hand, and the Roman.

ART. XII—*On Foraminifera, their organization and their existence in a fossilized state in Arabia, Sindh, Kutch and Khattayar.* By H. J. CARTER, Esq., Assistant Surgeon, Bombay Establishment.

There is no subject more deserving the attention of those in pursuit of information with which it is connected, than the study of the *Foraminifera*, from the little that is known of their habits and organization, and the important part they have fulfilled and are still fulfilling in the formation of the calcareous strata of the globe; and there is no one more favorably situated, perhaps, for prosecuting this study, than the zoologist and geologist of Western India.

Whether his travels be in Sindh, or Kutch, or Khattayar, over the peninsula of Arabia, or the eastern extremity of Africa, the shores of the Red Sea, or through Egypt and the Holy Land, the remains of myriads of these little animals meet his view; beds of them are found living in the shallow water of the neighbouring seas, and the sandy beaches are almost wholly composed of their deciduous testæ.

They abound in a microscopic form in the older tertiary formations of Europe,—in the upper part of the cretaceous system,—and may be traced down through the Oolite to the Lias* and to the Mountain Limestone, † but it is not until we approach the southern parts of Europe, the Pyrenees and the northern shores of the Mediterranean that they begin to appear in their largest and most striking forms, and least of all perhaps until we arrive in Sindh where the largest fossilized species averages two and a half inches in diameter. ‡

* Ann. and Mag. of Nat. Hist. 1841. July No. 45. p. 390.

† Dr. Buckland on the Agency of Animalcules in the formation of Limestone. Edinburgh New Phil. J. 1841. p. 441.

‡ This species is a nummulite † It is $2\frac{1}{2}$ inches in horizontal and 1-6th of an inch in vertical diameter. It diminishes in thickness from the centre to the circumference. The last whorl embraces and encloses all the rest as in *Orbiculina* (D'Orbigny). In its fossilized state it is wavy. It appears to be the largest species of nummulite on record. It is found about Kurrachee in rolled pebbles. Its external surface is smooth.

M.M. Joly and Leymerie have incontestably proved by their minute examinations of the nummulites of the subpyrenean basin, that they are essentially *Foraminifera*. *Comptes Rendus* Oct. 25. 1847.

Strata of great thickness, almost wholly composed of the remains of these animals are spread over many thousands of square miles in the countries I have mentioned. The great Pyramid of Egypt is based on rocks hewn out of them; Ehrenberg has numbered a million of them in a cubic inch of chalk; about the same number exists in a cubic inch of the Poorbandar limestone of Khattayar, and between three and four millions of them have been enumerated in a single ounce of sea sand.*

They are at once the most numerous of all visible solitary animals on record, (that is visible to the unassisted eye,) which ever have existed, or which do exist at the present day, on the face of the earth, † and yet so little is known of their natural history and organization, that up to the present time they cannot be said to have definitely received their position in the Animal Kingdom.

That such should be the case, is easily conceived, when we reflect on the obstacles that oppose it, viz.—That where the most acute observers are most numerous, there these animals, although they abound both in their living and fossilized forms, pass from their extreme minuteness almost unnoticed, and for the same reason offer a decided barrier to those who would pursue their organization; while in the countries where they are most abundant and where their largest and most striking forms exist, it is only the occasional traveller, who cursorily notices them, who witnesses the vast masses of limestone which have been formed from their accumulated remains, and who has only time to assure himself of the fact, and to wonder at leisure, at the important agency these little animals have held in the formation of the stratified crust of our earth.

The study therefore of the *Foraminifera* so comparatively new and

* Mantell Wond. Geol. p. 321

† I of course include among *Foraminifera*, the genus *Orbitolites* (Lam). "In North America, the Eocene limestone of Suggsville, which forms a range of hills 300 feet in height, is entirely composed of these lenticular bodies." Wond. of Geol. Mantell p. 249. Characteristic species, *Orbitoides Mantelli*, formerly, *Nummulites Mantelli*. Vide *Quarterly Jl. Geol. Soc. Feby.* 1848 p. 13. Having found these fossils in their large and in their minute forms, so constantly associated with *Foraminifera*, to the exclusion of all other organic remains, (as in the Poorbandar limestone of Khattayar of which hereafter,) I think that though they differ from nummulites in the arrangement of their cells, &c, yet the fact of nummulites or their allied genera being their constant and almost exclusive associates, seems to confirm without the necessity of further evidence the accuracy of Ehrenberg's classification, in placing them among *Polythalamia* (*Foraminifera*). D'Orbigny appears to have made a genus of them which he has called *Cyclolina* Sp. *Cyclolina cretacea*. *Foram. Foss. du Basin Tertiaire de Vienne.* 4to. p. 139. Tab. XXI. figs. 22.25.

yet so intimately connected with the changes which have taken, and which are now taking, place, on the surface of the globe, is one of unusual interest, and particularly so to those who are favorably situated for prosecuting it.

It is under this impression that I am induced to offer the following epitome of what has been discovered in their organization, and to add a few observations of my own, on the existence of their fossilized remains on the south-eastern coast of Arabia, in Sindh and Kutch, and in the Poorbandar stone of Khattayar.

The name *Foraminifera* was originally given to this class of animals on account of the great number of holes which exist in their shells; they have also been called *Polythalamia* from the number of chambers of which their shells are compounded, and last of all, since the discovery of the animal, they have been called *Rhizopoda*, from the root-like extension of their tentacular prolongations. Of these names the first is the most, and the last the least, in use.

They vary in size from an object which can hardly be distinguished by the naked eye to a disk $2\frac{1}{2}$ inches in diameter,* and their shells, which are composed of carbonate of lime, with the exception of the genus *Gromia* (Dujardin) which is membranous, may be compounded of one or more chambers, grouped together in almost any form that can be conceived. The first is the smallest chamber, and the last formed, the largest of the group.

In 1825, when D'Orbigny, (whose name is inseparable from the study of the *Foraminifera*) published his classification of *Cephalopoda*, he placed the *Foraminifera* among them, and gave an imaginary description of the living animal, to say the least of which he has since repudiated. Certainly D'Orbigny has made known to us much more about these animals in their fossilized state than any other Naturalist, and it is a pity that he should have trusted to his imagination for that description of the living animal which with his experience, he might have easily obtained and more faithfully given from actual observation. It is enough to repeat here that he stated their shells to be internal, which in reality are external to the animal, and classed the *Foraminifera* amongst the highest when their place is amongst the lowest of the invertebrata. In doing this he appears to have been misled by the almost identity of form which exists between some of the shells of *Foraminifera* and of those

* Sindh specimen described.

belonging to *Cephalopoda*, and his error affords a useful lesson of the danger of asserting facts upon mere resemblances.

For ten years after D'Orbigny gave his description of the animal of *Foraminifera*, no one appears to have taken much trouble to question its accuracy, until Dujardin took up the subject in 1835, while residing at Toulon, (where he had ample opportunities of testing the truth of D'Orbigny's pretended discovery) and after having carried on his researches most perseveringly for some time, at length came to the conclusion, communicated to the Academie Royal des Sciences of Paris in the month of June of the year mentioned, that the *Foraminifera* were not molusca, nor did they belong to any of the established classes.

In describing their organization Dujardin stated that all their chambers were occupied by a red or orange colored animal matter, highly contractile, and possessed of the consistence of mucus; that this was susceptible of extending itself into threads which were filled with irregular granulations, but without the presence of any organs. On carefully observing these animals in their living state, he had seen, with a high magnifying power, in *miliola* a soft mass projecting from its aperture (analogous to the substance of the interior) which slowly underwent a change of form, and from which a tuft of minute filaments radiated, from a common centre of attachment; these filaments prolonged themselves in ramifications to five times the diameter of the specimen (*miliola*) from which they proceeded, and at length became of such extreme tenuity, as to be followed only by changing the direction of the rays of light. Further, he observed in these filaments, a movement of *reptation*, by which the animal advanced from 5 to 6 millimeters per hour. The filaments appeared to be composed of a primitive animal matter, which extended itself forward in the manner of roots; hence the name *Rhizopoda* which Dujardin proposed for these animals. In *miliola* and *gromia*, these filaments came from their aperture;—in *crestellaria* from the last chamber, and in *vorticellia* from different pores of the disk.

As to their manner of reproduction Dujardin had noticed during the previous year, that in *truncatulinu*, the animal matter was grouped together in certain cases, in globular masses, as the green matter of *zygnema*.

