cially Sago, Chocolate, Doorian, and Mangoose.

JAMES ANDERSON.

Fort St. George, June 5th, 1798.

To DOCTOR ANDERSON.

Sir,

The accompanying specimens of the botanical productions of New South Wales, were intended to be sent to you a year ago, but having been obliged in my return from thence to change into three different ships, I found on my arrival in Calcutta, so many of the Plants damaged that I laid them aside in disgust; however a friend engaged in botanical pursuits upon looking at them, lately said, he thought they were still worthy of notice, if so I shall be happy: it will serve to shew the respect I entertain in common with the rest of the world for a character which does honor to our profession: my friend Mr. Stephens will have the pleasure of delivering this, and as I am now departing for Europe, hope to hear from him that the Plants have been accepted.

March 28th, 1798.

T. PHILLIPS.

To T. PHILLIPS, Esq.

Sir,

The specimens you mention, have been brought me by Mr. Stratten, Surgeon's mate, of the Ship Henry Dundas, and although the Hortus Siccus is much damaged as you observe, yet some of the articles being woody, have retained their form.

The red and yellow Gum, as they are called, partake more of a Terebinthaceous nature than a Gummy, and may no doubt be applied to some of the Arts—a solution of the red Gum in Spirits of Wine, gives a brick red colour to Cotton Cloth, and might be usefully employed to preserve Tents from rotting in wet
wet weather. Accept my best thanks for this mark of your attention.

JAMES ANDERSON.

FORT ST. GEORGE, June 6th, 1798.

To JAMES ANDERSON, Esq. P. G.

Dear Sir,

As, in this age of change, the spirit of disorganization and anarchy, seems to have carried its destructive designs even to this Country, I think every sensible mind, has a right, and is even bound, to impart every discovery, that may have a tendency to disappoint the infernal hopes of those Russians, whose highest ambition is to spread desolation over every part of the Globe.

For some time past, every Newspaper has brought us accounts of the destruction of various ships by Fire. I therefore have no doubt that any attempt to discover the means of stopping effectually, the ravages of Fire, by which many respectable individuals have been so materially injured in their property, will be acceptable to the community at large. Some days ago, looking over an Analytical Review, for 1794, I observed in it, an address from a Merchant at Gothenburg in Sweden, to Sir John Sinclair, President of the Board of Agriculture, respecting the discovery of a secure and easy method of extinguishing Fire; and though this publication may be in the hands of some people, they may not have paid sufficient attention to that Letter; for which reason, I enclose it for your consideration, and in order that you may examine it at your leisure; I hope, Sir, that my wish of seconding your philanthropic views, and zeal for the public good, as well as the importance of the subject, will be a sufficient apology for my again troubling you; at the same time, I embrace with pleasure, the opportunity it affords me, of adorning you, with what respect and esteem, &c.

DUBOIS,

MISSIONARY.

KISTNAGHERRY, June 11th, 1798.

To,
To the Reverend Mr. Dubois.

Dear Sir,

I am favoured with your letter of the 13th Instant, regarding the frequent accounts we have lately had of ships taking Fire, and although its effects have been so sudden, as to admit of no other remedy, than running them on shore, yet the Analytical Review is in so few hands in this Country, that I have transmitted the Review of the Letter addressed to Sir John Sinclair, for insertion in the Gazette, agreeable to your philanthropic wishes.

Whether the ships have been fired by malicious design, or accidental neglect, is a question; as the Cargoes have been chiefly Cotton, and the fire first observed in the hold, from which evil minded persons are, or ought to be excluded; nor would Cotton hard pressed together by Screws, as it is in the Bale, readily take fire, by the application of any burning body, especially, in the hold of a ship, where there is little circulation of air; I am therefore more inclined to believe, that like other vegetable matter (a Haystack for instance,) when moist, new combinations are formed, the heat that was latent, becomes sensible, even to the degree of actual fire, and entire decomposition.

A case of this kind perhaps admits of no remedy, and on every account, but chiefly in support of your benevolent wishes, it is proper to recommend to the Owners and Inquirers of all such ships, an attention to have their Cotton cleaned without any Oil being expressed in that process, from the Seeds, and that it is carefully dried before it is packed into bales.

James Anderson.

Fort St. George, June 26th, 1798.

To Doctor Anderson.

My dear Sir,

The Third Regiment of Cavalry is just arrived in the neighbourhood of your famous Plantation, and I expect orders
orders every hour to occupy the buildings as a Cantonment for the Corps, I therefore request the favour of you to make known to me, your wishes with respect to the preservation of the Mulberry Plantation, that I may be enabled to shew my respect and regard for you, by complying with your wishes as far as my duty, and such orders as I may receive, will permit me to do.—I understand the Officers and Men are to occupy the buildings, in which case it will be necessary to picket our Horses within the Plantation, but in doing so, every attention shall be paid to whatever you recommend, should I find from your reply, that you still continue to wish the prosperity of the Plantation.

T. ORR.

Camp near Vellout, August 16th, 1793.

To LIEUTENANT COLONEL ORR,
Commanding at Vellout,

My dear Sir,

I am favoured with your note of yesterday's date, regarding the Honorable Company's Plantation at Vellout, and am much gratified by so friendly a mark of attention, to what you might very naturally suppose, was still an object of my concern.

In answer I can only regret the time and labour, that may be spent in making such another Mulberry Plantation, should it ever become an object to put the breeding of Silk Worms into the hands of the Natives of this country, which is not improbable, after the present hurry and hurry of War is blown over, as I am informed by very respectable authority, that the Minister's speech has encouraged the House and the Public, to expect considerable advantages from these new sources of Commerce on the Coast.

On this account it may be deemed an object of Public utility, to prevent the roots of the Plants from being dug out of the Ground, and I shall be happy in case your Regiment finds any shelter in the buildings, against the ensuing Monsoon.

J. ANDERSON.

Fort St. George, August 17th, 1793.
To JAMES ANDERSON, Esq. Physician General.

Dear Sir,

As I know you are desirous of hearing any account, however imperfect, of the different phenomena of nature, I take the liberty of giving you some account of an event, which has more than once, been the harbinger of destruction.

On the 15th Instant, the first shock of an Earthquake was severely felt in this neighbourhood, though unaccompanied by any fatal consequences; the shocks continued occasionally during the whole of the night between the 15th and 16th; the first shock was felt about half past 5, the most violent shocks took place, at the following periods, the first at 20 minutes past 5, the second at 5 minutes before 6, the third at 43 minutes past 7, the fourth at 7 minutes past 8, the next at 10 minutes before 9, and the last at six minutes before 11. On the whole, the shocks were not of long duration, but violent enough to shake every moveable in my House very much; the one that happened at 10 minutes before 9, was so violent as to overturn a lamp then standing on my table. These principal shocks were followed by many others, less sensible, that succeeded one another at intervals, the violence of the shocks began sensibly to abate about 10 o'clock, but the next day the 16th, they began again very early in the morning, although less violently than on the preceding day; the three principal shocks happened at the following periods of time, the first at 20 minutes past 3 in the morning, the second at 4 minutes past 9, and the other at 9 minutes past 10. During the whole time an incessant noise was heard, like that of distant thunder, and continued till late in the evening of the 16th. On the 17th, some slight shocks were yet felt, and the same trembling noise at intervals, since which time the same noise has been heard occasionally every day, but without any sensible shocks till the 23d, when another was felt nearly as violent as those that happened on the 15th.

I remarked that the direction of the Earthquake was very irregular, sometimes following a direction from N. W. to S. E. at other times from N. to S.

Such are the principal circumstances of this extraordinary phenomenon, which I am convinced from its violence has not been confined to this part of the country only.
I have only to observe, that conversing on the subject with several intelligent Natives, I have understood that they did not consider it as any thing extraordinary, having been witnessed of such an event often before this, which may perhaps be accounted for by the situation of the country, and the mines of sulphur and other combustible matters, contained in the high hills, by which the Baramahl is surrounded; however they all agree, that they have never before felt any shocks, either so violent or of so long a duration.

I have no doubt that you have long before this, received many other much better drawn up accounts of this phenomenon, but however, I am happy in the opportunity it affords me, of recalling to your mind, the cheem and regard of &c.

DUBOIS, Missionary.

Cavilore, near Tripatore in
the Baramahl, Sept. 24th, 1798. J

P. S. September 25th,

Yesterday the 25th about 8 o'clock in the evening, another violent shock was felt, so that for these last eleven days, we have had repeated shocks daily. A friend of mine writes me, that the same shocks that we felt on the 15th, were likewise experienced at Sankerrydroog, China Royadroog, Bovv- Scottah, Kitchagherry, and generally all over the Baramahl, but without having occasioned any damage.

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To the REVEREND Mr. DUBOIS,

Dear Sir,

I am favoured with your Letter of the 26th Instant, and although we had accounts of Earthquakes in your quarter, yet none that I have seen, are so full and particular as the account you have given.

I can only tell you, that there are Pumice Stones and Lava in many parts of the Country, but as there are no open Volcanoes in the Peninsula, at least that I know of, it is most probable that the Sulphur has all been burned out long ago, there are however frequent commotions, such as you describe, felt (as I have been informed) at Ongole, which seem
feem to proceed from a neighbouring Mountain, and given it the Talinga Name of Bogle Conda, or the Charcoal Hill. At the time you mention, no one observed any thing particular on the Coast, and in case nothing of the kind has been felt in Tinnevelly to the southward, on the Malabar Coast to the westward, or the Dekan to the Northward of the Baramahl, I am of opinion that the Phenomenon may be explained by the Theory, published by Mr. Sumner in the Philosophical Transactions, viz. that although some Earthquakes arise from subterranean Fire, yet others may be occasioned by the equilibrium taking place, between an electrical plus and minus, in the Earth, as we see Thunder produced in the atmosphere.

JAMES ANDERSON.

Fort St. George, Sept. 30th, 1798.

P. S. Since writing the above, I have heard that a shock of an earthquake has been felt at Arcot.

To JAMES ANDERSON, Esq:
Physician General, &c.

Dear Sir,

Having already given you some account of the Earthquake felt in this part of the Country, I shall now add some circumstances that I passed over in my last, and which, however trifling they may appear to many, yet may perhaps prove interesting to more inquisitive Men, who are in the habit of narrowly scrutinizing the causes and effects of extraordinary events, and may perhaps tend to throw a remote light upon this phenomenon; for many Naturalists, as you know, ever guided in their enquiries by mere conjectures and probabilities, have endeavoured to seek for the cause of this event, in the combustible matter contained in the bowels of the earth, (chiefly in hilly countries) strongly pressing the surrounding air, and thereby occasioning those violent agitations, but in my idea it might be accounted for in a more satisfactory way, by saying, that it is one of those inscrutable mysteries in nature, which the fu.
supreme Being in order to humble human pride, and make
man witness of his own ignorance, has placed above the com-
prehension of our limited understanding; let that be as it will,
without further circumlocution, I beg leave to lay before
you, the following circumstances.