Finally, in concluding his communication he states, "we see that it is

impossible to keep these animals among the microscopic *Cephalopoda*; what rank shall be assigned to them? ”*

The discovery then of the animal of *Foraminifera* appears to be due to Dujardin.

In November 1835, he exhibited at Paris several living specimens of *vorticaria* and his genus *gromia*, † and during that winter continued his researches into their organization, with a view to establishing the relation that might exist between them and the *Infusoria*.

In comparing them with *Infusoria*, he states, in a note addressed to the Academie Royal des Sciences of Paris, ‡ “ I have always been guided by an idea suggested by Bory St. Vincent who, after having seen the living *Rhizopoda*, was struck with the great analogy which existed between the filamentous prolongations of these animals and the expansions of the *amæba* or *proteus*, and directed my attention to the point.”

Lastly, Dujardin exhibited before the Acad. Roy. des Scs. at Paris in 1836, § some animalcules, called by Ehrenbergh *arcella aculeata*, but which Dujardin regarded as freshwater *Foraminifera*, and through these he imagined the series to be continued from the *amæba* to *miliola*,—that is through *diffugia* a species of *amæba* to *arcella*, from the latter to *gromia*, and from *gromia* to *crestellaria*, and thence to *miliola*.

After Dujardin, Ehrenbergh took up the subject, and the result to his researches is as opposed to D’Obigny’s description, as it is confirmatory of Dujardin’s observations.

In a memoir read at the Royal Academy of Scs. at Berlin in 1838, || Ehrenbergh stated that the Foraminiferous shells were inhabited by elegant little bodies which played an important part in nature, and might frequently be found to number more than a million in a cubic inch of chalk; also that after a series of observations made on recent species both living and dead in the Red Sea and elsewhere, he had come to the conclusion that their place in the Animal Kingdom should be among the *Bryozoa*.

In the month of October 1839, ¶ Ehrenbergh also, exhibited living specimens of these animals, to the Academy at Berlin, (two) which were

* Acad. Roy. des Scs. seance Juin 22, 1835. † Idem seance Nov. 15, 1836.

‡ Seance Fev. 1. 1836. § Seance Juin 11. 1836.

|| Idem seance de 16 Janvier, 1840. l’Institut. No. 350. Sep 1840 p. 309.

¶ Acad. Roy. des Scs. Berlin. Seance de 16 Janvier 1840. Vide l’ Institut No. 350 Sep. 1840 p. 309.

taken at Cuxhaven, and out of the fossilized remains of which Ehrenbergh stated the chalk to be principally composed; and in January 1840, he exhibited ten other species of these animals, * at the same time communicating the following observations on their organization:

“The first and largest cell of these animals, sometimes also the 2nd and occasionally as far as the 4th back, contain only the transparent part of the animal; beyond this, the cells are filled with two large organs differently colored. One and the principal is an alimentary canal, thick, grey, greenish, which, like the whole of the body is articulated; this extends itself from chamber to chamber and its divisions are united by an œsophagus or syphon. When the shell is removed by acid, the silicious carapaces of *Infusoria* which the animal has swallowed, may be observed (in *nonionina* and *geoponus*) as far back even as the last articulation of the alimentary canal. The structure of this canal is not polygastric, but simple; expanded in the articulations, and possessed of a single aperture which is situated anteriorly. In *nonionina* the articulations are distinct and connected by one syphon; in *geoponus*, they are multiple, and each set connected by its proper syphon”.

Independently of the alimentary canal, a horny brown yellowish mass is seen in every articulation of the spire, the first excepted; this which is granular, Ehrenbergh considers to be the ovary.

In searching for a purely negative character, Ehrenbergh states that it consists in the want of pulsatory vessels; that while he has always recognized pulsations in the *Mollusca* and the smallest aggregated or compound *Ascidia*, he could never do so in *nonionina*, and *geoponus*, the two species of *Polythalamia* (*Foraminifera*) which he more particularly examined. †

This is what Ehrenbergh has added to Dujardin’s observations, and no one since Ehrenbergh appears to have taken up the subject.

Up to the present time, all that has been seen of the organization of *Foraminifera*, consists in their ambulacral prolongations, an alimentary canal with an aperture anteriorly, and a brown mass of granular matter accompanying it, which appears to be an ovary.

To this I have only to add, in confirmation, that I have seen in *rotalia* nearly all that has been described by Dujardin and Ehrenbergh; while watching them in their living state, and after having dissolved off their shells by means of weak acid and water, to which was added a little

alcohol. The alimentary canal, however of the specimens I examined, which was surrounded by the brown substance mentioned, was not only simply dilated in each chamber, (after having passed through the syphon or constricted aperture in the septum,) but also formed a loop, the bend of which reached to its external margin.

Habitat.—*Foraminifera* are to be found more or less on all shores, living in beds or scattered in soundings and in shallow water, or dead and dried in their shells forming part of the sand of most beaches.

On the survey of the S.E. coast of Arabia they were invariably brought up by the ship's lead, and by a private lead which I used to cast for the purpose. They were found to be most numerous in about 10 to 20 fathoms of water, rather in sandy than in muddy bottoms, scanty in deep water, and never (by the lead) among rocks and coral ground. In one bed passed over, which extended for several miles, in about 20 fathoms of water, the sounding lead came up covered with them at each throw, they were the largest living species I have ever seen, and principally consisted of the genus *Discorbis* (Lam.). Most measured from 2 to 3-10ths of an inch in diameter, some contained animals and others were empty ; the latter were readily distinguished from the former by their pearly whiteness, while those which contained animals were invariably covered with a thin greenish cuticle, like the deciduous epidermis of shells generally.

The following is a description of this *Discorbis*.

Discoid, thin, flat 3 - 10ths. of an inch in its widest diameter. Consisting of 3 whorls, with the external margin of each whorl elevated on both sides. Chambers regularly increasing from a transparent central cell; septa running in a contrary direction to the spire. Perforations on the surface of the shell scanty and scattered,—in the septa numerous, the largest lying close to the inner whorl.

With respect to the position of *Foraminifera* in the Animal Series, it has already been shewn, that they cannot be classed, as formerly, among *Cephalopoda*, and their relation to the *amæba*, * noticed by Dujardin, is only based on their rhizopodous prolongations; they have nothing else in common with the *amæba*, so far as has yet been discovered, save that the silicious shields of animalcules may be seen in the alimentary canal of the former as the horny crusts of loricated animalcules, and perhaps their silicious carapaces also may be seen in the folds of the integument of the *amæba*.

Vide Art. II of this No. for a description and figure of the *amæba* (sponge-cell ?).

Ehrenbergh regards them as coral animals. The one simple (*nonionina*), the other compound (*geoporus*); the former possessing many apertures of communication through their septa, the latter only one. Hence his two divisions of *Polythalamia* (*Foraminifera*) into *monosomatia* (single-bodied), and *polysomatia* (many-bodied). He considers that the absence of pulsating vessels in them, should place them far from mollusca, and far from the articulated worms, and that their position should be among the *ganglionated animals* without pulsation, or *vascular animals without spinal marrow* (*Ganglioneura asphycta*), although neither their nervous nor their vascular systems have as yet been seen. * He therefore places them among *Bryozoa*, that order which appears to establish a passage between the inferior *Zoophytes* and the last of the *Mollusca*, and considers them nearly allied to *fustra* † (*eschara* &c), from their organization, their food and the arrangement of their tests.

Their mode of progression by ambulacral filaments which pass out through the perforations in their shells, allies them to *Echinoderma*, and it is worthy of remark, that the fossilized remains of these two orders (so far as my experience goes) are generally found to abound together; and where both are not equally plentiful, the preponderance is in favor of *Foraminifera*, and the deficiency in *Echinoderma* not supplied by the remains of any other animal. In Lower Sindh this is particularly the case, and it prevails throughout the S.E. coast of Arabia. I may here mention that I have frequently met with *scutellæ* in Sindh, which, without having presented their upper surface, might have been in their vertical sections, mistaken for nummulites; the rhomboidal fracture however with which the testæ of *Echinoderma* always break, may generally be taken as guide to the class to which they belong.

FOSSILIZED REMAINS OF FORAMINIFERA.

Concerning the fossilized remains of *Foraminifera* and their geological distribution in Southern Arabia, Sindh, Kutch, and Khattiyawar, I have much more to say than time or space will here permit; my observations therefore must be confined to the subject as much as possible,

* Acad. Roy. Sc. Berlin seance 16 Janvier 1840 loc. cit.