The day preceding the earthquake, the heat was remark-
ably intense, and the sky cloudless; the day when the first
shock was felt, the sky in the evening became loaded with
clouds, and between four and five o'clock, we had a slight
shower of rain, that continued about half an hour, the
rain having entirely ceased, and the sky again becoming
clear, the first shock was felt, as I mentioned in my last,
about 23 minutes past 5 in the night between the 15th
and 16th, that is, during the time of the most violent
shocks, no rain fell, and the sky was generally clear, till the
16th in the night, when the noise accompanying, the earth-
quake having ceased, clouds were again seen, and we had
a little rain: the next day, was clear and cloudless, till night;
during the course of it, some light shocks were felt, and the
same noise as before was heard at intervals; the whole ceased
on the approach of night, and a great deal of rain fell during
the night; the shocks were felt on the night of the 24th and
25th, preceded by showers of Rain, and happening only when
the Rain had entirely ceased, immediately after which, the
sky became clear and cloudless. It is perhaps worthy of re-
mark, that during the last ten days, no day has passed with-
out rain, and we have almost daily (till the 25th) either
felt the shocks, or heard the noise accompanying it; the
shocks never took place during the rain, but when the one
ceased the other constantly begun. Since my last, we have
not had any more shocks, but since the night of the 17th to
this day, no one day has passed without great quantities of
rain falling, after being accompanied with very violent Thun-
der and Lightning; whether this is a consequence of the
Earthquake, or not, I do not presume to decide. Such
are my observations to a curious observer of nature as you
are, they may furnish conjectures which may perhaps lead
to new discoveries; I wish that may be the case, and have
the honor to be &c.

DUEOIS, Missionary.

TRIPATORE, BARAMAHLL, Sept. 28th. 1798.

To
TO the REVEREND Mr. DUBOIS.

Dear Sir,

Before the receipt of your favour of the 28th, that of the 26th, with such notice as I could take of it, at the time, was sent to the Press, to which I will add, the influence that electricity is admitted to have on the atmosphere, in the production of Rain.

The phenomena you have observed are on a great scale, being no less than a tract of Country an hundred miles in extent, and in case the Hills are only conductors, it does not follow that the earth should tremble at meteors, although the effects of them have sometimes been destructive of animals and vegetables on its surface, seeing conductors admit a silent passage to the electrical power. Should no Volcano therefore appear to have occasioned the Earthquakes you have experienced, I shall be more confirmed in the opinion, that the Earth is liable to positive or negative electricity, and thereby put in motion on the approach of meteors and clouds differently charged.

JAMES ANDERSON.

Fort St. George, October 2d, 1798.

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TO JAMES ANDERSON, Esq. P. G.

Dear Sir,

To enable me to give you, agreeably to my promise, a detailed account of the accident which happened to me at Pondicherry I have been making every search ever since my arrival here, for the paper on which I had written the particular circumstances attending it, hitherto to no purpose, I fear therefore that it is irrecoverably lost: and I hope you will be satisfied with the following relation from my memory.

On the evening of the 7th of August 1797, about seven o'clock, after leaving the house of a sick Officer, a little to the Northward of the main guard at Pondicherry, in stooping to buckle my shoe, before I got to the garden gate,
gate, I was bitten in the left wrist, by a Snake. The pain was instantaneous, and much more excruciating than what I had felt from the sting of a Scorpion, some years ago in the West Indies. I immediately returned to the sick Office, house, and was not a little surprised, when I neither saw blood on my wrist, nor apparently a wound: but as I had frequently seen the hooded Snake in the Garden, (where they resorted in numbers towards the evening in search of food, from under a great pile of wood, lying for sale on the outside) and continued in great agony, I began to be very much alarmed, stepped into my Palanquin, and went homewards. Before I had proceeded half way to my own house, although the distance did not exceed a five minutes run for my Boys, I became excessively sick at my stomach, and continued reaching violently all the way home. As soon as I got home, I rubbed my wrist smartly with spirits of Harts-horn; and no sooner was it applied than I could both feel and see, that I had received two small wounds, at the distance of half or three quarter of an Inch from one another; the vomiting had now ceased, and I, anxious to have recourse to the internal use of spirits of Harts-horn, as the only medicine on which I relied for my preservation, dashed some into a glass of water, and drank it; this Lydia on my stomach. In about a quarter of an hour, I took a second draught; and in about the same space of time, a third: this remained but a short time on my stomach, when a severe reaching came on, which brought up much bile; this vomiting I attribute in some degree, to having put too much spirits of Harts-horn in the water I had drank: and after this, I measured the quantity I mixed, a precaution which my eagerness to use the Harts-horn, made me neglect at first. From this time, I had no more vomiting, although I took several tumblers of weak Harts-horn and water, but sweated so profusely, as to oblige me to change my linen thirty times in the course of the night. I continued rubbing my wrist with the Harts-horn until I made it quite raw: and kept at it compresses wetted with the same spirits, so long as I continued awake. From my being very much inclined to sleep, after I began to perspire, and the pain in the wrist abating considerably about midnight, I think that I would have slept well, were I not obliged to shift so often; but from this circumstance I had no sound rest. Next morning I felt very languid and fatigued, like a man after performing a long journey without
without the least power in the arm wounded, the lassitude and general foreness wore off in a few days, and the wounds healed up in less than a fortnight, without any thing extraordinary in their appearance, but my arm still continues extremely weak, although I have the perfect use of every joint. From this circumstance and my turning sick at stomach so soon after the bite, I conclude that the Snake must have been poisonous, but from the size of the wounds, young; and therefore perhaps, not sufficiently powerful to occasion more violent symptoms. This, however, is mere conjecture, and probably if I had not used the Hart's-horn so liberally, I might have found the poison perfectly powerful.

C. ANDERSON.

BOMBAY, September 8th, 1798.

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To C. ANDERSON, Esq.
Surgeon of His Majesty's 72d Regt.

DEAR SIR,

I am favoured with your letter of the 8th ultimo, and have no regret that the papers you mentioned are mislaid, as I conceive a deliberate recollection at some distance of time, is better than circumstances that could be committed to paper, while the mind was in a state of uncertainty from so dreadful an accident as the bite of a Snake. Your known professional abilities, renders an account given by one who is both Physician and Patient, so highly interesting to the Materia Medica, that I deem it a duty incumbent on me, to make your case as public as possible, for the relief of those who may chance to meet with a similar accident.

JAMES ANDERSON.

FORT ST. GEORGE, Oct. 12, 1798.
To DOCTOR PATRICK RUSSELL.

Dear Sir,

I have the pleasure to tell you that the Volatile Alkali is likely to carry it against the Arsenic in curing the Snake venom at least some cures have happily ensued from the liberal internal use of it which I have published in the Gazette here that are free from conjuration and mummerly.

Your 45. Snakes lie on my Table for General exhibition, but no one has brought No. 8, nor can I find him, although Doctor Berry and others have made all the search in their power, but you know that he may call up when we little expect it.

As we are engaged in War, you will not expect much from me, but although the economical improvements I introduced are laid aside, I shall yet find some leisure to attend to the wishes of a friend.

Adieu and believe me &c.

JAMES ANDERSON.

Fort St. George, October 12th, 1798.

To JAMES ANDERSON, Esq. P. G.

Dear Sir,

I have the pleasure to send you the history of a case, which was attended with the most alarming symptoms, as a confirmation of the beneficial effects to be expected from the use of Eau de Luce, or spirits of Harts-horn, in the bites of even the most dangerous Snakes. On the 11th of this month, at half part 3 o'clock, P. M. one of the Dooley bearers of the second Regiment of Cavalry, in the act of cutting a branch of a Tree, about 100 yards from my House, was bit by a Snake on the outside of the left leg, a little below the knee. He felt immediately the pain stretching up his thigh, and in the course of 10 or 12 minutes, he was seized with violent spasms all over his body, and fell down apparently without sense or motion. He was then brought to me, when I found all his joints quite stiff, his limbs...
limbs rigidly extended, pulse hardly to be felt, and jaws fast locked. Having no Eau de Luce at hand; I put a Teaspoon full of Harts-horn into a Tumbler with a small quantity of Water, and having with difficulty opened his mouth by means of a Turn-screw, I poured it in, but the power of digestion being perfectly gone, only a very small part found its way to the stomach. In 10 minutes more I repeated the draught, and again a very small quantity got to the stomach; 10 minutes after, I gave him another dose, when by holding his head back, the greatest part went down, and in a few minutes he was sensibly relieved, and his joints became more pliable. I now received some Eau de Luce, and in about 10 minutes gave him about 25 drops mixed with a little water, which, by holding his head as before, got all into his stomach. He now began to recover his recollection, and upon being asked, pointed that he felt a pain in his breast, and the crown of his head. Half an hour after giving the last dose, I repeated it, and in about five minutes he was seized with vomiting, when he brought up a small quantity of green slimy matter, which seemed to relieve him greatly, for he was then able to look about him. I repeated the medicine every half hour, and after every dose, he got a little better, so that at 9 o'clock, he was able with a little support, to walk home from my house, scarcely feeling any effect, but perfectly well. During the internal exhibition of the Medicine, the wound was rubbed with it, and seemingly with some good effect. The Snake was not killed, so that I cannot lay what species it was of, but from the violent effects produced by its bite, I have no doubt of its being a very dangerous one.

WILLIAM MACKINTOSH.

Arcot, November 13th, 1799.

To JAMES ANDERSON, Esq. M. D. &c.

Dear Sir,

I am sure you would think any apology unnecessary for a stranger to make in addressing a line to you, at the desire of
of the Earl of Macartney, who had nothing particular at present to write about himself, only to express his best thanks for your obliging attention to his wishes with regard to the Cotton Seed which came safe to hand. His Excellency, who, like yourself, has always made public utility his great pursuit, has lately with this view, appropriated a part of the Public Garden at the Cape, for the reception and culture of foreign Plants, particularly of such as may appear most likely to prove of reciprocal benefit to the Mother Country and to the Colony; and he has done me the honor to place this part of the Garden under my superintendence.

Among the many foreign articles, that should seem to be cultivated here with success, none bids fairer than the Cotton Plant. The specimens of the Wool produced from some partial trials, were so fine as to induce his Excellency to encourage the culture of it. But unluckily the intention has been frustrated this year by the bad condition in which the seed you were so good to forward, arrived, owing probably to its age, or from being overheated in the Ship's hold. On a rood of ground, I have not been able to obtain more than a dozen Plants. To distribute such among the Farmers would raise at once a prejudice against it, and deter them from making future experiments. I shall therefore wait the arrival of a second bag of seed which you mention to his Excellency, to be your intention to send; perhaps small quantities in separate bags might be transported with less injury to the seed. The Palmira, the Date Palm, and the Areca Nut, I imagine would thrive here, if you would have the goodness to send us a few Plants of these, or any other curious or useful Plants that you may judge likely to succeed, you will do the Colony a great service.

You will receive from the Ship that brings this, under the care of Major General Baird, who has been good enough to take charge of them, a square Box with young Oaks, in which are also planted, a few seeds of the Silver Protea. The same species of Moth that produces the Tussah Silk of India, feeds here upon this Plant. The two varieties of the Myrica Cerifera, I will endeavour to procure, and to send with the earliest opportunity.

JOHN BARROW.