† L' Institut No. 294 Aug. 15. 1839 p. 281.

desirous as I may be of introducing matter which would make this paper more interesting to the general reader.

Beginning with Arabia, I would briefly premise, that the south-east coast of this country, viz. that which looks towards the Arabian Sea, in length about 900 miles, is chiefly composed of one vast limestone formation, averaging between two and three thousand feet in thickness. This formation is broken up as it were into two great portions, the angle of fracture, or of depression, or, as it is called, the "synclinal line," being in 20° 30" N. Lat. and 58° 30" E. Long. Here the land is very nearly on a level with the sea; it is the lowest part of the whole south-eastern coast, is opposite the island of Maseera, and is the centre of the seaward boundary of the desert of Akhaf. On each side of it the land gradually rises until it obtains its maximum height of 5 or 6 thousand feet (on the N. E.) in the Green Mountains of Oman, which are scarped upon the sea; and on the S. W., in the Saban Mountains, in 17° 30" N. Lat. and 55° 23" E. Long. from which the average height of the land, (which is that mentioned) continues the same, with the intervention here and there of ravines and valleys, on to its termination in the Fadheli Mountains behind Aden. It is to this point of fracture or depression, opposite the island of Maseera, that I now wish to direct attention, for it is here that we might expect to meet with the uppermost or last formed deposit of this limestone series; and if this be the case, it here consists of a *Miliolite*, the thickness of which cannot be further ascertained than that it rises from 30 to 40 feet above the level of the sea, which at this part hardly exceeds five or six fathoms in depth as many miles from the shore.

This deposit is uniform in its granular structure, and is almost entirely composed of the remains of microscopic *Foraminifera*. * It is so loose on the surface, that the upper and exposed part has become disintegrated to a good depth, and has converted the originally rugged deposit beneath into dome shaped mounds, covered with soft white sand, which resembling the snow in the northern regions in its whiteness, is in some parts so caked and hardened as to resist the impression of the foot, and in others so yielding as to be displaced by the gentlest breeze. These sand hills, which correspond with the irregularities of the harder parts beneath, and which average in height about 100 feet above the level of

* See composition of the Poorbaudar limestone hereafter.

the sea, probably extend over a great part of the desert of Akhaf, and form the "winding sands" mentioned in the Khoran.

Of this *Miliolite* I shall state no more at present, save that it is found still further to the S. W. superposing as usual the limestone formation of this coast (at Bandar Resut in 54° E. Long. and at Rakiut a few miles to the westward of Ras Sajar), and return to it again when speaking of the Poorbandar limestone of Khatiawar.

Leaving the mainland of Arabia and passing across to the island of Maseera immediately opposite, distant about ten miles from the shore, we meet in limestone strata, which lie beneath the *Miliolite* just mentioned, a vast bed of nummulites, the species of which average from 1 to 5 lines in diameter, are doubly convex in their form, and are similar to, if not identical with, the species found at Lukput in Kutch, and called by Sowerby *nummularia acuta* and *cbtusa*. * The thickness of this bed I had no means of ascertaining, but the specimens are so plentiful, where they have been denuded of the superposing strata that they may be gathered up in handfuls, in the manner of earth; a few corals are associated with them, great numbers of the so-called *serpula recta* † of Kutch (which also abound in Sindh and on the mainland of Arabia opposite Maseera) corals, and the remains of *Echinoderma*, among which the most striking are those of a *galerite*, measuring 5½ inches high and 6½ in anteroposterior diameter at base.

The next place on the S.E. coast of Arabia where I have observed the remains of *Foraminifera* to any extent, is in the compact white limestone above the town of Morbat in 54° 49' E. Long. (about 270 miles to the S.W. of Maseera), where the summit of the scarped land, which looks towards the sea, is between 4 and 5 thousand feet in height. Here, some way down from the top, but still in the upper part of the series, *orbitolites* and *fascicolites* form a good portion of the rock. The *orbitolite* is papyraceous and similar to that found equally abundant in the Hala Mountains of Sindh, and the *fascicolite* is similar to the species of that fossil which abounds about the town of Tatta in the same country. They are also accompanied as in the Hala Range by a plentiful admixture of shells, corals and other fossils.

I wish particularly to direct attention to this *orbitolite* and *fascicolite*, because varieties of these two fossils occur together in great

* Grant's Geol. of Cutch Geol. Trans. 4to. Vol. v. part 2nd. Pl. xxiv. figs. 13 and 14.

† Idem Pl. xxv. fig. 1.

numbers, both in Sindh and Arabia, and are probably therefore characteristic of the same formation.

The *orbitolite*, however, of Arabia now under consideration is composed of cells just half the diameter (viz. 1-970th of an inch) of those of the Sindh variety, although it exceeds it a little in the diameter of its disk; and the *fuscolite* associated with it, is not elliptical (*F. elliptica* Parkinson) as it is in the Hala Mountains, but spheroidal, similar to the one which abounds in the neighbourhood of Tatta.

The following is a description of the Arabian *orbitolite*:

Flat, orbicular, doubly concave; presenting elevated concentric lines on its surface; formed of layers of cells disposed in concentric circles. Cells 1—970th. of an inch in diameter. Average size about 1 inch in horizontal, and 1-15th of an inch at the circumference in vertical, diameter.

In the Sindh species, * the cells which are 1-435th of an inch in diameter, commence in ellipses † of one or two tiers deep, around a non-cellular confused centre, and afterwards become circularly disposed and six or more tiers deep. A vertical section presents a quincuncial arrangement of these cells. (Plate viii. fig. 1. b.). I could not from their minuteness detect how they commenced in the Arabian species, or how many rows deep they were at the thickest part of its circumference. The *fuscolite* associated with the *orbitolite* of Arabia is not cylindrical such as that characterizing the hills about Hydrabad in Sindh, ‡—that figured in Grant's Geology of Kutch, (*F. elliptica* of Parkinson) § and that associated with the *orbitolite* of the Hala Mountains; but more spheroidal, similar to that abounding about Tatta (the "Toomra") used for necklaces (Plate viii. fig. 2.).

Passing still further to the south westward along this coast, we find at Ras Fartak, about 150 miles from Morbat, a pinkish blue limestone rock, occupying or rather cropping out from the base of this promontory; composed, with the exception of a small *cidaris* here and there, entirely of the remains of *Foraminifera*, in the form of small *orbitolites*, averaging 1-6th of an inch in diameter; in size and appearance similar to the small nummulites of the nummulitic rock of Egypt, but convex on one side to a point and concave on the other, thinning off towards the circumference, and without any indication of their cells externally, but with concentric lines on the convex side like those on the *orbitolites*

* Plate viii. fig. 1. † Idem. fig. 1. c.

‡ Jl. By. B. R. A. Society No. viii. 1844. Pl. viii. fig. 11.

§ Op. et loc. cit. Pl. xxiv. fig. 17.

just mentioned. This foraminiferous deposit, so far as can be seen, measures 100 feet in thickness, but is concealed in its extent downwards by its descent into the sea. It is probably the lowest; since the character of the limestone on this coast is to pass from the purest and whitest kinds superiorly into less pure, marly and variegated deposits inferiorly; and thence into silico-calcareous strata which terminate in pure micaceous sandstone. So that the pinkish blue limestone of Ras Fartack is probably among the variegated strata of the series, and therefore the last of the foraminiferous deposits downwards.

Thus briefly given are the evidences of foraminiferous deposits on the south-east coast of Arabia. My observations on them extend much further but what has been stated is enough for our present purpose, the rest must remain for a future occasion.

Let us now pass on to Sindh; — Here the same species of *Foraminifera* met with on the S.E. coast of Arabia are equally abundant. The *fasciolites elliptica* characterizes the limestone hills about Hyderabad, the spheroidal species the limestone about Tatta. *Orbitolites* associated with *fasciolites* abound together in the Hala Range; and through the kindness of Dr. Malcolmson I have received specimens of several nummulites, which form whole hills in the neighbourhood of Sukkur, and which are at the same time identical with all the species found in Kutch, those of the S.E. coast of Arabia, and those of Egypt. Among the mass of rolled pebbles found between Kurrachee and Ghara, are in all probability specimens of all the foraminiferous or nummulitic deposits in Sindh; for these pebbles must have come from the Lukki and Hala Mountains where the limestone series of Sindh may be expected to exist in its full development.

For the foraminiferous or nummulitic deposits of Kutch I must refer the reader to Col. Grant's Geology of that country already cited. He will there find the nummulitic ground laid down, and many of the nummulites named, figured, and faithfully described. *

I have now to return to the *Miliolite* of Southern Arabia, as it exists at Poorbandar in Khattiyawar; and here I regret to state, that I have not yet been able to visit it, to ascertain what strata it superposes, or if by any, it be superposed; since such an examination would furnish me with

* This paper so accords with what I have seen on the S. E. coast of Arabia and in Sindh, that I feel assured it must be most accurate in its details and will prove an invaluable key to the geology of these countries.

a key to the relative position of this formation in the southern part of the Desert of Akhaf, where descending into the sea I had no opportunity of ascertaining its extent downwards, and being covered with loose sand above had no chance of arriving at any satisfactory conclusion as to its termination in that direction.

The Poorbandar limestone derives its specific denomination from the place near which it is quarried in Khattyawar, and is imported at Bombay in the shape of blocks and flags for building purposes. It is of a brownish white color, uniform in structure, granular, and composed of oolitic particles of calcareous sand united together into a firm compact rock. This granular structure first attracted my attention, and knowing from the discoveries of Ehrenbergh, that most of the cretaceous deposits were almost entirely composed of the remains of microscopic *Foraminifera*, and that Dr. Mantell in testing the truth of Ehrenbergh's observations in examining the "chalk and flint of the S.E. of England" had not only confirmed his statements, but had moreover found that the softer and more perishable parts of the bodies of these animals had also become mineralized; * I thought it probable that this deposit also might be composed of the remains of them, and that certain yellow specks which it contained might be the mineral which Dr. Mantell had described, as supplying casts or fac-similes of their bodies. To ascertain this, a portion of it was reduced to coarse powder, and the yellow particles having been liberated from their connexion with the carbonate of lime by an acid solvent, they were found to be what I had expected from Dr. Mantell's observations, viz. the casts of the interior of microscopic foraminiferous shells, † of the most exquisite beauty in their forms and symmetrical development; and the more highly they were magnified, the more minutely could be distinguished the innermost recesses of the cells or chambers they represented. The larger of these casts seldom approach to or exceed the 25th part of an inch, so that their forms, in detail, are entirely invisible to the unassisted eye; occasionally the figures of the fossilized shells which enclose them can be partially seen, but this is seldom the case, they having become transformed by partial dissolution and recrystallization into the oolitic grains of which the rock is composed.

* For this mineral Dr. Mantell has proposed the name of *molluskite*. Phil. Trans. for 1846, part iv. p. 465.

† See Plate VIII fig. 1

Having thus discovered that the Poorbandar limestone was almost entirely composed of the remains of a variety of *Foraminifera*; I subjected from time to time portions of it to the analysis I have mentioned, and at the Society's Meeting held on the 6th June 1848 had the honor to shew to the Members then present several drawings of the genera I had recognized, and to exhibit under the microscope at the same time some of the most perfect and beautiful of the casts I had obtained. One of them, belonging to the genus *Nodosaria*? (D'Orb.) probably nearly allied to *N. spinicosta* (D'Orb.) * is figured in Plate ix fig. 1.

Since examining the Poorbandar stone, I have received D'Orbigny's beautiful work, entitled *Foraminifères du bassin Tertiaire de Vienne*, and from what I have seen therein, think, that with its plates it would almost be as good a hand-book for the former as for the latter; it being understood, however, that where you have the shells or tests themselves in the tertiary deposits of the Basin of Vienna, the casts only appear in the Poorbander limestone of Khattayar.

The fossilized *Foraminifera* in the Poorbandar limestone, although occasionally reaching the 25th, do not average more than the 100th part, of an inch in diameter, so that more than a million of them may be computed to exist in a cubic inch of this stone.

They may be separated into two divisions, those in which the cells are large, the regularity of their arrangement visible, and their bond of union consisting of a single constricted portion between each,—and those in which the cells are minute (Plate ix fig. 1.), not averaging more than the 900th part of an inch in diameter, the regularity of their arrangement not distinctly seen and their bond of union consisting of many thread-like filaments. The latter division appears to belong to D'Orbigny's order *Stichostega*,—to Ehrenbergh's *Polysomatia*,—and should, I think, be classed with *Orbitolites* from the *smallness of the cells*, their *want of spiral arrangement*, * and the appearance in the centre or at one end of having once been attached to a foreign body.

Chemical Analysis of the Poorbandar Limestone.—To ascertain the mineral composition of the amber colored particles or casts, after having found that it was carbonate of lime with which they were surrounded, I placed them for a few moments in the reducing flame of a blowpipe, and

* Foraminif. fossiles de Vienne Tab. I Fig. 32-133

See these striking characteristics of this division of *Foraminifera* compared with the nautiloid forms.—Plates viii and ix figs. 1. 1.

observed that on subsequently exposing them to the influence of a magnet, they were all attracted by it. Hence in a rough way this rock may be said to be composed of carbonate of lime and oxide of iron. I was led to think that the amber colored particles were oxide of iron, from their color, and their analogous position to the masses of *brown hæmatite* which are frequently found in the interior of fossilized gasteropodous shells. This is often met with in the limestone about Hyderabad in Sindh, and much brown hæmatite is there loosely spread over the the surface of the hills, which originally came from this source. I would here also add another observation which is, that accumulations of black iron sand attracted by the magnet appear here and there on the beach or in the landwash, where the surf breaks upon the *Miliolite* of the Desert of Akhaf, each particle of which might have come from the centre of a foraminiferous shell. Dr. Malcolmson has done me the favor to send me a specimen of the same kind of sand from Sindh. May not this sand also have had a similar origin, and may not the *Miliolite* of Arabia be also found in Sindh?

Finally,—we see the vast area over which the fossilized remains of *Foraminifera* are spread in the countries mentioned. We may extend them in their largest forms and in their grandest deposits from the Pyrenees probably to the foot of the Himalayas; it is not known how much of the Atlas Mountains may be composed of them or how far their beds may extend into the Desert of Sahara. The older tertiary formations and the Chalk of Europe abound in their microscopic forms, and in short the whole of the calcareous strata, comparatively speaking, between the points I have mentioned, over which once extended the great sea in which they were deposited, appear to be chiefly composed of their remains.

Lamarck observes after his description of *Miliola* a genus of *Foraminifera*, and the same applies to the whole order:—

“The shells of *Miliola* are the most singular in their form and perhaps the most interesting to consider, on account of their multiplicity in nature and the influence they have upon the size of the masses which are on the surface of the globe, and which form its crust. Their smallness renders these bodies contemptible to our eyes, in fact we can hardly distinguish them; but one ceases to think thus, when one considers that it is with the smallest objects that nature everywhere produces the most imposing and remarkable phenomena. Now, it is here again that we

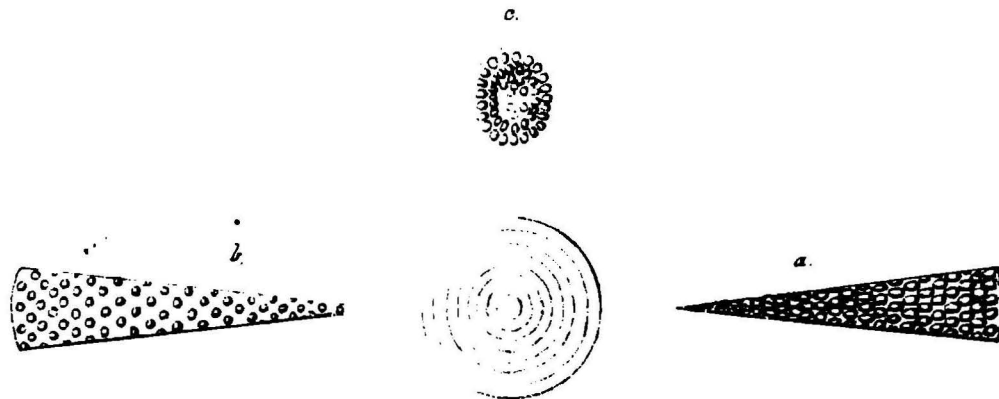


Fig. 1.



a.



Fig. 2.



b.