CASTLE OF GOOD HOPE, October 11th 1793.
P. S. To give you an idea of the nature and intention of the Establishment of a Botanic Garden, at the Cape, I take the liberty of enclosing an abstract of the Governor's Instructions.

Extract from the General Instructions of the EARL OF MA-
CARTNEY, Governor, &c. to JOHN BARROW, Esq. as
Superintendent of the Botanic Garden at the Cape of Good Hope.

One of the first objects of this Institution, is the reciprocal benefits that the Mother Country and the Colony may hereafter derive, by the introduction of such plants into the latter, as produce articles of general consumption, &c. &c.

You will therefore without loss of time, enclose the space appropriated for this purpose, with a quick fence, and divide it into three distinct parts.

The first division you will appropriate entirely to the reception of such Plants from Europe, as may appear most likely to prove beneficial to the Colony. A nursery for instance of the different Forch Trees, will occupy a considerable part of this division, the artificial Gardens will take up another part, Fruits, and culinary Vegetables, not yet introduced, will employ the rest.

The second division you will set apart for the reception of such of the African Plants as are least known in Europe, and such as may be esteemed in the Colony, for their Medicinal qualities. The Botanist and the Experimentalist who may not have either leisure or the means of travelling over the wilds of Southern Africa, may by these means meet with the object of his researches near at hand. The Gardens of Europe may in time be supplied from hence, with many curious Plants, which at present are not to be procured, even by those who have long been resident upon the spot.

The third division you will occupy by Asiatic and American Plants. You will try with what success the different Fruits of India and China, may be cultivated at the Cape, whether Sugar Canes, Tea, Coffee, Cotton, Indigo, and many others, will grow to advantage in this Climate, as well as such flowering shrubs, and herbaceous Plants as may be esteemed for their beauty, rarity, or singularity.
To JOHN BARROW, Esq.
Superintendent of the Botanical Garden at the Cape of Good Hope.

DEAR SIR,

The Sceptre and Convoy having arrived safe here the night before last, I have been favoured with the receipt of your Letter and its enclosure, and although there has not yet been an opportunity of getting the plants on shore, I have learned that they are alive and healthy, but lest you should hereafter be surpried by my printing an answer to your Letter at a time, when no chance of my sending it to the Cape presents itself, I must observe that the views of Lord Macartney expressed in his instructions to you, can be but partially supported without public communication.

It is true that I can, and will with great pleasure, supply those Seeds and Plants you have mentioned, and many others, when opportunity offers, but there are some Articles particularly the Tea Plant, which by private communication we have hitherto failed to obtain, I have therefore thought proper to cause the Plan of your Institution to be inserted in our Public Prints without loss of time, in hopes of thereby exciting the attention and zeal of persons, with whom we are not in immediate correspondence.

Wishing every Success to your endeavour in supporting his Excellency's Patriotic Institution.

I am &c.

JAMES ANDERSON.

FORT ST. GEORGE, January 8th, 1799.

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To DOCTOR ANDERSON, &c.

Sir,

I have leave to enclose you two Letters which were given me, as introductions to you; one by Sir John Macpherson, Bart., and the other by Sir John Sinclair, Bart., who both being well acquainted with the liberality with which science has bestowed on you all her gifts, deemed your acquaintance of the greatest importance to me, in attaining
the object on which I have professionally come out to India.

I arrived here about two months ago, in the Lord Duncan, under the sanction of the Court of the Directors, by whom I was recommended to the Government here, for protection and encouragement in establishing the culture of Hemp and Flax, as a subject of very great importance to the commerce and national strength of Great Britain, as well as the Territorial Interests of Asia. I have particular satisfaction in saying, what I am persuaded you will read with some pleasure, from an experiment which my friend Dr. Fleming has given me an opportunity of making on a few plants at the Botanic Garden, that we can obtain beyond all doubt, from the Bemgine of this Country, which is the Cannabis Sativa of Linneus, Hemp in its highest perfection, and it is this material only which is used in England for Cordage; nor in my opinion has the Fibre of any plant or Tree, been as yet found in all respects so well adapted for this purpose, and on which we can so prudenty rely. I have not had an opportunity of making any experiments on flax, but I hope the Tisly of this Country which is the Linum Ustabilissimum of Linneus the Plants alone in Europe, from which this material is obtained, will afford by proper treatment, Flax of a much superior quality. The importance of these valuable Plants to a commercial nation such as ours, being found in our Territories in Asia of such a quality, will be much enhanced by their being offered on such terms as may not only render us independent of the Articles on Foreign Nations, so necessary for the support of our Royal Navy and Commerce, but at the same time produce a National Annual saving of Three or four Millions Sterling. The removal of some Restraints, wise regulations in point of Freight, and due encouragement, are still necessary. It being the good Fortune of Bengal, to be under so enlightened a Governor, as the Right Honorable the Earl of Mornington, his penetrating abilities as a Statesman, will lead him to hear and discriminate what suggestions may be proper in the two first points of regulation and present restraints, and public zeal, will, I flatter myself, induce such a patriot as his Lordship to confer, that encouragement which may be necessary for so deserving an object, and I hope success will make it a conspicuous object of the public advantages, attained
attained in his Lordship's Government. If my leisure from these pursuits may permit, I wish to form some practical and scientific knowledge of the culture and treatment of the other productions of the soil, such as may be necessary for Aliment, valuable in Commerce, or useful in Chemistry, as Rice, Indian Corn, Sugar, Silkworms, Cotton, Cochineal, Indigo, &c. and as few are so capable as you in guiding my pursuits after these objects, I hope you will have the goodness at your leisure of mentioning the proper authors to consult, and persons to advise thereon. Indeed I would have deemed an interview with Dr. Anderson well deserving my going down to Madras, and I would have availed myself of some of the present opportunities, had it not been, that my business is before the Board of Trade, which will not permit my absence just now. My Friend Dr. Fleming will do me the favour of putting this letter in your hands; I have received from him every friendship and civility, in consequence of introductions from his friends in Scotland, and he has moreover a keen zeal for the cause. Any commands you may have for me he will take charge of on his return.

GEORGE SINCLAIR.

CALCUTTA, December 24th, 1798.

To GEORGE SINCLAIR. Esq.

DEAR SIR,

I am favored with your letter, together with those from Sir John Sinclair and Sir John Macpherson regarding your plan of cultivating Hemp and Flax in these tropical climates. In respect to Flax I have no experience, but have heard that it is cultivated in Bengal, for the purpose of obtaining Oil from the seeds, and in this case it might be of use to instruct the Natives how the Plant might be advantageously manufactured.

The kind of Hemp you mention grows up very luxuriantly as a reed in our Gardens here, the culture of which Plant has been laid under certain regulations and restrictions by Tippoo Sultaun, as affording a Revenue on the best principles,
principles, the Flowers of this Plant being one of those Narcotics that like Opium and Tobacco are coveted by the Natives of Asia.

The Cannabis sativa, if memory serves me, rises in Europe with a single stem and pretty entire leaf, but as this Gins, Bang, or Indian kind is a very branchy shrub, with leaves deeply intersected, I have hitherto considered it a different species or variety, but as Dr. Fleming assures me that he has raised Hemp from Europe Seed in the botanical Garden at Calcutta, there can be no doubt of the practicability of raising it in any quantity, under suitable care and encouragement.

From what I have said, you will observe that the Indians, cultivate Hemp and Flax for the sake of the Flowers of the one, and the seeds of the other; only for the purposes of Thread, Cordage, or coarse Cloths, they prepare the Bark of Crotalaria Juncea, Asclepias Gigantea, Hibiscus Sabdariffa, and Caunabinis, and a variety of other Plants, nearly in the same manner as the Bark of Hemp and Flax is prepared in Europe. Wherefore it appears that a quantity of suitable materials for Cordage may be more readily collected in Hindostan than from either Flax or Hemp, especially Crotalaria Juncea, the Sannap, or Janap, of the Natives, which is cultivated to considerable extent in every part of India, for the Manufacture of a stuff called Gumney, which is in general and common use.

The Husk of the Coco Nut has hitherto been the India material of ship Cordage, and adopted occasionally by Europe Ships with advantage, and I am Cultivating Palm Trees, the fibres of the Leaves of one of which, the Caryota Urens of Linnaeus, and the singular filaments of another, the Sagus Gamootoo of Rumphius, as well as the grain of the Woody Stem, or Trunk of a Third Sort, the Ganemoo of Amboyna, I am well assured afford the most abundant and best materials for Cordage.

Mr. William Webb of this place, has lately made Cordage of the Leaves of the great Aloe, that as I am told, proves to be capable of sustaining four times the weight that Hempen Rope of the same size can bear, and there can be no doubt that maritime affairs may derive support from this country; forTeak is superior in every respect to Oak, and it has been uniformly found that ships built of this
this Country Teak, last much longer in these seas, than any contracted in Europe.

As you have properly referred your business to the Board of Trade, who since the Institution of the Bengal Asiatic Society must be sensible that we are more deficient in men to do, or execute any new work, than in speculative science to point it out; my advice is, to abide by their determination, not doubting but that it will prove favourable to your views, and the very laudable intentions of the Court of Directors.

JAMES ANDERSON.

FORT ST. GEORGE, January 7th, 1799.

To JOHN BARROW, Esq.

Cape of Good Hope.

DEAR SIR,

Although I am satisfied, that as you have raised a dozen plants from the seeds first sent, they will prove sufficient in no great length of time, to supply every Planter at the Cape, yet, that you may with confidence begin to extend the cultivation of Cotton immediately; my friend, Mr. William Webb, has been so good as to select 60 Pounds of fresh Seed, and as it is a kind of Weevil, (a species of Dermestes) that chiefly proves destructive to the Cotton Seed, I have likewise caused my servants carefully to pick out to the amount of 18 Pounds, from the Seeds of last crop. Mr. Roebuck who has carried the cultivation of Indigo, to the greatest extent of any person here, has put up a small quantity of that Seed, for trial in your Garden, and in support of an idea of Dr. Roxburgh, my Nephew, Dr. Berry has collected some seeds of the Convovulus Pes Capre, to be sown on the Sand Hills, with a view to fix the sand about Saldahna Bay, to those I have added, Seeds of Hibiscus, Cannabis, and Crotalaria, in hopes of thereby contributing to a Marine supply for Cordage, which being an object of the first consequence, will induce you to give them a chance of cultivation in Southern Africa.

Colonel Orr, whom ill health obliges to leave this Climate, has been so good as to take all those Seeds with him.
him, on board the Ship Cornwallis, and will occasionally have them aired on deck, during the passage at Sea.

Captain Dunlop, having been so obliging as to favour me with the passage of some Plants on the Triton, agreeable to your desire, I have sent some of the Arabian Date, the Palmira and Areca of this Coast, which will be taken care of, and delivered to you by Mr. Maxwell Thompson, who goes Surgeon with the French Prisoners on that Ship, with directions to water them once a week in dry weather.

JAMES ANDERSON,

FORT ST. GEORGE, February 5th, 1799.

To JOHN BARROW, Esq.
Or the Superintendent of the Botanical Garden,
Cape of Good Hope.

DEAR SIR,

Besides a quantity of Cotton Seed, equal to that sent on the Ship Cornwallis, I now forward by Mr. Johnston, who is about to take his passage on the Princess of Wales, a duplicate of the other Seeds sent on the Cornwallis, with the addition of Seeds of the Asclepias Gigantea, and in proof of the laudable emulation excited by your endeavours, Mr. Woolf, who has a considerable Plantation of Mauritius Cotton in this neighbourhood, likewise sends 100 weight of that Article, carefully selected for seed from the last crop.

I understand, that a species of Aloe grows at the Cape, which is deemed to be the same as that manufacturing here into Cables and Cordage, yet as the variety in species shew much difference of quality in some genera of Plants, that you may possess this identical kind, which is probably the same as that which yields a revenue to Government in Mexico, I have sent some of them, together with plants of the Aletris Hyacinthoides, of which Bow Strings and Fising Nets are frequently made here—both these Plants require a dry soil, and will only thrive on banks and ridges of earth, where Water cannot lodge.
It may be proper to observe, that we have hitherto obtained no account of the material which is manufactured into Tiller Rope in China, nor the Natural History of the best material for fishing lines, commonly called China Grafs, nor the Gauze worn as a dres or covering by the Malaya, nor the Cloth made by the women of the Sandwich Islands, of the rind of a Tree, although they are all very strong and durable substances, but I have thought it convenient with your plan, to enumerate these as subjects of research and experiment in a Botanical Garden, relying on your being supplied from England with the Seeds of Hemp and Flax, the cultivation of which may be extended with greater confidence, as better known, and hitherto more extensively employed.

Mr. Johnston has likewise been so good as take charge of two engraved Alphonso Mango Trees, the Fruit of which is esteemed by many Europeans, the most delicious of any in Hindoostan, and as it is but few Trees or Plants that can be conveniently sent by sea conveyance, I have only troubled him farther with three kinds of Cocoaanuts, twenty of each kind, viz. the Royal, the Nicobar, and the Coca of this Coast. They should be laid close to each other on a bed of Garden mould, covered with sand, and watered so as to keep the sand moist; in two or three months, the Corculum will break through the shell, and when it puts out two leaves, they may be taken up and planted where they are to stand in the open ground, here we plant them so as to admit their being occasionally watered in dry weather.

Abundance of Date, Palmeira and Areca Seeds, shall be sent when the Season of their ripening arrives, which will prove a better method of supplying you, than any mode of conveying Plants of these Trees, as the Seeds of Palms retain vegetative power a considerable space of time, and I have no doubt will thrive at the Cape, which is in the same latitude South, as the city of Zenobia is North, nor is the limits of the growth of Palms on either side of the Equator determined.

The enclosed Gazettes will shew how punctually I have published the communication of your Institution; that Gentlemen resident at any of the Presidencies, might forward such tropical productions, as they wished to be tried in a higher latitude.

JAMES ANDERSON.

Fort St. George, February 16th, 1799.

To
To JAMES ANDERSON, Esq.
PHYSICIAN GENERAL.

DEAR SIR,

In proof that I have availed myself of the hint in your communication of June 5th, I have the pleasure of address-
ing you per Ship Helen 12 Baskets of young Fruit Trees; every one of which has been rooting in them, under shade, in my garden for these last two months, so that I hope they will reach you in another condition than the few I had formerly the honor to forward you. The notice like-
wise of giving them water sparingly, during the passage to the Coast, has been mentioned to Captain Seton, who has kindly consented to receive and take charge of them.

I regret much that it has not been in my power to procure the Liriodendron Lilifera (Tulipifera,) that Mr. Smith wished to have, for him. There are but two or three Trees here which bear that beautiful and fragrant flower; and these are in the gardens of individuals of whom I should not like to ask, and who would not be disposed to sell, the few there are.

The Tavern-keeper however has given me permission to try to procure some offsets from his: should they succeed, I shall have much gratification in meeting the wish of Mr. S.——— the trivial name it bears here is Boonga-Mator ja-
vah (i. e. the Javanese Moogery flower) but not the Cham-
pakapuriti (white Champak) which is a most Elegant and odo-
rious variety of the (Michelia Linn.) or yellow Champak,
that is also to be found here in a few gardens and there only by adoption: being an indigenous of Java as well as the former. I have attempted several offsets from a Tree of the latter, but from the heavy rains and the bad manage-
ment of the Gardener, I fear only two or three are likely to succeed. I have the pleasure to send you a Basket of a species of the beautiful genus of shrubs, the Cirrus or Rock Rose, here called Karmuting: it grows abundantly on the hills in our vicinity, and the Natives think better of the fruit it bears than we do. I have also sent a basket of a sur-
prising production of the native Timba Shyten i. e. the
Devils Buckets, of the Malays (Nepenthes stentoria Linn.) with a drawing to accompany it, which should the specimens perish, will give a good idea of this plant.

These
These vegetable buckets are usually two or three parts full of a clear secreted fluid which the Monkeys that abound in our woods are said to be fond of giving to their young: the black glands by which this secretion is performed, that appear on the internal surface of the utriculus are a curious contrivance and phenomenon in its construction and economy.

In the water islands which I have lately visited I find the Camboge (Cambogia Linn.) in great abundance, the Indian-rubber tree (Jatropha clathrata Linn.) which is of immense girth and stature; the Blimbengutang (Wild Blimby) a species which I do not find in the old edition I have of Linnaeus, and in the supplement of his illustrious son; it is a non-descript species of the Averrhoa. The wild Mangostani wild figs of various species, wild Jambu, wild Beetje-leaf, wild Almond and many other fruit Trees and shrubs which in a state of cultivation are excellent.

The (Bixa Orellana Linn.) or Arnotta-plant, the (Rhus Javanica Linn.) or Sumach, and a great variety of Trees equally useful in dying, some affording good and permanent colours, not yet known in Europe, are lavishly bestowed on these islands and our peninsula. Of wild and excellent oleaceous plants there are many which I have never before seen, and which from the want of proper Lenses I am not able to reduce nor ascertain. Several of the plants so lately described by Forster, Cook, Beeck, Sonnerat, &c. from the islands in the Pacific Ocean, New Guinea, &c. we have on the banks of the River of this town: as the (Barringtonia Speciosa Linn.) the Blambing (Sonneratia Acida Linn.) both bearing excellent fruits after preparation, to which I might soon add others. We have both sorts of the Bread Fruit (Artocarpus Incifus and Arto. Integrifolius Linn. Suppl.) the latter by the Maláys called Sákn, and therefore analogically by Rumphius, Soccus, however is not very common here though by far the better fruit. Almost every Tree may be propagated and rapidly with us, from simple cuttings; but a few demanding the trouble of layers. The Vine and Gauva rarely afford fruit in this rainy clime, that possest any degree of flavour. But the Plantain, Pine-apple, and a number (the most part) of the fruits we find on the Coast, abound with us, and are as cheap as they are excellent in their sorts without toler-
ing into account, at least fifty other genera adapted by
gardless, the sandy, clayey, and dry soils of the Coast, and its searing winds,
unknown here, oppose an invincible barrier to the intro-
duction and cultivation of there; a few spots, and very
few I apprehend, excepted; it may be in the Ceded dis-
tricts, or far to the Northward. In Zoology, there is a wide
field, the Kibung of the Malays, or Flying Cat, with a
membranous hairy parachute, but nothing resembling wings;
the Anjing-ayer or Water Dog, (neither Beaver, Badger,
or Otter,) of both of which I have good Drawings, are
non-descripts as far as my reading, with but a few helps
in this walk, serves me.

The Ornithologist would find his search amply reward-
ed in these woods and thickets.—The sea that washes our
shores, and the shores themselves, I am not less certain,
from what I have occasionally seen, abound with new and
curious subjects for the Natural Historian.

How the Dutch have contrived to keep a veil, so un-
worthy, so strictly drawn over the lavish bounties of na-
ture, in the establishments they held on this Peninsula,
and its neighbouring Islands or Dependencies, for a centu-
ry and a half, when so much has been done in the way
of every branch of Natural History, at the Moluccas and
Ceylon, is a circumstance, not more surprising, than why
there should be at least fifty fold more cultivation of Rice,
Pepper, Sugar, Cotton, Catechu, Indigo, &c. in all direc-
tions around Malacca at this hour, than there was to be
discovered on that auspicious day to the Malay and Chi-
inese Inhabitants, the 18th of August 1796, (for it is
no longer ago) when it was released from the iron reign
of Batavia, to be contrasted with itself, under its new mas-
ters, within the short period of little more than three
years.

Had not the blame, the reproach of an odious system of
monopoly, not less vicious in its principle, and oppressive
in its operation, than it has proven lamentably defective
in its politics and practice, continually operating to the
discouragement, and in many instances, absolute restric-
tion of the Natives, Chinese settlers, &c. from the planting
and cultivation of many useful plants and needful grain,
all of which, as I have already observed, would have here
thrive luxuriantly, and prove sources of prosperity in the
hands of industry—attached solely to the superior Board of
the Dutch Government itself; by which that system appears to
have been absolutely and implicitly upheld and directed: Malacca
would not at this day, present to the eye, such a picture of
defersion, depopulation, and poverty, as it unfortunately
exhibits. Nor is it less certain, that had the faculty of con-
trolling that system, or doing away any part of it, lain within
the sphere of its own immediate Governors, the last it has seen
of the Dutch Nation, wise, enlightened, liberal, and
philanthropic, would have employed that faculty with
energy, during the respected term of his administration.—
To this allegation and fact the common, the conscientious
voice of the inhabitancy of Malacca will long bear its due and
grateful testimony; the improvement of whose condition has
never wanted in him a warm, tho' unsuccessful, advocate
in repeated and earnest remonstrances to the deaf ear of an un-
feeling administration.

HENRY HARRIS.

MALACCA, December 28th, 1798.

Contents of the twelve baskets of Fruit Trees, as per their
respective Nos.

No. 1 Cifus, (Karmunting) six,
2 Cayûptû, (Galam) six,
3 Brombaûg, (Sonneratia acida) two,
4 Pedâdo, (anarowlecour &c. species of the former)
two,
5 Dûko, twenty-two,
6 Brangang, two, sort of Chestnut, Rombè, one,
7 Pouler, (Barringtonia) three,
8 Süûmû, (Artocampus Integriolius) three,
9 Monkey's jug, (Nepenthes) six,
10 Mangôanni, (Gardenia) nine,
11 Kranjì, four, Kumbangafemanku, one,
12 Suntols, six,

P. S.—I regret exceedingly, that I had not a further op-
portunity to do more, by the kind assistance of another-Ship;
Captain S. is so full, that twelve baskets for Mr. Call and
twelve
twelve for Mr. Baboom, is the utmost that his kind exertions can possibly make room for; besides four hundred plants of every kind we have, and of the best sort, I have had the pleasure to send by the Bengal and Bombay Ships of the present fleet.

To DOCTOR HARRIS, Malacca.

My Dear Sir,

I have been duly favoured with your Letter and the Plants by Captain Seton, which Dr. Berry, in whose hands the Nopalry has become a Botanical Garden, has taken charge of, as the most likely means for their preservation.