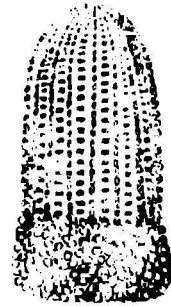


Fig. 1.

have one of the numerous instances which attest that in her production of living bodies, all that nature appears to lose on one side in volume she regains on the other in number of individuals, which she multiplies to infinity and with admirable promptitude. Truly do the remains of these little living bodies of the animal kingdom exert a greater influence over the state of the masses which compose the surface of our globe than those of the great animals, as the Elephants, the Hippopotamus the Whales, and the Cachalots, &c. which, although constituting the most considerable masses, are infinitely less multiplied in nature".*

EXPLANATION OF THE PLATES.

PLATE VIII.

- Fig. 1. Disk of *Orbitolite* from the Hala Mountains near the river Burau, Sindh, —natural size.
 a. Disposition of cells around the centre, magnified.
 b. do. do. on the surface, do.
 c. do. do. in a vertical section, do.
- Fig. 2. *Fasciolite*, of Tatta, —natural size.
 a. Vertical section, magnified.
 b. Horizontal do. do.

PLATE IX.

- Fig. 1. Figure of the cast of a foraminiferous shell from the Poorbandar limestone of Khattiyawar, magnified; length about 1—20th of an inch. (Gen. *Nodosaria* ? d'Orbigny).
 a. Apex, magnified.
 b. Base, do.
 c. Horizontal section, magnified.

ART. XIII.—*Extracts from the Proceedings of the Society.*

Thursday the 9th December, 1847.

MEMBERS ELECTED.

The Hon'ble Sir William Yardley, Kt. ; J. G. Lumsden, Esq. and Dr. W. Arbuckle.

DONATIONS FOR THE LIBRARY.

Numbers 1, 2 & 3 of the "Journal of the Indian Archipelago and Eastern Asia." Presented by the Editors.

* Lamarek Hist. Nat. des. An. sans Vert. V. xi. p. CCLXXXIX.

ORIGINAL COMMUNICATIONS.

Botanical drawings of the Gogul tree of Sindh (*Balsamodendron Roxburghii* Arn.) and a closely allied species (*Balsamodendron pubescens* J. E. S.) both executed under the superintendence of Dr. Stocks, Vaccinator in Sindh. Presented by Dr. Stocks to accompany his descriptions of these trees.*

Thursday the 13th of January, 1848.

MEMBERS ELECTED.

Cursetjee Jamssetjee, Esq. and H. E. Goldsmid, Esq.

DONATIONS FOR THE LIBRARY.

1st. Journal of the American Oriental Society, No. 1. Vol. III. Presented by that Society.

2nd. Zeitschrift der Deutschen Morgenlandischen Gesellschaft Heft, II. Presented by that Society.

3rd. Nos. 4 & 5 of the Journal of the Indian Archipelago. Presented by the Editors.

PRESENTS FOR THE MUSEUM.

A collection of Fossils from the Green-Sand, Chalk, Red-Sandstone, Lias and Bovey Coal Formations of Devonshire. Also a collection of Shells from the South Pacific Ocean, and specimens of Lava from the Marquesas Islands. Presented by H. B. E. Frere, Esq.

The *Secretary* reported that the appointment of a successor to the late Librarian referred to the Committee of Management for decision had been considered, and that the Committee had resolved to retain Mr. Mendoza to perform the duties of that office at the salary before stated.

Thursday the 18th of February, 1848.

DONATIONS FOR THE LIBRARY.

1st. Meteorological Observations made at the H. E. C. Magnetical Observatory at Madras. Presented by Government.

* This communication was published in the last No. of the Society's Journal.

2nd. An Essay on Female Infanticide with a translation into Gujarathee, by Bhawoo Dajee. Ditto.

3rd. Transactions of the Medical and Physical Society of Bombay No. VIII. Ditto.

4th. General Observations on the Provinces annexed to the Russian Empire under the denomination of the Territory of Armenia; translated from the French with notes by Samuel Marcar, Esq. Presented by the Author.

5th. Bibliographia Armeniaca; by Samuel Marcar, Esq. Presented by the Author.

6th. Journal of the Indian Archipelago, No. VI., and Supplement to No. V. Presented by the Editors.

7th. A Chinese work in 6 Volumes. Presented by Captain C. W. Montriou, I. N.

Respecting the Malcolmson Testimonial it was reported that a Meeting of the Committee of Management had been called on Monday last to carry into effect the Society's resolutions of the 29th Nov. last, but sufficient Members not having been present to form a quorum, no business was transacted.

Resolved.—That the subject be brought forward at the next Meeting of the Society with the following proposition by Dr. Stevenson, viz.—

That the medals when struck be annually awarded as prizes for the best Essays on subjects of Natural History, Chemistry, or some other kindred sciences.

The subscriptions for a testimonial to the memory of the late Major General Vans Kennedy having been stated to amount to a sum much beyond that which would be required to carry out the first resolution of the Society, viz.—That “of erecting a suitable monument over his remains,” It was resolved:—

That as more than a year had elapsed since General Kennedy's death had taken place, the *Secretary* be authorized to expend a sum not exceeding Rs. 600 for carrying into effect this resolution.

Thursday the 9th March 1848.

DONATIONS FOR THE LIBRARY.

- 1st. *Icones Plantarum Indiæ Orientalis*, by Dr. Wight, Part 1st, vol. IV. Presented by Government.
- 2nd. *Manual of Materia Medica*, by J. F. Royle, M. D., &c., *Clinical Illustrations of the Diseases of India*, by W. Geddes, M. D., &c. and *Cheliv's System of Surgery* translated from the German by J. F. South, Esq. Presented by the Medical Board of Bombay.
- 3rd. *La Rhetorique des Nations Mussulmanes d'apres le traite Persan intitule Hadayic ul-Balagat*, par M. Garcin de Tassy, 4me Extrait. Presented by the Author.
- 4th. *Journal of the Indian Archipelago*, No. 1, Vol. II, January, 1848. Presented by the Editors.
- 5th. *Memoirs of the Royal Astronomical Society*, Vol. XIV. Presented by Government.
- 6th. *Proceedings of the Royal Astronomical Society* Nos. 1 to 17, Vol. VII, 1847. Presented by Government.
- 7th. Nos. 1—4 of the *Bulletin et Annales de L' Academie D' Arc-hologie de Belgique*. Presented by that Academy.

PRESENTS FOR THE MUSEUM.

- 1st. Polished Pebbles of Nummulitic Limestone from Lower Sindh. Presented by Major Hughes.

ORIGINAL COMMUNICATION.

A descriptive account of the Fresh Water Sponges in the island of Bombay with observations on their Structure and Development. Genus (*Spongilla*). By. H. J. Carter, Esq., Assistant Surgeon, Bombay Establishment.*

The means of carrying into effect the Resolutions passed by the Society at its Anniversary Meeting respecting the *Malcolmson Testimonial*, and the Rev. Dr. Stevenson's addition, " That the medals when struck be annually awarded as prizes for the best Essays on subjects of Natural History, Chemistry or some other kindred Sciences," were considered by the Meeting, and after a short discussion Dr. Stevenson withdrew

* See Art. II of this No

his proposition, and J. Smith, Esq., seconded by Professor Harkness, proposed for consideration at the next Meeting of the Society :—

“ That the sum subscribed to the Malcolmson Medal Fund, being inadequate to carry out the object of the Society *by the means originally proposed*, be laid out in the purchase of Standard Works, with a view of perpetuating the name of Dr. Malcolmson in connection with the Society, and of promoting among its members the study of those branches of *Natural History* to which Dr. Malcolmson had more particularly directed his attention, and that these books be neatly and uniformly bound, marked with a suitable inscription and placed in a press or shelf in the Museum, set apart for that purpose, and henceforth to be designated and known as the “Malcolmson Collection.”

With reference to M. H. B. Kœnig's letter to the Rev. Dr. Wilson's address, dated January 9th 1848, which states that a short time since Mr. Kœnig forwarded through C. J. Stewart, London, a present of 10 volumes to Dr. Wilson and the Society; and that if convenient, he would be obliged to the Society to favor him with 25 copies of each No. of its Journal as it is published, that its contents might be made known in Germany; also that in return, he would send the price of the Journals in cash or in books as the Society might wish. It was resolved that Mr. Kœnig's request be complied with and his offer accepted, and that 25 copies of the present No., viz. XI, of the Society's Journal be forwarded to his address with a letter intimating that as many copies of each of the Nos. already published are procurable, if he requires them.

An abstract of the correspondence between the Hon'ble the Court of Directors and the Supreme Government of India, respecting the preliminary arrangements that should be instituted for conducting the Antiquarian researches contemplated by the Hon'ble Court, within the territories of the Bombay Government, was read to the meeting; and copies of the Hon'ble Court's despatch laid before it, with a letter from J. G. Lumsden, Esq. Secretary to Government, requesting the Society to favor the Government with its opinion on the subject.

Resolved. That the whole of the correspondence be printed, and a copy sent to each member of the Committee, and that the Committee after having given the subject its mature consideration, be requested to submit a proposition in answer to Government at next meeting of the Society.

The *Secretary* announced that No. XI of the Society's Journal had been printed and was now ready for distribution.

Thursday the 13th of April, 1848.

MEMBERS ELECTED.

The Revd. D. O. Allen and Venaick Gungadur Shastree, Esq.

DONATIONS FOR THE LIBRARY.

1st. Dr. Griffith's Private Journals and Travels in India and the neighbouring countries. Presented by Government.

2nd. Posthumous Papers, Botanical, entitled *Notulæ ad Plantas Asiaticas*. Ditto.

3rd. Botanical plates, entitled *Icones Plantarum Asiaticarum*. Ditto.

4th. Madras Astronomical Observations. By T. G. Taylor, Esq. F. R. S. Presented by the Madras Government.

5th. Journal of the Indian Archipelago and Eastern Asia, February 1848, No. 11. Vol. 11. Presented by the Editors.

6th. Jardine and Selby's Ornithological Illustrations, Vol. IV. Presented by Commander Montrieu.

PRESENTS FOR THE MUSEUM.

1st. Skin of *Moschus javanicus* from the island of Java. Presented by Captain Beyts.

2nd. Two Specimens of *Limulus heterodactylus* from the China Sea. Presented by Mr. A. Viegas.

3rd. Specimens of Volcanic Rocks from Aden. Presented by Lieut. Hellard I. N.

ORIGINAL COMMUNICATION.

The Story of Tukárâma. From the Maráthi-Prákrit. With an Introduction, by the Rev. J. Murray Mitchell. Communicated by the Author. *

* See Art. I of this No.

The proposition for employing the money subscribed for the *Malcolmson Testimonial* in the purchase of Standard Works on those branches of Natural History to which the late Dr. Malcolmson had more particularly directed his attention, and that such works should be placed by themselves in the *Museum* and designated the *Malcolmson Collection* was submitted, and received the unanimous approval of the meeting; but before being finally adopted by the Society, it was deemed advisable that it should be circulated as strongly recommended by the meeting, for the sanction of Subscribers now residing in the Island of Bombay.

The *Secretary* reported that in accordance with a resolution passed at the last meeting, the correspondence of the Hon'ble the Court of Directors of the East India Company with the Governor General of India, respecting preliminary arrangements for conducting Antiquarian researches in India, submitted for the opinion of the Society by the Hon'ble the Governor in Council of Bombay with reference to the Monuments and Cave-Temples of antiquity within the territories under the Bombay Government, had been printed and issued to the *Committee of Management* and that a meeting of the *Committee* had been convened for the purpose of suggesting a reply to Government on the subject, but as there were not members enough present to form a quorum for transacting business, a letter to Government had been drafted on the suggestions of those who had assembled which was now submitted for the approval of the meeting. This letter with a few alterations was adopted. It recommended that authentic information as to the number and situation of all the Monuments and Cave-Temples of Antiquity in the territories under the Government of Bombay should be obtained—the means by which this information should be obtained—the willingness of the Society to form a Commission out of their own members to receive and arrange such information, and finally to place it in the hands of the Government for the guidance of one or more persons whom the Government might deem best fitted to undertake the preliminary enquiries contemplated by the Hon'ble Court—lastly, the desirableness of commencing these inquiries as early as possible.

Thursday, the 11th of May, 1848.

MEMBERS ELECTED.

C. M. Harrison, Esq., C. S., Commander Kempthorne, I. N., Professor J. Patton, E. I., and John Henry Kays, Esq.

DONATIONS FOR THE LIBRARY.

1st. Copy of a report on the Survey and Assessment of the Bunkapoor Talooka of the Dharwar Zillah, by Capt. Wingate, Superintendent in the Southern Maratha Country. Presented by Government.

2nd. Two copies of reports of cases treated in the Calcutta Mesmeric Hospital. Presented by ditto.

3rd. The Journal of the Indian Archipelago and Eastern Asia, No. 11, Vol. II., March 1848. Presented by the Editors.

PRESENTS FOR THE MUSEUM.

1st. Specimens of compact Gypsum and Serpentine from the neighbourhood of Candahar. Presented by Dr. Malcolmson.

2nd. Nineteen silver and six copper coins. Presented by Dr. B. White, through Dr. Morehead.

These coins were examined by the Revd. Dr. Stevenson, who states that two of the silver ones are *Bactrian* coins of Menander, bearing a Greek legend, with corresponding Pahlivi letters on the obverse, the same as those described in Vol. IV. of the Bengal Asiatic Society's Journal, and figured in plate XXVI. of that volume. The rest, viz. 17, belong to the Indian Dynasty, called by Prinsep the Royal Satraps of *Saurarashtra*; they have all the *Chatya* or Buddhist emblem, and are the same in every respect as those found at *Juneer*, and described in the last No. of the Society's Journal. Of the six copper coins, four are *Parthian*, and have a Zoroastrian Priest on one side, throwing an oblation into a sacred fire, &c., and a warrior Prince on the other; there are rudiments of letters, but nothing can be made out of them. The remaining two are doubtful; the figure on one side has a trident by it. To class the latter, books are required which are not in the Society's Library.

3rd. A *Copper-plate Grant*, supposed to have been found in the vicinity of Ujein. Presented by Colonel Sandys, through the Lord

Bishop of Bombay. The character is in Sanskrit, and it appears to have been given by *Vueyulludeva*, a petty Chief on the banks of the Nurbudda and a dependant of *A-juy-upaldeva* on the 13th day of the bright half of *Kartick*, in the year 1231, (A. D. 1174), to record that a village named *Alluveegamb* was granted on the 12th of the bright half of *Kartick* in the same year, on the occasion of performing the ceremony of *Oodyapun*, (consequent on the fast observed by *Vueyulludeva* on the 11th of the bright half of *Kartick*) for the purpose of feeding fifty Brahmins daily.

ORIGINAL COMMUNICATIONS.

On *Foraminifera*, their organization and the existence of their fossilized remains on the S. E. Coast of Arabia, in Sindh, Kutch, and in Khattyawar, by H. J. Carter, Esq. Assistant Surgeon, Bombay Establishment. Communicated by the Author.*

Bows of the Ancients.—Dr. Buist stated that on consulting *Rees's Cyclopaedia* he found that the author of the article on the subject of Bows of the Ancients, had observed that the Scythian Bow by ancient authors had been compared to the Greek *Sigma*. The writer of the article mentions that the *Sigma* alluded to must be that of the ancient form of the letter which resembles our C. This Dr. Buist conceived to be a mistake and that the *Sigma* intended was the common Greek Σ , the form of which the Lahore bows (exhibited by Dr. Buist) so nearly resembled, and therefore, that the Scythian bow must, like the Indian bows, have been made, not of one but of several pieces of wood.

A letter from Government was read thanking the Society for its suggestions respecting the inquiries which should be made previous to commencing the Antiquarian Researches on this side of India, contemplated by the Hon'ble the Court of Directors; also intimating that they would be recommended for the sanction of the Supreme Government of India.

A letter from the Visconte de Kerckhove, President of the Academy of Archæology of Belgium, dated Antwerp, 29th April 1847, expressive of the desire of that Academy to become more intimately connected with the Bombay Branch of the Royal Asiatic Society, and proposing that the names of three members of the latter should be forwarded to him for ad-

* See Art. XII. of this No.

mission into the Belgian Academy, also in return, that M. Felix Bogaerts, Professor of History, &c. &c. &c., and his son, M. Eugene de Kerckhove, Doctor of Law, &c. &c. &c., should be proposed as members of the Bombay Asiatic Society, and that official intimation should be given to him of his own election, which he had been informed had taken place some months since.