Should the service detain you for some time longer at Malacca, it may not be improper to remind you, that the orders sent by the Honourable Court of Directors, and the request from Government here, to the Supercargo, at Canton, have produced no sufficient effect for the introduction of the Tea Plant, and as I believe it is still a desideratum, I must request that you will use your endeavours with the Chinese Navigators who frequent Malacca, to bring you as many of these Plants as possible.

Mr. Mac Donald, the Superintendent of Prince of Wales's Island, in your neighbourhood, tells me, that at some seasons of the year, Fahrenheit's Thermometer stands at 52° near the summit of the Island, where no doubt, a nursery of Tea plants may be safely preserved for distribution, to places where its cultivation may be extended to advantage, which I conceive may be found on the northern frontier of Bengal, as Mr. Smith, who has far surpassed all his predecessors in the management of tender Plants, is at present on Penang, so favourable an opportunity should if practicable, be embraced.

I will only trouble you further with the notice of a very superior kind of Cinnamon, which grows in Cochin China, Plants of which it would be of consequence to bring to Malacca.

It gives me great pleasure to see Gentlemen of your learning and abilities attentive to these subjects of useful improvement.
improvement, and therefore I have thought proper to publish the correspondence in our Gazette.

With Sincere wishes for your health and welfare,

I am, your very obedient Servant,

JAMES ANDERSON.

FORT ST. GEORGE, March 7th, 1799.

To DR. JAMES ANDERSON, P. G. Madras.

Sir,

As the principal design of our Association is the extension of medical knowledge, we have believed it would be useful to publish the different papers which have passed between us and our Government, on the subject of contagious diseases, a copy of which we take the liberty of forwarding to you.

As this is a subject which has of late years become peculiarly interesting to our Country, we doubt not your accepting our publication with candour: and shall be happy in receiving from you any information on a matter of such high importance, being well convinced that the interests of science and humanity are in no way more certainly promoted, than by a free and frequent intercourse, between those literary societies and individuals, who unite in those pursuits which tend to the alleviation of the miseries of their fellow creatures.

JOHN REDMAN.

By Order of the College of Physicians of Philadelphia.

PHILADELPHIA, February 22d, 1798.

To DOCTOR JOHN REDMAN,

President of the College of Physicians of Philadelphia.

Sir,

I have the honor to acknowledge the receipt of your letter of February, 1798, and have no doubt that the mutual efforts of Government and the College, will be attended with the most beneficial consequences to humanity.

The
The healthiness of this Country has, in some degree prevented my seeing many cases similar to those described in your publication, and the Jail Fever, which is sometimes brought in crowded Ships from England is soon lost here.

As it will not become me therefore to write on contagious diseases, I will only trouble you with such remarks as have come under my notice regarding them, in hopes of meeting the wishes of the College.

In the year 1764, the garrison of Manilla on its way to Madras, touched at Batavia, where the Falmouth Ship of War, remained with General Draper's Regiment after the others had failed for this Place.

The consequence was, that some who arrived here were seized with Fever at the same distance of time, that five Officers of the Regiment died of a similar disease at Batavia, which leads to a presumption, that Fever even below the degree of pestilence, may be imported.

In a crowded Garrison, I have known persons lodged in damp under ground quarters, affected exactly in the same manner as described in the last letter of your publication from Mr. Stuart.

At Arcot which is on the bank of a small River near the Foot of some hills, a Regiment was seized with a Fever attended with Stupor and Spasms in 1788, which proved fatal in a few days, and the Surgeon being amongst the first sufferers, two Gentlemen of eminent abilities were sent to their assistance, but the disease did not stop till such time as the Regiment was ordered to occupy higher ground in the open cultivated Country.

The Small Pox which is unequivocally a contagious disease, broke out in two Regiments here in March, 1780, of so malignant a complexion, that the first 23 persons taken, died on the 31st, 4th, or 5th day of the Eruption, with the face and neck much swollen and the Pustules black, nor could any mitigation be obtained until it was discovered that on account of some deficiency in the supply of Mutton, they had been for some months dieted upon Pork, and although a greater number were attacked with the disease soon after the Diet was changed from Pork, to Mutton and Vegetables, not one of them were lost.

The above remarks are all that strike me at present as referable to the laudable intentions of the College, should any thing
thing further occur on the subject, I shall not fail to communicate it through the medium of our Public Print.

JAMES ANDERSON.

FORT ST. GEORGE, March 14th, 1799.

To the Right Honorable RICHARD, EARL OF MORNINGTON, K. P. Governor General in Council, &c. &c.

MY LORD,

HAPPENING to meet Lord Clive a few days ago at Mr. Webb’s Rope Walk at Pummel, we were entertained with the Manufacture of a Cable of 17 inches, by order of the Admiral, from a species of Aloes that grows wild in this Country.

As Mr. Webb said that the cable was expressly to be made without tar, and merely as an experiment his Lordship was desirous to know how soon a report of its success or failure might be expected, being I suppose as much surprized at the gallantry of the man in committing a new Manufacture to so trying a decision; as at the exertion of the individual who could be at the pains and expense of collecting the material, and expressed his wishes that such documents as related to the subject might be submitted to public inspection.

As the preparation in water similar to that of hemp, and flax, affords the greatest prospect of its durability from giving so strong a fibre after this process, and that Sir Hans Sloane in his History of Jamaica, Vol. 1st. Page 247 has given many quotations to shew the value of cordage obtained from a plant of the same kind, I should hope My Lord, that Government might be induced in the first instance to order Mr. Webb’s being supplied with all that can be collected on the Coast, and further plantations to be made, as a great deal of valuable time will thereby be saved, the plant being of slow growth, and that Mr. Webb finds difficulty in procuring materials sufficient to employ the number of people he has so laudably entertained.

The following Extracts from Sir Hans Sloane, alluded to, will I trust confirm the propriety of what I have recommended.

About
About Mexico and other places in Nova Hispania, there groweth a certain plant called Magueys, which yieldeth Wine, Vinegar, Honey, and black Sugar, and of the leaves of it dried, they make Hemp, Rope, Shoes, which they use, and Tiles for Houses, and at the end of every leaf there groweth a sharp point like an awl, wherewith they use to bore, or pierce through any thing, Chilton. ap. Hakl. 462.


Oviedo in his Corónica de las Indias Liber 7. Cap. 10 tells us, that they make of this, and Hennequen, or Silk Grass, good Ropes;—the leaves are laid in Rivers and covered with stones, as flax in Spain, for some days, then they dry them in the Sun, after clear them of filth, with which they make many things, especially Hammocks.

The Indians with these threads have broke Prisons, and Chains of Iron several times; nay, on the Continent cut Anchors in pieces, rubbing it on the same place with this thread and putting now and then some small sand, taking a firm place of the thread as it breaks.

Hernandez says, this plant is sufficient for fields and gardens, the leaves are good thatch, the stalks beams, the fibrous or nervous parts supplies the uses of flax, hemp, or cotton, to make thread or cloth, the prickles are good for Pins, Needles, Nails, Bodkins, and piercers to make holes in the ears. The Indians likewise used them to do Penance on their bodies, neither were they unfit for instruments of war. If this plant be loft, or the trunk cut off, there issues out, forty or fifty Arrobas, (each of which is 32 pounds,) of liquor from each plant, out of which is made Wine, Vinegar, Honey and Sugar, the liquor is sweet of itself, and drinkable, growing by boiling, thicker, turning first to Syrup, then to Sugar.

There are several other Quotations to the same purpose in both Volumes of Sir Hans Sloane's History, his researches having been extensive; and a drawing of the Magueys as a fence to his Mexican Nopaley, shews it to be a large Aloe, with the above imperfect description of which, allowance being made for the difference in civilization betwixt America and India, the leaf Mr. Webb is using perfectly corresponds, although here it has only hitherto been committed to the flames.
I shall be happy if anything I have said, promotes the attention of Government to what promises so fair to become a valuable Marine Store.

JAMES ANDERSON,

Fort St. George, April 15th, 1799.

To Dr. Anderson &c. &c. Madras.

Dear Sir,

I wrote you from Jaffna, and sent you a few Mangoe Nuts, though of the smallest kind, I have seen in India, they are the most delicious I have ever tasted. I shall be glad to know if they sprang up after they were planted, if not, I shall send you some more from Point de Galle, where they are of a better quality, than in any other part of the Island. The bottle of salt I gave you when last at Madras, is from fresh water, consequently the saline quality must be in the soil, this was always my own opinion, from two small beds of rivulets being in both flats, and I have since been confirmed in it, by the testimony of many Dutch Gentlemen at Jaffna, who send cargoes of it once a year to Columbo, to be disposed of there, to the best advantage. I observed two or three other flats on the North-east end of the island, that would be equally productive, if salt were they enclofed from the wild Elephants, Hogs, and Bears.

You may remember when I was last at Madras, I hinted to you that I believed I had discovered the Tea plant, in the forest of Ceylon, and am now convinced that it is the real Tea plant, and of as good quality as any that ever grew in China, and if Government would reward me properly, I would make it known to them, and shew the way to cultivate it.

Enclosed is a description of the hot wells of Cannia, within eight miles of Trincomalee, translated by Dr. Christie, of His Majesty's 80th Regiment.

I shall be glad to have the pleasure of hearing from you, and if I chance to meet with any thing that is worthy of your notice.
notice, in the course of my rambles through this Island, I shall with pleasure send them to you.

There are many Tanks or artificial Reservoirs of water in the interior part of this island, of much greater extent than any in any other part of India, and one in particular within twenty-five miles of this place, which I am informed measures more than 20 miles in circumference, and another very extensive one above Mollative which sufficiently proves the truth of the accounts the Ancients have handed down to us of the splendor of this Island.

J. MACRAE.

‘Trincomallee, May 16th, 1799.’

The Hot Wells of Cannia, are six in Number, and of different degrees of heat, they all however evidently communicate, for the water in all of them is at an equal distance from the surface of the ground, and a body immersed in one raises the height of the water in the other.

As the water also from all the six wells, exhibits the same Chemical Phenomena there can be little doubt but what they all proceed from the same spring.

Upon examining the heat of the different wells, with great attention it was found that they varied from 98 to 106½ degrees of Fahrenheit’s Thermometer nearly in proportion to their different depths.

Bubbles of air seem to rise from the bottom of the different wells; and it was therefore conceived that the water might be acridulous and impregnated with fixed air.

It was found however that the water did not sparkle in a glass more than common water, nor did it turn a delicate vegetable color red, and upon filling a large caffè bottle with the water, and tying an empty wet bladder to the mouth of it, it was found that after shaking a long time, no air was disengaged.

It would therefore appear that the water is not impregnated with any air, but the bubbles of air, are merely common air, disengaged from the water by the degree of heat.

As the air however might be collected with a proper apparatus, its quality may be easily determined.

The
The water has nothing peculiar in its color, smell, or taste; it is not crude, or hard, for it dissolves soap easily and perfectly.

It contains no Sulphureous principle; for a piece of polished silver when immersed in it, contracted no rust or dark color.

It contains no acid or Alkali, in a disengaged state, for upon mixing a delicate vegetable color with it, no change to a green or red color was perceptible.