The *Secretary* reported that the proposition respecting the Malcolmson Testimonial, approved of at the last meeting, had been circulated to the Subscribers present in Bombay, and that having received their sanction, it only remained to be adopted by the Society; also that he would recommend that, as the sum subscribed was small, viz.-Rs. 966.10-4, the Society of itself should, out of respect for the memory of their late *Secretary*, contribute to the testimonial by increasing the sum to Rs. 1000, and by binding the books purchased with it. The proposition was adopted, and the *Secretary's* recommendation sanctioned.

On the motion of Col. Jervis, *Vice-President*, seconded by the *Secretary*, it was resolved that a deputation, consisting of the *President*, *Vice-Presidents*, and *Secretary*, should wait upon the Right Honorable the Governor, Lord Viscount Falkland, for the purpose of soliciting his Lordship to become Patron of the Society.

With reference to the propositions contained in the Visconte de Kerckhove's letter, it was resolved, that a ballot should be held for the gentlemen therein mentioned at the next meeting, and that the three members of the Bombay Branch of the Royal Asiatic Society who were to be admitted into the Belgian Academy of Archæology in return, should also then be chosen.

Thursday, the 8th of June, 1848.

MEMBERS ELECTED.

Captain E. Baynes, and Captain P. T. French.

HONORARY MEMBERS.

MM. le Visconte de Kerckhove, Eugene de Kerckhove, and Felix Bogaerts.

DONATIONS FOR THE LIBRARY.

1st. Journal of the Indian Archipelago and Eastern Asia, from July 1847 to March 1848, and a copy of the Supplement for December 1847. Presented by Government.

2nd. Copy of a Report, by Lieutenant Keatinge, of a passage made by him down the Nurbudda River from the Falls of Dharee to Mundleysir; and of a passage from Mundleysir to Broach, by Lieutenant Evans. Presented by Government.

PRESENTS FOR THE MUSEUM.

Two portions of an *Ærolite*, sent to the Geographical Society by Captain G. Wingate, were placed on the table by Dr. Buist, Secretary of the Geographical Society, who stated that as Captain Wingate had not yet intimated his wish respecting their ultimate destination, the Geographical Society, though desirous of presenting them to the Asiatic Society's Museum, could only do so for the present conditionally. Capt. Wingate's account of this body will be found in the proceedings of a meeting of the Bombay Geographical Society, held on the 8th inst.

ORIGINAL COMMUNICATION.

On the Composition of the Poorbandar Limestone of Khattayar, by H. J. Carter, Esq., Assistant Surgeon, Bombay Establishment. Communicated by the Author.*

In answer to the letter from Government, No. 1895, dated 27th ult. calling the Society's attention to Mr. Secretary Pringle's letter, No. 3698 dated 23rd November 1846, respecting statistical information required by the Hon'ble Court of Directors,—the Secretary was requested to state what had been done by the Society in August last, in endeavouring to take a Census of the Island of Bombay; also the Society's willingness to resume the subject, under the concurrence and support of Government.

With reference to the intimation given in Dr. Stevenson's letter, that a Member of the house of Forbes and Co. had informed him that the friends of the late Dr. Malcolmson in England had expressed a desire to unite with the Society in subscribing the sum of Rs. 1500 for carrying

* See Art. XII. of this No.

into effect the intention of having a *Malcolmson Medal*, for annual distribution,—it was proposed by Dr. Wilson, seconded by Col. Jervis, that in reply,—the Society's resolution with regard to the *Malcolmson Testimonial*, as passed at its last meeting, be made known to the house of Forbes and Co., with the circumstances which induced the Society to depart from its original intention of having a Medal, and its hope that the friends of the late Dr. Malcolmson in England would still contribute the sum proposed, to enable the Society to carry out more effectually that plan, which had finally been determined on as the best to perpetuate the memory of its late Secretary in connexion with the Society.

It was reported that, the deputation appointed at the last meeting had waited upon Lord Falkland, and that his Lordship had been pleased to express himself willing to become Patron of the Society, and to afford it any assistance in his power.

Ancient Coins. Dr. Wilson intimated that Captain Christopher, I. N., had resolved to present the Society with a collection of ancient coins, made by him during his late voyages on the Indus; that he had put them into his hands for arrangement and illustration; and that they would be laid before the next meeting, with a few notes, in which also the Parthian Coin exhibited by Dr. Buist at the last meeting, and others of the same dynasty, procured at Bombay, would be noticed.*

Gypsum. Dr. Buist exhibited a portion of Gypsum which had been roasted, powdered, and cast, and after having been exposed to the rain, had presented an appearance of returning to a crystalline form.

Thursday, the 13th of July, 1848.

MEMBERS ELECTED.

Captain C. Whitelock, Dr. J. H. Wilmot, and the Rev. J. Glasgow.

DONATIONS FOR THE LIBRARY.

1. "A Catechism on the Currency," by T. P. Thompson. Presented by the Author.

* See Art. X. of this No.

2. Journal of the Indian Archipelago and Eastern Asia, No. IV. Vol. II. for April 1848. Presented by Government.

3. Twenty-four volumes of works in German, Sanskrit, Arabic, and Latin. Presented by Mr. Kœnig, of Bonn.

ORIGINAL COMMUNICATIONS.

1. A transcript in Balbodh of fac-similes of two copper tablets found in the city of Oojein, with an English version. Communicated by Government. Fac-similes of these plates were forwarded in a letter No. 1610, dated November 21st, 1847, to the Society's address, from R. N. C. Hamilton, Esq., Resident at Indore.

2. A description, with drawings, of a new genus of plants of the order Anacardiæ, named by the author *Glycyarpus*. By N. A. Dalzell, Esq. Communicated by the Secretary.*

This plant is to be found in the neighbourhood of Mahabuleswar and the Goa jungles. Contrary to the family to which it belongs, the fruit of this genus, which, according to the author, consists of a black shining drupe, about the size of a french bean, appears to be not only harmless in its nature, but much sought after for its sweet and agreeable qualities. In the Goa districts it bears the name of Ansale.

3. Dr. Wilson, on behalf of Captain Christopher. I. N., presented to the Society a collection of ancient coins made by that gentleman during his late voyages of research and experiment on the Indus. These coins had been assorted and arranged by Dr. Wilson. A great number of them belong to the Bactrian and Indo-Scythian and Kanauj dynasties, including one of Heliocles, one of Azes, nine of Soter Megas, seven of the Kadphises group, ten of the Kanerki, fourteen of the Kanauj or ancient Hindee series, eleven not yet identified, but of which something may be made, and twenty one much defaced. There were also 121, with Arabic and Persian characters, which had not yet been examined. On the most remarkable of these coins, and the Parthian coin lately exhibited by Dr. Buist, and some specimens from Dr. Wilson's own collection, some notes were read by Dr. Wilson, which will appear in the next number of the Society's Journal. A continuation of his paper was promised, should anything of novelty or interest be discovered on a further study of Captain Christopher's valuable gatherings.

* See Art. VI. of this No.

With reference to Government letter No. 2486, dated 11th July 1848, and its accompaniments, conveying a request to the Society that it would favor his Lordship in Council with any information that could be obtained on twenty silver coins forwarded therewith, which had been taken from a parcel of 397 discovered by a ryot on digging up the foundation of an old house in the village of Sunganeshwar, in the collectorate of Rutnagherry, specimens of which his Lordship in Council would be happy to present to the Society; it was resolved—that they should be submitted to Dr. Wilson for examination, with a request that Dr. Wilson would favor the Society with the result of his enquiries concerning them, at his convenience.

Thursday, the 10th of August, 1848.

MEMBERS ELECTED.

Mudmohundass Davidass, Esq., was admitted a member without ballot, by virtue of his belonging to the Home Society.

DONATIONS FOR THE LIBRARY.

1st. "Indische Alterthumskunde" Von Christian Lassen. Presented by the Author.

2nd. Journal of the Indian Archipelago and Eastern Asia, No. II. Vol. V. for May 1848, and Supplement to No. VI. of Vol. I. Presented by Government.

3rd. Ditto. Nos., IV., V., VI., for 1848, and Supplement to No. VI., of Vol. I. Presented by the Editors.

PRESENTS FOR THE MUSEUM.

1st. A portion of black shale from the neighbourhood of the Sluices in the island of Bombay, containing the remains of a small species of Frog (*Rana pusilla*), so named by Professor Owen in his description of this batracholite in the Quarterly Journal of the Geological Society, No. II. Presented by H. Coneybeare, Esq.

2nd. Specimens of several kinds of Nummulites from the neighbourhood of Shikarpoor. Presented by Dr. Malcolmson.