The water does not contain any Selenite, or earthy, or Alkaline matter, combined with Vitriolic Acid, for upon adding a solution of Mercury in nitrous acid to it, no sediment was deposited, nor does it contain any earthy matter in combination with marine acid, nor any copper, nor zinc, for upon mixing mineral and volatile alkalis with the water, no precipitate was formed.

On mixture with a decoction of galls the water acquired a blackish tinge, which shews it to be slightly impregnated with Iron.

On a mixture with a solution of silver in nitrous acid, some precipitate of Luna Cornea was produced, this shews it to contain a very small portion of Sea Salt, but not more than the common water of Trincomallee, upon which the solution of silver had the same effect, with this difference, that the precipitate from the hot wells was the blackest, probably from the impregnation of Iron.

These experiments were made at the wells, with water from the wells of the highest and of the lowest temperature on the 4th of July, 1798, when the heat of the atmosphere was at 91 degrees.

They were also repeated upon the water, after it was brought to Trincomallee with the same Effect.

From them it would appear that the hot wells of Cannia posses few mineral virtues besides their heat which is of a temperature not unfavourable for hot bathing.

For many complaints also the drinking of hot water is recommended, and for this purpose as well as for bathing, a hot spring is always preferable to water heated artificially, because it is always of a fixed degree of temperature.
Dear Sir,

I am favoured with your Letter from Trincomallee, and will thank you for a few more of the Seeds of the small Mango, as although I carefully planted 40 of those you sent, not one of them came up, the remaining 12 I fortunately sent to His Highness the Nabob, and am told that some of them are alive.

The subjects of Salt and Tea in your letter refer to Government, who have long declined corresponding with me in these views; and therefore the only recourse left, is to publish such valuable documents as come to our knowledge, leaving the use to which they may be applied to others.

The salt you sent, is whiter and more compactly crystallized than any that can be procured from the sea by art; but salt here being always tinged with mud: but as you have sent neither sample nor description of the Tea, I can say nothing about it.

James Anderson.

Fort St. George, May 9th, 1799.

To Doctor Anderson, &c. Madras.

Dear Sir,

I lately read a letter of yours on the subject of the Aloe plant, that was published in the Newspapers and dated April 15th, 1799, I am led to suppose from it, that you may be able to inform me of a cheap method of separating the fibrous from the soft part of that Vegetable, a speculation which has long been interesting to me, I can separate it indeed, but at an expense of labour, for which it will not pay, whatever good properties it may possess as Flax.

In the year 1795, a seafaring friend of mine was at Malacca, where he saw some plants from New Zealand, in a Ship that had been employed in carrying Convicts to Botany
Botany Bay, he was informed that the Savages of that Island, make an excellent kind of Cordage from them, and he described the plant to me as resembling an Aloe, the account that Captain Cooke, in his voyage to New Zealand, gives of the Flax plant, immediately occurred to my memory, and I thought it might be the same with the Agave of this side of India. I suppose that the plant that you use at Madras, is not an Aloe but an Agave, and that you have given it the vulgar name, in order that it may be more generally understood.

I soon began to put to the proof my supposition regarding the Agave, and I found that it afforded a kind of Flax, very coarse and strong, but which I thought might be applied to many useful purposes. In 1766, the Ship Travancore, that sailed from this Port to Canton, with cotton, had five or six hundred bales of it secured with this Rope, which was made at my suggestion by the Owners of that Ship, from the wild Agave of Salsette. It was found to be well calculated for this purpose, as it is very strong, and retains the bale nearly at the same dimensions, that it occupies under the Screws.

About the same period, I began to plant the Agave in Salsette, for I saw that the wild plant would be troublesome and expensive to collect, and that in the end it would afford but an insufficient supply. I first planted it in my hedges, and I afterwards cultivated it, in places that are unfit for any other production. I have now in all about five Acres of it, to which I am adding a little every rainy Season. I have hitherto carried the young plants from a distance, but I imagine that the Seeds which it bears very plentifully, will answer as well to propagate it, and I mean this Season to sow them for this purpose. I cut this year, for the first time, a part of my plantation of Agave, and I made very good flax from it, but I imagine it is rather too young, and that it requires at least five years to attain its full degree of strength.

There is no plant more easy of cultivation than the Agave. It requires only to be put into the earth during the rainy season, it needs no water in the dry, it grows equally well in a sandy or rich soil, and in a few years this viviparous vegetable hides the whole surface of the ground, with its rapidly encreasing foliage. I believe that
we might supply the British Navy with the cordage of the Agave from the Island of Sallette, without encroaching on any land that is fit for the plough.

Soon after I had begun to attend to the Agave, I found that the Natives of this Country are not unacquainted with the properties of its fibre, for they occasionally use it, but in very small quantities. They tie together, for instance, the planks of their Boats, with rope made from this plant.

I may observe to you, that we have two distinct species of Agave, one with short, and one with very long leaves. It is the latter kind that I have cultivated. I have seen no description of either of these species. Neither of them corresponds I think with the character of any of the species in Linnaeus, nor of those in the Hortus Kewensis, nor with the figure of Rumphius vol. 5 Page 273 to 94. I have not the works of Sir Hans Sloane, but I can recognize nothing like our Agave in the description you have quoted from him. I have no doubt from what Captain Cooke says of the Flax plant of New Zealand, that it is an Agave, but I also suppose that it is of a different species from the two we have here, for it gives a much finer Flax, and I am told that the leaf is not nearly so thick. It may be well worth our while to procure the plant of New Zealand.

I now come to the only objection that I know to the general introduction of the Agave, the expence of manufacturing its fibre. I have done this in various ways, but I have not found that by any method I could get an Indian to deliver more than three or four pounds daily of its Flax. I have sometimes separated its juices and its soft parts from the fibre by making men beat it with pieces of Wood, and without fermenting it in water. During this operation, the handful of leaves should occasionally be twisted, and afterwards washed with water, beating them at the same time, till the Flax becomes quite clean and white. At other times I have fermented the Leaves for eight days together after the first beating, and then beat and washed it as before. I have at other times begun by fermenting them for ten or more days in water and then proceeded to the separation of the Skeleton by beating. I have sometimes boiled them and then had recourse to the beating process. In all these ways I have failed in separating the fibre so expeditiously as to render the Manufactory
manufacture of the Agave a profitable speculation. Last of
d all it occurred to me, that it might answer to put it through
between the rollers of a Sugar Mill, and I did so both be-
fore and after fermentation. This indeed separates the fibre
with much expedition, but it cuts it, nor could I prevent this
rotary motion from injuring it, although I covered the Cy-
linders with several folds of Cloth. I had a good opportunity
from the great quantity of the juice of the Agave that I thus
obtained, of observing that it contains (unlike Sir Hans
Sloane's Aloe) no Sugar nor Honey, and that it is neither
capable of the vinous nor acetous fermentation. I wish it
were otherwise.

I have not however given up hopes of manufacturing this
plant to advantage. I mean to erect a Machine to be work-
ed by Buffaloes, like a beating Mill for Gun-powder; this
I imagine will greatly reduce the expense of the operation
without injuring the fibre.

I beg of you to let me know, what means Mr. Webb
has used to get the Flax of the Agave. I was surprized and
pleased to see, that he had thought of this plant for the same
purposes that had occurred to myself. I agree with you that
the cultivation of the Agave may in the end be of impor-
tance, but before it can become so, we must learn to manufac-
ture it with far more facility, than I have hitherto been able
to do.

I am, Dear Sir,
Your very obedient Servant,

BOMBAY, June 17th, 1799.
H. SCOTT.

To DOCTOR HELENUS SCOTT, Bombay.

DEAR SIR,

I am favored with your letter of the 17th ultimo re-
garding Mr. Webb's Manufacture of cordage, which as
you conjecture is I find chiefly from the large Agave, and
having shewn him your letter, have the pleasure to state
his remarks in hopes of contributing to promote your lau-
dable exertions for the extension of a Manufacture that must
eventually become an object in support of maritime power.

He says, that after the Aloe leaves are cut down, he
takes off the sharp edge from each side, which is a tedious
but necessary process that adds greatly to the expense, the
leaves
leaves are then put into water where they remain 19 days, on the 20th they are taken out, and ten or twelve leaves together beat on a round stone, till what is here called the Narr becomes quite clean; Narr you know is the Shafter, and likewise the Tamilian word for the fibre of which rope is made, but the Tamil name of the plant is Bruma Rakashi, or the great Giant, which indicates stateliness among plants and so far corresponds with the Agave of Linnaeus, or Aloe Americans, of Sir Hans Sloane.

The flowering stem of our plant rises like a may-pole in the centre, to 20 and even sometimes to 30 feet in height, and soon after the Seed falls, the whole plant dies.

Mr. Webb farther tells me, that he has sent some of his rope to Bombay, and will desire the Gentleman to whom it is consigned to shew it to you; in a little time he hopes to ascertain whether the making the Aloe rope can with propriety be carried on near Madras at the prices which have hitherto been affixed to it, which in the present state of the market, and from the difference in specific weight makes the Aloe rope come about 50 per Cent. cheaper to the purchaser than Europe cordage.

Its superior strength has been officially proved, and he now knows from having had a rope in salt water for 13 months that it is as fit to continue found in salt water as any material in use.

I am informed by very good authority that the Norfolk Island flax is made from a species of Iris, and some samples of the Canvas made of it, which I have seen, convinces me it is far inferior in strength to our Agave, which as you observe I sometimes call an Aloe as a term more universally used, my principal object being to draw the general attention to it.

Mr. Webb assures me that he will not fail to communicate any further improvement that time may produce, and I think your beating mill is likely to remove the principal bar to its Manufacture.

Sincerely wishing it may,
I remain,
Your very obedient Servant,
JAMES ANDERSON.

FORT ST. GEORGE, July 11th, 1799.
To DOCTOR ANDERSON,

November 29th, 1799.

Dear Sir,

I had the pleasure in the month of October of receiving the continuation of your Journal and Correspondence to the 7th of February last, from which I observe that you go on indefatigably as usual in your spirited exertions for the benefit of mankind.

I have carefully perused that part of the Correspondence relative to the Snake medicine, and like you can perceive no material difference in the ingredients, from what we knew before. Arsenic is the basis of all the recipes, none of which to me appear preferable to the one first of all communicated by Mr. Duffin. By the way I remark a slight inaccuracy in your letter to Mr. Dubois, of the 7th of December, in which you observe "that none of the Gentlemen on whose experience the pills were first introduced into our stores, have said that the morbid symptoms existed, which attend venomous bites," and "that therefore it is very probable, the administration of any remedy was unnecessary."

Now in Mr. Duffin's communication to me, (which if I did not at the time transmit to your Board, I was greatly to blame) are contained three cases of unequivocal infection; you will find them in the account of Coromandel serpents, (pages 78 and 79) in which also there is an account of the Tanjore pill and of some experiments made on the ingredients separately ands conjoined. As to the general safety of the remedy, notwithstanding the large proportion of Arsenic, I can entertain no doubt, as you may perceive by looking into Page 78 of the above mentioned work; its efficacy as a cure is another consideration. I judged it right to take notice of the above paragraph in your letter to Mr. Dubois, as it might unintentionally on your part, lead into a mistake in fact, viz. that the Tanjore pill had never been administered in an ascertained case of infection. In the mean while I observe with regret, that in the course of ten years since the remedy was introduced for experiment into the Surgeon's stores, no report has been made to your Board—pudet hae approbria.
In a late letter from Mr. Pennant, he mentioned his intention of sending a book to you as a testimony of his respect, and I have promised to find a conveyance for it. That indefatigable man has now retired to his parental Estate in Wales, happy in two respects, in the prosperous prospect of a rising progeny, and the faculty of finding a resource for the Winter of declining life, in the pursuit of the same studies which occupied and delighted his vigorous life.

I remain, Dear Sir,
Sincerely your's,
PATRICK RUSSELL.

TO DR. PATRICK RUSSELL.

Dear Sir,

I am favoured with your Letter of November last, and admire the plan Mr. Pennant adopted to render the decline of life tolerable, as I learn by later accounts that death only, could stop his career of public utility.

In consequence of your letter I have read the 78th and 79th Pages of your account of Indian Serpents, and observe that Torpor and other symptoms of venom are enumerated, as well as the Cobra Capello specified, previous to the administration of the Tanjore pill, but the lapse of ten years having brought no further facts, the few cases mentioned by Mr. Duffin had, as you observe, escaped my memory when Mr. Dubois's people made their appearance.

The administration of the best possible remedy in cases of venomous bites, where time is so precious, being of the utmost consequence, I have thought it a duty to publish your Letter that no forgetfulness of mine may influence the practice of others.

Sincerely wishing you health,
I am, truly yours,
JAMES ANDERSON.

Fort St. George, August 9th, 1799.
TO THE EDITOR OF THE GAZETTE.

Sir,

I REQUEST you will publish in your next paper the following account of the successful treatment by the Caustic Volatile Alkali, of a Woman bit by a venomous Snake, as I consider every confirmation of the efficacy of a remedy for so dreadful a situation of consequence, that is safe, and can easily be made by every one, and that it cannot be too often impressed on the public mind.

On Thursday evening the 29th inst. between 7 and 8 P. M. we were alarmed by such uncommon shrieks at a little distance from Dr. Anderson's house, that we were at a loss to consider them human, they soon however became evidently the screams of a woman in agony, when Doctor Anderson instantly ordered all the servants to run and learn what had happened—one of them returned soon, saying a woman had been bit by a Snake—I hastened down stairs and finding the servants carrying a stout Native Woman about thirty years of age, I had her brought into the house—She complained of most excruciating pains shooting up to her groin, and on examining her left foot, I saw two wounds very evident from the black blood adhering, one on the great toe on the fourth toe, and the Femoral Glands were swelled—I requested Mr. Maxtone Assistant Surgeon to apply a ligature round each toe drawn as tight as possible, and immediately ran for the Caustic Volatile Alkali,—ten minutes could not have elapsed from the accident before the ligatures were applied, nor fifteen before the Alkali was given internally—an undefinable pain and uneasiness had now ascended as high as her Cheek, her pulse was feebly to be felt and could not be counted, and her hands were cold, she was however sensible and spoke distinctly.

A Tea Spoonful of the Alkali in a Madeira Glass half filled with water was given, which she swallowed without difficulty although so little dilated, or being sensible of its pungency,—the wounds were afterwards rubbed with the Alkali, scarified with a Lanceet, and the Alkali rubbed into them without pain, and the foot as soon as possible was put into hot-water to increase the bleeding,—at this time the natives were anxious to ascertain her situation by the test of her taking
tasting salt, they therefore put some in her mouth, and on her being asked what it was and saying it was sweet, they pronounced her in imminent danger—a second tea spoonful of the Alkali was given not more diluted than the first, on her throwing herself back, gnashing her teeth and calling out she was dying, and soon a third tea spoonful in the same manner, the whole in less than ten minutes; the third spoonful on reaching the stomach evidently caused uneasiness and a slight effort to vomit, when a little phlegm was brought up, and a profuse perspiration was induced, causing large drops of sweat to form on her face; soon after this the pain had ceased except in the toes bit, the wounds of which were now highly sensible and irritable—as her pulse was still very small, an hour nearly after the accident, a Madeira wine glass of Brandy was given, which she swallowed with the utmost difficulty, her sense of taste returning with the effusion of pain, and anxious still farther to encreas the stimulus from the little effect of the Brandy, a fourth Tea spoonful of the Alkali was given diluted in a wine glass filled with water, the stimulus of which in her mouth now, though so much more diluted than the former, she could scarce bear, and swallowing it with much pain a glass of water was therefore immediately after given, when vomiting was induced that brought off the contents of the stomach—the foot with the ligatures on the toes was kept in hot-water for above an hour after this—when considering all danger from the venom over, the ligatures were removed—the wounds bled freely florid blood and were so irritable that the slightest application of Alkali gave excessive pain—the wounds being dressed she was carried away with directions to give her plenty of congee to drink during the night—on enquiry next morning she told me she had not slept from the severe throbbing pains of the wounds, that she had been very hot and perspired freely—the complained of slight head-ach, of pain in her mouth and throat, and uneasy heat in her stomach—on dressing the wounds which were neither inflamed nor swelled, with white ointment, they became less painful—on her eating some thick congee and broth the soon after fell asleep and awoke much recovered, and this day she has no complaint except a slight soreness externally on pressure about the chest, caused probably by the vomiting—she tells me the ligatures round the toes gave great relief and lessened very much the violence of the pain, they never should
be omitted where they possibly can be applied, and where they cannot the part should be cut out; and it is probable, the putting the foot in hot-water to wash out the venom and encrease the bleeding was of consequence as no swelling or inflammation has come on the wounds.

It would have been a great addition to this case if the snake had been ascertained, but the darkness of the night prevented its being seen—it was however a large snake, as the woman could with difficulty raise her foot from the ground from its weight to shake it from her, and the power of the venom is evident from pain the most acute having reached the groin and caused the swelling of the Femoral Glands before she could with every sense of her danger run 150 paces to her house for assistance.—The preparation of the Cautic Volatile Alkali used, was a strong solution of Sal Ammoniac in water into which powdered quicklime had been thrown*, this is what Mr John Williams mentions of such efficacy in the 2d vol. of the Asiatic Researches, and this woman's situation has a great affinity with those he details as bit by the Cobra de Capella or Coluber Naga—Sal Ammoniac is to be purchased in every bazar by the Tamil name of Navatcharam.

I have been thus full, as I think every account of the utility of the Cautic Volatile Alkali the more valuable from the celebrated Fontana having condemned it by experiments on Animals as ineffectual if not hurtful, which I attribute to his having used it so much diluted, that its stimulus was not sufficiently powerful, and in this way only I believe it acts, for I remember some years ago seeing a Man in the Tanjore Country whose life I was told had been saved when in the most imminent danger from the bite of a Snake, by his friends placing a vessel of burning Charcoal on his head after he was insensible—the effect however was such as to leave him in a most helpless debilitated state for two years after—and this account may be

* By dissolving powdered Sal ammoniac say half a pound in half a pint of boiling water then pouring the Solution into a bottle—adding a quantity nearly equal to the Salt of pulverized Chnum Shells taken from the Killa after being calcined and before water is thrown on them—corking the bottle and strongly shaking the whole for some time, that the Volatile Alkali now disengaged from the Marine Acid may unite with the water, and at the same time be made Cautic by being deprived of its fixed air—the Solution will then be found as pungent as Eau de Luce—this may be done two or three times before the clear fluid, separated, is poured off into well corked Phials for use.
further useful in showing how strong the Alkali may be given with safety where the strongest and most direct stimulus is required to support the vital powers, where a deficient stimulus may add to the evil, at least must be the loss of time and where a little makes the difference between Life and Death—the exhibition of the Cautic Volatile Alkali from Mr. Williams's and every subsequent account does not injure the Stomach, and so much I cannot say for the Arsenic Snake Pills the only other remedy recommended, as in the only instance I have seen of a person who had taken them, a very distressing rejection of food was the consequence for a considerable time after, probably from the more slow but more concentrated action of the Arsenic, while the diffused, immediate and less permanent effect of the Alkali, if the stomach is in a state to be hurt, will cause its being rejected before there is danger of the stomach being injured, the Snake pills were, however brought to be used if the Alkali had failed.

I am, Sir,
Your most obedient Servant,
ANDREW BERRY.

FORT ST. GEORGE, August 31st, 1799.

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TO DOCTOR JAMES ANDERSON,
PHYSICIAN GENERAL.

MY DEAR SIR,

HAVING ON two former occasions experienced the good effects of Madeira Wine in cases of bites from Snakes; I anxiously waited for a third instance, before I could venture to make known to you the general result of my observation; this presented itself last night, a servant of General Dubuc's whilst asleep at midnight in the Verandah of his house, turned upon a Snake, which bit him, and which upon noise being made was discovered by his fellow servants to be a Covercapell, (or hooded Snake) the family were instantly alarmed, and I was immediately sent for without delay; in the mean time General Dubuc used the precaution of binding the
the young man’s arm tight above the bite; and gave him according to the general practice as far as 20 drops of spirits of Hartshorn, in a glass of water. As soon as I knew what was the matter, I gave orders that he should instantly swallow a tumbler full of madeira wine, which was accordingly administered, and by the time that I reached the house, I found the lad complaining of great weakness and latitude, attended with a pulse rather feeble and fluttering; I immediately gave him as fast as he could drink it, two tumblers more of the wine, having previously bated the wounded part which bled slightly, with the Volatile Alkaline Spirit. By this time he had drank nearly a bottle of Madeira and was intoxicated; he said that he felt no pain, but he was a little unruly; the languor he had at first complained of was in a great degree gone off, and the circulation was evidently much stronger. I left strict orders that he should not on any account be allowed to sleep, and that if a degree of stupor came on, to keep him awake and in motion. In the morning I was happy to find him in perfect health, except that he complained a good deal of head-ach from the wine he had drank over night.

In this case I think there can be no doubt, but that the wine saved the man’s life; as the quantity of the spirit of hartshorn which he took, was certainly too small to produce any good effects. In the cases I above allude to; the one was that of a Seapoy belonging to the old 18th Battalion, who was bit by a Coveracpell while in his tent, and immediately ordered to drink at two draughts, a whole bottle of Madeira wine, which he did, the natural consequence was that he became drunk; and I next morning found him in perfect health. The other case was that of a Hindoo woman at Akka, who was bit by a very bad Snake (whilst in her own house, dressing her victuals) but not a Coveracpell; to her I gave a considerable quantity of Eau de Luce, but it sickened her, and was all ejected; I had then recourse to my old remedy and made her drink copiously of wine, which being retained produced immediate intoxication, and she also recovered. This I fear you will say, is preaching up, somewhat too freely the spirit of inebriety; yet may we not from these cases (so evidently marked) presume to claim this deduction, that the use of wine in snake bites, is at least of considerable efficacy. I do not wish to combat the
the general opinion, and say that Eau de Luce is not a very useful remedy; I have only to declare what I have myself found often productive of success, and which I should certainly prefer while I had a bottle of it in my possession. Ultimate causes the philosophy of the day leads us not too minutely to enquire into: the experience of a few hundred years has sufficiently proved to us the fallacy of the search; yet in the present instance I think that we may so far safely infer, that the poison of Snakes has somehow, an immediate and deadening effect, upon the vital or nervous energy; a fact which is but too plainly evinced by the stupor, vertigo, and languid circulation, which upon its being taken into the system, never fail to ensue. Hence is it not natural for us to conclude, that wine, than which we know no more generous stimulus, must help to counteract such torpid and dangerous effects? and such virtue I think, that I have ascertained wine to possess. It is true, that Eau de Luce is also a very powerful stimulus, but it must be at the same time confessed, that it is not equally diffusible with wine; its effects are not so immediate upon the body; neither does it possess that quickening and inebriating quality, which in vinous liquors has so great an influence upon the circulating fluids, and which I should conceive to be the grand operation by which they so powerfully defeat the virulence of this animal poison.