The *Secretary* stated, that Dr. Malcolmson's present of Nummulites from the neighbourhood of Shikarpoor in Sindh was most acceptable. The collection although small was complete; it contained perfect specimens of several kinds of both large and small Nummulites, which might be identified with others in the museum most common to the Nummulitic formation of Egypt, and also with those which the *Secretary* himself had collected on the south-east coast of Arabia, where, in certain localities, a formation characterized by the same fossils in great abundance might be observed to exist.

With reference to the Government letter No. 2805, dated the 31st ultimo, conveying a request that the Society would appoint the Commission, proposed in its letter of the 15th of April last, for obtaining authentic information relative to the number and situation of all the Monuments and Cave-Temples of Antiquity in the territories under the Bombay Government, &c., as the Government of India had signified its entire approval of the arrangements suggested by the Society; — It was resolved,—that the Rev. Dr. Wilson, *Honorary President*; the Rev. Dr. Stevenson, *Vice-President*; C. J. Erskine, Esq. C. S. : Captain Lynch I. N. ; J. Harkness Esq. *Principal of the Elphinstone Institution*; Venaick Gungadhur Shastree Esq. and the *Secretary*, should be appointed for this purpose.

Thursday, the 14th of September, 1848.

MEMBER ELECTED.

H. Gibb, Esq.

DONATIONS FOR THE LIBRARY.

- 1st. Journal of the Indian Archipelago and Eastern Asia, No. VII, Vol. II., for July 1848. Presented by the Editors.
- 2nd. Ditto, Nos. VI, Vol. II, for June 1848. Presented by Government.
- 3rd. Tables for determining Time to the nearest minute, applicable to the Madras and Southern parts of the Bombay Presidencies, by

William Grant, Esq., Assistant Revenue Surveyor D. P. W. Presented by Government.

4th. *Tohfa-i Jamsheed*, being a translation in Gujerathee of a Persian Treatise entitled *Kileed-i-Danesh*, by Sorabjee Jamsetjee Jejeebhoy, Esq. Presented by the Author.

PRESENTS FOR THE MUSEUM.

A collection of Fresh-water Shells, consisting of *Melania*, *Lymnæa*, *Mactra*, and *Planorbis*, from the neighbourhood of Sattara. Presented by H. B. E. Frere, Esq., C. S.

ORIGINAL COMMUNICATION.

“Memorandum regarding an ancient Tank near Sattara, and some Coins found in its embankment, with a Plan of the Tank, and Sketches of the Coins,” by H. B. E. Frere, Esq., C. S. Communicated by the Author.

Mr. Frere's communication was read. The ancient Tank which it describes is on the made road to Poona, about nine miles from Sattara. It is traditionally allowed to have been built in the reign of Raja *Wyrat*, who lived at *Wyratghur*, about the time of *Pandoo*, and ruled that part of the country. Some Gowlee Rajas, who inhabited a village three or four hundred yards from Sewthur,—an account of the remains of which village is contained in the communication,—are also said to have found and used the tank; but that which claims most notice about it, and is most likely to lead to its true history, are the silver coins which are occasionally found about its banks after heavy rains. These are about $\frac{1}{2}$ of an inch in diameter, six only weighing about $24\frac{1}{2}$ grains. They all bear traces of a perforation about the centre, and a crack extending to the circumference, probably owing to their having been formed of a piece of silver wire bent into a circle, which was afterwards flattened into a disk. One face bears a figure, much resembling the popular divinity *Hunamun*, or *Marotee*, but apparently with a bird's head with dots over it; the other, a curvilinear character in the form of a cipher.

Thursday, the 12th October, 1848.

MEMBERS ELECTED.

Commodore J. C. Hawkins, I. N. and J. Vaupell, Esq.

DONATIONS FOR THE LIBRARY.

1. "Zoroastre—Essai Sur La Philosophie Religieuse de la Perse," par M. Joachim Menat. Presented by the Author.
- 2nd. Journal of the Indian Archipelago and Eastern Asia. No. VII. Vol. II. for July 1848. Presented by Government.
- 3rd. Royal Astronomical Society's Proceedings for February, March, and April, 1848, Vol. VIII. Presented by that Society.

ORIGINAL COMMUNICATION.

"On Marathi works composed by the Portuguese;" by the Rev. J. M. Mitchell. Communicated by the Author. *

Thursday, the 23rd of November, 1848.

DONATIONS FOR THE LIBRARY.

1. Journal of the Indian Archipelago and Eastern Asia, No. VIII. Vol. II for August 1848. Presented by Government.
2. Ditto. Presented by the Editors.
3. A copy of the Guzerathee edition of the "Desatir." By Mulla Kakobad bin Muncherjee. Presented by Government.
4. Icones Plantarum Indiæ Orientalis, Part II. Vol. IV., by Robert Wight, Esq., M. D., F. L. S., Surgeon, Madras Establishment. Presented by Government.
5. Quelques Mots a la Memoire de Son Altesse Royale Le Grand Duc de Hesse Louis II, par Le Viscomte J. R. L. de Kerckhove. Presented by the Author.
6. Royal Astronomical Society's proceedings for May 12th, 1848, No. 7, vol. VIII. Presented by that Society.

See. Art. XI. of this No.

PRESENTS FOR THE MUSEUM.

1. Specimens of *Hyalæa tridentata* and *Janthina* from the Indian Ocean. By Captain Kempthorne, I. N. '
2. A collection of Ancient Greek and Roman Coins from Thebes. By ditto.

ORIGINAL COMMUNICATION.

"Observations on the Grammatical Structure of the Indian Languages;" by the Rev. J. Stevenson, D. D. Communicated by the Author.*

The Secretary reported that in accordance with the resolution of the Society passed at its Monthly Meeting held on the 10th of February last, a handsome Tomb had been erected over the remains of the late Major-General Vane Kennedy. It is situated in the western part of the burial ground of Back-Bay close to the sea-wall.

ANNIVERSARY MEETING.

Monday, the 27th of November, 1848.

MEMBER ELECTED.

W. Courtney, Esq,

DONATION FOR THE LIBRARY.

A raised Map of the Holy Land. By the Rev. Dr. J. Wilson, *Honorary President*.

The Meeting proceeded to the election of the *Committee of Management*, the *Museum Committee*, and *Auditors* for the ensuing year,—the *President*, *Vice-Presidents*, and *Secretary*, remaining in office, agreeably to the rules of the Society.

For the *Committee of Management*, were elected,—Professor John Harkness; C. J. Erskine, Esq.; S. S. Dickinson, Esq.; Rev. George Cook; Henry Young, Esq.; Major J. Holland; C. Morehead, Esq., M. D.; Captain Lynch, I. N.; William Howard, Esq.; and John Scott, Esq,

* See Art. VII. of this No

For the *Museum Committee*,—The Rev. G. Pigott; H. J. Carter Esq.; C. J. Erskine, Esq.; H. Coneybear, Esq.; Lieut. C. W. Montriou; and W. C. Coles, Esq., M. D.

For the *Auditors*,—Colonel G. Moore, and A. Spens, Esq, C. S.

ERRATA.

Page.	Line.				
59	4	<i>for</i>	Tasawerí	<i>read</i>	Tasawíf.
—	15	<i>for</i>	Rungha	—	Runjha.
—	19	<i>for</i>	Kuth	—	Kutb.
60	17	<i>for</i>	Darwaza	—	Darweza.
61	28	<i>for</i>	“ to ”	—	“ ts ”
62	8	<i>for</i>	बह	—	बाहु.
65	5	<i>for</i>	birár	—	biráz.
66	34	<i>for</i>	cheighuzah	—	Chelghuzah.
67	19	<i>for</i>	وعد	—	وعد
—	26	<i>for</i>	S. M.	—	Sig. ج
84	9	<i>for</i>	Tatkhi	—	Jatkhi.
—	12	<i>for</i>	Thang	—	Jhang.
85	6	<i>for</i>	Bhurplat	—	Bhurphat.
—	14	<i>for</i>	Goths	—	Geths.
86	16	<i>for</i>	Tulaykhá	—	Zulaykhá.
—	19	<i>for</i>	Puornun	—	Punnun.
88	17	<i>for</i>	Suryam	—	Suryani.
78	6	<i>for</i>	I	—	T.
—	13	<i>for</i>	A	—	Λ.
83	9	<i>for</i>	HA	—	HA.
163	22	<i>for</i>	too	—	no.
154	11	<i>for</i>	thy	—	this.