Brandy in similar cases, has been administered with I know not what success; but as it cannot be given per se, in any quantity without the risk of inducing a dangerous inflammation, I cannot allow it to be equally efficacious with wine; it is besides in itself, neither so grateful to the stomach, nor so healing a tonic.

And now, my dear Sir, I have to apologize for having so long trespassed on your time, yet I doubt not of your forgiveness when I reflect, that you are at all times happy to receive communications of an interesting nature, particularly such as in their circumstances may, in any degree, tend to alleviate the ills which are incident to humanity.

Fontana, in his treatise on the venom of the Viper, where he combats the opinion of the ingenious Jussieu, and so clearly proves the inutility of the Volatile Alkali in the bite of that animal; he, I think, mentions, but one instance where Burgundy Wine had been administered in the Viper bite
bite, and where it was thought rather to have done harm; but the Viper is so partially poisonous it would appear, that the experiment carries with it no conviction, and besides the good Italian, though very indefatigable, I am afraid is sometimes incorrect; and has perhaps otherwise a greater claim upon the world for his industry, than his philosophical research.

I remain, with much respect and esteem,
Your's very sincerely,

WHITLAW AINSLIE.

CHINGLEPUT, August 13th, 1800.

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TO WHITLAW AINSLIE, Esq.
Surgeon at Chingleput.

MY DEAR SIR,

I am favored with your letter of the 13th, and although the administration of wine, in cases of the bite of venomous serpents, is no novelty, yet from a professional man, I consider every account of importance.

When I arrived on this coast, I understood that wine and opium were the remedies chiefly relied on, and was given the history of an Artillery man, who was bitten through a worsted stocking on the upper part of the foot, when passing from one tent to another in the night, near the Waldore redoubt, when the Army was lying before Pondicherry.

The prominent circumstances were his complaining of dimness of sight and faintness, in fifteen minutes after the accident; and the Surgeons who were present administered 30 drops of Laudanum, and as much Madeira wine as he could be made to drink—under which treatment he fell asleep and recovered, but the tumor about the wound was so considerable, that the whole Metatarsal integuments were destroyed by gangrene and mortification.

A man who was already drunk was bitten by the Coluber Naga, he was a trooper of the 19th Regiment Light Dragoons at Arcot, who I was told had been in America, where he had seen the rattle snake handled, as the Fyelli here handle snakes, and being ambitious of exhibiting that kind of dexterity
dexterity to his comrades, caught up a snake which bit him between the fore finger and thumb in consequence of which he died in the space of an hour, and before any assistance could be obtained.

In venomous bites I have thought, that the dreaded symptoms were obviated by cutting out the bitten part, and have even endeavoured to support this practice, which considering the adequate knowledge of Anatomy that now prevails, can be attended with but very little risque or danger.

At Vellore a man was bitten by a large Snake, and seeing me pass by, followed as soon as he was able, for the bite happening on the ankle, the pain as he expressed it, struck up in the instep so exquisitely through the groin, that a minute or two elapsed before he was able to walk.

I took up the skin between my finger and thumb, and cut it off at their extremities, but observing two black spots at the bottom of the wound, I was sensible that the bite was venomous, and took up the spots with a Teneaculum so as to dissect them out; the wound was dressed with dry lint, and readily healed without any untoward accident, or any Medicine appearing necessary.

I have been told that a child at Ganjam, had the limb that was bitten by a snake, bound tight with a ligature by its mother in the morning, and continued well till the evening that the ligature was removed, soon after which the child expired, most probably, from the poison not having been washed out.

From the cases I have mentioned you will readily perceive that I am of opinion, excision or ligature or both, are more to be relied on, than either Volatile Alkali or Wine, notwithstanding which, it is some relief to know, that where excision or ligature have been neglected or inadequately performed, these and perhaps other stimuli, give a fair prospect of supporting the action of the heart and arteries under the extreme and sudden debility occasioned by the venom of a snake.

I cannot better conclude this letter, than in the words of Dr. Patrick Ruffell, dated London, September 19, 1799, whose researches into this subject render him of great authority.

"Your last agreeable favor of the 12th October, 1798, came to my hands in July—I observe what you say of the Volatile Alkali, and hope further experience will confirm the use of it—The Abbe Fontana's experiments were rather
rather against it, and it is certain, that the theory of the acid quality of the poison, which first suggested the use of the Alkali, proceeded on a mistake in fact; but the Volatile Alkali may act in many different ways, besides that of neutralizing the poison, and after all it is very immaterial whether we can or cannot account for its mode of operation."

I am, Your obliged and very obedient servant,

JAMES ANDERSON,

FORT ST. GEORGE, August 19th, 1800.

To DOCTOR PATRICK RUSSELL, London.

DEAR SIR,

On the thirteenth Instant about 2 P. M. a woman that was cutting grass, happened to be bitten by a snake, and the cries she uttered brought her son one of my servants that was near, to her assistance; who soon discovered and wounded the snake.

The woman and snake were both brought to me immediately, and the wound which was on the outside of the middle phalanx of the ring finger of her left hand, appearing to be very slight as well as the snake of a small size; (fourteen inches long, and two in girt) and hoping it might prove to be one of those that are harmless, I only tied a ligature round the finger until such time as I could examine his quality.

On inspection the snake proved to be a Boa, and had one venomous fang on one side of the upper jaw, and two on the other side equally conspicuous, which determined me to cut out the bitten part as soon as a penknife could be procured, and this was effected within the space of five minutes after the accident; but whether owing to the ligature, or venom, the finger was so much swelled that it was with the utmost difficulty a silver ring which she wore, could be removed.

The desire of avoiding the extensor tendon of the finger with the knife, induced me to try the removal of all mark of the bite, by excision of only that part of the skin; but a spot of black blood appearing in the bottom of the wound I had made, I carefully dissected it out without touching the tendon, and as the blood then flowed freely of a florid colour, I dressed the sore with a little dry lint, and bound it on with a slight bandage.
As the poor woman expressed little more distress than might be occasioned by the sting of a wasp, I thought it unnecessary to trouble her with any medicine, and next morning she was perfectly well in every respect, excepting an inconsiderable tumor extending from the finger up the back of the hand, and that the wound which was made by cutting out the mark of the bite, requires to be dressed for a few days, until such time as it may heal.

It must not be forgotten, that we gave her two glasses of madeira wine, but this although she took it as a medicine, I considered rather as an apology for the additional pain and trouble we had apparently occasioned her, than any real use it could be of, as she was not affected with debility or faintness.

On comparing the snake with those you have described, we have found him most to resemble your No. 2 excepting that he has 160 abdominal scuta, whereas yours has only 150, and the country people call him Choratta Pam which you have written Horatta a circumstance not to be wondered at in a language the inflections of which are so different from our own, and indeed some of them pronounce it to my hearing Cheottoo ra, which in the Tamul tongue means being rolled up like a Scroll, the posture in which this Snake is said to be most commonly found.

In the preface to your work it appears, that the Squamae of the Colober Naga, vary in different subjects even as far as twenty and therefore I presume the difference of ten scuta need not be considered a foundation for a new species, I have however put him in spirits of wine for preservation, and as you say in the postscript of your letter dated the 26th of last February, that every thing in the Snake way should come addressed to the Court of Directors, I shall endeavour to obtain a passage for him together with some Snakes and fish from Doctor John of Tranquebar by the first dispatch.

I remain, Dear Sir,
Yours very truly,
JAMES ANDERSON,
FORT ST. GEORGE, September 16th, 1800
To the Right Honorable Lord Clive
Governor in Council &c. &c.

My Lord,

The light thrown on the subject of inoculation for the Small Pox, by Lady Montague, Mr. Holwell, and Doctor Kirkpatrick &c. has no doubt paved the way, for the practice of Sutton, Dimsdale and others, the real utility of which has rendered it common in England, and induced us to grasp at every favourable occurrence for establishing the execution of so favourable an operation in this country.

The success of Mr. Mein at Trichinopoly in 1788, encouraged Government every cool season since that period to permit the inoculation of the Troops, in the view no doubt of likewise rendering it so familiar to the natives at large, as to induce them to adopt a practice that would save the lives of half the youth of both sexes.

Excepting the inoculation of the Troops, the two Asylums at Madras, and the European families on the Coast, there are been no persons to my knowledge inoculated until late that Mr. Richardson likewise Head Surgeon at Trichinopoly, by a practice of uninterrupted success for the last twenty Months has so far given confidence to the people at large that 225 have been inoculated, of which your Lordship has been pleased to take liberal and commendable notice, which will encourage him and others to further exertion.

It may be observed however that in England although the practice of inoculation has become pretty general, there are still some people withheld through tenderness and a wish to avoid inflicting a disease which to them appears a dispensation of Providence and any interference impious.

Here in addition to these impediments the religion of the Country has enthroned a Goddess to be the dispenser and superintendent of this disease, so that it is deemed sacrilege, to take matter from the Pustules of the Malabars, and therefore we have always been obliged to wait until such time, as people of the lowest cast were attacked by the disease, before matter for inoculation could be obtained. — It deserves particular notice as we are assured by Mr. Holwell, who was formerly Governor of Calcutta, that in Bengal the Bramins themselves inoculate, therefore every one has
has said, let the Bramins favor inoculation: then, the people will readily adopt it, but how are the Bramins to be persuaded to forego the benefits resulting to them from the superstition of the Country, as well might you think of persuading an Officer to resign his Commission.

The only means I can think of, is to shew them that they have fallen into an error in differing from the Northern Bramins in the interpretation of the allegory or parable regarding the Small Pox, as also appears by the account of Baldeas who wrote 130 Years ago, that the Daughter of Sive introduced the Small Pox by inoculation, in which sense it would seem the Bramins of Bengal have understood the Allegory of Patragali throwing her golden beads in the face of Ixora, with such violence as to produce sores and pustules.

Until this matter is clearly understood by the Malabars and especially the Bramins, which can only be accomplished by discussion of the subject, I apprehend that the inoculation here, will not be very general, and therefore recommend that inoculating Bramins be sent from Bengal, who are capable of explaining the Sacred Texts, and instructing those on the Coast.

I have the honor to be,

My Lord,
Your Lordships most obedient,
and very humble Servant,

JAMES ANDERSON,
Physician General.

Fort St. George, September 25th, 1800.